

STATE OF NEW JERSEY  
DEPARTMENT OF AGRICULTURE

W. H. ALLEN, *Secretary*



Thirty-fourth Annual Report  
OF THE  
New Jersey  
State Department of Agriculture

July 1, 1948—June 30, 1949

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Trenton, N. J., June 30, 1949

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Trenton, N. J., June 30, 1949

NEW JERSEY  
STATE BOARD OF AGRICULTURE

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WARREN W. OLEY, *Director, Division of Markets*  
HARRY B. WEISS, *Director, Division of Plant Industry*

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Messrs. Pettit and Applegate will retire from the board on June 30, 1949. The new members will be J. Edward Chamberlin, Cranbury, and Reuben H. Dobbs, Glendale.

488490

## CONTENTS

|  | PAGE |
|--|------|
| <b>REPORT OF THE SECRETARY OF AGRICULTURE</b> .....                                      | 7    |
| FARM VALUE OF AGRICULTURAL PRODUCTS.....   | 7    |
| SERVICES .....   | 8    |
| LICENSING AND BONDING .....  | 10   |
| Milk Dealers Licensing and Bonding Act.....  | 11   |
| Produce Dealers Licensing and Bonding Act.....   | 12   |
| Cattle Dealers Licensing Act.....  | 13   |
| NEW JERSEY JUNIOR BREEDERS' FUND.....  | 14   |
| <br><b>REPORT OF THE DIVISION OF INFORMATION</b> .....                                   | 17   |
| NEWS RELEASES .....  | 18   |
| PUBLICATIONS AND CIRCULARS .....   | 20   |
| <i>FARM SERVICE NEWS</i> .....   | 21   |
| 1949 FARMERS WEEK .....  | 21   |
| FAIR EXHIBITS .....  | 21   |
| COOPERATION WITH NEW JERSEY COUNCIL .....  | 22   |
| Cooperative Marketing Association in New Jersey, Inc. ....                               | 23   |
| Blueberry Cooperative Association .....  | 23   |
| New Jersey Field Crop Improvement Cooperative Association ..                             | 23   |
| New Jersey Peach Industry Committee .....  | 24   |
| New Jersey Potato Industry Committee .....   | 24   |
| New Jersey Apple Institute .....   | 24   |
| New Jersey Turkey Growers Association .....  | 24   |
| MISCELLANEOUS SERVICES .....   | 24   |
| <br><b>REPORT OF THE DIVISION OF ANIMAL INDUSTRY</b> .....                               | 26   |
| REVIEW OF THE YEAR'S ACTIVITIES .....  | 26   |
| Equine Infectious Anaemia and Other Infectious, Communicable Diseases<br>of Horses ..... | 26   |
| Encephalomyelitis .....  | 26   |
| X-Disease .....  | 27   |
| Inshipped Cattle .....   | 28   |
| Anthrax .....  | 34   |
| Blackleg .....   | 35   |
| Physical Examinations .....  | 35   |
| Poultry Inspection .....   | 36   |
| Pullorum Disease Control .....   | 37   |
| Livestock Auction Markets .....  | 39   |
| Foot and Mouth Disease .....   | 40   |
| BUREAU OF BOVINE TUBERCULOSIS CONTROL .....  | 41   |
| Ten-year Summary of Testing .....  | 44   |
| Indemnity Payments .....   | 45   |
| Cattle Tested Under Accredited Herd Plan .....   | 46   |
| Herds and Cattle Under State and Federal Supervision .....                               | 48   |
| Infected Herd Record .....   | 49   |
| Six-year Summary of Testing .....  | 53   |
| BUREAU OF BRUCELLOSIS CONTROL .....  | 56   |
| Calfhood Vaccination .....   | 57   |
| Milk Ring Test .....   | 59   |
| Factors Complicating Brucellosis Control .....   | 59   |

|   | PAGE    |
|---|---------|
| Personnel .....                                       | 60      |
| Public Health Aspects .....                           | 60      |
| Herds Operating in Brucellosis Control Programs ..... | 61      |
| Summary of Indemnity Payments .....                   | 64      |
| Record of Reactors, Appraisal and Indemnity .....     | 65      |
| Calfhood Vaccinations Reported .....                  | 68      |
| GOATS .....   | 70      |
| DIVISION LABORATORY REPORT .....                      | 71      |
| <br>REPORT OF THE DIVISION OF MARKETS .....           | <br>76  |
| BUREAU OF MARKET REPORTING AND COOPERATIVES .....     | 78      |
| Daily Price Reporting .....                           | 78      |
| Crop and Price Information by Radio .....             | 78      |
| Daily Potato Truck Movement Reporting .....           | 79      |
| Weekly Market Reports .....                           | 80      |
| Market Conditions Reports .....                       | 81      |
| Transportation .....                                  | 85      |
| Work With Cooperatives .....                          | 86      |
| DAIRY PRODUCTS MARKETING .....                        | 88      |
| New Jersey Official Grades .....                      | 90      |
| Publicity and Information .....                       | 92      |
| Livestock Auction Markets .....                       | 93      |
| Special Services .....                                | 93      |
| BUREAU OF FRUIT AND VEGETABLE SERVICE .....           | 94      |
| Purpose of Inspection .....                           | 95      |
| Certifying Fresh Produce .....                        | 95      |
| Apples .....  | 95      |
| Green Corn .....                                      | 96      |
| White Potatoes .....                                  | 97      |
| Sweet Potatoes .....                                  | 100     |
| Cannery Crops Inspection .....                        | 101     |
| Asparagus .....                                       | 101     |
| Tomatoes .....  | 103     |
| Other Vegetables .....                                | 105     |
| MARKET ACTIVITIES .....                               | 106     |
| Shipping Point Auction Markets .....                  | 107     |
| City Farmers Markets .....                            | 110     |
| Miscellaneous .....                                   | 111     |
| BUREAU OF POULTRY SERVICE .....                       | 112     |
| Poultry Standardization .....                         | 113     |
| Extent of Program .....                               | 113     |
| Cooperative Marketing .....                           | 117     |
| Auction Markets Egg-Feed Ratio .....                  | 119     |
| State Certified Fresh Egg Program .....               | 121     |
| New Jersey Fresh Egg Law .....                        | 124     |
| Grading and Inspection Service .....                  | 129     |
| Special Poultry Activities .....                      | 130     |
| <br>REPORT OF THE DIVISION OF PLANT INDUSTRY .....    | <br>134 |
| NURSERY INSPECTION .....                              | 134     |
| Dealer Certificates .....                             | 134     |
| Special Certificates .....                            | 135     |
| Special (Request) Inspections .....                   | 135     |
| Canadian Certificates .....                           | 135     |
| Domestic Inspection .....                             | 135     |
| Post-Entry Inspection .....                           | 135     |
| Foreign Inspections .....                             | 135     |
| Raspberry Plant Certification .....                   | 135     |

|  | PAGE |
|--|------|
| White Pine Blister Rust Control-Area Permits .....   | 135  |
| Blueberry Stunt Disease .....  | 136  |
| Summary of Spring Inspection (1948) .....  | 136  |
| Summary of Fall Inspection (1948) .....  | 137  |
| Survey <i>Phyllobius</i> spp. ....   | 138  |
| GOLDEN NEMATODE OF POTATO .....  | 138  |
| STATUS OF THE EUROPEAN CORN BORER .....  | 139  |
| RED STELE DISEASE OF STRAWBERRY .....  | 140  |
| X DISEASE OF PEACH .....   | 140  |
| REVISION OF BLACK STEM RUST QUARANTINE .....   | 140  |
| POST-ENTRY QUARANTINE .....  | 141  |
| WHITE PINE BLISTER RUST .....  | 141  |
| NURSERY TEST PLOT .....  | 142  |
| JAPANESE BEETLE QUARANTINE ENFORCEMENT .....   | 143  |
| BEE CULTURE .....  | 147  |
| Apiary Inspections .....   | 147  |
| Microscopic Determinations .....   | 148  |
| GYPSY MOTH PROJECT .....   | 150  |
| DUTCH ELM DISEASE CONTROL .....  | 152  |
| CONTROL OF CANKER STAIN DISEASE OF LONDON PLANES .....   | 156  |
| LABORATORY ACTIVITIES .....  | 157  |
| Parasites of the European Corn Borer .....   | 157  |
| Airplane Spraying for Forest Insect Control .....  | 158  |
| Adult Japanese Beetle Damage Survey .....  | 159  |
| Recovery of Parasites of Forest Insects Liberated .....  | 160  |
| Forest Pest Survey and Control .....   | 160  |
| Rearing of <i>Macrocentrus ancyllivorus</i> .....  | 161  |
| Foliar Analysis of New Jersey Elms .....   | 162  |
| The Chemical Procedures .....  | 166  |
| Future Program .....   | 168  |
| WHITE HORSE EXPERIMENTAL ELM NURSERY .....   | 169  |
| TOMATO SEED CERTIFICATION .....  | 169  |
| SEED TREATMENT DECLARATIONS .....  | 172  |
| WHITE POTATO SEED CERTIFICATION .....  | 172  |
| GRAIN CERTIFICATION .....  | 177  |
| STATISTICAL AND ECONOMIC REPORTS .....   | 178  |
| Consumer Prices in New Jersey .....  | 178  |
| New Jersey Retail Food Prices .....  | 180  |
| Average Prices Received by New Jersey Farmers .....  | 181  |
| New Jersey Retail Food Prices, 1913-1947 .....   | 181  |
| <i>Trends in Acreages and Production of Individual Crops With a Historical</i><br><i>Appraisal of the General Agricultural Situation in New Jersey from</i><br><i>1860 to 1945</i> ..... | 181  |
| <i>New Jersey Agriculture in 1948</i> .....  | 181  |
| Farm Value of New Jersey Agricultural Products in 1948 .....   | 181  |
| Cost of Producing Milk in New Jersey .....   | 181  |
| Conditions of Crops and Livestock .....  | 182  |
| Miscellaneous Work .....   | 182  |
| OFFICIAL PROCEEDINGS OF THE THIRTY-FOURTH ANNUAL STATE<br>AGRICULTURAL CONVENTION .....  | 183  |
| DELEGATES TO THE STATE AGRICULTURAL CONVENTION .....   | 183  |
| From County Boards of Agriculture .....  | 183  |
| From Pomona Granges .....  | 184  |
| From Other Organizations .....   | 184  |
| APPOINTMENT OF COMMITTEES .....  | 185  |
| ELECTION OF MEMBERS OF THE STATE BOARD OF AGRICULTURE .....  | 186  |
| ELECTION OF MEMBERS OF THE FISH AND GAME COUNCIL .....   | 186  |
| CITATIONS .....  | 186  |
| Roscoe C. Clayton .....  | 187  |
| James C. Ewart .....   | 187  |
| Frank G. Helyar .....  | 188  |
| Harry O. Sampson .....   | 188  |
| REPORT OF COMMITTEE ON RESOLUTIONS .....   | 189  |

STATE OF NEW JERSEY  
DEPARTMENT OF AGRICULTURE

W. H. ALLEN, *Secretary*

TRENTON

June 30, 1949

*To His Excellency, the Governor, and Members of the Senate and  
General Assembly of the State of New Jersey:*

I have the honor to transmit, on behalf of the State Board of  
Agriculture, the Thirty-fourth Annual Report of the New Jersey  
Department of Agriculture, for the fiscal year ended June 30, 1949.

Respectfully yours,

*W. H. Allen*

# THIRTY-FOURTH ANNUAL REPORT OF THE NEW JERSEY STATE DEPARTMENT OF AGRICULTURE

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## *Report of the Secretary of Agriculture*

W. H. ALLEN

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The pattern of the agricultural and industrial processes, which collectively form the economy of the nation, has continued ever since the war in a fluid and complex state. It was not considered erroneous to think that following the cessation of hostilities there would be a reversion to the old order—not rapid enough to invite depression or panic, but nevertheless sufficient to temper the stimulus of wartime demands and slow down the machinery of record production. By now it is evident that stronger forces than man-made laws have been at work.

The 1948 farm year was an annal of peak production in almost all fields. In spite of the continual hum of factories' wheels which bespoke industrial prosperity and high employment, the first crack appeared in the structure design to maintain a balance between agricultural and industrial indexes. Surplus of certain farm products began to accumulate in even larger proportions as a consequence of the existence of parity concepts which no longer were realistic. Farm prices began to sag—first on a few commodities, and then in the first half of 1949 (the latter half of the fiscal year covered by this report) on some others. Price support programs necessitated purchases of surplus production, notably potatoes here in New Jersey, by the federal government because of legal commitments.

### FARM VALUE OF AGRICULTURAL PRODUCTS

The farm value of all the agricultural products produced in the calendar year of 1948 was \$320,750,000, or approximately 11½ million dollars greater than that for 1947. The gain over 1947 percentage-wise was only 3 per cent. This reflected a definite slowing up of the price procession inasmuch as the gain over 1947 farm product values of 1946 had been in the neighborhood of 16 per cent. Surplus, industrial wage disputes, and the gradual appearance of a buyers' market began to have their effects.

In 1948 the leading farm commodity as in the previous year, was eggs with a farm value estimated at 77½ million dollars. All groups of products



had higher evaluation over 1947, with the exception of grains, tree fruits, and berries. These greater values were due not only to somewhat higher average prices for the year, but also to greater volumes of production.

### SERVICES

The Department of Agriculture has continued its diversified activities with a view to advancing the interests of agriculture in the current state for the benefit of the citizenry of New Jersey—producers and consumers alike. This has been accomplished through the maintenance of the regulatory functions with which it has been charged by the Legislature, and through the promotional work of voluntary programs which have been developed over a period of years.

A few of these accomplishments are included here in summary fashion, and as illustrative of the scope of the Department's services. More detailed accounts of these and other activities are to be found in the reports of the respective divisions which follow.

Under the reorganization of State government, the former Milk Control Board was legally dissolved and its powers and duties transferred to the Office of Milk Industry, which became a unit of the Department of Agriculture as of January 1, 1949. Because of the mounting difficulties facing the milk industry by virtue of surpluses coupled with high costs of production, much attention has been devoted to a fair and just operation of that phase of government because of its importance to every person in the State, both young and old.

### DIVISION OF INFORMATION

In addition to keeping farmers and the general public well informed as to important developments, this Division has continued in the public relations field to assist in bringing about a clearer understanding of the manifold problems facing mid-twentieth century agriculture. Not the least important for both direct and indirect results has been the close cooperation of this Division with other agencies, especially the New Jersey Council.

### DIVISION OF ANIMAL INDUSTRY

Attention is directed to several important achievements in the field of animal disease control. The incidence of bovine tuberculosis in New Jersey herds stood at 0.16 per cent for the fiscal year. There was one TB reactor in each 1,627 animals tested. This represented an all-time low in the more than three decades of combating this disease.

The importation of dairy animals to New Jersey dropped 20 per cent below the imports of the previous fiscal year. It is felt that some of the animal disease control work is made a little more difficult, in spite of rigid

entry regulations, because some 20,000 or more animals are brought into New Jersey each year. The sizable reduction is due in part to extremely high prices for replacement cows, and in part (as a consequence of these high prices) to a greater tendency among dairymen in the State to grow their own replacements. This latter is sound in two ways—economically, and from the herd health standpoint.

Gratifying progress has been made in the control of brucellosis. The plan of area or township testing, on a voluntary basis, has grown. With it has been a material increase in the number of young stock being vaccinated in calfhood as a preventive. This is making New Jersey herds more free of disease as these young animals take their places in the milking lines.

#### DIVISION OF MARKETS

The marketing of State farm products rises in importance with each passing year. Close attention to cost of production is vital, but so is marketing procedure. It has been said frequently that New Jersey's nearness to markets has been a handicap in some respects, rather than an asset. The emphasis on quality has not been as pronounced or urgent as it is in areas more distant from their outlets.

New Jersey auction markets, both for fruits and vegetables and for eggs and poultry, continue to be significant outlets operating on a high plane of service to producers and buyers. They have served to stimulate quality more than any other single force in the State. Too high prices cannot be given to the farmers board of directors which over a period of many years have patiently built up these monuments of sound business. Special attention is directed elsewhere in this report where their detailed accounts are given.

Processing crops are a steady and dependent source of cash income, and the processing industry itself is a permanent stabilizing influence, particularly in the vegetable branch of agricultural industry. The 46 million pounds of asparagus inspected for grade and on a purchase program basis, and the 132,561 tons of cannery tomatoes were the two most important processing crops bought by processors in accordance with State standards of quality.

Potato inspection work formed the greatest single activity in the fruit and vegetable marketing branch. With a commercial crop of nearly 11½ million bushels, the federal government was obliged, under the existing price support plan, to purchase over 8 million bushels which could not be absorbed by the commercial market.

#### DIVISION OF PLANT INDUSTRY

One of the greatest threats to New Jersey agriculture in recent years was the appearance and establishment on Long Island of the golden

nematode of potatoes. Because of its disastrous effect in the Long Island area it was imperative that every caution be taken to prevent its introduction into the important potato producing areas in the State. In cooperation with federal authorities, extensive examinations of soil samples were taken and processed. No evidence of the appearance of this pest in New Jersey was discovered. It will be necessary, however, to be alert to any conditions which may provide an opportunity for introduction of the golden nematode.

The fresh outbreak of a Gypsy moth infestation in Quakertown, Pennsylvania, made necessary a double check of New Jersey sections adjacent to the Delaware River to determine whether or not any reintroduction of this pest into New Jersey was occurring. About twenty-five years ago New Jersey experienced a devastating infestation of the Gypsy moth. This pest has since been completely exterminated as a result of the spray and scouting programs maintained constantly. It is encouraging to know that no reintroduction of this important pest has been uncovered.

The foundation of good agriculture today is certified seed. Sound farm management has recognized the importance of starting a crop with the best seed possible. The State seed certification program has resulted in greater yields per acre and reduced production costs per unit. This work has involved white potatoes, tomatoes and several of the grains. Most dramatic perhaps has been the phenomenal growth in the use of hybrid corn seed. The adoption of New Jersey Experiment Station hybrids and U.S. No. 13 and most recently N.J. No. 7 (derived from U.S. No. 13 and N.J. No. 4) has been an important contribution to New Jersey dairymen and poultrymen.

#### ACKNOWLEDGMENT

This means is taken to extend a word of appreciation to the members of the staff for their constant attention to duty and for their diligent efforts in carrying to a successful conclusion the projects in which they are respectively engaged. The fulfillment of these tasks has benefited not only farmers, but also all of the people of the State.

#### LICENSING AND BONDING

The State Department of Agriculture is entrusted with the enforcement of the Milk Dealers Licensing and Bonding Act, Article 1, Chapter 12, Title 4; the Produce Dealers Licensing and Bonding Act, Article 2, Chapter 11, Title 4; and the Cattle Dealers Licensing Act, Article 1, Chapter 11, Title 4.

All three of these acts needed clarification. Bills were prepared incorporating these amendments, were passed by the 172nd Legislature and signed by the Governor on May 23, 1949. The amendments to the Milk Dealers Licensing and Bonding Act are found under Chapter 249, P. L. 1949; the

## THIRTY-FOURTH ANNUAL REPORT

11

Produce Dealers Licensing and Bonding Act, Chapter 174, P. L. 1949; the Cattle Dealers Licensing Act, Chapter 209, P. L. 1949.

## MILK DEALERS LICENSING AND BONDING ACT

During the past fiscal year licenses were issued to 235 dealers who filed bonds totaling \$4,071,000.00.

Claims and complaints filed with the Department against dealer-licensees approximated \$38,319.37.

## MILK DEALERS LICENSED AND BONDED

July 1, 1948 to June 30, 1949

| County            | Licenses Issued | Bonds Filed | Amount of Bonds |
|-------------------|-----------------|-------------|-----------------|
| Atlantic          | 3               | 3           | \$97,000        |
| Bergen            | 11              | 11          | 146,000         |
| Burlington        | 13              | 13          | 211,500         |
| Camden            | 10              | 10          | 130,000         |
| Cape May          | 2               | 2           | 4,000           |
| Cumberland        | 13              | 13          | 144,200         |
| Essex             | 13              | 13          | 460,000         |
| Gloucester        | 9               | 9           | 62,000          |
| Hunterdon         | 10              | 10          | 365,000         |
| Mercer            | 19              | 19          | 283,000         |
| Middlesex         | 13              | 13          | 225,000         |
| Monmouth          | 21              | 21          | 215,000         |
| Morris            | 25              | 25          | 263,000         |
| Ocean             | 3               | 3           | 58,000          |
| Passaic           | 19              | 19          | 381,000         |
| Salem             | 12              | 12          | 96,000          |
| Somerset          | 14              | 14          | 193,000         |
| Sussex            | 1               | 1           | 3,000           |
| Union             | 9               | 9           | 107,300         |
| Warren            | 5               | 5           | 41,000          |
| Out of State      | 10              | 10          | 586,000         |
| Totals: 1948-1949 | 235             | 235         | \$4,071,000     |
| 1947-1948         | 247             | 246         | 3,578,000       |
| 1946-1947         | 264             | 263         | 3,118,600       |
| 1945-1946         | 257             | 251         | 2,764,700       |
| 1944-1945         | 244             | 239         | 2,519,400       |

## PRODUCE DEALERS LICENSING AND BONDING ACT

The licensing year for the Produce Dealers Licensing and Bonding Act is May 1, 1948 to April 30, 1949, during which 418 licenses were issued with bonds deposited totaling \$1,261,000.00.

Claims and complaints, approximately \$29,132.89, were filed with the Department for debts incurred during the licensing year.

## PRODUCE DEALERS LICENSED AND BONDED

May 1, 1948 to April 30, 1949

| County            | Licenses Issued | Bonds Filed | Amount of Bonds |
|-------------------|-----------------|-------------|-----------------|
| Atlantic          | 49              | 49          | \$147,000       |
| Burlington        | 5               | 5           | 15,000          |
| Camden            | 7               | 7           | 21,000          |
| Cumberland        | 59              | 59          | 177,000         |
| Essex             | 48              | 48          | 144,000         |
| Gloucester        | 34              | 34          | 109,000         |
| Hudson            | 1               | 1           | 3,000           |
| Mercer ..         | 17              | 17          | 51,000          |
| Middlesex         | 9               | 9           | 27,000          |
| Monmouth          | 25              | 25          | 75,000          |
| Passaic           | 11              | 11          | 33,000          |
| Salem             | 11              | 11          | 33,000          |
| Somerset          | 1               | 1           | 3,000           |
| Union             | 4               | 4           | 12,000          |
| Warren            | 9               | 9           | 27,000          |
| Out of State      | 128             | 128         | 384,000         |
| Totals: 1948-1949 | 418             | 418         | \$1,261,000     |
| 1947-1948         | 423             | 423         | 1,269,000       |
| 1946-1947         | 406             | 406         | 1,218,000       |
| 1945-1946         | 401             | 401         | 1,203,000       |
| 1944-1945         | 368             | 368         | 1,104,000       |

## THIRTY-FOURTH ANNUAL REPORT

13

## CATTLE DEALERS LICENSING ACT

The demand for dairy animals showed a marked decline due in a large degree to the unsettled conditions of the milk markets in this area.

Licenses were issued to 219 cattle dealers.

## CATTLE DEALERS LICENSED

July 1, 1948 to June 30, 1949

| County            | Licenses Issued |
|-------------------|-----------------|
| Atlantic          | 1               |
| Bergen            | 2               |
| Burlington        | 20              |
| Camden            | 4               |
| Cape May          | 3               |
| Cumberland        | 15              |
| Essex             | 7               |
| Gloucester        | 4               |
| Hudson            | 1               |
| Hunterdon         | 17              |
| Mercer            | 10              |
| Middlesex         | 2               |
| Monmouth          | 12              |
| Morris            | 19              |
| Ocean             | 5               |
| Passaic           | 9               |
| Salem             | 21              |
| Somerset          | 15              |
| Sussex            | 26              |
| Union             | 7               |
| Warren            | 17              |
| Out of State      | 2               |
| Totals: 1948-1949 | 219             |
| 1947-1948         | 232             |
| 1946-1947         | 233             |
| 1945-1946         | 225             |
| 1944-1945         | 212             |



## *The New Jersey Junior Breeders' Fund*

The upward trend in loans from the New Jersey Junior Breeders' Fund for dairy animals reported a year ago continued at a much greater pace during the fiscal year ended June 30, 1949. The yearly record of livestock loans negotiated reveals that of 186 loans totaling \$23,379.10 made during 1948-49, 151 were for dairy animals, amounting to \$19,570.00.

On June 30, there was outstanding \$28,339.05 which represented nearly \$10,000 more than had ever been in use at one time in the history of the Fund. Approximately one-fourth of the loans were in Sussex County, which had a total of \$6,983.30, for dairy animals. Nine of the 186 loans were to students of vocational agriculture, the remainder went to 4-H Club members.

The usual cash awards were presented by the Fund for dairy animals at the Flemington Fair and the Sussex County Farm and Horse Show. A total of \$240 was awarded at each. Baby beef awards amounted to \$130, and a total of \$25 was awarded at the Fat Hog Show.

Production record awards were presented at the dairy banquet during Farmers Week to 4-H Club members by President G. S. Katzenstein. Fifty-two certificates and eleven \$25 savings bonds were presented.

Five charges were made against the calf emergency fund because of death of dairy animals, necessitating a total charge of \$675 against this Fund.

### TOTAL AMOUNT LOANED, BY COUNTIES

| County     | Loaned 1948-49     | Total Loans<br>Since 1921 |
|------------|--------------------|---------------------------|
| Atlantic   | \$268.00           | \$ 360.00                 |
| Bergen     | ....               | 75.00                     |
| Burlington | 1,365.00           | 14,378.91                 |
| Camden     | ....               | ....                      |
| Cape May   | ....               | 2,077.43                  |
| Cumberland | ....               | 8,121.63                  |
| Essex      | 75.00              | 508.05                    |
| Gloucester | 825.00             | 4,794.30                  |
| Hudson     | ....               | ....                      |
| Hunterdon  | 2,265.00           | 14,653.81                 |
| Mercer     | 1,150.00           | 27,564.96                 |
| Middlesex  | 1,774.60           | 26,285.36                 |
| Monmouth   | 3,016.50           | 16,102.05                 |
| Morris     | 130.00             | 5,814.00                  |
| Ocean      | 125.00             | 2,731.00                  |
| Passaic    | 350.00             | 641.25                    |
| Salem      | 975.00             | 25,345.44                 |
| Somerset   | 2,650.00           | 12,829.20                 |
| Sussex     | 6,105.00           | 25,995.17                 |
| Union      | ....               | ....                      |
| Warren     | 2,455.00           | 17,190.58                 |
| Totals     | <u>\$23,529.10</u> | <u>\$205,468.14</u>       |

## LIVESTOCK LOANS MADE ANNUALLY SINCE ESTABLISHMENT OF FUND

| Fiscal Year | Dairy Loans |              | Beef Cattle |             | Pig Loans |             | Poultry loans |             | Lamb loans |          | Total Livestock Loans |              |
|-------------|-------------|--------------|-------------|-------------|-----------|-------------|---------------|-------------|------------|----------|-----------------------|--------------|
|             | No.         | Amount       | No.         | Amount      | No.       | Amount      | No.           | Amount      | No.        | Amount   | No.                   | Amount       |
| 1920-21     | 30          | \$2,815.00   | ..          | ...         | ..        | ...         | ..            | ...         | ..         | ...      | 30                    | \$2,815.00   |
| 1921-22     | 92          | 7,985.00     | ..          | ...         | 16        | \$1,074.98  | 16            | \$824.25    | ..         | ...      | 124                   | 9,884.23     |
| 1922-23     | 81          | 6,365.00     | ..          | ...         | 21        | 1,267.25    | 13            | 636.25      | ..         | ...      | 115                   | 8,268.50     |
| 1923-24     | 96          | 8,670.00     | ..          | ...         | 10        | 409.50      | 14            | 932.00      | ..         | ...      | 120                   | 10,011.50    |
| 1924-25     | 81          | 7,065.00     | ..          | ...         | 26        | 1,320.00    | 17            | 1,183.50    | ..         | ...      | 124                   | 9,568.50     |
| 1925-26     | 71          | 6,639.50     | ..          | ...         | 25        | 1,684.30    | 32            | 1,563.10    | ..         | ...      | 128                   | 9,886.90     |
| 1926-27     | 83          | 7,444.00     | ..          | ...         | 19        | 1,240.00    | 28            | 1,112.50    | ..         | ...      | 130                   | 9,796.50     |
| 1927-28     | 54          | 4,644.00     | ..          | ...         | 10        | 620.00      | 31            | 890.70      | ..         | ...      | 95                    | 6,154.70     |
| 1928-29     | 55          | 4,960.00     | ..          | ...         | 13        | 805.00      | 15            | 680.65      | ..         | ...      | 83                    | 6,445.65     |
| 1929-30     | 37          | 3,317.50     | ..          | ...         | 15        | 876.00      | 17            | 692.20      | ..         | ...      | 69                    | 4,885.70     |
| 1930-31     | 38          | 3,467.50     | ..          | ...         | 12        | 769.00      | 7             | 308.00      | ..         | ...      | 57                    | 4,544.50     |
| 1931-32     | 38          | 2,875.00     | ..          | ...         | 8         | 415.00      | 9             | 394.00      | ..         | ...      | 55                    | 3,684.00     |
| 1932-33     | 24          | 1,820.00     | ..          | ...         | 10        | 426.75      | 8             | 323.00      | ..         | ...      | 42                    | 2,569.75     |
| 1933-34     | 30          | 2,310.00     | ..          | ...         | 9         | 295.00      | 24            | 940.43      | ..         | ...      | 63                    | 3,545.43     |
| 1934-35     | 46          | 4,169.00     | ..          | ...         | 3         | 110.00      | 23            | 1,174.49    | ..         | ...      | 72                    | 5,453.49     |
| 1935-36     | 26          | 2,050.00     | ..          | ...         | 5         | 297.00      | 18            | 797.85      | ..         | ...      | 49                    | 3,144.85     |
| 1936-37     | 32          | 2,905.00     | ..          | ...         | 14        | 941.00      | 21            | 894.40      | ..         | ...      | 67                    | 4,740.40     |
| 1937-38     | 43          | 4,366.00     | ..          | ...         | 8         | 492.50      | 31            | 1,644.82    | ..         | ...      | 82                    | 6,503.32     |
| 1938-39     | 45          | 3,740.00     | 21          | \$1,050.00  | 28        | 1,377.00    | 32            | 1,399.24    | ..         | ...      | 126                   | 7,566.24     |
| 1939-40     | 36          | 3,680.00     | 35          | 2,012.20    | 9         | 303.00      | 49            | 2,213.92    | ..         | ...      | 129                   | 8,209.12     |
| 1940-41     | 34          | 2,503.50     | 40          | 2,309.10    | 3         | 110.00      | 34            | 1,321.10    | ..         | ...      | 111                   | 6,243.70     |
| 1941-42     | 40          | 3,127.00     | 43          | 2,754.48    | 10        | 295.50      | 24            | 888.88      | ..         | ...      | 117                   | 7,065.86     |
| 1942-43     | 24          | 2,095.00     | 39          | 2,654.85    | 1         | 50.00       | 7             | 377.20      | ..         | ...      | 71                    | 5,177.05     |
| 1943-44     | 21          | 2,055.00     | 32          | 2,348.77    | 2         | 95.00       | 1             | 36.25       | ..         | ...      | 56                    | 4,535.02     |
| 1944-45     | 13          | 1,305.00     | 35          | 2,384.68    | ..        | ..          | ..            | ..          | ..         | ..       | 48                    | 3,689.68     |
| 1945-46     | 13          | 1,160.00     | 17          | 1,675.19    | ..        | ..          | ..            | ..          | 14         | \$375.28 | 44                    | 3,210.47     |
| 1946-47     | 36          | 3,930.00     | 30          | 3,040.20    | ..        | ..          | ..            | ..          | ..         | ..       | 66                    | 6,970.20     |
| 1947-48     | 79          | 9,755.00     | 28          | 3,846.40    | 1         | 45.00       | ..            | ..          | ..         | ..       | 108                   | 13,646.40    |
| 1948-49     | 151         | 19,570.00    | 33          | 3,746.10    | 1         | 50.00       | 1             | 13.00       | ..         | ..       | 186                   | 23,379.10    |
| Totals      | 1,449       | \$136,788.00 | 353         | \$27,821.97 | 279       | \$15,368.78 | 472           | \$21,241.73 | 14         | \$375.28 | 2,567                 | \$201,595.76 |



## AGRICULTURAL LOANS MADE ANNUALLY SINCE ESTABLISHMENT OF FUND \*

| Fiscal<br>Year | Feed Loans |            | Crossbred Poultry |          | Agricultural<br>Prod. Loans |          | Fat Barrow<br>Loans |          | Miscellaneous |        | Total<br>Agricultural Loans |            |
|----------------|------------|------------|-------------------|----------|-----------------------------|----------|---------------------|----------|---------------|--------|-----------------------------|------------|
|                | No.        | Amount     | No.               | Amount   | No.                         | Amount   | No.                 | Amount   | No.           | Amount | No.                         | Amount     |
| 1934-35        | 3          | \$38.38    | ..                | ..       | ..                          | ..       | ..                  | ..       | ..            | ..     | 3                           | \$38.38    |
| 1935-36        | ..         | ..         | ..                | ..       | ..                          | ..       | ..                  | ..       | ..            | ..     | ..                          | ....       |
| 1936-37        | 6          | 63.70      | ..                | ..       | ..                          | ..       | ..                  | ..       | ..            | ..     | 6                           | 63.70      |
| 1937-38        | 14         | 276.24     | ..                | ..       | ..                          | ..       | ..                  | ..       | ..            | ..     | 14                          | 276.24     |
| 1938-39        | 27         | 451.04     | ..                | ..       | 9                           | \$128.43 | ..                  | ..       | ..            | ..     | 36                          | 579.47     |
| 1939-40        | 43         | 728.45     | ..                | ..       | 7                           | 199.08   | ..                  | ..       | 1             | \$8.02 | 51                          | 935.55     |
| 1940-41        | 29         | 506.63     | ..                | ..       | 6                           | 240.26   | ..                  | ..       | ..            | ..     | 35                          | 746.89     |
| 1941-42        | 2          | 160.70     | ..                | ..       | 3                           | 104.85   | ..                  | ..       | ..            | ..     | 5                           | 265.55     |
| 1942-43        | ..         | ..         | 2                 | \$72.50  | ..                          | ..       | ..                  | ..       | ..            | ..     | 2                           | 72.50      |
| 1943-44        | ..         | ..         | 1                 | 100.00   | ..                          | ..       | ..                  | ..       | ..            | ..     | 1                           | 100.00     |
| 1944-45        | 1          | 21.45      | 1                 | 48.00    | ..                          | ..       | ..                  | ..       | ..            | ..     | 2                           | 69.45      |
| 1945-46        | 1          | 27.65      | ..                | ..       | ..                          | ..       | ..                  | ..       | ..            | ..     | 1                           | 27.65      |
| 1946-47        | ..         | ..         | ..                | ..       | ..                          | ..       | 3                   | \$134.00 | ..            | ..     | 3                           | 134.00     |
| 1947-48        | ..         | ..         | 1                 | 25.00    | ..                          | ..       | 10                  | 388.00   | ..            | ..     | 11                          | 413.00     |
| 1948-49        | 3          | 75.00      | ..                | ..       | ..                          | ..       | 1                   | 75.00    | ..            | ..     | 4                           | 150.00     |
| Totals         | 129        | \$2,349.24 | 5                 | \$245.50 | 25                          | \$672.62 | 14                  | \$597.00 | 1             | \$8.02 | 174                         | \$3,872.38 |

\* The number of agricultural loans shown represents actual loans made, rather than number of borrowers. In most cases more than one loan was made to a single borrower.

## *Report of Division of Information*

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FRED W. JACKSON, *Director*

Although agriculture in New Jersey remains an important segment in the economy of the State, the farm population actually represents a relatively small minority group. Under such circumstances there exists a constant need for presenting the viewpoint of that agricultural segment and interpreting trends and developments. These not only concern farmers but also are of interest and often of considerable importance to all citizens.

Each year there appears to be an increasing demand for the services of the Division of Information to develop a better understanding between those who are engaged in agricultural pursuits and the vast urban population of the State, which is dependent upon commerce and industry for its income. The aftermath of war continued to directly affect both producers and the consuming public and, at times, has been responsible for unfortunate misunderstandings between them. Under such circumstances the farmers usually are handicapped in not being able to present an effective explanation of their problems.

During the past year New Jersey farmers began to experience some of the troublesome post-war situations which some authorities had predicted would appear several years earlier. Despite government supports and regulations which have eased and delayed the full impact of the return to peacetime conditions, New Jersey farmers are facing difficult adjustments, declining prices, higher costs of production for many crops, and a diminishing share of the consumers' food dollar. With a price-conscious public gradually taking over the initiative and acquiring a dominant position in a buyers market, the farmer finds himself with his back to the wall.

This combination of circumstances appears to stimulate a tendency on the part of the general public to assume a more critical attitude toward agriculture. Snap judgment leads many to believe that farmers are enjoying a high level of prosperity. Consequently, a considerable portion of the program of the Division of Information is devoted to keeping the consuming public posted on current trends by making up-to-date information available to editors and radio commentators as promptly as possible. While some progress has been achieved in this field, much remains to be done.

A typical example can be cited to illustrate the situation. Many farmers are sensitive about the critical attitude of consumers in regard to food prices and the tendency to assume that farmers are to blame because food prices

have not declined as rapidly or to the extent that was expected. At the same time it is apparent that many consumers are inclined to assume that the farmer is getting the majority of the retail food dollar. New methods of distribution and additional services which consumers too often take for granted represent considerable expense which actually leaves less and less for the farmer. Obviously, the task of informing the public will not be undertaken by those in the distribution field and so becomes the responsibility of the producers.

Furthermore, other interests concerned with the processing and distribution of food are neglecting no opportunity to present their views in a favorable light. With well-financed campaigns they furnish the press and radio with their version which naturally impresses and registers with many readers and listeners, especially in the absence of information from other sources.

Effective last January 1, the State milk control agency became a unit of the Department of Agriculture under the title of the Office of Milk Industry. No other agency has been the subject of as much attention and controversy in recent years. As a new unit of the Department of Agriculture during the past six months, the Office of Milk Industry faced a number of difficult problems which inspired continued interest on the part of both producers and consumers, and thus focused added attention on the Department of Agriculture. However, a new administrative policy of more frequent releases containing timely and more complete information proved effective in promoting better relations with the public through the press.

Considerable progress has been attained in the effort to establish the Division of Information as a source from which editors and others can obtain unbiased and complete information. The existence of such a relationship is considered to be a valuable asset for the Department of Agriculture and the agricultural interests.

New Jersey agriculture is geared to the production of perishables for nearby market outlets. Because New Jersey farmers live and farm so close to their market outlets and are in constant contact with their customers, the promotion of friendly relations is essential. To that objective the activities of the Division of Information have been dedicated during the past year.

#### NEWS RELEASES

During the past year a total of 245 news releases was issued compared to 190 during the previous fiscal year. These were forwarded on a weekly basis to between 160 and 190 newspapers and radio stations in New Jersey, New York City and Philadelphia, as well as a number of regional and national publications requesting such services. These included 14 releases devoted to milk control announcements issued during a six-months period and a total of 92 releases issued as advance, current and follow-up publicity related to the 1949 Farmers Week.

## THIRTY-FOURTH ANNUAL REPORT

19

The following tabulation indicates the origin of the releases issued during the past year within the Department and includes comparisons with previous years classified according to the division units of the Department:

|                             | 1948-1949 | 1947-1948 | 1946-1947 | 1945-1946 |
|-----------------------------|-----------|-----------|-----------|-----------|
| Administration              | 10        | 12        | 13        | 13        |
| Division of Animal Industry | 14        | 20        | 22        | 13        |
| Division of Markets         | 50        | 56        | 61        | 66        |
| Division of Plant Industry  | 38        | 36        | 29        | 24        |
| Division of Information     | 92        | 48        | 42        | 26        |
| *Office of Milk Industry    | 14        | ..        | ..        | ..        |
| Miscellaneous               | 27        | 18        | 17        | 16        |
| Totals                      | 245       | 190       | 184       | 158       |

\*For period January 1 - June 30, 1949

These releases were used quite generally throughout the State in both weeklies and dailies as well as by radio stations. They appear quite regularly in a number of trade and commodity group publications. A number became subjects of editorial comment.

Because of the trend toward increased use of illustrations in all publications, it has been necessary to meet a demand for photographs and mats. Over 320 glossy prints were released during the year in addition to several series of photographs and charts issued in mat form to a selected list of papers.

Special acknowledgment should be made of the splendid cooperation of the publisher and staff of *New Jersey Farm and Garden* throughout the entire year. An editorial prepared by the secretary of agriculture is published each month and the columns of the magazine with its circulation of over 25,000 farm readers in New Jersey, are always available to members of the staff of the Department of Agriculture. A review of New Jersey agriculture totaling about 1,500 to 2,000 words is submitted each month by the Division of Information to *New Jersey Farm and Garden*. Articles, photographs and short items are furnished regularly to the *American Agriculturist*, the *Moos*, *Pennsylvania Farmer*, *Rural New Yorker*, and to news letters and house organs issued by commodity groups within the State.

Because of the difficult problem of living costs facing New Jersey residents during the post-war period, a special effort has been made to service the press and radio as promptly as possible with the reports on food prices issued monthly and the statistics on the cost of living prepared bi-monthly by the Division of Plant Industry. These reports are used regularly by the press where they are followed closely by the food trade and consumer groups.

To date, the Department of Agriculture has not participated consistently in a regular series of radio programs. However, all New Jersey and nearby radio stations receive the news releases and most of them are used as source or background material. Nine special radio talks were prepared, three broadcasts were made and eighteen recordings were made or arranged for during

the past year. The stations having special farm programs have rendered outstanding service and the program directors also have aided in reaching consumers with frequent and favorable mention of New Jersey farm products.

#### PUBLICATIONS AND CIRCULARS

All publications and circulars prepared by members of the Department staff are edited in the Division, prepared for printing and serviced for proof reading. Last year most of the publications were routine reports. Those issued during the year included:

- Circular No. 333—Fresh Eggs in New Jersey (Revised). (Delivered—8/5/48.)
- Circular No. 372—Laws, Rules and Regulations Governing Shipment of Nursery Stock Out of New Jersey. (Delivered—8/17/48.)
- Circular No. 373—Results of a Survey of the Apple Tree Population in New Jersey During 1946. (Delivered—11/5/48.)
- Circular No. 374—Dealers Licensed Under the Milk Dealers Licensing and Bonding Act, Produce Dealers Licensing and Bonding Act and Cattle Dealers Licensing and Bonding Act. (Delivered—12/15/48.)
- Circular No. 375—Facts and Figures—Annual Potato Summary—Crop of 1948. (Delivered—6/22/49.)
- Report—Thirty-second Annual Report of the New Jersey State Department of Agriculture—July 1, 1946-June 30, 1947. (Delivered—8/27/48.)
- Farm Service News*—Six issues—July, September, November, 1948; January, March, May 1949.
- Binding—12 issues of *New Jersey Farm and Garden*, for calendar year 1948.  
25 sets New Jersey State Department of Agriculture circulars 361-371. (Delivered 12/13/48.)

As of June 30, 1949, the following have been edited but have not been completed by the printers:

- Circular No. 360—The Canker Stain Disease of Planetrees, with Recommendations for Controlling It in New Jersey. (1st Revision)
- Report—Thirty-third Annual Report of the New Jersey State Department of Agriculture - July 1, 1947—June 30, 1948.
- Binding—15 sets of each of the Twenty-sixth to Thirty-third Annual Reports, inclusive, for the fiscal years 1940-1941 through 1947-1948 (totaling 120 books).

Other publications edited and issued prior to or during 1949 Farmers Week are as follows:

- 1949 Farmers Week Program
- Citations for Distinguished Service to New Jersey Agriculture, 1949
- Women's Program—1949 Farmers Week
- Highlights of Your Convention
- Flyers—Vocational Agriculture Rally
- National Catholic Rural Life Conference
- CHAFF*—Five issues during Farmers Week
- One special issue to members of General Committee



Five sets of mats were issued as follows:

July 22, 1948—Frank C. Pettit, Woodstown, president, State Board of Agriculture  
 October 20, 1948—Chart of New Jersey Food Prices  
 January 13, 1949—Farmers Week Headliners—Nancy Craig, Margaret Bourke-White, Myrtle Fahsbender  
 January 25, 1949—Cited for Service to New Jersey Agriculture—James C. Ewart, Harry O. Sampson, Frank G. Helyar, Roscoe C. Clayton  
 May 10, 1949—H. B. Weiss—Honored by Farmers' Society for Insect Research

### *Farm Service News*

*Farm Service News* was continued with six bi-monthly issues during the past year, serving as the semi-official publication of the Department and reaching about 16,000 individuals on a state-wide mailing list. The March issue was devoted exclusively to the listing of the hatcheries and breeders whose baby chicks and breeding stock had qualified under the Federal-State Poultry Improvement Plan, thus substituting for a separate publication of such a list of breeders.

An effort is being continued to check and supplement the mailing list with all available sources. Further checking during the past year has resulted in the addition of about 2,400 new names.

### 1949 FARMERS WEEK

Each year during October, November, December and early January, the principal activity of the Division of Information is devoted to the advance preparations for Farmers Week which continues to attract an increasing attendance. This major event of New Jersey agriculture consists of six days of meetings planned by 38 farm or rural organizations. Every effort is made to assist the participating organizations in developing strong programs and arranging for their meetings. A total of 20,000 printed programs is distributed in advance of the Week. Other advance activities include special editions of *New Jersey Farm and Garden* and *Farm Service News*, both of which are mailed to an extensive list during the first 10 days of January. During the Week each meeting is covered to secure news items and photographs which are promptly serviced to the press and radio.

### FAIR EXHIBITS

Acceptance of the invitations to participate in local and county fairs continues to be a difficult problem in the absence of a suitable display. Attendance at such fairs is increasing and the opportunity to participate with an exhibit on New Jersey agriculture is one which should not be overlooked because of the large number of urban and suburban residents who attend. Exhibits of a make-shift character were placed at the fairs in Trenton, Flemington and Morris County.

## COOPERATION WITH NEW JERSEY COUNCIL

During the past fiscal year the agricultural activities of the New Jersey Council, a unit of the Department of Conservation and Economic Development, again were serviced on a cooperative basis through the Division of Information. The Division served in a liaison capacity with the participating agricultural commodity groups. This arrangement which has been in effect since 1938 has proved to be satisfactory to the State agencies as well as to the cooperating farm groups.

The total budget of the New Jersey Council again was only \$50,000 for all activities. The allotment for agriculture was only about \$11,000 which was divided among nine projects. Although the allotments were supplemented by funds from each of the cooperating commodity groups, the activities of each necessarily were curtailed because of the limited funds available.

As during the previous year, an effort was made to compensate for the lack of advertising space by making the most of every opportunity to provide editors with copy and photographs for use in reader column space. An effort also was made to enlist other agencies, the trade and the utilities to make mention of New Jersey products in their advertisements and releases and to use them as much as possible in their demonstrations.

Because of the success of the test program carried on with the home economics staff of the Extension Service at the State College of Agriculture last year, more funds were allotted for that program this year. Special releases on New Jersey foods were made available to the Extension Service for distribution to the local papers through the offices of the home agents in each county. The releases consisted of original recipes on New Jersey products in season which are made into dishes by a home economics specialist and then photographed in a New York City studio. Mats are then made and turned over to the county home agents for distribution to the papers. As the year closed about 70 daily and weekly papers were using the releases quite regularly.

Acknowledgement should be made of the helpful cooperation of the members of the home economics staffs of all four of the principal utilities. These include about 40 home economics specialists who are responsible for a large number of meetings and demonstrations on food subjects throughout the year. Consequently, there are many opportunities when New Jersey farm products can be featured or included in recipes, thus bringing them directly to thousands of food-minded housewives. Three of the utilities again prepared at their own expense consumer leaflets on New Jersey products, including an edition of 200,000 devoted to New Jersey peaches. One concern sponsored a series of general institutional advertisements emphasizing the availability of local products illustrated with photographs made on New Jersey farms.

Brief outlines of the projects carried on cooperatively with the farm commodity groups follows:

*Cooperative Marketing Associations in New Jersey, Inc.*

A considerable volume of New Jersey grown fruits and vegetables is marketed through the 10 cooperative produce auction markets which are organized in an overhead cooperative. This organization sponsored a series of advertisements which appeared in *The New York Packer* and *The Produce News*, the two principal publications circulating among the produce trade. There were eight insertions in each of these publications running from April 23 to June 25. The layout included a map of New Jersey showing the locations of the produce auction markets and the copy included a list of crops in season which was revised each week. During the 1949 season a total of about 1,245 different buyers from 13 states and Canada purchased New Jersey products at the auctions. The auction managers attribute this excellent distribution to the advertisements appearing in the trade papers. In addition to the fact that the auctions furnished an outlet for a considerable volume of New Jersey produce, they also established a price level for many other transactions.

*Blueberry Cooperative Association*

This group which harvested a very large crop of cultivated blueberries under the *Tru-Blu* label, dominates the market through a well planned sales program. The association also carries on a consistent advertising and publicity program toward which a small allotment of New Jersey Council funds was made sufficient to meet the cost of 684 locations for posters in the New York Subway, the Hudson and Manhattan Tube and stations and terminals of several railroads.

*New Jersey Field Crop Improvement Cooperative Association*

For the past 10 years this organization has been engaged in the production and sale of certified field crop seeds which are of special importance to New Jersey dairymen and poultrymen who produce home-grown feeds. At a time when prices of milk, eggs and poultry are expected to decline, the efficient production of home-grown feeds is very important. The New Jersey hybrid varieties of corn have been featured in the series of cooperative advertisements with some mention of soybeans, wheat, oats and barley in season.

The advertisements were carried in nine issues of *New Jersey Farm and Garden* and nine issues of *The Moos*. Several releases on certified seed were issued including two sets of photographs showing the cleaning and storage facilities maintained at Kingston.



*New Jersey Peach Industry Committee*

This state-wide organization continued last year with its promotional activities to call attention to the new varieties of New Jersey peaches now available. To counteract the tendency of many housewives to delay canning until the Elberta season in late August, a special effort was planned to point out that there are high quality peaches available from mid-July until early September. This theme was featured in the releases, photographs and recipes issued during July and August. Unfortunately, the quality of the New Jersey crop was not good due to the excessive rain which accounted for poor color, lack of flavor and immaturity.

As usual the campaign was launched with a luncheon in Newark attended by food editors, radio commentators, representatives of the wholesale and retail trade and others concerned with the promotion of food products. The luncheon has become an annual occasion which has accomplished a great deal in helping to establish close relations with a number of individuals and agencies which are in a position to render many services to the growers and the Department throughout the year.

*New Jersey Potato Industry Committee*

During July and August a series of nine advertisements was sponsored in cooperation with the New Jersey Potato Industry Committee in *The Produce News* and *The New York Packer*. The large half-page space included a list of the New Jersey dealers who are officially designated to handle potatoes.

*New Jersey Apple Institute*

With a rather light crop in 1948, the New Jersey growers experienced little trouble in moving the main season varieties. Most of the promotional effort was concentrated on the summer varieties which are important in New Jersey. Consequently, a series of releases, photographs and recipes were issued advising or illustrating how the Starr, Wealthy and Twenty Ounce varieties could be used.

*New Jersey Turkey Growers Association*

The 1948 program for promoting the special *Blu-Tag* turkeys was quite similar to that followed for the 1947 crop. A number of association members in Monmouth County and a few others requested the cooperation of the Department in sponsoring a series of advertisements prior to Thanksgiving and through the Month of December.

## MISCELLANEOUS SERVICES

The Division of Information is called upon frequently for a wide variety of services. The director has served as secretary of the Farm Electri-

fication Council of New Jersey, a program which originated in the Department of Agriculture in 1928. The Council has sponsored an educational program during the past year devoted to the more efficient use of electricity on New Jersey farms now that the project of extending electrical service is nearing completion. This has included a series of posters and refresher courses for extension workers and teachers of vocational agriculture.

Another similar assignment is that of serving as secretary of the Committee on Agriculture of the New Jersey State Chamber of Commerce. That activity consisted largely of arranging for and conducting the two farm industrial tours scheduled by the Committee. In October 1948, a group of industrial and commercial executives joined a farm group on a tour of Warren County to see some examples of soil conservation practices. In May 1949, the members of the farm group were guests of the industrial representatives on a tour of the new Mercury-Lincoln assembly plant in Metuchen and the new Esso Laboratories in Linden. These tours have been held every year since 1938 and have developed excellent relations between business and agriculture in New Jersey.

Other activities have included the preparation of special articles, most of them with photographs, for the *Industrial Directory of New Jersey*, the *Washington Star*, the *Dairymen's League News*, *American Agriculturist*, *New Jersey Counties*, and *New Jersey Municipalities*. Cooperation has been extended frequently to feature writers and to members of the Associated Press staff in the preparation of special feature articles on agriculture. An outline on New Jersey agriculture was prepared for use in a motion picture being prepared by an industrial concern.

Another activity which involves a great deal of time is the servicing of a wide variety of requests for information on New Jersey agriculture. While these requests are received from a number of different sources, two principal groups accounted for most of them during the past year. These are: (1) requests received from veterans and others contemplating the purchase of farms in New Jersey and (2) those received from pupils in schools who usually write for information under the direction of their teachers. The receipt of such requests fluctuates but reaches a peak during the latter six months of the fiscal year and the servicing of them becomes quite a task. To conscientiously serve the requests of both of these groups requires considerable time and reference to sources of information. However, it has been assumed that as a public agency the Department is obligated to meet such requests. Considerable time also is devoted to servicing requests for reports and circulars issued by the Department.

# *Report of the Division of Animal Industry*

DR. R. A. HENDERSHOTT, *Director*

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## REVIEW OF THE YEAR'S ACTIVITIES

### EQUINE INFECTIOUS ANAEMIA AND OTHER INFECTIOUS, COMMUNICABLE DISEASES OF HORSES

During the past year the Division of Animal Industry continued to assist the track veterinarians in the race tracks of New Jersey in administering the health regulations on all horses entering and leaving the track premises. Some time was spent in an endeavor to obtain uniformity between the states in the type of action and the form of health report. While one hundred per cent cooperation was not received even among those states in which racing is permitted, considerable improvement and progress has been attained.

Horse owners, trainers and handlers, as well as track owners and operators are better informed and are seemingly anxious to comply. Many have personally expressed their entire satisfaction with the way the situation is handled on the New Jersey tracks and expressed the desire to have other states interest themselves in behalf of the industry as has been done here.

A year ago a warning was issued to all owners and trainers entering horses in New Jersey that no entries would be permitted in 1948 without the proper health credentials. With a few exceptions all horses, during the 1948 season, were accompanied by proper health papers.

Whether due to any effort on the part of the Division or by chance, no serious infectious disease has appeared at any of the race tracks the past fiscal year. However, the State is not free of sick horses. Several deaths from pneumonia occurred; in each instance the animal was autopsied and the clinical diagnosis confirmed.

Track managers welcomed State inspection and service and made the entry of State veterinarians to the establishment unquestioned and easy. The horse breeding establishments were cooperative and welcomed suggestions made toward improving conditions leading to prevention of disease. Improvements have been made in the stabling area in New Jersey tracks over those available a year ago.

### ENCEPHALOMYELITIS

During the year reports were received from practicing veterinarians on the loss of six horses from encephalomyelitis. Two were reported by Dr.

James Johnston of Pitman in Sewell, in horses owned by a Mr. Villani; three by Dr. Irving Botwinick in horses owned by Harry Hassapien, Goshen, Edward Bailey, Eldora and Max Muenzer of Woodbine; and one by D. W. S. Miller, Haddon Heights, a horse owned by Irving C. Pettit of Paulsboro.

The following record is made of the reports received in the Division office covering the vaccination of horses in counties as given in an effort to protect the horses from this disease:

| COUNTY     | HORSES VACCINATED |
|------------|-------------------|
| Burlington | 19                |
| Cape May   | 59                |
| Cumberland | 21                |
|            | <hr/>             |
| State      | 99                |

In July, 2,300 pheasants owned by Ephraim Smith, Star Route, Salem, were vaccinated as a protection against encephalomyelitis. Several years ago an outbreak of the disease in young birds on this farm was noted. The following year all young birds were vaccinated; last year the same number of birds was again vaccinated and the group split into lots. Each lot was given a varying dose of the vaccine and one group left as controls. No losses were reported. This year, the birds were injected with 1 c.c. of bivalent vaccine and no losses were sustained.

#### X-DISEASE

During 1948 the Division of Animal Industry continued to observe new cases of suspected X-Disease or Hyperkeratosis of cattle. In November an interesting case was called to the attention of the Division by Dr. Joseph De Groodt of Mendham. It concerned a single animal, in fact, the only animal on the farm of Frank Estler, Boonton. Each year Estler has raised a steer for winter meat and not until this year has he had any difficulty. Investigation of conditions on the premises failed to disclose any reason for this case.

A second case occurred on the farm of A. Alini of New Brunswick. The animal in Alini's one-cow herd was recently purchased from a local cow dealer. The Division has been cooperating with Dr. F. E. Bear of the State Agricultural College, Rutgers University, and examination of the soil failed to reveal any condition that might have been responsible. During the winter months, Dr. Bear, in cooperation with the Animal Husbandry Department of the State Agricultural College, experimentally fed a Holstein calf molybdenum over a period of months and was able to produce symptoms not unlike those observed in early cases of X-Disease. It was agreed to place several young animals on the pasture at Russell Hiles' farm in Woodstown, starting in April, 1949. Observations of four such experimental cases during May and June failed to reveal any noticeable change.



Dr. Bear suggested that perhaps the cow whose calves are to be employed in such experiments should be pastured on Hiles' farm and the subsequent calves raised on the farm.

It should be recalled that David S. English, Elmer, introduced heifers from outside source on this land in the spring of 1948. These animals developed the disease and two subsequently died of it.

#### INSHIPPED CATTLE

Cattle importations decreased 5,397 from those of 1947-1948. Dairy and breeding cattle importations decreased 4,738 from 1947-1948. Since the total dairy and breeding cattle numbers under supervision for tuberculosis has maintained its previous level, apparently more calves are being raised for replacements—this from a health standpoint is of paramount importance. It is hoped that the combination of artificial insemination and calf vaccination will continue to account for an increase in the number of home-grown replacements in the years ahead.

Importations from Canada continue to decrease in number. For 1946-1947 5,037 were brought in; in 1947-1948 1,935; during 1948-1949 the number dropped to 1,054. It is rather significant that the per cent of tuberculosis continues to keep pace with the reduction in Canadian grade importations.

Since last year the Division has continued to work for the adoption of an adequate federal health regulation with respect to Canadian importations. A new regulation was put into effect this year. However, the requirements failed to meet what in the opinion of the Division would constitute that margin of safety that is necessary to guarantee freedom from infection.

The wisdom in the action of the State Board of Agriculture in ruling against the importation of Canadian grade cattle, is exemplified by the reduction in the infection rate. So far the Division has in a large measure successfully countered all measures employed to circumvent the regulation against Canadian grade cattle. New and better attempts, no doubt, will be made and the Division shall continue to combat them.

Bootlegging of cattle from Maryland and New York still goes on, according to rumor. With the current duties of the limited staff it is physically impossible to apprehend any violations of interstate health requirements.

An endeavor to obtain freedom of entry for cattle from Tennessee and Virginia somewhat after the exemption provided for stock movement from Idaho and Wyoming was rejected by the State Board during the latter months of this fiscal year. The Division continues to discourage importation of livestock from the southern states because of anaplasmosis and parasitic conditions prevalent in that area.

## IMPORT CATTLE RECEIVED FROM VARIOUS STATES AND RELEASED FOR DAIRY AND BREEDING PURPOSES, 1948-1949

| Origin                                   | July  | Aug.  | Sept. | Oct.  | Nov.  | Dec.  | Jan. | Feb. | Mar. | Apr.  | May   | June  | Total  |
|--|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|--------|
| California                               | ..    | ..    | ..    | ..    | ..    | ..    | ..   | ..   | ..   | ..    | 1     | ..    | 1      |
| Canada                                   | 161   | 200   | 65    | 77    | 130   | 72    | 53   | 69   | 55   | 26    | 43    | 103   | 1,054  |
| Connecticut                              | 5     | 2     | ..    | 3     | 11    | 29    | 1    | 8    | 2    | 1     | 10    | 10    | 82     |
| Delaware                                 | ..    | ..    | ..    | ..    | 17    | ..    | ..   | ..   | ..   | ..    | ..    | ..    | 17     |
| Idaho                                    | ..    | ..    | ..    | 83    | 261   | 232   | 24   | ..   | ..   | 55    | ..    | 34    | 689    |
| Illinois                                 | 42    | ..    | 25    | 1     | 30    | 15    | 1    | ..   | 14   | ..    | ..    | 25    | 153    |
| Indiana                                  | ..    | ..    | ..    | ..    | 3     | ..    | ..   | ..   | ..   | ..    | 18    | ..    | 21     |
| Iowa                                     | 19    | ..    | 9     | 7     | ..    | 1     | ..   | 3    | ..   | 1     | ..    | ..    | 40     |
| Kentucky                                 | ..    | ..    | ..    | ..    | ..    | ..    | ..   | ..   | 2    | 10    | ..    | ..    | 12     |
| Maine                                    | ..    | ..    | ..    | ..    | ..    | ..    | ..   | ..   | ..   | ..    | 6     | ..    | 6      |
| Maryland                                 | 12    | 17    | 13    | 26    | 13    | 2     | 7    | 2    | 13   | 5     | 45    | 16    | 171    |
| Massachusetts                            | ..    | ..    | ..    | 17    | 5     | 1     | 1    | ..   | ..   | ..    | 18    | ..    | 42     |
| Michigan                                 | 181   | 249   | 239   | 147   | 160   | 106   | 54   | 55   | 119  | 160   | 139   | 174   | 1,783  |
| Minnesota                                | 37    | 53    | 61    | 2     | 21    | 1     | ..   | ..   | ..   | ..    | ..    | ..    | 175    |
| Missouri                                 | ..    | ..    | ..    | 1     | ..    | ..    | ..   | ..   | ..   | ..    | ..    | ..    | 1      |
| Nebraska                                 | ..    | 24    | ..    | ..    | ..    | ..    | ..   | ..   | ..   | ..    | ..    | ..    | 24     |
| New Hampshire                            | ..    | ..    | ..    | ..    | ..    | ..    | ..   | ..   | ..   | ..    | 2     | ..    | 2      |
| New York                                 | 69    | 210   | 332   | 254   | 470   | 208   | 116  | 108  | 78   | 86    | 134   | 146   | 2,211  |
| North Carolina                           | ..    | ..    | ..    | ..    | 15    | ..    | ..   | ..   | ..   | 1     | ..    | ..    | 16     |
| North Dakota                             | ..    | ..    | 2     | ..    | ..    | ..    | ..   | ..   | ..   | ..    | ..    | ..    | 2      |
| Ohio                                     | 212   | 47    | 87    | 33    | 146   | 183   | 35   | 70   | 62   | 78    | 65    | 86    | 1,104  |
| Oklahoma                                 | ..    | ..    | ..    | ..    | ..    | ..    | ..   | ..   | 1    | 9     | ..    | ..    | 10     |
| Oregon                                   | ..    | ..    | ..    | ..    | ..    | ..    | ..   | ..   | 1    | ..    | 1     | ..    | 2      |
| Pennsylvania                             | 83    | 95    | 110   | 122   | 43    | 68    | 9    | 49   | 108  | 94    | 42    | 37    | 860    |
| Rhode Island                             | ..    | ..    | ..    | ..    | 1     | 2     | ..   | ..   | ..   | ..    | 1     | ..    | 4      |
| Tennessee                                | ..    | ..    | ..    | ..    | ..    | 2     | ..   | ..   | ..   | ..    | ..    | ..    | 2      |
| Texas                                    | ..    | ..    | 1     | ..    | ..    | ..    | ..   | ..   | ..   | ..    | ..    | ..    | 1      |
| Vermont                                  | ..    | 9     | 11    | 6     | 9     | ..    | ..   | ..   | 1    | ..    | 7     | ..    | 43     |
| Virginia                                 | 35    | 73    | 44    | 35    | 63    | 4     | 1    | 3    | ..   | ..    | 19    | 23    | 300    |
| Washington                               | ..    | ..    | ..    | ..    | ..    | ..    | ..   | ..   | 1    | ..    | 1     | ..    | 2      |
| Wisconsin                                | 1,095 | 1,497 | 1,419 | 793   | 1,038 | 912   | 495  | 271  | 427  | 623   | 770   | 632   | 9,972  |
| Wyoming                                  | ..    | ..    | ..    | ..    | ..    | 1     | ..   | ..   | ..   | ..    | ..    | ..    | 1      |
| Totals                                   | 1,951 | 2,476 | 2,418 | 1,607 | 2,436 | 1,839 | 797  | 638  | 884  | 1,149 | 1,322 | 1,286 | 18,803 |
| Calves under six months imported         | 1     | 7     | 4     | ..    | 1     | 3     | 3    | 4    | 10   | 4     | 9     | 3     | 49     |
| Total Dairy and breeding cattle imported | 1,952 | 2,483 | 2,422 | 1,607 | 2,437 | 1,842 | 800  | 642  | 894  | 1,153 | 1,331 | 1,289 | 18,852 |

## DAIRY AND BREEDING CATTLE UNDER 6 MONTHS OF AGE IMPORTED AND RELEASED — BY STATE OF ORIGIN

| Origin        | July, 1948 to June, 1949 |      |       |      |      |      |      |      |       |       |     |      | Total |
|---------------|--------------------------|------|-------|------|------|------|------|------|-------|-------|-----|------|-------|
|               | July                     | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | March | April | May | June |       |
| Connecticut   | ..                       | 1    | ..    | ..   | ..   | ..   | ..   | 1    | ..    | ..    | ..  | ..   | 2     |
| Maryland      | ..                       | ..   | ..    | ..   | ..   | ..   | ..   | ..   | ..    | ..    | 7   | ..   | 7     |
| Massachusetts | ..                       | ..   | ..    | ..   | ..   | ..   | ..   | ..   | ..    | ..    | ..  | 1    | 1     |
| New York      | ..                       | 1    | ..    | ..   | ..   | ..   | ..   | ..   | ..    | ..    | 2   | ..   | 3     |
| Pennsylvania  | 1                        | 1    | ..    | ..   | 1    | 3    | 3    | 3    | 10    | 4     | ..  | 1    | 27    |
| Vermont       | ..                       | ..   | ..    | ..   | ..   | ..   | ..   | ..   | ..    | ..    | ..  | 1    | 1     |
| Wisconsin     | ..                       | 4    | 4     | ..   | ..   | ..   | ..   | ..   | ..    | ..    | ..  | ..   | 8     |
| Totals        | 1                        | 7    | 4     | ..   | 1    | 3    | 3    | 4    | 10    | 4     | 9   | 3    | 49    |

## FEEDER STEERS IMPORTED AND RELEASED — BY STATE OF ORIGIN — JULY, 1948, TO JUNE, 1949

| Origin  | July  | Aug.  | Sept. | Oct.  | Nov.  | Dec.  | Jan. | Feb. | March | April | May   | June  | Total  |
|---|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|--------|
| Florida   | ..    | ..    | ..    | 80    | ..    | ..    | ..   | ..   | ..    | ..    | ..    | 703   | 783    |
| Idaho   | ..    | ..    | ..    | 242   | 81    | ..    | ..   | ..   | ..    | ..    | ..    | ..    | 323    |
| Iowa  | ..    | ..    | ..    | 43    | ..    | ..    | ..   | ..   | ..    | ..    | ..    | ..    | 43     |
| Kansas  | ..    | ..    | ..    | ..    | 70    | ..    | ..   | ..   | ..    | 102   | ..    | ..    | 172    |
| Lancaster St. Yards   | 25    | 94    | 47    | 126   | 151   | 34    | 24   | 80   | 15    | 57    | 248   | 171   | 1,072  |
| Maryland  | ..    | ..    | ..    | 22    | 5     | ..    | ..   | 9    | ..    | ..    | 6     | ..    | 42     |
| Massachusetts   | ..    | 6     | ..    | ..    | ..    | ..    | ..   | ..   | ..    | ..    | ..    | ..    | 6      |
| Michigan  | ..    | 19    | ..    | ..    | ..    | ..    | ..   | ..   | ..    | ..    | ..    | ..    | 19     |
| New York  | ..    | ..    | ..    | ..    | ..    | ..    | ..   | ..   | 21    | ..    | ..    | ..    | 21     |
| Pennsylvania  | ..    | ..    | ..    | 25    | ..    | ..    | ..   | ..   | ..    | ..    | ..    | ..    | 25     |
| Tennessee   | ..    | ..    | ..    | ..    | 87    | ..    | ..   | ..   | ..    | ..    | ..    | ..    | 87     |
| Totals  | 25    | 119   | 47    | 538   | 394   | 34    | 24   | 89   | 36    | 159   | 254   | 874   | 2,593  |
| Total dairy and<br>breeding cattle<br>and calves im-<br>ported    | 1,952 | 2,483 | 2,422 | 1,607 | 2,437 | 1,842 | 800  | 642  | 894   | 1,153 | 1,331 | 1,289 | 18,852 |
| Total dairy,<br>breeding, feeder<br>cattle and calves<br>imported | 1,977 | 2,602 | 2,469 | 2,145 | 2,831 | 1,876 | 824  | 731  | 930   | 1,312 | 1,585 | 2,163 | 21,445 |



## SUMMARY OF INSHIPMENTS

| Origin   | July  | Aug.  | Sept. | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | March | April | May   | June  | Total  |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Total Dairy Cattle Imported<br>July, 1948 to June, 1949                      | 1,952 | 2,483 | 2,422 | 1,607 | 2,437 | 1,842 | 800   | 642   | 894   | 1,153 | 1,331 | 1,289 | 18,872 |
| Total Dairy Cattle Imported<br>July, 1947 to June, 1948                      | 2,133 | 2,948 | 2,954 | 2,895 | 2,057 | 1,543 | 1,121 | 1,199 | 911   | 1,616 | 1,861 | 2,352 | 23,590 |
| Feeder Steers Imported<br>July, 1948 to June, 1949                           | 25    | 119   | 47    | 538   | 394   | 34    | 24    | 89    | 36    | 159   | 254   | 874   | 2,593  |
| Feeder Steers Imported<br>July, 1947 to June, 1948                           | 200   | 216   | 350   | 217   | 311   | 134   | 130   | 179   | 114   | 204   | 317   | 880   | 3,252  |
| Total Dairy Cattle and<br>Feeder Steers Imported<br>July, 1948 to June, 1949 | 1,977 | 2,602 | 2,469 | 2,145 | 2,831 | 1,876 | 824   | 731   | 930   | 1,312 | 1,585 | 2,163 | 21,415 |
| Total Dairy Cattle and<br>Feeder Steers Imported<br>July, 1947 to June, 1948 | 2,333 | 3,164 | 3,304 | 3,112 | 2,368 | 1,677 | 1,251 | 1,378 | 1,025 | 1,820 | 2,178 | 3,232 | 26,842 |

## THIRTY-FOURTH ANNUAL REPORT

33

## RECORD OF BLOOD TESTS MADE ON INSHIPPED ANIMALS

July 1, 1948 to June 30, 1949

| State of Origin | Number of<br>Lots Bled | Number of<br>Cattle Bled | Number and Percentage<br>of Reactors Resulting |      |
|-----------------|------------------------|--------------------------|--|------|
| California      | 1                      | 1                        | ..   | ..   |
| Canada          | 112                    | 1,063                    | 7  | .66  |
| Connecticut     | 21                     | 66                       | ..   | ..   |
| Delaware        | 3                      | 6                        | ..   | ..   |
| Georgia         | 1                      | 20                       | ..   | ..   |
| Illinois        | 12                     | 154                      | 1  | .65  |
| Indiana         | 2                      | 21                       | ..   | ..   |
| Iowa            | 9                      | 36                       | ..   | ..   |
| Kentucky        | 4                      | 17                       | 1  | 5.88 |
| Maine           | 1                      | 5                        | ..   | ..   |
| Maryland        | 55                     | 168                      | 1  | .60  |
| Massachusetts   | 13                     | 39                       | ..   | ..   |
| Michigan        | 109                    | 1,887                    | 7  | .37  |
| Minnesota       | 12                     | 175                      | ..   | ..   |
| Mississippi     | 1                      | 7                        | ..   | ..   |
| Missouri        | 1                      | 1                        | ..   | ..   |
| Nebraska        | 1                      | 24                       | ..   | ..   |
| New Hampshire   | 2                      | 2                        | ..   | ..   |
| New York        | 302                    | 2,161                    | 25   | 1.16 |
| North Carolina  | 3                      | 18                       | ..   | ..   |
| North Dakota    | 1                      | 4                        | ..   | ..   |
| Ohio            | 90                     | 1,028                    | 9  | .88  |
| Oklahoma        | 6                      | 17                       | ..   | ..   |
| Oregon          | 2                      | 2                        | ..   | ..   |
| Pennsylvania    | 171                    | 788                      | ..   | ..   |
| Rhode Island    | 4                      | 4                        | ..   | ..   |
| Texas           | 1                      | 1                        | ..   | ..   |
| Vermont         | 9                      | 99                       | ..   | ..   |
| Virginia        | 44                     | 327                      | 1  | .31  |
| Washington      | 1                      | 1                        | ..   | ..   |
| Wisconsin       | 381                    | 10,646                   | 30   | .28  |
| Totals          | 1,375                  | 18,788                   | 82   | .44  |

In addition to the above the following animals were imported and subjected to the tuberculin and brucellosis tests in New Jersey; all were negative to the tuberculin test. The results of the test for brucellosis follow:

| State of Origin | Number of<br>Lots Bled | Number of<br>Cattle Bled | Number and Percentage<br>of Reactors Resulting |      |
|-----------------|------------------------|--------------------------|--|------|
| Idaho           | 14                     | 691                      | 43   | 6.22 |

All reactors were sent to immediate slaughter.

Following is a comparison of the number of cattle shipped into New Jersey during the past five years:

| 1944-1945 | 1945-1946 | 1946-1947 | 1947-1948 | 1948-1949 |
|-----------|-----------|-----------|-----------|-----------|
| 27,497    | 30,811    | 28,853    | 26,842    | 21,445    |

These figures include dairy, breeding and feeding cattle and calves.

## STATE DEPARTMENT OF AGRICULTURE

## CATTLE SHIPPED OUT OF THE STATE DURING THE FISCAL YEAR 1948-1949

| Month     | Number of Lots from<br>Herds under Supervision | Number of Animals from<br>Herds under Supervision |
|-----------|--|---|
| July      | 42   | 143   |
| August    | 35   | 86  |
| September | 58   | 293   |
| October   | 50   | 120   |
| November  | 40   | 168   |
| December  | 29   | 53  |
| January   | 26   | 55  |
| February  | 19   | 57  |
| March     | 43   | 109   |
| April     | 50   | 157   |
| May       | 49   | 93  |
| June      | 43   | 134   |
| Totals    | 484  | 1,468   |

SUMMARY OF LIVESTOCK SOLD AT THE JERSEY CITY STOCK YARDS FOR SLAUGHTER AT  
POINTS THROUGHOUT THE STATE, JULY, 1948 — JUNE, 1949

|           | Cows   | Bulls | Steers | Total Cattle | Calves | Sheep  | Hogs   |
|-----------|--------|-------|--------|--------------|--------|--------|--------|
| 1948      |        |       |        |              |        |        |        |
| July      | 815    | 230   | 133    | 1,178        | 8,164  | 4,379  | 1,677  |
| August    | 1,480  | 518   | 830    | 2,828        | 9,113  | 2,901  | 1,055  |
| September | 1,624  | 505   | 1,017  | 3,146        | 7,166  | 2,244  | 1,575  |
| October   | 1,121  | 104   | 436    | 1,661        | 7,661  | 2,529  | 736    |
| November  | 1,556  | 105   | 269    | 1,930        | 4,775  | 2,957  | 496    |
| December  | 1,246  | 135   | 325    | 1,706        | 5,665  | 1,591  | 619    |
| 1949      |        |       |        |              |        |        |        |
| January   | 1,478  | 181   | 575    | 2,234        | 4,817  | 1,877  | 601    |
| February  | 1,474  | 95    | 299    | 1,868        | 3,126  | 1,423  | 703    |
| March     | 1,513  | 206   | 398    | 2,117        | 3,024  | 232    | 815    |
| April     | 1,657  | 165   | 534    | 2,356        | 4,990  | 508    | 828    |
| May       | 1,766  | 267   | 631    | 2,664        | 7,350  | 2,861  | 1,039  |
| June      | 1,297  | 275   | 718    | 2,290        | 10,231 | 3,592  | 948    |
| Totals    | 17,027 | 2,786 | 6,165  | 25,978       | 76,082 | 27,094 | 11,092 |

## ANTHRAX

While no extensive outbreaks of anthrax were noted during the year, two cases were positively diagnosed in the Division laboratory. Both cases appeared in sections of the State where anthrax had never before been diagnosed.

In July, C. A. Lewis of Sussex, trucked in from Canada 10 cows which were delivered at his premises July 6, 1948. During the night of July 8, one cow died, was removed to the rendering plant of Ralph Space, Beemerville, and autopsied. As anthrax was suspected, specimens were obtained and sent to the Division laboratory where the suspected condition was confirmed. Accordingly, on July 12, 63 animals in the Lewis herd were immunized against anthrax and on July 14, 59 in the herd of cattle owned by Ralph Space, Sussex, R. D. 3 and maintained on the premises where his rendering plant is located. As an added precautionary measure, 61 cattle in the Lewis herd were given a second dose of anthrax vaccine in May of this year.

During March the annual immunization of horses and cattle in the southern part of the State was carried out in cooperation with the county agricultural agents. This year 888 cattle and 15 horses were immunized.

On April 8, Dr. J. B. Hagenbuch of Lawrenceville, brought material to the Division laboratory from an animal which was owned by Fred Schluter, Princeton. Apparently the animal had been well the night before but was found dead in the morning. Smears were made immediately and a definite diagnosis of anthrax was made. As this is a valuable breeding and show herd, the Division immediately telephoned Lederle Laboratories in Pearl River, New York, for anthrax vaccine. They contacted the New York State Police who brought the material to the New Jersey border. The Division contacted the New Jersey State Police who picked it up at the border and brought it to Trenton. The following day, 122 animals on the Schluter premises were immunized and no further losses were sustained.

#### BLACKLEG

Two cases of blackleg were disclosed in New Jersey during the past year, one by Dr. R. C. McPeck who in July of 1948 reported that a three year old Jersey cow owned by John Rossi, Blairstown, had been sick three days and the conditions present were suspicious of blackleg. A blood sample and specimen of muscle tissue from this cow which subsequently died, were brought to the Division laboratory.

A second case was reported in September by Dr. Robert C. Horton, Salem, in a cow owned by Fred Danner, Salem, which had died suddenly, supposedly from blackleg. Muscle tissue of the hind leg of the cow was brought to the Division laboratory for examination.

In both of these instances the diagnosis of blackleg was confirmed.

#### PHYSICAL EXAMINATIONS

This year again, veterinary practitioners throughout the State, under an authorization from the Division, made physical examinations of all cattle in herds producing milk sold under the New Jersey Grades. A total of 782 herds of 23,199 animals were examined and 22,849 or 98.49 per cent were approved by the examining veterinarians. Of the total cattle examined, 13 or .06 per cent were condemned and 337 or 1.45 per cent were isolated for treatment.

There was an increase of 22.19 per cent in the number of herds and 27.01 per cent in the number of cattle examined this year over those examined last year when 640 herds of 18,265 cattle physically examined resulted in 17,898 being approved, 23 being condemned and 344 isolated for treatment.

Following is a summary of the examinations made by months during the year 1948-1949:

| <i>Month</i> | <i>Herd<br/>Examinations</i> | <i>Animals<br/>Examined</i> | <i>Animals<br/>Condemned</i> | <i>Animals<br/>Isolated</i> | <i>Animals<br/>Passed</i> |
|--------------|------------------------------|-----------------------------|------------------------------|-----------------------------|---------------------------|
| July         | 24                           | 823                         | ...                          | 17                          | 806                       |
| August       | 20                           | 422                         | ...                          | 3                           | 419                       |
| September    | 5                            | 83                          | ...                          | ...                         | 83                        |
| October      | 3                            | 71                          | ...                          | ...                         | 71                        |
| November     | 215                          | 5,997                       | 2                            | 112                         | 5,883                     |
| December     | 142                          | 4,621                       | 6                            | 69                          | 4,546                     |
| January      | 18                           | 481                         | 1                            | 7                           | 473                       |
| February     | 4                            | 94                          | ...                          | ...                         | 94                        |
| March        | 27                           | 743                         | 1                            | 7                           | 735                       |
| April        | 267                          | 8,004                       | 3                            | 103                         | 7,898                     |
| May          | 39                           | 1,330                       | ...                          | 10                          | 1,320                     |
| June         | 18                           | 530                         | ...                          | 9                           | 521                       |
| Total        | 782                          | 23,199                      | 13                           | 337                         | 22,849                    |

#### POULTRY INSPECTION

The shipment of live poultry for slaughter purposes by rail has evidently been discontinued at the Division poultry terminal in Newark as no carload lots were received during the year.

Truck loads, however, continued to arrive and the representative daily visited the terminal and made inspections of each of the 7,895 truck lots received. A total of 9,649,000 birds weighing approximately 39,575,000 pounds were inspected and 68,500 birds weighing 260,800 pounds were condemned as being unfit for human consumption and were destroyed:

Following is a record by state of origin of the truck loads, number of birds inspected and released and their approximate weight:

| <i>State</i>   | <i>Number<br/>Truck Loads</i> | <i>Number<br/>Birds Inspected</i> | <i>Approximate<br/>Weight</i> |
|----------------|-------------------------------|-----------------------------------|-------------------------------|
| Canada         | 27                            | 27,000                            | 135,000                       |
| Connecticut    | 488                           | 642,000                           | 2,440,000                     |
| Delaware       | 1,362                         | 1,995,000                         | 6,810,000                     |
| Maine          | 23                            | 23,000                            | 115,000                       |
| Maryland       | 1,339                         | 1,768,000                         | 6,695,000                     |
| Massachusetts  | 347                           | 347,000                           | 1,735,000                     |
| New Hampshire  | 43                            | 43,000                            | 215,000                       |
| New Jersey     | 1,251                         | 1,556,000                         | 6,255,000                     |
| New York       | 906                           | 906,000                           | 4,580,000                     |
| North Carolina | 121                           | 121,000                           | 605,000                       |
| Pennsylvania   | 970                           | 1,205,000                         | 4,900,000                     |
| Rhode Island   | 192                           | 192,000                           | 960,000                       |
| Tennessee      | 14                            | 14,000                            | 70,000                        |
| Virginia       | 812                           | 810,000                           | 4,060,000                     |
| Totals         | 7,895                         | 9,649,000                         | 39,575,000                    |

## POULTRY CONDEMNED AT POULTRY TERMINALS

July 1, 1948 to June 30, 1949

| 1948      | Number of<br>Birds Condemned | Approximate<br>Weight in Pounds |
|-----------|------------------------------|---------------------------------|
| Month     |                              |                                 |
| July      | 4,700                        | 18,800                          |
| August    | 4,100                        | 16,400                          |
| September | 3,400                        | 13,600                          |
| October   | 6,400                        | 25,600                          |
| November  | 6,200                        | 24,800                          |
| December  | 9,500                        | 37,000                          |
| 1949      |                              |                                 |
| January   | 5,800                        | 23,000                          |
| February  | 3,700                        | 14,800                          |
| March     | 4,300                        | 17,200                          |
| April     | 8,800                        | 35,200                          |
| May       | 4,900                        | 19,600                          |
| June      | 3,700                        | 14,800                          |
| Totals    | 65,500                       | 260,800                         |

## PULLORUM DISEASE CONTROL

During the 1948-1949 pullorum testing season there were 715,599 birds tested with 3,608 or .50 per cent reaction. This is an increase of 37,816 or 5.58 per cent in the number tested this year over that of 1947-1948 when 677,783 tested disclosed 2,881 or .43 per cent reaction.

Great interest has been shown this year by the poultrymen and hatcheries in the classification of their flocks. At the beginning of the season a number of the larger hatcheries made application for "Pullorum Passed" ratings. These requests were approved; the agents connected with the hatcheries conducted the tests of the flocks; and the Division made check tests on all of the agents throughout the testing season. The increased interest displayed by the poultrymen and hatcheries has added to the number of "Pullorum Passed" flocks. There are now 372 flocks in this classification as compared with 99 last year and in addition, 38 of the flocks are now designated, "Pullorum Clean". In the "Pullorum Passed" and the "Pullorum Clean" flocks there are 73,123 birds.

In general, there has been great progress in the State due to the fact that there were only nine cases on record of pullorum disease in chicks emanating from tested flocks during the past season and six of these cases were in "Pullorum Controlled" flocks.

The Division has every reason to believe that variant pullorum disease has not entered many flocks in New Jersey. Most of the bacteriological examinations have been identified as the regular strain pullorum.

On August 10, 1948 a school was held for 27 applicants for pullorum testing in New Jersey under the Division supervision and all were given permits following the required period of supervision.

In the report following, a record by counties of the field and laboratory tests made during the fiscal year is included.

## NUMBER OF FOWLS BLOOD-TESTED BY DIVISION REPRESENTATIVES AND APPROVED TESTING AGENTS FOR PULLORUM DISEASE,

## NUMBER AND PER CENT REACTING, BY COUNTIES

July 1, 1948 to June 30, 1949.

| County     | Number of<br>Fowl Tested<br>in Field | Number<br>Reacting | Percent<br>Reacting | Number Fowl<br>Tested in<br>Laboratory | Number<br>Reacting | Percent<br>Reacting | Total Fowl<br>Tested | Total Fowl<br>Reacting | Percent<br>Reacting |
|------------|--------------------------------------|--------------------|---------------------|--|--------------------|---------------------|----------------------|------------------------|---------------------|
| Atlantic   | 41,613                               | 186                | .45                 | 229                                    | 9                  | 3.93                | 41,842               | 195                    | .47                 |
| Bergen     | 8,033                                | 93                 | 1.16                | 458                                    | ...                | ...                 | 8,491                | 93                     | 1.10                |
| Burlington | 23,043                               | 80                 | .35                 | 4,393+23*                              | 10                 | .23                 | 27,436+23*           | 90                     | .33                 |
| Camden     | 1,656                                | 30                 | 1.81                | 84                                     | ...                | ...                 | 1,740                | 30                     | 1.72                |
| Cape May   | 22,898                               | 56                 | .24                 | 8,258                                  | 20                 | .24                 | 31,156               | 76                     | .24                 |
| Cumberland | 145,230                              | 220                | .15                 | 8,791                                  | 9                  | .10                 | 154,021              | 229                    | .15                 |
| Essex      | ...                                  | ...                | ...                 | ...                                    | ...                | ...                 | ...                  | ...                    | ...                 |
| Gloucester | 38,138                               | 171                | .45                 | 6,504                                  | 62                 | .95                 | 44,642               | 233                    | .52                 |
| Hudson     | ...                                  | ...                | ...                 | ...                                    | ...                | ...                 | ...                  | ...                    | ...                 |
| Hunterdon  | 51,439                               | 131                | .25                 | 24,995                                 | 182                | .73                 | 76,434               | 313                    | .41                 |
| Mercer     | 8,955                                | 10                 | .11                 | 5,066                                  | 8                  | .16                 | 14,021               | 18                     | .13                 |
| Middlesex  | 23,850                               | 35                 | .15                 | 1,151+ 1*                              | 3                  | .26                 | 25,001+ 1*           | 38                     | .15                 |
| Monmouth   | 44,790                               | 374                | .84                 | 54,079+70*                             | 339                | .63                 | 98,869+70*           | 713                    | .72                 |
| Morris     | 2,113                                | ...                | ...                 | 877                                    | 50                 | 5.70                | 2,990                | 50                     | 1.67                |
| Ocean      | 102,889                              | 906                | .88                 | 5,385+ 8*                              | 82                 | 1.52                | 108,274+ 8*          | 988                    | .91                 |
| Passaic    | 10,455                               | 78                 | .75                 | 1,988                                  | 21                 | 1.06                | 12,443               | 99                     | .80                 |
| Salem      | 38,156                               | 358                | .94                 | 85                                     | 14                 | 16.47               | 38,241               | 372                    | .97                 |
| Somerset   | 12,208                               | 39                 | .32                 | 2,528                                  | 10                 | .40                 | 14,736               | 49                     | .33                 |
| Sussex     | 3,890                                | 9                  | .23                 | 1,675                                  | 13                 | .78                 | 5,565                | 22                     | .40                 |
| Union      | ...                                  | ...                | ...                 | ...                                    | ...                | ...                 | ...                  | ...                    | ...                 |
| Warren     | 2,576                                | ...                | ...                 | 7,121                                  | ...                | ...                 | 9,697                | ...                    | ...                 |
|            |                                      |                    |                     | **                                     |                    |                     | **                   |                        |                     |
| State      | 581,932                              | 2,776              | .48                 | 133,667+102*                           | 832                | .62                 | 715,599+102*         | 3,608                  | .50                 |

\* Hemolyzed samples not tested.

Check tests

2,909+ 49\*

181

6.22

\*\*Included in these figures are the check tests made on a cross section of the birds tested in the field.



## HOGS INOCULATED AS A PROTECTION AGAINST CHOLERA INFECTION, BY COUNTIES

July, 1948 to June, 1949

## Vaccinations Made by Private Veterinarians

| County     | No. Hogs Given<br>Single Treatment | No. Hogs Given<br>Double Treatment |
|------------|------------------------------------|------------------------------------|
| Atlantic   | ...                                | ...                                |
| Bergen     | ...                                | ...                                |
| Burlington | ...                                | ...                                |
| Camden     | ...                                | ...                                |
| Cape May   | ...                                | ...                                |
| Cumberland | ...                                | ...                                |
| Essex      | ...                                | ...                                |
| Gloucester | ...                                | ...                                |
| Hudson     | ...                                | ...                                |
| Hunterdon  | ...                                | ...                                |
| Mercer     | ...                                | ...                                |
| Middlesex  | 10                                 | 478                                |
| Monmouth   | ...                                | ...                                |
| Morris     | ...                                | ...                                |
| Ocean      | ...                                | ...                                |
| Passaic    | ...                                | ...                                |
| Salem      | ...                                | ...                                |
| Somerset   | ...                                | 21                                 |
| Sussex     | ...                                | ...                                |
| Union      | ...                                | 298                                |
| Warren     | ...                                | ...                                |
| State      | 10                                 | 797                                |

## LIVESTOCK AUCTION MARKETS

A limited inspection service has been continued in the auction markets in order to detect the presence of any infectious or contagious disease, particularly foot and mouth disease or vesicular stomatitis. The field veterinarian in the area visits the markets on sale days. The managers of the markets have agreed and have carried out their part of the agreement, to set aside in a separate pen, any animals not appearing normal for examination by the representatives in attendance.

The Division's jurisdiction over these markets is practically nil and any disease controlor detection measures brought about at these places must be in cooperation with the managers. The reports received from the Division's field representatives are favorable, both from the standpoint of results attained and the cooperation being extended by the management. Most of the Division men are doing more than was prescribed as their minimal inspectional duties at the markets. They attempt, where at all possible, to observe all animals rather than the suggested abnormal few set aside.

The Division agreement with the Harris Sales Company in Woodstown is still in effect and following is a record of the work done by the veterinarian stationed there for the year, as well as a record of the sales reported at the market during this year:



| Number Cattle<br>Tuberculin Tested |       | No Swine Immunized |        |       |
|------------------------------------|-------|--------------------|--------|-------|
| Inshipped                          | Local | Single             | Double | Total |
| 1,029                              | 1,007 | ...                | 2,358  | 2,358 |

## LIVESTOCK AND EGGS SOLD AT HARRIS SALES STABLES JULY, 1948 TO JUNE, 1949

| Cattle | Bulls | Calves | Steers   | Lambs    | Goats & Sheep | Hogs  |
|--------|-------|--------|----------|----------|---------------|-------|
| 6,368  | 682   | 13,131 | 1,115    | 196      | 1,337         | 9,715 |
| --     |       | Horses | Eggs     | Reactors |               |       |
|        |       | 1,118  | 592 Doz. | 168      |               |       |

## FOOT AND MOUTH DISEASE

The foot and mouth situation in Mexico at the present time looks promising. One new outbreak of the disease was encountered in June of this year and a second in October. However, the authorities are not too much alarmed over these sporadic outbreaks as they will probably occur occasionally. The disease, discovered by the inspection team, occurred in animals which had been vaccinated a second time. Proper sanitary measures followed the disposal of all animals. In addition, all susceptible animals in the immediate vicinity were vaccinated immediately and a strict quarantine placed around the area.

One setback was encountered in the control program in Mexico. The vaccine which heretofore had been thought to produce immunity of six month duration when instilled in animals, was found to be good for a period no longer than four months. This increases the number of vaccinations required in a year to three in place of two as previously counted on. However, with the establishment of the laboratory in Mexico for the production of the vaccine and the stepping up of production, they have been able to manufacture sufficient material to supply their needs.

As of September 30, more than 27,500,000 vaccinations of cattle, sheep, swine and goats have been made. The first round involved more than 13,000,000 animals and was completed early in August of 1949; over 10,500,000 animals have been vaccinated a second time and more than 3,500,000 have been vaccinated the third time.

The production and testing of vaccine in the amounts required the outright slaughter of 10,000 to 12,000 normal, previously exposed cattle per month. This represents a tremendous expense but at the same time affords an outlet for cattle surpluses in northern Mexico which cannot be exported to the United States as formerly.

The Bureau of Animal Industry of the United States Department of Agriculture continues to maintain patrol of the entire Mexican-United States boundary to enforce the prohibition against entry into this country of livestock and fresh meat from such animals and to enforce the restrictions against importations of certain animal by-products. Part of the patrol is mounted on horseback. Others drive jeeps or fly. A new fence is being erected at the necessary points along the international border.

The foot and mouth eradication campaign is being conducted cooperatively by the United States and Mexico and everything possible is being done to attain the goal of final eradication of the disease in Mexico.

Recently the Division received a report of an outbreak of active infection of foot and mouth disease in Chicoloapan, State of Mexico, resulting from type "O" virus infection. Heretofore, all the infection in Mexico has been type "A" and all of the vaccinations that have been carried out have been with the type "A" virus. The immunity established through vaccination with type "A" provides no protection to the animals against type "O" virus. The animals concerned in the outbreak were immediately destroyed and it is hoped that the type "O" infection is completely eradicated. However, should this not be the case it will then become necessary to produce a bivalent vaccine incorporating both "O" and "A" strains in order to employ vaccination as a means of eradication of foot and mouth disease in Mexico. In the outbreak there were a total of 269 animals on a ranch about 15 miles from Mexico City which were involved and these were made up of 92 cattle, 116 sheep, 33 goats and 28 swine.

#### BUREAU OF BOVINE TUBERCULOSIS CONTROL

In reviewing the activities of the Bureau of Animal Tuberculosis Control for the fiscal year 1948-1949, there is little of outstanding event to report. The objective in this field, to lower the incidence of tuberculosis in animals to less than one-half of 1 per cent, the qualifications for accrediting the entire State, was reached in 1937. Since that time, the maintenance of this accreditation status throughout the State through the annual testing of all animals has become a routine activity from year to year.

The State must guard against a complacent attitude, however. The Division in aiming to improve the picture from year to year attempts to keep in mind all factors which could and do change the incidence of disease and percentages without any forewarning.

Many factors are involved, such as the great number of animals imported into the State each year, the failure on the part of dairymen to have additions retested before adding them to their herds, the comparatively high percentage of reactions among such importations, the pronounced degree of infection shown by them when slaughtered, and the bootlegging or irregular importation of cattle of unknown health status. These cause the staff of this office and its representatives in the field to be aware at all times of the means by which tuberculosis can be introduced in the New Jersey herds.

In spite of these ever present threats which could influence the incidence of disease at any time, the Division has succeeded in maintaining the State's accreditation on a county basis since 1937, with the exception of 1945, at which time Burlington County failed to qualify. During these years there

has been a fairly consistent improvement in reaction percentages extending to the present fiscal year when an all-time low of 378 reactors or 0.16 per cent was realized.

This low percentage of reactions is commendable but the question arises as how near absolute eradication can be approached in a State so dependent upon outside sources for its cattle replacements. There is, no doubt, an incidence of disease percentage point short of absolute eradication where such states as New Jersey belong and which cannot be bettered until the sources of supply are improved.

During the fiscal year there were 236,937 tests conducted which disclosed 378 reactions. This compares with 248,997 tests conducted during the fiscal year 1947-1948 disclosing 411 reactions.

The fewer tests conducted during the past fiscal year as compared with the previous year can be attributed to fewer infected herds disclosed. Infected herds require from one to four tests before they are returned to an accredited herd status. Six or seven outbreaks in accredited herds contributing about 52 reactions were encountered during the year, one of which disclosed 21 reactions of the 57 animals tested. The other outbreaks were to the present fiscal year when an all-time low of 378 reactors or 0.16 per cent of minor degree, ranging in the disclosure of from four to seven reactions, but all of these occurred in accredited herds. In addition to these outbreaks, there were several one and two reaction outbreaks in accredited herds of fairly long standing. This tends to show the uncertainty of results even in the testing of supposedly clean herds.

In connection with reaction disclosures, it is interesting to note the comparative indemnity expenditures for the past two years. During the fiscal year 1947-1948, 411 reactions were disclosed and \$28,046.67 paid out in state indemnities. During the 1948-1949 fiscal year 378 reactions were disclosed and \$22,737.58 expended for indemnities. There were but 33 fewer reactions in 1948-1949 than in 1947-1948 and yet the difference in expenditures amounted to \$5,309.09.

This considerable difference can only be accounted for by the greater number of reactors disclosed during the 1948-1949 period which were not eligible for indemnity. These ineligible reactors during the 1948-1949 year numbered 106 and were made up largely of imported animals reacting at the time of their first test in the State, a potential menace mentioned many times.

These ineligible reactors are seemingly on the increase from year to year in spite of the rigid interstate shipping requirements. During the fiscal year 1946-1947 they constituted 19 per cent of the total reactions, 11 per cent in 1947-1948 and 28.04 per cent during the 1948-1949 fiscal year. They can be traced equally to practically every source in which New Jersey's imports originate, particularly Wisconsin, Michigan, Ohio, Pennsylvania and

New York. Despite the embargo against the importation of grade cattle from Canada, it is suspected that many Canadian animals are reaching New Jersey by circuitous routes.

In routine testing an increasing number of animals are found without ear tags. Some tags may have been accidentally lost, but the Division believes that many are removed by bootleggers smuggling animals into the State. While it is difficult to secure proof or to incriminate the persons suspected of indulging in these practices it seems certain that bootlegging exists in both the North and South Jersey areas.

There were 155 herds being carried as infected at the end of the fiscal year, many of which were placed in that category as a result of "No Visible Lesion" reactions. As the result of a survey a few weeks ago when there were 162 infected herds, 107 of these were due to "No Visible Lesion" reactions and the remaining 55 disclosed reactions showing lesions. In many states the 55 showing lesions only would be designated as infected. The Division does not feel that it is safe to ignore these "No Visible Lesion" infected herds in the State without subjecting them to an indicated number of subsequent tests.

Dairy cow prices, as far as can be learned, are about the same as they were a year ago. The limited knowledge of the Division in this respect is gained principally from contacts with cattle dealers, from which source the Division is appraised of the prices they are asking for imported dairy cows. However, average appraisals for purebreds at the end of the year were \$428.14 compared with \$391.94 for the previous year, an increase of 9.24 per cent and grades for the fiscal year averaged \$309.90 compared with \$261.01 for the previous year, an increase of 18.73 per cent.

These higher appraisals for the fiscal year 1948-1949 were counterbalanced by the higher prices realized for salvage. The average salvage received for purebreds during the fiscal year 1948-1949 was \$163.43 compared with \$147.50 for the previous year, an increase of 10.8 per cent and for grades for the fiscal year 1948-1949, an average of \$154.71 compared with \$134.38 for the previous year, an increase of 18.73 per cent.

It is interesting to note that the average cattle grade appraisals increased 18.73 per cent during the year 1948-1949 over the previous year and the increase in salvage received for grades during 1948-1949 was the same or 18.73 per cent over the previous year. This increase in salvage received tended to make up for the increase in appraisals and as a result state indemnity paid for purebreds was the same for the two years, \$142.02 and only 2.55 per cent higher for grades during the fiscal year 1948-1949.

During the year there was agitation afoot to ease the interstate shipping requirements for cattle coming from Virginia and Tennessee. This request sprang principally from one dealer, who argued that these states, while comparatively clean, could not certify animals for shipment into New Jersey.



After some investigation it was found that the regulatory officials of these states could certify as to the health status of animals originating within their borders and that there was little if any excuse for letting down the bars for the shipment of animals from these points.

This would eventually mean that Virginia and Tennessee would become intermediate points to which animals could be consigned from Canada or any source and in turn be reshipped into New Jersey without certification. For these reasons, a recommendation went forth from this office to the Board to deny the request.

The Division has not encountered many outbreaks in the larger herds in the recent past, but has felt for some time that perhaps the larger herds should be tested semi-annually rather than annually, as a further precaution.

The Division is now testing the herds of Jacob Tanis, Augusta. The herds comprised 1,404 cattle at the time of the last semi-annual test. The in the recent past, but has felt for some time that perhaps the larger herds in the State as soon as arrangements can be made.

The ideal time for testing these larger herds is late fall and late spring, during the stabling season. It is best to avoid the summer season when conducting these semi-annual tests.

During the year the counties qualifying and listed for reaccreditation on a two year basis were as follows:

| County     | Number<br>of Herds | Number<br>of Cattle | Number of<br>Reactors | Percent<br>Reaction |
|------------|--------------------|---------------------|-----------------------|---------------------|
| Gloucester | 919                | 5,569               | ...                   | ...                 |
| Mercer     | 596                | 8,608               | 1                     | .01                 |
| Bergen     | 162                | 1,784               | 6                     | .34                 |
| Essex      | 66                 | 1,067               | ...                   | ...                 |
| Sussex     | 1,038              | 34,506              | 5                     | .01                 |
| Warren     | 1,015              | 24,937              | 15                    | .06                 |

It is interesting to note in a table found elsewhere in this report, the ten-year trend in the number of herds under supervision and the relative trend in the number of cattle under supervision each year for the ten-year period. During the year 1939-1940, there were 17,364 herds comprising 206,107 cattle under supervision, a decrease of 361 herds, compared with the previous year (1938-1939—17,725 herds and 202,001 cattle under supervision) and an increase of 4,186 cattle over the previous year. This, apparently, was the year when dairymen began adding cattle to their herds. Increases each war-time year were noted until a peak of 216,014 under supervision was reached in the year 1943-1944. Since that time there has been a decrease each year in the cattle population to the close of the 1948-1949 fiscal year, at which time there were 202,187 cattle under supervision, 186 more, however, than were under supervision eleven years ago or during the year 1938-1939. Yet, during this eleven-year period, there was a decrease in herds from 17,725 to

12,852 or 4,873 herds which would seem that New Jersey's dairy herds are becoming larger. The fewer number of herds include about the same number of cattle as was under supervision in the year 1938-1939.

A summary of the work performed in this project for the year follows:

On June 30, 1949 there were 12,692 herds consisting of 200,817 head of cattle under supervision. This is a decrease of 786 herds and 421 cattle in the number recorded at the beginning of this fiscal year.

During the year initial tests were conducted on 948 herds of 5,201 cattle resulting in the disclosure of 9 or .17 per cent reaction. The per cent of reaction disclosed on tests of cattle added to herds under supervision was 1.97 or 4,414 cattle tested, 87 were declared reactors.

A total of 236,937 tuberculin tests were conducted resulting in 378 reactors or .16 per cent as compared with .17 per cent a year ago. Of the 378 reactors disclosed, 282 were eligible for indemnity, 35 of these were pure-bred and 247 grade animals.

Following is a table which gives the trend of tuberculin test results during the past ten years:

| Year      | Number of Herds Under Supervision | Number of Animals Under Supervision | Number of Tests Conducted | Number of Reactors Resulting | Percent Reaction |
|-----------|-----------------------------------|-------------------------------------|---------------------------|------------------------------|------------------|
| 1939-1940 | 17,364                            | 206,187                             | 260,692                   | 1,090                        | .42              |
| 1940-1941 | 16,695                            | 208,223                             | 270,991                   | 1,028                        | .38              |
| 1941-1942 | 16,174                            | 209,027                             | 258,877                   | 871                          | .34              |
| 1942-1943 | 15,965                            | 212,323                             | 235,221                   | 580                          | .25              |
| 1943-1944 | 16,212                            | 216,014                             | 244,496                   | 1,030                        | .42              |
| 1944-1945 | 15,803                            | 208,459                             | 232,087                   | 3,138                        | 1.35             |
| 1945-1946 | 14,867                            | 201,349                             | 256,183                   | 962                          | .38              |
| 1946-1947 | 14,347                            | 202,034                             | 255,447                   | 949                          | .37              |
| 1947-1948 | 13,478                            | 201,238                             | 248,997                   | 411                          | .17              |
| 1948-1949 | 12,692                            | 200,817                             | 236,937                   | 378                          | .16              |

In 1948 we imported 23,590 head of dairy cattle, 4,087 of which were retested as herd additions, disclosing 87 reactors. In 1949, 18,852 head of cattle were imported and only 4,414 were subjected to herd addition tests, resulting in 87 reactors. Importations from Canada for the year has decreased from 1,935 in 1948 to 1,054 in 1949.

The following summary indicates the amount of State indemnity paid for reactors resulting from the tuberculin test during the year ending June 30, 1949:

| Class of Cattle      | Number of Animals | Amount Paid | Average State Indemnity Paid Per Head |
|----------------------|-------------------|-------------|---------------------------------------|
| Registered animals   | 35                | \$4,970.57  | \$142.02                              |
| Grade animals        | 247               | 17,767.01   | 71.93                                 |
| Registered and Grade | 282               | \$22,737.58 | 80.63                                 |



The following summary indicates the amount of salvage received by owners for reactors resulting from the tuberculin test during the year ending June 30, 1949:

| Class of Cattle      | Number of Animals | Amount Paid | Average Salvage Received Per Head |
|----------------------|-------------------|-------------|-----------------------------------|
| Registered animals   | 35                | \$5,720.06  | \$153.43                          |
| Grade animals        | 247               | 38,212.89   | 154.71                            |
| Registered and Grade | 282               | \$43,932.95 | 155.79                            |

The following summary indicates the amount of federal indemnity paid for reactors resulting from the tuberculin test during the year ending June 30, 1949.

| Class of Cattle      | Number of Animals | Amount Paid | Average Federal Indemnity Paid Per Head |
|----------------------|-------------------|-------------|---|
| Registered animals   | 34*               | \$1,678.44  | \$49.37                                 |
| Grade animals        | 246**             | 6,024.18    | 24.49                                   |
| Registered and Grade | 280               | \$7,702.62  | 27.51                                   |

The following summary shows the total amount received by owners of condemned animals:

|  |             |
|--|-------------|
| Total amount received by owners for reactors (Sum of salvage, federal and State indemnity) | \$74,373.15 |
| Average amount received per head by owners for reactors                                    | \$263.73    |

\*Not included in this item is one goat owned by Mrs. Lucy Tyler, Tyler Goat Dairy, Titusville, on which the State paid indemnity in the amount of \$50.00 under the old organic law. The United States Government will not pay indemnity on goats.

\*\*Not included in this item is one animal owned by Springbrook-Allamuchy Farms, Allamuchy, on which the State paid indemnity in the amount of \$75.00 but on which the federal government refused to pay indemnity because it was not slaughtered within the stipulated 30 days following appraisal.

The amount of State indemnity paid during this fiscal year for reactors condemned increased from an average of \$76.21 for the fiscal year 1947-1948 to \$79.38 for 1948-1949. During the year 18,852 dairy cattle and 2,593 steers, a total of 21,445 cattle were imported as compared to 26,842 during the previous year.

#### SUMMARY OF CATTLE TESTED UNDER ACCREDITED HERD PLAN July 1, 1948 to June 30, 1949

| Initial Tests       | Registered Animals          | Grade Animals | Total   |
|---------------------|-----------------------------|---------------|---------|
| Tested              | 746                         | 4,455         | 5,201   |
| Reacted             | 1                           | 8             | 9       |
|                     | Percentage of Reactors .17  |               |         |
| Herd Addition Tests |                             |               |         |
| Tested              | 171                         | 4,243         | 4,414   |
| Reacted             | 2                           | 85            | 87      |
|                     | Percentage of Reactors 1.97 |               |         |
| Other Tests         |                             |               |         |
| Tested              | 29,275                      | 198,047       | 227,322 |
| Reacted             | 19                          | 263           | 282     |

## THIRTY-FOURTH ANNUAL REPORT

47

| Total   | Percentage of Reactors .12 |
|---|----------------------------|
| Tested  | 236,937                    |
| Reacted   | 378                        |
| Percentage of Reactors                            | .16                        |
| Percentage of Reactors Based on Cattle Population | .19                        |

## TOTAL STATE INDEMNITY PAID FOR TUBERCULIN

## TEST REACTORS—BY COUNTIES

July 1, 1948 to June 30, 1949

|            |          |
|------------|----------|
| Atlantic   | \$578.00 |
| Bergen     | 1,415.46 |
| Burlington | 2,427.18 |
| Camden     | ...      |
| Cape May   | ...      |
| Cumberland | 812.09   |
| Essex      | ...      |
| Gloucester | 375.00   |
| Hudson     | ...      |
| Hunterdon  | 2,166.25 |
| Mercer     | 223.34   |
| Middlesex  | 375.00   |
| Monmouth   | 562.64   |
| Morris     | ...      |
| Ocean      | ...      |
| Passaic    | ...      |
| Salem      | 3,150.38 |
| Somerset   | 900.00   |
| Sussex     | 6,173.74 |
| Union      | ...      |
| Warren     | 3,578.50 |

|       |             |
|-------|-------------|
| State | \$22,737.58 |
|-------|-------------|

TOTAL STATE INDEMNITY PAID FOR TUBERCULIN TEST REACTORS  
BY COUNTIES FROM THE BEGINNING OF ACCREDITED HERD WORK IN 1916  
TO JUNE 30, 1949

|            |              |
|------------|--------------|
| Atlantic   | \$9,681.90   |
| Bergen     | 37,718.59    |
| Burlington | 520,932.89   |
| Camden     | 19,303.26    |
| Cape May   | 10,954.64    |
| Cumberland | 80,961.73    |
| Essex      | 40,686.29    |
| Gloucester | 66,140.04    |
| Hudson     | 4,455.78     |
| Hunterdon  | 368,581.07   |
| Mercer     | 190,694.81   |
| Middlesex  | 84,721.84    |
| Monmouth   | 137,095.62   |
| Morris     | 156,288.04   |
| Ocean      | 34,124.08    |
| Passaic    | 37,078.60    |
| Salem      | 373,732.73   |
| Somerset   | 226,748.07   |
| Sussex     | 1,039,793.77 |
| Union      | 40,867.91    |
| Warren     | 392,431.32   |

|       |                |
|-------|----------------|
| State | \$3,872,992.98 |
|-------|----------------|

## HERDS AND CATTLE UNDER STATE AND FEDERAL SUPERVISION

## TUBERCULIN TESTS MADE AND REACTORS DISCLOSED

| County     | Herds Under<br>Supervision<br>June 30, 1949 | Herds Fully<br>Accredited<br>June 30, 1949 | Number of Cattle Under Supervision<br>June 30, 1949 |         |         | Number of Tuber-<br>culin Tests Made<br>July 1, 1948 to<br>June 30, 1949 | Number of<br>Reactors<br>Disclosed | Percent<br>of Infection |
|------------|---|--|---|---------|---------|--|------------------------------------|-------------------------|
|            |   |  | Reg.  | Grades  | Total   |  |                                    |                         |
| Atlantic   | 173   | 140  | 77  | 490     | 567     | 1,279  | 9                                  | .70                     |
| Bergen     | 158   | 147  | 212   | 1,566   | 1,778   | 2,132  | 27                                 | 1.27                    |
| Burlington | 999   | 888  | 2,178   | 21,938  | 24,116  | 26,065   | 38                                 | .15                     |
| Camden     | 233   | 203  | 346   | 1,343   | 1,689   | 1,954  | 1                                  | .05                     |
| Cape May   | 120   | 112  | 52  | 459     | 511     | 506  | ...                                | ...                     |
| Cumberland | 830   | 779  | 505   | 6,480   | 6,985   | 7,688  | 5                                  | .07                     |
| Essex      | 72  | 68   | 219   | 857     | 1,076   | 1,088  | ...                                | ...                     |
| Gloucester | 858   | 788  | 685   | 5,073   | 5,758   | 6,144  | 5                                  | .08                     |
| Hudson     | 10  | 8  | ...   | 32      | 32      | 39   | ...                                | ...                     |
| Hunterdon  | 1,766                                       | 1,618                                      | 4,262   | 24,680  | 28,942  | 31,431   | 28                                 | .09                     |
| Mercer     | 596   | 542  | 1,609   | 7,529   | 9,138   | 9,633  | 4                                  | .04                     |
| Middlesex  | 697   | 608  | 903   | 6,042   | 6,945   | 9,872  | 8                                  | .08                     |
| Monmouth   | 974   | 896  | 2,540   | 5,662   | 8,202   | 9,742  | 11                                 | .11                     |
| Morris     | 752   | 677  | 2,409   | 8,996   | 11,405  | 12,641   | 1                                  | .01                     |
| Ocean      | 228   | 209  | 23  | 1,171   | 1,194   | 1,185  | ...                                | ...                     |
| Passaic    | 157   | 137  | 10  | 1,734   | 1,744   | 1,503  | ...                                | ...                     |
| Salem      | 1,082                                       | 870  | 954   | 15,417  | 16,371  | 22,982   | 68                                 | .30                     |
| Somerset   | 805   | 746  | 4,215   | 8,404   | 12,619  | 13,610   | 12                                 | .09                     |
| Sussex     | 1,052                                       | 869  | 3,072   | 31,421  | 34,493  | 45,367   | 106                                | .23                     |
| Union      | 105   | 94   | 16  | 1,891   | 1,907   | 2,909  | ...                                | ...                     |
| Warren     | 1,025                                       | 923  | 1,010   | 24,335  | 25,345  | 29,167   | 55                                 | .19                     |
| State      | 12,692                                      | 11,322                                     | 25,297  | 175,520 | 200,817 | 236,937  | 378                                | .16                     |

## THIRTY-FOURTH ANNUAL REPORT

49

## INFECTED HERD RECORD

| County     | Number of Infected<br>Herds in New Jersey | Number of Cattle<br>Infected Herds |
|------------|---|------------------------------------|
|            | June 30, 1949                             | June 30, 1949                      |
| Atlantic   | 2   | 139                                |
| Bergen     | 2   | 55                                 |
| Burlington | 30  | 1,143                              |
| Camden     | ...                                       | ...                                |
| Cape May   | ...                                       | ...                                |
| Cumberland | 6   | 162                                |
| Essex      | ...                                       | ...                                |
| Gloucester | 5   | 90                                 |
| Hudson     | ...                                       | ...                                |
| Hunterdon  | 10  | 271                                |
| Mercer     | 9   | 446                                |
| Middlesex  | 3   | 85                                 |
| Monmouth   | 5   | 276                                |
| Morris     | 1   | 15                                 |
| Ocean      | ...                                       | ...                                |
| Passaic    | ...                                       | ...                                |
| Salem      | 31  | 1,183                              |
| Somerset   | 9   | 336                                |
| Sussex     | 16  | 811                                |
| Union      | ...                                       | ...                                |
| Warren     | 26  | 1,019                              |
| State      | 155                                       | 6,031                              |

NEW JERSEY STATE LIBRARY

CATTLE TESTED IN NEW JERSEY UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ON THE STAFF OF THE  
STATE DEPARTMENT OF AGRICULTURE

July 1, 1948 to June 30, 1949

|                  | Lots | INITIAL TESTS |     |          |     | HERD ADDITION TESTS |        |     |          |      | OTHER TESTS |        |        |          |     |
|------------------|------|---------------|-----|----------|-----|---------------------|--------|-----|----------|------|-------------|--------|--------|----------|-----|
|                  |      | Tested        |     | Reactors |     | Lots                | Tested |     | Reactors |      | Lots        | Tested |        | Reactors |     |
|                  |      | Reg.          | Gr. | Reg.     | Gr. |                     | Reg.   | Gr. | Reg.     | Gr.  |             | Reg.   | Gr.    | Reg.     | Gr. |
| 1948             |      |               |     |          |     |                     |        |     |          |      |             |        |        |          |     |
| July             | 3    | 4             | 33  | ..       | ..  | 2                   | 2      | ..  | ..       | ..   | 69          | 163    | 1,579  | ..       | 2   |
| August           | 10   | ..            | 74  | ..       | ..  | 2                   | ..     | 5   | ..       | ..   | 40          | 88     | 759    | ..       | ..  |
| September        | 16   | 1             | 35  | ..       | ..  | ..                  | ..     | 17  | ..       | ..   | 250         | 358    | 1,630  | ..       | 1   |
| October          | 21   | 2             | 68  | ..       | 2   | ..                  | ..     | 13  | ..       | ..   | 118         | 186    | 1,216  | ..       | 2   |
| November         | 14   | 5             | 27  | ..       | ..  | ..                  | ..     | 7   | ..       | ..   | 178         | 467    | 2,007  | ..       | 2   |
| December         | 5    | ..            | 8   | ..       | ..  | 2                   | ..     | 16  | ..       | ..   | 103         | 1,046  | 958    | 1        | ..  |
| 1949             |      |               |     |          |     |                     |        |     |          |      |             |        |        |          |     |
| January          | 16   | 3             | 91  | ..       | ..  | 2                   | ..     | 43  | ..       | 3    | 241         | 1,337  | 3,697  | 1        | 4   |
| February         | 9    | 66            | 12  | 1        | ..  | ..                  | ..     | 28  | ..       | 1    | 240         | 803    | 3,828  | ..       | 6   |
| March            | 19   | 39            | 22  | ..       | ..  | 1                   | 1      | 45  | ..       | ..   | 303         | 841    | 3,985  | ..       | 4   |
| April            | 13   | 14            | 61  | ..       | 1   | 1                   | 10     | 7   | ..       | ..   | 134         | 1,296  | 2,095  | ..       | 2   |
| May              | 26   | 19            | 64  | ..       | ..  | 1                   | 3      | 30  | ..       | 2    | 388         | 915    | 2,324  | ..       | 3   |
| June             | 25   | 46            | 34  | ..       | ..  | ..                  | ..     | 8   | ..       | ..   | 178         | 141    | 1,451  | ..       | 1   |
| Totals           | 177  | 199           | 529 | 1        | 3   | 12                  | 16     | 219 | ..       | 6    | 2,242       | 7,641  | 25,529 | 2        | 27  |
| Per Cent         |      |               |     |          |     |                     |        |     |          |      |             |        |        |          |     |
| Reaction         |      |               |     | .50      | .57 |                     |        |     | ..       | 2.74 |             |        |        | .03      | .11 |
| Average Per Cent |      |               |     | .55      |     |                     |        |     | 2.55     |      |             |        |        | .09      |     |

CATTLE TESTED IN NEW JERSEY UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ON THE STAFF OF THE  
UNITED STATES DEPARTMENT OF AGRICULTURE  
July 1, 1948 to June 30, 1949

|                  | Lots | INITIAL TESTS |     |          |     | HERD ADDITION TESTS |        |     |          |      | OTHER TESTS |        |       |          |     |
|------------------|------|---------------|-----|----------|-----|---------------------|--------|-----|----------|------|-------------|--------|-------|----------|-----|
|                  |      | Tested        |     | Reactors |     | Lots                | Tested |     | Reactors |      | Lots        | Tested |       | Reactors |     |
|                  |      | Reg.          | Gr. | Reg.     | Gr. |                     | Reg.   | Gr. | Reg.     | Gr.  |             | Reg.   | Gr.   | Reg.     | Gr. |
| 1948             |      |               |     |          |     |                     |        |     |          |      |             |        |       |          |     |
| July             | 5    | ..            | 20  | ..       | ..  | ..                  | ..     | ..  | ..       | ..   | 66          | 3      | 652   | ..       | ..  |
| August           | 5    | 1             | 28  | ..       | ..  | ..                  | ..     | ..  | ..       | ..   | 20          | 2      | 37    | ..       | ..  |
| September        | ..   | ..            | ..  | ..       | ..  | ..                  | ..     | 1   | ..       | ..   | 43          | 47     | 532   | ..       | ..  |
| October          | 7    | ..            | 9   | ..       | ..  | 1                   | ..     | 9   | ..       | ..   | 66          | 1      | 613   | ..       | ..  |
| November         | 3    | ..            | 5   | ..       | ..  | 1                   | ..     | 5   | ..       | ..   | 83          | 75     | 2,059 | ..       | ..  |
| December         | 5    | ..            | 50  | ..       | ..  | 1                   | ..     | 4   | ..       | 1    | 44          | 10     | 1,064 | ..       | ..  |
| 1949             |      |               |     |          |     |                     |        |     |          |      |             |        |       |          |     |
| January          | 3    | 7             | 5   | ..       | ..  | ..                  | ..     | ..  | ..       | ..   | 57          | 97     | 794   | ..       | 6   |
| February         | 2    | ..            | 4   | ..       | ..  | ..                  | ..     | ..  | ..       | ..   | 18          | ..     | 434   | ..       | ..  |
| March            | 4    | ..            | 81  | ..       | ..  | ..                  | ..     | 7   | ..       | ..   | 55          | 98     | 660   | ..       | ..  |
| April            | 7    | ..            | 13  | ..       | ..  | 1                   | ..     | 11  | ..       | ..   | 108         | 35     | 1,400 | 2        | 1   |
| May              | 8    | ..            | 57  | ..       | ..  | ..                  | ..     | ..  | ..       | ..   | 23          | 16     | 804   | ..       | ..  |
| June             | 9    | 1             | 35  | ..       | ..  | ..                  | ..     | 12  | ..       | ..   | 64          | 8      | 610   | ..       | 2   |
| Totals           | 58   | 9             | 307 | ..       | ..  | 4                   | ..     | 49  | ..       | 1    | 647         | 392    | 9,659 | 2        | 9   |
| Per Cent         |      |               |     |          |     |                     |        |     |          |      |             |        |       |          |     |
| Reaction         |      |               |     | ..       | ..  |                     |        |     | ..       | 2.04 |             |        |       | .51      | .09 |
| Average Per Cent |      |               |     | ..       |     |                     |        |     |          | 2.04 |             |        |       | .11      |     |



## CATTLE TESTED IN NEW JERSEY UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ON THE STAFF OF THE

UNITED STATES DEPARTMENT OF AGRICULTURE

July 1, 1948 to June 30, 1949

|                  | INITIAL TESTS |        |       |          |     | HERD ADDITION TESTS |        |       |          |      | OTHER TESTS |        |         |          |     |
|------------------|---------------|--------|-------|----------|-----|---------------------|--------|-------|----------|------|-------------|--------|---------|----------|-----|
|                  | Lots          | Tested |       | Reactors |     | Lots                | Tested |       | Reactors |      | Lots        | Tested |         | Reactors |     |
|                  |               | Reg.   | Gr.   | Reg.     | Gr. |                     | Reg.   | Gr.   | Reg.     | Gr.  |             | Reg.   | Gr.     | Reg.     | Gr. |
| 1948             |               |        |       |          |     |                     |        |       |          |      |             |        |         |          |     |
| July             | 19            | 26     | 102   | ..       | ..  | 59                  | 18     | 97    | ..       | ..   | 132         | 104    | 830     | ..       | ..  |
| August           | 12            | 2      | 53    | ..       | ..  | 64                  | ..     | 179   | ..       | 2    | 160         | 239    | 2,508   | ..       | 4   |
| September        | 32            | 41     | 191   | ..       | ..  | 104                 | 19     | 499   | ..       | 4    | 532         | 792    | 8,558   | ..       | 11  |
| October          | 85            | 19     | 379   | ..       | 3   | 76                  | 11     | 359   | ..       | 9    | 1,382       | 1,703  | 21,365  | 4        | 53  |
| November         | 70            | 49     | 397   | ..       | ..  | 90                  | 17     | 484   | ..       | 10   | 1,148       | 2,564  | 20,061  | 1        | 34  |
| December         | 46            | 9      | 182   | ..       | ..  | 94                  | 9      | 372   | ..       | 14   | 654         | 1,357  | 10,558  | 1        | 31  |
| 1949             |               |        |       |          |     |                     |        |       |          |      |             |        |         |          |     |
| January          | 83            | 35     | 498   | ..       | ..  | 115                 | 36     | 586   | ..       | 12   | 1,393       | 3,344  | 24,708  | 4        | 37  |
| February         | 61            | 121    | 368   | ..       | 1   | 71                  | 11     | 246   | ..       | 7    | 956         | 1,372  | 17,529  | 2        | 18  |
| March            | 82            | 108    | 371   | ..       | ..  | 78                  | 12     | 509   | 1        | 5    | 1,382       | 3,014  | 19,945  | ..       | 11  |
| April            | 88            | 87     | 433   | ..       | 1   | 47                  | 8      | 176   | 1        | 14   | 1,418       | 4,742  | 21,751  | 2        | 20  |
| May              | 96            | 26     | 507   | ..       | ..  | 90                  | 6      | 276   | ..       | 1    | 940         | 1,701  | 12,342  | 1        | 7   |
| June             | 39            | 15     | 138   | ..       | ..  | 88                  | 8      | 192   | ..       | ..   | 292         | 310    | 2,704   | ..       | 1   |
| Totals           | 713           | 538    | 3,619 | ..       | 5   | 976                 | 155    | 3,975 | 2        | 78   | 10,389      | 21,242 | 162,859 | 15       | 227 |
| Per Cent         |               |        |       |          |     |                     |        |       |          |      |             |        |         |          |     |
| Reaction         |               |        |       | ..       | .14 |                     |        |       | 1.29     | 1.96 |             |        |         | .07      | .14 |
| Average Per Cent |               |        |       | .12      |     |                     |        |       | 1.94     |      |             |        |         | .13      |     |

SIX-YEAR SUMMARY BY COUNTIES SHOWING PER CENT OF INFECTION FOUND ANNUALLY BASED ON TESTS MADE  
AND ON THE CATTLE POPULATION

| County     | July, 1948 to June, 1949                  |                               |  |                   |  | July, 1947 to June, 1948                  |                               |  |                   |  |
|------------|---|-------------------------------|--|-------------------|--|---|-------------------------------|--|-------------------|--|
|            | Number<br>Animals<br>Under<br>Supervision | Number<br>Animals<br>Reacting | Per Cent<br>Reaction<br>on Total<br>Cattle<br>Population | No. Tests<br>Made | Per Cent<br>Reaction<br>on Tests<br>Made | Number<br>Animals<br>Under<br>Supervision | Number<br>Animals<br>Reacting | Per Cent<br>Reaction<br>on Total<br>Cattle<br>Population | No. Tests<br>Made | Per Cent<br>Reaction<br>on Tests<br>Made |
| Atlantic   | 567                                       | 9                             | 1.59   | 1,279             | .70                                      | 674                                       | 2                             | .30  | 717               | .28                                      |
| Bergen     | 1,778                                     | 27                            | 1.52   | 2,132             | 1.27                                     | <b>2,122</b>                              | <b>1</b>                      | .05  | 2,504             | .04                                      |
| Burlington | 24,116                                    | 38                            | .16  | 26,065            | .15                                      | <b>23,102</b>                             | <b>62</b>                     | .27  | 27,596            | .22                                      |
| Camden     | 1,689                                     | 1                             | .06  | 1,954             | .05                                      | 1,706                                     | 2                             | .12  | 2,079             | .10                                      |
| Cape May   | 511                                       | ...                           | ...  | 506               | ...                                      | 558                                       | 1                             | .18  | 484               | .21                                      |
| Cumberland | 6,985                                     | 5                             | .07  | 7,688             | .07                                      | 6,358                                     | 12                            | .19  | 7,607             | .16                                      |
| Essex      | 1,076                                     | ...                           | ...  | 1,088             | ...                                      | 1,133                                     | ...                           | ...  | 1,057             | ...                                      |
| Gloucester | 5,758                                     | 5                             | .09  | 6,144             | .08                                      | 5,706                                     | 1                             | .02  | 5,597             | .02                                      |
| Hudson     | 32  | ...                           | ...  | 39                | ...                                      | 42  | ...                           | ...  | ...               | ...                                      |
| Hunterdon  | 28,942                                    | 28                            | .10  | 31,431            | .09                                      | 30,670                                    | 47                            | .15  | 30,461            | .15                                      |
| Mercer     | 9,138                                     | 4                             | .04  | 9,633             | .04                                      | 8,791                                     | 20                            | .23  | 10,555            | .19                                      |
| Middlesex  | 6,945                                     | 8                             | .12  | 9,872             | .08                                      | 6,845                                     | 7                             | .10  | 9,970             | .07                                      |
| Monmouth   | 8,202                                     | 11                            | .13  | 9,742             | .11                                      | 8,168                                     | 5                             | .06  | 9,496             | .05                                      |
| Morris     | 11,405                                    | 1                             | .008   | 12,641            | .007                                     | 12,422                                    | 18                            | .14  | 14,471            | .12                                      |
| Ocean      | 1,194                                     | ...                           | ...  | 1,185             | ...                                      | 1,314                                     | 3                             | .23  | 1,653             | .18                                      |
| Passaic    | 1,744                                     | ...                           | ...  | 1,503             | ...                                      | 1,855                                     | 1                             | .05  | 2,761             | .04                                      |
| Salem      | 16,371                                    | 68                            | .42  | 22,982            | .30                                      | 16,862                                    | 67                            | .40  | 22,029            | .30                                      |
| Somerset   | 12,619                                    | 12                            | .10  | 13,610            | .09                                      | 12,397                                    | 9                             | .07  | 13,449            | .07                                      |
| Sussex     | 34,493                                    | 106                           | .31  | 45,367            | .23                                      | 33,935                                    | 118                           | .35  | 55,145            | .21                                      |
| Union      | 1,907                                     | ...                           | ...  | 2,909             | ...                                      | 2,127                                     | ...                           | ...  | 2,697             | ...                                      |
| Warren     | 25,345                                    | 55                            | .22  | 29,167            | .19                                      | 24,451                                    | 35                            | .14  | 28,669            | .12                                      |
| State      | 200,817                                   | 378                           | .19  | 236,937           | .16                                      | 201,238                                   | 411                           | .20  | 248,997           | .17                                      |

SIX-YEAR SUMMARY BY COUNTIES SHOWING PER CENT OF INFECTION FOUND ANNUALLY BASED ON TESTS MADE  
AND ON THE CATTLE POPULATION

| County     | July, 1946 to June, 1947                  |                               |  |                   |  | July, 1945 to June, 1946                  |                               |  |                   |  |
|------------|---|-------------------------------|--|-------------------|--|---|-------------------------------|--|-------------------|--|
|            | Number<br>Animals<br>Under<br>Supervision | Number<br>Animals<br>Reacting | Per Cent<br>Reaction<br>on Total<br>Cattle<br>Population | No. Tests<br>Made | Per Cent<br>Reaction<br>on Tests<br>Made | Number<br>Animals<br>Under<br>Supervision | Number<br>Animals<br>Reacting | Per Cent<br>Reaction<br>on Total<br>Cattle<br>Population | No. Tests<br>Made | Per Cent<br>Reaction<br>on Tests<br>Made |
| Atlantic   | 711                                       | 1                             | .14  | 663               | .15                                      | 644                                       | 8                             | 1.25   | 1,110             | .72                                      |
| Bergen     | 2,143                                     | 1                             | .05  | 2,331             | .04                                      | 2,563                                     | ...                           | ...  | 2,614             | ...                                      |
| Burlington | 22,220                                    | 162                           | .73  | 29,277            | .55                                      | 21,131                                    | 257                           | 1.28   | 42,680            | .60                                      |
| Camden     | 1,601                                     | 26                            | 1.62   | 1,895             | 1.37                                     | 1,694                                     | 1                             | .06  | 1,886             | .05                                      |
| Cape May   | 583                                       | ...                           | ...  | 589               | ...                                      | 579                                       | 1                             | .14  | 646               | .15                                      |
| Cumberland | 6,728                                     | 32                            | .48  | 9,832             | .33                                      | 6,776                                     | 13                            | .18  | 10,301            | .13                                      |
| Essex      | 1,350                                     | ...                           | ...  | 1,360             | ...                                      | 1,578                                     | 3                             | .20  | 1,528             | .20                                      |
| Gloucester | 5,475                                     | 7                             | .13  | 6,926             | .10                                      | 5,641                                     | 15                            | .24  | 6,534             | .23                                      |
| Hudson     | 42  | ...                           | ...  | 54                | ...                                      | 75  | ...                           | ...  | 143               | ...                                      |
| Hunterdon  | 30,930                                    | 62                            | .20  | 30,099            | .21                                      | 29,909                                    | 50                            | .16  | 28,147            | .18                                      |
| Mercer     | 8,901                                     | 27                            | .30  | 10,627            | .25                                      | 9,290                                     | 26                            | .26  | 10,450            | .25                                      |
| Middlesex  | 7,168                                     | 17                            | .24  | 10,781            | .16                                      | 7,060                                     | 44                            | .53  | 9,647             | .46                                      |
| Monmouth   | 9,036                                     | 10                            | .12  | 6,869             | .15                                      | 9,253                                     | 21                            | .20  | 9,913             | .21                                      |
| Morris     | 12,110                                    | 136                           | 1.12   | 14,661            | .93                                      | 11,729                                    | 8                             | .07  | 11,929            | .07                                      |
| Ocean      | 1,472                                     | 5                             | .34  | 1,567             | .32                                      | 1,485                                     | 8                             | .52  | 2,083             | .38                                      |
| Passaic    | 2,050                                     | 3                             | .15  | 2,994             | .10                                      | 2,289                                     | 27                            | 1.05   | 2,519             | 1.07                                     |
| Salem      | 17,162                                    | 34                            | .20  | 21,840            | .16                                      | 16,774                                    | 70                            | .40  | 19,545            | .36                                      |
| Somerset   | 12,345                                    | 12                            | .10  | 15,803            | .08                                      | 12,103                                    | 26                            | .20  | 13,084            | .20                                      |
| Sussex     | 33,078                                    | 349                           | 1.06   | 56,231            | .62                                      | 33,324                                    | 278                           | .83  | 46,534            | .60                                      |
| Union      | 2,380                                     | ...                           | ...  | 2,436             | ...                                      | 2,726                                     | 4                             | .14  | 5,382             | .07                                      |
| Warren     | 24,549                                    | 65                            | .26  | 28,612            | .23                                      | 24,726                                    | 102                           | .42  | 29,508            | .35                                      |
| State      | 202,034                                   | 949                           | .47  | 255,447           | .37                                      | 201,349                                   | 962                           | .46  | 256,183           | .38                                      |

SIX-YEAR SUMMARY BY COUNTIES SHOWING PER CENT OF INFECTION FOUND ANNUALLY BASED ON TESTS MADE  
AND ON THE CATTLE POPULATION

| County     | July, 1944 to June, 1945                  |                               |  |                   |  | July, 1943 to June, 1944                  |                               |  |                   |  |
|------------|---|-------------------------------|--|-------------------|--|---|-------------------------------|--|-------------------|--|
|            | Number<br>Animals<br>Under<br>Supervision | Number<br>Animals<br>Reacting | Per Cent<br>Reaction<br>on Total<br>Cattle<br>Population | No. Tests<br>Made | Per Cent<br>Reaction<br>on Tests<br>Made | Number<br>Animals<br>Under<br>Supervision | Number<br>Animals<br>Reacting | Per Cent<br>Reaction<br>on Total<br>Cattle<br>Population | No. Tests<br>Made | Per Cent<br>Reaction<br>on Tests<br>Made |
| Atlantic   | 638                                       | ...                           | ...  | 613               | ...                                      | 605                                       | ...                           | ...  | 152               | ...                                      |
| Bergen     | 2,644                                     | 5                             | .19  | 1,906             | .26                                      | 2,702                                     | 56                            | 2.07   | 4,630             | 1.21                                     |
| Burlington | 20,039                                    | 2,442                         | 12.19  | 41,616            | 5.87                                     | 22,790                                    | 154                           | .68  | 25,025            | .62                                      |
| Camden     | 1,648                                     | 4                             | .24  | 1,490             | .27                                      | 1,731                                     | ...                           | ...  | 1,912             | ...                                      |
| Cape May   | 740                                       | ...                           | ...  | 742               | ...                                      | 743                                       | ...                           | ...  | 112               | ...                                      |
| Cumberland | 7,413                                     | 4                             | .06  | 5,244             | .08                                      | 5,903                                     | 30                            | .51  | 6,727             | .45                                      |
| Essex      | 1,520                                     | 2                             | .13  | 2,542             | .09                                      | 1,951                                     | 47                            | 2.41   | 2,342             | 2.01                                     |
| Gloucester | 6,249                                     | 31                            | .50  | 5,035             | .62                                      | 6,259                                     | 10                            | .16  | 6,348             | .16                                      |
| Hudson     | 102                                       | ...                           | ...  | ...               | ...                                      | 102                                       | ...                           | ...  | ...               | ...                                      |
| Hunterdon  | 31,175                                    | 72                            | .23  | 28,034            | .26                                      | 31,614                                    | 108                           | .34  | 30,884            | .35                                      |
| Mercer     | 9,942                                     | 37                            | .37  | 8,455             | .44                                      | 10,286                                    | 21                            | .20  | 10,763            | .20                                      |
| Middlesex  | 8,304                                     | 17                            | .20  | 9,465             | .18                                      | 8,469                                     | 31                            | .37  | 11,930            | .26                                      |
| Monmouth   | 10,384                                    | 46                            | .44  | 9,949             | .46                                      | 10,769                                    | 51                            | .47  | 11,704            | .44                                      |
| Morris     | 12,141                                    | 77                            | .63  | 11,137            | .69                                      | 12,791                                    | 80                            | .63  | 12,536            | .64                                      |
| Ocean      | 1,550                                     | 15                            | .97  | 1,455             | 1.03                                     | 1,533                                     | 25                            | 1.63   | 1,745             | 1.43                                     |
| Passaic    | 2,560                                     | ...                           | ...  | 1,486             | ...                                      | 2,753                                     | 39                            | 1.42   | 2,661             | 1.47                                     |
| Salem      | 17,653                                    | 63                            | .36  | 20,104            | .31                                      | 17,733                                    | 58                            | .33  | 21,202            | .27                                      |
| Somerset   | 12,898                                    | 39                            | .30  | 10,939            | .36                                      | 13,481                                    | 15                            | .11  | 14,373            | .10                                      |
| Sussex     | 33,509                                    | 221                           | .66  | 43,324            | .51                                      | 35,167                                    | 207                           | .59  | 46,000            | .45                                      |
| Union      | 2,897                                     | 1                             | .03  | 2,976             | .03                                      | 3,138                                     | 31                            | .99  | 6,214             | .50                                      |
| Warren     | 24,453                                    | 62                            | .25  | 25,575            | .22                                      | 25,494                                    | 67                            | .26  | 27,236            | .25                                      |
| State      | 208,459                                   | 3,138                         | 1.50   | 232,087           | 1.35                                     | 216,014                                   | 1,030                         | .48  | 244,496           | .42                                      |

## BUREAU OF BRUCELLOSIS CONTROL

The 1948-1949 fiscal year revealed several progressive steps toward the control and eventual eradication of brucellosis from the herds of New Jersey. The program consists of two basic fundamentals, (1) the blood testing of cattle to disclose the existence of and location of infection and (2) the vaccination of calves to provide resistance to animals being raised as dairy and beef herd replacements. The opportunity to offer free vaccination of calves has provided the Division with a valuable adjunct to the program. The disclosure of infection in herds through the medium of the blood test is also extremely important inasmuch as it provides the Division with a means to either prevent or reduce exposure of other animals.

Because a cow has been vaccinated as a calf against brucellosis does not mean that the cow cannot become infected. Calf vaccinates can become infected after a heavy exposure and every effort should be made to eliminate all chances of exposure to this disease and thereby reduce the possibility of spread of the disease.

Since time and men are the essential components of any campaign, efforts have been made to accomplish as much work as possible during the year with the field staff available. As reported in previous years, certain townships have been selected in which to conduct a concentrated drive for enrollment of herds. These herds are grouped under supervision, tested and retested at the proper intervals with a minimum of labor and expense.

At the beginning of the fiscal year several townships in Cumberland, Hunterdon and Ocean counties had already been subjected to a round of group testing. The county boards of agriculture of these counties had given their approval to the procedure and had requested that work be done in additional townships at the convenience of the Division. Cape May and Atlantic counties as well as Wantage Township in Sussex County have been under area test plan since 1941 and retesting of these areas was continued.

Early in the fall, plans were promulgated to group test several more townships. As a result of these plans, Dr. G. W. Breed completed three townships in Morris County, Dr. W. L. Mackey finished six townships in Cumberland County and one each in Salem and Gloucester counties. Dr. J. H. Morris completed one township in Monmouth County and the remainder of the townships in Ocean County. Dr. F. B. Duke signed up 79.34 per cent of the herds in Readington Township of Hunterdon County, one of the county's leading dairy townships, and Dr. R. L. Alkire supervised the completion of the few herds in Hudson County by Dr. J. J. Garvey.

Infection rates varied greatly in the different townships with the lowest rates disclosed in those areas populated principally by one and two cow herds and the highest incidence in those areas of concentrated dairy farming. The highest incidence of the disease was disclosed in Plumstead Township

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of Ocean County where 66.67 per cent of the herds containing 96.90 per cent of the cattle were classified as infected. Of the 710 cattle tested there were 171 showing reaction to give an infection rate of 24.08 per cent. Plumstead Township is an area of intensive dairying and one in which very few replacements are raised. The majority of the herd owners in this township purchase herd additions from local dealers.

Since the campaign is waged with cooperation as its keynote rather than compulsion. Enrollment was not 100 per cent in some of the townships. The purpose of the township testing is (1) to enroll new herds in the program in a concentrated area so that in working with these herds the Division field veterinarians will have them grouped more closely rather than spread over a large area, and (2) to produce a better spirit of cooperation because the aid of the extension workers in the area is enlisted. Therefore, the dairymen in the area are conscious of the efforts and aims of the Division.

The growth of this phase of the program has been due largely to the efforts of the field veterinarians in the township work. The statistical data listed below shows the increase in herds and cattle under one of the brucellosis control plans involving use of blood testing:

| Date       | Herds | Cattle |
|------------|-------|--------|
| July, 1946 | 1,605 | 36,918 |
| July, 1947 | 1,741 | 37,200 |
| July, 1948 | 2,037 | 45,414 |
| June, 1949 | 2,595 | 52,671 |

The rate of expansion during the past three years has increased every year and is expected to continue to do so. The real yardstick of progress being made in any disease control and eradication program is in the number of accredited or disease-free herds or counties in the State. This figure has not shown any startling jump. It must be remembered that accreditation necessarily lags behind enrollment by one year at the minimum and more often by a longer period of time. Therefore, a large increase in the number of accredited herds cannot be expected to be seen until these new enrollees have had sufficient time to control and then eradicate the disease.

#### CALFHOOD VACCINATION

Calfhood vaccination has gained increasing support from the dairy industry during the past fiscal year. In brief resumé, the present system of calfhood vaccination at State expense became part of the program on July 1, 1946. At this time it was thought that approximately 10,000 calves per year would be vaccinated. However this expectation has been exceeded by a greater amount each year, as indicated below:

| Fiscal Year | Number of Calves<br>Vaccinated |
|-------------|--------------------------------|
| 1946-1947   | 13,381                         |
| 1947-1948   | 14,813                         |
| 1948-1949   | 16,183                         |



The number of herds practicing calfhood vaccination and the number of cattle contained in those herds is steadily increasing as shown below:

| Date       | Herds Practicing<br>Calfhood Vaccination | Cattle Contained in<br>Herds Practicing<br>Calfhood Vaccination |
|------------|--|---|
| June, 1947 | 2,144                                    | 79,638  |
| June, 1948 | 3,075                                    | 99,541  |
| June, 1949 | 3,910                                    | 113,271   |

These last figures are significant because they show the number of animals contained in the herds which are vaccinating calves. Therefore, they give some indication of the approximate number of calfhood vaccinated animals the Division may expect to have in the herds of the State within the next five years as the animals now being vaccinated take their place in the milking herd. Since the 3,910 herds now practicing calfhood vaccination represents 30.81 per cent of the herds of the State and the 113,271 cattle contained in those herds represents 56.77 per cent of the cattle of the State, the Division has good reason to expect a marked reduction in the incidence of brucellosis as these herds become 100 per cent calfhood vaccinated.

Strain No. 19 lyophilized vaccine is still being used in the program and the Division feels that the use of the lyophilized product is paying big dividends because it assures the dairymen of having fresh, viable vaccine used on his calves. Rumlblings persisted on the potentialities of Huddleson's mucoid vaccine but this vaccine is still very much in the experimental stage and its use in New Jersey's program is not feasible nor permisible until the vaccine can prove itself and become officially recognized. The West Virginia experiment on Huddleson's vaccine in which New Jersey is taking a cooperative part is still under way and will probably come to a conclusion during the next year.

Although the State does not usually provide vaccine nor service for adult vaccination, it is still recognized as an integral part of the control program to be put into effect in certain cases.

In one instance during the year a large group of purebred animals were purchased from an out-of-state accredited, non-vaccinated herd as herd additions to an infected herd and premises. The herd owner could neither isolate them from the infected animals nor clean up to the point of having the premises disease-free. He was determined to adult vaccinate the group as the only alternative. As a result of information released by Dr. H. J. Metzger of the New Jersey Experimental Station, in his bulletin No. 741 on the use of small doses of strain No. 19 on mature animals, the Division vaccinated a group of 116 negative animals for the purpose of gathering further information. The dose used was .04 c.c. intradermally as compared to the usual .5 c.c. intradermal dose. Twelve days after vaccination the group was blood tested and of the 116 animals tested, there were 92 animals showing, as a result of vaccination, a blood titre sufficient to class them as

positive, 17 suspects and 7 negative. Three months following vaccination, a second blood test of the same group showed that only 13 still showed a positive titre, 35 were suspects while 75 had reverted to negative. This is a remarkably rapid recession of titres in a large per cent of the animals. Although there is no way of measuring the resistance induced by this small dosage, there have been no physical symptoms of brucellosis in these animals to date.

#### MILK RING TEST

During the year additional work was carried out by the Division laboratory with the A.B.R. or milk ring test. This, an agglutination test conducted on milk rather than on blood serum, employs the use of a colored antigen so that the reaction may be noted. The test was originated in Europe and subsequent work was taken up by Dr. Martin Roepke in this country and reported in the Fifty-Second Annual Proceedings of the United States Livestock Sanitary Association.

The salient feature of this test is its sensitivity on composite milk samples. It will usually detect the presence of milk from an infected cow, even when that milk is diluted as high as 100 times. This, therefore, provides a test which can be used on composite herd milk in area work to sort out the infected from the non-infected herds and, therefore, save the effort of drawing a blood sample from every cow in every herd. Since the Division seldom finds more than 30 per cent of the herds infected in any one given area, it is possible to see the great saving in time and money that could be effected by using this test to initially survey an area.

During the year the results of ring tests on composite herd milk were compared with blood tests of individuals within those herds and the comparison showed a high degree of correlation. The disadvantages of the test are that it reveals nothing of the status of bulls, heifers and dry cows. The objection to the latter two instances can be overcome by the use of frequent retests, since the simplicity of the tests puts little burden on either producer of the Department.

However, the blood test would have to be substituted in the case of bulls. However, the possibility of such a simple, easy method for use in a rapid survey of an area, or for use in checking herds for re-accreditation, lends promise to faster and more economical testing of herds.

#### FACTORS COMPLICATING BRUCELLOSIS CONTROL

One of the factors other than brucellosis which can cause abortion in cattle is a disease known as vibriosis, caused by the organism, *vibrio foetus*. Since abortions due to this disease occur at about the same period of gestation as do abortions due to *Brucella*, this disease presents a serious complication.

Take, for example, the accredited brucellosis-free herd which suddenly has several cows abort at about the fifth or sixth month of their gestation. Subsequent negative blood tests indicate that the animals are free of brucellosis and the herd owner begins to question the efficacy of the blood test. If, at this point, it can be demonstrated that the cause of the trouble is a disease separate and apart from brucellosis, the herd owner's faith in the program will be retained. Unfortunately, present knowledge of vibriosis leaves much to be desired from the standpoint of diagnosis and control measures.

#### PERSONNEL

During the year Dr. G. W. Breed, the federal veterinarian in charge of brucellosis control and eradication work in the Morris-Sussex-Warren area, was transferred to Georgia as the result of a promotion. However, a replacement has been obtained by the federal government and Dr. H. R. McKinney, a former practitioner, is now starting in that area.

As a result of the increase in the number of herds and cattle under supervision, it has been decided by the Director of the Division, that two additional veterinarians be added to the field force. One would be stationed in Burlington County and the other in Sussex County. Both of these territories are fertile grounds for a full-time employee engaged in brucellosis control and eradication work and the addition of these men will be a tremendous aid in furthering the program. In addition, as a result of expansion of the program, office work has increased and Dr. Hendershott has made a budget request for a new position to be filled by a girl to help with the brucellosis work.

#### PUBLIC HEALTH ASPECTS

During the fiscal year a regulation was promulgated by the State Department of Health requiring that all milk which is to be ultimately sold in the raw state, be produced by brucellosis-free animals. This regulation was filed with the Secretary of State on April 20, 1949 and became effective June 20, 1949. As a result of this regulation numerous requests were received from raw milk producers to have their herds put under supervision. Many were surprised at the low incidence of brucellosis in their herds but others were forced to send their milk into a pasteurized supply as the result of heavy infection, making it economically impossible for them to dispose of their reactors.

## THIRTY-FOURTH ANNUAL REPORT

61

HERDS AND ANIMALS IN HERDS OPERATING UNDER THE VARIOUS BRUCELLOSIS  
CONTROL PLANS AND THOSE FULLY ACCREDITED BRUCELLOSIS-FREE  
June 30, 1949

| County           | PLAN I |         | PLAN II |         | PLAN III |         | Total<br>Herds | Total<br>Animals |
|------------------|--------|---------|---------|---------|----------|---------|----------------|------------------|
|                  | Herds  | Animals | Herds   | Animals | Herds    | Animals |                |                  |
| Atlantic         | 162    | 339     | 5       | 7       | 5        | 195     | 172            | 541              |
| Accredited       | 126    | 284     | 5       | 7       | ..       | ..      | 131            | 291              |
| Bergen           | 37     | 55      | 9       | 253     | 3        | 33      | 49             | 341              |
| Accredited       | 27     | 30      | 6       | 180     | 1        | 2       | 34             | 212              |
| Burlington       | 16     | 79      | 31      | 778     | 35       | 1,748   | 82             | 2,605            |
| Accredited       | 14     | 77      | 15      | 422     | 10       | 561     | 39             | 1,060            |
| Camden           | 32     | 260     | 15      | 196     | 2        | 48      | 49             | 504              |
| Accredited       | 25     | 191     | 7       | 96      | ..       | ..      | 32             | 287              |
| Cape May         | 118    | 497     | 2       | 14      | ..       | ..      | 120            | 511              |
| Accredited       | 107    | 476     | 1       | 13      | ..       | ..      | 108            | 489              |
| Cumberland       | 76     | 247     | 238     | 1,712   | 56       | 1,818   | 370            | 3,777            |
| Accredited       | 70     | 220     | 55      | 618     | 1        | 118     | 126            | 956              |
| Essex            | 14     | 36      | 2       | 5       | 3        | 592     | 19             | 633              |
| Accredited       | 14     | 36      | 1       | 2       | ..       | ..      | 15             | 38               |
| Gloucester       | 24     | 340     | 65      | 444     | 27       | 952     | 116            | 1,736            |
| Accredited       | 16     | 328     | 16      | 179     | 2        | 12      | 34             | 519              |
| Hudson           | ..     | ..      | ..      | ..      | ..       | ..      | ..             | ..               |
| Accredited       | ..     | ..      | ..      | ..      | ..       | ..      | ..             | ..               |
| Hunterdon        | 15     | 85      | 239     | 4,059   | 151      | 4,829   | 405            | 8,973            |
| Accredited       | 11     | 75      | 43      | 1,157   | 8        | 326     | 62             | 1,558            |
| Mercer           | 33     | 216     | 49      | 2,086   | 24       | 1,238   | 106            | 3,540            |
| Accredited       | 31     | 214     | 30      | 1,186   | 8        | 331     | 69             | 1,731            |
| Middlesex        | 17     | 35      | 23      | 107     | 25       | 3,273   | 65             | 3,415            |
| Accredited       | 14     | 28      | 7       | 56      | 4        | 143     | 25             | 227              |
| Monmouth         | 24     | 345     | 133     | 1,840   | 18       | 1,174   | 175            | 3,359            |
| Accredited       | 22     | 340     | 25      | 1,125   | 1        | 47      | 48             | 1,512            |
| Morris           | 30     | 339     | 102     | 1,229   | 42       | 3,642   | 174            | 5,210            |
| Accredited       | 23     | 319     | 24      | 667     | 5        | 118     | 52             | 1,104            |
| Ocean            | 10     | 54      | 149     | 386     | 26       | 819     | 185            | 1,259            |
| Accredited       | 1      | 37      | 90      | 205     | ..       | ..      | 91             | 242              |
| Passaic          | 1      | 1       | 3       | 26      | 2        | 98      | 6              | 125              |
| Accredited       | 1      | 1       | ..      | ..      | 1        | 79      | 2              | 80               |
| Salem            | 10     | 55      | 40      | 670     | 33       | 1,140   | 83             | 1,865            |
| Accredited       | 9      | 54      | 12      | 299     | 2        | 68      | 23             | 421              |
| Somerset         | 53     | 638     | 94      | 2,466   | 46       | 2,320   | 193            | 5,424            |
| Accredited       | 50     | 633     | 60      | 1,859   | 12       | 511     | 122            | 3,003            |
| Sussex           | 2      | 3       | 23      | 669     | 82       | 4,288   | 107            | 4,960            |
| Accredited       | 1      | 1       | 14      | 614     | 16       | 493     | 31             | 1,108            |
| Union            | 5      | 52      | 6       | 82      | 6        | 28      | 17             | 162              |
| Accredited       | 5      | 52      | 3       | 51      | 4        | 15      | 12             | 118              |
| Warren           | 5      | 20      | 21      | 492     | 76       | 3,219   | 102            | 3,731            |
| Accredited       | 3      | 17      | 17      | 387     | 2        | 61      | 22             | 465              |
| State            | 684    | 3,696   | 1,249   | 17,521  | 662      | 31,454  | 2,595          | 52,671           |
| Accredited-State | 570    | 3,413   | 431     | 9,123   | 77       | 2,885   | 1,078          | 15,421           |

During this fiscal year 836 herds comprising 9,111 cattle have been initially tested with 524 reactors resulting or 5.75 per cent.

RECORD BY COUNTIES OF THE NUMBER OF REACTORS TO THE TEST FOR BRUCELLOSIS APPRAISED, THEIR APPRAISED VALUE, THE TOTAL AND AVERAGE AMOUNTS RECEIVED BY OWNERS FROM SALVAGE, STATE AND FEDERAL INDEMNITY  
July 1, 1948 to June 30, 1949

| County     | Number of Reactors Appraised |     |       | Appraised Value |             |             | Total Amount Paid to Owners (Salvage, State and Federal Indemnity) |             |             | Average Amount Paid Owners Per Head |          |           |
|------------|------------------------------|-----|-------|-----------------|-------------|-------------|--|-------------|-------------|-------------------------------------|----------|-----------|
|            | Reg.                         | Gr. | Total | Reg.            | Gr.         | Total       | Reg.   | Gr.         | Total       | Reg.                                | Gr.      | Total     |
| Atlantic   | ..                           | 3   | 3     | \$              | ..          | \$ 575.00   | \$   | ..          | \$ 539.60   | \$                                  | ..       | \$ 179.87 |
| Bergen     | 1                            | 5   | 6     | 375.00          | 1,390.00    | 1,765.00    | 375.00   | 1,286.64    | 1,661.64    | 375.00                              | 257.33   | 276.94    |
| Burlington | 10                           | 7   | 17    | 3,440.00        | 1,785.00    | 5,225.00    | 3,172.85   | 1,697.74    | 4,870.59    | 317.29                              | 242.53   | 286.51    |
| Camden     | 5                            | 1   | 6     | 1,600.00        | 180.00      | 1,780.00    | 1,595.00   | 175.00      | 1,770.00    | 319.00                              | 175.00   | 295.00    |
| Cape May   | ..                           | 1   | 1     | ..              | 215.00      | 215.00      | ..   | 201.20      | 201.20      | ..                                  | 201.20   | 201.20    |
| Cumberland | 2                            | 13  | 15    | 775.00          | 3,435.00    | 4,210.00    | 767.28   | 3,268.14    | 4,035.42    | 383.64                              | 251.40   | 269.03    |
| Essex      | ..                           | ..  | ..    | ..              | ..          | ..          | ..   | ..          | ..          | ..                                  | ..       | ..        |
| Gloucester | ..                           | 1   | 1     | ..              | 250.00      | 250.00      | ..   | 238.94      | 238.94      | ..                                  | 238.94   | 238.94    |
| Hudson     | ..                           | ..  | ..    | ..              | ..          | ..          | ..   | ..          | ..          | ..                                  | ..       | ..        |
| Hunterdon  | 11                           | 26  | 37    | 4,595.00        | 8,405.00    | 13,000.00   | 3,703.08   | 6,368.83    | 10,071.91   | 336.64                              | 244.96   | 272.21    |
| Mercer     | 3                            | 20  | 23    | 1,150.00        | 5,570.00    | 6,720.00    | 1,066.86   | 5,362.32    | 6,429.18    | 355.62                              | 268.12   | 279.53    |
| Middlesex  | ..                           | ..  | ..    | ..              | ..          | ..          | ..   | ..          | ..          | ..                                  | ..       | ..        |
| Monmouth   | 4                            | 5   | 9     | 1,360.00        | 1,375.00    | 2,735.00    | 1,321.12   | 1,246.66    | 2,567.78    | 330.28                              | 249.33   | 285.31    |
| Morris     | 4                            | 18  | 22    | 1,545.00        | 5,475.00    | 7,020.00    | 1,351.04   | 4,392.31    | 5,743.35    | 337.76                              | 244.02   | 261.06    |
| Ocean      | ..                           | 3   | 3     | ..              | 690.00      | 690.00      | ..   | 629.53      | 629.53      | ..                                  | 209.84   | 209.84    |
| Passaic    | ..                           | ..  | ..    | ..              | ..          | ..          | ..   | ..          | ..          | ..                                  | ..       | ..        |
| Salem      | 2                            | 11  | 13    | 825.00          | 2,750.00    | 3,575.00    | 815.44   | 2,685.06    | 3,500.50    | 407.72                              | 244.10   | 269.27    |
| Somerset   | 13                           | 10  | 23    | 5,355.00        | 2,875.00    | 8,230.00    | 4,537.76   | 2,244.79    | 6,782.55    | 349.06                              | 224.48   | 294.89    |
| Sussex     | 1                            | 3   | 4     | 360.00          | 890.00      | 1,250.00    | 335.00   | 735.25      | 1,070.25    | 335.00                              | 245.08   | 267.56    |
| Union      | ..                           | ..  | ..    | ..              | ..          | ..          | ..   | ..          | ..          | ..                                  | ..       | ..        |
| Warren     | 7                            | ..  | 7     | 2,760.00        | ..          | 2,760.00    | 2,086.65   | ..          | 2,086.65    | 298.09                              | ..       | 298.09    |
| State      | 63                           | 127 | 190   | \$24,140.00     | \$35,860.00 | \$60,000.00 | \$21,127.08  | \$31,072.01 | \$52,199.09 | \$335.35                            | \$244.66 | \$274.73  |

RECORD BY COUNTIES OF THE NUMBER OF REACTORS TO THE TEST FOR BRCELLOSIS APPRAISED, THE AMOUNT OF SALVAGE RECEIVED AND  
THE STATE AND FEDERAL INDEMNITY PAID  
July 1, 1948 to June 30, 1949

| County     | Number of<br>Reactors Appraised |     |       | Amount of Salvage Received |             |             | Amount of State Indemnity<br>Paid |            |             | Amount of Federal Indemnity<br>Paid |            |            |
|------------|---------------------------------|-----|-------|----------------------------|-------------|-------------|-----------------------------------|------------|-------------|-------------------------------------|------------|------------|
|            | Reg.                            | Gr. | Total | Reg.                       | Gr.         | Total       | Reg.                              | Gr.        | Total       | Reg.                                | Gr.        | Total      |
| Atlantic   | ..                              | 3   | 3     | \$ ..                      | \$ 255.60   | \$ 255.60   | \$ ..                             | \$ 209.00  | \$ 209.00   | \$ ..                               | \$ 75.00   | \$ 75.00   |
| Bergen     | 1                               | 5   | 6     | 176.53                     | 786.64      | 963.17      | 148.47                            | 375.00     | 523.47      | 50.00                               | 125.00     | 175.00     |
| Burlington | 10                              | 7   | 17    | 1,187.35                   | 1,000.06    | 2,187.41    | 1,485.50                          | 522.68     | 2,008.18    | 500.00                              | 175.00     | 675.00     |
| Camden     | 5                               | 1   | 6     | 600.00                     | 75.00       | 675.00      | 745.00                            | 75.00      | 820.00      | 250.00                              | 25.00      | 275.00     |
| Cape May   | ..                              | 1   | 1     | ..                         | 101.20      | 101.20      | ..                                | 75.00      | 75.00       | ..                                  | 25.00      | 25.00      |
| Cumberland | 2                               | 13  | 15    | 374.93                     | 1,982.12    | 2,357.05    | 292.35                            | 961.02     | 1,253.37    | 100.00                              | 325.00     | 425.00     |
| Essex      | ..                              | ..  | ..    | ..                         | ..          | ..          | ..                                | ..         | ..          | ..                                  | ..         | ..         |
| Gloucester | ..                              | 1   | 1     | ..                         | 138.94      | 138.94      | ..                                | 75.00      | 75.00       | ..                                  | 25.00      | 25.00      |
| Hudson     | ..                              | ..  | ..    | ..                         | ..          | ..          | ..                                | ..         | ..          | ..                                  | ..         | ..         |
| Hunterdon  | 11                              | 26  | 37    | 1,529.46                   | 3,784.74    | 5,314.20    | 1,623.62                          | 1,934.09   | 3,557.71    | 550.00                              | 650.00     | 1,200.00   |
| Mercer     | 3                               | 20  | 23    | 466.86                     | 3,572.47    | 4,039.33    | 450.00                            | 1,305.06   | 1,755.06    | 150.00                              | 484.79     | 634.79     |
| Middlesex  | ..                              | ..  | ..    | ..                         | ..          | ..          | ..                                | ..         | ..          | ..                                  | ..         | ..         |
| Monmouth   | 4                               | 5   | 9     | 526.12                     | 804.08      | 1,330.20    | 595.00                            | 328.39     | 923.39      | 200.00                              | 114.19     | 314.19     |
| Morris     | 4                               | 18  | 22    | 551.04                     | 2,598.64    | 3,149.68    | 600.00                            | 1,343.67   | 1,943.67    | 200.00                              | 450.00     | 650.00     |
| Ocean      | ..                              | 3   | 3     | ..                         | 329.53      | 329.53      | ..                                | 225.00     | 225.00      | ..                                  | 75.00      | 75.00      |
| Passaic    | ..                              | ..  | ..    | ..                         | ..          | ..          | ..                                | ..         | ..          | ..                                  | ..         | ..         |
| Salem      | 2                               | 11  | 13    | 415.44                     | 1,585.18    | 2,000.62    | 300.00                            | 824.88     | 1,124.88    | 100.00                              | 275.00     | 375.00     |
| Somerset   | 13                              | 10  | 23    | 2,016.49                   | 1,272.87    | 3,289.36    | 1,880.85                          | 721.92     | 2,602.77    | 640.42                              | 250.00     | 890.42     |
| Sussex     | 1                               | 3   | 4     | 135.00                     | 435.25      | 570.25      | 150.00                            | 225.00     | 375.00      | 50.00                               | 75.00      | 125.00     |
| Union      | ..                              | ..  | ..    | ..                         | ..          | ..          | ..                                | ..         | ..          | ..                                  | ..         | ..         |
| Warren     | 7                               | ..  | 7     | 686.65                     | ..          | 686.65      | 1,050.00                          | ..         | 1,050.00    | 350.00                              | ..         | 350.00     |
| State      | 63                              | 127 | 190   | \$8,665.87                 | \$18,722.32 | \$27,388.19 | \$9,320.79                        | \$9,200.71 | \$18,521.50 | \$3,140.42                          | \$3,148.98 | \$6,289.40 |



## SUMMARY OF INDEMNITY PAYMENTS

The following summary indicates the amount of State indemnity paid for reactors resulting from the test for brucellosis from July 1, 1948 to June 30, 1949:

| Class of Cattle      | Number of Animals | Amount Paid |
|----------------------|-------------------|-------------|
| Registered Animals   | 63                | \$9,320.79  |
| Grade Animals        | 127               | 9,200.71    |
| Registered and Grade | 190               | \$18,521.50 |

## Average State Indemnity Paid Per Head:

|                      |          |
|----------------------|----------|
| Registered Animal    | \$147.95 |
| Grade Animal         | 72.45    |
| Registered and Grade | 97.48    |

The following summary indicates the amount of salvage received by owners for reactors resulting from the test for brucellosis from July 1, 1948 to June 30, 1949:

| Class of Cattle      | Number of Animals | Amount Paid |
|----------------------|-------------------|-------------|
| Registered Animals   | 63                | \$8,665.87  |
| Grade Animals        | 127               | 18,722.32   |
| Registered and Grade | 190               | \$27,388.19 |

## Average Salvage Received Per Head:

|                      |          |
|----------------------|----------|
| Registered Animal    | \$137.55 |
| Grade Animal         | 147.42   |
| Registered and Grade | 144.15   |

The following summary indicates the amount of federal indemnity paid for reactors resulting from the test for brucellosis from July 1, 1948 to June 30, 1949:

| Class of Cattle      | Number of Animals | Amount Paid |
|----------------------|-------------------|-------------|
| Registered Animals   | 63                | \$3,140.42  |
| Grade Animals        | 127               | 3,148.98    |
| Registered and Grade | 190               | \$6,289.40  |

## Average Federal Indemnity Paid Per Head:

|                      |         |
|----------------------|---------|
| Registered Animal    | \$49.85 |
| Grade Animal         | 24.80   |
| Registered and Grade | 33.10   |

The following summary shows the total amount received by owners of condemned animals from July 1, 1948 to June 30, 1949:

|   |             |
|---|-------------|
| Total amount received by owners for reactors<br>(Sum of salvage, federal and State indemnity) | \$52,199.09 |
| Average amount received per head  | \$274.73    |

RECORD BY COUNTIES OF THE NUMBER OF REACTORS TO THE TEST FOR BRUCELLOSIS APPRAISED, THEIR APPRAISED VALUE, THE TOTAL AND AVERAGE AMOUNTS RECEIVED BY OWNERS FROM SALVAGE, STATE AND FEDERAL INDEMNITY  
December 16, 1940 to June 30, 1949

| County     | Number of Reactors Appraised |       |       | Appraised Valuation |              |              | Total Amount Paid to Owners (Salvage, State and Federal Indemnity) |              |              | Average Amount Paid Owners Per Head |          |          |
|------------|------------------------------|-------|-------|---------------------|--------------|--------------|--|--------------|--------------|-------------------------------------|----------|----------|
|            | Reg.                         | Gr.   | Total | Reg.                | Gr.          | Total        | Reg.   | Gr.          | Total        | Reg.                                | Gr.      | Total    |
| Atlantic   | 1                            | 70    | 71    | \$185.00            | \$8,590.00   | \$8,775.00   | \$156.97   | \$7,837.86   | \$7,994.83   | \$156.97                            | \$111.97 | \$112.60 |
| Bergen     | 5                            | 11    | 16    | 1,255.00            | 2,175.00     | 3,430.00     | 1,149.90   | 2,037.41     | 3,187.31     | 229.98                              | 185.22   | 199.21   |
| Burlington | 64                           | 97    | 161   | 14,445.00           | 15,490.00    | 29,935.00    | 12,689.40  | 13,891.59    | 26,580.99    | 198.27                              | 143.21   | 165.10   |
| Camden     | 10                           | 13    | 23    | 3,080.00            | 1,815.00     | 4,895.00     | 2,795.00   | 1,650.22     | 4,445.22     | 279.50                              | 126.94   | 193.27   |
| Cape May   | ..                           | 63    | 63    | ..                  | 7,295.00     | 7,295.00     | ..   | 6,618.39     | 6,618.39     | ..                                  | 105.05   | 105.05   |
| Cumberland | 49                           | 163   | 212   | 13,275.00           | 27,585.00    | 40,860.00    | 12,715.40  | 26,066.96    | 38,782.36    | 259.50                              | 159.92   | 182.94   |
| Essex      | ..                           | 15    | 15    | ..                  | 1,400.00     | 1,400.00     | ..   | 1,305.92     | 1,305.92     | ..                                  | 87.06    | 87.06    |
| Gloucester | 13                           | 62    | 75    | 2,945.00            | 9,595.00     | 12,540.00    | 2,577.58   | 8,922.25     | 11,499.83    | 198.28                              | 143.91   | 153.33   |
| Hudson     | ..                           | ..    | ..    | ..                  | ..           | ..           | ..   | ..           | ..           | ..                                  | ..       | ..       |
| Hunterdon  | 111                          | 132   | 243   | 30,190.00           | 29,690.00    | 59,880.00    | 25,051.23  | 24,760.54    | 49,811.77    | 225.69                              | 187.58   | 204.99   |
| Mercer     | 85                           | 325   | 410   | 20,975.00           | 55,125.00    | 76,100.00    | 17,625.45  | 50,044.03    | 67,669.48    | 207.36                              | 153.98   | 165.05   |
| Middlesex  | 86                           | 597   | 683   | 14,245.00           | 77,860.00    | 92,105.00    | 12,788.69  | 70,781.55    | 83,570.24    | 148.71                              | 118.56   | 122.36   |
| Monmouth   | 55                           | 78    | 133   | 11,740.00           | 10,850.00    | 22,590.00    | 10,560.50  | 9,874.69     | 20,435.19    | 192.01                              | 126.60   | 153.65   |
| Morris     | 146                          | 289   | 435   | 35,850.00           | 49,172.00    | 85,022.00    | 29,991.97  | 41,603.23    | 71,595.20    | 205.42                              | 143.96   | 164.59   |
| Ocean      | ..                           | 8     | 8     | ..                  | 1,610.00     | 1,610.00     | ..   | 1,510.03     | 1,510.03     | ..                                  | 188.75   | 188.75   |
| Passaic    | 6                            | 48    | 54    | 1,460.00            | 7,515.00     | 8,975.00     | 1,357.82   | 6,510.65     | 7,868.47     | 226.30                              | 135.64   | 145.71   |
| Salem      | 56                           | 227   | 283   | 13,650.00           | 29,785.00    | 43,435.00    | 12,479.37  | 27,690.77    | 40,170.14    | 222.85                              | 121.99   | 141.94   |
| Somerset   | 139                          | 229   | 368   | 34,680.00           | 34,455.00    | 69,135.00    | 29,129.24  | 29,459.64    | 58,588.88    | 209.56                              | 128.64   | 159.21   |
| Sussex     | 62                           | 28    | 90    | 12,530.00           | 5,325.00     | 17,855.00    | 10,759.89  | 4,488.38     | 15,248.27    | 173.55                              | 160.30   | 169.43   |
| Union      | ..                           | 8     | 8     | ..                  | 1,005.00     | 1,005.00     | ..   | 920.15       | 920.15       | ..                                  | 115.02   | 115.02   |
| Warren     | 67                           | 87    | 154   | 14,225.00           | 12,650.00    | 26,875.00    | 12,113.70  | 11,243.17    | 23,356.87    | 180.80                              | 129.23   | 151.67   |
| State      | 955                          | 2,550 | 3,505 | \$224,730.00        | \$388,987.00 | \$613,717.00 | \$193,942.11   | \$347,217.43 | \$541,159.54 | \$203.08                            | \$136.16 | \$154.40 |

RECORD BY COUNTIES OF THE NUMBER OF REACTORS TO THE TEST FOR BRUCELLOSIS APPRAISED, THE AMOUNT OF SALVAGE RECEIVED AND  
THE STATE AND FEDERAL INDEMNITY PAID  
December 16, 1940 to June 30, 1949

| County     | Number of Reactors Appraised |       |       | Amount of Salvage Received |              |              | Amount of State Indemnity Paid |              |              | Amount of Federal Indemnity Paid |             |             |
|------------|------------------------------|-------|-------|----------------------------|--------------|--------------|--------------------------------|--------------|--------------|----------------------------------|-------------|-------------|
|            | Reg.                         | Gr.   | Total | Reg.                       | Gr.          | Total        | Reg.                           | Gr.          | Total        | Reg.                             | Gr.         | Total       |
| Atlantic   | 1                            | 70    | 71    | \$28.95                    | \$3,978.61   | \$4,007.56   | \$78.02                        | \$2,454.17   | \$2,532.19   | \$50.00                          | \$1,405.08  | \$1,455.08  |
| Bergen     | 5                            | 11    | 16    | 441.48                     | 1,169.58     | 1,611.06     | 471.49                         | 624.62       | 1,096.11     | 236.93                           | 243.21      | 480.14      |
| Burlington | 64                           | 97    | 161   | 4,784.76                   | 7,329.36     | 12,114.12    | 5,325.80                       | 4,415.51     | 9,741.31     | 2,578.84                         | 2,146.72    | 4,725.56    |
| Camden     | 10                           | 13    | 23    | 948.00                     | 850.75       | 1,798.75     | 1,347.00                       | 499.31       | 1,846.31     | 500.00                           | 300.16      | 800.16      |
| Cape May   | ..                           | 63    | 63    | ..                         | 3,490.81     | 3,490.81     | ..                             | 1,920.17     | 1,920.17     | ..                               | 1,207.41    | 1,207.41    |
| Cumberland | 49                           | 163   | 212   | 5,470.40                   | 15,099.51    | 20,569.91    | 5,129.43                       | 7,527.42     | 12,656.85    | 2,115.57                         | 3,440.03    | 5,555.60    |
| Essex      | ..                           | 15    | 15    | ..                         | 846.86       | 846.86       | ..                             | 276.55       | 276.55       | ..                               | 182.51      | 182.51      |
| Gloucester | 13                           | 62    | 75    | 1,179.99                   | 5,073.85     | 6,253.84     | 929.90                         | 2,609.10     | 3,539.00     | 467.69                           | 1,239.30    | 1,706.99    |
| Hudson     | ..                           | ..    | ..    | ..                         | ..           | ..           | ..                             | ..           | ..           | ..                               | ..          | ..          |
| Hunterdon  | 111                          | 132   | 243   | 9,217.53                   | 14,079.44    | 23,296.97    | 11,084.90                      | 7,498.18     | 18,583.08    | 4,748.80                         | 3,182.92    | 7,931.72    |
| Mercer     | 85                           | 325   | 410   | 6,838.60                   | 29,391.80    | 36,230.40    | 7,338.18                       | 13,983.14    | 21,321.32    | 3,448.67                         | 6,669.09    | 10,117.76   |
| Middlesex  | 86                           | 597   | 683   | 5,413.59                   | 39,704.37    | 45,117.96    | 4,458.20                       | 19,160.48    | 23,618.68    | 2,916.90                         | 11,916.70   | 14,833.60   |
| Monmouth   | 55                           | 78    | 133   | 4,482.12                   | 5,523.38     | 10,005.50    | 3,929.50                       | 2,771.22     | 6,700.72     | 2,148.88                         | 1,580.09    | 3,728.97    |
| Morris     | 146                          | 289   | 435   | 9,845.21                   | 20,185.56    | 30,030.77    | 13,626.93                      | 14,831.16    | 28,458.09    | 6,519.83                         | 6,586.51    | 13,106.34   |
| Ocean      | ..                           | 8     | 8     | ..                         | 824.74       | 824.74       | ..                             | 498.70       | 498.70       | ..                               | 186.59      | 186.59      |
| Passaic    | 6                            | 48    | 54    | 511.86                     | 3,376.80     | 3,888.66     | 565.95                         | 2,079.02     | 2,644.97     | 280.01                           | 1,054.83    | 1,334.84    |
| Salem      | 56                           | 227   | 283   | 5,597.62                   | 16,947.06    | 22,544.68    | 4,652.92                       | 6,788.99     | 11,441.91    | 2,228.83                         | 3,954.72    | 6,183.55    |
| Somerset   | 139                          | 229   | 368   | 10,752.63                  | 15,276.87    | 26,029.50    | 12,441.46                      | 9,385.86     | 21,827.32    | 5,935.15                         | 4,796.91    | 10,732.06   |
| Sussex     | 62                           | 28    | 90    | 3,854.11                   | 2,298.34     | 6,152.45     | 4,473.96                       | 1,544.10     | 6,018.06     | 2,431.82                         | 645.94      | 3,077.76    |
| Union      | ..                           | 8     | 8     | ..                         | 506.14       | 506.14       | ..                             | 270.41       | 270.41       | ..                               | 143.60      | 143.60      |
| Warren     | 67                           | 87    | 154   | 4,405.00                   | 5,958.51     | 10,363.51    | 4,923.24                       | 3,444.01     | 8,367.25     | 2,785.46                         | 1,840.65    | 4,626.11    |
| State      | 955                          | 2,550 | 3,505 | \$73,771.85                | \$191,912.34 | \$265,684.19 | \$80,776.88                    | \$102,582.12 | \$183,359.00 | \$39,393.38                      | \$52,722.97 | \$92,116.35 |

## THIRTY-FOURTH ANNUAL REPORT

67

The following summary indicates the amount of State indemnity paid for reactors resulting from the test for brucellosis from December 16, 1940 to June 30, 1949:

| Class of Cattle      | Number of Animals | Amount Paid  |
|----------------------|-------------------|--------------|
| Registered Animals   | 955               | \$80,776.88  |
| Grade Animals        | 2,550             | 102,582.12   |
| Registered and Grade | 3,505             | \$183,359.00 |

## Average State Indemnity Paid Per Head:

|                      |         |
|----------------------|---------|
| Registered Animal    | \$84.58 |
| Grade Animal         | 40.23   |
| Registered and Grade | 52.31   |

The following summary indicates the amount of salvage received by owners for reactors resulting from the test for brucellosis from December 16, 1940 to June 30, 1949:

| Class of Cattle      | Number of Animals | Amount Paid  |
|----------------------|-------------------|--------------|
| Registered Animals   | 955               | \$73,771.85  |
| Grade Animals        | 2,550             | 191,912.34   |
| Registered and Grade | 3,505             | \$265,684.19 |

## Average Salvage Received Per Head:

|                      |         |
|----------------------|---------|
| Registered Animal    | \$77.25 |
| Grade Animal         | 75.26   |
| Registered and Grade | 75.80   |

The following summary indicates the amount of federal indemnity paid for reactors resulting from the test for brucellosis from December 16, 1940 to June 30, 1949:

| Class of Cattle      | Number of Animals | Amount Paid |
|----------------------|-------------------|-------------|
| Registered Animals   | 949*              | \$39,393.38 |
| Grade Animals        | 2,556             | 52,722.97   |
| Registered and Grade | 3,505             | \$92,116.35 |

## Average Federal Indemnity Paid Per Head:

|                      |         |
|----------------------|---------|
| Registered Animal    | \$41.51 |
| Grade Animal         | 20.63   |
| Registered and Grade | 26.28   |

The following summary shows the total amount received by owners of condemned animals from December 16, 1940 to June 30, 1949:

|   |              |
|---|--------------|
| Total amount received by owners for reactors  |              |
| (Sum of salvage, federal and State indemnity) | \$541,159.54 |
| Average amount received per head              | \$154.40     |

\*One claim paid during the fiscal year 1945-1946 involving six animals was paid on a registered cow basis by the State and on a grade basis by the Federal Government.

## CALFHOOD VACCINATIONS REPORTED

July 1, 1948 to June 30, 1949

| County      | PLAN II |        | PLAN IIIA |        |         |        | PLAN IIIB |        | PLAN IV |        | Totals |        | Heifers | Adults |
|-------------|---------|--------|-----------|--------|---------|--------|-----------|--------|---------|--------|--------|--------|---------|--------|
|             | Lots    | Calves | Lots      | Calves | Heifers | Adults | Lots      | Calves | Lots    | Calves | Lots   | Calves |         |        |
| Atlantic    | 3       | 3      | ..        | ..     | ..      | ..     | ..        | ..     | ..      | ..     | 3      | 3      | ..      | ..     |
| Bergen      | 4       | 55     | ..        | ..     | 6       | ..     | 1         | 6      | 2       | 8      | 7      | 69     | 6       | ..     |
| Burlingtonx | 42      | 194    | 17        | 58     | 3       | 34     | 46        | 190    | 398     | 1,764  | 503    | 2,206  | 3       | 34     |
| Camden      | 5       | 12     | 4         | 16     | ..      | ..     | 1         | 5      | 14      | 61     | 24     | 94     | ..      | ..     |
| Cape May    | 1       | 1      | ..        | ..     | ..      | ..     | ..        | ..     | ..      | ..     | 1      | 1      | ..      | ..     |
| Cumberland  | 43      | 148    | 5         | 18     | ..      | ..     | 28        | 109    | 45      | 176    | 121    | 451    | ..      | ..     |
| Essex       | 1       | 1      | 12        | 75     | 11      | ..     | ..        | ..     | ..      | ..     | 13     | 76     | 11      | ..     |
| Gloucester  | 10      | 25     | 4         | 16     | ..      | ..     | 21        | 65     | 80      | 247    | 115    | 353    | ..      | ..     |
| Hudson      | ..      | ..     | ..        | ..     | ..      | ..     | ..        | ..     | ..      | ..     | ..     | ..     | ..      | ..     |
| Hunterdon   | 142     | 464    | 36        | 165    | 5       | 96     | 97        | 310    | 745     | 2,066  | 1,020  | 3,005  | 5       | 96     |
| Mercer      | 60      | 258    | 12        | 48     | 3       | 37     | 32        | 158    | 135     | 381    | 239    | 845    | 3       | 37     |
| Middlesex   | 6       | 16     | 4         | 140    | ..      | ..     | 25        | 167    | 58      | 198    | 93     | 521    | ..      | ..     |
| Monmouth    | 88      | 360    | 25        | 119    | 39      | 131    | 14        | 73     | 192     | 584    | 319    | 1,136  | 39      | 131    |
| Morris      | 27      | 110    | 27        | 219    | 2       | 93     | 41        | 207    | 68      | 222    | 163    | 758    | 2       | 93     |
| Ocean       | 5       | 8      | ..        | ..     | ..      | ..     | 18        | 66     | 7       | 14     | 30     | 88     | ..      | ..     |
| Passaic     | ..      | ..     | ..        | ..     | ..      | ..     | 2         | 5      | 6       | 14     | 8      | 19     | ..      | ..     |
| Salem       | 29      | 122    | 6         | 32     | ..      | ..     | 30        | 109    | 234     | 747    | 299    | 1,010  | ..      | ..     |
| Somerset    | 103     | 401    | 27        | 86     | ..      | 27     | 40        | 150    | 264     | 712    | 434    | 1,349  | ..      | 27     |
| Sussex      | 28      | 102    | 40        | 147    | 30      | ..     | 60        | 435    | 507     | 1,684  | 635    | 2,368  | 30      | ..     |
| Union       | 4       | 6      | 2         | 1      | 1       | ..     | ..        | ..     | 9       | 16     | 15     | 23     | 1       | ..     |
| Warren      | 18      | 46     | 18        | 59     | 5       | 17     | 63        | 249    | 373     | 1,454  | 472    | 1,808  | 5       | 17     |
| State       | 619     | 2,332  | 239       | 1,199  | 105     | 435    | 519       | 2,304  | 3,137   | 10,348 | 4,514  | 16,183 | 105     | 435    |

RECORD OF THE NUMBER OF HERDS AND ANIMALS IN THE HERDS UNDER VARIOUS BRUCELLOSIS CONTROL PLANS INCORPORATING  
THE USE OF CALFHOOD VACCINATION TO JUNE 30, 1949

| County     | PLAN II |        | PLAN IIIA |        | PLAN IIIB |        | PLAN IV |        | Totals |         |
|------------|---------|--------|-----------|--------|-----------|--------|---------|--------|--------|---------|
|            | Herds   | Cattle | Herds     | Cattle | Herds     | Cattle | Herds   | Cattle | Herds  | Cattle  |
| Atlantic   | 3       | 7      | ..        | ..     | ..        | ..     | ..      | ..     | 3      | 7       |
| Bergen     | 2       | 192    | ..        | ..     | ..        | ..     | 1       | 91     | 3      | 283     |
| Burlington | 25      | 730    | 10        | 607    | 23        | 1,206  | 353     | 12,548 | 411    | 15,091  |
| Camden     | 5       | 97     | 3         | 75     | 1         | 43     | 11      | 195    | 20     | 410     |
| Cape May   | 1       | 1      | ..        | ..     | ..        | ..     | ..      | ..     | 1      | 1       |
| Cumberland | 42      | 906    | 4         | 181    | 21        | 781    | 38      | 778    | 105    | 2,646   |
| Essex      | ..      | ..     | 2         | 618    | ..        | ..     | 2       | 25     | 4      | 643     |
| Gloucester | 17      | 230    | 3         | 185    | 12        | 511    | 58      | 1,126  | 90     | 2,052   |
| Hudson     | ..      | ..     | ..        | ..     | ..        | ..     | ..      | ..     | ..     | ..      |
| Hunterdon  | 123     | 3,090  | 15        | 993    | 95        | 2,874  | 693     | 13,445 | 926    | 20,402  |
| Mercer     | 34      | 1,855  | 5         | 159    | 16        | 900    | 154     | 3,434  | 209    | 6,348   |
| Middlesex  | 9       | 79     | 2         | 761    | 13        | 1,489  | 97      | 1,270  | 121    | 3,599   |
| Monmouth   | 54      | 1,328  | 14        | 841    | 6         | 216    | 162     | 2,778  | 236    | 5,163   |
| Morris     | 26      | 674    | 11        | 1,254  | 19        | 1,251  | 76      | 1,929  | 132    | 5,108   |
| Ocean      | 13      | 60     | 1         | 35     | 15        | 536    | 12      | 70     | 41     | 701     |
| Passaic    | ..      | ..     | ..        | ..     | ..        | ..     | 5       | 141    | 5      | 141     |
| Salem      | 18      | 379    | 3         | 168    | 20        | 760    | 202     | 5,795  | 243    | 7,102   |
| Somerset   | 68      | 2,030  | 14        | 634    | 24        | 1,109  | 261     | 4,211  | 367    | 7,984   |
| Sussex     | 19      | 752    | 27        | 1,393  | 34        | 2,458  | 451     | 16,622 | 531    | 21,225  |
| Union      | 5       | 87     | 1         | 29     | 2         | 8      | 6       | 34     | 14     | 158     |
| Warren     | 20      | 566    | 9         | 384    | 53        | 2,241  | 385     | 11,386 | 467    | 14,577  |
| State      | 484     | 13,063 | 124       | 8,317  | 354       | 16,383 | 2,967   | 75,878 | 3,929  | 113,641 |



## GOATS

Following is a summary by counties of the number of herds and goats under supervision and those fully accredited as free of both tuberculosis and brucellosis as of June 30, 1949, and the number of herds and goats tested both for tuberculosis and brucellosis during the fiscal year July 1, 1948 to June 30, 1949:

## TUBERCULOSIS

| County     | Under Supervision |       | Fully Accredited |       | Number of Goats Tested |       |
|------------|-------------------|-------|------------------|-------|------------------------|-------|
|            | Herds             | Goats | Herds            | Goats | Herds                  | Goats |
| Atlantic   | 3                 | 40    | 3                | 35    | 4                      | 41    |
| Bergen     | 12                | 72    | 11               | 68    | 12                     | 103   |
| Burlington | 9                 | 49    | 4                | 21    | 9                      | 48    |
| Camden     | 3                 | 52    | 2                | 48    | 4                      | 103   |
| Cape May   | 1                 | 24    | ..               | ..    | 1                      | 24    |
| Cumberland | 5                 | 50    | 4                | 49    | 4                      | 50    |
| Essex      | 5                 | 46    | 3                | 38    | 5                      | 86    |
| Gloucester | 14                | 47    | 6                | 30    | 4                      | 40    |
| Hudson     | ..                | ..    | ..               | ..    | ..                     | ..    |
| Hunterdon  | 21                | 209   | 14               | 194   | 20                     | 90    |
| Mercer     | 4                 | 19    | 1                | 12    | 4                      | 170   |
| Middlesex  | 8                 | 31    | 6                | 24    | 7                      | 33    |
| Monmouth   | 15                | 93    | 10               | 66    | 13                     | 86    |
| Morris     | 36                | 197   | 23               | 167   | 39                     | 305   |
| Ocean      | 3                 | 5     | 1                | 2     | 2                      | 3     |
| Passaic    | 16                | 135   | 11               | 126   | 15                     | 146   |
| Salem      | 3                 | 8     | 3                | 8     | 3                      | 8     |
| Somerset   | 14                | 432   | 9                | 402   | 14                     | 678   |
| Sussex     | 2                 | 19    | 2                | 19    | 2                      | 19    |
| Union      | 2                 | 4     | 1                | 2     | 2                      | 4     |
| Warren     | 3                 | 53    | 3                | 53    | 3                      | 54    |
| State      | 179               | 1,585 | 117              | 1,364 | 167                    | 2,091 |

## BRUCELLOSIS

| County     | Under Supervision |       | Fully Accredited |       | Number of Goats Tested |       |
|------------|-------------------|-------|------------------|-------|------------------------|-------|
|            | Herds             | Goats | Herds            | Goats | Herds                  | Goats |
| Atlantic   | 4                 | 41    | 2                | 10    | 5                      | 44    |
| Bergen     | 12                | 50    | 8                | 39    | 6                      | 42    |
| Burlington | 12                | 72    | 4                | 12    | 11                     | 78    |
| Camden     | 3                 | 49    | 1                | 47    | 2                      | 2     |
| Cape May   | 1                 | 24    | ..               | ..    | 1                      | 24    |
| Cumberland | 2                 | 32    | 1                | 31    | 3                      | 33    |
| Essex      | 7                 | 74    | 2                | 36    | 6                      | 77    |
| Gloucester | 6                 | 22    | 3                | 14    | 4                      | 16    |
| Hudson     | ..                | ..    | ..               | ..    | ..                     | ..    |
| Hunterdon  | 17                | 204   | 8                | 189   | 11                     | 37    |
| Mercer     | 5                 | 19    | 2                | 6     | 5                      | 163   |
| Middlesex  | 6                 | 19    | 1                | 2     | 3                      | 12    |
| Monmouth   | 15                | 79    | 11               | 59    | 15                     | 79    |
| Morris     | 32                | 206   | 19               | 165   | 28                     | 238   |
| Ocean      | 2                 | 4     | ..               | ..    | 1                      | 1     |
| Passaic    | 12                | 109   | 8                | 97    | 11                     | 101   |
| Salem      | 3                 | 5     | 2                | 3     | 3                      | 5     |
| Somerset   | 21                | 414   | 10               | 363   | 18                     | 704   |
| Sussex     | 3                 | 9     | 1                | 6     | 3                      | 19    |
| Union      | 2                 | 7     | ..               | ..    | 2                      | 7     |
| Warren     | 8                 | 66    | 3                | 48    | 8                      | 46    |
| State      | 173               | 1,505 | 86               | 1,127 | 146                    | 1,728 |

## DIVISION LABORATORY REPORT

Following is a report of the work completed in the laboratory of the Division for the year ending June 30, 1949:

## BLOOD TESTS MADE FOR BRUCELLOSIS ON INSHIPPED ANIMALS

|                          |         |
|--------------------------|---------|
| Samples                  | 19,480* |
| Samples broken (not set) | 4       |
| Tests set                | 19,476* |
| Tests read               | 19,476* |
| Samples positive         | 125     |
| Samples negative         | 19,351* |

## BLOOD TESTS MADE FOR BRUCELLOSIS ON ANIMALS IN HERDS UNDER SUPERVISION

|                             |        |
|-----------------------------|--------|
| Samples received            | 80,673 |
| Samples broken (not set)    | 46     |
| Insufficient sera (not set) | 25     |
| Tests set                   | 80,602 |
| Tests read                  | 81,628 |
| Samples positive            | 2,658  |
| Samples highly suspicious   | 1,084  |
| Samples slightly suspicious | 3,580  |
| Samples negative            | 74,272 |
| Samples hemolyzed           | 34     |

## BLOOD TESTS MADE FOR BRUCELLOSIS OF VACCINATED CATTLE

|                             |       |
|-----------------------------|-------|
| Samples received            | 5,865 |
| Samples broken (not set)    | 1     |
| Insufficient sera (not set) | 5     |
| Tests set                   | 5,859 |
| Tests read                  | 5,863 |
| Samples positive            | 357   |
| Samples highly suspicious   | 201   |
| Samples slightly suspicious | 609   |
| Samples negative            | 4,696 |

## BLOOD TESTS MADE OF POULTRY FOR PULLORUM DISEASE

|                   |         |
|-------------------|---------|
| Samples received  | 133,769 |
| Tests set         | 133,769 |
| Tests read        | 133,769 |
| Samples positive  | 838     |
| Samples negative  | 132,829 |
| Samples hemolyzed | 102     |

## HOTIS TESTS MADE FOR MASTITIS ON MILK SAMPLES OF ANIMALS

|                                     |        |
|-------------------------------------|--------|
| Number animals tested               | 6,072  |
| Number quarter samples tested       | 23,065 |
| Streptococci infected quarters      | 2,800  |
| Staphylococci infected quarters     | 180    |
| Negative quarters                   | 20,072 |
| Quarters disclosing other organisms | 15     |

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\* This figure includes titre carrying calfhooed vaccinates eligible for entry.

## TESTS MADE FOR BRUCELLOSIS OF MILK WHEY OF ANIMALS

|                   |   |
|-------------------|---|
| Number of animals | 1 |
| Number of samples | 4 |
| Negative          | 4 |

## RING TEST FOR BRUCELLOSIS ON MILK SAMPLES OF ANIMALS

|                          |       |
|--------------------------|-------|
| Number of samples tested | 1,024 |
| Samples positive         | 251   |
| Samples suspicious       | 152   |
| Samples negative         | 621   |

# BACTERIOLOGICAL, MICROSCOPIC AND POST MORTEM EXAMINATIONS

| Animal | Number of<br>Specimens<br>Received | Specimen Received   | Condition Suspected | Laboratory<br>Findings                      |
|--------|------------------------------------|---------------------|---------------------|---|
| Avian  | 162                                | Adult Birds         | Pullorum disease    | Negative                                    |
| Avian  | 25                                 | Adult Birds         | Pullorum disease    | Confirmed                                   |
| Avian  | 5                                  | Turkeys             | Pullorum disease    | Negative                                    |
| Avian  | 3                                  | Turkeys             | Pullorum disease    | Confirmed                                   |
| Avian  | 4                                  | Chicks              | Pullorum disease    | Negative                                    |
| Avian  | 5                                  | Chicks              | Pullorum disease    | Confirmed                                   |
| Avian  | 5                                  | Poults              | Unknown             | Undetermined                                |
| Avian  | 5                                  | Turkeys             | Unknown             | Undetermined                                |
| Avian  | 20                                 | Birds               | Unknown             | Undetermined                                |
| Avian  | 32                                 | Chicks              | Unknown             | Undetermined                                |
| Avian  | 1                                  | Parrot              | Unknown             | Decomposition prevented examination         |
| Avian  | 1                                  | Bird                | Unknown             | Lymphocytoma associated with fowl paralysis |
| Avian  | 1                                  | Turkey              | Unknown             | Blackhead confirmed                         |
| Avian  | 21                                 | Birds               | Unknown             | Blackhead confirmed                         |
| Avian  | 5                                  | Birds               | Unknown             | Cecal leucosis                              |
| Avian  | 4                                  | Birds               | Unknown             | Leukemia                                    |
| Avian  | 1                                  | Hen                 | Unknown             | Cystic ovary                                |
| Avian  | 9                                  | Birds               | Unknown             | Fowl typhoid                                |
| Avian  | 1                                  | Bird                | Unknown             | Chicken Pox                                 |
| Avian  | 1                                  | Bird                | Unknown             | Ruptured liver                              |
| Avian  | 10                                 | Chicks              | Unknown             | Stunned Chicks                              |
| Avian  | 5                                  | Birds               | Unknown             | Heavily infected with Cecal Coccidiosis     |
| Avian  | 13                                 | Chicks              | Unknown             | Cecal Coccidiosis                           |
| Avian  | 3                                  | Pheasants           | Unknown             | Coccidiosis                                 |
| Avian  | 4                                  | Birds               | Unknown             | Round worms and cecal worms                 |
| Avian  | 2                                  | Chicks              | Unknown             | Paratyphoid infection                       |
| Avian  | 1                                  | Liver from pheasant | Avian Tuberculosis  | Negative                                    |
| Avian  | 2                                  | Birds               | Roup                | Negative                                    |
| Bovine | 2                                  | Vaginal discharge   | Trichomoniasis      | Negative                                    |
| Bovine | 32                                 | Semen               | Trichomoniasis      | Negative                                    |
| Bovine | 7                                  | Feti                | Trichomoniasis      | Negative                                    |
| Bovine | 1                                  | Placenta            | Trichomoniasis      | Negative                                    |

| Animal | Number of Specimens Received | Specimen Received                                     | Condition Suspected | Laboratory Findings                   |
|--------|------------------------------|---|---------------------|---------------------------------------|
| Bovine |                              | Liver and spleen                                      | Anthrax             | Confirmed                             |
| Bovine |                              | Heart, liver, spleen, kidney, intestines              | Anthrax             | Negative                              |
| Bovine |                              | Spleen, heart and abomasum                            | Anthrax             | Confirmed                             |
| Bovine | 4                            | Blood samples   | Brucella abortus    | Negative                              |
| Bovine | 16                           | Feti  | Brucella abortus    | Negative                              |
| Bovine | 2                            | Feti  | Brucella abortus    | Confirmed                             |
| Bovine | 1                            | Sample of "Slime Clarifier"                           | Brucella abortus    | Negative                              |
| Bovine | 31                           | Milk samples  | Brucella abortus    | Negative                              |
| Bovine | 2                            | Milk samples  | Brucella abortus    | Confirmed                             |
| Bovine | 31                           | Semen   | Brucella abortus    | Negative                              |
| Bovine | 1                            | Placenta  | Brucella abortus    | Negative                              |
| Bovine | 1                            | Blood sample and muscle tissue                        | Blackleg            | Confirmed                             |
| Bovine | 1                            | Muscle tissue   | Blackleg            | Confirmed                             |
| Bovine | 1                            | Subcutaneous fluid                                    | Blackleg            | Confirmed                             |
| Bovine | 2                            | Blood samples   | Vibrio fetus        | Confirmed                             |
| Bovine | 22                           | Blood samples   | Vibrio fetus        | Negative                              |
| Bovine | 1                            | Fetus   | Vibrio fetus        | Confirmed                             |
| Bovine | 15                           | Feti  | Vibrio fetus        | Negative                              |
| Bovine | 1                            | Vaginal discharge                                     | Vibrio fetus        | Negative                              |
| Bovine | 2                            | Placenta  | Vibrio fetus        | Negative                              |
| Bovine | 31                           | Semen   | Vibrio fetus        | Negative                              |
| Bovine | 2                            | Skin lesions and lymph glands from 2 cows             | Tuberculosis        | Acid-fast organisms recovered         |
| Bovine | 2                            | Lesions from lungs, lymph gland and renal lymph gland | Tuberculosis        | Acid-fast organisms recovered         |
| Bovine | 1                            | Lung  | Tuberculosis        | Corynebacterium pyogenes was isolated |
| Bovine | 1                            | Lung  | Tuberculosis        | Negative                              |
| Bovine | 1                            | Fetus   | Pathogenic bacteria | Negative                              |
| Bovine | 4                            | Milk samples  | Pathogenic bacteria | Blastomyces isolated from one quarter |

| Animal  | Number of Specimens Received | Specimen Received                               | Condition Suspected            | Laboratory Findings   |
|---------|------------------------------|---|--------------------------------|---|
| Bovine  | 1                            | Milk sample                                     | Pathogenic bacteria            | E. coli recovered   |
| Bovine  | 1                            | Placenta and fetus                              | Pathogenic bacteria            | E. coli recovered   |
| Ovine   | 1                            | Liver from lamb                                 | Pathogenic bacteria            | Negative  |
| Bovine  | 1                            | Uterine discharge lung, liver, heart and kidney | Pathogenic bacteria            | Negative  |
| Bovine  | 1                            | Fetus   | Pathogenic bacteria            | Negative  |
| Bovine  | 1                            | Vaginal discharge                               | Pathogenic bacteria            | Negative  |
| Bovine  | 1                            | Heifer  |                                | Negative  |
| Bovine  | 1                            | Mandible from cow                               | Actinomycosis                  | Confirmed   |
| Bovine  | 2                            | Discharge from lesion on jaw                    | Actinomycosis                  | Negative  |
| Bovine  | 2                            | Lungs   | Actinomycosis                  | Corynebacterium pyogenes recovered  |
| Bovine  | 1                            | Skin scrapings                                  | Parasites and ova              | Negative  |
| Ovine   | 2                            | Feces   | Parasites and ova              | Moderate infection of coccidiosis, nodular and whip worms. Heavy infection of stomach worms |
| Bovine  | 1                            | Blood sample                                    | Piroplasmosis and Anaplasmosis | Negative  |
|         |                              | Unknown culture for typing                      |                                | Organism of salmonella group  |
| Cavy    | 1                            | Rabbit  | Unknown                        | Death due to rupture of stomach   |
| Cannine | 1                            | Blood sample                                    | Micro-filaria                  | Negative  |
| Cannine | 1                            | Dog   | Unknown                        | Uremic poisoning  |
| Equine  | 44                           | Vaginal swabs                                   | Pathogenic bacteria            | Negative  |
| Equine  | 6                            | Vaginal swabs                                   | Pathogenic bacteria            | Hemolytic streptococci recovered  |
| Equine  | 2                            | Urines  | Pregnancy                      | Negative  |
| Equine  | 1                            | Vaginal discharge                               | Pathogenic bacteria            | Staphylococci albus recovered   |
| Equine  | 1                            | Spleen  | Cause of death                 | E. coli recovered from cultures   |
| Porcine | 1                            | Pig   | Hog Cholera                    | Tentative diagnosis of Hog Cholera  |
| Porcine | 1                            | Pig   | Hog Cholera                    | Confirmed   |
| Porcine | 1                            | Large and small intestines                      | Hog Cholera                    | Negative  |
| Porcine | 2                            | Pigs  | Unknown                        | Hemophilus suisseptica Pasturella suisseptica   |
| Porcine | 1                            | Pig   | Unknown                        | Inflammation of small intestines and cecum.   |
| Porcine | 1                            | Pig   | Unknown                        | Ascarid larvae in lungs   |
| Porcine | 1                            | Pig   | Unknown                        | Anemia  |
| Porcine | 1                            | Pig   | Unknown                        | No pathogenic bacteria recovered  |
| Porcine | 2                            | Pigs  | Unknown                        | Ascariasis and Pneumonia  |
| Porcine | 2                            | Pigs  | Unknown                        | E. coli recovered   |



# *Report of the Division of Markets*

WARREN W. OLEY, *Director*

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The first part of the past fiscal year contained certain features in many interests quite different from the first six months of the year 1949. The year 1948 was by far the busiest and in most lines more active than any in the country's peacetime history. More people worked, industries turned out more goods, wages were highest, and farmers produced larger crops than ever before. Early in 1948 most agricultural economists predicted lower prices and a lower gross income for farmers. These predictions failed to materialize in time to affect the overall prosperity of agriculture during the first half of the fiscal year.

Reductions in price of a few farm commodities started in the late summer and early fall of 1948, due to the very large crops harvested. Fortunately for New Jersey producers, prices for those farm crops of most importance to people in the State stayed high.

A definite trend downward appeared in the new calendar year. More people were unemployed, there was less demand for many manufactured articles, and people have become more conscious of costs and expenditures. In the marketing field, the staff of the Division has seen in the last few months a definite decline of prices in almost all food products from New Jersey farms. Whether it be in agriculture or in manufactured articles, it appears that buyers' markets and the competition that goes with them have returned. In agriculture, as in other industry, such a change may be very hard on weaker elements in production. Some poorly financed farmers may be severely curtailed, but it is a situation that sooner or later is bound to come and should promote greater efficiency in all operations.

Agriculture has been supported by government minimum price programs based on a parity concept. These have covered basic and Steagall amendment commodities. Some of these support programs were to have terminated during the past fiscal year. Just at the beginning of the year, however, Congress passed a bill that was a compromise of a House bill introduced by Congressman Hope and a Senate bill introduced by Senator Aiken. The compromise bill carried on a renewal of the wartime support program until December 31, 1949, on the "war" crops and until June 30, 1950, on the basic crops produced in 1949; and to put a long-range program embodied in Senator Aiken's bill into effect with crops produced in 1950.

In April of this year, Secretary of Agriculture Charles F. Brannan

proposed to Congress a revolutionary farm program which would in effect repeal the Agricultural Adjustment Act of 1938 as well as the act previously mentioned known as the Agricultural Act of 1918. The Brannan proposal, which has been introduced in Congress as a bill with a few modifications from the original proposal, recommends a standard of support based on income rather than on price. As the year ends it is not possible to tell what kind of legislation will govern production and marketing and income, but people can be sure that the policy of the Government is for control of production and income for farmers.

Regardless of the position of the farmer, and of the opinions of the people relative to price controls and their effect, and production programs of the administration, the people of the country ate well this past year as compared with the early war years. Production has been heavy, and buying power and demand also heavy. The country consumed 12 per cent more meat, 11 per cent more eggs, 21 per cent more fruits and vegetables, and 23 per cent more milk. Consumption of potatoes was lower. New Jersey produces large volumes of these supplies with the exception of meat.

The Division of Markets has, as in the past, carried out the program of outlined projects assigned to it by the Department administration. While most of the time of personnel is devoted to outlined projects, there are always many requests for additional services; some related to the program but others of different marketing problems. The Division staff tries to give services requested, if the request is one in which the Department should have an interest. Some of these requests are from individual farmers, but many are from other agencies that have similar interests and that may need the help which the Division staff is able to give. These requests may be the outcome of some marketing program originating with another agency, but pertaining to grading or packaging, or facilities; or other lines of work which may be a special interest of the Division of Markets. The Division in turn, often turns to another agency for help that they may be able to give. This type of cooperation is chiefly confined to college or experiment station, commodity groups, or to other departments in State service. In addition to this, the Division cooperates closely with many other agencies such as the New Jersey Farm Bureau, the Grange, State commodity associations covering all lines of agriculture, and with State departments of agriculture, colleges and experiment stations of other states, and with branches of the Federal Department of Agriculture. The Division is closely associated with the Production and Marketing Administration of the United States Department of Agriculture.

The effective organization of all segments of New Jersey agriculture makes possible the development of sound marketing practices in the State. These practices have proved their value to the citizens of New Jersey in assuring a constant supply of food products as produced in the State to its consumers in the best possible condition and at reasonable prices.

The following pages give in detail the objectives and accomplishments of all sections of the Division, and of the accomplishments of those organizations along the lines in which the programs of the Division have assisted in development.

### BUREAU OF MARKET REPORTING AND COOPERATIVES

The bureau in its present set-up continues the work of the former crops and markets information service; and in addition, does some of the service work for cooperatives which has formerly been carried out by the director of the Division. The principal work of the bureau in the past year has been that of information on crops and markets, including price and crop conditions. The work on cooperatives has been limited, due to the small amount of time available for work on this project.

In the market reporting service, the bureau disseminates information to growers on conditions of crops in competing areas as well as trends in the agricultural field. In addition to the information to the growers which is considered worth-while information in planning their marketing program, the bureau also issues weekly information to the trade during the harvesting season in order to attract them to New Jersey as a source of their fruit and vegetable supplies. To accomplish these things, the bureau issues reports on a weekly basis by mail, by telephone service on a daily basis, and through seasonal daily radio programs, as well as pertinent information released to the newspapers in cooperation with the Division of Information.

### DAILY PRICE REPORTING

Daily information based on the early morning reports of prices, conditions and market trends in the New York wholesale market are telephoned to points in New Jersey where they are available to growers, auction markets, and other factors in the distribution of New Jersey fruits and vegetables. An attempt was made early in 1949 to dispense with the early morning call to New York and use the early morning radio price reports. It was thought that this would be a saving in the operation of the bureau. However, after a week of comparison between the early morning radio report and the late telephone report, discrepancies were found in price quotations that did not reflect the true market. In many cases, the late market determined whether or not the produce was all sold or whether it would be a carry-over, which would reflect lower prices generally the following day and the next night's operation on the terminal market. For this reason, the use of the early radio program was not continued and the daily telephone call was reinstated.

### CROP AND PRICE INFORMATION BY RADIO

New Jersey growers have opportunities of receiving price quotations which are not available in many other sections of the country. Most of the

large and small radio stations within the State and in nearby Philadelphia and New York carry fruit and vegetable market price programs at some time during the day. Radio station WTTM carries a broadcast at noon on potato information with the chief of the bureau as the commentator. Radio station WCAM in Camden carries a noon broadcast of prices and market conditions in Philadelphia, with one of the cooperative employees on the Philadelphia market as the commentator. Radio station WNJR in Newark also carries a farm program at noontime, which carries prices in the Newark Farmers' Market that were obtained the night before. Most of the stations, including the one in New Brunswick, carry a resumé of the egg and poultry, and livestock auction markets on sales that were made the previous day. The trend in market reporting is now toward a dissemination of information by radio. It is believed that New Jersey has efficient radio coverage by using the facilities of the commercial radio stations. The broadcasts are made at staggered hours, which gives a grower a chance to get the prices from another station if he happens to miss the one that he usually relies upon.

In addition to the daily telephone calls and radio reports, the cooperative employees in New York and Philadelphia prepare material on prices received for New Jersey commodities. In New York City, the cooperative agreement includes the New York State Department of Agriculture and Markets and the New Jersey Department of Agriculture; while in Philadelphia, the cooperative agreement covers New Jersey and Pennsylvania. This daily information is mimeographed and mailed to the growers, produce men, and to this bureau under the franking privilege of the United State Department of Agriculture. The mimeographed reports are used in the bureau for compiling statistics on prices and for future reference.

#### DAILY POTATO TRUCK MOVEMENT REPORTING

One of the principal vegetable commodities in New Jersey is the white potato crop. Information of the movement of New Jersey potatoes is very important to the buyers and receivers scattered throughout the United States as well as to the dealers and growers within the State. In former years, when the great bulk of white potatoes was moved by rail, it was easy to determine a distribution of the crop by analyzing the carlot report on destinations that was sent in by the railroads at the originating points. For the past few years the total rail movement has been, for the most part, the distribution of carlots of potatoes that have been purchased under the support program, and as such have gone mainly to processing plants. The commercial shipments have shifted gradually, and accelerated last year to a point where the trucks carried practically all of the commercial movement. For this reason, three years ago the Division instituted a daily potato truck destination service. Information has been obtained by telephone from practically all of the dealers in Central Jersey on the number of trucks, the total number of sacks, and the states to which the trucklot was destined. These reports



were summarized and the daily summary has been released along with the potato report from the market news service of the USDA in Philadelphia. A copy of the summary has been mailed immediately from the Division office to the cooperating dealer-shippers. The publishing of this information has tended to correct inadequate information on the total movement.

According to the reports of the cooperating dealers, New Jersey shipped a total of 5,644 truckloads of potatoes from the beginning of the season through October 4, as compared to 4,408 in 1917. It is difficult to make comparisons on destinations for the two seasons because about 2,000 truckloads moved early in the season on which no destinations were reported. However, the Division has some figures that are pertinent which show increases in 1948 to some destinations, principally in the South. Virginia, for instance, received 352 truckloads in 1948 as compared to 189 in 1947; Florida received 339 in 1948 as compared to 272 in 1947; Alabama jumped from 3 in 1947 to 37 in 1948; Washington, D. C., received 87 in 1917 and 113 in 1948; West Virginia receipts were raised from 24 to 43; Maine from 1 to 12; and Tennessee from 0 in 1917 to 13 in 1948. The destinations that show increases are primarily those that receive New Jersey potatoes later in the season or usually after August 6. This leads one to think that most of the 2,000 trucks on which the Division had no destinations were shipped into the New England States, New York, Pennsylvania and Ohio, as this area is usually served with New Jersey potatoes at the beginning of the deal.

The service will be continued again during the movement of the 1949 crop. Looking ahead to 1950 and a possibility of a marketing agreement, the Division finds that provisions of the marketing agreement call for the daily reporting of destinations on the part of the dealers and feels that this service having already been inaugurated by the Division, should be continued for the administrators of the marketing agreement, if such an agreement goes into effect. In one paragraph of the proposed marketing agreement, it gives the duties of the administrative committee; and it states, "... to investigate from time to time and to assemble data on the growing, harvesting, shipping, and marketing conditions with respect to potatoes." The bureau has issued yearly a resumé of the white potato deal which includes all the information in the foregoing, and it is felt that another organization doing the same work would be an overlapping of effort. It is hoped that the committee will look to the bureau in the future as the organization responsible for such potato information.

#### WEEKLY MARKET REPORTS

One of the important weekly reports put out by this bureau is that which is called the *Weekly Market Review*. This is a four-page publication which includes prices on eggs, poultry, livestock and the principal fruits and

vegetables as well as hay, straw, feed and grain prices that are of interest to New Jersey producers. In addition to the weekly prices determined from the terminal markets on the Wednesdays before the *Review* is released and the auction markets during the week previous to the release, comparative prices for the week previous and the same week the year before are carried.

The *Auction News* is a promotional sheet which is sent to about 900 buyers in New Jersey and nearby states, who are receivers of, or whom the Division believes might be interested in buying New Jersey produce. The expenses of the *Auction News* are paid by the various auction markets. The information contained in the *News* is compiled and edited by the bureau.

*Truck Crop News* is issued during the active harvesting season with the cooperation of the Weather Bureau of the United States Department of Commerce, the Bureau of Agricultural Economics of the United States Department of Agriculture and the New Jersey Division of Markets. The Weather Bureau supplies information on rainfall and its effect on the total moisture of the State. The Bureau of Agricultural Economics and the Bureau of Market Reporting and Cooperatives contribute information on crop growth, time of harvest, quality and other items. The clerical work such as mimeographing, stencil cutting, and addressing a portion of the subscribers' list is done by the Division. The *Truck Crop News* is mailed under the franking privilege of the USDA without expense to the State.

The weekly reports include the *Market Conditions Reports*. These reports are mailed to selected lists composed of growers of the particular commodity on which the report is issued. Each Conditions report contains information on crop growth in competing areas, recent price trends in the nearby terminal markets, possible yields and total production, weather conditions if they are a factor in harvesting and marketing, and resumés of government regulations which may apply and which when known by the growers tend toward more orderly marketing. It also includes transportation information, if that is a factor in orderly movement.

As was explained in former annual reports, the summaries pertaining to some crops of necessity cover a season in which parts of two fiscal years are combined. The reports covering crops that are entirely harvested previous to June 30, the end of a fiscal year, will refer only to the one fiscal year.

## MARKET CONDITIONS REPORTS

White Potatoes—There were 38 reports issued on the white potato crop. The following paragraphs will give a general picture of conditions and events pertaining to the potato crop harvested in 1948 as taken from the Market Conditions reports.

The normal planting season of the early potato crop was interrupted by wet weather, but was completed about the first of May. Some frosts were reported during the early growing season, but damage was negligible and



confined to a very limited acreage. Apparently, however, the weather conditions that prevailed were exceptionally good and a record crop was harvested.

Some fields were harvested early in July. Potatoes from these fields were shipped by truck and the movement was not of sufficient volume to interest much of the trade until the week of July 24, when quite a few rail cars were used and government purchases became heavy. During the first week in August, there were practically no potatoes dug due to the heavy rains and wet fields. Following this time, the weather was generally favorable for harvesting, and burdensome supplies were offered daily.

As in 1946 and 1947, the USDA was the largest single purchaser of New Jersey potatoes. Records indicate that there was a total of 9,572 rail cars sold to the government agency in 1948. This is more than the 9,403 carlots purchased by the Government in 1947. However, it must be remembered that in 1948 practically all of these cars went to Publicker in Philadelphia and averaged 516 hundredweight to the car as compared to 360 hundredweight average to the cars that were shipped in 1947. The Government purchased 3,385,597 hundredweight in 1947 as compared to 4,941,382 hundredweight in 1948. Other government purchases were for stock feed, school lunch programs, and for table use at institutions and agencies.

Commercial distribution by rail for table stock use was again restricted. Records of previous years on the rail movement show that New Jersey has lost many of her markets to other producing areas. Some of this is undoubtedly influenced by the government support programs, some by the slow delivery of potatoes to the markets by rail, by high freight rates, and by the plentiful supplies of so-called home-grown potatoes.

Many receivers specifically requested that purchases be delivered by truck. The truck movement is serviced primarily by some local trucks which take deliveries into New England and nearby states, to the West and to Washington, D. C. The balance of the potato movement, particularly into the southern states and an occasional western delivery, is made by the over-the-road trucks delivering in the metropolitan New York area, which take return loads to supplement their revenue on the return to the point of origin. Most of the summer, the latter type of truck transportation was inadequate for the demand. The receivers located along the principal highways between New Jersey and Florida apparently were better serviced than those off the main roads, especially in points in western Virginia and West Virginia.

During 1948, growers who planted within the goals as set up by the Federal Department and who had paid a service fee, prescribed by the government agency, were eligible for support. The fact that the Government would not purchase U. S. Commercial potatoes under the support program as outlined, at a price slightly below the support price of U. S. No. 1's, caused many of the growers to offer this grade to dealers for distribution to the trade. As the general market was below support due to the quotations of

offerings from growers who were not in the support program, most dealers tried to sell U. S. Commercial to the trade at a competitive price. This ranged from 25 cents to almost a dollar below the support price for U. S. No. 1 grade. The quality of some of the U. S. Commercial that were offered was only slightly below that of the U. S. No. 1 grade; and in some instances, had better appearance, color and cleanliness than some U. S. No. 1's. It was not in the interest of good marketing or public relations for the potato industry to have to offer inferior quality to the consumer while most of the best quality was processed into flour and alcohol.

According to the figures available through the courtesy of the federal-state inspection service, the quality of the 1948 crop was not as good as the 1946 and 1947 crop, but better than that experienced in previous years, of which records are available. Of the total amount inspected in sacks in 1948, 87 per cent were graded U. S. No. 1 or better as compared to approximately 92 per cent in 1946 and 1947.

Peaches—There were nine reports issued on peaches. Five of these reports were issued after July 1 and covered conditions in the 1948 crop. The New Jersey crop in 1948 was about average, being placed at 1 1/3 million bushels. The crop in the southern states was about one-third less than the 1947 crop. In the late states, the production was above average except in New York; and this increased the competition for nearby markets during the New Jersey marketing season. The balance of the reports were issued on the 1949 crop and covered conditions in the early or southern states which have been subjected from time to time to frost. As the early estimates of production were gradually decreased, the Division brought this to the attention of the New Jersey growers. Trucks are being used to a greater extent than formerly for this year's movement of the peach crop, and this is important to State producers.

Tomatoes—Two reports were issued on the 1949 tomato crop, and these covered the growers' intentions to plant as reported by the Bureau of Agricultural Economics. The total acreage in the early and late spring and early summer groups was reported as below average, but yields have increased so greatly in the past few years that the total production of the country is expected to be about normal. In the four groups of states, which include the winter, early spring, late spring and early summer harvest, 155,080 acres were harvested in 1948, while the acreage for 1949 for the same group of states is estimated at 137,440. The total production in 1948 was 15,460,000 bushels, while this year's production is estimated at 15,182,000 bushels. The season is far enough advanced as the fiscal year ends to make this estimate quite reliable.

Onions—Three reports were issued on the 1949 onion crop between the first of March and the end of June. Most of the information was on the acreage that was expected to be planted in the states competing with New

Jersey so that growers in the State would have some idea of the competition to expect in the marketing period. As changes were made in these intentions to plant, the estimates were revised; and around the first of June, the acreage for the early summer group, which included California, New Mexico, Washington, Iowa, Oklahoma, Kentucky, Virginia, and New Jersey, was placed at 6,110 acres as compared to 7,160 acres for the ten-year average. There were increases in New Mexico, which has increased its 700 average acres to 1,100 acres this year; and in New Jersey, which was increased to 3,100 this year from an average of about 2,600 acres. Decreases are shown in all the other states. The loss of quite a few acres of Texas onions increased the demand for available supplies, and various trade members have expressed the opinion that the market should be good for onions through the marketing season.

Strawberries—Seven reports were issued on strawberries, and these were all on the 1949 crop. The highlights of the reports included the resumé of the shipping season in Louisiana in which truck, plane and rail shipments were utilized to move the crop to market. Louisiana has been using refrigerator trucks to move berries to the smaller cities, and getting better distribution for the berries than in the distribution formerly used where rail cars were sent to various terminal points and distribution was made from these points by truck. Truck transportation is faster and the berries have arrived in a better condition.

There has been a wide use of the federal-state inspection service this year on berries sold at the local auction markets on the Eastern Shore of Virginia, Maryland and Delaware. All the berries were inspected and sold on the basis of the grades determined. According to the dealers on the peninsula, the inspection has been very satisfactory, and has enabled the buyers to locate the good merchandise and pay a premium for it. The information relative to inspected berries on the Eastern Shore was used by buyers in New Jersey to influence better packing and grading in this State.

Asparagus—Two reports were issued on the 1949 asparagus crop. These reports were issued at the beginning of the season and gave the market conditions as well as the shipping conditions. Shipping conditions were mentioned in place of crop conditions, although the crop conditions naturally affected shipments. As an example, California was very late in getting started with shipments to the East Coast. Early cuttings in California were very light, due to the cool weather that state experienced in 1949, and the distribution was principally to local markets in California. In fact, South Carolina marketed asparagus in New York before California this year, which is very unusual. When New Jersey entered the market, California stopped shipping East, and the balance of the California crop went to processors.

Apples—Seven reports were issued on apples; and while some of these were released in 1949, they cover the 1948 apple crop. Starting in August 1948, the reports deal with the estimated production in the various states and

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the United States. In the Northeastern states, the 1948 crop was about 5 million bushels below average, and the United States crop was about 15 million bushels below. As the storage and shipping season progressed, the cold storage holdings were included in the report. Holdings of the 1948 crop on the first of February in 1949 were much lighter than the 1947 crop holdings on February 1, 1948. New Jersey, according to the cold storage holdings report, had only 237,000 bushels on hand February 1, 1949, as compared with 438,000 bushels, February 1, 1948. Total holdings for the United States were placed at about 13 million bushels on the same date in 1949 as compared with about 22 $\frac{3}{4}$  million bushels, February 1, 1948. Apple prices remained generally good during the year, but some growers who had light crops were unable to get a cost of production return even at those figures.

Sweet Potatoes—A total of nine reports was issued on sweet potatoes. Eight of these were on the 1948 crop and one was issued at the end of March, 1949 on the intentions to plant acreage for harvest in 1949. The 1948 production for the nation, as determined the first of December, 1948, was below 50 million bushels. This is the lowest production reported in 25 years. The ten-year average production for this crop in the United States was placed at 65 million bushels. The total production in New Jersey was placed at about 2 $\frac{1}{2}$  million bushels as compared to an average of slightly over 2 million bushels. This crop was grown on less acres than the average, being placed at 15,000 acres in 1948, while the average for the ten years is 16,000 acres. New Jersey enjoys a good sweet potato yield per acre in comparison with the average for the United States. The 1948 yield in New Jersey was placed at 178 bushels per acre as compared to 96.9 bushels per acre for the United States. The 1949 plantings for the nation are expected to be 488,600 acres, which will be even lower than the 1948 acreage. New Jersey is expected to increase its acreage from 15,000 to 16,000. Practically all other states are planting the same amount as in 1948, or decreasing. California and New Jersey are the only ones showing an increase for the 1949 season. California increased from 10,000 acres in 1948 to 12,000 acres in 1949.

The foregoing reports generally cover the work under the market reporting part of the bureau's work. Special requests are made to the Division at times for information by mail and telephone on some other crops which are not usually reported in the *Market Conditions Reports*. When these requests are made, the Division makes an effort to get the information that is requested, check it for accuracy, and make a report to those interested.

#### TRANSPORTATION

Conferences have been held with the railroad officials in an attempt to get faster rail service for New Jersey fruits and vegetables. At the present time, it appears that the volume of produce that is being moved by the rail-



roads is rapidly approaching an all-time low. The railroad officials are aware of this, and off-the-record comments by these officials indicate that they feel that there is nothing that they can do about the situation. Trucks pick up the produce at the farmers' packing house and deliver it directly to the receiver's place of business. In many cases, the hauling charge is lower than the rail charge, and seldom is higher. The time element is the greatest consideration for the shipper because the deliveries by truck within a radius of 400 or 500 miles are usually within 48 hours, while those by rail take anywhere from three to four days, and as high as a week. For the railroads to inaugurate a service that would be comparable to the truck facilities would be quite expensive and would probably cost the railroads much more than they could charge the shippers, thereby creating a deficit operating revenue.

### WORK WITH COOPERATIVES

In the past, the director of the Division of Markets carried on all the preliminary work with marketing cooperatives. Most of the cooperatives that are in existence today appealed to the director for help in starting the cooperative. This help included assistance in organizing, holding of first meetings; and in many cases, preparing articles of incorporation and by-laws to be submitted to the membership for approval. As the work and responsibility in the Division has reached such proportions that the director has not had sufficient time to devote to all the demands made by the various cooperatives, this bureau has been charged with the responsibility of doing the cooperative service work. Since the cooperative service is new to this bureau, the chief leans heavily on the director of the Division for advice and assistance.

In order to determine just what the bureau could do in the way of service to the cooperatives, a survey has been made of the cooperatives of which records exist. At the present time, there are about 90 of these operating in the State. A few of these were originally chartered in New York State and operate in New Jersey with the approval of the Secretary of State. The survey is not quite complete and a more detailed report on it will be made in the 1949-1950 annual report. Information that is being obtained includes the correct name of the cooperative, the names of the directors, manager or secretary, and the president, the number of the members serviced, and the number of non-members, the number of persons employed—permanently and seasonal—the amount of the payroll, the volume of business, the amount of taxes paid, and the types of activities as well as other services that they provide for the community or for their members.

Some of the highlights of this survey show that most of the cooperatives have their annual meetings in January, February and March. None meet in May, and only a few have meetings in the summer. The number of meetings held increases during the fall months. The number of directors range any-

where from 3 to 29, while the number of members range from 4 to about 3,500 in the selling and service cooperatives, with varying numbers in the buying cooperatives.

Most of the cooperatives are incorporated under the Agricultural Cooperative Associations Act (Chapter 13, Title 4, Revised Statutes), while some are incorporated under Associations Not For Pecuniary Profit Act, and others under the General Corporation Law. Most of the cooperatives have their incorporation papers filed with the Secretary of State, although a few are filed in the State Department of Labor. For this reason, in some instances, it is difficult to know just what cooperatives are incorporated and where their papers are filed. Under the Agricultural Cooperative Associations Act, annual statements are supposed to be filed with the Secretary of Agriculture; but in many cases, this has not been done.

The types of activities of the various cooperatives are diversified. Some sell farm products for their members, others buy supplies for their members. These two activities account for the work of most of the cooperatives. To a lesser extent, the cooperatives are interested in the manufacture, production, processing, packing, handling, herd improvement, crop improvement, furnishing space for selling, equipment sales, and artificial breeding. Mostly, the cooperatives are concerned with one type of activity, although ten combine two activities, five combine three, and two more have four types of activities that they carry on for their members.

Commodities that are handled include fruit, vegetables, poultry, eggs, dairy products, livestock, packages, seeds, plants and trees, fertilizer, feeds, machinery and equipment, hardware, building material, auto accessories and lubricants, semen, packaging material, field crops, coal and fuels, egg cases, lime, petroleum products, meat, and general farm supplies.

The value of the property and equipment ranges anywhere from nothing in some cooperatives to as much as 1 1/4 million dollars. Payrolls range from nothing to almost 1/3 million dollars. One cooperative sold almost 6 2/3 million dollars worth of farm products for their members, with quite a few selling from 1 to 5 million dollars. One cooperative purchased over 7 3/4 million dollars worth of supplies for its members, with several more over a million dollars worth. Service cooperatives did not range as high in volume of business as the others. Taxes paid by cooperatives, which include franchise taxes, property taxes, and other taxes necessary for the operation of the business, ranged from none in some cooperatives to as much as \$23,000 a year. In addition, social security deductions ranged as high as \$2,800 and a like amount for unemployment compensation, while income deductions ranged from nothing to almost \$20,000 in one cooperative.

Most of the cooperatives refunded a portion of the total amount charged for services rendered as a patronage dividend. While many of these were charged to the 1947-1948 operating year, some were on the account of earn-



ings several years back, having been held in reserves or for working capital. On the other side of the ledger, two cooperatives reported losses.

Under the heading of special services by cooperatives is included contributions to a fellowship fund at Rutgers, the State University; and in other cases, furnishing meeting places for farmer groups, inaugurating programs on better production and marketing, and social events. In most cases, cooperatives are active in the affairs of the community or locality in which they operate.

As the bureau obtains more information and completes the file on the activities of the organizations, a better service program for cooperatives can be arranged. It has been thought that the bureau could inaugurate a monthly or bi-monthly publication entitled *Cooperative News* that would be of value to the cooperatives in the pursuit of their activities. Exchanges of ideas between cooperatives are valuable in getting maximum efficiency. This has worked successfully in the cooperative fruit and vegetable auction markets in the State, as well as in the poultry and egg, and livestock cooperatives.

### DAIRY PRODUCTS MARKETING

The objective of the dairy products marketing project is to aid in the development of a practical milk marketing program for the State. The major activity of this program is the supervision of the production and distribution of milk under the New Jersey official grades and the expansion of the sale of such milk. These grades represent an effort on the part of the Division of Markets to recognize and identify nearby produced milk of definite quality standards. Other activities include cooperation with the Office of Milk Industry, the New Jersey Dairymen's Council and other agencies, and the assistance given to livestock auction associations in the supervision and operation of livestock sales by auction.

The dairy situation during the fiscal year ending June 30, 1949, can properly be divided into two parts, hinging on the date January 1, 1949. Prior to that date the picture from the point of view of dairymen was satisfactory, and the period after that date was unsatisfactory to most dairymen and dealers. On January 1, became effective an order of the director of the Office of Milk Industry, issued upon a directive from the Governor, which suspended control of consumer prices and also dealer to dealer wholesale prices, leaving only control on prices paid to the producer. From that date on, much confusion in the dairy industry prevailed.

Conditions prior to January 1, 1949, were partially responsible for the inopportuneness of the order. The winter of 1948-1949 was unusually warm and mild; ideal for the production of an abundance of milk. In addition, the campaign conducted by the College of Agriculture and the county agents for more milk production in the fall through the medium of fall-freshening cows started to produce results. These combined factors were responsible for

a back-log of milk unusual to New Jersey in the fall and winter months. The same factors were also responsible for a similar back-log in neighboring areas adjacent to and within easy shipping distance of New Jersey markets, with production costs being less on controlled milk, but with a vast supply of milk under no control in the same area. Dealers under the necessity of purchasing some part of their supply immediately took advantage of the low-priced milk available to them. As the amount of milk increased over the normal pre-spring flush, New Jersey producers started to feel the effects of this back-log of milk, and upon receiving their milk checks found they had been paid as high as 28 per cent surplus instead of the full Class I price they had hitherto enjoyed. A further cause of dissatisfaction was a cut in price to the farmer of 1 cent per quart on January 20; a manufacturing class (2-A) established in February for milk used for other purposes than fluid milk and cream, with a price of four times the monthly wholesale butter price, or an average of \$2.48 per hundredweight. Another cut in the Class I price on April 1 thoroughly discouraged the producers of New Jersey milk. All, or nearly all, of these reductions in price were passed on to the consumers. Little, if any, of these reductions were absorbed by the dealers. As the year ended, the dissatisfaction increased, but no relief was available to producers within the State, although many conferences were held in their behalf by farm organization leaders.

There were many undisputable facts brought out by this unprecedented situation in the milk industry. That the cost of production has little or no bearing on the market price of a quart of milk when there are ample supplies available was one of the factors. Cost of production figures presented at hearings were rarely if ever disputed; but the orders of the Office of Milk Industry, as finally arrived at, always reflected the prices prevailing in the surrounding markets rather than the actual cost of producing milk within the State. This situation has developed during the past few years of federal government control of adjoining markets; i.e., New York City and Philadelphia.

Another factor affecting the price to New Jersey farmers was the lack of an attempt made to limit the inflow of milk from surrounding areas other than on a basis of whether or not the milk of those surrounding areas met the minimum health requirements of the State of New Jersey. Those requirements, adopted in 1932 in the middle of the depression, made no allowance for other quality factors, and had therefore the practical effect of opening the gates of the New Jersey market to any dealer having milk to sell outside the State. This has been evident as on June 30, 1949, there were 4,864 New Jersey commercial producers within the State, while out-of-state permits were issued approving 32,684, or a ratio of practically 8 to 1. Some of the milk coming in from outside the State was equal to that produced in the State; much of it barely met the regulations. The New Jersey Dairy-men's Council, cognizant of these conditions, prepared a bill to remedy this

situation. This bill was introduced into the Legislature by Assemblyman Dixon of Sussex County, but he could not win enough support for its passage. Consequently, during the flush period, imports were practically unrestrained, to the detriment of the New Jersey producer and the dealer as well. New Jersey's position between the large producing states of Pennsylvania and New York makes it necessary, if the bulk of New Jersey producers are to stay in business, for some limitation on the importation of milk on a quality basis.

The New Jersey Milk—Official Grades Association has been carrying on in a small but rather effectual way for the past year, a publicity program on the merits of New Jersey produced milk, (consumer information contacts). Neglected by the dairy industry as a whole, this field of endeavor is now being exploited to the full by dealer interests who have hired a well-paid field secretary, and are pushing their interests with the consumers in a well-coordinated program. This program is starting to bring results which have not, on the whole, been favorable to the New Jersey producer.

During the year just ended, the program of contacts between consumer interests and of the men producing and handling New Jersey produced milk have been under the direction of the supervisor of dairy products standardization, and have been mainly directed at the most articulate of those women's organizations consisting of 11,000 members in the counties of Bergen and Passaic. The governing board of this organization has been very cooperative, calling on the Department for all sorts of information and assistance in formulating policies. The supervisor has been successful in making valuable contacts which will be of much value in future negotiations with consumer organizations. This is an opportunity for an educational program on the merits of fresh nearby-produced milk, and the ground has hardly been scratched in this phase of the problem. This work has been hampered considerably by the lack of personnel and funds to carry on an educational program of this magnitude. Possibilities of large successes would seem to point to the necessity of some plan to present the real facts of the milk situation to consumers on a state-wide basis.

There is also indicated again the necessity for a research bureau that would investigate and weigh the different aspects of the milk industry as they apply to the producer, distributor and consumer. This research bureau should be set up by an impartial agency and its findings made available to all branches of the industry, including consumers. Many problems are dependent upon factual information for solution, but facts collected from partial sources are often misleading and cannot represent the true picture because they cannot be reconciled.

#### NEW JERSEY OFFICIAL GRADES

The New Jersey official grades continued to be the principal project of the milk marketing work. There are three grades, "New Jersey Grade A

Raw," "New Jersey Grade A Pasteurized" and "New Jersey Grade B Pasteurized."

Use of the New Jersey grades is elective. They are used by the dealers who choose to have their supply under the supervision which grading entails, and who agree to pay an inspection fee covering not only their own plant but also the producer inspection. Fees vary from 45 to 55 cents per thousand quarts produced daily, dependent upon volume. Payment is entirely by dealers and involves no fee expense to the producers of graded milk.

At the close of the fiscal year, there were 27 dealers processing 107,577 quarts of milk daily under the New Jersey official grades program. Much of the milk has changed in classification; some of that formerly sold as New Jersey Grade A Pasteurized is now sold as New Jersey Grade B Pasteurized. Of these 27 dealers, 2 sold raw milk only, 22 sold pasteurized milk only, and 3 sold both raw and pasteurized milk. Only a small percentage of milk was sold as raw.

Among the 27 dealers operating under the supervision of the Department of Agriculture, 19 are purchasing dealers, 4 producer-dealers and 4 who both produce and purchase milk. The number of producers involved in the production of this milk is 346.

When the New Jersey official grades were established, a rigid herd inspection system was introduced and, at the present time, serves as a model for several other inspection agencies, both within New Jersey and in other states. During the fiscal year ending June 30, 1949, there were 23,225 cows examined in accordance with the grade regulations.

The accompanying table is concerned with the physical examination of cows, by counties, during the fiscal year 1948-1949, and the results of those examinations.

#### PHYSICAL EXAMINATION OF CATTLE

| County     | Number of<br>Herd Ex-<br>aminations | Number of<br>Animal Ex-<br>aminations | Number of<br>Animals<br>Passed | Number of<br>Animals<br>Isolated | Number of<br>Animals<br>Condemned |
|------------|-------------------------------------|---------------------------------------|--------------------------------|----------------------------------|-----------------------------------|
| Bergen     | 2                                   | 48                                    | 48                             | ..                               | ..                                |
| Burlington | 75                                  | 2,034                                 | 1,995                          | 39                               | ..                                |
| Essex      | 8                                   | 394                                   | 385                            | 9                                | ..                                |
| Hunterdon  | 170                                 | 4,491                                 | 4,419                          | 68                               | 4                                 |
| Mercer     | 27                                  | 774                                   | 743                            | 31                               | ..                                |
| Middlesex  | 2                                   | 28                                    | 27                             | 1                                | ..                                |
| Monmouth   | 10                                  | 289                                   | 286                            | 3                                | ..                                |
| Morris     | 78                                  | 3,066                                 | 3,047                          | 19                               | ..                                |
| Salem      | 40                                  | 1,094                                 | 1,086                          | 7                                | 1                                 |
| Somerset   | 227                                 | 5,808                                 | 5,707                          | 98                               | 3                                 |
| Sussex     | 134                                 | 4,817                                 | 4,746                          | 65                               | 6                                 |
| Union      | 2                                   | 53                                    | 53                             | ..                               | ..                                |
| Warren     | 8                                   | 329                                   | 326                            | 3                                | ..                                |
| Totals     | 783                                 | 23,225                                | 22,868                         | 343                              | 14                                |



|   |                  |
|---|------------------|
| Number of herds in which all animals were passed..... | 584 or 74.58%    |
| Number of herds in which animals were excepted.....   | 199 or 25.42%    |
| Number of animals passed.....                         | 22,868 or 98.46% |
| Number of animals isolated.....                       | 343 or 1.48%     |
| Number of animals condemned.....                      | 14 or .06%       |

Another requirement of the New Jersey official grades is the physical examination of all employees on farms producing New Jersey Grade A Raw milk and of employees in bottling plants handling the New Jersey grades of milk. Last year this involved the examination of 401 individuals and medical certificates containing the history of these examinations are on file in the Department of Agriculture. Each man taking the medical examinations was required to be examined by a physician twice during the year and pronounced by the examining physician a safe individual to handle milk. When the individual has met the requirements, a card of identification was furnished to that effect. Laboratory examinations of the specimens submitted by physicians in connection with physical examinations were made by the New Jersey Department of Health.

The importance of microscopic analysis of samples of milk in determining causes of defect is amply demonstrated by the methods used in policing the New Jersey official grades. While this work is more complete, and incidentally more expensive, than ordinary methods of control, the results justify the extra effort. During the 18 years of this close microscopic supervision of the milk qualifying for New Jersey official grades, not one case of infectious disease has been traceable to the milk supply. During the year, 3,688 samples were collected for analysis.

#### PUBLICITY AND INFORMATION

The program of publicity and information carried on in cooperation with the New Jersey Milk—Official Grades Association has already been commented upon. The work has been under the direction of the supervisor of dairy products standardization but has been hampered by lack of funds and personnel. Due to the depletion of the advertising fund collected during the war years, it was necessary to dispense with the consumer representative who worked so efficiently the preceding year, and the work suffered considerably. Demands on the supervisor's time are augmented by the increase in volume of milk under the New Jersey official grades and the livestock auction markets. Newspaper articles prepared by trained individuals would seem to be a means of some publicity. The price situation has overshadowed news pertaining to quality. The campaign being conducted by the dealers' organizations would seem to enhance the necessity for some concerted effort to get to the buying public the merits of New Jersey produced milk and the true facts as to the cost of milk being produced in New Jersey; and if feasible, some program could be worked out on a coordinated basis between the Department of Agriculture and producers' organizations interested in the production of New Jersey milk.

## THIRTY-FOURTH ANNUAL REPORT

93

## LIVESTOCK AUCTION MARKETS

The fiscal year just closed has been exceptional in that contrary to all expectations, the boom continued during the year. There was a slight recession of prices during the spring and early summer; but as the year closed, prices of all grades of livestock, except hogs, had regained their former high level.

During the fiscal year 146,943 head of livestock were sold with a gross value of \$9,161,773.24, which shows an increase in volume of 0.5 per cent over the previous year, and an increase of 2.4 per cent in gross receipts over the previous year, as follows:

| Market       | No. of Head | Value          |
|--------------|-------------|----------------|
| Flemington   | 27,613      | \$1,369,450.10 |
| Hackettstown | 40,221      | 2,491,868.72   |
| Mount Holly  | 3,709       | 134,877.88     |
| New Egypt    | 11,683      | 994,426.35     |
| Sussex       | 30,905      | 1,793,158.53   |
| Woodstown    | 32,812      | 2,377,991.66   |
| Totals       | 146,943     | \$9,161,773.24 |

The same recommendations as contained in last year's annual report for some sort of supervision over the livestock auction markets other than the nominal supervision now exercised by the Department of Agriculture are again made. As stated in last year's report, problems to be considered are the financial structures of the various markets, the responsibility of the markets to patrons and to the buyers on the markets; most of all, and which is badly needed, a uniform system of accounting so that concrete ideas could be obtained as to the efficiency of the different operations.

## SPECIAL SERVICES

The supervisor of dairy products standardization served as a representative of the New Jersey Junior Breeders' Fund, Inc., on a committee with representatives of the State Agricultural College and Extension Service, to determine the awards for meritorious records presented by the trustees of the Fund during Farmers Week.

The New Jersey Milk—Official Grades Association met a number of times during the year. The supervisor of dairy products standardization served as secretary of that organization, and much time and effort was devoted to programs of expansion and publicity as to the activities of the association.

During Farmers Week in January, the supervisor was in charge of the dairy program and dairy banquet. The meetings were well attended and the dairy banquet continued to draw a capacity crowd.

The legislative committee of the New Jersey Dairymen's Council has been active during the year, holding numerous meetings. The supervisor also



served on this committee, and much time and effort was spent by the committee in collecting data, preparing memoranda and analyzing dairy conditions in the different states in order that New Jersey's milk situation is not overlooked in the Legislature.

### BUREAU OF FRUIT AND VEGETABLE SERVICE

Although it always has been the policy of the Division of Markets to work closely with New Jersey people interested in the marketing and distribution of all fresh farm products, during the past year it was increasingly necessary to knit this relationship even closer due to the necessity of keeping the staff of the Division properly acquainted with the many ramifications included in marketing certain commodities under government regulations and controls in order that they might participate in price support programs.

The Bureau of Fruit and Vegetable Service is concerned with all phases of the marketing of fresh fruits and vegetables produced in New Jersey. These include the establishment and development of outlet facilities such as shipping point auction markets in New Jersey and terminal markets in large adjacent cities; city market and consumer educational and promotional work to create greater demand for New Jersey products; rendering assistance to growers and shippers in better packaging and grading in conformance with grade standards to insure greater returns; and supervision of the grading and inspection of fresh fruits and vegetables shipped to large and secondary terminal markets or delivered to processing plants.

The inspection and certification of fruits and vegetables under and in accordance with federal and/or state standards to be marketed in the fresh form or used for processing is by far the greatest activity of this bureau. The inspection service in New Jersey is carried on under a three-way agreement between the United States Department of Agriculture, the New Jersey Department of Agriculture and the New Jersey Agricultural Society. Each organization has definite functions and responsibilities under the agreement. It is the responsibility of the U. S. Department to supply sufficient trained and licensed personnel to properly conduct the work and, in the event that it becomes necessary, to train all new personnel. It is the joint responsibility of the U. S. and N.J. Departments to properly interpret grades and the application thereof, and the general supervision of the conduct of the work. The responsibility of the New Jersey Agricultural Society is to employ the necessary personnel, collect fees for services rendered, and pay the salaries and expenses of inspectors employed. Under this arrangement the work has been carried on for the past several years, with each succeeding year showing an increase in services rendered on amount of work performed. Total inspections this fiscal year were slightly less than those of the last fiscal year, but covered a greater volume than any previous year, covering all commodities shipped in carlots or trucklots. Primary reason for the increase in vol-

ume inspected was the purchase of white potatoes under government price support.

#### PURPOSE OF INSPECTION

The shipping point inspection service is set up to aid the orderly marketing of fresh fruits and vegetables. It furnishes information to growers, shippers and receivers that enables them to trade on a basis of uniform standards. These standards cover such items as size, quality, condition, cleanliness, brightness, color, freshness, firmness, decay, etc. Uniform terms are used in describing given products, and percentages of off-quality and condition factors determine the grade which is certified. The shipping point inspection certificate is accepted in all courts as prima facie evidence of the truth of the statements relative to the particular product covered therein. Hundreds of thousands of dollars worth of fresh fruits and vegetables are marketed each year upon the certification of shipping point inspection results. Prices for commodities are based upon grades.

New Jersey growers are aware that if they are to continue in the high position they have occupied for many years in the produce marketing field, they must keep abreast of the advancement in marketing practices being employed in competing areas. In line with this the Bureau of Fruit and Vegetable Service in New Jersey renders assistance to growers and shippers through the inspection service, which advises as to proper grading and packaging practices as well as the actual certification of the grade of the various commodities inspected.

Upon the sound principle that prices paid for raw products for processing should be directly proportionate to quality delivered, most of the larger New Jersey processors contract with growers for such products as asparagus, tomatoes, apples and sweet peppers to be delivered on a grade basis. Each load delivered is sampled and the samples graded by inspectors employed by the New Jersey Agricultural Society. The results of grading determine the value of each load delivered consistent with predetermined prices for each grade as fixed between grower and processor by contract in advance of the season. This system tends to encourage growers to produce and deliver a raw product of high quality, which in turn gives processors the opportunity to pack quality products at relatively consistent costs.

#### CERTIFYING FRESH PRODUCE

##### APPLES

Inspection and certification of shipments were the lowest this year since the fiscal year 1941-1942 because the crop was low in yield and comparatively poor in quality. The majority of apple inspection work came after the first of the year 1949. Normally, it comes during the harvesting and packing season in the fall.

It is easy to discern the reason for the drop in apple inspection work this year. Low production in all eastern states created a scarcity which generally makes easy marketing possible. Apples of only fair quality were not as difficult to sell this year as those of higher quality are in years of peak production.

The results of the inspections made in January and February indicated the detrimental effects of the long Indian Summer of last fall upon the apple crop in New Jersey. Lacking the cool or cold nights so necessary to properly color their apples, growers were faced with the alternative of picking poorly colored fruit or possible loss from fruit maturing too rapidly and dropping as a result of the unseasonably warm weather. They chose the lesser of the two evils and picked and packed their crop. An analysis of the inspection results revealed that the fruit was generally well graded insofar as defective fruit was concerned. Only a few lots were certified as U. S. No. 1. These were the only ones that had the amount of color required by the standards. The majority of the lots graded either Combination U. S. No. 1 and Commercial or U. S. Commercial. Only one lot was certified below U. S. Commercial. The U. S. Commercial grade requires that apples meet all specifications for U. S. No. 1 except for color.

During the packing season most of the apples inspected were exported to South America. It was never necessary to assign more than one inspector to apple inspection work during the packing season. In addition to looking after all inspections on apples shipped out, the inspector also took care of the grading of all apples purchased by a processor in the Moorestown area on the basis of the U. S. Standards for Apples for Processing. During the fiscal year 1948-1949, a total of 100 certificates of inspection were issued on apples for distribution in fresh form. These included 2 carlots and 98 truck and storage lots. The certificates on truck and storage lots covered 35,249 bushel baskets and boxes.

#### GREEN CORN

The agreement between the Cooperative Growers Association, Inc., at Beverly and several large chain store organizations to deliver green corn, field-fresh, each day to stores located in cities within convenient truckhauling distances, was continued again this year. This method of marketing green corn was begun in 1945 as an experiment, but that season it was so successful that it was considered sound enough to continue it on a larger scale. The succeeding seasons proved that this method was popular and volume of shipments increased materially in the next two seasons to a peak of 34,316 packages reached in the summer of 1947.

Corn shipped under this program is as near field-fresh as it can possibly be when it reaches the retail counters of the participating stores. Under the program, growers start picking operations each morning shortly after mid-

night. Powerful spotlights attached to the tractors furnish sufficient illumination. Each grower picks his allotted quota for the day and has the corn packed and ready for shipment at some time between 5:00 A. M. and 9:00 A. M. Prices to growers are dependent upon quality. Quality is established by the result of the inspection of each lot which determines the grade. The inspections are made by one of the New Jersey Agricultural Society inspectors.

Experienced inspectors working under the supervision of the bureau are assigned to this work. In order that shipments aren't delayed and movement may begin as early as possible, the inspectors get out early in the morning. They begin their inspections at the farms by 5:00 A. M. and continue the work at farms until about 8:00 A. M. They then proceed to the Beverly Market where small lots assembled there are inspected and loaded. The last of the morning shipments usually are rolling to market by 9:00 A. M.

The rolling of the last morning shipment, however, did not end the inspector's day. Many lots are sold by the market to receivers other than those participating in the "field-fresh" program. Some of these lots are sold on a grade basis but shipped outside of the radius considered as nearby, and with no set hours of delivery. The greater part of these shipments move between 7:00 P. M. and 10:00 P. M., with some starting out as late as 11:00 P. M. This necessitates long hours for the inspectors assigned to this work.

Proof of the success of this program as a means of marketing green corn in New Jersey may be measured to some extent by the amount of corn inspected, as shown by the inspection records, during the four seasons the program has been in operation. In 1945, there were 12,680 packages; in 1946, 26,735; in 1947, 34,316 packages; and this past season, 26,229 packages. The packages used were mostly sacks; however, some were shipped in bushel baskets and wire-bound crates. Each type of package contained between 55 and 60 ears. This season the quality of green corn was generally above average and most lots were certified as U. S. Fancy. Only one inspector was needed to handle the work during the season.

### WHITE POTATOES

The 1948-1949 white potato season was the greatest year for volume inspected since the advent of inspection in New Jersey. This was due to the large volume of the crop being purchased by Commodity Credit Corporation, the agency designated by the USDA to make purchases of crops for price support purposes. Under the purchase program inspection was mandatory.

The planting season was beset with cold and rainy weather, and planting was spread out over a longer than normal period. There were frosts reported during the early growing season; however, they proved to be of little or no consequence insofar as damage to the crop was concerned. During the greater part of the growing season rain was abundant, even to the extent that many growers feared that the crop would be seriously damaged. The rainy weather



continued into the harvesting season and caused some delay in harvesting until about the second week in August. The weather, which delayed planting, hampered cultivation, interfered with early harvesting, and caused most growers and shippers more than a little anxiety, evidently was more beneficial than detrimental to the crop as a whole. Proof of this was evidenced by the harvesting of the highest average yield per acre ever recorded in New Jersey—231 bushels.

On July 13, 1948, the Government announced that it would consider the purchase of potatoes in New Jersey for the purpose of supporting price. The announcement stated that purchases would begin immediately when the commercial market prices dropped below the support prices set up. Support prices were figured on 90 per cent of parity and were basically as follows: For U. S. No. 1 grade, sacked and loaded, September, \$2.85; October, \$2.95; November, \$3.10; December, \$3.30 per hundredweight. January, 1949, \$3.40; February, \$3.45; March to end of season, \$3.50 per hundredweight. Prices paid for U. S. No. 1, Size B; and/or U. S. No. 2, 1 $\frac{7}{8}$ -inch minimum, were one-half the amount of the basic prices set for U. S. No. 1.

Except for a few days during which shipments were comparatively few, the 1948 season began with the government purchase program in operation. Potato purchases under the program continued throughout the shipping season of 1948-1949 with the Government being the principal buyer of the crop. The majority of the crop was moved in plain or ventilated box cars loaded in bulk because the principal outlet obtainable was processing plants where the potatoes were manufactured into potato flour and alcohol. The processing plants preferred bulk loading because it facilitated their unloading operations to a maximum extent. Cars could be spotted adjacent to their flumes and high pressure hoses used to force the potatoes out of the cars into the plant hoppers.

Publicker Industries in Philadelphia was the largest individual processor. The close proximity of this plant to the New Jersey producing areas helped move the enormous crop without undue delay and confusion. Cars loaded in New Jersey were delivered on the following day and could be returned for reloading on the day following the unloading in Philadelphia. The shortage of cars, which in previous years had been a serious factor, often delaying loading several days at a time, did not occur this season. Other outlets were direct distribution to public institutions and the school lunch program. Many were stored where these facilities were available and other thousands of sacks were exported.

The federal-state shipping point inspection service is probably the greatest individual factor in the administration of a support program. The Production and Marketing Administration of USDA does not accept any product under a price support program without an inspection report which certifies that the product meets grade and other requirements specified in the program

announcement. Whether the program grades and specifications are met is determined by inspection. These regulations are the basis upon which the potato purchase program operates.

Under such an arrangement, great responsibility is placed upon the men engaged in the inspection service. They must be thoroughly familiar with all phases of the program's operation. They are responsible for determining grade, counting and checkloading of each load in sacks, securing certified weight slips for loads going into bulk cars, sealing cars, certifying the class or keeping quality, and issuing preliminary reports in lieu of the Master Certificates. They must not only be familiar enough with these regulations to perform them, but must also be able to explain them to shippers or growers when some misunderstanding arises because they are unfamiliar with the regulations of the program.

Government purchase programs are subject to changes which are sometimes very difficult to keep up with, even by those in an administrative capacity. It is not always easy to keep the men in the field completely and uniformly informed as to these changes because of the rapidity with which they come. An example of this occurred this year during October and November when in the space of 27 days there were five authorized changes in the program received from the purchase department of PMA in Washington. It was almost impossible to keep the men in the field fully informed because in all cases it was necessary to get out mimeographed copies of each new set of instructions so that each inspector could have one.

Much more could be said about the details involved in the operation of the inspection and certification work entailed in the potato purchase program of this fiscal year. It is not the intent of a report such as this to cover all details, but rather to present a general picture of the overall operation. Detailed reports may be found in the monthly reports of the Division of Markets, New Jersey Department of Agriculture.

Up to this point one might gather that all of the inspections on potatoes during the year were for Government purchase. This, of course, was not the case because slightly more than 28 per cent of all volume inspected went into commercial channels. As has been stated before in this report, the volume of potatoes inspected this year was the largest ever for New Jersey even though the number of certificates issued was fewer than in 1947-1948. This may be explained to some extent by taking only car loadings as a comparison between these two years. In 1947-1948 cars averaged 360 hundredweight per load and for 1948-1949 they averaged 516 hundredweight.

During the fiscal year of 1947-1948, there were 14,066 inspections covering a total of 4,084,487 hundredweight of potatoes in New Jersey, of which the Government purchased 3,385,597 hundredweight. This fiscal year there were 12,586 inspections covering a total of 6,867,533 hundredweight, of which the Government purchased 4,941,382 hundredweight. An analysis of the in-



spection records revealed that 87 per cent of the potatoes moved into commercial channels graded U. S. No. 1; 10.5 per cent graded U. S. Commercial (including Size B in each grade); and 2.5 per cent were below U. S. Commercial. The records show that of the almost 5 million hundredweights purchased by the Government both in bulk and in sacks, 98 per cent graded U. S. No. 1, including Size B. The other 2 per cent included U. S. No. 2, 1 $\frac{7}{8}$ -inch minimum, and potatoes purchased on a composite grade basis.

It must be remembered that the Government did not include the purchase of U. S. Commercial grade in the program. It is entirely possible that many cars were loaded for Government purchase, but failed to grade U. S. No. 1 and were diverted to commercial shipment when they were certified as U. S. Commercial.

During the peak of the season there were between 55 and 60 New Jersey Agricultural Society inspectors assigned to potato inspection. The part played in this vast program by the Bureau of Fruit and Vegetable Service was that of administering the inspection and certification of all potatoes purchased under support prices and, by request, those for shipment in commercial trade channels. There were periods when the volume of shipments was almost greater than the force could handle, but it was never necessary to postpone inspections until the following day as did occur in previous seasons when it was impossible to secure sufficient personnel to handle the daily volume offered.

#### SWEET POTATOES

One of the leading crops produced in New Jersey is sweet potatoes. Prior to World War II, growers and shippers of this commodity had a reputation for packing a high quality pack. Good demand and below-average production during the war and immediately thereafter made marketing easy and prices high. The result of this situation was a general let-down in quality packed, and for the past two years New Jersey shippers have found that high quality packs from competing areas are making their marketing problems difficult to solve.

Realizing that something must be done if the industry were to continue and improve, the vegetable section of the State Horticultural Society organized a Sweet Potato Industry Committee in 1946. Members of the State College of Agriculture and the Division of Markets were invited to act in an advisory capacity to the committee. The first year's meetings culminated in setting up the U. S. Extra No. 1 grade as the basis for quality, with further specifications relative to size; and restricting scurf to a lesser amount than was permitted in the grade.

A specially designed label was printed showing the variety, size and grade. These labels were to be used only on packages in lots which had been inspected and certified as meeting the grade specifications as well as the

restrictions adopted by the committee. The first season there was small interest manifested by shippers in the program, and the general opinion seemed to be that the requirements set up were too hard to pack.

Early in the fall of 1948 the U. S. Standards for Sweet Potatoes were revised by the standardization department of the U. S. Department of Agriculture. The revision tended to tighten up the quality requirements in each of the established grades. Following this, the Sweet Potato Industry Committee in New Jersey decided that it would be better to pack in accordance with the U. S. No. 1 grade instead of the U. S. Extra No. 1 grade. It was thought that this might create more interest on the part of shippers in the labeling program.

Several meetings were held in an attempt to stimulate grower and shipper interest in the program. Advertising plans were made so that consumer interests in terminal markets might be attracted to the labeled New Jersey sweets. The overall results were disappointing. Shippers bought labels and pledged to use them on a percentage of their shipments. Although there were more than 50,000 labels distributed to shippers throughout the producing areas, there were only 13 truck shipments made, with slightly over 3,000 bushel hampers bearing the label.

During the 1948 season, there were 3 carlots and 30 trucklots of sweet potatoes inspected and certified covering a total of 7,597 bushel hampers.

## CANNERY CROPS INSPECTION

### ASPARAGUS

Contracts between processors and growers were the same for the 1949 season as in 1948 except for price. Again this season a committee composed of directors of the New Jersey Cooperative Asparagus Growers Association, Inc. were authorized to act as bargaining agents to negotiate a satisfactory price for the grower-members. This committee, headed by the president of the organization, held meetings with processors and committed the organization to certain obligations relative to supervising the overall enforcement of members to comply with contract specifications, particularly those relative to continued deliveries under the originally agreed contract price, even though more attractive price offers might come from other interests after the season was well under way. The asking price was ten cents per pound for asparagus meeting contract and grade specifications. Processors accepted this price and the season began with less confusion than in the past several years.

At the beginning of the season all indications pointed to a bumper crop with quality above average. The season began with the first deliveries during the week beginning April 18. During the remainder of April, both quality and volume were only fair. However, early in May favorable growing

weather and successful control of asparagus beetles combined to increase volume of deliveries and quality to a very high level. This continued throughout May. At the end of the month a draught set in which lasted throughout June and into early July. The effects of the drought began to show by the middle of June. Asparagus requires a fairly constant and abundant water supply for high production, and moderately cool weather for maintenance of high quality and good-size spears. Attendant with the drought came high temperatures. Lack of sufficient moisture caused a decrease in volume because the roots are inclined to put up less spears without sufficient water. Those spears which grow above ground tend to show a rapid loosening and spreading of tips when temperatures are high, thereby having an adverse effect upon quality.

Ordinarily, all processors continue to receive and pack asparagus throughout the month of June, and a few continue into the first week of July. This season, toward the end of June, the hot, dry weather caused a severe decrease in volume, and quality dropped to the extent that most producers found it impractical to continue cutting. As a result, the season was shortened and most processors were forced to discontinue packing because volume was insufficient to make continuance practical.

Contracts were the same this season as in 1948 for most asparagus. They stipulated that all asparagus delivered under contract would be graded by the New Jersey Agricultural Society inspectors on the basis of New Jersey No. 1 quality, 7-inch spears,  $\frac{3}{8}$ -inch and larger measured at butt, with  $4\frac{1}{2}$ -inch minimum green. Under these contracts there were 42,385,000 pounds delivered. Seventy-four per cent of this amount conformed to contract and grade specifications for which growers received ten cents per pound; 7 per cent of this amount was below New Jersey No. 1 quality, and undersize; and 19 per cent was classified as Butts, or that part of the spear length in excess of seven inches. Growers received no payment for off-quality, undersize or Butts.

In 1948 under the same contract there were 38,479,400 pounds delivered. Seventy-four per cent met contract and grade specifications; 7 per cent was off-quality and undersize, and 19 per cent was classified as Butts. Although there were approximately four million pounds more asparagus delivered in 1949 than in 1948 the percentages of quality classification were exactly the same. A comparison of figures will show that in 1948 growers received an average of 6.29 cents per pound for total weight delivered. This season they received 7.4 cents per pound for total weight delivered.

While most asparagus was delivered and graded as outlined above, there were 3,578,040 pounds delivered and graded in accordance with canner-grower contract specifications. Contracts varied to some degree in their stipulations, but were similar enough to combine all grading results which were as follows: 89 per cent Pay Weight, 2 per cent Contract Culls and 9 per

cent Butts. This may be compared with similar contracts in operation during the 1948 season under which the Agricultural Society inspectors graded 2,911,920 pounds with grading results as follows: 86 per cent Pay Weight, 2 per cent Contract Culls and 12 per cent Butts.

The following tables show deliveries and average grades of asparagus for processing for the 1949 season:

ASPARAGUS RESULTS, 1949 SEASON

TABLE I

| Week<br>Ending | Loads<br>Inspected | Total<br>Pounds | Percent                          |  | Butts |
|----------------|--------------------|-----------------|----------------------------------|--|-------|
|                |                    |                 | N. J. No. 1<br>Large &<br>Medium | N. J. No. 2,<br>N. J. No. 1<br>Small & Butts |       |
| April 23       | 297                | 125,080         | 70                               | 6  | 24    |
| 30             | 2,232              | 1,728,520       | 72                               | 8  | 20    |
| May 7          | 4,318              | 6,564,120       | 71                               | 8  | 21    |
| 14             | 3,688              | 4,663,560       | 78                               | 5  | 17    |
| 21             | 4,446              | 6,422,160       | 75                               | 5  | 20    |
| 28             | 3,391              | 4,032,360       | 77                               | 5  | 18    |
| June 4         | 3,913              | 4,691,440       | 79                               | 5  | 16    |
| 11             | 4,228              | 5,202,600       | 74                               | 7  | 19    |
| 18             | 4,173              | 4,976,800       | 70                               | 8  | 22    |
| 25             | 3,486              | 3,050,800       | 68                               | 11   | 21    |
| July 2         | 1,174              | 872,280         | 67                               | 12   | 21    |
| 9              | 81                 | 55,280          | 70                               | 9  | 21    |
| Season         | 35,427             | 42,385,000      | 74                               | 7  | 19    |

ASPARAGUS RESULTS, 1949 SEASON

TABLE II

| Week<br>Ending | Loads<br>Inspected | Total<br>Pounds | Percent    |                | Butts |
|----------------|--------------------|-----------------|------------|----------------|-------|
|                |                    |                 | Pay Weight | Contract Culls |       |
| April 23       | 34                 | 10,320          | 95         | 1              | 4     |
| 30             | 196                | 120,640         | 91         | 1              | 8     |
| May 7          | 637                | 504,720         | 90         | 1              | 9     |
| 14             | 409                | 325,520         | 91         | 1              | 8     |
| 21             | 597                | 472,120         | 90         | 1              | 9     |
| 28             | 364                | 328,840         | 92         | ..             | 8     |
| June 4         | 448                | 384,760         | 92         | ..             | 8     |
| 11             | 527                | 439,000         | 89         | 1              | 10    |
| 18             | 567                | 497,080         | 84         | 4              | 12    |
| 25             | 526                | 356,520         | 84         | 3              | 13    |
| July 2         | 238                | 125,960         | 87         | 2              | 11    |
| 9              | 24                 | 12,560          | 97         | 1              | 2     |
| Season         | 4,567              | 3,578,040       | 89         | 2              | 9     |

## TOMATOES

During the 1948 season there were more processors using the services of the New Jersey Agricultural Society inspectors for grading their tomatoes contracted for on the basis of the U. S. Standards for Tomatoes for the Manufacture of Strained Tomato Products, than any previous season. There were 12 processors using the service, and men were stationed at each processing plant and at four receiving stations. At the peak of the season 37 inspectors



were required to handle the work. There was a considerable drop in total volume of tomatoes received at processing plants this season as compared to 1947. There was also a slight lowering in the average grades this season. The two main factors contributing to these results were a reduction in acreage and adverse weather conditions.

Reduced acreage was created prior to the planting season in the spring when growers were generally dissatisfied with contract prices being offered by processors. These prices were from three to five dollars per ton less than were paid the previous season. Growers contended that their production costs were up over the preceding season and, therefore, they should get more; but were generally agreeable to compromise for the same prices received in 1947. On the other hand, processors contended that there was a downward trend in prices for processed foods, and they were offering less than the previous season as a precautionary measure to offset possible losses bound to occur in a flooded market. They offered as a convincing argument the fact that large inventories were still on hand from the previous season's record production and pack.

The usual activity motivated by competition in securing contracts was practically non-existent throughout the tomato producing areas. Some growers decided that the risk was too great, and the margin of possible profit too uncertain and too small as compared to what might be obtained from the same acreage planted in corn or some other crop; hence tomato acreage was reduced considerably.

Adverse weather stemmed from an unprecedented heat wave during the last week in August. Up until that time weather conditions were normal and volume of deliveries had built up gradually as would be normally expected. The heat wave caught the fields at a time when vines were heavily laden with fruit, and open. In the case of early fields, defoliation of plant caused further exposure of the fruit. The sun and heat were merciless, and green tomato fruits were deeply burned, blistered or cooked; and ripe fruits were discolored or scalded.

Quality, which had been only fair early in the season but had gradually become better and reached its highest peak during the week prior to the heat wave, took a decidedly sharp drop at all processing plants. The percentage of culls rose just as sharply. Following the period of extreme heat, the weather became normal again early in September, but the damage was done. Tomatoes ripened with a rush and processors were suddenly deluged with a volume of deliveries exceeding the processing capacity of their plants, which lasted until the end of the second week in September. Long lines of trucks were in evidence at all plants, and processors were from 18 to 24 hours behind in processing deliveries. Processors strained vainly to handle the overwhelming volume, even to the extent of operating their plants 20 hours a day. They worked two ten-hour shifts, and used two hours between each

shift to wash down their processing equipment. At the end of the second week in September the volume decreased rapidly, and although the season did not officially end for all processors until October 9, most of them were through by the end of September.

A comparison of the receipts and average grades for the 1947 and 1948 seasons is as follows: In 1948 the New Jersey Agricultural Society inspectors graded a total of 132,561 tons of tomatoes. The average grades for the State were 60 per cent U. S. No. 1, 36 per cent U. S. No. 2, and 4 per cent Culls. During the 1947 season there were 204,395 tons graded and the average grades were 62 per cent U. S. No. 1, 35 per cent U. S. No. 2 and 3 per cent Culls.

#### SUMMARY 1948 CANNERY TOMATO SEASON AND COMPARISONS WITH FORMER YEARS

| Seasons | Total Tons | U. S. No. 1<br>(Per Cent) | U. S. No. 2<br>(Per Cent) | Culls<br>(Per Cent) |
|---------|------------|---------------------------|---------------------------|---------------------|
| 1948    | 132,561    | 60                        | 36                        | 4                   |
| 1947    | 204,395    | 62                        | 35                        | 3                   |
| 1946    | 107,737    | 65                        | 33                        | 2                   |
| 1945    | 73,549     | 64                        | 33                        | 3                   |
| 1944    | 112,801    | 68                        | 31                        | 1                   |
| 1943    | 149,786    | 66                        | 32                        | 2                   |
| 1942    | 179,363    | 55                        | 42                        | 3                   |
| 1941    | 220,655    | 63                        | 35                        | 2                   |
| 1940    | 162,813    | 55                        | 41                        | 4                   |
| 1939    | 176,576    | 65                        | 32                        | 3                   |
| 1938    | 108,096    | 53                        | 43                        | 4                   |

While asparagus and tomatoes are the two main crops in the State upon which the State grading service is requested, the Division also was requested to grade 375 tons of apples for processing and 155 tons of sweet peppers for processing, both under the U. S. Standards for each of these commodities.

#### OTHER VEGETABLES

In addition to the main products either for fresh market or processing as described in detail in this report, State men were stationed at several of the important auction markets for inspection and arbitration purposes. The Agricultural Society inspectors were also called upon to inspect and certify carlots or less than carlot shipments or storage lots of such products as fresh asparagus for market, cabbage, carrots, cauliflower, celery, green corn, cucumbers, lettuce, onions, green onions, sweet peppers, radishes, mixed vegetables and mixed lots of fruits and vegetables.

The following table shows the ten-year record of shipping point inspections by products:



## TEN-YEAR RECORD OF SHIPPING POINT INSPECTIONS BY PRODUCTS

|                           | 39-40 | 40-41 | 41-42 | 42-43 | 43-44 | 44-45 | 45-46 | 46-47  | 47-48  | 48-49  |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| Apples                    | 672*  | 611   | 100   | 609** | 151   | 408   | 47    | 349    | 213    | 100    |
| Asparagus                 | ..    | ..    | ..    | ..    | ..    | 16    | 6     | 44     | 3      | 50     |
| Beans                     | 1     | ..    | ..    | 7     | 2     | 3     | 1     | ..     | ..     | ..     |
| Beets                     | ..    | ..    | 1     | 3     | 6     | 3     | 17    | ..     | ..     | ..     |
| Cabbage                   | ..    | ..    | 1     | 1     | 3     | 22    | 14    | 4      | 13     | 3      |
| Carrots                   | ..    | ..    | ..    | 3     | 16    | 4     | 3     | 2      | 5      | 5      |
| Cauliflower               | ..    | ..    | ..    | ..    | ..    | ..    | ..    | ..     | 1      | 5      |
| Celery                    | ..    | ..    | ..    | ..    | ..    | 1     | 2     | 6      | 11     | 5      |
| Corn                      | ..    | ..    | 3     | ..    | ..    | 1     | 51    | 82     | 100    | 91     |
| Cucumbers                 | ..    | ..    | ..    | ..    | 6     | 8     | 3     | 1      | 2      | 3      |
| Eggplant                  | ..    | ..    | 1     | ..    | 1     | 12    | 3     | ..     | ..     | ..     |
| Lemons                    | ..    | ..    | ..    | ..    | ..    | ..    | ..    | 1      | 1      | ..     |
| Lettuce                   | ..    | ..    | ..    | 1     | ..    | 20    | 2     | 4      | 1      | 4      |
| Onions                    | 3     | 8     | 1     | 2     | ..    | 3     | 26    | 10     | 38     | 36     |
| Onions, green             | ..    | ..    | ..    | ..    | ..    | ..    | ..    | ..     | ..     | 10     |
| Parsnips                  | ..    | ..    | ..    | ..    | ..    | 11    | 7     | ..     | ..     | ..     |
| Peaches                   | 49    | 26    | 1     | 1     | 1     | 3     | 7     | 3      | ..     | ..     |
| Pears                     | ..    | ..    | ..    | ..    | ..    | ..    | ..    | ..     | ..     | ..     |
| Peppers                   | ..    | ..    | ..    | ..    | 17    | 52    | 50    | 12     | 78     | 36     |
| Potatoes                  | 397   | 2,264 | 1,328 | 2,941 | 5,206 | 2,827 | 5,994 | 11,333 | 14,066 | 12,586 |
| Radishes                  | ..    | ..    | ..    | ..    | ..    | 1     | ..    | ..     | 1      | 7      |
| Rhubarb                   | ..    | ..    | ..    | ..    | ..    | ..    | 2     | ..     | ..     | ..     |
| Rutabagas                 | ..    | ..    | ..    | ..    | ..    | ..    | 2     | ..     | ..     | ..     |
| Spinach                   | 6     | 3     | 8     | 30    | 1     | 13    | 17    | ..     | 1      | ..     |
| Squash                    | ..    | ..    | ..    | ..    | ..    | 7     | 1     | ..     | ..     | ..     |
| Sweet Potatoes            | 62    | 9     | 29    | 19    | 47    | 178   | 20    | 41     | 5      | 33     |
| Tomatoes                  | ..    | ..    | ..    | ..    | ..    | ..    | ..    | ..     | 6      | ..     |
| Turnips                   | ..    | ..    | ..    | ..    | 1     | 2     | 21    | 15     | 2      | ..     |
| Mixed Fruits & vegetables | ..    | ..    | ..    | ..    | ..    | ..    | ..    | ..     | 357    | 684    |
| Mixed vegetables          | ..    | ..    | ..    | 4     | 9     | 77    | 65    | 31     | 210    | 155    |
| Totals                    | 1,190 | 2,291 | 1,473 | 3,621 | 5,467 | 3,672 | 6,361 | 11,938 | 15,114 | 13,813 |

\* Includes 101 certificates issued on "condition only" on apples in cold storages.

\*\* Includes 97 certificates issued on "cider apples according to contract."

## MARKET ACTIVITIES

The Department's fruit and vegetable marketing program, which entails close cooperation with farmers marketing organizations, has functioned well during the year. The farmers organizations were, in almost all instances, organized with the assistance of the Division of Markets during the past 25 years. Previous to that time, practically all established markets were owned and operated by municipalities. Close to 8,000 farmers are members of these fruit and vegetable marketing associations, and many hundreds of other farmers and dealers take advantage of the marketing facilities made available. The New Jersey system has relieved the State and city administrations of financial and management responsibilities. The farmers organizations, however, comply with all State and municipality laws or ordinances affecting them, and operate in such a way as to be looked favorably upon by local government agencies.

The program has included farmers markets established in the heavy congested areas. These are located in the metropolitan northeast section, along the shore, and in the larger inland cities such as Trenton, Camden, Perth Amboy and New Brunswick. In the producing areas, the program includes the assembly or shipping point markets. Most of these are of the auction type.

To the city farmers markets and to the shipping point markets the farmers haul their products, which are sold to buyers from New Jersey consuming areas and cities and towns in nearby states. The system encourages more direct and economic distribution. Shipments to large primary markets such as New York and Philadelphia have been reduced in favor of more direct distribution.

During the year the Division office and the markets have been visited by many persons from federal and state agencies, who have made a study of the system with the idea of comparison with marketing facilities in other states. Comments and reports of these and other agencies have been favorable and complimentary. The administrators of the Research and Marketing program of the USDA have used New Jersey as an example in better marketing procedure.

The Division has found that farmer-owned market developments are more conscious of the need of assistance in keeping abreast of the times and in making their associations of greater value to the areas served by them. These groups cooperate closely with the Division of Markets and with other State agencies. The Division works closely with private-owned marketing agencies and with public-owned city farmers markets.

The Division also works closely with commodity associations, which in general do no marketing work but which are organized to advise and assist groups of farmers through combined thinking of their members. In the fruit and vegetable field, the most important of these are the State Potato Association, with which the Division works principally through the Potato Industry Committee; the State Horticultural Society and its committees on sweet potatoes, small fruits, the Peach Council and the Apple Council; the Tomato Growers Association and the Asparagus Growers Association.

The activities of all of these associations are closely aligned with the regulatory and promotional work of the Division. Much of the results of the endeavors of the Division are shown in the successes and operation reports of these associations. The reports of each of the following lines of work demonstrate this fact.

#### SHIPPING POINT AUCTION MARKETS

As in former years, when describing the activities of these markets, facts covering the harvesting or calendar year have been used. Therefore, this report covers the entire marketing season of 1948 and information on the first half of 1949, or until June 30.

The marketing season for the calendar year 1948 was a successful one. Temperatures and rainfall combined to produce excellent crops of vegetables in volume and quality. Prices were especially good during the spring and summer, but fell off sharply in the fall months. Offerings on the auctions were about 7 per cent heavier in 1948 than in 1947, and prices per package were 23.75 per cent larger than in 1947.

The accompanying chart gives the sales' volume and cash returns at the individual markets.

A report of the activities of the produce auctions for the first six months of the 1949 calendar year shows that 1,369,302 packages were sold as compared with 1,209,911 packages during the corresponding period of 1948. The average price per package, however, was \$2.50 as compared with \$2.92 a package during the first six months of 1948.

The supervisor of fruit and vegetable standardization devotes the principal part of his time in working with managers, committees and boards of directors of the produce auction associations. He supervises work of inspectors assigned to these markets. He attends most directors' meetings and he, together with other representatives of the Division, attends all annual meetings of the associations. During the past year he started a compilation of destinations to which products sold over the auction blocks were sent. It is the belief of the Division that there is an opportunity to develop valuable promotional work, thereby increasing demand for New Jersey fruits and vegetables. The Division would need a more complete knowledge of distribution, and requirements of cities and consumer desires to which products move. This project will be continued during the complete 1949 season. The supervisor also aids individual producers in problems of packages and grading in order to qualify for better prices.

As in the past several years' reports, a table showing the principal commodities sold at the fruit and vegetable auctions is submitted. This chart shows the sales for the year ending December 31, 1948, and comparison with the year 1947.

## THIRTY-FOURTH ANNUAL REPORT

109

## SUMMARY OF SALES AT FRUIT AND VEGETABLE AUCTION MARKETS

| Market   | Season of 1948             |                | Season of 1947             |                |
|--|----------------------------|----------------|----------------------------|----------------|
|  | Number of<br>Packages Sold | Value of Sales | Number of<br>Packages Sold | Value of Sales |
| Bargaintown  |                            |                | 16,448                     | \$30,672.95    |
| Beverly  | 323,229                    | \$447,414.95   | 302,710                    | 275,732.26     |
| Beverly Consigned<br>and Special   | 32,056                     | 69,003.80      | 333,853                    | 417,318.26     |
| Cedarville   | 711,813                    | 1,551,203.89   | 609,794                    | 1,078,465.34   |
| Glassboro  | 425,667                    | 711,820.48     | 377,973                    | 493,140.94     |
| Hammonton  | 107,838                    | 350,494.38     | 132,171                    | 328,679.24     |
| Hightstown   | 320,740                    | 439,966.85     | 350,279                    | 411,492.19     |
| Hightstown Special<br>Sales  | 88,743                     | 219,550.48     | 99,468                     | 234,629.12     |
| Landisville  | 306,894                    | 541,956.09     | 315,112                    | 395,504.74     |
| Landisville Consigned<br>and Special   | 91,915                     | 128,873.28     | 114,151                    | 186,799.30     |
| Pedricktown  | 183,571                    | 470,578.69     | 196,816                    | 397,379.95     |
| Swedesboro   | 1,015,243                  | 2,113,201.00   | 956,462                    | 1,783,368.00   |
| Vineland   | 848,185                    | 1,531,078.16   | 655,957                    | 889,439.43     |
| Washington   | 100                        | 110.00         | 48,375                     | 71,411.93      |
| Total—by<br>auction  | 4,243,280                  | \$8,157,824.49 | 3,962,097                  | \$6,155,286.97 |
| Total—all<br>sales   | 4,455,994                  | \$8,575,252.05 | 4,509,569                  | \$6,994,033.65 |
| Average price per package (by auction), 1948                                 |                            |                |                            | \$1.923        |
| Average price per package (by auction), 1947                                 |                            |                |                            | \$1.554        |
| Per cent of increase in price per package, all commodities<br>1948 over 1947 |                            |                |                            | 23.75%         |

(In addition to markets listed, other markets may have had special sales, no record of which is available in Division of Markets office.)

**PRINCIPAL COMMODITIES SOLD AT FRUIT AND VEGETABLE AUCTION MARKETS  
VOLUME IN 1948 WITH 1947 COMPARISONS**

| Commodity                     | Unit                    | 1948    | 1947    |
|-------------------------------|-------------------------|---------|---------|
| Apples                        | Bushels                 | 14,239  | 26,210  |
| Peaches                       | Bushels                 | 167,044 | 251,649 |
| Blackberries                  | Crates, 24 quarts       | 3,433   | 12,793  |
| Blueberries and huckleberries | Crates, 12 pints        | 17,000  | 13,724  |
| Raspberries                   | Crates, 12 pints        | 33,643  | 42,593  |
| Strawberries                  | Crates, 24 quarts       | 77,097  | 35,705  |
| Asparagus                     | Crates, doz bunches     | 481,017 | 506,770 |
| Beans, lima                   | Bushels                 | 54,922  | 75,327  |
| Beans, snap                   | Bushels                 | 158,258 | 109,273 |
| Beets                         | Dozen bunches           | 30,990  | 46,831  |
| Broccoli-rabe                 | Bushels                 | 52,405  | 34,059  |
| Cabbage                       | Bushels                 | 87,501  | 177,295 |
| Cantaloupes                   | Bushels                 | 27,348  | 17,977  |
| Carrots                       | Dozen bunches           | 5,572   | 8,495   |
| Carrots                       | Bushels                 | 5,055   | 3,682   |
| Cauliflower                   | Crates                  | 9,105   | 7,284   |
| Corn, sweet                   | Bushels or sacks        | 159,564 | 122,715 |
| Cucumbers and pickles         | Bushels                 | 193,093 | 211,945 |
| Dandelion                     | Bushels                 | 34,671  | 39,359  |
| Eggplants                     | Bushels                 | 114,950 | 93,648  |
| Lettuce                       | Crates, 2 dozen         | 129,133 | 98,297  |
| Okra                          | Climax baskets, 12 qts. | 30,860  | 24,198  |
| Onions                        | Sacks, 50 lbs.          | 176,533 | 122,972 |
| Parsley                       | Bushels                 | 25,038  | 23,172  |
| Peas                          | Bushels                 | 1,003   | 221     |
| Peppers                       | Bushels                 | 789,345 | 662,043 |
| Potatoes, sweet               | Bushels                 | 214,714 | 116,856 |
| Potatoes, white               | Sacks, 100 lbs.         | 127,696 | 61,950  |
| Radishes                      | Bushels                 | 17,215  | 17,086  |
| Rape                          | Crates                  | 20,843  | 19,962  |
| Scallions                     | Bushels                 | 6,267   | 4,122   |
| Spinach                       | Bushels                 | 6,386   | 19,224  |
| Squash                        | Bushels                 | 37,804  | 26,260  |
| Tomatoes                      | Climax baskets          | 839,139 | 715,465 |
| Watermellons                  |                         | 20,011  | 19,712  |
| Miscellaneous                 | Packages                | 91,367  | 107,114 |

**CITY FARMERS MARKETS**

As in the past, the Division has cooperated with all agencies having to do with farmers markets located in cities in New Jersey, and to which farmers have brought the products of their farms for sale. It also has worked to a lesser degree with produce house operators and city officials in New York and Philadelphia, which although not part of New Jersey are, because of their location, very important markets for New Jersey. Cooperation in New York and Philadelphia is chiefly in the line of price reporting, although occasional visits are made and conferences attended in those markets.

The principal farmers market in Newark is farmer-owned and operated, although the city does operate a small market for farmers adjacent to the wholesale dealers market. Aside from this small farmers market, only two markets in the State are municipally operated. They are in Camden and in Atlantic City.



In last year's report mention was made of the new development in Trenton. The Trenton Market was for 25 years a municipal project. During all those years the Division worked closely with the market master on the market, and when the city decided to close the market, this office aided in establishing a farmers cooperative and a new Trenton Farmers Market. The past year has proved the value of the new market both to the farmers and to the consumers. Both are well pleased. Volume of sales on the Trenton Market has greatly increased. The association operating the market has made space available under sheds and in adjacent buildings for stores handling out-of-state products and for farmers' supplies.

For many years the Division of Markets has felt that some statistical information relative to sales by farmers at city markets had value. It has, therefore, through the cooperation of the Newark directors and the municipal government in Atlantic City obtained weekly reports on products sold by farmers. These reports have been received for many years by the Division office and a summary given in the annual report. The reports for these two markets follow.

The volume of sales in the Atlantic City Market for the 1948-1949 fiscal year was considerably below the 1947-1948 season. The 1947-1948 season volume was higher than previous years. During this past year 7,296 farmer-loads, consisting of 371,229 bushels of fruits and vegetables, 125,330 dozens of eggs and 61,000 pounds of poultry, sold for \$644,251.15. In the 1947-1948 season there were 425,515 bushels of fruits and vegetables, 147,930 dozens of eggs and 96,000 pounds of poultry, which sold for \$720,011.75.

The volume in the Newark Farmers Market remained about the same as the previous year. This market handled 6,810,418 bunches of vegetables and 1,647,834 packages (mostly bushels) of fruits and vegetables during the 1948-1949 year. In the 1947-1948 year the volume was 6,642,950 bunches of vegetables and 1,735,764 packages of fruits and vegetables.

#### MISCELLANEOUS

During the past year the Division has cooperated with the Farm Bureau in holding three meetings at which the activities of agricultural cooperatives were featured. It also has aided the Farm Bureau in developing plans for a model Roadside Market. When this market is in operation it is hoped that through a program of fair dealing with the public, and in handling high-quality farm products at reasonable cost, that consumers traveling New Jersey highways will regain their confidence in roadside marketing. New Jersey has a splendid opportunity in promoting this method of direct sale to consumers.

The State association of auction market associations continued to hold its annual meetings and its monthly meetings of the produce auction associations. The produce section again held a producer-dealer dinner meeting at

which buyers entered into the discussion of market improvements. The State-wide association again carried on a profitable advertising program for produce auctions. It also sponsored the annual Cooperative Interests Dinner held during Farmers Week in Trenton.

### BUREAU OF POULTRY SERVICE

A large volume of work and a high degree of achievement are reported for the year in the regulatory and promotional projects of the bureau. This year, the twenty-sixth since the poultry improvement plan was undertaken, and the seventeenth since poultry products cooperative marketing was successfully established in New Jersey, marked historical high points in both of these branches of bureau activities. The number of birds enrolled in the State's breed and health improvement program exceeded six hundred thousand. The cooperative marketing of poultry products under State inspection supervision exceeded 16 million dollars. Services of the bureau related to these projects and to the poultry industry in general were comparably increased, with no additional members of the staff. Such expansion of the bureau's services is possible because much of the new and increased volume of work is in those projects in which cooperative agents and inspectors under supervision are employed by the industry. Thus, the work of each State staff member is projected in breeding farms, hatcheries and marketing operations through a large number of privately employed persons, officially qualified by examination, responsible to the State and with their work checked and supervised. Details and statistics of the various activities are submitted under each project heading.

That section of the report entitled "Poultry Standardization" is devoted to the poultry improvement work of the bureau. This work is under a supervisor assisted by one full-time inspector, whose efforts are multiplied many times by the certified flock selectors responsible to the Department, and by the large number of hatcheries and breeding flock owners who are participants in the New Jersey-United States Poultry and Turkey Improvement Plans.

The inspection services under the marketing programs and the enforcement of the New Jersey Fresh Egg Law are carried by another supervisor who is assisted in the fresh egg law work by four full-time inspectors. Responsible to the Department, although not employed by the Department, are 25 state-licensed egg and poultry inspectors, 21 of whom are employed by farmers cooperative marketing associations, and four by privately-owned egg candling operations.

Members of the staff perform services beyond specified regulatory functions, to be of real service to the poultry industry, marketing agencies and the consuming public. Staff members serve in an advisory capacity to agricultural, marketing and business organizations on problems related to breed-

ing, marketing, quality improvement, and promotion. Cooperative activities with other government agencies continued on problems closely related to the program.

### POULTRY STANDARDIZATION

Under this title, the Division of Markets carries on the poultry breed improvement program, coordinated with the program of the United States Department of Agriculture and with other states. The National Poultry Improvement Plan has been in operation in New Jersey 14 years, and the National Turkey Improvement Plan six years. Contracts for continuing this cooperative program during 1949-1950, between this Division and the United States Department of Agriculture, are being prepared at the time of this report.

As in 1947-1948, there was an increase in applications for poultry standardization service. Thirty-eight and four-tenths per cent of the birds were done by State men; the balance by agents. The Bureau of Poultry Service inspector and one Division of Animal Industry man, who was able to spend more time in the field, provided a better check and more assistance for field agents than during the past years.

Under the program as revised a few years ago, the use of privately-employed flock selecting agents and pullorum testing agents was continued. The supervisor of poultry standardization supervised the work of 65 agents who, after qualifying, were licensed as follows: 52 as flock selectors and 49 as testing agents.

New Jersey is steadily progressing in the control of pullorum disease. With the exception of a few flocks, all cooperators were able to have their flocks well under the minimum pullorum rating of less than one per cent tolerance.

Due to the change in the method of classifying Pullorum-Passed flocks, the number of birds in this classification increased from 26,093 in 1947-1948 to 347,930 in 1948-1949. This increase in Pullorum-Passed birds was at the expense of the volume of Pullorum-Controlled birds.

The various stages used this season were:

| Breeding Stages                 | Pullorum Classes              |
|---------------------------------|-------------------------------|
| N.J.-U.S. Register of Merit     | N.J.-U.S. Pullorum-Controlled |
| N.J.-U.S. Record of Performance | N.J.-U.S. Pullorum-Passed     |
| N.J.-U.S. Certified             | N.J.-U.S. Pullorum-Clean      |
| N.J.-U.S. Approved              |                               |

### EXTENT OF PROGRAM

The following statistics on the poultry standardization program indicate the scope of the services rendered:

POULTRY TABLE 1

## N. J.-U. S. POULTRY IMPROVEMENT PLANS

|   | Number in<br>1948-49 | Number in<br>1947-48 | Per Cent<br>Changes<br>in 1949 |
|---|----------------------|----------------------|--------------------------------|
| Number of flocks cooperating                              | 605                  | 589                  | + 2.7                          |
| Total number of breeders                                  | 600,665              | 558,737              | + 7.5                          |
| Number of hatcheries cooperating                          | 93                   | 86                   | + 8.1                          |
| Hatchery capacity cooperating                             | 8,435,492            | 7,838,730            | + 7.6                          |
| Hatchery capacity in New Jersey                           | 12,853,000           | 11,429,000           | + 12.5                         |
| Number of birds in pullorum classes only                  | 31,887               | 38,009               | — 16.1                         |
| Number of birds in Approved stages only                   | 462,032              | 413,036              | + 11.9                         |
| Number of birds in Certified stages only                  | 106,746              | 107,696              | — 0.9                          |
| Number of birds in ROP Trapnest                           | 5,931                | 5,092                | + 16.5                         |
| Number of birds qualified in Register of Merit            | 204                  | 205                  | — 0.5                          |
| Number of birds qualified for Honor Roll                  | 97                   | 97                   | ..                             |
| Number of females in ROP breeding pens                    | 1,778                | 1,665                | + 6.8                          |
| Number of ROP chicks produced                             | 47,714               | 39,842               | + 19.8                         |
| Number of ROP chicks and cockerels sold                   | 3,951                | 2,472                | + 59.8                         |
| Number of ROP chicks and cockerels entering<br>New Jersey | 7,237                | 5,056                | + 43.1                         |
| Number of ROP cockerels leg banded                        | 8,996                | 8,455                | + 6.4                          |
| Percentage of birds reacting to the pullorum test         | 0.46                 | 0.37                 | ..                             |
| Number of flock inspections                               | 266                  | 184                  | + 44.6                         |
| Number of hatchery inspections                            | 99                   | 95                   | + 4.2                          |
| Number of ROP inspections                                 | 47                   | 64                   | — 26.6                         |

Tables 2 and 3 which follow, give the classification and distribution of birds under supervision, and the number of birds banded by breeds and by counties.

Small flocks are being eliminated because of lack of improvement in cleaning up pullorum. The trend in New Jersey is toward still larger breeding flocks and to no reactors on the last pullorum test. The hatcheries are requiring more and more pedigreed males on their flocks, even on their crossbreds. The ROP (Record of Performance) stage is rapidly changing into the ROM (Register of Merit) or family testing stage.

The Eighth Annual Qualification and Examination Day for flock selectors and pullorum testers was held in Trenton. Instructors from the poultry department of the State College of Agriculture, Rutgers University, cooperated with the Division of Markets and the Division of Animal Industry. Twenty-

POULTRY TABLE 2  
CLASSIFICATION AND DISTRIBUTION OF BIRDS UNDER SUPERVISION IN THE POULTRY STANDARDIZATION PROGRAM  
NUMBER OF BIRDS

| County     | No.<br>of<br>Flocks | N. J.-U. S. Certified |                |               | N. J.-U. S. Approved |                |               | N. J. -U. S.         |                |               | Totals  |
|------------|---------------------|-----------------------|----------------|---------------|----------------------|----------------|---------------|----------------------|----------------|---------------|---------|
|            |                     | Pul. Con-<br>trolled  | Pul.<br>Passed | Pul.<br>Clean | Pul. Con-<br>trolled | Pul.<br>Passed | Pul.<br>Clean | Pul. Con-<br>trolled | Pul.<br>Passed | Pul.<br>Clean |         |
| Atlantic   | 16                  | ..                    | 12,205         | ..            | 8,085                | 18,361         | ..            | ..                   | ..             | ..            | 38,651  |
| Bergen     | 7                   | ..                    | 2,271          | ..            | 304                  | ..             | 458           | 2,375                | ..             | ..            | 5,408   |
| Burlington | 23                  | ..                    | 6,838          | ..            | 5,512                | 9,684          | 488           | ..                   | 2,046          | ..            | 24,568  |
| Camden     | 2                   | ..                    | ..             | ..            | ..                   | 1,414          | 84            | ..                   | ..             | ..            | 1,498   |
| Cape May   | 11                  | ..                    | ..             | ..            | ..                   | 15,121         | 4,794         | ..                   | ..             | ..            | 19,915  |
| Cumberland | 156                 | ..                    | 5,273          | 6,679         | 6,017                | 127,067        | 2,279         | ..                   | 268            | ..            | 147,583 |
| Gloucester | 22                  | ..                    | 4,124          | 16,742        | 1,761                | 8,186          | 19            | ..                   | ..             | ..            | 30,832  |
| Hunterdon  | 47                  | 966                   | 5,792          | ..            | 28,496               | 11,803         | 1,451         | 1,877                | 1,834          | ..            | 52,219  |
| Mercer     | 19                  | ..                    | 462            | ..            | 593                  | 2,264          | 7,933         | ..                   | 1,291          | ..            | 12,543  |
| Middlesex  | 15                  | ..                    | 986            | 5,446         | ..                   | 8,525          | 7,705         | ..                   | 9              | ..            | 22,671  |
| Monmouth   | 83                  | ..                    | 983            | 3,581         | 47,739               | 26,661         | ..            | 8,442                | 4,206          | 409           | 92,021  |
| Morris     | 5                   | ..                    | ..             | ..            | ..                   | 633            | ..            | ..                   | 1,325          | ..            | 1,958   |
| Ocean      | 77                  | 6,799                 | 10,883         | 3,724         | 40,801               | 31,215         | ..            | 147                  | 1,835          | ..            | 95,404  |
| Passaic    | 13                  | ..                    | ..             | 5,625         | 486                  | 993            | ..            | 1,160                | 463            | ..            | 8,727   |
| Salem      | 76                  | ..                    | 2,530          | ..            | 5,064                | 12,759         | 512           | ..                   | ..             | ..            | 20,865  |
| Somerset   | 23                  | ..                    | ..             | 1,923         | 3,410                | 1,726          | 6,030         | ..                   | 263            | 110           | 13,462  |
| Sussex     | 7                   | ..                    | 2,914          | ..            | ..                   | 77             | 884           | 541                  | 64             | 646           | 5,126   |
| Warren     | 3                   | ..                    | ..             | ..            | ..                   | ..             | 4,638         | ..                   | 2,576          | ..            | 7,214   |
| Totals     | 605                 | 7,765                 | 55,261         | 43,720        | 148,268              | 276,489        | 37,275        | 14,542               | 16,180         | 1,165         | 600,665 |



POULTRY TABLE 3  
NUMBER OF BREEDERS, BY COUNTIES AND VARIETIES

| County     | S. C.<br>White<br>Leghorns | New<br>Hamp-<br>shires | Rhode<br>Island<br>Reds | Barred<br>Rocks | White<br>Rocks | Jersey<br>Black<br>Giants | White<br>Wyan-<br>dottes | Others<br>BM-WC-<br>LB-BL<br>Bantams,<br>etc. | Crosses | Turkeys | Totals  |
|------------|----------------------------|------------------------|-------------------------|-----------------|----------------|---------------------------|--------------------------|---|---------|---------|---------|
| Atlantic   | 17,508                     | 14,710                 | 432                     | 1,811           | ..             | ..                        | ..                       | ..  | 4,190   | ..      | 38,651  |
| Bergen     | 1,841                      | 2,862                  | 125                     | 122             | ..             | ..                        | ..                       | ..  | ..      | 458     | 5,408   |
| Burlington | 7,569                      | 7,714                  | 5,135                   | 539             | 1,175          | 858                       | ..                       | ..  | 1,089   | 488     | 24,568  |
| Camden     | ..                         | ..                     | ..                      | ..              | ..             | ..                        | ..                       | ..  | 1,414   | 84      | 1,498   |
| Cape May   | 7,499                      | 488                    | 8,132                   | 173             | ..             | ..                        | ..                       | ..  | 3,623   | ..      | 19,915  |
| Cumberland | 96,036                     | 7,040                  | 8,062                   | 1,618           | 2,565          | ..                        | 343                      | 327   | 31,434  | 158     | 147,583 |
| Gloucester | 22,330                     | 2,560                  | 2,770                   | 45              | 376            | ..                        | ..                       | 15  | 211     | 2,525   | 30,832  |
| Hunterdon  | 26,882                     | 5,560                  | 9,358                   | 7,832           | ..             | ..                        | ..                       | ..  | 1,955   | 632     | 52,219  |
| Mercer     | 4,111                      | 4,596                  | ..                      | 2,575           | ..             | ..                        | ..                       | ..  | 799     | 462     | 12,543  |
| Middlesex  | 20,441                     | 280                    | 957                     | ..              | ..             | ..                        | ..                       | ..  | ..      | 993     | 22,671  |
| Monmouth   | 77,767                     | 3,554                  | 1,191                   | 3,369           | ..             | ..                        | ..                       | ..  | 3,795   | 2,345   | 92,021  |
| Morris     | 1,893                      | ..                     | 65                      | ..              | ..             | ..                        | ..                       | ..  | ..      | ..      | 1,958   |
| Ocean      | 93,875                     | 369                    | 162                     | ..              | ..             | ..                        | 88                       | ..  | 910     | ..      | 95,404  |
| Passaic    | 5,781                      | 1,619                  | 215                     | ..              | 649            | ..                        | ..                       | ..  | ..      | 463     | 8,727   |
| Salem      | 5,642                      | 2,287                  | 376                     | 1,276           | 1,213          | ..                        | 220                      | ..  | 9,851   | ..      | 20,865  |
| Somerset   | 7,083                      | 438                    | 3,558                   | 1,829           | 144            | ..                        | ..                       | 300   | ..      | 110     | 13,462  |
| Sussex     | ..                         | 1,530                  | 2,914                   | 77              | ..             | ..                        | ..                       | 64  | ..      | 541     | 5,126   |
| Warren     | 2,576                      | 3,711                  | ..                      | ..              | ..             | ..                        | ..                       | ..  | ..      | 927     | 7,214   |
| Totals     | 398,834                    | 59,318                 | 43,453                  | 21,266          | 6,122          | 858                       | 651                      | 706   | 59,271  | 10,186  | 600,665 |

eight persons took the examinations, of whom 22 qualified and were given field tests. The instruction program has emphasized breed improvement together with pullorum disease control. Selecting agents operate only in the Approved and Certified breeding stages. Testing agents operated in the Pullorum-Controlled and Pullorum-Passed stages. The work of testing agents was recognized in the Pullorum-Passed class for a trial period of one year, with approval of the Board of Agriculture, and was satisfactory; therefore, may be recommended for extension for another year. There is developing a strong demand to recognize their work under strict supervision in qualifying flocks for the Pullorum-Clean classification.

Federal supervisors were in the State only once last year. In place of the federal supervisors visiting each state in the fall, regional meetings of state supervisors were held. The northeastern meeting, including New Jersey, met in Boston. These regional meetings result in more uniform interpretation of requirements and better cooperation between states.

The sanitation policy of requiring the Department's agents to change to freshly laundered coveralls, and to disinfect rubber boots before entering poultry premises, continues to meet with the approval of cooperating poultrymen and hatcherymen.

For some time it has been felt the charges for services rendered should be studied and revised. As a result, a new schedule of charges was devised, effective this past season. The new charges for service, including the maximum charge for flocks of more than 1,000 birds, with a sliding scale according to the side of the State crew required, is working satisfactorily.

The Bureau of Poultry Service continued to cooperate in the program of the New Jersey Poultry Breeders Association which helps meet the need for disseminating information on breed improvement.

Several lots of N. J.-U. S. ROP hatching eggs were air-shipped to South American countries during the past season. The bureau cooperated with breeders in the necessary certification and also in expediting transportation.

#### COOPERATIVE MARKETING

Egg sales volume and total value of marketings reached their highest point in history during the past year at the farmers cooperative auction markets in Flemington, Hightstown, Mount Holly and Vineland, all of which are under State inspection supervision; and in Paterson which operates on market grades.

A total of 795,832 cases of eggs and 102,301 crates of poultry was sold by these markets. Egg sales volume was 10.4 per cent greater than last year. The total value of eggs handled by these markets was \$14,344,775.56, which was ten per cent greater than the previous year. The total value of poultry was \$1,786,063.59, which is 21.4 per cent greater. Average price per 30-dozen case of eggs was \$18.02, 0.44 per cent lower than in 1947-1948.

The five auction markets (Flemington, Hightstown, Mount Holly, Vineland and Paterson) sold a total of 23,874,960 dozens of eggs from July 1, 1948 to June 30, 1949, for a total of \$14,344,775.56; an annual average of \$0.601 per dozen. The previous year these figures were respectively 21,608,190 dozens sold, \$13,036,501.64 total value, and \$0.603 average price per dozen. It should be noted that these are for all eggs of all grades, sold at public auction, and that the prices and volumes are real and carefully checked.

The six poultry auctions (Flemington, Hackettstown, Hightstown, Mount Holly, Paterson and Vineland) sold a total of 5,194,487 pounds of poultry from July 1, 1948 to June 30, 1949, for a total of \$1,786,063.59, or \$0.344 per pound which is .096 per cent higher than the previous year.

Table 4, "Summary of Egg and Poultry Auction Markets," shows the volume and value of sales at each of the cooperative markets, and the total of all sales for the fiscal year.

POULTRY TABLE 4  
SUMMARY OF EGG AND POULTRY AUCTION MARKETS  
July 1, 1948 to June 30, 1949

| Market                          | Cases of Eggs | Value of Eggs   | Crates of Poultry | Pounds of Poultry                | Value of Poultry | Total Value     |
|---------------------------------|---------------|-----------------|-------------------|----------------------------------|------------------|-----------------|
| Flemington                      | 249,434       | \$4,501,315.15  | 51,039            | 2,577,306                        | \$896,942.17     | \$5,398,257.32  |
| Hackettstown                    | ..            | ..              | 6,556             | 335,103                          | 115,995.92       | 115,995.92      |
| Hightstown                      | 110,471       | 1,985,093.47    | 19,050            | 922,401                          | 291,990.26       | 2,277,083.73    |
| Mount Holly                     | 40,765        | 720,700.82      | 15,939            | 828,450                          | 303,150.72       | 1,023,851.54    |
| Paterson                        | 46,629        | 835,034.45      | 9,717             | 531,227                          | 177,984.52       | 1,013,018.97    |
| Vineland                        | 348,533       | 6,302,631.67    | ..                | ....                             | ....             | 6,302,631.67    |
| Totals                          | 795,832       | \$14,344,775.56 | 102,301           | 5,194,487                        | 1,786,063.59     | \$16,130,839.15 |
| Average price per case, 1948-49 |               | \$18.02         |                   | Average price per pound, 1948-49 |                  | \$0.344         |
| Average price per case, 1947-48 |               | 18.10           |                   | Average price per pound, 1947-48 |                  | 0.312           |

Vineland commanded the highest annual average price of \$18.08 per case. Flemington's annual average price was \$18.05; Hightstown, \$17.97; Paterson, \$17.91; and Mount Holly, \$17.68.

Table 5, "Average Price Per Dozen Eggs on Five New Jersey Auction Markets," provides a comparison of seasonal values, and comparisons of the past year with the previous year, and also with prewar 1939, on a monthly basis.

## POULTRY TABLE 5

## AVERAGE PRICE PER DOZEN EGGS ON FIVE NEW JERSEY AUCTION MARKETS

| Month     | For Comparison |          |          |
|-----------|----------------|----------|----------|
|           | 1948           | 1947     | 1939     |
| July      | \$0.6764       | \$0.6283 | \$0.2647 |
| August    | .7172          | .6448    | .2678    |
| September | .6889          | .6672    | .2948    |
| October   | .7150          | .6638    | .3029    |
| November  | .6740          | .6519    | .3118    |
| December  | .5921          | .6652    | .2453    |
|           |                |          |          |
|           | 1949           | 1948     | 1939     |
| January   | .5410          | .6144    | .2372    |
| February  | .47998         | .5575    | .2260    |
| March     | .5183          | .5231    | .2305    |
| April     | .5776          | .5365    | .2218    |
| May       | .5661          | .5488    | .2146    |
| June      | .5995          | .6279    | .2384    |

The total membership in the five cooperative poultry and egg auction markets, excluding Hackettstown which is principally a livestock market, is 6,067 an increase of 107 over last year (Table 6, "Auction Market Membership, by Counties"). Increases were shown at the Flemington, Mount Holly and Vineland markets. The Hightstown Auction has 29 fewer members compared to last year, this reduction being attributed to the marketing agreements which went into effect during the year, and barred many poultrymen from using the cooperative as a surplus market. Membership at the Paterson Auction is unchanged from last year's report; however, the record of membership is confused because business is done with stockholders, who are voting members, as well as with certificate holders, who are non-voting members. The latter classification contains both active and inactive members. The Paterson Market is considering steps to require all members to be stockholders before the facilities can be used by any individual.

## AUCTION MARKETS EGG-FEED RATIO

The economic condition of New Jersey poultrymen may be measured with reasonable accuracy by the monthly egg-feed ratios which have been compiled since 1945. Various uses are made by this Department and the ration also is published in *New Jersey Farm and Garden* magazine. Actual prices paid for eggs at the five egg auction markets are compared with the average prices of poultry feed to compute the ratio.

A year ago, it was possible after analyzing these ratios and related factors to predict correctly in the annual report that egg supplies would be relatively short and prices high during the second half of the 1948 and the first half of 1949, and perhaps until late 1949. A major factor in this conclusion was the fact that the ratios were unfavorable to poultrymen during every month of the preceding year. Normally, the ratios should be favorable for more than one-half of the months if production is to be encouraged, such

as in the normal year 1939 used for comparison, when the ratios were favorable for eight months.

Unusually favorable egg-feed ratios during the 12-months period ending June 30, 1949, are statistically indicative of poultry production encouragement for the immediate future, with plentiful supplies of eggs by the late fall of 1949, relatively low prices, possible surpluses in 1950, and some discouragement for chick placement and poultry expansion next year.

Producers consider themselves to be in a relatively sound condition when the case value of eggs is sufficient so that 7.5 dozens will be equivalent in price to 100 pounds of feed. There were eight months during the reported year, July 1948—June 1949, when the egg-feed ratio favored the New Jersey egg producer.

POULTRY TABLE 6  
AUCTION MARKET MEMBERSHIP, BY COUNTIES

| County     | Flemington<br>Auction | Hightstown<br>Auction | Mount Holly<br>Auction | Paterson<br>Auction | Vineland<br>Auction | Totals |
|------------|-----------------------|-----------------------|------------------------|---------------------|---------------------|--------|
| Atlantic   | ..                    | 1                     | 14                     | ..                  | 77                  | 92     |
| Bergen     | 1                     | ..                    | ..                     | 69                  | ..                  | 70     |
| Burlington | 1                     | 18                    | 782                    | ..                  | 1                   | 802    |
| Camden     | ..                    | ..                    | 24                     | ..                  | 9                   | 33     |
| Cape May   | ..                    | ..                    | ..                     | ..                  | 39                  | 39     |
| Cumberland | ..                    | ..                    | ..                     | ..                  | 537                 | 537    |
| Essex      | 2                     | ..                    | ..                     | 10                  | ..                  | 12     |
| Gloucester | ..                    | ..                    | 4                      | ..                  | 111                 | 115    |
| Hunterdon  | 2,057                 | ..                    | ..                     | ..                  | ..                  | 2,057  |
| Mercer     | 232                   | 262                   | 1                      | ..                  | ..                  | 495    |
| Middlesex  | 85                    | 218                   | ..                     | ..                  | ..                  | 303    |
| Monmouth   | 1                     | 225                   | 3                      | ..                  | ..                  | 229    |
| Morris     | 88                    | ..                    | 1                      | 51                  | ..                  | 140    |
| Ocean      | ..                    | 14                    | 5                      | 1                   | ..                  | 20     |
| Passaic    | 2                     | ..                    | ..                     | 95                  | ..                  | 97     |
| Salem      | ..                    | ..                    | 8                      | ..                  | 95                  | 103    |
| Somerset   | 429                   | 1                     | ..                     | ..                  | ..                  | 430    |
| Sussex     | 9                     | ..                    | ..                     | 94                  | ..                  | 103    |
| Union      | 26                    | ..                    | ..                     | 4                   | ..                  | 30     |
| Warren     | 344                   | ..                    | ..                     | 16                  | ..                  | 360    |
| Totals     | 3,277                 | 739                   | 842                    | 340                 | 869                 | 6,067  |
| 1947—1948  | 3,187                 | 768                   | 834                    | 340                 | 831                 | 5,960  |
| 1946—1947  | 3,105                 | 816                   | 826                    | 275                 | 666                 | 5,688  |
| Difference | + 90                  | - 29                  | + 8                    | ..                  | + 38                | + 107  |

The development of the marketing program is traced in Table 7, "Ten Years of Progress in New Jersey Poultry and Egg Auction Sales."



## THIRTY-FOURTH ANNUAL REPORT

121

## POULTRY TABLE 7

## TEN YEARS OF PROGRESS IN NEW JERSEY POULTRY AND EGG AUCTION SALES

| Year      | Number<br>Cases of<br>Eggs | Number<br>Crates of<br>Poultry | Pounds<br>of<br>Poultry | Total<br>Combined Value<br>Eggs and Poultry |
|-----------|----------------------------|--------------------------------|-------------------------|---|
| 1948-1949 | 795,832                    | 102,301                        | 5,194,487               | \$16,130,839.15                             |
| 1947-48   | 720,273                    | 91,445                         | 4,709,002               | 14,507,843.53                               |
| 1946-47   | 559,625                    | 78,441                         | 4,106,573               | 10,466,605.14                               |
| 1945-46   | 417,851                    | 49,066                         | 2,571,721               | 6,092,989.74                                |
| 1944-45   | 512,667                    | 42,644                         | 2,132,829               | 7,399,916.56                                |
| 1943-44   | 668,597                    | 62,667                         | 3,136,619               | 8,824,088.21                                |
| 1942-43   | 707,019                    | 106,846                        | 5,182,047               | 10,532,636.03                               |
| 1941-42   | 632,570                    | 135,620                        | 6,533,789               | 8,008,928.58                                |
| 1940-41   | 532,249                    | 122,679                        | 5,854,246               | 5,429,696.92                                |
| 1939-40   | 478,541                    | 115,224                        | 5,582,135               | 4,480,972.53                                |
| Totals    | 6,025,224                  | 906,933                        | 45,003,448              | \$91,874,516.39                             |

The accompanying "New Jersey Egg Auctions-Egg-Feed Ratio" (Table 8) shows that the monthly average price of eggs at auctions in New Jersey was at its lowest point of \$0.4799 per dozen in February 1949, the only month below the half-dollar mark; and the high point of \$0.7172 reached in August 1948. The average laying ration (50 per cent scratch grain and 50 per cent mash) was priced below \$5.00 per 100 pounds throughout the reported period except July 1948 when it was 5.20, the highest point for the year. Reflecting improved feed supplies, the costs of the average poultry ration moved gradually and steadily down until it approached the \$4.00 mark at the close of the fiscal year.

## STATE CERTIFIED FRESH EGGS

Continued high prices for good quality eggs resulted in consumer resistance which caused a 19 per cent reduction in the sales of New Jersey State Certified Fresh Eggs. Candling labor, cartons and other expenses slightly increased the operating costs of the project, and while original costs of eggs at wholesale remained approximately stationary, there was a reduction of consumer purchasing power reflected in lower demand for high quality foods.

The bureau continued to supervise the inspection of eggs and also to assist in the promotion of this project, now in its eleventh year. Table 9, "Summary of Certified Egg Project," reports the highlights of this marketing program.

POULTRY TABLE 8  
NEW JERSEY EGG AUCTIONS—EGG-FEED RATIO

## EGGS

|                     |         | July      |           |         | August    |           |         | September |           |         |
|---------------------|---------|-----------|-----------|---------|-----------|-----------|---------|-----------|-----------|---------|
|                     |         | 1948      | 1947      | 1939    | 1948      | 1947      | 1939    | 1948      | 1947      | 1939    |
| Total dozens sold   |         | 1,508,850 | 1,422,330 | 891,300 | 1,408,380 | 1,323,360 | 900,540 | 1,507,230 | 1,560,120 | 855,660 |
| Total price paid    | dollars | 1,020,511 | 893,662   | 235,920 | 1,010,159 | 853,406   | 241,138 | 1,038,194 | 1,040,894 | 252,290 |
| Av. price per dozen | dollars | .6764     | .6283     | .2647   | .7172     | .6448     | .2678   | .6889     | .6672     | .2948   |

## FEED

|                     |         |      |      |      |      |      |      |      |      |      |
|---------------------|---------|------|------|------|------|------|------|------|------|------|
| Av. 100 lb. scratch | dollars | 5.00 | 4.80 | 1.60 | 4.65 | 4.90 | 1.50 | 4.55 | 5.20 | 1.86 |
| Av. 100 lb. mash    | dollars | 5.40 | 5.00 | 2.18 | 5.00 | 5.10 | 2.16 | 4.85 | 5.30 | 2.02 |
| Av. laying ration   | dollars | 5.20 | 4.90 | 1.89 | 4.83 | 5.00 | 1.83 | 4.70 | 5.25 | 1.94 |

## RATIOS

|  |  |      |      |      |      |      |      |      |      |      |
|--|--|------|------|------|------|------|------|------|------|------|
| Dozen eggs required to buy<br>100 lb. feed |  | 7.7  | 7.8  | 7.1  | 6.7  | 7.7  | 6.8  | 6.8  | 7.9  | 6.6  |
| No. lb. feed one dozen eggs<br>will buy    |  | 13.0 | 12.8 | 14.0 | 14.8 | 12.8 | 14.6 | 14.7 | 12.7 | 15.2 |

## EGGS

|                     |         | October   |           |         | November  |           |         | December  |           |           |
|---------------------|---------|-----------|-----------|---------|-----------|-----------|---------|-----------|-----------|-----------|
|                     |         | 1948      | 1947      | 1939    | 1948      | 1947      | 1939    | 1948      | 1947      | 1939      |
| Total dozens sold   |         | 1,721,520 | 1,724,340 | 995,430 | 2,205,480 | 1,608,960 | 969,330 | 2,265,150 | 1,785,900 | 1,135,350 |
| Total price paid    | dollars | 1,230,819 | 1,144,605 | 301,570 | 1,486,190 | 1,049,038 | 302,284 | 1,341,143 | 1,187,922 | 278,465   |
| Av. price per dozen | dollars | .7150     | .6638     | .3029   | .6740     | .6519     | .3118   | .5921     | .6652     | .2453     |

## FEED

|                     |         |      |      |      |      |      |      |      |      |      |
|---------------------|---------|------|------|------|------|------|------|------|------|------|
| Av. 100 lb. scratch | dollars | 4.65 | 5.25 | 1.78 | 4.10 | 5.30 | 1.77 | 4.05 | 5.50 | 1.83 |
| Av. 100 lb. mash    | dollars | 4.30 | 5.40 | 2.54 | 4.60 | 5.40 | 2.52 | 4.65 | 5.60 | 2.58 |
| Av. laying ration   | dollars | 4.88 | 5.33 | 2.16 | 4.35 | 5.35 | 2.14 | 4.35 | 5.55 | 2.20 |

## RATIOS

|  |  |      |      |      |      |      |      |      |       |      |
|--|--|------|------|------|------|------|------|------|-------|------|
| Dozen eggs required to buy<br>100 lb. feed |  | 6.8  | 8.0  | 7.1  | 6.5  | 8.2  | 6.9  | 7.3  | 8.3   | 9.0  |
| No. lb. feed one dozen eggs<br>will buy    |  | 14.7 | 12.5 | 14.0 | 15.5 | 12.2 | 14.6 | 13.6 | 11.99 | 11.2 |

POULTRY TABLE 8—Continued  
NEW JERSEY EGG AUCTIONS—EGG-FEED RATIO

|  |         | January   |           |           | February  |           |           | March     |           |           |
|--|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|  |         | 1949      | 1948      | 1939      | 1949      | 1948      | 1939      | 1949      | 1948      | 1939      |
| <b>EGGS</b>                                |         |           |           |           |           |           |           |           |           |           |
| Total dozens sold                          |         | 2,231,490 | 1,739,910 | 1,099,080 | 2,289,420 | 1,746,210 | 1,085,550 | 2,576,340 | 2,404,590 | 1,372,230 |
| Total price paid                           | dollars | 1,207,299 | 1,068,987 | 260,807   | 1,098,881 | 973,616   | 245,376   | 1,335,236 | 1,257,863 | 316,303   |
| Av. price per dozen                        | dollars | .5410     | .6144     | .2373     | .47998    | .5575     | .2260     | .5183     | .5231     | .2305     |
| <b>FEED</b>                                |         |           |           |           |           |           |           |           |           |           |
| Av. 100 lb. scratch                        | dollars | 4.05      | 5.60      | 1.54      | 3.80      | 5.30      | 1.54      | 3.80      | 5.30      | 1.56      |
| Av. 100 lb. mash                           | dollars | 4.60      | 5.80      | 2.04      | 4.50      | 5.60      | 2.04      | 4.50      | 5.50      | 2.06      |
| Av. laying ration                          | dollars | 4.33      | 5.70      | 1.79      | 4.15      | 5.45      | 1.79      | 4.15      | 5.40      | 1.81      |
| <b>RATIOS</b>                              |         |           |           |           |           |           |           |           |           |           |
| Dozen eggs required to buy<br>100 lb. feed |         | 8.0       | 9.3       | 7.5       | 8.6       | 9.8       | 7.9       | 8.0       | 10.3      | 7.9       |
| No. lb. feed one dozen eggs<br>will buy    |         | 12.5      | 10.8      | 13.3      | 11.6      | 10.2      | 12.6      | 12.5      | 9.7       | 12.7      |
|  |         | April     |           |           | May       |           |           | June      |           |           |
|  |         | 1949      | 1948      | 1939      | 1949      | 1948      | 1939      | 1949      | 1948      | 1939      |
| <b>EGGS</b>                                |         |           |           |           |           |           |           |           |           |           |
| Total dozens sold                          |         | 1,904,250 | 2,456,700 | 1,213,620 | 2,259,930 | 2,024,190 | 1,388,070 | 1,996,920 | 1,811,580 | 1,117,170 |
| Total price paid                           | dollars | 1,099,916 | 1,317,960 | 269,176   | 1,279,283 | 1,110,940 | 297,863   | 1,197,137 | 1,137,553 | 266,289   |
| Av. price per dozen                        | dollars | .5776     | .5365     | .2218     | .5661     | .5488     | .2146     | .5995     | .6279     | .2384     |
| <b>FEED</b>                                |         |           |           |           |           |           |           |           |           |           |
| Av. 100 lb. scratch                        | dollars | 3.80      | 5.30      | 1.58      | 3.80      | 5.20      | 1.64      | 3.70      | 5.20      | 1.69      |
| Av. 100 lb. mash                           | dollars | 4.60      | 5.50      | 2.11      | 4.60      | 5.50      | 2.18      | 4.50      | 5.40      | 2.18      |
| Av. laying ration                          | dollars | 4.20      | 5.40      | 1.84      | 4.20      | 5.35      | 1.91      | 4.10      | 5.30      | 1.94      |
| <b>RATIOS</b>                              |         |           |           |           |           |           |           |           |           |           |
| Dozen eggs required to buy<br>100 lb. feed |         | 7.3       | 10.1      | 8.3       | 6.3       | 9.7       | 8.9       | 6.8       | 8.4       | 8.1       |
| No. lb. feed one dozen eggs<br>will buy    |         | 13.8      | 9.9       | 12.1      | 15.9      | 10.3      | 11.2      | 14.6      | 11.8      | 12.3      |

POULTRY TABLE 9  
SUMMARY OF CERTIFIED EGG PROJECT

| Month  | Doz. Sold<br>1948 | Doz. Sold<br>1947 | Monthly Av.<br>Purchase Price<br>1948 | Selling Price<br>Wholesale<br>In Cartons<br>1948 | Average<br>Markup<br>1948 | Earnings<br>or Loss<br>Per Dozen<br>1948 |
|--------|-------------------|-------------------|---------------------------------------|--|---------------------------|--|
| July   | 149,246           | 169,278           | \$0.6846                              | \$0.7934   | \$0.1088                  | —\$0.0210                                |
| Aug.   | 129,453           | 154,153           | .7589                                 | .8749  | .1160                     | — .0242                                  |
| Sept.  | 120,491           | 141,284           | .7856                                 | .9046  | .1190                     | — .0277                                  |
| Oct.   | 107,517           | 149,950           | .7982                                 | .9199  | .1217                     | — .0204                                  |
| Nov.   | 112,363           | 137,969           | .7301                                 | .8700  | .1399                     | + .0297                                  |
| Dec.   | 125,925           | 165,117           | .6187                                 | .7520  | .1333                     | + .0311                                  |
|        | 1949              | 1948              | 1949                                  | 1949   | 1949                      | 1949                                     |
| Jan.   | 114,306           | 159,704           | .5815                                 | .6899  | .1084                     | + .0075                                  |
| Feb.   | 116,513           | 145,174           | .4799                                 | .5909  | .1110                     | + .0216                                  |
| Mar.   | 134,773           | 191,792           | .5142                                 | .6219  | .1077                     | + .0096                                  |
| Apr.   | 138,432           | 153,882           | .5877                                 | .6841  | .0964                     | — .0037                                  |
| May    | 127,944           | 140,259           | .5724                                 | .6798  | .1074                     | + .0143                                  |
| June   | 123,522           | 151,286           | .6134                                 | .7231  | .1097                     | + .0056                                  |
| Totals | 1,500,485         | 1,859,848         |                                       |  |                           |  |

Eggs for this project are obtained from four member auction markets—Flemington, Vineland, Hightstown and Mount Holly. The volume purchased is determined by the volume of the source market. Of the 57,301 cases (1,719,030 dozens) purchased, Flemington supplied 20,566 cases (35.89 per cent of the total purchased); Vineland, 26,295 cases (45.89 per cent); Hightstown, 7,613 cases (13.29 per cent); and Mount Holly, 2,827 cases (4.93 per cent). Purchases from all auctions during the past year were valued at \$1,103,307.78 compared with the previous year's \$1,303,529.80. The yearly average price paid to the auctions by "Certified" was \$0.642 per dozen, whereas the average price commanded by all eggs on all auctions was \$0.6008. The "Certified" purchase price was slightly below the average auction price only one month (March 1949), and ranged from slightly above to nearly 11 cents per dozen above the monthly average during the autumn, indicating the competitive condition of the egg market.

#### NEW JERSEY FRESH EGG LAW

The per capita consumption of eggs remained favorably high during the past year, probably due largely to price relationships with other commodities. A share of the credit can also be given to the general quality of eggs which is sufficiently good to maintain continued consumer demand. Looking back over the past 15 years to the early days of egg law enforcement and to the conditions that then existed in egg marketing in New Jersey retail stores, it can be concluded that the State's regulatory program has greatly improved the general quality of market eggs and thereby encouraged the consumption of eggs. The shortages of food during wartime forced consumers to buy eggs to supplement other foods, and thereby gave the egg an opportunity to redeem itself with those members of the public whose confidence had been undermined by earlier experiences with poor-quality eggs.

Although all eggs offered to the consumer today are not the best, the inedible ones are removed. Candling procedure is no longer one of sorting the good from the bad, but rather of segregating according to grades. The generally high price of eggs permits and practically demands that retailers have the best or Grade A separated, leaving the next best for sale as Grade B. The increased use of eggs for drying and freezing has drained off vast quantities of eggs below Grade B standards.

The combination of all these things coupled with egg law enforcement not only in New Jersey but in neighboring states makes it reasonably certain that Grade A or "fresh" means just what these terms imply. Although the New Jersey law is not concerned about the quality of eggs sold as Grade B, the wider use of grade classification has been encouraged through personal contact and regular law enforcement inspection. It distinctly segregates the fresh and non-fresh eggs by name or grade. Continuous inspection for fresh eggs under the terms of the law has not only established in the trade what can be sold as fresh, but it has also lifted the general level of quality of non-fresh eggs.

Chain store organizations and the more enterprising independent retail outlets are improving their egg marketing programs through the installation of refrigerated display cases, or making better use of such equipment at hand. It undoubtedly will be a long time, however, before handlers of eggs will unanimously acknowledge that original quality can best be preserved through constant control of favorable temperature and humidity.

There were 332 visits to wholesalers made during the year by the senior egg inspector. The purpose is to keep wholesalers in line with the provisions of the law. It is evident that corrections at this level of distribution have paid dividends, and reflected materially in improved conditions in retail stores served by these firms. The practice of making visits with the intent to encourage a sincere fresh egg marketing program has developed keener competition among wholesalers. In some instances where a firm's fresh egg program was too broad, at least during the season of short supply, it was necessary to confront the firm with sufficient evidence and the promise of official action if corrections were not made.

Numerous requests have been received from retail stores for inspection. At times, these resulted from complaints by consumers, but mostly because the retailer questioned the word of the wholesaler as to the quality of eggs delivered. In general, retailers appreciate that they have a responsibility under the law. They may fail in that responsibility at times, but they also know that the law may be applied to those who wholesale to them. There are indications that retailers will uphold their obligations more willingly when they know their wholesaler has equal obligations.

The practice of having regular quarterly conferences with the egg inspectors was adopted during the year. These conferences are essential be-



cause each inspector performs his duty independent of the others. Each inspector operates within a prescribed area of the State, and takes full responsibility in the routine coverage of his area. His reports are mailed to the office daily. These men must be uniform not only in their interpretation of egg quality but also in the application of the law as it relates to the technique of making and reporting inspections. Furthermore, the egg distribution operations of various firms overlap these areas, so again it is advantageous for each inspector to know the habits of the wholesalers as they operate in another area. The conferences serve as a means for exchanging experiences and developing a workable approach to the solution of problems encountered in the field.

There is hardly a wholesaler operating in New Jersey that does not at some time serve at least two and possibly more of the areas assigned to State inspectors. Information on inspection reports includes reference to wholesalers, automatically providing a means of cross-checking the accuracy of reports. Other details, such as prices and carton markings, are also helpful.

By the law of averages it is not possible for one inspector's reports continuously to carry information dissimilar to another operating in a neighboring area without raising questions as to the accuracy or competence of that inspector. Discrepancies were noted in one inspector's reports, and a thorough check in his field revealed unsatisfactory performance. The results of the investigation were reported and are in the hands of the Secretary of Agriculture. The inspector, a disabled veteran, was given a leave of absence without pay to receive medication and, if necessary, hospitalization.

It has been known that this inspector had not been in the best of health and for this reason had been given an area more rural, less competitive in egg marketing. The nature of the errors is such that the number of inspections listed in Poultry Table 10 may be incorrect for the counties of Hunterdon, Warren, Sussex, Somerset and Morris. However, these counties have had inspections made within their bounds by other inspectors who have extended their coverage due to this situation .

Table 10 shows by counties the number of stores inspected and the number of those stores in violation. The absence of one inspector for four months caused the total number of inspections to fall below the count of last year.

There was 2.26 per cent increase in violations this year compared to last year. However, of the 1,069 violations found there were only 375 that were considered serious enough to warrant issuing warnings. The balance was of a more technical nature, and corrective measures were applied at the time of inspection.

Numerous retail outlets have changed hands and for this reason there are a number of newcomers in the retail business. The inexperienced operators contributed to a 1.95 per cent increase in violations among independent retail outlets.

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Violations found at chain store outlets are of an entirely different nature than those found in independent stores. Company policy regulates the action of the managers and all advertising. It was necessary to apply a stern attitude in the case of two large chain organizations. In each case sufficient evidence was deliberately gathered to support the Department's position beyond question. The procedure contributed to a 5.35 per cent increase in violations among chain stores.

The aim in egg law enforcement is to encourage the sale of eggs as fresh through the application of a practical marketing program. Practically all chain organizations have a top brand of eggs which is sold as fresh and they are, except in rare instances, found to be as represented. The second highest priced brands, however, are troublesome at certain times of the year, particularly when western and short-held storage eggs are used. This second brand is actually a price item, and experience shows that much trouble would be avoided if chain stores were to offer this class of eggs simply as a brand product, at least during that part of the year when sufficient quantities of of nearby eggs of fresh quality are not available. As a result of personal contact and a forceful attitude on the part of the Department, a gradual change toward correction of such marketing abuses is taking place.

Poultry Table 10

## NUMBER OF STORES INSPECTED AND PER CENT VIOLATIONS, BY COUNTIES

| County     | Independent Stores |                             |                     | Chain Stores     |                      |                     | All Stores       |                      |                     |
|------------|--------------------|-----------------------------|---------------------|------------------|----------------------|---------------------|------------------|----------------------|---------------------|
|            | Stores Inspected   | Number of Violations        | Per Cent Violations | Stores Inspected | Number of Violations | Per Cent Violations | Stores Inspected | Number of Violations | Per Cent Violations |
| Atlantic   | 493                | 8                           | 0.16                | 72               | 18                   | 25.00               | 565              | 26                   | 4.60                |
| Bergen     | 323                | 55                          | 17.03               | 69               | 21                   | 30.43               | 392              | 76                   | 19.39               |
| Burlington | 233                | 5                           | 2.15                | 19               | 7                    | 36.84               | 252              | 12                   | 4.76                |
| Camden     | 752                | 28                          | 3.72                | 102              | 25                   | 24.50               | 854              | 53                   | 6.20                |
| Cape May   | 215                | 5                           | 2.33                | 33               | 3                    | 9.09                | 248              | 8                    | 3.23                |
| Cumberland | 197                | 3                           | 1.52                | 54               | 5                    | 9.26                | 251              | 8                    | 2.39                |
| Essex      | 1,605              | 217                         | 13.52               | 176              | 68                   | 38.64               | 1,781            | 285                  | 16.00               |
| Gloucester | 141                | 4                           | 2.84                | 25               | 6                    | 24.00               | 166              | 10                   | 6.02                |
| Hudson     | 995                | 166                         | 16.68               | 90               | 31                   | 34.44               | 1,085            | 197                  | 18.16               |
| Hunterdon  | 58                 | 3                           | 5.17                | 4                | 1                    | 25.00               | 62               | 4                    | 6.45                |
| Mercer     | 878                | 40                          | 4.56                | 119              | 43                   | 36.13               | 997              | 83                   | 8.33                |
| Middlesex  | 654                | 26                          | 3.98                | 45               | 13                   | 28.89               | 699              | 39                   | 5.58                |
| Monmouth   | 511                | 25                          | 4.89                | 59               | 16                   | 27.12               | 570              | 41                   | 7.19                |
| Morris     | 282                | 23                          | 8.16                | 56               | 9                    | 16.07               | 338              | 32                   | 9.47                |
| Ocean      | 230                | 12                          | 5.22                | 28               | 7                    | 25.00               | 258              | 19                   | 7.36                |
| Passaic    | 434                | 65                          | 14.98               | 38               | 21                   | 55.26               | 472              | 86                   | 18.22               |
| Salem      | 99                 | 5                           | 5.05                | 11               | ..                   | ..                  | 110              | 5                    | 4.55                |
| Somerset   | 232                | 10                          | 4.31                | 30               | 2                    | 6.67                | 262              | 12                   | 4.58                |
| Sussex     | 118                | 7                           | 5.93                | 13               | 2                    | 15.38               | 131              | 9                    | 6.81                |
| Union      | 939                | 34                          | 3.62                | 92               | 20                   | 21.74               | 1,031            | 54                   | 5.24                |
| Warren     | 123                | 7                           | 5.69                | 12               | 3                    | 25.00               | 135              | 10                   | 7.47                |
| Totals     | 9,512              | 748                         |                     | 1,147            | 321                  |                     | 10,659           | 1,069                |                     |
|            |                    |                             |                     |                  | 1948-1949            |                     |                  | 1947-1948            |                     |
|            |                    | Total stores inspected      |                     |                  | 10,659               |                     |                  | 10,889               |                     |
|            |                    | Total violations            |                     |                  | 1,069                |                     |                  | 846                  |                     |
|            |                    | Average per cent violations |                     |                  | 10.03                |                     |                  | 7.77                 |                     |

## GRADING AND INSPECTION SERVICE

The faults uncovered in the grading of eggs probably result from war-time laxity in marketing practices, and from an increasing number of eggs with inferior shell quality.

One of the problems of the Division has been to impress upon the members of the cooperatives using official grades the importance of proper care for eggs. During the summer-fall period of 1948, many assorted complaints were received, ranging from simply poor interior quality to inedible eggs, most of which would develop within a few days after inspection. There was considerable washing of eggs during this period and all quality faults were blamed on this practice, whether justified or not. In spite of this difficulty, many lots of eggs remained in grade for a normal period of time, again stressing the need for exacting care of original egg quality. Quality in eggs is always moving downward, and if given a start through carelessness will gain momentum which is not easily checked.

Another major problem in egg grading, which appears to be increasing, is the presence of poor shell quality and cracked eggs. Here, again, much of the correction can be made as the eggs are originally packaged because poor shell texture is outwardly visible and can be removed. There is an allowance in the grades for human error in this respect; however, many producers do not realize that the presence of such eggs in excessive quantities materially affects the official grade of their product.

A concerted effort is being made, in cooperation with the local marketing organizations, to correct the foregoing situation through the use of "quality egg news letters" prepared bi-monthly for distribution to the members by the individual markets. Quality egg conferences and demonstrations were also held. The letters are confined to the subjects of quality conservation, grading, inspection and marketing of eggs. It is too early to determine how widespread the effectiveness of this program may be, but many individuals have reacted favorably.

There is no reason to believe that all the problems associated with the grading and inspection of eggs rests at the producer level. Early in the fall of this year the "Certified Egg" organization sought assistance in solving some of their difficulties. Visits were made, in company with their representative, to many distribution points of the dairies they serve to determine the cause or probable reason for complaints. Dairy company methods of receiving, distributing and rotation of stock were observed, as well as the accuracy of grading at the candling plant, and methods followed in the preparation of orders. Briefly, all organizations concerned were responsible to some degree for neglect. Check-grading at the "Certified Egg" plant found the eggs in grade but too close to the minimum for the grade. Delivery practices and rotation of stock at the dairies were far from the best, due largely to buying too heavily, with the result that new supplies were on hand long before the

old stock was sold. The combination of these conditions cannot exist without threatening even the highest quality egg programs.

The "Certified Egg" organization obtains all eggs from four egg auctions, in Flemington, Hightstown, Mount Holly and Vineland. The State inspector at the candling plant periodically made detailed candling reports on the eggs received from each market. Such reports were useful to the auction market inspectors, if for no other reason than to learn how some other person graded the eggs that they had inspected. The inspection of eggs at the auctions is made by sampling each lot number received and the grade of the lot is based on what is found in the sample. The "Certified Egg" candling reports are based on individual inspection, and provided a detailed count of every case in a given lot number, which reveals to the auction inspector the degree of uniformity of the cases within a specific lot. In the event a wide and undesirable variation was found, the local market inspector made a closer inspection on future shipments, and thus was able to correct the condition at the producer level.

The Flemington Auction Market has developed a sizable amount of business in Consumer-graded eggs packed in 30-dozen cases. Heretofore, these eggs were not designated as Consumer-graded, but carried the usual wholesale grade label. Due to the quantity involved, a request was received from the auction market to have a suitable Consumer-grade case-end label developed for such eggs.

Considerable interest has developed in the official egg grading program. The federal-state egg grading service was discussed with a number of individual egg dealers. In most cases the interested parties objected to the cost of the federal-state service, and expressed a desire to obtain inspection under State supervision. One applicant was admitted into the federal-state program, and one into the State program.

Cooperation was again given the New Jersey Turkey Growers Cooperative Association, Inc. in connection with the Blue Tag grading and promotional program. There were 18 participating growers representing approximately 8,000 turkeys identified in this manner.

#### SPECIAL POULTRY ACTIVITIES

Poultry and egg demonstrational meetings were held in cooperation with the various marketing and country poultry associations. Bureau staff members also participated in the poultry meetings of 1949 Farmers Week, which included sessions of the State Poultry Association, New Jersey Poultry and Egg Cooperative Association, New Jersey Turkey Growers Cooperative Association, and New Jersey Poultry Breeders Association. Special cooperation was given at meeting programs of Jersey Chick Association, Northeastern Poultry Producers Council, Eastern Federation of Poultry Cooperatives, and Farmingdale Egg Producers Cooperative Association.



Consumer promotion included the preparation of information for newspaper release, material prepared for several consumer programs on the radio, and numerous direct contacts with consumers who requested assistance. Cooperation was given the Poultry and Egg National Board at two dinner meetings with food editors. Various small groups of consumers and retailers were escorted on informal tours of the poultry industry. Special egg displays emphasizing consumer interests were placed at the Flemington and Morris County fairs, and at the food show of New Jersey Retail Grocers Association, and were attended by staff members.

Staff members accepted a number of assignments in farm radio programs, both preparing information for other speakers and participating in the broadcasts. These services were given to radio stations WNBC, WJZ, WCBS, WOR and WHN, New York City; WCAU, Philadelphia; WNJR and WAAT, Newark; WTTM, Trenton and WCTC, New Brunswick.

Because of the controversy concerning the washing of eggs, a test was made in cooperation with the Extension Service to determine how quality was affected by subjecting eggs to this treatment. The test should not be considered conclusive as it involved only 600 eggs, divided into lots of 100 eggs each over 24 hours old. Two lots were selected as originally clean eggs, two were selected as dirty eggs and two lots were "nest run." One lot each of clean and dirty eggs were held unwashed as controls. The same combination of lots was washed by a dip and spray method. The two lots of nest-run eggs were washed by hand. A detergent was used in each bath solution.

The eggs were candled when selected for the test, and those that were cracked or having blood spots were removed. All others were Grade A quality or better. Those that were washed were candled again after drying to determine the number of cracked eggs due to washing, and nine eggs were removed for this reason. The eggs were candled again one week, ten days and two weeks later while being held in a recommended egg room.

At the end of one week, the two control lots and the two lots washed by the dip and spray method were practically identical, each containing about 5 per cent B quality. The two lots washed by hand contained about 11 per cent B quality. Either of these percentages is safely within the tolerance for Grade A.

At the end of the ten days, only two lots were found to be within the tolerance for Grade A. One lot was the clean control (unwashed), and the other was a lot of nest-run, hand-washed eggs. Each contained 16 per cent B quality eggs while all others exceeded the tolerance for Grade A.

Candling at the two weeks' period showed that none of the lots was within the Grade A tolerance, but the clean control lot still had 67 per cent A quality eggs. No inedible eggs due to rot were found in any lot. This brief tests shows that eggs can be safely washed if to be used for immediate consumption; and that, during a period of time similar to the length of this

test, eggs do not readily spoil or develop inedible characters. Observations of market eggs under practical conditions indicate that egg washing is not for careless hands and that the operator must follow precisely the recommendations for sanitation and time and temperature of immersion.

The second three-year round of the Chicken-of-Tomorrow Contest, a meat poultry breeding competition, was resumed in April with the hatching of 21 lots of chicks in the adult division, and 34 in the junior division. Staff members, assisted by the State College of Agriculture personnel, again constituted the committee which dressed and judged the contest birds the first week in July at the age of 12 weeks.

Efforts to gain the cooperation of New Jersey hatcherymen in destroying incubator eggs, so that these will not enter human consumption channels, seem to have accomplished the purpose. This bureau has been aiding the State Department of Health in this problem for several years.

Judging eggs, live poultry and dressed poultry were a few of the services rendered during the year. These include the 4-H Field Day Poultry Show in Washington Crossing, eggs for the egg-to-chick class in the Neppco Baby Chick Show, the egg show at the Ocean County Field Day, eggs at the Pennsylvania Farm Show, and dressed poultry competing in the Chicken-of-Tomorrow Contest.

Preliminary training in egg grading was given to a number of groups of 4-H Club members and vocational agriculture students, who later participated in the Farmers Week contests. The 1949 State winners were Joseph Fisher of Cranbury in the 4-H division, and Edward O'Connell of New Brunswick in the vo-ag class.

Assistance was given Neppco in conducting an egg grading contest at their exposition in Harrisburg, and in preparation for the Egg Grading and Marketing School.

Staff members continued to serve in various secretaryships which have become traditional in the bureau. These services are given to New Jersey Turkey Growers Cooperative Association, New Jersey Record of Performance Association, New Jersey Poultry and Egg Cooperative Marketing Association and Neppco Turkey Division. Cooperation was given the Tri-County Poultry Association in planning and participating in their educational meetings.

A portable display for advertising New Jersey chicks and Turkey poults was prepared in cooperation with New Jersey Council and Jersey Chick Association. Assistance was given the latter in distributing its "Guide to Better Chicks," a directory of New Jersey hatcheries, and also contains production and marketing advice.

Four pages of official marketing and grading information prepared by the bureau were published in the New Jersey Farm Bureau directory.

THIRTY-FOURTH ANNUAL REPORT

133

The "Golden Egg Awards for Distinguished Service to the New Jersey Poultry Industry," initiated by the bureau, were presented during the poultry meetings of Farmers Week to Dr. F. R. Beaudette, Rutgers poultry pathologist who developed an effective live virus Newcastle disease vaccine; and to Herman Demme, Sewell, long-time cooperator in the Department's poultry improvement program, and the first Record of Performance breeder in the world.

# Report of the Division of Plant Industry

HARRY B. WEISS, *Director*

## NURSERY INSPECTION

Certificates of inspection were issued for the year starting September 1, 1948 to 505 nurseries found free of dangerously injurious insects and plant diseases. Infestations of the following insect pests were found and clean-up measures were required prior to the issuance of the certificates. A total of 338 infestations was found in 136 nurseries.

## INSECT INFESTATIONS

| Insect Pests             | Number of Infestations |
|--------------------------|------------------------|
| Rhododendron Lace Bug    | 52                     |
| Juniper Scale            | 50                     |
| Bag worm                 | 41                     |
| Oyster Shell Scale       | 30                     |
| Taxus Mealy Bug          | 29                     |
| Pine Sawfly              | 25                     |
| European Pine Shoot Moth | 19                     |
| Spruce Gall Aphid        | 17                     |
| Azalea Lace Bug          | 13                     |
| Juniper Webworm          | 10                     |
| Euonymus Scale           | 10                     |
| Holly Leaf Miner         | 6                      |
| Boxwood Leaf Miner       | 5                      |
| Black Vine Weevil        | 4                      |
| Lilac Borer              | 4                      |
| Pine Leaf Scale          | 4                      |
| Red Spider               | 4                      |
| Peach Borer              | 2                      |
| Sycamore Lace Bug        | 2                      |
| Birch Borer              | 1                      |
| Maple Borer              | 1                      |
| Putnam Scale             | 1                      |
| Quince Lace Bug          | 1                      |
| Red Headed Pine Sawfly   | 1                      |
| Rhododendron Borer       | 1                      |
| Rose Scale               | 1                      |
| Tulip Soft Scale         | 1                      |
| Tussock Moth             | 1                      |
| White Pine Weevil        | 1                      |
| Willow Galls             | 1                      |

## DEALER CERTIFICATES

Dealer certificates were issued to 79 dealers in nursery stock after they had signed agreements to deal in stock from approved sources only.

## SPECIAL CERTIFICATES

A total of 269 special certificates was issued during the fiscal year, ending June 30, 1949. This service was provided for nurserymen shipping plant materials to states or foreign countries having requirements other than a copy of the certificate of inspection, or for individuals other than nurserymen who desired to move plant material. The certificate attests to the inspection of the stock, and freedom from insects and diseases, just prior to shipment.

## SPECIAL (REQUEST) INSPECTIONS

Requests are frequently received from residents of the State for information on insect or plant disease problems. Where necessary, calls are made. A total of 87 such calls was made.

## CANADIAN CERTIFICATES

In order that residents of this State might ship plant materials into Canada, 81 inspections were made for issuance of the certificates required by that country.

## DOMESTIC INSPECTION

Of the nursery stock entering this State 369 bundles were "spot" inspected to check on the efficacy of the inspection service in the states of origin. No infestation was found in the course of these inspections.

## POST-ENTRY INSPECTION

During the fiscal year 24 inspections were made of plant materials imported into the United States and this State under permit according to Quarantine 37 of the United States Department of Agriculture, Bureau of Entomology and Plant Quarantine.

## FOREIGN INSPECTIONS

Two inspections were made of unquarantined plant materials entering this State from foreign countries.

## RASPBERRY PLANT CERTIFICATION

Twenty-three inspections were made for nine growers, desiring certification so that they might ship bramble plants to those states requiring certification of freedom from virus diseases. The area inspected totaled 44.5 acres.

## WHITE PINE BLISTER RUST CONTROL-AREA PERMITS

Prior to the revision of the New Jersey regulations on the movement of five-leaved pines and currant and gooseberry plants, to conform with the revised regulations of Quarantine 63 of the United States Department of Agriculture, a total of 113 control-area permits was issued.



## BLUEBERRY STUNT DISEASE

This report of the inspection and certification of blueberry plants for freedom from "stunt" disease covers the calendar year of 1948. Two inspections are made a year, one in the spring and a second in the fall, when foliar symptoms are present. All diseased bushes are tagged for immediate removal and destruction.

## SUMMARY OF SPRING INSPECTION

Thirty-one growers entered 449.5 acres for inspection. Growers, however, voluntarily withdrew 61.2 acres when it was anticipated that the inspection force was too small to handle the entered acreage. Thus, 388.3 acres were inspected, of which 18 acres were rejected for stunt in excess of three-fourths of 1 per cent at this inspection.

## STATISTICS OF 1948 SPRING INSPECTION

| Grower           | Acres<br>Entered | Acres<br>Inspected | Acres<br>Rejected | Bushes Tagged<br>(Certifiable<br>Portion) |
|------------------|------------------|--------------------|-------------------|---|
| Ahlrichs         | 24               | 24                 | 9                 | 16  |
| Alloway          | 20               | 20                 | ..                | 13  |
| Anderson         | 20               | 20                 | ..                | ..  |
| Applegate        | 1                | 1                  | ..                | ..  |
| Atlantic         | 34.5             | 28.3               | 1.5               | 3   |
| Bebee            | 12               | 12                 | 4.5               | 1   |
| Bray             | 9                | 9                  | 3                 | 16  |
| Brown            | 6                | 6                  | ..                | 1   |
| Budd             | 48               | 24.25              | ..                | 174                                       |
| Cavileer         | 15               | 14.75              | ..                | 2   |
| Clevenger        | 7                | 7                  | ..                | ..  |
| Cutts Brothers   | 10               | 10                 | ..                | ..  |
| Daumont          | 12               | 12                 | ..                | 37  |
| DiDonato         | 9                | 9                  | ..                | ..  |
| Galletta         | 49               | 18                 | ..                | ..  |
| E. Haines & Bro. | 34               | 34                 | ..                | ..  |
| H. Haines        | 7                | 7                  | ..                | 1   |
| Hamilton         | 11               | 11                 | ..                | 3   |
| Heimbach         | 4                | 4                  | ..                | 12  |
| Leach            | 14               | 14                 | ..                | 16  |
| Manning          | 10               | 10                 | ..                | 5   |
| Mood             | 4                | 4                  | ..                | ..  |
| Norcross         | 8                | 8                  | ..                | 1   |
| O'Neill          | 3                | 3                  | ..                | ..  |
| Pinkham          | 15               | 15                 | ..                | 22  |
| Rogers           | 34               | 34                 | ..                | 10  |
| Scammell         | 5.5              | 5.5                | ..                | ..  |
| Scarano          | 8                | 8                  | ..                | 6   |
| Wells            | 2.5              | 2.5                | ..                | ..  |
| Westendarp       | 1                | 1                  | ..                | ..  |
| White            | 12               | 12                 | ..                | 1   |
| Totals           | 449.5            | 388.3              | 18.0              | 340                                       |

It was required that 340 stunt plants be removed from the approved plantings. Thus, there was an average of .92 stunt bushes per acre approved, during the spring inspection.

## THIRTY-FOURTH ANNUAL REPORT

137

## SUMMARY OF FALL INSPECTION (1948)

Of 370.3 acres of blueberry plants inspected in the fall of 1948, it was necessary to reject a total of 12 acres because the total of bushes tagged during both spring and fall inspections on these acres, exceeded the permitted tolerance of 1 per cent. It was required that 179 stunt plants be removed from 358.3 acres certified. This gives an average of .5 stunt bushes per acre certified, during fall inspection.

## STATISTICS OF 1948 FALL INSPECTION

| Grower           | Acres<br>Inspected | Acres<br>Rejected | Bushes Tagged<br>(Certifiable<br>Portion) |
|------------------|--------------------|-------------------|---|
| Ahlrichs         | 15                 | ..                | 8   |
| Alloway          | 20                 | ..                | 15  |
| Anderson         | 20                 | ..                | ..  |
| Applegate        | 1                  | ..                | ..  |
| Atlantic         | 26.8               | ..                | ..  |
| Bebbee           | 7.5                | ..                | 2   |
| Bray             | 6                  | ..                | 7   |
| Brown            | 6                  | ..                | 1   |
| Budd             | 24.25              | 12                | 2   |
| Cavileer         | 14.75              | ..                | ..  |
| Clevenger        | 7                  | ..                | ..  |
| Cutts Brothers   | 10                 | ..                | ..  |
| Daumont          | 12                 | ..                | 85  |
| DiDonato         | 9                  | ..                | 3   |
| Galletta         | 18                 | ..                | ..  |
| E. Haines & Bro. | 34                 | ..                | ..  |
| H. Haines        | 7                  | ..                | 1   |
| Hamilton         | 11                 | ..                | 1   |
| Heimbach         | 4                  | ..                | 5   |
| Leach            | 14                 | ..                | 16  |
| Manning          | 10                 | ..                | 2   |
| Mood             | 4                  | ..                | ..  |
| Norcross         | 8                  | ..                | 1   |
| O'Neill          | 3                  | ..                | 1   |
| Pinkham          | 15                 | ..                | 12  |
| Rogers           | 34                 | ..                | 3   |
| Scammell         | 5.5                | ..                | ..  |
| Scarano          | 8                  | ..                | 11  |
| Wells            | 2.5                | ..                | 2   |
| Westendarp       | 1                  | ..                | ..  |
| White            | 12                 | ..                | 1   |
| Totals           | 370.30             | 12                | 179                                       |

Throughout the annual inspections an average of 1.4 stunt diseased bushes was found on the acreage certified.

The presence of a set of symptoms similar in many respects to stunt disease, complicated the fall inspection. This condition, diagnosed as magnesium deficiency, has resulted in some changes in inspection procedures.

The results of the program for a four-year period show a downward trend in stunt bushes tagged per acre, as follows:

| Year | Growers<br>in Program | Acres<br>Inspected | Stunt<br>Bushes Found | Stunt Bushes<br>per acre Certified |
|------|-----------------------|--------------------|-----------------------|------------------------------------|
| 1945 | 14                    | 155.25             | 698                   | 4.5                                |
| 1946 | 26                    | 350.23             | 2,002                 | 5.7                                |
| 1947 | 23                    | 338.88             | 813                   | 2.4                                |
| 1948 | 31                    | 388.30             | 519                   | 1.4                                |

#### SURVEY *Phyllobius* spp.

This weevil recently found in injurious numbers in Rhode Island and reported injurious to a wide variety of evergreens in the New England States was scouted for, in New Jersey, during May and June of 1949 by three of the nursery inspectors. Spot scouting in 116 nurseries throughout the State gave negative results except in two nurseries located in Springfield and Paterson. In both cases the weevils were found only in small numbers.

#### GOLDEN NEMATODE *Heterodera Rostochiensis* OF POTATO

During July, 1948, a survey of potato land in the State was initiated by the Golden Nematode Project of the United States Department of Agriculture, in cooperation with the State Department. The Departments wished to determine whether or not this important potato pest is present in New Jersey.

Facilities at the Japanese Beetle Laboratory in White Horse were made available for the storage and drying of soil samples, and for the processing and analysis of the samples. The United States Department of Agriculture provided necessary personnel. The survey procedure consisted in collecting very small samples of soil on a pointed trowel, at a set number of paces throughout a potato field. After a proper drying period, the soil was passed through a series of water washes, screening out the washes so that nematode cysts would be retained. The screened material was finally analysed microscopically.

By mid-August the taking of soil samples over about one-tenth of the potato acreage of the State had been completed. The samples were analysed by mid-September. No golden nematode was found.

Samples of debris and soil were also taken around potato graders, as the potatoes were harvested. The samples were processed and the grader survey completed during October. This sampling also produced negative results. It is estimated that one-quarter to one-third of the potato acreage in New Jersey was covered by the survey.

The failure to find this nematode in the State is encouraging. However, it must be realized that the survey methods are not likely to locate a very light infestation. In the quarantined area of Nassau County, Long Island, the nematode has been present for at least 20 years. Yet, only within the last two or three years has there been sufficient reduction in yield, on the few acres of heavy infestation, to indicate presence of the pest. In accordance with the history of the nematode in Europe, it can be expected that eventually it will be possible to grow a profitable potato crop on infested land only one or two years out of ten.

A quarantine of the State of New York regulates the production and movement of potatoes, tomatoes, root crops, nursery stock, and other items likely to carry the worm. The USDA Bureau of Entomology and Plant Quarantine assists in the enforcement of the quarantine, advises in matters of policy, assists in payments made to farmers for keeping infested land out of potato and tomato production, and provides a good share of the research effort. Research is aimed at development of resistant varieties of potatoes, and development of an efficient nemacide. To date, no great progress has been made toward achievement of these ends.

Conferences have been held with representatives of the agencies responsible for the Golden Nematode Project, and with plant pest officials of nearby states, on several occasions during the year. Quarantine measures, in addition to those already in force, have been considered and discussed. It is the opinion of the agencies involved that New Jersey is presently receiving fullest possible protection, because of rigid enforcement of practical quarantine measures. Assurances have been received that a federal quarantine would receive full consideration if present measures should prove inadequate.

Plans have been made for the survey of much of the potato land in New Jersey during the 1949 season. The grader sampling method will be employed for most of this work.

## STATUS OF THE EUROPEAN CORN BORER

### *Pyrausta Nubilalis*

The survey to determine the status of the European corn borer population in the State was again performed in the fall of 1948. The results of the survey, indicating the density of population, by counties, and repeating the 1946 and 1947 data for purposes of comparison, follow:

| County      | Average Number of Borers per 100 Plants |      |      |
|-------------|---|------|------|
|             | 1946                                    | 1947 | 1948 |
| Atlantic    | 98.4                                    | 53   | 68   |
| Bergen      | 241.8                                   | 115  | 76   |
| Burlington  | 160.0                                   | 59   | 57   |
| Camden      | 84.6                                    | 83   | 41   |
| Cape May    | 86.2                                    | 47   | 135  |
| Cumberland  | 107.6                                   | 30   | 14   |
| Essex-Union | 31.7                                    | 55   | 28   |
| Gloucester  | 178.2                                   | 72   | 91   |
| Hunterdon   | 71.6                                    | 17   | 31   |
| Mercer      | 196.0                                   | 36   | 90   |
| Middlesex   | 163.6                                   | 159  | 25   |
| Monmouth    | 184.4                                   | 35   | 137  |
| Morris      | 11.4                                    | 28   | 41   |
| Ocean       | 71.4                                    | 65   | 151  |
| Passaic     | 94.2                                    | 147  | 40   |
| Salem       | 156.0                                   | 51   | 4    |
| Somerset    | 19.8                                    | 34   | 37   |
| Sussex      | 8.6                                     | 24   | 23   |
| Warren      | 23.8                                    | 19   | 29   |
| Average     | 104.7                                   | 59   | 59   |

There is apparently no State-wide change in corn borer abundance in 1948 as compared with 1947. The average population is still about half that of 1946. There is however, considerable variation in the county data with a significant build-up in population in Cape May, Mercer, Monmouth and Ocean counties. Encouraging decreases have occurred in several counties. The increasing use of insecticides, unfavorable weather at time of egg hatch, and establishment of parasites might all have a hand in these localized reductions.

### RED STELE DISEASE OF STRAWBERRY

During March and April, 1949, strawberry plantings, comprising 40.1 acres, were inspected for 17 growers. This service is given so that plants might be moved in accordance with the quarantine on account of red stele disease. A diseased planting of about one acre was found. The following varieties were infected: Robinson, Catskill, Midland, Red Star, Fairpeak and Starbright. In the same field the following varieties were apparently uninfected: Pathfinder, Gemsetta and Sparkle. Five of the infected varieties were reported to have been imported from a Maryland nursery two years ago.

### X DISEASE (YELLOW RED VIROSIS) OF PEACH

The quarantine of this Department on account of this virus disease of peach and choke-berry *Prunus virginiana* has received a great deal of criticism from out-of-state growers of fruit stock. New York State tradesmen are especially critical of the regulations, adopted by the New Jersey Board of Agriculture, November 21, 1939. It is contended that the commercial growers, in areas where the disease is present, have, of necessity, adopted cultural practices which would eliminate any danger to the New Jersey planters of such stock, and that stock grown under these conditions is better and healthier than that grown in other parts of the country, about which there is little information.

The Department of Plant Pathology of the New Jersey Agricultural Experiment Station has been consulted, and X disease is still considered one of major importance. It has not been known to occur in New Jersey. This Department, in cooperation with the Experiment Station plans to survey out-of-state sources of peach stock to determine whether or not a disease hazard would result from removal of the quarantine, before recommending any change in the existing regulations.

### REVISION OF BLACK STEM RUST QUARANTINE

Quarantine 38 of the United States Department of Agriculture "Black stem rust quarantine and regulations," has been changed and new regulations became effective May 1, 1949.



In the past New Jersey growers of barberry were able to move *Berberis thunbergii*, Japanese barberry, and its rust-resistant varieties into 21 protected states, as well as the rest of the United States, without permit. Other rust-resistant varieties of barberry, Mahonia or Mahoberberis could be shipped after permission was granted by the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture.

The new regulations specify that: (1) No non-resistant species, varieties or hybrids of barberry, Mahonia or Mahoberberis may be shipped from New Jersey to any out-of-state point in the United States; (2) Federal permits must be obtained for the movement of all rust-resistant berberis, Mahonia and Mahoberberis, including Japanese barberry and resistant varieties, from New Jersey to any other section of the United States.

### POST-ENTRY QUARANTINE

Under the recent revision of the Foreign Plant Pest Act of the United States Department of Agriculture (Quarantine 37 rev. September 1, 1948), certain plants, or parts thereof, may be imported into this State from foreign countries, provided such materials are grown under post-entry quarantine. Inspection of this material, during the quarantined period, and determination of the length of the quarantine period are responsibilities of this Department.

A procedure has been established whereby the grower handles the quarantined material in safe manner. The importations will be inspected at least four times annually; accurate records will be kept; at first sign of unthriftiness, the material will be destroyed under supervision of the inspector. The quarantine period can be expected to extend at least two years on these plants because of the danger of virus diseases, the symptoms of which might not appear for some time after planting.

### WHITE PINE BLISTER RUST (CHANGE IN REGULATIONS)

On March 23, 1949, the State Board of Agriculture approved an order revising the rules for movement into and within New Jersey of five-leaved pines (*Pinus* sp.), currant and gooseberry plants (*Ribes* and *Grossularia* spp.).

In line with the revision of Quarantine 63 of the United States Department of Agriculture, currants and gooseberry plants (other than European Black Currant) may be moved without restriction into and within most of the State. Movement of any species or varieties into Montague, Sandyston, Wallpack and Vernon townships in Sussex County; West Milford, Ringwood and Wanaque townships in Passaic County; and Jefferson Township in Morris County, is prohibited. The movement of European Black Currant (*Ribes nigrum*) into or within the State is prohibited.

Under prior regulations it was required that allowable shipments into New Jersey be accompanied by a permit, issued by this Department to the out-of-state shipper.

A survey is planned for the summer of 1949 to determine the need for measures to protect the native white pine in the State.

### NURSERY TEST PLOT

A one acre plot was established on the grounds of the Japanese Beetle Station in White Horse, New Jersey in the spring of 1947, to provide facilities for the testing of newer insecticides for the control of pests of nursery stock. It was felt, at that time, that the Department might soon be forced to abandon its recommendations for use of hydraulic sprayers and the common, older insecticides, such as lead arsenate, nicotine sulfate, lime sulfur and oils, in favor of mist blower applications of concentrated mixtures of DDT, Benzene Hexachloride, Chlordane, Parathion, Chlorinated Camphene, and other newly developed chlorinated hydrocarbons. Some 1,200 specimens of stock commonly grown in New Jersey were planted in the plot.

During 1948 and 1949, this stock was seeded with infestations of juniper scale, bagworm, euonymus scale, European pine shoot moth, pine sawflies, scurfy scale, pine needle scale and spruce gall aphids. Sufficient material for accurate work is not available because the infestations have been to infrequent. Healthy, vigorous plants, and large numbers of well established insects are imperative for work of this kind.

The newer insecticides can be considered extraordinarily efficient, generally. Much is known of their ability, in many cases at extremely small dosages, to give adequate control of a great variety of pests. The study of the toxicity of the materials to man and animals has lagged. Definite, and serious, health hazard to the human operator, is now known to exist in the use of practically all of the chlorinated hydrocarbons. The older materials are also dangerous, but, over a period of years, the operators have learned to handle them with proper precautions. Necessary precautions with some of the newer materials are not yet well understood, and several deaths have occurred through handling of at least one of these insecticides.

Although the use of some of these insecticides might be justified in the control of an epidemic, such as typhus or cholera, among human beings, or perhaps for a serious outbreak of an insect on an important food crop, it would hardly be justifiable to recommend widespread use for control of nursery pests.

Therefore this Department will have no interest in the use of an insecticide for pest control on nursery stock until it is assured that the insecticide can be applied without endangering the health of the operator. When full and proper understanding of toxicity of the newer insecticides is achieved, tests

will be run to determine their effectiveness against insects infesting nursery stock.

### JAPANESE BEETLE QUARANTINE ENFORCEMENT

#### FARM PRODUCE CERTIFIED FOR SHIPMENT

| Commodity      | RR Cars | Trucks | Totals |
|----------------|---------|--------|--------|
| White potatoes | 168     | 666    | 834    |
| Beans, string  | 1       | 5      | 6      |
| Beans, lima    | ..      | 1      | 1      |
| Cabbage        | 2       | 1      | 3      |
| Corn           | ..      | 7      | 7      |
| Onions         | 3       | 17     | 20     |
| Peaches        | ..      | 1      | 1      |
| Peppers        | ..      | 51     | 51     |
| Sweet potatoes | 2       | ..     | 2      |
| Tomatoes       | ..      | 8      | 8      |
| Mixed          | ..      | 23     | 23     |
| Empty hampers  | ..      | 3      | 3      |
| Totals         | 176     | 783    | 959    |

In the certification of farm produce for shipment outside of the Japanese beetle regulated area, there was a decrease of 793 railroad cars handled. The decrease was from 969 railroad cars certified during the period July 1, 1947—June 30, 1948, to 176 during the period July 1, 1948—June 30, 1949. The number of trucks remained constant; 767 during the previous fiscal year, compared with 783 during the current year. Since 1945, shipment of farm produce by railroad has decreased from 2,118 cars to the present low of 176 cars. The increase in truck movement, from 182 in the 1945 shipping to 783 in the current fiscal year, does not nearly compensate for the decrease in railroad cars. The overall decrease in movement of farm produce to points outside the regulated area should be expected due to increased local consumption and the enlargement of the regulated area.

#### SHIPMENTS OF FARM PRODUCE BY DDT TREATMENTS

| Commodity      | RR Cars | Trucks | Totals |
|----------------|---------|--------|--------|
| White potatoes | 168     | 587    | 755    |
| Onions         | 2       | ..     | 2      |
| Totals         | 170     | 587    | 757    |

This is the first year (1948 farm produce season) DDT treatment was approved for certification of onions to be shipped outside the regulated area. Also, certification of railroad cars is now approved with only one, rather than two, applications of DDT. The required application is made after loading.

A total of 711 trucks received initial treatment with DDT. Only 587 of these were certified for shipment, having received an initial dose before loading, and the second dose after loading. The remaining 124 trucks presumably received the second application of DDT elsewhere.

## SHIPMENTS OF FARM PRODUCE CERTIFIED BY METHYL BROMIDE FUMIGATION

| Commodity      | RR Cars | Trucks | Totals |
|----------------|---------|--------|--------|
| White potatoes | ..      | 6      | 6      |
| Beans, lima    | ..      | 1      | 1      |
| Corn           | ..      | 7      | 7      |
| Onions         | ..      | 14     | 14     |
| Peaches        | ..      | 1      | 1      |
| Peppers        | ..      | 51     | 51     |
| Tomatoes       | ..      | 2      | 2      |
| Mixed          | ..      | 21     | 21     |
| Totals         |         | 103    | 103    |

## SHIPMENT OF FARM PRODUCE CERTIFIED BY MANUAL INSPECTION

| Commodity     | RR Cars | Trucks | Totals |
|---------------|---------|--------|--------|
| Potatoes      | ..      | 38     | 38     |
| Beans, string | ..      | 3      | 3      |
| Cabbage       | ..      | 1      | 1      |
| Tomatoes      | ..      | 6      | 6      |
| Mixed         | ..      | ..     | ..     |
| Empty baskets | ..      | 2      | 2      |
| Totals        |         | 50     | 50     |

## SHIPMENTS OF FARM PRODUCE UNDER "P"\* PERMITS

| Commodity      | Trucks |
|----------------|--------|
| White potatoes | 35     |
| Onions         | 3      |
| Mixed          | 2      |
| Total          | 40     |

SHIPMENTS OF FARM PRODUCE CERTIFIED FOR SHIPMENT BY  
FIELD OR "ON-PREMISE" INSPECTION

| Commodity      | RR Cars | Trucks | Totals |
|----------------|---------|--------|--------|
| Sweet potatoes | 2       | ..     | 2      |
| Beans, string  | 1       | 2      | 3      |
| Cabbage        | 2       | ..     | 2      |
| Onions         | 1       | ..     | 1      |
| Empty hampers  | ..      | 1      | 1      |
| Totals         | 6       | 3      | 9      |

## CUT FLOWERS CERTIFIED FOR SHIPMENT

|                 |           |
|-----------------|-----------|
| July, 1948      | 105 boxes |
| August, 1948    | 38 "      |
| September, 1948 | 35 "      |
| June, 1949      | 67 "      |
| Total           | 245 "     |

\* "P" permit allows regulated material to pass from regulated area, through non-regulated area, into another regulated area.

## THIRTY-FOURTH ANNUAL REPORT

145

## SOIL AND LEAF MOLD CERTIFIED FOR SHIPMENT OUTSIDE QUAR. AREA

|                 |          |
|-----------------|----------|
| July, 1948      | 26 boxes |
| August, 1948    | 17 "     |
| September, 1948 | 20 "     |
| Total           | 63 "     |

## NUMBER OF PLANTS SHIPPED

|                 | Outside Area | Inside Area | Totals    |
|-----------------|--------------|-------------|-----------|
| July, 1948      | 162,834      | 11,911      | 174,745   |
| August, 1948    | 169,706      | 12,015      | 181,721   |
| September, 1948 | 117,637      | 18,103      | 135,740   |
| October, 1948   | 283,173      | 82,747      | 365,920   |
| November, 1948  | 296,509      | 95,729      | 392,238   |
| December, 1948  | 199,088      | 151,290     | 350,378   |
| January, 1949   | 1,127,107    | 48,628      | 1,175,735 |
| February, 1949  | 674,276      | 148,707     | 822,983   |
| March, 1949     | 408,244      | 128,144     | 536,388   |
| April, 1949     | 542,435      | 185,136     | 727,571   |
| May, 1949       | 581,990      | 73,626      | 655,616   |
| June, 1949      | 383,598      | 852,903     | 1,236,501 |
| Totals          | 4,946,597    | 1,808,939   | 6,755,536 |

| Treatment  | No. Plants | No. Square Feet |
|--|------------|-----------------|
| DDT (Includes initial treatments in 1949, plus retreated areas, and areas previously treated that did not require any additional DDT in 1949 to retain a certified status) | 2,691,758  | 4,983,405       |
| Arsenate of Lead (Includes retreated areas, and areas previously treated that did not require any additional Arsenate of Lead to retain a certified status)                | 7,529      | 328,007         |
| Methyl Bromide   | 361,575    |                 |
| Ethylene Dichloride  | 88,740     |                 |
| Ethylene Dichloride Dibromide  | 258,840    |                 |
| Ethylene Dibromide Chlordane   | 2,743      |                 |
| Totals   | 3,411,185  | 5,311,412       |

A new treatment for potted plants, and balled nursery stock has been approved, during the past year. A soil fumigant, ethylene dibromide chlordane, is used. This material makes it possible for the grower or shipper to move plant material from New Jersey at any time of the year.

## POTTING SOIL TREATED

| Agent             | Cubic Yards |
|-------------------|-------------|
| Carbon Disulphide | 346.33      |
| DDT               | 385.43      |
| Chloropicrin      | 6.11        |
| Heat              | 393.21      |
| Total             | 1,131.08    |



## SURFACE SOIL TREATED

| Agent  |  | Greenhouses,<br>Frames, Sheds,<br>Heeling-in-Areas<br>(Sq. Ft.) |
|--|--|---|
|  |  |   |
| DDT (Includes initial treatments in 1949, plus retreated areas, and areas previously treated that did not require any additional DDT in 1949 to retain a certified status) |  | 176,483   |
| Arsenate of Lead (Includes retreated areas, and areas previously treated that did not require any additional Arsenate of Lead to retain a certified status)                |  | 85,041  |
| Carbon Disulphide  |  | 3,078   |
| Total  |  | 264,602   |

## NUMBER OF PERSONAL CALLS MADE

|                          |       |
|--------------------------|-------|
| Plant material, and soil | 3,504 |
| Cut flowers              | 30    |
| Fruits and vegetables    | 412   |
| Totals                   | 3,946 |

Number of plants, shrubs and trees manually inspected for certification, 1,174,862

## MEN EMPLOYED

| Month           | Farm Produce |       | Nursery & Greenhouse |       | Totals  |       |
|-----------------|--------------|-------|----------------------|-------|---------|-------|
|                 | Federal      | State | Federal              | State | Federal | State |
| July, 1948      | 7            | 13*   | 1                    | ..    | 8       | 13    |
| August, 1948    | 6            | 13*   | 2                    | ..    | 8       | 13    |
| September, 1948 | ..           | ..    | 6                    | 3     | 6       | 3     |
| October, 1948   | ..           | ..    | 5                    | 2     | 5       | 2     |
| November, 1948  | ..           | ..    | 6                    | 2     | 6       | 2     |
| December, 1948  | ..           | ..    | 6                    | 2     | 6       | 2     |
| January, 1949   | ..           | ..    | 6                    | 2     | 6       | 2     |
| February, 1949  | ..           | ..    | 5                    | 2     | 5       | 2     |
| March, 1949     | ..           | ..    | 5                    | 2     | 5       | 2     |
| April, 1949     | ..           | ..    | 5                    | 3     | 5       | 3     |
| May, 1949       | ..           | ..    | 4                    | 3     | 4       | 3     |
| June, 1949      | ..           | ..    | 4                    | 3     | 4       | 3     |

## NUMBER OF AUTOMOBILES OPERATED EACH MONTH DURING THE YEAR

| Month           | Federal |       | State   |       | Federal |       |
|-----------------|---------|-------|---------|-------|---------|-------|
|                 | Federal | State | Federal | State | Federal | State |
| July, 1948      | 6       | 12    | ..      | 2     | 6       | 14    |
| August, 1948    | 6       | 15    | ..      | 2     | 6       | 17    |
| September, 1948 | ..      | ..    | ..      | 11    | ..      | 11    |
| October, 1948   | ..      | ..    | ..      | 12    | ..      | 12    |
| November, 1948  | ..      | ..    | ..      | 8     | ..      | 8     |
| December, 1948  | ..      | ..    | ..      | 10    | ..      | 10    |
| January, 1949   | ..      | ..    | ..      | 11    | ..      | 11    |
| February 1949   | ..      | ..    | ..      | 11    | ..      | 11    |
| March, 1949     | ..      | ..    | ..      | ..    | ..      | ..    |
| April, 1949     | ..      | ..    | ..      | 11    | ..      | 11    |
| May, 1949       | ..      | ..    | ..      | 10    | ..      | 10    |
| June, 1949      | ..      | ..    | ..      | 9     | ..      | 9     |

\* Small amount of nursery work for these months.

## BEE CULTURE

In March, 1949, an additional inspector, Jacob Matthenius of Phillipsburg, New Jersey, was employed for the apiary inspection project. This help was provided so that it might be possible, over a period of four or five years, to intensively scout the State, locating scattered colonies, which might have been neglected in past years and which might be acting as reservoirs of disease. The commercial beekeepers, and the better beekeepers generally, have received the inspection service of this Department for many years, but it has not been possible to show appreciable reduction in disease incidence during the past ten years. This condition can be expected to continue unless inspection and necessary clean-up are accomplished for all colonies in the State.

During the year the regular inspection work was performed in all counties of the State, except Hudson and Salem. Winter loss (1948-1949) was estimated to be 5 per cent. This is below the normal expectancy of 8 per cent, and very much below the 1947-1948 winter loss of about 20 per cent.

The temperature during the winter was often sufficiently high to permit the bees to break cluster, rearrange their positions and allow cleansing flights. Dysentery and "spring dwindling" were not noticeable.

The mild, early spring, brought about an early build-up of the colonies. Excessive swarming, during May and June 1949, was common. In order to accommodate the swarms some beekeepers used secondhand equipment without proper sterilization. American foul brood could be traced in several cases to this negligence.

Apiaries producing queens and package bees for transit were properly inspected and certified. This involved inspection for contagious bee diseases, of all apiaries in the vicinity of the apiaries to be certified.

The continuous selection of both drones and queens by bee breeders has developed a noticeable improvement of such characteristics as, ease of handling, honey production and pollination ability. The three races— Italian, Caucasian and Carniolan continue to be the most popular in the State.

## APIARY INSPECTIONS

During the fiscal year 1948-1949, 965 apiaries were visited; 8,197 colonies and 900 nuclei were examined for bee diseases.

American foul brood *Bacillus larvae* was found in 110 apiaries, or 11.4 per cent of the apiaries inspected. Two hundred ninety-seven colonies were infected with the disease. This represents 3.6 per cent of the colonies inspected. In the previous year's work, 12.7 per cent of the apiaries and 4.3 per cent of the colonies inspected were infected with American foul brood. The average of the past 10 years shows 16.3 per cent of apiaries and 3.9

per cent of colonies inspected found diseased with American foul brood.

European foul brood *Bacillus pluton* was found in 14 apiaries; 49 colonies being infected. This disease is still confined to the southern part of the State. Requeening infected colonies with queens from disease resistant stock is a satisfactory control measure for this disease.

The inspection service continues to find box hives and hives that are cross combed. Beekeeping under such conditions is discouraged at every opportunity. Replacement of equipment, or enforcement of clean-up measures is provided. When the beekeeper is shown how to increase the value of his project in better honey production, cooperation is generally achieved.

In order to protect surrounding areas in seven counties, 76 colonies of infected bees were destroyed by the inspectors.

During the past few years some beekeepers have attempted to control disease by the use of sulfathiozole. This method has proved impractical under New Jersey conditions. In all cases, the method has finally resulted in the burning of the colonies to clean up infected materials.

#### MICROSCOPIC DETERMINATIONS

During the year, 120 smears of dead bee brood were submitted for microscopic diagnosis. The organism *Bacillus larvae*, causing American foul brood, was found in 43 smears; the organism *Bacillus pluton*, causing European foul brood, was found in 43 smears. Thirty-one of the smears were apparently negative of bee diseases.

There were three cases of "bee paralysis" found; two in Middlesex County, and one in Somerset. The colonies were requeened and in all three cases they apparently recovered.

## SUMMARY OF APIARY INSPECTIONS

| County     | Api-<br>aries | Colo-<br>nies | Nuclei | Box<br>Hives | Cross<br>Combed | Api-<br>aries<br>A.fb. | Colo-<br>nies<br>A.fb. | Api-<br>aries<br>E.fb. | Colo-<br>nies<br>E.fb. | Colo-<br>nies<br>Burned | Microscopic Determinations |       |               |                |
|------------|---------------|---------------|--------|--------------|-----------------|------------------------|------------------------|------------------------|------------------------|-------------------------|----------------------------|-------|---------------|----------------|
|            |               |               |        |              |                 |                        |                        |                        |                        |                         | A.fb.                      | E.fb. | Nega-<br>tive | Paral-<br>ysis |
| Atlantic   | 7             | 25            | ..     | ..           | 7               | ..                     | ..                     | 2                      | 3                      | ..                      | 1                          | 3     | ..            | ..             |
| Bergen     | 100           | 435           | ..     | ..           | ..              | 14                     | 36                     | ..                     | ..                     | ..                      | 9                          | 2     | 11            | ..             |
| Burlington | 25            | 546           | ..     | ..           | ..              | 5                      | 30                     | 5                      | 16                     | 12                      | 5                          | 17    | 2             | ..             |
| Camden     | 22            | 111           | ..     | ..           | ..              | 1                      | 4                      | ..                     | ..                     | ..                      | 1                          | 5     | 2             | ..             |
| Cape May   | 6             | 119           | 186    | ..           | ..              | 2                      | 3                      | 1                      | 12                     | 2                       | ..                         | ..    | ..            | ..             |
| Cumberland | 9             | 372           | ..     | ..           | ..              | 1                      | 4                      | 5                      | 17                     | ..                      | 10                         | 16    | 5             | ..             |
| Essex      | 27            | 99            | ..     | ..           | ..              | 6                      | 10                     | ..                     | ..                     | ..                      | 1                          | ..    | 2             | ..             |
| Gloucester | 6             | 63            | ..     | ..           | ..              | ..                     | ..                     | 1                      | 1                      | ..                      | ..                         | ..    | ..            | ..             |
| Hunterdon  | 54            | 1,136         | 714    | ..           | ..              | 2                      | 4                      | ..                     | ..                     | ..                      | 3                          | ..    | 1             | ..             |
| Mercer     | 87            | 877           | ..     | ..           | 6               | 4                      | 14                     | ..                     | ..                     | ..                      | 1                          | ..    | ..            | ..             |
| Middlesex  | 93            | 610           | ..     | 21           | 8               | 27                     | 46                     | ..                     | ..                     | ..                      | 1                          | ..    | ..            | 2              |
| Monmouth   | 1             | 10            | ..     | ..           | ..              | 1                      | 1                      | ..                     | ..                     | ..                      | 2                          | ..    | 3             | ..             |
| Morris     | 204           | 1,324         | ..     | 19           | 34              | 13                     | 46                     | ..                     | ..                     | 4                       | 1                          | ..    | ..            | ..             |
| Ocean      | 5             | 43            | ..     | ..           | ..              | ..                     | ..                     | ..                     | ..                     | ..                      | 3                          | ..    | 1             | ..             |
| Passaic    | 18            | 81            | ..     | ..           | ..              | 1                      | 1                      | ..                     | ..                     | 9                       | ..                         | ..    | ..            | ..             |
| Somerset   | 172           | 1,345         | ..     | 2            | 19              | 12                     | 57                     | ..                     | ..                     | 29                      | ..                         | ..    | 2             | 1              |
| Sussex     | 7             | 114           | ..     | ..           | ..              | 1                      | 4                      | ..                     | ..                     | 4                       | ..                         | ..    | ..            | ..             |
| Union      | 88            | 673           | ..     | ..           | 9               | 16                     | 33                     | ..                     | ..                     | ..                      | 4                          | ..    | 2             | ..             |
| Warren     | 34            | 214           | ..     | ..           | ..              | 4                      | 4                      | ..                     | ..                     | 16                      | 1                          | ..    | ..            | ..             |
| Totals     | 965           | 8,197         | 900    | 42           | 83              | 110                    | 297                    | 14                     | 49                     | 76                      | 43                         | 43    | 31            | 3              |

## GYPSY MOTH PROJECT

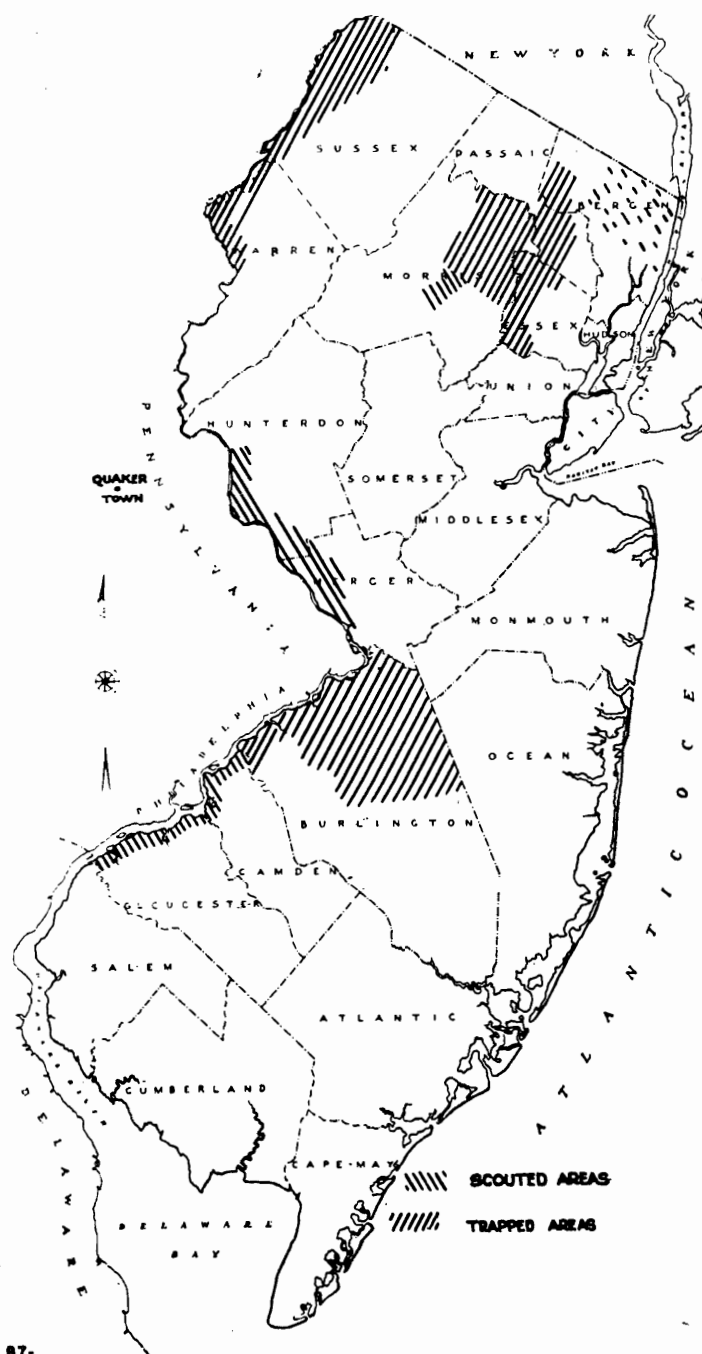
During the first part of July, 1948, a total of 750 Gypsy moth traps was distributed in Bergen, Burlington, Essex, Morris, Passaic, Sussex and Warren counties. These traps, complete with all necessary material, were furnished by the United States Department of Agriculture. They were installed at various locations in the State (see map, page 151), and then patrolled at ten-day intervals, until the end of the moth flight season, in mid-September. The traps were then removed and returned to Greenfield, Massachusetts, headquarters of the federal project. No adult Gypsy moth was taken.

## DISTRIBUTION OF TRAPS

| County     | No. of Traps |
|------------|--------------|
| Bergen     | 55           |
| Burlington | 195          |
| Essex      | 90           |
| Morris     | 175          |
| Passaic    | 100          |
| Sussex     | 85           |
| Warren     | 50           |
| Total      | 750          |

Following the trapping season, open extensive scouting was done in Bergen and Warren counties. The original scouting program was somewhat altered because of a serious Gypsy moth infestation found by federal scouts in Quakertown, Pennsylvania. The outbreak was located a little over ten miles west of the New Jersey border. Accordingly, scouting was planned to include the area from Frenchtown south to Trenton, along the New Jersey side of the Delaware River. A rather narrow strip was first scouted along the river during the time that the river maintained a low level. It was thus possible to examine much of the debris washed up on the banks, some of which could have floated in from the infested area in Pennsylvania. After this strip was completed the scouts doubled back from Trenton, completing a wider scouted swath north to Frenchtown. One man was assigned work in Camden and Gloucester counties, to check on the possible introduction of the Gypsy moth by trucks and other common carriers entering this State from the infested section in Quakertown, Pennsylvania. Two men worked in Bergen County in an area which has been suspected because of the finding of one male moth in 1939 and one in 1945. One man spent some time in Morris County where an infestation of the Gypsy moth had been found and treated in 1935. This furnished a check on the control work that had been accomplished at that time. The Gypsy moth project supplemented its force during the scouting season with the addition of four men loaned from other division projects. This made it possible to cover much additional ground. Because of heavy foliage by the middle of May, 1949, scouting operations were discontinued. The regular Gypsy moth force spent the remainder of





87-

GYPSY MOTH SURVEY OPERATIONS DURING FISCAL YEAR

May and the month of June checking roads and spotting locations for the Gypsy moth traps to be located during July. It is expected that 750 traps will again be available for trapping work in this State.

Throughout the year, no Gypsy moth was taken in the State.

## SUMMARY OF SCOUTED AREAS

| County     | Township           | Woodland Acres<br>Scouted | Open Acres<br>Scouted |
|------------|--------------------|---------------------------|-----------------------|
| Bergen     | Paramus            | 365                       | 1,000                 |
|            | Hohokus            | 419                       | 820                   |
|            | Englewood Cliffs   | ..                        | 165                   |
|            | Ridgefield Park    | 445                       | 205                   |
|            | Englewood          | 120                       | 385                   |
|            | Emerson            | 180                       | 210                   |
|            | Tenafly            | 1,052                     | 376                   |
|            | Old Tappan         | 68                        | 180                   |
|            | Riverview          | 21                        | 110                   |
|            | Park Ridge         | 32                        | 80                    |
|            | Montvale           | 47                        | 210                   |
|            | Saddle River       | 175                       | 395                   |
|            | Upper Saddle River | 630                       | 225                   |
|            | Waldwick           | 120                       | 270                   |
|            | Cedar Grove        | 90                        | 290                   |
| Essex      | Montclair          | 20                        | 55                    |
|            | Mendham            | 357                       | 85                    |
| Morris     | Morris             | 409                       | 441                   |
| Warren     | Pahaquarry         | 1,123                     | 89                    |
| Hunterdon  | Kingwood           | 386                       | 1,053                 |
|            | Delaware           | 20                        | 240                   |
|            | West Amwell        | ..                        | 124                   |
| Mercer     | Hopewell           | 208                       | 2,513                 |
|            | Ewing              | 461                       | 1,703                 |
|            | Trenton (City)     | 70                        | 1,696                 |
| Camden     | Haddonfield        | 2                         | 15                    |
|            | Pennsauken         | 37                        | 25                    |
|            | Collingswood       | ..                        | 10                    |
|            | Brooklawn          | 19                        | 22                    |
|            | Gloucester City    | 21                        | 38                    |
| Gloucester | Camden (city)      | 7                         | 28                    |
|            | National Park      | 31                        | 33                    |
|            | Logan              | 61                        | 8                     |
|            | Greenwich          | 82                        | 2                     |
|            | Paulsboro (boro)   | 46                        | 16                    |
|            | West Deptford      | 104                       | 13                    |
|            | Westville          | 36                        | 35                    |
|            | Totals             | 7,264                     | 13,165                |

### BUREAU OF PLANT PATHOLOGY DUTCH ELM DISEASE CONTROL\*

Prior to the appearance of DDT, the protection of healthy elms against Dutch elm disease infection was attempted by a program of sanitation in-

\* For the calendar year 1948.

volving the detection and destruction of (1) infected trees (2) bark beetle infested wood, and (3) wood deemed suitable for infestation. The principle of sanitation is the reduction of the inoculum potential in the immediate vicinity of trees to be protected.

With the advent of DDT hope was entertained that the emphasis on protection could be shifted to the establishment, on each of the trees to be protected, of a veneer of DDT which would kill bark beetles before infective feeding could be accomplished.

Researches with DDT formulations are still in progress but the ideal one has not been found. Likewise the mechanics of application of DDT emulsions from the sprayer to the tree are in need of further refinement so that adequate deposition can be attained.

The present status of the research with DDT formulations and the mechanics of application does not permit a guarantee that trees given the recommended treatment with this chemical will be absolutely protected against the initiation of an infection. Consequently the sanitation work must be conducted concurrently.

Adequate sanitation for the reasonable protection of elms is, in most localities, difficult of accomplishment. This unfortunate circumstance is occasioned by (1) the delay in the proper treatment, or disposition of known infected and infested trees and (2) location of such accessory trees on property the owner of which has no concern in Dutch elm disease control. These two circumstances, from the standpoint of sanitation, will probably prevail indefinitely.

The acceleration and intensification of research on the use of DDT formulations for the combatting of bark beetle assaults should be undertaken. The long range policy for Dutch elm disease control will probably resolve into the protection of individual trees with only an ordinary regard for the inoculum in the immediate environs.

Furthermore, adequate sanitation is difficult because of the obscurity of the accessory items. Scouting for sanitation purposes on the basis of the scope embodied in the previously employed eradication program cannot be expected unless circumstances under which the previous eradication program was sponsored should become a part of the national economy.

During the foliar season of 1948, 161 man days were employed for survey scouting of 318 political units in New Jersey with particular emphasis on the northern half of the State. The northern half of the State is generally infected; however, localized heavy infections occur in practically every county with the exception of Hudson and Warren.

With few exceptions, local intensification of the disease can be ascribed to the absence of any sanitation or spraying work for the control of the bark beetles.

This Department assists property owners in the detection of infected and infested trees and provides recommendations for their disposition. The use of these recommendations is variable.

Since the discontinuation of organized and methodical eradication and scouting work in 1940, the severity of the Dutch elm disease in New Jersey has not been too conspicuous except, as previously stated, in some local areas. However, each year adds an additional toll and if the disease progresses in the future as it has in the recent past, a further reduction of the elm population is in prospect.

In the earlier years many elm trees survived in areas of heavy infection and bountiful beetle supply. Hence, a hope was evolved that certain specimens of *Ulmus americana* might be resistant or immune to the disease. However, over the years trees previously believed to be in this category have become infected and succumbed.

Intensive effort has been expended by this Department to energize individuals and shade tree commissions in the adoption of the recommendations for Dutch elm disease control. The financial complications, particularly from the standpoint of local budgets cannot be overlooked and are no doubt the basis for the inadequate control activities. Meager appropriations are exhausted before the work is far advanced.

As practically the entire State of New Jersey is known to be infected by the disease, little is to be gained by the general collection of and culturing of samples from suspect trees. Such trees, even though being symptomatic because of other than Dutch elm disease, will become magnetic to bark beetles and hence will attract many beetles undoubtedly carrying the Dutch elm disease fungus. Approximately 90 per cent of the recently submitted New Jersey specimens have cultured *Graphium ulmi*.

The New Jersey Department of Agriculture endorses the bark beetle spray recommendations of the Federal Division of Forest Insects assuming that considerable benefit will be derived from their employment. Even though bark beetle control may not be attained in the desired entirety, the control of defoliators in general is highly worth-while.

The 1948 general survey in New Jersey indicated that most of the elms in the State are the victims of moderate to severe defoliation annually. The establishment, in the minds of elm tree owners, of the necessity of controlling these defoliators will be a commendable companion recommendation to the control of the insect responsible for the spread of the Dutch elm disease fungus.

This Department will continue in 1949 to recommend the following procedure for spraying with DDT:

1. Dead elms with tight bark. Spray immediately before April 15 and 60 days later if tree is still standing.
2. Dutch elm disease symptomatic trees of 1948. Spray immediately before April 15 and 60 days later if tree is still standing.

NEW JERSEY DEPARTMENT OF AGRICULTURE  
TABULAR SUMMARY OF 1948 DUTCH ELM DISEASE SURVEY

| County     | Man<br>Days<br>Scouting | Political Units—<br>Distribution of Disease Incidence<br>in Scouted Units |      |     | General | Areas of Highest Disease<br>Incidence Within County | Elm Leaf<br>Beetle<br>Damage |
|------------|-------------------------|---|------|-----|---------|---|------------------------------|
|            |                         | Number<br>Scouted   | None | Few |         |   |                              |
| Hudson     | 1                       | 7   | 4    | 3   | ..      | None  | Moderate                     |
| Passaic    | 8                       | 16  | 1    | 7   | 8       | Wayne Twp. & Clifton                                | Heavy                        |
| Essex      | 13                      | 22  | ..   | 11  | 11      | Livingston & Millburn Twps.                         | Severe                       |
| Union      | 10                      | 21  | ..   | 10  | 11      | Roselle Boro & Westfield                            | Severe                       |
| Morris     | 12                      | 38  | 2    | 24  | 12      | Morris Twp. & E. Hanover Twp.                       | Severe                       |
| Bergen     | 18                      | 68  | 6    | 28  | 34      | Mahwah & Teaneck                                    | Severe                       |
| Sussex     | 12                      | 8   | 1    | 7   | ..      | Wantage & Lafayette Twps.                           | Severe                       |
| Warren     | 8                       | 3   | ..   | 3   | ..      | None  | Severe                       |
| Hunterdon  | 14                      | 22  | 4    | 17  | 1       | Califon & Raritan Twp.                              | Moderate                     |
| Somerset   | 16                      | 23  | 3    | 18  | 2       | Bedminster & Bridgewater Twps.                      | Severe                       |
| Middlesex  | 10                      | 10  | 1    | 8   | 1       | Johnson Park & Metuchen                             | Severe                       |
| Mercer     | 10                      | 14  | 3    | 8   | 3       | Lawrence & Hopewell Twps.                           | Severe                       |
| Burlington | 6                       | 19  | 7    | 12  | ..      | Florence & Edgewater Park                           | Moderate                     |
| Camden     | 9                       | 17  | 13   | 4   | ..      | Delaware Township                                   | Severe                       |
| Monmouth   | 8                       | 12  | 5    | 6   | 1       | Rumson & Red Bank                                   | Severe                       |
| Gloucester | 4                       | 8   | 6    | 2   | ..      | None  | Moderate                     |
| Cumberland | 1                       | 3   | 2    | 1   | ..      | None  | Moderate                     |
| Salem      | 1                       | 3   | 3    | ..  | ..      | None  | Moderate                     |
| Atlantic   | 1                       | 1   | 1    | ..  | ..      | None  | Moderate                     |

Prepared October 1, 1948

3. Dutch elm disease symptomatic trees of 1949. Spray immediately upon the appearance of wilting and yellowing symptoms.
4. The methodical spraying of all other elms not included in the previous three categories.

An article entitled "A Dutch Elm Disease Control Project for New Jersey for 1949" was published in *The Shade Tree* and widely distributed.

#### THE CONTROL OF CANKER STAIN DISEASE OF LONDON PLANES

During the calendar year 1948 two field men spent a total of 15 months on canker stain control. Approximately 90,000 plane trees were examined in 111 political units of 10 counties. Three hundred and twelve new cases of canker stain disease were detected and 150 old cases not eradicated were retagged, making a total of 462 canker stain diseased trees standing to date.

This indicates some control progress, as it shows a decrease in the number of new cases found this year; 312 against 443 in 1947. Furthermore there was a decided increase in the number of diseased tree removals this year. Continued prompt removal should again reduce the number of new cases in 1949. However, three townships in Camden County; Delaware, Haddon and Pennsauken had considerable increases in 1948 even though they had eradicated their 1947 diseased trees. Investigations are now being made to determine the causes of these increases.

Only one diseased tree was found in a new area, Ewing Township in Mercer County. This is a county-owned tree and will be promptly eradicated. Time did not permit a thorough scouting in Warren County this year, but a hasty check did not show any new cases adjacent to or in the infected area in Pohatcong Township. It was particularly discouraging to learn that the owners of Riverview Beach Park in Salem County, where 38 diseased planes were located in 1947, have decided not to follow the recommendations of the Bureau for control but will let nature take its course. In view of this fact the park was not scouted this year. Fortunately, no diseased trees have been found contiguous to the park property or in nearby towns but there is a good possibility they will appear in the future.

Both city officials and private property owners now seem more interested in controlling this disease than in past years. Officials of seacoast cities are particularly anxious to cooperate and welcome periodical inspection of their trees.

Because of the magnitude of the work involved it is physically impossible to inspect all the plane trees in the present infected and control areas each year. Present plans call for the yearly inspection of the planes in the infected areas of Camden, Burlington and Gloucester counties, and a bi-yearly inspection of trees in counties in the control area. The scouting during 1949 will also include an examination for symptoms of the new plane tree disease.



## PROGRESSIVE REPORT—CANKER STAIN DISEASE CONTROL

| County     | Total<br>No. of<br>Trees | Tagged Trees to January 1, 1948 |                  |          | Trees<br>Tagged<br>in 1948 | Total Tagged<br>Trees<br>Standing<br>Jan. 1, 1949 |
|------------|--------------------------|---------------------------------|------------------|----------|----------------------------|---|
|            |                          | Total                           | Total<br>Removed | Standing |                            |   |
| Atlantic   | 7,100                    | ..                              | ..               | ..       | ..                         | ..  |
| Burlington | 16,350                   | 47                              | 43               | 4        | 13                         | 17  |
| Cape May   | 9,400                    | ..                              | ..               | ..       | ..                         | ..  |
| Camden     | 52,850                   | 749                             | 642              | 107      | 298                        | 405   |
| Cumberland | 4,250                    | ..                              | ..               | ..       | ..                         | ..  |
| Gloucester | 5,850                    | 7                               | 7                | ..       | ..                         | ..  |
| Hunterdon  | 20                       | ..                              | ..               | ..       | ..                         | ..  |
| Mercer     | 2,405                    | ..                              | ..               | ..       | 1                          | 1   |
| Middlesex  | 930                      | ..                              | ..               | ..       | ..                         | ..  |
| Monmouth   | 14,500                   | 1                               | 1                | ..       | ..                         | ..  |
| Ocean      | 1,000                    | ..                              | ..               | ..       | ..                         | ..  |
| Salem      | 5,100                    | 38                              | 10               | 28       | ..                         | 28  |
| Somerset   | 1,080                    | ..                              | ..               | ..       | ..                         | ..  |
| Union      | 500                      | ..                              | ..               | ..       | ..                         | ..  |
| Warren     | 2,250                    | 11                              | ..               | 11       | ..                         | 11  |
| Totals     | 123,585                  | 853                             | 703              | 150      | 312                        | 462   |

## LABORATORY ACTIVITIES

## PARASITES OF THE EUROPEAN CORN BORER

A survey has been conducted each year since 1944 by the Division personnel to determine the abundance and distribution of parasites released during the years 1935-1949 for the control of the European corn borer. The parasites had been reared and in most cases released by the United States Department of Agriculture.

In 1947 the present method of surveying the population was adopted. It consists of taking a sample of 50 borers from a representative corn field in each of 94 blocks 100 square miles in area. The limits of the blocks were established by ruling a State road map into blocks 10 miles on a side.

The results of this year's survey indicate a sizeable increase in the importance of parasites of the European corn borer since the last survey. The following comparisons of the 1947-1948 and 1948-1949 surveys justify this conclusion.

|  | 1947-48 | 1948-49 |
|--|---------|---------|
| <i>Lydella grisescens</i>                        |         |         |
| Number of blocks from which recovered            | 82      | 88      |
| Per cent of total borers infected (entire state) | 14.8    | 26.4    |
| <i>Macrocentrus gifuensis</i>                    |         |         |
| Number of blocks from which recovered            | 23      | 48      |
| Per cent of total borers infected (entire state) | 2.3     | 6.1     |
| <i>Horogenes punctorius</i>                      |         |         |
| Number of blocks from which recovered            | 12      | 21      |
| Per cent of total borers infected (entire state) | 0.5     | 1.4     |

A simple addition of the percentage figures in the right-hand column gives a total of 33.9 per cent of all borers present in stalks in the fall infected by one of the three principal parasites. This figure is high enough for parasites to be considered a significant factor in the European corn borer situation in New Jersey.

## AIRPLANE SPRAYING FOR FOREST INSECT CONTROL

In the spring of 1947 a program of airplane spraying of DDT for the control of the pine sawfly *Neodiprion sertifer* was conducted. Details are contained in the annual report for 1946-1947. The results were very satisfactory and additional applications were made in the spring of 1948, also with favorable results.

Early this spring requests that the service again be made available were received from property owners. Most of the pine blocks involved had not been sprayed previously by plane. Some, however, were owned by persons who had experienced serious defoliation of their trees during the years before airplane spraying was available and who are now having them sprayed periodically to avoid a recurrence of the damage.

Because workers had almost unanimously reported superior results with DDT emulsions over solutions, the change from solution to emulsion was made in the work this year. A 12.5 per cent emulsion was prepared by diluting a 25 per cent commercial emulsifiable concentrate. This material was applied at the rate of one gallon per acre and since each gallon contains one pound of actual DDT, the insecticide was applied at the rate of one pound per acre.

This material was applied to 1,131 acres of pines on 29 properties scattered over the northern half of New Jersey. The plantings ranged in size from 5 to 400 acres. The applications were made during the period April 14-25, when the larvae were very small.

The results were generally good although not so satisfactory as in 1947 and 1948 when the xylene-kerosene solution had been used. It appears that the emulsion was somewhat sticky and a deposit accumulated on the nozzles so that the distribution was not as uniform as is desired. Solutions will be used in future work.

On an experimental basis, sections of four state parks were sprayed by plane for the control of the cankerworms. The spraying was done on April 25, when a 12.5 per cent emulsion was applied at the rate of one gallon per acre.

The results of the spraying for cankerworm control were not conclusive, and in most cases satisfactory control was not obtained, probably because the material was applied too early. An attempt was made to prevent the very earliest feeding which occurs when the leaves of many tree species are not yet unfolded. Then when the leaves unfold much unsprayed foliage is available for feeding and damage results. If more spraying for this pest is undertaken next year, which seems likely, the application will be made somewhat later.

Lists of the properties sprayed for pine sawfly control and for cankerworm control follow:

| Property                           | County    | Acreage |
|------------------------------------|-----------|---------|
| Robert V. Armstrong                | Sussex    | 15      |
| Frank Beyer                        | Warren    | 11      |
| Charles B. Bradley                 | Morris    | 37      |
| Dr. George Buist                   | Sussex    | 10      |
| Commonwealth Water Company         | Union     | 30      |
| Glen Gardner Sanitorium            | Hunterdon | 215     |
| Wright Goss, Jr.                   | Morris    | 33      |
| Hackettstown Nursery               | Warren    | 10      |
| Dr. John Hammett                   | Sussex    | 45      |
| Hackettstown Water Board           | Morris    | 77      |
| John R. Hardin                     | Morris    | 32      |
| Dr. James R. Harman                | Mercer    | 18      |
| William Heaslip                    | Warren    | 10      |
| Dr. Harry Levy                     | Hunterdon | 10      |
| Charles Marcak                     | Warren    | 15      |
| Mercer County Nursery              | Mercer    | 10      |
| North Jersey District Water Supply | Passaic   | 400     |
| Fred Riehle                        | Hunterdon | 10      |
| Louis P. Rocker                    | Sussex    | 35      |
| John R. Rogers                     | Morris    | 15      |
| Reeve Schley, Jr.                  | Hunterdon | 10      |
| Frank Serles                       | Somerset  | 18      |
| Robert Shaldjian                   | Warren    | 15      |
| Earl H. Tiffany                    | Hunterdon | 5       |
| R. G. Tillison                     | Warren    | 5       |
| Tranquility Farms                  | Warren    | 20      |
| Mrs. Lila Tyng                     | Morris    | 10      |
| W. E. Whittington                  | Sussex    | 5       |
| Edwin Wile                         | Mercer    | 5       |
| Total                              |           | 1,131   |

Properties sprayed for cankerworm control:

|                                |           |    |
|--------------------------------|-----------|----|
| Ringwood Manor State Park      | Passaic   | 26 |
| Voorhees State Park            | Hunterdon | 32 |
| Washington Crossing State Park | Mercer    | 25 |
| Total                          |           | 83 |

ADULT JAPANESE BEETLE DAMAGE SURVEY—SUMMER 1948

A survey of the damage caused by the feeding of adult Japanese beetles on the foliage of host plants was conducted during the period August 16 to September 3.

The methods of observation and scoring were the same as those employed in similar surveys during the seasons of 1940 to 1947. Observations were made at the same points each year, in order to draw reliable comparisons.

There is a slight but general increase in the severity of the beetle damage this year. Increases occurred in 13 of the 20 counties surveyed, the greatest increases being in Warren, Hunterdon, Mercer, Somerset, Camden and Ocean counties. Decreases in damage occurred in only three counties, namely; Salem, Cumberland and Union.

The area of heaviest damage is the Delaware River Valley in Warren and Sussex counties, but this damage does not approach in severity that which occurred in the southern counties at the peak of the beetle infestation.

The following figures indicate the relative trend of the Japanese beetle damage for the state for the past nine years.

|                 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 | 1948 |
|-----------------|------|------|------|------|------|------|------|------|------|
| Abundance Index | 3.8  | 3.6  | 4.2  | 4.2  | 4.2  | 3.6  | 3.8  | 3.9  | 4.0  |

#### RECOVERY OF PARASITES OF FOREST INSECTS LIBERATED IN 1936, 1937 AND 1941

In 1936 and 1937 the parasitic braconid *Orgilus obscurator* was liberated by federal personnel in Boonton and New Vernon. The purpose was to determine its effect on the European pine shoot moth *Rhyacionia buoliana*. In May 1948 collections of infested tips were made in Chester, Peapack-Gladstone, West Trenton, Boonton and Mount Airy. This material was reared at New Haven and the parasite was recovered from material from Chester, Peapack-Gladstone, Boonton and Mount Airy. The percentage of material infected ranged from 3 per cent in Mount Airy to 21 per cent in Chester.

Philip Dowden, who conducted the rearing work, states in his letter, "The important point is that *Orgilus* is pretty well distributed and that *Campoplex interruptor* GROV. was not recovered. The latter is a valuable species in Europe that apparently became established in this country soon after colonization. It now seems to be very scarce."

Collections were also made during September 1947 and June 1948 for the recovery of several parasites of the pine sawfly *Neodiprion sertifer*. The parasites had been liberated during the period 1937-1941. Of six species liberated, three were recovered, all in small numbers. Mr. Dowden's summary states in part, "The recovery of *Aptesis basizonia* and *Exenterus abruptorius* are new records of establishment for these introduced species. It is gratifying that *Aptesis* seems to be well dispersed and of some consequence. I think further recovery efforts should be made in 1949, if possible."

#### FOREST PEST SURVEY AND CONTROL

During the pine sawfly control work it became evident that many persons responsible for the maintenance of trees were willing to do considerable work in the control of tree diseases and insect pests but were deterred by the lack of a source of information and advice.

A program intended to provide such information has been undertaken, beginning this year with persons responsible for trees in State parks and forests, properties of the Department of Institutions and Agencies, several watersheds and some of the larger industrial and private properties. It has consisted largely of periodic visits to the properties, the provision of formulae for spraying for various insects, recommendations concerning time of applications and the preparation of a list of available tree spraying concerns and commercial arborists.

During the later phases of the program, literature will be prepared and distributed which will inform interested persons concerning the time to expect the insect, the material to apply, and other pertinent information. Such information should be provided concerning the cankerworms, tent caterpillars, bagworm, elm leaf beetle, Japanese beetle, locust leaf miner, pine sawfly and birch leaf miner.

#### STUDIES ON THE REARING OF *Macrocentrus ancyliivorus*

Recent regulations formulated by the United States Government have definitely indicated that much more drastic action is to be expected controlling the use of the newer organic insecticides. These materials are able to kill insects at astonishingly low concentrations; but their continued consumption by other animals presents a definite hazard. Within the year the use of DDT has been prohibited in all phases of the dairy industry. Probably in the near future severely restricting tolerances will be established and enforced for all human food materials.

The present concern of the Bureau is with mitigation of the damage to peaches by the Oriental fruit moth. Many years' experience has shown that the older insecticides are not able to control this pest within the acceptable commercial limits. Some of the newer insecticides have given control, but always with the accepted tolerance standards exceeded. DDT will give reasonable control of worms in peaches, but to do so it must be applied at such a rate that the fruit at harvest bears a residue of 12-15 parts per million, or about twice the present tolerance on foodstuffs. Contrary to popular opinion, the fact that DDT is a poison of the first rank for humans as well as for the arthropoda, is becoming more generally recognized.

Carefully conducted researches on the effects of mass liberations of the parasite *Macrocentrus ancyliivorus* in peach orchards have shown that, properly conducted, this biologic control approach can solve the problem of excessive damage by the Oriental fruit moth. The problem now becomes one of devising methods whereby an adequate supply of *Macrocentrus* parasites may be made available to the orchardist. *Macrocentrus ancyliivorus* is a native parasite on the strawberry leaf roller and some other tortricids. The first work done with the parasite was conducted by making field collections of parasitized strawberry leaf rollers, holding this material under suitable conditions for later emergence, and then releasing the parasites in peach orchards. This was not very successful. Another procedure used in the earlier phases of the work consisted of rearing the Oriental fruit moth on slices of green apple, exposing these to parasitism, and later collecting the emerging parasites for field release. This procedure was laborious, and the number of parasites that could be grown was too limited to be of real value in the mass liberations required for successful field use.

In October, 1943, it was discovered that *Macrocentrus* can be reared using the potato tuber moth as a host insect. The initial production using



this procedure was excellent, and efficient techniques were devised for the use of this method. However, a gradual decline in production became evident. This was found to be, in part, due to the ravages of several diseases which attack the tuber moth, especially under the crowded conditions existing in the mass rearing technique. Means of eliminating or minimizing these losses have been devised.

Recently, recurring difficulties of a more or less periodic nature have been noted in rearing both the potato tuber moth and *Macrocentrus*. The nature of this difficulty has been under investigation for the past year. It appears to be associated with the various lots of potatoes which are used in the rearing work. With the almost universal use of DDT in potato growing, it could possibly be a result of absorption or surface contamination by this material. The action of the insects rather inclines us to believe that the trouble is nutritional. New potatoes, from as divergent sources as possible, were obtained and run in replicated, check experiments. The results are strongly indicative of a variation in the nutritional value of the various potatoes. The problem is still under investigation. Attempts were made to devise an artificial culture medium for the propagation of the tuber moth, and, therefore, the parasite. It is hoped that in this way a uniform pabulum will be available. So far, we have only been successful in obtaining a degree of development (through two instars) of the tuber moth, but the investigations are being continued. The seriousness of the problem is indicated by the fact that several years ago three commercial insectaries were operating in New Jersey attempting to supply the demand for *Macrocentrus*. Due to these difficulties, at present only one is in operation; and if nothing can be done to abate these troubles even this individual may be forced to abandon operations.

A rather small number of potato tuber moth eggs was supplied to the Department of Entomology of the New Jersey Experiment Station for research on the possible absorption of insecticides in potatoes grown in insecticide-treated soil. An estimated total of 50,000 eggs was sent to the Connecticut Agricultural Experiment Station to replace their stock, which had become badly infected by *Nosema*, a microsporidian parasite which has successfully been eliminated from New Jersey cultures. An estimated total of one million eggs was supplied to the one remaining commercial parasite producer in New Jersey in order to assist him in his production of parasites for sale to orchardists.

#### FOLIAR ANALYSIS OF NEW JERSEY ELMS

At this time a report on the results of the leaf samples collected in the fall of 1947 is being made. The report of these results has been delayed because it was desired to redetermine the copper and zinc content, using more sensitive and reliable procedures than were originally used.



A total of 27 trees is included in this group. These were selected from various places in New Jersey, from Princeton north. They may be segregated into the following groups: Four were above-average in appearance; fourteen were classified as "average" elms; and nine were poor trees. At the time of sampling each tree was carefully examined for characters indicating a variance from the norm. In all cases an attempt was made to exclude obviously misplaced trees, or those suffering severe insect attack. In other words, all the trees were in locations and circumstances where they might be expected to do at least moderately well.

Analyses were made on each sample for the elements listed in Table 1. To list separately the analytical results on each tree would be meaningless, and voluminous. Therefore, the results are given as a composite. Column 1 lists the elements; column 2 lists the lowest percentage (or parts per million for the minor elements) found in any of the trees; column 3 represents the median value for trees of average appearance, and may therefore in a general way represent a lower limit for reasonably good growth; column 4 represents the highest analytical value for the various elements, and does *not* reflect the optimum value, as these values may represent luxury consumption, an imbalance in the nutritional status, or even toxic concentrations in some cases. Obviously, all the values have been rounded off.

TABLE I  
CHEMICAL COMPOSITION OF ELM LEAVES, DATA FROM 27 TREES

| Element    | Range  |        |         |
|------------|--------|--------|---------|
|            | Lowest | Median | Highest |
| Nitrogen   | 0.9 %  | 1.5 %  | 1.7 %   |
| Phosphorus | 0.14%  | 0.19%  | 0.34%   |
| Potassium  | 0.60%  | 0.95%  | 1.5 %   |
| Calcium    | 1.0 %  | 1.6 %  | 2.2 %   |
| Magnesium  | 0.18%  | 0.3 %  | 0.5 %   |
| Iron       | 0.032% | 0.05%  | 0.075%  |
| Copper     | 4 ppm  | 20 ppm | 100 ppm |
| Aluminum   | 0.020% | 0.030% | 0.060%  |
| Manganese  | 10 ppm | 80 ppm | 220 ppm |
| Zinc       | 10 ppm | 50 ppm | 120 ppm |
| Boron      | 40 ppm | 65 ppm | 105 ppm |

All these data have been plotted graphically to show the inter-relationships existing. Unfortunately this chart is too complex for reproduction in this report. The following remarks are made as being generally true from a study of the detailed data.

*Nitrogen:* Trees with low nitrogen analysis tend to have distinctly yellow foliage. This effect will not appear if the phosphorus supply is adequate and there is a deficiency of potassium. In the latter even the abnormality discussed under potassium occurs.

*Phosphorus:* Trees high in phosphorus, but low in the minor elements manganese, magnesium, and zinc, tend to make remarkable terminal shoot

growth. The leaves tend to be exceptionally large, and of the "juvenile" character. Probably none of these trees exhibits a definite phosphorus deficiency.

*Potassium:* In general, it appears that the potassium content of the leaves should equal or exceed 1.0 per cent. Where lower amounts of potassium are found, a rosetted effect is noted. The leaves are small, usually dark green, and the internodes between leaves are very short. The trees generally have a thriving appearance, but do not make good terminal growth. None of the potassium values appear to be excessive. Potassium deficiency may be considered rather common.

*Calcium:* There must exist a definite chemical equivalence between all of the anions and cations present in the leaf. In these analyses, it is apparent that substitution of calcium for one of the other equivalent ions has frequently occurred. The tree highest in calcium was low in potassium, and also high in magnesium; this tree had substituted the constituents of dolomitic limestone for the lacking potassium. The condition is general; in these analyses high calcium is associated with a deficiency in potassium. Possibly this would not be true in some areas of the State, where the calcium would be unavailable.

*Magnesium:* A number of trees were sampled in the vicinity of Harmony, on the Belvidere road. These trees were all low in magnesium, evidently a soil condition. They would undoubtedly benefit from the application of dolomitic limestone. From these results, it appears that the magnesium content of the leaf should not be below 0.30 per cent. Incidentally, the elms in the Harmony-Belvidere area are singularly free of insect attack. There is here an obvious field for further exploration.

*Iron:* The range of iron found was from 320 ppm to 750 ppm. These values all appear to be within the normal range. Lack of iron causes a characteristic chlorosis in plants. None of these trees exhibited this chlorosis, and it appears that iron chlorosis in elms in New Jersey is not to be generally expected. It might also be stated that surface contamination of the leaves from iron-bearing soils may be expected to invalidate the results of this analysis unless special precautions are observed.

*Copper:* While copper is an essential minor element in plant nutrition, the range of tolerance is not great. Therefore, copper toxicity may develop. All but two of the trees fell within the range of 4 ppm and 40 ppm. The one tree at 80 ppm exhibited no symptoms generally characteristic of copper toxicity. This same tree was also high in zinc, manganese and iron. This may result from some peculiar local soil condition. Probably 20 ppm of copper may represent a standard for elms, although this is somewhat higher than is usual in plant material.

*Aluminum:* Aluminum is not known to be an "essential" element. On acid soils, excessive amounts of aluminum are liberated in the soil solution, and not infrequently produce a toxicity in the plants growing thereon. These

results do not indicate that aluminum toxicity is to be expected in the elms, as the values obtained are within what is generally considered the safe range. Also, this analysis is subject to the same error as is the iron, since aluminum is a major constituent of clay soils and surface contamination of the leaves by dust may readily invalidate the results.

*Manganese:* According to Dr. H. L. Crane, of the United States Department of Agriculture, Beltsville, Md., who reviewed the data, the general picture is one of low manganese. Fifteen of the 27 trees were definitely low in manganese. Manganese in trees usually ranges from about 50 ppm to 8,000 ppm. However, a high manganese content is associated with a zinc deficiency. The one tree in this group with the highest manganese content (220 ppm) had the lowest zinc content in the group (9 ppm). This relation does not generally hold true in the data, but then none of the manganese values are very high. Many of the trees do exhibit a mottling and chlorosis of the leaves which is generally regarded as an indication of manganese deficiency.

*Zinc:* A deficiency of zinc is quite common in these trees. Probably 50 ppm of zinc may be regarded as a desirable analysis. Trees showing low zinc content (possibly below 20 ppm) exhibit die-back of branches and twigs. The general conformity of these trees indicates that this condition has prevailed for sometime. In general, zinc deficiency results in a severe restriction of root development, which is in turn reflected in the aerial portions by growth limitation, die-back, and thin foliage. At this point it may be remarked that the analyses on the 1948 samples, from different trees substantiate the findings of the analyses of the 1947 samples.

*Boron:* The range of boron is relatively limited. The majority of the trees fall within the range 40-80 ppm of boron. This is in line with expectancy. There seems to be no trouble here.

*Silicon:* Some plants are accumulators of silicon. The elm has been found to be among them, the ash of the leaves having an unexpectedly high silicon content. This finding has no apparent significance other than that it somewhat complicates the work of the analysis.

**GENERAL REMARKS:** The report given above should not be expected to stand unmodified by future work. It is based on the sampling of trees in scattered location, and on one year only. Climatic factors may certainly be expected to modify the chemical constitution of the leaves.

The work has been carefully done, using the best analytical procedures known to the Division. Most of these procedures have been rigorously checked in the laboratory which has taken a considerable amount of time. The procedures are changed as better methods are devised or discovered. For example, the original procedure for iron using potassium thiocyanate has been replaced by an o-phenanthroline procedure, in the interests of accuracy and speed. The Deckert procedure for zinc has been discarded for a much

more elaborate, but also more reliable, single-color diphenyl-thiocarbazone procedure. No published boron procedure was found to give complete reproducibility and recovery in the experience of the laboratory and it was necessary to make modifications until a reliable analysis could be performed. It has been necessary to run literally hundreds of analyses to establish these facts, and to make certain that each group of analyses is not subject to some aberration. When working with the minor elements especially, where it is necessary to distinguish between amounts of the order of one gamma (1-30,000,000th ounce), great care to avoid all possible contamination is absolutely required. The bureau is not entirely satisfied with all of the procedures as yet.

### THE CHEMICAL PROCEDURES

All of the procedures are some type or form known generally as "colorimetric." Without going into detail, it may be of interest to list these methods under the heading of the element sought. The general principle is to measure the quantity of light transmitted through a certain definite column of the liquid containing the appropriately treated sample, as compared to pure water. The transmission is proportional to the concentration of the sought chemical element if the procedure is valid. Delicate photoelectric cells, a wheatstone bridge assembly, and a galvanometer are used to measure the light, far more accurately than can the human eye. A series of known standard solutions of the element being sought is then prepared, run through the required procedures, and measured. A graph showing the variance of the light transmitted with the known quantity of the element present is then prepared. The values obtained from the "unknowns" are compared with the standard graph, and after the appropriate mathematical treatment, the quantity of the element present in the sample is determined. The above discussion is highly simplified; actually, a rather complex inverse logarithmic relationship holds true.

*Nitrogen:* Determined by nesslerization of an aliquot of a sulfuric acid-hydrogen peroxide digest of 0.100 gram sample. A straw-colored fluid results, the depth of color being proportional to the amount of nitrogen present. Accurate to 0.01 per cent.

*Phosphorus:* Aliquot as above. Under proper conditions, the color known as molybdate blue is formed, proportional to the quantity of phosphorus present. Limit, about 0.001 per cent.

*Potassium:* Aliquot as above. Precipitation under very carefully controlled conditions of potassium as the cobaltinitrite. This causes a turbidity in the solution, the amount of which is proportional to the potassium present. This procedure would properly be classed as turbidimetric, not colorimetric. Limit, about 0.01 per cent of sample.



**Calcium:** Aliquot as above. Precipitation under specialized conditions of the calcium as an oxalate. This is also a turbidimetric procedure. Limit, 0.01 per cent.

**Magnesium:** Aliquot as above. Formation of a lake (colored organo-metallic compound) by the addition of sodium diazamino dihydrothio-toluidine sulfonic acid. A pinkish-red color is formed. Limit, one part in 10,000.

**Iron:** Aliquot of acid digest of 5.000 gram sample of leaf ashed to complete absence of organic material. Originally, the reddish color obtained through the addition of potassium thiocyanate was used. This has been replaced by the use of the ortho-phenanthroline color complex (also red, but no interference from copper) which has been found more satisfactory. Limit, 0.001 per cent of sample.

**Copper:** Aliquot as for iron. Under conditions to prevent interference by iron (citrate complex) and in ammoniacal solution, the copper-diethyldithio carbamate is formed. This is partitioned from the aqueous layer into carbon tetrachloride (which intensifies the brownish-yellow color, and further does not absorb the zinc and interfering compounds) and the latter is "read" in the electrophotometer. Limit, 0.0001 per cent, about one part per million of sample.

**Aluminum:** Aliquot as for iron. Under carefully established hydrogen ion concentration at pH 8.0, the color complex with Haematin is formed and read. The analysis, as pointed out above is probably not justified. Limit of detection, 0.001 per cent of sample.

**Manganese:** Aliquot as for iron. In acid solution, under the influence of potassium periodate and heat, the manganese is quantitatively converted to the permanganate, an intensely colored ion. The resultant purple solution is read in the electrophotometer. Limit, about three parts per million in the sample (equivalent to one-ten millionths of an ounce).

**Zinc:** Aliquot as for iron. This is a complex and tedious analysis. All water must first be distilled, then redistilled from an all-pyrex glass apparatus. The solutions used slowly absorb zinc from even the best chemical glassware and must be discarded after a short time. No rubber may be used in any operation, even as stoppers. The best grades of analytical reagents require special purification. Under specialized conditions, the iron, lead, and other "heavy" metals are successively removed from a carbon tetrachloride solution of "dithizone" (a dyestuff of extraordinary tinctoral powers). Finally, the remaining zinc dithizonate (which is pink) is freed from all unreacting dithizone (which is green) so that a so-called one-color dithizone system is established. This, when placed in the electrophotometer, will accurately determine the amount of zinc present. No published procedure was entirely acceptable. Originally a much simpler Deckert dithizone system was used, but other elements caused interference. Limit of procedure, about



one gamma of zinc (actually, about one part in 120,000,000 of the original samples).

*Boron:* A 0.500 gram sample of the leaf material is ashed in the presence of 0.01 N NaOH solution (this modification is not in any known published procedure). The ash is taken up in dilute sulfuric acid and filtered. Carefully measured (to 0.005 ml) aliquots of the ash solution and a 0.0100 per cent solution of quinalizarin in 95 per cent sulfuric acid are allowed to react. The purple quinalizarin is modified to reddish hues by the boron, and this modification is proportional to the boron present. Limit, five parts per million.

#### FUTURE PROGRAM

Until field trials are run, all that has been said about foliar analysis is speculative. A group of trees in Branch Brook Park was selected for further study, rather than have scattered samples. These trees all receive the same care (or lack thereof), and are in an identical environment. The ecologic conditions are homogeneous. These trees run the gamut from the dying to very good. Samples of the leaves were taken in the fall of 1948. The analysis of these samples is progressing, and has been completed for the elements the bureau now has reason to believe are of significance. Suggestions on the rectification of the abnormalities which are obvious have been sought from those best qualified to know, and from the literature. The bureau has applied those methods which it believes will be efficacious, leaving equivalent check trees untreated. By observation and further analytical work on these specimens it is hoped a proper regimen of tree care can be established so far as fertilization goes. Results are not to be expected in a single year. Suppose a tree is exhibiting obvious aberrancies due to manganese deficiency. The corrective is supplied, and shortly thereafter the tree may become deficient in nitrogen, phosphorus and potassium, because the primary restraint against growth has been removed. But if the latter elements were supplied first (as is the present practice), no beneficial effect can be expected.

Accepting the necessity for field trial as a critique as a-priori deduction, it is obviously necessary to have patience with slow progress. Insofar as a justification of the study of the elm goes, it may be inferred that the abnormality of the elm has its counterpart elsewhere. So that aside from the shade tree itself, a plant which has been growing in one location over a long period of years, and represents the cumulative effects of years of malnutrition, may well prove to be a better indicator of a generalized inadequacy than is an annual crop. Not infrequently in scientific fields the study of apparent trivia has yielded results of far-reaching importance. Perhaps this is because of the lack of pressure for immediate results. The doctrine of immediacy has been said to result in the stigma of mediocrity.

In any event, the citizens of New Jersey spend annually several hundreds of thousands of dollars on the fertilization of shade trees. With the present

state of knowledge, this work is done in a manner such as to actually insult the term "empiric". A better conception of the problem is needed; and as has been briefly indicated, may well have bearing on plants other than the specific one under present consideration.

### WHITE HORSE EXPERIMENTAL ELM NURSERY

A group of 60 small elms was set out on a plot of ground adjacent to the White Horse Laboratory in the spring of 1949. These trees were then subjected to a differential fertilization treatment using a complete 10-10-10 fertilizer plus boron, and various combinations of manganese, zinc and copper. These trees were initially quite uniform, and were measured for height and diameter. At the close of the fiscal year there had not been a sufficient lapse of time for the trees to show response. However, the grasses growing in the treated areas showed very decided differences. The grass growing in the areas receiving both zinc and manganese (25 pounds of manganous oxide per acre and 200 pounds of zinc carbonate per acre) was making a more vigorous growth and had a more healthy blue-green color than was true in the areas receiving no fertilizer, or the commercial 10-10-10 fertilizer. Here again seems to be a decided response to the use of the minor elements zinc and manganese.

### TOMATO SEED CERTIFICATION

The tomato seed certification work for the summer of 1948 represented a sharp decrease in the acreage certified, 8,198 in 1947 and 4,946 in 1948. However, the heavy production of the war years was apparently no longer in need for domestic and foreign consumption. Apparently an acreage of 5,000 in New Jersey can be considered normal.

Insect and disease complications were not serious. Late blight did occur in several fields but nothing like the epidemic in 1946. The rapid acceptance of the Experiment Station's recommendations for the spraying of tomato fields has resulted in conspicuous improvement in the condition of the foliage but not particularly in the incidence of anthracnose, a fruit disease very troublesome to the processor and very annoying to the farmer because of the reduction of his grade. The summary follows:

## STATE DEPARTMENT OF AGRICULTURE

## ACREAGE CERTIFIED, 1948

| Seedsmen           | Mar-globe | Rutgers | Stokes-dale | Garden State | Valiant | Prit-chard | Balti-more | On-tario | Total |
|--------------------|-----------|---------|-------------|--------------|---------|------------|------------|----------|-------|
| Edgar Hurff Co.    | 272       | 1,359   | 28          | ..           | 25      | 6          | 25         | ..       | 1,715 |
| Campbell Soup Co.  | ..        | 1,095   | ..          | 316          | ..      | ..         | ..         | 16       | 1,427 |
| Ritter Seed Co.    | 209       | 1,435   | ..          | ..           | ..      | ..         | ..         | ..       | 1,644 |
| Francis Stokes Co. | ..        | 111     | 8           | ..           | ..      | ..         | ..         | ..       | 119   |
| Abbott and Cobb    | ..        | 41      | ..          | ..           | ..      | ..         | ..         | ..       | 41    |
| Totals             | 481       | 4,041   | 36          | 316          | 25      | 6          | 25         | 16       | 4,946 |

## POUNDS OF SEED CERTIFIED, 1948

| Seedsmen           | Mar-globe | Rutgers | Stokes-dale | Garden State | Valiant | Prit-chard | Balti-more | On-tario | Total   |
|--------------------|-----------|---------|-------------|--------------|---------|------------|------------|----------|---------|
| Edgar Hurff Co.    | 9,891     | 38,091  | 1,630       | ..           | 912     | 151        | 562        | ..       | 51,237  |
| Campbell Soup Co.  | ..        | 22,600  | ..          | 7,100        | ..      | ..         | ..         | 400      | 30,100  |
| Ritter Seed Co.    | 5,078     | 32,293  | ..          | ..           | ..      | ..         | ..         | ..       | 37,371  |
| Francis Stokes Co. | ..        | 3,280   | 200         | ..           | ..      | ..         | ..         | ..       | 3,480   |
| Abbott and Cobb    | ..        | 727     | ..          | ..           | ..      | ..         | ..         | ..       | 727     |
| Totals             | 14,969    | 96,991  | 1,830       | 7,100        | 912     | 151        | 562        | 400      | 122,915 |

## VARIETAL DISTRIBUTION CERTIFIED TOMATO SEED ACREAGES, 1921-1948

| Year | Bonny<br>Best | J.T.D. | Balti-<br>more | Mar-<br>globe | Valiant | Break-<br>O'Day | Stokes-<br>dale | Rutgers | Grothens<br>Globe | Pritchard | Glovel | Garden State | Campbell<br>(No. 178) | Ontario | Totals  |
|------|---------------|--------|----------------|---------------|---------|-----------------|-----------------|---------|-------------------|-----------|--------|--------------|-----------------------|---------|---------|
| 1921 | 84            | ..     | 44             | ..            | ..      | ..              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 132     |
| 1922 | 87            | ..     | 112            | ..            | ..      | ..              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 199     |
| 1923 | 103           | ..     | 113            | ..            | ..      | ..              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 216     |
| 1924 | 117           | ..     | 210            | ..            | ..      | ..              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 327     |
| 1925 | 344           | ..     | 238            | ..            | ..      | ..              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 582     |
| 1926 | 274           | ..     | 171            | ..            | ..      | ..              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 445     |
| 1927 | 207           | 110    | 121            | 431           | ..      | ..              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 869     |
| 1928 | 208           | 55     | 150            | 329           | ..      | ..              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 742     |
| 1929 | 133           | 123    | 87             | 360           | ..      | ..              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 703     |
| 1930 | 363           | 162    | 250            | 620           | ..      | 18              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 1,413   |
| 1931 | 219           | 292    | 106            | 689           | ..      | 127             | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 1,433   |
| 1932 | 34            | 61     | 18             | 562           | ..      | ..              | ..              | ..      | ..                | ..        | ..     | ..           | ..                    | ..      | 675     |
| 1933 | 12            | ..     | 15             | 543           | ..      | ..              | ..              | ..      | ..                | 99        | ..     | ..           | ..                    | ..      | 669     |
| 1934 | 28            | 155    | 91             | 2,046         | ..      | 2               | ..              | ..      | ..                | 182       | ..     | ..           | ..                    | ..      | 2,504   |
| 1935 | 5             | 247    | 61             | 1,520         | ..      | 8               | ..              | 730     | ..                | 192       | ..     | ..           | ..                    | ..      | 2,763   |
| 1936 | 5             | 109    | 40             | 1,576         | 1       | 21              | ..              | 1,001   | ..                | 208       | ..     | ..           | ..                    | ..      | 2,960   |
| 1937 | 94            | 100    | ..             | 1,365         | 17      | ..              | 67              | 936     | 24                | 136       | 7      | ..           | ..                    | ..      | 2,746   |
| 1938 | 10            | 48     | ..             | 1,113         | 2       | 5               | 2               | 755     | ..                | 146       | ..     | ..           | ..                    | ..      | 2,081   |
| 1939 | 18            | ..     | ..             | 1,658         | ..      | 3               | ..              | 1,331   | ..                | 84        | ..     | ..           | ..                    | ..      | 3,094   |
| 1940 | 13            | ..     | ..             | 1,182         | 1       | 5               | 493             | 1,847   | ..                | 39        | ..     | ..           | ..                    | ..      | 3,580   |
| 1941 | 33            | ..     | ..             | 1,246         | 33      | ..              | 380             | 2,547   | ..                | 48        | ..     | ..           | ..                    | ..      | 4,287   |
| 1942 | 10            | ..     | ..             | 1,006         | 1       | ..              | 363             | 3,355   | ..                | 116       | ..     | ..           | ..                    | ..      | 4,851   |
| 1943 | 35            | ..     | ..             | 1,143         | 1       | ..              | 188             | 3,865   | ..                | 155       | ..     | 116          | 1                     | ..      | 5,504   |
| 1944 | ..            | ..     | 75             | 1,163         | ..      | ..              | 164             | 5,095   | ..                | 105       | ..     | 155          | 13                    | ..      | 6,770   |
| 1945 | ..            | ..     | ..             | 647.5         | ..      | ..              | 375             | 3,294.5 | ..                | 84.5      | ..     | 199          | 47                    | ..      | 4,647.5 |
| 1946 | ..            | ..     | 25             | 923           | 121     | ..              | 718             | 4,595   | ..                | 131       | ..     | 150          | ..                    | ..      | 6,663   |
| 1947 | ..            | ..     | 28             | 899           | ..      | ..              | 67              | 6,279   | ..                | 155       | ..     | 746          | ..                    | 24      | 8,198   |
| 1948 | ..            | ..     | 25             | 481           | 25      | ..              | 36              | 4,041   | ..                | 6         | ..     | 316          | ..                    | 16      | 4,946   |

## SEED TREATMENT DECLARATIONS

During the fiscal year 1948-1949, 37 seed treatment declaration certificates were issued at various times to four New Jersey seedsmen for validation of shipments to New York, Mexico, Cuba, Puerto Rico, Paraguay, South America and South Africa. These certificates covered 5,995 pounds and 8 ounces of tomato seed, 206 pounds of pepper seed, 10 pounds of asparagus seed and 10 pounds of eggplant seed.

Also during this period, 15 phytosanitary certificates were issued in order to validate the shipment of vegetable seeds into South America.

## WHITE POTATO SEED CERTIFICATION

## GENERAL COMMENTS

The total acreage entered for white potato seed certification decreased this year to 184.5 acres. The downward trend in acreage, the New Jersey Seed Potato Program has experienced, in the past few years, is closely related to the support program and the abundance of potatoes. Growers of certified seed are somewhat discouraged at the narrow margin over table stock prices. The quality of the seed produced in New Jersey has improved over a period of years and continues to be in demand by many State growers.

Field inspections proved the quality of certified seed to be very high as a low percentage of rejections was made because of diseases. The high quality of seed planted by New Jersey seed potato growers has brought about this change. Progressive minded potato dealers in New Jersey have been instrumental in securing the best foundation and tuber-unit seed in Maine, Canada, Nova Scotia and Wisconsin to provide New Jersey seed potato growers with the best seed available in the United States. These potatoes, with one year of growth in New Jersey as late seed crop, apparently become somewhat adapted to the soil and climatic conditions and yield remarkably well for the commercial crop.

Early in the growing season, the seed crop in most parts of the State was attacked by a heavy infestation of leaf hoppers and tomato worms. These insects, especially the leaf hoppers, made it difficult for the inspectors to make field readings. In some cases three or four field inspections were necessary to assure the inspector that no plant diseases were present.

Several fields were attacked by late blight as the potato plants emerged through the ground. It was a difficult time to spray but in all cases the blight was controlled, although scars from the blight were carried on the stems through the entire growing season. Black leg was more abundant this year than in the past. This disease is not carried in the tuber and in no way lowers the quality of the seed.

Seed potato yields in New Jersey were high this year resulting primarily from the recommended spraying programs followed by producers and due to



the favorable growing season. A dry period near the end of the growing season produced common scab in some fields. The scab for the greater part was eliminated over the picking table at the time of grading.

A REVIEW OF THE INSPECTION AND CERTIFICATION WORK OF NEW JERSEY  
LATE CROP WHITE POTATO SEED IN 1948  
ACRES ENTERED FOR CERTIFICATION

| County     | Acres  | Per Cent |
|------------|--------|----------|
| Cumberland | 149.00 | 80.76    |
| Burlington | 18.00  | 9.75     |
| Middlesex  | 9.50   | 5.15     |
| Camden     | 4.00   | 2.17     |
| Monmouth   | 4.00   | 2.17     |
| Totals     | 184.50 | 100.00   |

SEED SOURCE

|                    | 100-lb. Bags | Per Cent |
|--------------------|--------------|----------|
| New Jersey         | 814          | 29.40    |
| Nova Scotia        | 695          | 25.10    |
| New Brunswick      | 505          | 18.24    |
| Maine              | 360          | 13.00    |
| Colorado           | 155          | 5.60     |
| Wisconsin          | 135          | 4.87     |
| Prince Edward Isle | 50           | 1.81     |
| New York           | 35           | 1.26     |
| Vermont            | 20           | .72      |
| Totals             | 2,769        | 100.00   |

PRODUCTION AND DISTRIBUTION  
CERTIFIED CROP OF WHITE POTATO SEED OF NEW JERSEY

|                                    | 1948   | 1947   |
|------------------------------------|--------|--------|
| Acres of seed certified            | 166    | 263    |
| Total yield (field run) in bushels | 35,694 | 29,689 |
| Average yield per acre in bushels  | 215    | 113    |
| Bags of certified seed sold        | 11,475 | 4,532  |
| Bags sold within New Jersey        | 11,475 | 4,532  |

## POTATO ACREAGE ENTERED FOR CERTIFICATION, 1948

| County     | Growers | Katahdin | Chippewa | Pawnee | Red Skin | Irish Cobbler | Sequoia | Green Mountain | Mohawk | Sebago | Total  |
|------------|---------|----------|----------|--------|----------|---------------|---------|----------------|--------|--------|--------|
| Cumberland | 12      | 83.50    | 36.70    | 20.50  | 3.00     | 3.30          | ..      | 1.50           | ..     | .50    | 149.00 |
| Burlington | 2       | 13.50    | ..       | 2.00   | ..       | ..            | 1.00    | ..             | 1.50   | ..     | 18.00  |
| Middlesex  | 1       | 9.50     | ..       | ..     | ..       | ..            | ..      | ..             | ..     | ..     | 9.50   |
| Camden     | 1       | ..       | ..       | ..     | 3.00     | ..            | 1.00    | ..             | ..     | ..     | 4.00   |
| Monmouth   | 1       | 4.00     | ..       | ..     | ..       | ..            | ..      | ..             | ..     | ..     | 4.00   |
| Totals     | 17      | 110.50   | 36.70    | 22.50  | 6.00     | 3.30          | 2.00    | 1.50           | 1.50   | .50    | 184.50 |

## THIRTY-FOURTH ANNUAL REPORT

175

## ACREAGE FAILING AND PASSING CERTIFICATION

|  | Acres  | Per Cent |
|--|--------|----------|
| Acreage rejected at first inspection             | 3.00   | 1.63     |
| Acreage withdrawn at first inspection            | 3.00   | 1.63     |
| Acreage rejected at second inspection            | 5.80   | 3.14     |
| Total acreage rejected at end of two inspections | 11.80  | 6.40     |
| Acreage rejected at third tuber inspection       | 7.00   | 3.79     |
| Acreage rejected and withdrawn three inspections | 18.80  | 10.19    |
| Acreage passing three inspections (certified)    | 165.70 | 89.81    |

## VARIETAL DISTRIBUTION OF REJECTIONS AND WITHDRAWALS

| Variety        | Acres Entered | Acres Rejected and Withdrawn<br>by Inspections |          |         | Acres<br>Certified |
|----------------|---------------|--|----------|---------|--------------------|
|                |               | (First)  | (Second) | (Third) |                    |
| Katahdin       | 110.50        | ..   | 1.50     | 4.00    | 105.00             |
| Chippewa       | 36.70         | ..   | 3.50     | 2.00    | 31.20              |
| Pawnee         | 22.50         | ..   | ..       | 1.00    | 21.50              |
| Red Skin       | 6.00          | 6.00   | ..       | ..      | ..                 |
| Cobbler        | 3.30          | ..   | .80      | ..      | 2.50               |
| Sequoia        | 2.00          | ..   | ..       | ..      | 2.00               |
| Green Mountain | 1.50          | ..   | ..       | ..      | 1.50               |
| Mohawk         | 1.50          | ..   | ..       | ..      | 1.50               |
| Sebago         | .50           | ..   | ..       | ..      | .50                |
| Totals         | 184.50        | 6.00   | 5.80     | 7.00    | 165.70             |

## STATE DEPARTMENT OF AGRICULTURE

## WHITE POTATO SEED CERTIFICATION INDUSTRY OF NEW JERSEY

| Year | Number of Growers | Acres Entered | Percentage Rejection | Varietal Distribution |         |
|------|-------------------|---------------|----------------------|-----------------------|---------|
| 1943 | 59                | 840.25        | 53.36                | Katahdin              | 406.83  |
|      |                   |               |                      | Chippewa              | 165.58  |
|      |                   |               |                      | Sebago                | 119.92  |
|      |                   |               |                      | Cobbler               | 48.25   |
|      |                   |               |                      | Red Skin              | 34.25   |
|      |                   |               |                      | Bliss Triumph         | 30.25   |
|      |                   |               |                      | Sequoia               | 20.17   |
|      |                   |               |                      | Houma                 | 10.50   |
|      |                   |               |                      | Green Mountain        | 4.50    |
| 1944 | 36                | 475.50        | 18.98                | Katahdin              | 246.00  |
|      |                   |               |                      | Chippewa              | 96.00   |
|      |                   |               |                      | Cobbler               | 54.50   |
|      |                   |               |                      | Red Skin              | 36.00   |
|      |                   |               |                      | Sequoia               | 29.50   |
|      |                   |               |                      | Sebago                | 7.00    |
|      |                   |               |                      | Green Mountain        | 4.50    |
|      |                   |               |                      | Houma                 | 2.00    |
| 1945 | 29                | 341.00        | 13.34                | Katahdin              | 178.50  |
|      |                   |               |                      | Chippewa              | 70.50   |
|      |                   |               |                      | Sequoia               | 43.00   |
|      |                   |               |                      | Cobbler               | 20.50   |
|      |                   |               |                      | Red Skin              | 19.00   |
|      |                   |               |                      | Green Mountain        | 5.00    |
|      |                   |               |                      | Sebago                | 4.00    |
|      |                   |               |                      | Mohawk                | .50     |
| 1946 | 27                | 342.465       | 40.38                | Katahdin              | 178.945 |
|      |                   |               |                      | Chippewa              | 77.69   |
|      |                   |               |                      | Cobbler               | 37.33   |
|      |                   |               |                      | Sequoia               | 21.00   |
|      |                   |               |                      | Red Skin              | 16.00   |
|      |                   |               |                      | Sebago                | 4.50    |
|      |                   |               |                      | Pawnee                | 4.00    |
|      |                   |               |                      | Green Mountain        | 3.00    |
| 1947 | 21                | 316.00        | 16.77                | Katahdin              | 144.67  |
|      |                   |               |                      | Cobbler               | 65.83   |
|      |                   |               |                      | Chippewa              | 50.50   |
|      |                   |               |                      | Pawnee                | 26.75   |
|      |                   |               |                      | Red Skin              | 25.00   |
|      |                   |               |                      | Green Mountain        | 2.00    |
|      |                   |               |                      | Pontiac               | 1.00    |
|      |                   |               |                      | Mohawk                | .25     |
| 1948 | 17                | 184.50        | 10.07                | Katahdin              | 105.00  |
|      |                   |               |                      | Chippewa              | 31.20   |
|      |                   |               |                      | Pawnee                | 21.50   |
|      |                   |               |                      | Cobbler               | 2.50    |
|      |                   |               |                      | Green Mountain        | 2.00    |
|      |                   |               |                      | Sebago                | 1.50    |
|      |                   |               |                      | Mohawk                | 1.50    |
|      |                   |               |                      | Sequoia               | .50     |

## GRAIN CERTIFICATION

During the crop year of 1948 the New Jersey Department of Agriculture again acted as the certifying agency for the New Jersey Field Crop Improvement Association. The objectives of this organization are to maintain and make available to the farmers of New Jersey high quality seeds of superior crop varieties and distribute them so as to insure genetic identity and purity.

Crop seeds of superior varieties make increase yields to farmers when properly graded, cleaned and treated. The Department and the New Jersey Field Crop Improvement Association are continually searching for new ways and means to improve the quality of the seed that reaches the farm. This past season an improvement was made in the processing of the seeds by installing a Slurry treater. The Slurry treater, which uses a liquid instead of dust to cover the seed, is much safer to use and accomplishes a much better type of treatment. The treater should be a great help in reducing diseases and insects of farm crops.

For the past several years the need has been felt for an additional cleaner and treater to help take care of the work that was demanded of this Association. This year, a second cleaning and treatment machine was made available to the farmers. The response was good and there was sufficient work for both cleaners throughout the entire grading season. Farmers soon learned that proper care and treatment of seeds pay large dividends in yields the following year.

The production of seed corn increased from 9,173 to 12,993 bushels. This increase in production is a healthy sign but still in no way are the demands for the hybrids met. This year for the first time the Department and the Association were able to offer the farmers seeds of the N. J. #7 hybrid. The hybrid was field tested by the Experiment Station for four years and each year it proved to be of superior quality. Through the recommendations of the Experiment Station the seed was certified and a total of 2,498 bushels was cleaned, treated and distributed throughout the State. N. J. #7, whose parentage derives from the popular U. S. #13 and N. J. #4, is well adapted to all parts of the State. An increase in the seed production of this hybrid can be expected for the next several years. It is debatable at the present time whether N. J. #7 will replace N. J. #2 and N. J. #4. It is felt that the three hybrids will form an excellent seed supply for all soil types and conditions in New Jersey.

Seed certification is progressing under organized plans to increase its production so that its seed will be easily available to all farmers in New Jersey. The New Jersey Certified Seed Growers Association, Incorporated, a marketing cooperative, is making great advances in distributing certified seeds. It is hoped by this Association that they will be able to cover every dealer and farmer in the entire State.



## STATE DEPARTMENT OF AGRICULTURE

## GRAIN SEED CERTIFICATION—1948

| Crop                     | Number of Growers | Acreage Entered | Acreage Passed | Bushels Sealed |
|--------------------------|-------------------|-----------------|----------------|----------------|
| Hybrid Corn              |                   |                 |                |                |
| N. J. No. 2              | 8                 | 123             | 117            | 4,218          |
| N. J. No. 4              | 6                 | 54              | 36             | 1,359          |
| N. J. No. 7              | 5                 | 71              | 66             | 2,498          |
| U. S. No. 13             | 6                 | 150             | 147            | 4,232          |
| Ohio C-12                | 1                 | 13              | 13             | 553            |
| Ohio K-24                | 1                 | 12.5            | 4.5            | 133            |
| A30 x A47 (single cross) | 1                 | .5              | .5             | ..             |
| A47 x B42 (single cross) | 1                 | 5.0             | 5.0            | ..             |
| A64 x B42 (single cross) | 1                 | 2.0             | 2.0            | ..             |
| Winter Wheat             |                   |                 |                |                |
| Thorne                   | 19                | 382.5           | 233.5          | 3,720          |
| Leap's Prolific          | 3                 | 39              | 12             | 276            |
| Winter Barley            |                   |                 |                |                |
| Wong                     | 17                | 187             | 150            | 5,784.5        |
| Oats                     |                   |                 |                |                |
| Clinton                  | 3                 | 55              | 55             | 1,129          |
| Ajax                     | 4                 | 33.5            | 33.5           | 584            |
| Keystone                 | 1                 | 10              | 10             | 228            |
| Soybeans                 |                   |                 |                |                |
| Lincoln                  | 3                 | 110             | 110            | 1,992          |
| Chief                    | 1                 | 20              | 20             | 450            |
| Earlyana                 | 1                 | 2.5             | ..             | ..             |
| Hawkeye                  | 1                 | 4.5             | 4.5            | 122            |
| Totals                   | 83                | 1,275.0         | 1,019.5        | 27,278.5       |

## CERTIFICATION SUMMARY

| Crop Year | Total Acreage Entered | Total Acreage Certified | Per cent of Rejection | Total Bushels Sealed |
|-----------|-----------------------|-------------------------|-----------------------|----------------------|
| 1948      | 1,275.0               | 1,019.5                 | 20.0                  | 27,278.5             |
| 1947      | 1,359.9               | 1,015.7                 | 25.3                  | 23,937.5             |
| 1946      | 1,416.9               | 1,063.9                 | 24.9                  | 27,218.5             |

## STATISTICAL AND ECONOMIC REPORTS

## CONSUMER PRICES IN NEW JERSEY

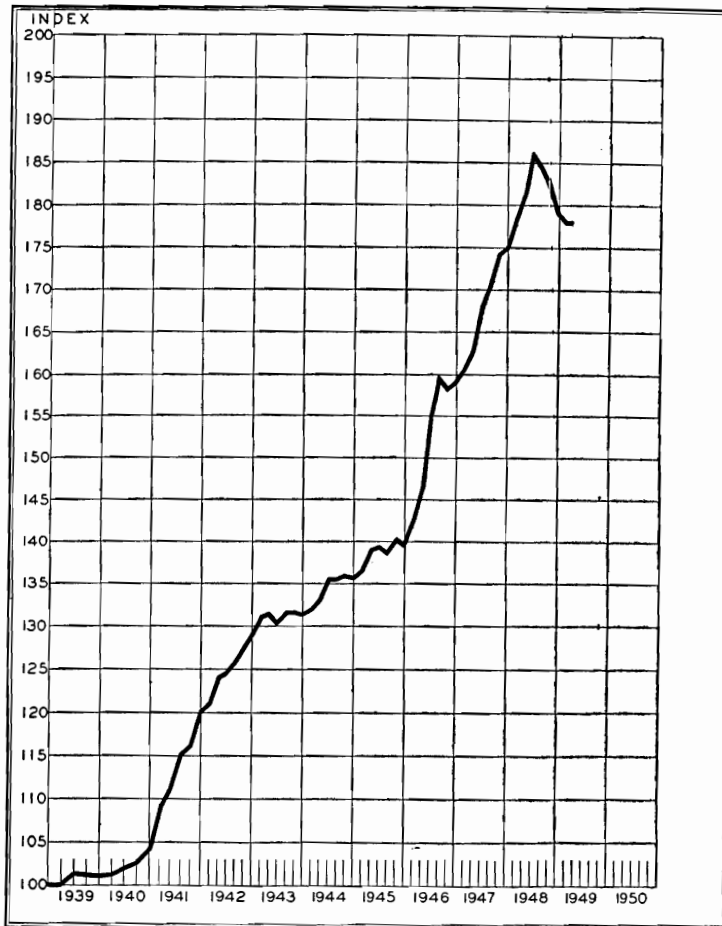
For the eleventh consecutive year the statistical service has prepared, published and mailed in the bi-monthly bulletin *Consumer Prices in New Jersey*. The data on prices of food, rent, clothing, fuel, light, furniture and housefurnishings, and miscellaneous necessities of living were included in these bulletins in order to measure the change in prices from one period of time to another.

About 1,550 copies of the bulletins are distributed every second month. They go to government agencies, management of industrial and commercial enterprises, labor organizations, professional associations, libraries and individuals. Many of these institutions are using the New Jersey index as a basis for wage and salary adjustments. The New Jersey index is the only source of information for the State since the Federal Bureau of Labor and

Statistics does not prepare an index for New Jersey. Information on current prices paid by New Jersey consumers for the cost of living is gathered six times a year from 114 stores and agencies.

The rise in consumer prices which began in the latter part of 1940 reached a peak during August, 1948 when it was 86.3 per cent higher than in June, 1939. In October, 1948 consumer prices started to decline. The June, 1949 index of consumer prices was 78.1 per cent higher than the June, 1939 index. The decline between the peak month (August, 1948) and the lowest month (June, 1949) amounted to 4.4 per cent. The June, 1949 purchasing dollar was 56.1 cents as compared with 53.7 cents in August, 1948 and 100 cents during June, 1939.

INDEX NUMBER OF CONSUMER PRICES IN NEW JERSEY  
(June 1939 = 100)



## NEW JERSEY RETAIL FOOD PRICES

The monthly data on retail prices of 103 essential food articles in New Jersey were gathered and published in the monthly bulletin *New Jersey Farm and Retail Food Prices*. Approximately 1,650 copies were mailed monthly to those organizations, institutions and individuals who were interested in food price behavior. This service is in its thirteenth year.

Retail food prices reached their peak in July, 1948 when they were 133.6 per cent higher than in August, 1939. In August, 1948 food prices began to decline and in June, 1949 they were 118.9 per cent higher than during August, 1939. The decline from July, 1948 to June, 1949 amounted to 6.3 per cent.

INDEX NUMBER OF RETAIL FOOD PRICES IN NEW JERSEY  
(August 1939 = 100)



## AVERAGE PRICES RECEIVED BY NEW JERSEY FARMERS

Monthly records of average prices received by New Jersey farmers are gathered, and the indexes are tabulated and printed in *New Jersey Farm and Retail Food Prices*. The June, 1949 average price received by New Jersey farmers for grains, tame hay, vegetables, potatoes, apples, strawberries, meat animals, eggs and live chickens was 16 per cent lower than the price received during June, 1948.

## NEW JERSEY RETAIL FOOD PRICES, 1913-1947

The average New Jersey retail prices of 103 food articles were gathered under one cover. These prices go as far back as available and are on a monthly and annual basis. The price trend of several individual commodities was illustrated with graphs.

*Trends in Acreages and Production of Individual Crops  
With a Historical Appraisal of the General Agricultural Situation  
in New Jersey from 1860 to 1945*

A manuscript of the changes in importance of each branch of New Jersey agriculture which took place since 1860 was prepared.

*New Jersey Agriculture in 1948*

This project consists of a listing of every individual commodity grown in the State from 1935 to 1945, described in terms of acreage, average yield per acre, total production, average price received per unit by farmers, and total farm value. The project will be completed during the 1949-1950 fiscal year.

## FARM VALUE OF NEW JERSEY AGRICULTURAL PRODUCTS IN 1948

A summary of the farm values of all commodities produced during the year was made. According to this survey, the total farm value of commodities produced during 1948 was \$320,750,000. Eggs were valued at \$77,500,000; milk, at \$65,400,000; vegetables, white potatoes excluded, at \$51,200,000; poultry, at \$23,000,000; grains, at \$21,900,000; white potatoes, at \$19,800,000; meat animals, at \$19,000,000; nursery and greenhouse products, at \$17,500,000; hay, at \$10,700,000; tree fruits, at \$7,000,000; berries, at \$6,000,000 and miscellaneous items, at \$1,750,000.

## COST OF PRODUCING MILK IN NEW JERSEY

Twice during the past year the statistical service prepared the data on the current cost of producing milk in New Jersey which were read at two milk hearings.

CONDITIONS OF CROPS AND LIVESTOCK

Frequent visits to farms to gain a current knowledge of acreage, yield per acre, price, etc., were made for the appraisal of the economic condition of agriculture.

MISCELLANEOUS WORK

The statistical service was also occupied in furnishing types of various agricultural information upon request, such as: (1) current animal expenditures of New Jersey families earning from \$4,000 to \$5,000 per year; (2) current New Jersey livestock data by counties; (3) conditions of agriculture in Monmouth and Ocean counties during 1948; (4) average per capita daily sales of fresh milk in New Jersey from 1938 to the present time; (5) average income per farm and per acre in each state during 1948; (6) vegetable acreage in each New Jersey county during 1948.

# Official Proceedings of the Thirty-fourth Annual State Agricultural Convention

The thirty-fourth annual State Agricultural Convention was held in the Assembly Chamber of the State Capitol in Trenton on Tuesday, January 25, 1949. The meeting was called to order at 10:00 A. M. by Frank C. Pettit, president of the State Board of Agriculture. The invocation was offered by Rev. Paul W. Kapp, former chaplain of the New Jersey State Grange.

The roll of delegates was called by W. H. Allen, Secretary of Agriculture, as follows:

## DELEGATES TO THE STATE AGRICULTURAL CONVENTION FROM COUNTY BOARDS OF AGRICULTURE

| Name  | Address                  | Term    | County     |
|---|--------------------------|---------|------------|
| Richard C. Lobherr, Sr.                                     | Egg Harbor               | 2 years | Atlantic   |
| Joseph English, Mays Landing,<br>alternate for *Joseph Sahl | Egg Harbor               | 1 year  | Atlantic   |
| Theodore Francavilla  | Carlstadt                | 2 years | Bergen     |
| Gerard Grootendorst   | Oakland                  | 1 year  | Bergen     |
| Barclay H. Allen  | Mount Holly              | 2 years | Burlington |
| Clement B. Lewis  | Riverton                 | 1 year  | Burlington |
| James M. Wilson   | Sicklerville             | 2 years | Camden     |
| Samuel C. De Cou  | Merchantville            | 1 year  | Camden     |
| Felix Wuerker   | Rio Grande               | 2 years | Cape May   |
| Allan McClain   | Green Creek              | 1 year  | Cape May   |
| Joseph K. Hepner, Jr.                                       | Cedarville               | 2 years | Cumberland |
| David T. Sheppard, Cedarville,<br>alternate for             |                          |         |            |
| *Loren W. Elwell  | Bridgeton, R. D. 3       | 1 year  | Cumberland |
| William A. Crane  | West Caldwell            | 2 years | Essex      |
| Charles J. Wolkittel  | Caldwell, R. D.          | 1 year  | Essex      |
| Alvin String  | Harrisonville            | 2 years | Gloucester |
| Carleton E. Heritage  | Richwood                 | 1 year  | Gloucester |
| Charles Burd  | Pittstown                | 2 years | Hunterdon  |
| Harold B. Everitt   | Flemington, R. D. 1      | 1 year  | Hunterdon  |
| C. Lawrence Dey   | Princeton Junction       | 2 years | Mercer     |
| John W. Tindall   | Princeton Junction R. D. | 1 year  | Mercer     |
| James B. Stuart   | Jamesburg                | 2 years | Middlesex  |
| George R. Parker, Jr.                                       | Monmouth Junction R. D.  | 1 year  | Middlesex  |
| P. D. Van Mater   | Marlboro                 | 2 years | Monmouth   |
| Roscoe C. Clayton   | Freehold, R. D. 3        | 1 year  | Monmouth   |
| Robert J. Lecher  | Wharton, R. D.           | 2 years | Morris     |
| Harold Farrand  | Boonton, R. D.           | 1 year  | Morris     |
| Sylvester Mathis, Sr.                                       | Tuckerton                | 2 years | Ocean      |
| Martin Schubkegal, Sr.                                      | Lakewood, R. D. 3        | 1 year  | Ocean      |
| Leonard H. Van Breemen                                      | Clifton, R. D. 1         | 2 years | Passaic    |
| Edward Anthony  | Clifton                  | 1 year  | Passaic    |

\* Absent



| Name                      | Address                    | Term         | County   |
|---------------------------|----------------------------|--------------|----------|
| Bernard G. Wegner.....    | Elmer, R. D. 2.....        | 2 years..... | Salem    |
| Josiah Summerill.....     | Pennsgrove.....            | 1 year.....  | Salem    |
| David W. Amerman.....     | Neshanic.....              | 2 years..... | Somerset |
| *Charles V. N. Davis..... | Somerville, R. D. 1.....   | 1 year.....  | Somerset |
| Martin Struble.....       | Lafayette.....             | 2 years..... | Sussex   |
| Orrin Peckham.....        | Sussex, R. D. 2.....       | 1 year.....  | Sussex   |
| Charles H. Brewer.....    | Rahway, R. D. 1.....       | 2 years..... | Union    |
| Edward Schaffenoeth.....  | Plainfield, R. D. 1.....   | 1 year.....  | Union    |
| Harry Frome.....          | Blairstown, R. D.....      | 2 years..... | Warren   |
| Gilbert Hartung.....      | Phillipsburg, R. D. 2..... | 1 year.....  | Warren   |

## FROM POMONA GRANCES

|                            |                             |              |                           |
|----------------------------|-----------------------------|--------------|---------------------------|
| Martin Decker.....         | Hammonton, R. D. 1.....     | 1 year.....  | Atlantic                  |
| John Clauss.....           | Fair Lawn.....              | 1 year.....  | Bergen and<br>Passaic     |
| C. Harold Joyce.....       | Medford.....                | 1 year.....  | Burlington                |
| Samuel J. McCulley.....    | Berlin.....                 | 1 year.....  | Camden                    |
| C. Newton Schellinger..... | Green Creek.....            | 1 year.....  | Cape May                  |
| William Terhune.....       | Port Murray.....            | 1 year.....  | Central District          |
| *Loran Clunn.....          | Cedarville.....             | 1 year.....  | Cumberland                |
| J. Willard Gardiner.....   | Mullica Hill.....           | 1 year.....  | Gloucester                |
| John T. Hudnett.....       | Flemington.....             | 1 year.....  | Hunterdon                 |
| Asa Davison, Jr.....       | Cranbury, R. D. 1.....      | 2 years..... | Mercer                    |
| Harry Kline.....           | New Brunswick, R. D. 3..... | 2 years..... | Middlesex and<br>Somerset |
| Percy S. Farry, Jr.....    | Farmingdale, R. D.....      | 1 year.....  | Monmouth                  |
| Harvey M. Beal, Sr.....    | Elmer, R. D.....            | 1 year.....  | Salem                     |
| John La Farge.....         | Sussex.....                 | 1 year.....  | Sussex                    |
| Robert Volk.....           | Stewartsville.....          | 1 year.....  | Warren                    |

## FROM OTHER ORGANIZATIONS

American Cranberry Growers Association—Isaac Harrison, Crosswicks, 1 year; Isaiah Haines, New Lisbon, 1 year.

Jersey Chick Association—Harold Ibbotson, Jamesburg, 1 year; Herman C. Demme, Sewell, 1 year.

New Jersey Association of Nurserymen—Kurt Meyer, Hackettstown, 1 year; Fred Noble, Little Silver, 2 years.

New Jersey Florists Association—August Bosenberg, New Brunswick, 1 year; Charles Hess, Mountain View, 1 year.

New Jersey State Grange—H. Milton Flitcraft, Woodstown, 1 year; Franklin C. Nixon, Vincentown, 1 year.

New Jersey State Horticultural Society—Lester Collins, Moorestown, 1 year; Kenneth S. Roberts, Bridgeton, 2 years.

New Jersey State Poultry Association—Louis D. Schaible, Shiloh, 1 year; James C. Weisel, Rosemont, 1 year.

United Milk Producers of New Jersey—Thomas L. Lawrence, Hamburg, 1 year; Clarence J. Little, Sussex, 1 year.

Blueberry Cooperative Association—Edwin A. Leach, Pemberton, 1 year.

Cooperative Growers Association, Inc.—J. Cresswell Stuart, Beverly, alternate for \*Raymond J. Anderson, Bridgeboro, 1 year.

E. B. Voorhees Agricultural Society—H. Gordon Bailey, New Brunswick, R. D. 1, 1 year.

New Jersey Holstein-Friesian Cooperative Association, Inc.—Charles Kirby, Harrisonville, 1 year.

New Jersey Agricultural Experiment Station—James Ewart, Cranbury, 1 year.

\* Absent

New Jersey Beekeepers Association—Nelson P. Shelley, Sussex, R. D., 1 year.  
 New Jersey College of Agriculture—Dr. William H. Martin, New Brunswick, 1 year.  
 New Jersey Field Crop Improvement Cooperative Association—Henry H. Barlow, California, R. D., 1 year.  
 New Jersey Guernsey Breeders Association—Lloyd B. Wescott, Clinton, 1 year.  
 New Jersey State Potato Association—Henry W. Bibus, Jr., Wrightstown, 1 year.

### APPOINTMENT OF COMMITTEES

At the delegates' dinner held on the evening preceding the Convention, the following committees were appointed by President Pettit:

#### NOMINATING COMMITTEE FOR MEMBERS OF THE STATE BOARD OF AGRICULTURE

Lester Collins, Chairman....New Jersey State Horticultural Society  
 Charles H. Brewer.....Union County Board of Agriculture  
 Harold B. Everitt.....Hunterdon County Board of Agriculture  
 Harry Frome.....Warren County Board of Agriculture  
 H. Milton Flitcraft.....New Jersey State Grange  
 Thomas L. Lawrence.....United Milk Producers of New Jersey  
 Richard B. Lobherr, Sr.....Atlantic County Board of Agriculture  
 C. Newton Schellinger.....Cape May County Pomona Grange  
 David T. Sheppard.....Cumberland County Board of Agriculture  
 P. D. Van Mater.....Monmouth County Board of Agriculture  
 James C. Weisel.....New Jersey State Poultry Association

#### NOMINATING COMMITTEE FOR MEMBERS OF FISH AND GAME COUNCIL

Barclay H. Allen, Chairman..Burlington County Board of Agriculture  
 David W. Amerman.....Somerset County Board of Agriculture  
 Harvey M. Beal, Sr.....Salem County Pomona Grange  
 Harold Ibbotson.....Jersey Chick Association  
 Sylvester Mathis, Sr.....Ocean County Board of Agriculture  
 George R. Parker, Jr.....Middlesex County Board of Agriculture  
 Kenneth S. Roberts.....New Jersey State Horticultural Society  
 Edward Schaffenoeth.....Union County Board of Agriculture  
 William Terhune.....Central District Pomona Grange  
 Leonard H. Van Breemen....Passaic County Board of Agriculture  
 Bernard G. Wegner.....Salem County Board of Agriculture

#### COMMITTEE ON RESOLUTIONS

Martin Decker, Chairman....Atlantic County Pomona Grange  
 Henry W. Bibus, Jr.....New Jersey State Potato Association  
 John T. Hudnett.....Hunterdon County Pomona Grange  
 Orrin Peckham.....Sussex County Board of Agriculture  
 John W. Tindall.....Mercer County Board of Agriculture

At the State Agricultural Convention the following committees were appointed:

#### COMMITTEE ON CREDENTIALS

Clarence J. Little, Chairman..United Milk Producers of New Jersey  
 Samuel C. De Cou.....Camden County Board of Agriculture  
 Gerard Grootendorst.....Bergen County Board of Agriculture

#### COMMITTEE TO WAIT ON THE GOVERNOR

Dr. William H. Martin, Chairman....New Jersey College of Agriculture  
 Carleton E. Heritage.....Gloucester County Board of Agriculture  
 Lloyd B. Wescott.....New Jersey Guernsey Breeders Association

## REPORT OF COMMITTEE ON CREDENTIALS

The credentials committee examined the certificates of delegates and reported them in order.

## ELECTION OF MEMBERS OF THE STATE BOARD OF AGRICULTURE

The chairman of the nominating committee placed the names of Reuben H. Dobbs, of Glendale, and J. Edward Chamberlin, of Cranbury, in nomination for membership on the State Board of Agriculture to succeed Frank C. Pettit, Woodstown, and Russel C. Applegate, Robbinsville, whose terms would expire on June 30, 1949. Upon motion made and duly seconded it was voted that the nominations be closed and Dobbs and Chamberlin were unanimously selected for recommendation to the Governor for a four-year period beginning July 1, 1949.

## ELECTION OF MEMBERS OF THE FISH AND GAME COUNCIL

Under the reorganization of the State Government provided by the revised State Constitution, the State Agricultural Convention was given for the first time this year the responsibility of selecting three farmers to be recommended to the Governor for appointment to the Fish and Game Council, with the advice and consent of the Senate. This duty of the Convention was outlined in Chapter 448, P. L. 1948, known as the "Department of Conservation and Economic Development Act of 1948." Article IV of this act provides that the Fish and Game Council shall consist of eleven members, three of whom shall be farmers, one to be chosen from among the residents of Bergen, Essex, Hudson, Morris, Passaic, Sussex and Warren counties; one from among the residents of Hunterdon, Mercer, Middlesex, Monmouth, Ocean, Somerset and Union counties; and one from among the residents of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem counties. The chairman of the Nominating Committee placed in nomination the name of Roderick D. MacDougall, of Morris County, to represent the northern New Jersey counties; Harry W. Jeffers, Jr., of Middlesex County, to represent the central New Jersey counties; and Alvin String, of Gloucester County, to represent the southern counties of the State. The nominations were seconded and opportunity was given for nominations from the floor. On a motion, duly seconded, it was voted that the nominations be closed, and the Secretary was instructed to cast the ballot for MacDougall, Jeffers and String to be recommended to the Governor for membership on the Fish and Game Council of the Department of Conservation and Economic Development.

## CITATIONS

Citations for distinguished service to agriculture were awarded to Roscoe C. Clayton of Freehold; James C. Ewart, of Cranbury; Harry O. Sampson,

of Highland Park; and Frank G. Helyar, of Stelton. In the absence of Professor Helyar his citation was accepted on his behalf by William C. Skelley of New Brunswick.

The citations, read by Secretary of Agriculture W. H. Allen, were as follows:

#### CITATION OF ROSCOE C. CLAYTON

Yours has been a life of service devoted to others—to your church, community and county, and to the agriculture of our State. You have concerned yourself with every worth while and constructive endeavor, particularly as a leader in formulating and carrying out a progressive approach to farm problems.

Farmer colleagues and neighbors have repeatedly honored you with important posts, in all of which you have served with distinction. Mindful of tomorrow, you have become a respected leader in the movement to conserve the soil resources of the Nation and so guard our greatest heritage. To you must be credited much of the progress achieved in soil conservation in Monmouth County.

Although the direction of your own farm operations has demanded your fullest attention, no opportunity has been overlooked to share your competence with those who lack your knowledge and experience.

We desire publicly to pay tribute to you by presenting this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE which has special significance to us as we recall that you have served as a member and as president of this Board.

#### CITATION OF JAMES C. EWART

Your career in New Jersey agriculture is an outstanding example of achievement. Through your constant perseverance, capacity for management, discerning judgment and a high degree of skill and efficiency you have proven that success in a farm enterprise in New Jersey depends upon the man as well as upon the soil.

However, that success in things material would have been in vain had you been lacking in zeal for service to others. Year after year, in addition to directing your own extensive farm enterprise, you have found time to devote to the interests of your fellow farmers and your community.

You are called upon frequently to act as spokesman for your commodity group and to fill other important posts. You have always responded, sparing no effort to advance every phase of rural welfare.

At times the burden of such responsibilities has been a heavy one but through your good will and encouragement you have inspired others to serve. Your legion of friends appreciate your loyalty and companionship.

The members of the State Board of Agriculture take special pride in paying tribute to a former member and president by awarding you this well-earned CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

#### CITATION OF FRANK G. HELYAR

Yours has been a noteworthy career at Rutgers University. Most commendable has been the influence you have exerted on the two generations of students who have been enrolled in the College of Agriculture.

To each you never failed to extend a helping hand when encouragement was most needed. Your counsel and guidance have inspired many to greater effort and achievement. Your students always will remember your sympathetic understanding. To them you have brought an appreciation of the broader background and cultural attainments which distinguish the educated man.

You have continually stressed the need for high academic standards in a wide curriculum. Your judgment has been confirmed repeatedly when appraised in terms of the achievements of your former students. You rightfully can take pride in your substantial contribution toward the training of able leaders, so essential to the advancement of agriculture. They have justified your inherent faith in youth.

The members of the State Board of Agriculture desire in the presence of these delegates to award you this well-earned CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

#### CITATION OF HARRY O. SAMPSON

Yours has been a remarkable career embracing nearly half a century of service to both education and agriculture. As the first teacher of agriculture in any American high school you inaugurated in 1904 a new concept which provided field practice in combination with class room instruction.

Today that fundamental principle of vocational education in agriculture is established, thanks to your foresight. For your pioneering venture with that first group of farm boys in a little Penn-



sylvania village, you have won deserved recognition throughout the nation.

Your decision to come to New Jersey in 1918 marked the beginning of a new epoch for our rural youth seeking instruction in agriculture. Under your very competent staff, increasing numbers of boys have enrolled each year. Your reward has been the satisfaction of sharing in their achievements in the many fields for which you helped to prepare them.

Of equal significance has been your influence upon your associates. A true and respected gentleman, you have won the esteem and regard of all for your integrity, patience, tact and unselfish devotion to others.

The State Board of Agriculture desires to express with this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE, its appreciation for your many outstanding contributions.

### REPORT OF COMMITTEE ON RESOLUTIONS

The following resolutions, presented by and reported favorably by the committee, were adopted by the State Agricultural Convention:

WHEREAS, New Jersey producers of farm products marketed in the large metropolitan areas in and adjacent to this State are meeting more severe competition from similar products shipped into these markets from other states near and far, and

WHEREAS, at least some of these products are well known in the trade and by consumers because of extensive advertising programs sponsored and financed by growers, trade bodies and public agencies, and

WHEREAS, for some few years New Jersey producers have been aided by promotional programs initiated by the New Jersey Council of the Department of Economic Development, in cooperation with the New Jersey Department of Agriculture, and

WHEREAS, our commodity groups have demonstrated their desire for this able promotional assistance by matching State monies allocated for this purpose, therefore be it

*Resolved*, That the delegates to this Agricultural Convention, representing all the principal phases of agriculture in New Jersey, earnestly urge the Governor and the Legislature to make possible the continuance of the excellent work of the New Jersey Council, and that adequate funds be made available for this purpose.

WHEREAS, the moratorium declared during the war years on road repairs and improvements prevented proper and adequate maintenance of those roads, and

WHEREAS, statements have been made indicating that in many counties funds have not permitted restoring road conditions to the high standards that prevailed before the war, therefore be it

*Resolved*, that we, the delegates of the thirty-fourth Agricultural Convention respectfully request the State Highway Commissioner to survey without delay the needs of our secondary "farm-to-market" highways which are so vital to the everyday opera-



tions of a farm, and plan for their maintenance and sound expansion of facilities along with consideration for the State's primary highway construction program.

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WHEREAS, the rural areas and their inhabitants are dependent on the New Jersey State Police for adequate protection and safety, and

WHEREAS, the members of that organization have willingly devoted themselves to their duty and loyally served the State's citizenry, particularly in rural sections, therefore be it

*Resolved*, that this Convention commend its able leader, Colonel Charles Schoeffel, and every member of every unit under his command, for their sincere and energetic application to any task concerned with the protection of life, limb and property, and the advancement of law and order throughout our State, and be it

*Resolved* further, that the New Jersey State Police be appraised of our expression through a copy of this resolution to Colonel Schoeffel.

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*Resolved*, that this Convention of Agricultural Delegates commend our esteemed and efficient Secretary of Agriculture, Willard H. Allen, and all the members of the Department serving under him, for their continued application to their appointed tasks throughout the year, all of which has contributed to the welfare of the agricultural industry in New Jersey; and further, we give our commendation to the General Farmers Week Committee, comprising both Departmental members and representatives of all the commodity and agricultural groups, whose efforts have culminated in this Farmers Week of 1949.

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*Resolved*, that this delegate body of the thirty-fourth Agricultural Convention voice its appreciation to Governor Alfred E. Driscoll for his continued interest in the welfare of the great agricultural industry of this State of New Jersey by appearing before this Convention, and that it earnestly solicit his wholehearted support, officially and personally, of such sound programs as will maintain our agriculture at a high level of production and efficiency, and be it further

*Resolved*, that a copy of this resolution be forwarded to Governor Driscoll.

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Be it *Resolved*, that we, the delegates to the thirty-fourth Agricultural Convention, express to Colonel Arthur F. Foran our sincere and great regret for the illness that keeps him from among us on the occasion of this convention and Farmers Week of 1949, and simultaneously extend our warm wishes for a rapid recovery to good health; and be it

*Resolved* further, that a copy of this resolution be (attested by the officers of this Convention and) dispatched to Colonel Foran.

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WHEREAS, since our last Agricultural Convention there has departed from our midst that great and good friend of New Jersey agriculture, the Honorable Joseph S. Frelinghuysen, and

WHEREAS, by his interest and keen perception of wise administration he evolved and legislatively effected the original organization of the Department of Agriculture more than thirty years ago, and

WHEREAS, through his dominant and wise leadership as president of the State Board of Agriculture from 1911 to 1928 the agricultural advancement of New Jersey was accelerated to a high plane, and

WHEREAS, by his generous beneficence he was instrumental in establishing the New Jersey Junior Breeders Fund, popularly known as the "Frelinghuysen Fund", which has lent upwards of \$200,000 to boys and girls to assist them in establishing, or further adding to, a worthy livestock project, therefore be it

*Resolved*, that this Convention, by observing a moment of silence, pay its tribute and respect to the memory of one who leaves behind him many living monuments to his kindness and zeal.

NEW JERSEY STATE LIBRARY