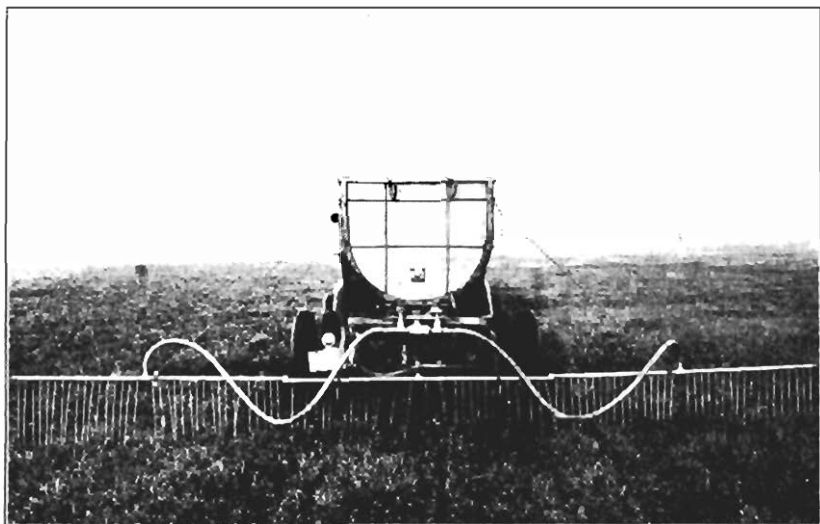




REPRESENTATIVES OF THE DEPARTMENT OF AGRICULTURE INSPECTING AND BLOOD-TESTING POULTRY.



APPLYING THE NEMATODE PARASITE OF THE JAPANESE BEETLE TO TURF.

STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE
WILLIAM B. DURYEE, SECRETARY



Nineteenth Annual Report
of the
New Jersey
State Department of Agriculture

July 1, 1933–June 30, 1934

NEW JERSEY STATE LIBRARY

Trenton, N. J., November, 1934

State Board of Agriculture

1933-1934

ELMER H. WENE, *President*

H. NORMAN FOGG, *Vice-President*

RICHARD D. BARCLAY

CHARLES D. BARTON

WILLIAM H. CLARK

CHARLES B. PROBASCO

H. B. SCAMMELL

STAATS C. STILLWELL

WILLIAM B. DURYEE, *Secretary of Agriculture*

DR. J. H. McNEIL, *Chief*, Bureau of Animal Industry

WARREN W. OLEY, *Chief*, Bureau of Markets

HARRY B. WEISS, *Chief*, Bureau of Plant Industry

CONTENTS

	PAGE
REPORT OF THE SECRETARY OF AGRICULTURE.....	7
STATUS OF AGRICULTURE.....	8
PLANT PEST CONTROL.....	10
The Dutch Elm Disease.....	10
The Japanese Beetle.....	11
The Gypsy Moth.....	12
ANIMAL DISEASE CONTROL.....	13
Bovine Tuberculosis.....	13
Encephalomyelitis.....	14
Fowl Pox and Pullorum.....	14
THE MILK CONTROL BOARD.....	15
CONSUMER SERVICE.....	16
AGRICULTURAL WEEK.....	16
REVISION OF LAWS.....	17
LICENSING AND BONDING.....	17
Milk Dealers.....	17
Produce Dealers.....	18
Cattle Dealers.....	19
THE NEW JERSEY JUNIOR BREEDERS' FUND.....	21
PUBLICITY AND PUBLICATIONS.....	23
COOPERATION.....	24
REPORT OF THE BUREAU OF ANIMAL INDUSTRY.....	26
TUBERCULOSIS ERADICATION.....	26
INSPECTING AND RELEASING INSHIPPED CATTLE.....	38
BANG'S DISEASE CONTROL.....	40
PHYSICAL EXAMINATIONS.....	45
SWINE DISEASE CONTROL.....	46
ENCEPHALOMYELITIS.....	47
GLANDERS.....	50
ANTHRAX.....	50
STALLION REGISTRATION.....	51
POULTRY INSPECTION.....	51
FOWL POX VACCINATION.....	55
PULLORUM DISEASE CONTROL.....	55
WORK DONE IN THE BUREAU LABORATORY.....	56
REPORT OF THE BUREAU OF MARKETS.....	58
INTRODUCTION.....	58
CROPS AND MARKETS INFORMATION SERVICE.....	60
Daily Market News Service.....	61
Weekly Market Summaries.....	62
Special Services.....	64
DAIRY PRODUCTS MARKETING.....	65
New Jersey Official Grades.....	66
New Jersey Dairymen's Council.....	69
Milk Exchange.....	69
Special Services.....	70
CONSUMER INFORMATION SERVICE.....	70
FRUIT AND VEGETABLE MARKETING.....	72
Standardization.....	72
Shipping Point Markets.....	79
City Cooperative Markets.....	82
Municipal Markets.....	83
Special Services.....	83

	PAGE
POULTRY PRODUCTS MARKETING.....	85
Auction Markets	87
Poultry Standardization	99
Miscellaneous Services	103
REPORT OF THE BUREAU OF PLANT INDUSTRY.....	105
STATISTICAL AND RELATED WORK.....	105
Crop Reports	105
Dairy Data	105
Prices of Live Broilers.....	106
The Canning Industry in New Jersey.....	106
Egg and Poultry Meat Supplies and Prices.....	106
Bee Industry in New Jersey.....	107
Work for the New Jersey Milk Control Board.....	107
Financial Condition of New Jersey Farmers.....	109
The Nursery Industry in New Jersey.....	119
FARM CREDIT AND FINANCE WORK.....	119
The Governor's Emergency Farm Mortgage Committee.....	119
Cooperation With the State E. R. A.....	123
Survey of Legal Charges.....	124
Idle-Farms-for-Sale Listing Service	124
Farm Tax Delinquency Survey	124
SEED CERTIFICATION AND RELATED WORK.....	124
Raspberry Certification	124
Grain Certification	125
White Potato Certification	126
Tomato Seed Certification	134
WHITE PINE BLISTER RUST CONTROL.....	135
NURSERY INSPECTION SERVICE.....	136
Foreign and Domestic Stock Inspections.....	136
Nursery Inspection	136
New England Stock Inspections	137
Special Certificates	137
Special Request Inspections.....	137
Canadian Stock Inspection.....	137
Christmas Tree Inspection.....	137
Narcissus Bulb Inspection.....	138
BEE INSPECTION SERVICE.....	139
Inspections	139
Queen-Rearers' Certificates	141
Certified Honey	141
Miscellaneous	141
THE GYPSY MOTH.....	142
Assembling Cage Work.....	142
Quarantine Work	142
Scouting Work	145
Clean-up Work	145
JAPANESE BEETLE SUPPRESSION.....	147
JAPANESE BEETLE QUARANTINE WORK.....	150
THE DUTCH ELM DISEASE.....	158
MISCELLANEOUS ACTIVITIES	161
OFFICIAL PROCEEDINGS OF THE NINETEENTH ANNUAL STATE AGRICULTURAL CONVENTION.....	162
TRANSACTION OF BUSINESS.....	162
SPEAKING PROGRAM	166

STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE

WILLIAM B. DURYEE, Secretary

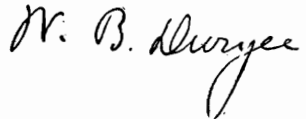
Trenton

November 27, 1934.

*To 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 Nineteenth Annual Report of the New Jersey Department of Agriculture, for the fiscal year ended June 30, 1934.

Respectfully,

A handwritten signature in cursive script, reading "W. B. Duryee". The signature is written in dark ink and is positioned to the right of the typed name "W. B. Duryee".

NINETEENTH ANNUAL REPORT OF THE NEW JERSEY STATE DEPARTMENT OF AGRICULTURE

JULY 1, 1933—JUNE 30, 1934

Report of the Secretary of Agriculture

WILLIAM B. DURYEE

Efforts to reconstruct the various agricultural industries of New Jersey marked the fiscal year covered by this report. All the specialized types of agriculture, and general farming as well, found economic conditions so difficult that new approaches to a solution were undertaken along several distinct lines. In the attempt to analyze and solve farm problems, the assistance of the Department of Agriculture was sought. As a result, the resources and the capacity of the department were drawn upon to the limit. Since the appropriation for the department had been again materially reduced, it devolved upon the personnel to expand its services, in time and in exertion, to meet the exigencies of the situation. These services will be described in the reports that follow for the various bureaus and divisions of the department. An attempt is made at this point to summarize a few of the principal activities and to stress those that have been outstanding.

The work of the Department of Agriculture falls naturally into two general groups: first, the administration of acts and duties which have been directly and specifically set up by the Legislature, most of this work being of a continuing nature, and having to be adjusted to meet changed conditions; and, second, the development of a constructive program for all of New Jersey's agriculture, based upon the economic situation of the state's farming industries. The most important activities cover plant pest and animal disease control; farm mortgage and debt conciliation; marketing projects; programs for such important industries as dairying, poultry and egg production, potato growing and other divisions of agriculture, and a comparatively new project which includes service to consumers and takes into consideration the relation of consumer demand to agricultural production.

STATUS OF AGRICULTURE

Before going into these subjects in any detailed manner, it is desirable to cite data which indicate the present status of agriculture as a whole in the state. A farm is not only a home for the farmer and his family, but it is also the principal, if not sole, source of income upon which they depend for existence. Therefore, farmers are exceedingly loath to become delinquent in tax payments and thereby run the chance of losing both farm and living. For that reason, a large amount of tax delinquency is an indication of genuine financial distress. In the absence of complete data on farm taxes and farm delinquencies, similar data covering all townships in the state may be used as a rough indicator, since most townships in the state are largely rural in character. The following table shows the total taxes levied in all townships for 1931, 1932, and 1933, and the amount and percentage of taxes uncollected on December 31 of each of the three years:

	1931	1932	1933
Total taxes levied.....	\$39,066,746	\$39,018,378	\$35,321,681
Taxes outstanding December 31..	13,029,876	15,482,788	15,993,276
Per cent outstanding December 31	33.35	39.68	45.28

It is significant that, while the total taxes assessed in 1933 showed some reduction, as compared with the two previous years, the total tax delinquency increased almost 12 per cent. Inability to collect taxes by such a large margin means that the cost of government falls more heavily upon those who can, and do, pay.

The total agricultural loans outstanding in New Jersey from federal credit sources are in excess of \$10,000,000. There is a total mortgage indebtedness of nearly \$60,000,000 on farms in New Jersey, which is about double that existing 20 years ago. While only half of the farms in the state are mortgaged, this debt constitutes a liability of nearly \$80 per acre on all lands from which crops are harvested. This fact indicates that there are many farms in the state which are over-capitalized and which, under present or somewhat improved conditions, cannot pay taxes and the interest on the investment.

It is a serious question whether farm lands which are over-capitalized and over-assessed should not be revalued, and, through some method of conciliation, the indebtedness reduced. There is no advantage to anyone if farm lands are so greatly over-capitalized that it is impossible to get enough from them to pay interest and taxes. If New Jersey's farm financial structure can be put on a sound basis, the state will continue to hold its reputation as a great producer of agricultural wealth. To accomplish this, some means must be found to readjust the farm debt structure and tax load. This is one of the problems toward which the Department of Agriculture is directing its attention.

Through the Governor's Emergency Farm Mortgage Committee, a great deal of study has been made of this critical situation during the past year, and enough progress has been made to demonstrate that a solution is not impossible. For example, during the year, 317 requests for assistance were received by the committee. In 44 cases, the condition of the applicants was hopeless from an economic standpoint, but in the other cases, direct assistance was rendered by furnishing information on refinancing existing debts, by staying foreclosures while refinancing was in progress, and by working out conciliation agreements between farmers and their creditors. Many other activities of this committee, which, incidentally, operates through the Department of Agriculture, may be found outlined in the report of the Bureau of Plant Industry.

If we survey briefly the condition in agriculture which causes these manifestations of economic distress, we find that the vegetable growers of the state are in the midst of economic depression. Prices have been ranging considerably below the pre-war level, and, because of advances in the costs of commodities bought by these growers, their purchasing power is now lower than at any time in the past four years.

Growers of white potatoes were confronted with very low prices in 1931 and 1932. The harvesting season in 1933 was a period of relatively high prices, but the returns of that year were only sufficient in most instances to pay off indebtedness contracted in the previous year. At the beginning of July, 1934, potato prices were 20 per cent lower than during the pre-war period, and the present purchasing power of potatoes is approximately 34 per cent below the pre-war level.

The prices of fruits and berries have shown decided variation, but the range has mostly been unsatisfactory as to actual prices and purchasing power. Peach growers have been especially hard hit. In 1933, prices were better than previously, but about 50 per cent of the crop was destroyed by a storm in August, and, during the succeeding winter, an almost complete freezing of fruit buds resulted in a crop worth about \$35,000, as compared with about \$2,000,000, the average annual value. Efforts have been made by Governor Moore and the Department of Agriculture with other interested agencies to secure some means of federal relief so that peach growers might keep their orchards in producing condition. Strenuous efforts in this direction have not been productive at the time of writing because of failure of federal credit authorities to act.

Like many other farm commodities, milk began to decline in price during 1930, and, in 1933, reached its lowest point, being, on the average, 35 per cent below the pre-war level. The situation became so threatening from an economic and health aspect that a Milk Control Board was established by the Legislature as a means of stabilizing a completely demoralized industry and increasing producers' returns to a point commensurate with

the cost of production. Reference will be made later to the Milk Control Board's operation, for the board, since its creation, has been very definitely affiliated with the department.

The farm price of eggs and poultry meat began to decline in 1930, and, in 1933, reached a point 30 per cent lower than the pre-war level. Improvement became manifest in 1934, and the July price was the highest after December, 1931. The very heavy losses suffered by the poultry industry during 1932 and 1933 have placed it in a vulnerable position, but if prices can be maintained or slightly improved over a period of time, there is every reason to believe that the poultry industry is on the road to recovery.

In conclusion, we may state that of the important agricultural groups of the state, only one, the dairymen, are in fair financial condition. The remaining groups, including general farmers; vegetable, potato, fruit and berry growers, and egg and poultry meat producers, are still in the period of depression. Their financial condition is reflected in the general economic situation as to tax delinquencies and indebtedness.

PLANT PEST CONTROL

The Department of Agriculture is directly concerned with the control of plant pests, some of which threaten the vegetation of the state and the productiveness of trees and annual crops. In all the plant pest projects there is a cooperative relationship existing with the United States Department of Agriculture, and the efforts that are being made along lines of control are coordinated in the interest of economy and efficiency. Three of the most important pests, which cause continued anxiety as to ability to control them, are the Dutch elm disease, the Japanese beetle and the gipsy moth.

THE DUTCH ELM DISEASE

Although the Dutch elm disease, which was discovered in New Jersey in June, 1933, is relatively new in the United States, it is well known in Europe, since it has spread over practically all northwestern and central Europe, and exists as far south as Italy. The disease threatens to be even more destructive in New Jersey and the eastern part of the United States than it is in Europe, since our elms appear to be particularly susceptible to it. The counties principally affected in New Jersey are Essex, Hudson, Bergen, Passaic, Union, Middlesex, Somerset and Morris, with the principal area of infection in Essex County.

The progress of the Dutch elm disease has been a cause of genuine alarm in view of its comparatively recent introduction. The susceptibility of all elms to this disease, and especially the most beautiful of all—the

American elm, makes control uncertain. The disease is no respecter of state lines and no expert has been able to find any method of control except the destruction of diseased trees as a means of protection to others.

Efforts have been made to eradicate the disease by the only known method; namely, the cutting down and burning of infected trees. It has become apparent, however, that a very large expenditure is necessary if the disease is to be arrested. Furthermore, the situation is critical at this time. Unless adequate funds can be secured to destroy trees already known to be infected and those that will be discovered within the next few months, there will be no hope in later appropriations, since the disease will have gotten beyond control.

Efforts are being made to secure a large federal allocation of funds, but there has been little indication of success in this direction. It will be necessary for those citizens of the state who recognize the economic and esthetic value of the elm to express their viewpoint in very definite terms to the President and to Congress. The urgency of the situation is being presented by various officials, but conviction of the need for action must be carried through the interest of citizens of New Jersey and adjoining states.

New Jersey has about 3,000,000 elm trees and these can be conservatively valued at \$50 each. Property values are likely, therefore, to be reduced to the extent of \$150,000,000 if all of these trees are lost. Furthermore, the states surrounding New Jersey, particularly those to the northeast, have even greater stakes in this elm problem than has New Jersey, and it would seem to be a federal responsibility to undertake to cope with it. If the disease is not stopped within this year, efforts of control will be useless.

THE JAPANESE BEETLE

The beetle imported from Japan, discovered in 1916, and named according to its country of origin, has now become so well known throughout the state that no description of it is necessary. A great deal of research work has been undertaken by the Federal Government in its laboratory at Moorestown and by the Rockefeller Institute for Medical Research, at Princeton, and the Department of Agriculture has maintained cooperative working relations with both agencies. Parasitic control offers the only practical means of keeping down the numbers of the beetles to a point where they will cease to be a menace to vegetation. Trapping and spraying are helpful in specific locations, but dependence must be placed on the development of an effective parasite, such as nature has provided in other instances in the insect world.

A nematode, or microscopic worm, at this time offers the best hope of controlling the beetle. This nematode can be propagated artificially in large numbers. However, the principal problem is one of distribution. The parasite is so small that it can travel only a few inches, or a foot or two at best. Various means are now under consideration for accomplishing the desired distribution, and, while it looks like a very difficult matter to solve, some way may yet be found whereby the nematode can occupy the important place that it should in keeping down the beetle population. Everyone knows now that the Japanese beetle will be with us always and that extermination is impossible. The problem, therefore, is one of keeping the beetle down to reasonable numbers and providing for some means of certifying our products so that embargoes will not be placed on shipments that might carry the insect to uninfested regions of the United States and abroad.

In the spring of 1934, the Committee on Plant Industry of the State Board of Agriculture served as a citizens' committee for the purpose of ordering improved traps for those institutions and individuals who wanted them and who were unable to buy them through the usual commercial outlets. Five hundred traps were thus ordered and distributed. During the summer of 1933, the department carried on an intensive trapping experiment as a means of reducing beetle population and employed for this purpose 1,300 traps. More than 27,000 gallons of beetles were thus caught, most of them presumably before egg-laying took place. The intensity of the infestation in Cumberland and Salem counties is indicated by the fact that, in that area, six large traps captured 65 gallons of beetles during three days in July. Under such conditions of infestation, the development of parasitic or other means of control is an up-hill job, but methods must be tried and adopted which will serve by one means or another to reduce the population.

THE GIPSY MOTH

New Jersey is the only state in the Union which has virtually exterminated the gipsy moth. The fact that other states have not done so, naturally creates a constant menace of reinfestation here. The moth is present in large numbers near the Pocono Mountain region of Pennsylvania and eastward spread is taking place which seems likely to bring the moth toward the Delaware Water Gap and the wooded regions of northern New Jersey. While every possible means of extermination and prevention of spread are being adopted, there is genuine cause for alarm in this movement. The gipsy moth is the most destructive tree insect known, and is quite capable of equaling a forest fire in destruction to wooded areas and regions where ornamental trees predominate.

NINETEENTH ANNUAL REPORT

13

It is necessary to be constantly alert to identify infestations in the form of eggs masses and to place traps for the catching of male moths as a means of discovering flight movements, since the female moths do not fly.

ANIMAL DISEASE CONTROL

The Department of Agriculture is charged by law with the responsibility for controlling contagious and infectious animal diseases. Since all sorts of domestic animals are subject to serious infections, vigilance in identifying diseases when they first appear and the application of preventive measures are essential to the maintenance of a sound livestock industry. The principal lines of work under this heading deal with diseases of cows, horses and poultry.

BOVINE TUBERCULOSIS

Work to complete the tuberculin testing of all cattle in the state required a strenuous effort by members of the staff during the year. The information that more than 7,700 cattle had been signed up for initial test at the beginning of the fiscal year, and the uncertainty of the number not signed up, created an emergency. Previous estimates submitted of untested cattle had been more than covered by the initial tests made in the six months previous to July 1, 1933.

The State Board of Agriculture held a series of meetings to find a way of handling the immediate situation so that the work could be carried on without interruption on the basis of funds available. A detailed study was made of office records and field methods, with the result that certain changes were effected to enable the department to proceed with its campaign of ridding the state of tuberculous cattle. A supplemental appropriation of \$100,000, which was made available on September 14, made it unnecessary to continue one of the requirements, namely, that owners of fully accredited herds should bear the cost of maintaining them in that condition. Eight veterinarians on the regular staff of the bureau were laid off. Local veterinarians were employed to supplement the testing work of the remaining state veterinarians, who were directed to proceed with testing on a township basis until the state was completely tested. This program was carried out during most of the year, with the result that 8,186 more cattle were tested than in the previous year, at a reduction of \$15,720.44, or 19.28 per cent, in the cost of testing.

The Federal Government cooperated in the program and tested 13,905 cattle, as compared with 4,323 in the 1932-1933 fiscal year. The cost per cow tested at state expense was 35.52 cents as compared with 42.20 cents in the previous year. During the fiscal year, 20,536 cattle were brought

under supervision for the first time, bringing the total number under the department's supervision to 184,343. The indemnities paid during the year amounted to \$253,530.55.

Four counties which were completely tested during the year were found to qualify for classification by the United States Department of Agriculture as "modified accredited areas," since less than one-half of one per cent of the cattle reacted to the test. Application for accreditation was promptly made to Washington and these counties, Atlantic, Cumberland, Cape May and Camden, were entered on the federal records under the "modified-accredited" classification. As soon as the numbers of reactors in other areas are reduced to this low percentage, they also will be classified as practically free from tuberculosis. This will not only be of economic advantage to the farmers of the state but will assure consumers of a better supply of milk.

The passage during the year of an act requiring that all milk sold in New Jersey after December 31, 1934, shall be from herds under the department's supervision (Chapter 192, Laws of 1934) was another step which will help the state to attain its goal of eradication of the disease. Anyone entering the dairy business will be required to place his herd immediately under supervision if he wishes to sell or transport milk within the state.

ENCEPHALOMYELITIS

A malady of great intensity and severe mortality affecting horses has recently appeared in counties in the southern part of the state and much more recently has shown a tendency to advance northward. It is known as encephalomyelitis. The disease is a type of brain fever, and is related to poliomyelitis, or infantile paralysis, in humans. It is of an extraordinarily baffling nature, since it affects certain horses in a stable fatally without affecting others at all. This disease not only constitutes a serious economic problem to farmers who depend upon their work stock for carrying on farm operations, but is also a potential threat to all horses. A similar disease has occurred in western states, but the type which has broken out here is more virulent than any heretofore known in this country or abroad.

The best research agencies have been concentrating their efforts to find the cause and the method of spread of the disease and to evolve a serum or vaccine which will serve as a protection. Outstanding work has been done in this field by the Rockefeller Institute for Medical Research, at Princeton, and at this writing, there appears to be a real hope for effective control.

FOWL POX AND PULLORUM

Wherever poultry keeping is carried on as intensively as it is in many sections of New Jersey, fowl pox and pullorum disease are apt to be limiting factors in profitable operations, and in fact may restrict poultry

keeping in any intensive degree. The combating of these diseases by the testing and treatment of individual birds is a function carried on by the Department of Agriculture through the Bureau of Animal Industry and the Bureau of Markets. Studies are constantly being made to improve the technic, and the work being done along these lines is recognized by poultrymen generally as essential for the well-being of the industry. A charge is made for certain of these services so that the poultrymen benefited help materially in putting the projects on a self-supporting basis.

THE MILK CONTROL BOARD

Reference was made in the last annual report to the setting up of a Milk Control Board by the Legislature, as a means of correcting the demoralized conditions prevailing within the dairy industry. The past year threw upon the Department of Agriculture many additional responsibilities in connection with milk control. The secretary was designated as a member of the board of three to establish the policies and administer the work of the Milk Control Board. Also, the act establishing the board stated that "technical and other services for such milk control board shall be performed, so far as practicable, by forces or officers in the Department of Agriculture . . . without additional compensation." While the Milk Control Act carried an appropriation for the payment of expert personnel, the amount was entirely inadequate, probably because of a lack of understanding of the complicated duties that were being thrust upon the board. It has been necessary for the Department of Agriculture to make available to the control board its resources to enable that body to function at all.

The duties of the board include the setting up of minimum price schedules for payment to producers, regulations for trade practices, minimum prices to consumers and enforcement procedure. The value of fluid milk sold in this state approximates \$50,000,000 annually. The board necessarily was concerned with the welfare of some 10,000 producers, 4,000,000 consumers and a total of 8,300 distributors, including stores. The results of the efforts of the Milk Control Board are outlined in a separate report of that body. Since the executive officer of the department is chairman of the Milk Control Board, and since the Department of Agriculture has contributed so extensively to the board's activities, the milk control functions of the state must be credited in part to the Department of Agriculture. In so doing, the department has had to assume heavy responsibilities in the administration of the Milk Control Act. It has been pointed out that milk producers are in a better economic position than any other group in the state and the department is glad of the opportunity to have made this contribution toward one branch of our agriculture.

CONSUMER SERVICE

Attention is directed to a phase of the department's work on which especial emphasis was laid during the year, and which, while directed toward consumers, is necessarily of benefit to producers. The objective of the department's consumer information service is to inform consumers regarding available products in season, with especial reference to those grown in New Jersey. All possible means of disseminating information have been adopted, including the use of the radio, news releases, booklets, circulars and public addresses. Especially notable cooperation has been evident on the part of newspapers in the state. At the close of the fiscal year, 478 dailies and weeklies were using consumer material issued by the department. Seven 15-minute radio talks on New Jersey farm products were given over Station WOR, which donated the time to this project.

As government agencies continue to be used for the protection of those engaged in producing and consuming foodstuffs, it appears that the Department of Agriculture has entered into this field. An act of the Legislature, which requires that all eggs sold as "fresh" must be in fact fresh, places the responsibility for enforcing its provisions upon the secretary of the Department of Agriculture. This act became effective July 1, 1934, and preparations were made prior to that date for effective prosecution of the act on the day that it became operative.

The general marketing work being carried on by the department indicates that a closer relationship is forming between producer and consumer, and it appears that the department is gradually developing a service to both that is especially desirable in a state with as large an urban population as there is in New Jersey.

AGRICULTURAL WEEK

The Nineteenth Annual Agricultural Week was held in Trenton during the fourth week in January under the immediate direction of the department. The New Jersey Farm Show, held in the Armory as a part of the activities of the week, included a large display of modern farm machinery, equipment and related materials, as well as educational and competitive exhibits. Attendance at the Farm Show exceeded that of any previous year and totaled more than 16,000.

The annual State Agricultural Convention constituted the initial proceedings of the week, and, in accordance with the state law, the attending delegates elected two members to the State Board of Agriculture for a term of four years, and transacted other business coming before the convention. Governor Moore's address to the delegates, and his official opening of the Farm Show, were features of Agricultural Week. Twelve state

agricultural organizations held exceptionally well-attended meetings during the week.

REVISION OF LAWS

It has long been the desire of the department to have its laws rewritten and clarified, especially the animal disease control statutes which are embodied in numerous acts dating as far back as 1864. It was gratifying to have this done by the Commission on Revision and Consolidation of Public Statutes, whose excellent work in preparing the laws of the Department of Agriculture for presentation to the Legislature deserves commendation. Each section has been thoroughly checked and found to be fully covered in the revised and simplified wording of the proposed legislation.

Certain parts of the animal disease laws which are not now in accord with federal regulations could not be brought up to date in this revision, as such changes would constitute an amendment to the laws. These desired changes, however, were incorporated in a bill (Senate Bill 274) which was introduced in the last Legislature but did not reach the floor for a vote. It will be presented again at the next regular session of the Legislature.

LICENSING AND BONDING

MILK DEALERS

Adverse economic conditions were being felt by New Jersey dealers at the start of the fiscal year, and their lack of ability to obtain bonds retarded the work of the licensing and bonding division of the department. By July 31, 1933, only 132 dealers had complied with the requirements of Chapter 74, Laws of 1917, which is the statute providing for the licensing and bonding of milk dealers. Some dealers were financially able to get their bonds, but preferred to take advantage of the times as an excuse for not doing so. These were informed that unless they filed their bonds on or before a specified date they would be penalized without further notice. This action brought about a decided increase in the number of licensees, and those who were really unable to comply with the law were summoned to appear at hearings before the secretary of agriculture, and each case was taken up individually.

During the fiscal year 1933-34, two large milk dealers that were licensed and bonded went into receivership. Neither of these firms had liquidated their indebtedness to New Jersey producers by the end of the year, but the department was endeavoring to bring this about at the earliest possible date.

During the year, the department penalized 23 milk dealers who failed to comply with the law. The penalties amounted to \$625. A total of

\$11,543.95 was collected for the farmers through the efforts of the department. There were 327 licenses issued and the value of the bonds filed with the department totaled \$518,050.

NUMBER OF LICENSEES UNDER CHAPTER 74, LAWS OF 1917

County	Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic	2	1	\$10,000
Bergen	14	3	10,800
Burlington	21	17	36,550
Camden	5	4	15,000
Cape May	3	1	700
Cumberland	21	12	13,200
Essex	30	6	27,150
Gloucester	12	7	5,900
Hudson	8	2	6,000
Hunterdon	8	7	26,500
Mercer	24	17	28,300
Middlesex	15	8	9,200
Monmouth	28	21	51,100
Morris	35	20	46,850
Ocean	3	2	4,600
Passaic	29	7	10,000
Salem	9	6	13,700
Somerset	15	10	10,250
Sussex	5	3	106,000
Union	19	5	15,500
Warren	16	11	45,750
Outside New Jersey	5	3	25,000
Totals	327	173	\$518,050

PRODUCE DEALERS

Chapter 93, Laws of 1930, provides for the licensing and bonding of produce dealers. The statute exempts from filing a bond those dealers who pay cash in full, at the time of each transaction.

Although numerous complaints were received during the fiscal year against licensed dealers, there were only two instances in which the department had to call on the surety companies to pay claims. The bonds were sufficient in both cases to pay the producers' claims in full. In other cases, the dealers, upon being notified of claims against them, paid their producers themselves.

Since the enactment of the produce dealers' licensing law, the farmers of New Jersey have received more than \$40,000 which would otherwise have been lost by them. As time goes on, it is hoped, producers will cooperate more in the enforcement of this statute, for it is to their advantage to increase the number of licensed dealers. The department used various methods to inform farmers of the advantages to be gained by dealing with mer-

NINETEENTH ANNUAL REPORT

19

chants who have complied with this law, yet there are many who continue to sell to anyone, regardless of the risk they take in doing so. Very often unlicensed dealers offer to pay a higher price than the market justifies in order to get produce, but it is obvious that this cannot be done indefinitely, and the usual result is that the farmers who have continued to deal with such dealers have sustained considerable losses.

During the winter, hearings were held in Trenton for dealers who had been operating without a license. It was impressed upon each of these offenders that it would be necessary for him to file a bond with the department if he wished to avoid prosecution in the future. The secretary of agriculture informed the dealers that it was not the desire of the department to cause them unnecessary trouble and expense, but that the law was passed for the purpose of building up within the state a group of reliable produce dealers. The response on the part of those dealers who were summoned to appear at these hearings was very satisfactory. Those who refused or made little effort to comply with the law were prosecuted later on.

During the year, seven dealers were sued for violating this statute. Claims in the amount of \$3,594.79 were collected for farmers during this period. Licenses were issued to 265 dealers, who filed bonds for a total of \$795,000 with the department.

NUMBER OF LICENSES UNDER CHAPTER 93, LAWS OF 1930

	Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic	19	19	\$57,000
Burlington	5	5	15,000
Camden	1	1	3,000
Cumberland	36	36	108,000
Essex	31	31	93,000
Gloucester	26	26	78,000
Hudson	1	1	3,000
Mercer	11	11	33,000
Middlesex	3	3	9,000
Monmouth	14	14	42,000
Ocean	1	1	3,000
Passaic	9	9	27,000
Salem	15	15	45,000
Somerset	1	1	3,000
Union	2	2	6,000
Outside New Jersey	90	90	270,000
Totals	265	265	\$795,000

CATTLE DEALERS

There are a few cattle dealers who have an antagonistic attitude toward the cattle dealers' licensing law, and refuse to conform to its provisions unless they are forced to do so. Amongst them was a Salem dealer whose

activities made it necessary for the department to prosecute him in court. He was found guilty and sentenced to jail, the court refusing to allow him to pay a fine of \$200 which is the alternative penalty for the first violation of this law. The news of this prosecution had the desired effect on other dealers who had been delinquent up to that time in obtaining their licenses to deal in cattle.

During the year, a large number of complaints were received from farmers throughout the state against various dealers. Each complaint was investigated, and in every case in which there was reason for complaint under the provisions of the act, the offending dealer was required to reimburse the farmer either in cash or replace the animal or animals complained about with stock which was acceptable to the purchaser.

Whenever it was deemed advisable, dealers were notified to appear in Trenton, and in most instances they were unfamiliar with the provisions of the law. In order that this condition might be minimized, extracts from the various laws governing the cattle business were supplied to each dealer when a new license was issued to him.

Farmers could facilitate the settlement of their difficulties with cattle dealers in many instances if they would demand a written agreement from the dealers at the time of sale instead of being satisfied with oral promises which are easily made and quickly forgotten, and only add to the difficulty of bringing about a settlement that will be fair to both farmer and dealer.

NUMBER OF LICENSES UNDER CHAPTER 28, LAWS OF 1931

County	Licenses Issued
Bergen	4
Burlington	10
Cape May	3
Cumberland	13
Essex	13
Gloucester	3
Hudson	5
Hunterdon	14
Mercer	6
Middlesex	5
Monmouth	7
Morris	18
Ocean	3
Passaic	12
Salem	16
Somerset	4
Sussex	21
Union	12
Warren	15
Outside New Jersey.....	9
Total	193

NINETEENTH ANNUAL REPORT

21

THE NEW JERSEY JUNIOR BREEDERS' FUND

The following table summarizes the loans made to boys and girls on New Jersey farms for the purchase of purebred livestock since the New Jersey Junior Breeders' Fund was established in 1921 by Joseph S. Frelinghuysen, then president of the State Board of Agriculture, and Julius Forstmann, of Passaic:

SUMMARY OF LOANS BY YEARS

Fiscal Year	Calf Loans		Pig Loans		Poultry Loans		Total Loans	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
1921	30	\$2,815.00	...	\$.....	...	\$.....	30	\$2,815.00
1922	92	7,985.00	16	1,074.98	16	824.25	124	9,884.23
1923	81	6,365.00	21	1,267.25	13	636.25	115	8,268.50
1924	96	8,670.00	10	409.50	14	932.00	120	10,011.50
1925	81	7,065.00	26	1,320.00	17	1,183.50	124	9,568.50
1926	71	6,639.50	25	1,684.30	32	1,563.10	128	9,886.90
1927	83	7,444.00	19	1,240.00	28	1,112.50	130	9,796.50
1928	54	4,644.00	10	620.00	31	890.70	95	6,154.70
1929	55	4,960.00	13	805.00	15	680.65	83	6,445.65
1930	37	3,317.50	15	876.00	17	692.20	69	4,885.70
1931	38	3,467.50	12	769.00	7	308.00	57	4,544.50
1932	38	2,875.00	8	415.00	9	394.00	55	3,684.00
1933	24	1,820.00	10	426.75	8	323.00	42	2,569.75
1934	30	2,310.00	9	295.00	24	940.43	63	3,545.43
Totals	.....	810 \$70,377.50	194 \$11,202.78	231 \$10,480.58	1,235	\$92,060.86	.....	.....

The decline in the number of loans after 1927 necessitated a thorough analysis of the operation of the fund to determine weaknesses that should be corrected and any possible means of making it of greater value to the state. It was found that the decline began while the price of milk was going up, so that the low prices later were not entirely responsible, although they undoubtedly had an effect following the sharp drop in price in 1931 and 1932.

A further disturbing feature was the increase in the number of delinquent accounts from 8.9 per cent in 1927, when more than \$16,000 was outstanding, to 19.4 per cent in 1933 with only \$7,500 outstanding. A further study showed that, of this 19.4 per cent, 16.7 per cent represented loans which had been made after 1928. Since borrowers are classed as delinquent only when they fail to respond to notices of notes due and the term does not apply to those who renew their notes promptly if they are unable to make payments when they are due, it was evident that there was a definite lack of interest on the part of many families of the type which the fund was intended to reach, or, in other words, families having the necessary sense of responsibility to enable the young people to profit through the ownership and breeding of purebred livestock.

Following the analysis, a meeting was called of the county club agents together with prominent breeders of livestock and the supervisor of vocational agricultural education. The conference was marked by greater interest in the fund on the part of breeders than they had previously displayed, and one association, the New Jersey Guernsey Breeders' Association, appointed a committee on junior livestock breeding to work with the club agents and the trustees of the fund. This committee, which is giving valuable aid, is composed of J. Elliott Hall, Morristown; Herbert T. Borden, Mickleton; Joseph P. Broadhurst, Westville; Roy Patrick, Salem; George Pottinger, Far Hills, and Hector Lamont, Bernardsville. The officers and various members of the other associations are also exhibiting helpful interest.

As a means of extending the usefulness of the fund to a different group of farm boys and girls, arrangements were made at the March 20, 1934, meeting of the trustees of the fund to lend money through vocational agricultural instructors in the same manner as loans are made through county club workers. These arrangements were made effective immediately, and during the last three months of the fiscal year, ten loans were made on the recommendation of vocational teachers, sanctioned by the supervising principals of the schools and the school administrators.

At the same meeting of trustees, other changes in regulations were made to permit the purchase of baby chicks; to restrict purchases to livestock within the state unless good cause is shown why an exception should be made; to increase the age limit in the case of young men to 25 years; to increase the amount that may be loaned to \$150 for exceptionally good older dairy animals, and to remove the restriction limiting poultry purchases to six breeds so that any of the standard breeds may be purchased.

A fund of \$500 was set aside from the small balance of undivided profits to permit the purchase of poultry feed by borrowers obtaining baby chicks through the fund. It was provided that such loans together with the original loan to purchase the chicks must not exceed \$100 to any one borrower.

To add a safeguard in respect to the production of dairy animals purchased through the fund, a ruling was made that the dam of animals purchased must have a good herd-improvement test record, a cow-testing record or an advanced registry record.

The Junior Breeders' Fund classes at the Trenton Fair had the usual number of entries, and awards of \$379 were made to winners.

During Agricultural Week, an essay contest was held, and essays were submitted on the subject, "What the New Jersey Junior Breeders' Fund Did for Me." The first prize of \$20 was won by Raymond Lloyd, of Cape May Court House; the second prize of \$10 was won by Harold C. Schaible, of Ewingville, and a purebred Guernsey bull calf offered by Mrs. Ma-

NINETEENTH ANNUAL REPORT

23

tilda Lloyd, of Bernardsville, was won by Clide Williamson, of Farmingdale, for the best essay among the owners of Guernsey animals.

The interest rate to borrowers was continued at 4 per cent for another year.

The Junior Breeders' Fund is administered by four members of the State Board of Agriculture and the secretary of agriculture, who is the secretary-treasurer of the fund. The four members serving on the board of trustees for the year were: H. Norman Fogg, Hancock's Bridge, chairman; William H. Clark, Hainesville, vice-chairman; Staats C. Stillwell, Freehold, and Elmer H. Wene, Vineland.

On June 30, 1934, \$8,287.26 was outstanding, of which 15.2 per cent was classed as delinquent.

An analysis of the loans that have been made, by counties, follows:

SUMMARY OF LOANS BY COUNTIES

County	Calf Loans		Pig Loans		Poultry Loans		Totals
	Previous	1933-34	Previous	1933-34	Previous	1933-34	
Atlantic .....	..	..	..	..	..	..	....
Bergen .....	..	..	1	..	..	..	1
Burlington	36	..	16	..	2	3	57
Camden .....	..	..	..	..	..	..	....
Cape May	7	..	..	..	2	1	10
Cumberland	56	3	8	1	24	1	93
Essex .....	..	..	..	..	19	..	19
Gloucester	22	1	1	1	4	3	32
Hudson .....	..	..	..	..	..	..	....
Hunterdon	66	6	3	..	..	1	76
Mercer	134	2	65	5	16	5	227
Middlesex	103	..	1	..	31	4	139
Monmouth	60	1	12	..	77	..	150
Morris	47	..	1	..	4	1	53
Ocean	17	..	..	..	9	..	26
Passaic .....	..	..	..	..	..	..	....
Salem	67	2	72	2	8	3	154
Somerset	29	..	1	..	..	..	30
Sussex	57	12	1	..	10	1	81
Union .....	..	..	..	..	..	..	....
Warren	79	3	3	..	1	1	87
Totals	780	30	185	9	207	24	1,235

PUBLICITY AND PUBLICATIONS

Information on activities of the department and reports containing useful agricultural data of various kinds were issued to the press of the state from time to time during the year. Through the cooperation of the newspapers, the department was thus able to acquaint farmers and con-

sumers with timely agricultural facts and to call attention to various services and facilities available for their assistance.

The *State Department Service*, a publication prepared for farmers and containing general agricultural information, was continued on a bimonthly basis, which had been adopted during the previous year as a means of achieving economy. In cooperation with the State Dairy Committee, the department prepared and distributed several issues of a mimeographed publication, the *New Jersey Dairy Bulletin*.

In the summer and early fall, exhibits delineating the department's work were staged at the Trenton Inter-State Fair, the Flemington Fair and the Garden State Fair, at Bridgeton.

The previously adopted policy of strict economy in regard to expenditures for publications was adhered to during the year. Consequently, less than the normal number of publications were printed, and mimeographed material was used as much as possible instead of printed circulars. Following is a list of the printed publications issued:

- Circular No. 236—The New Jersey Plan of Poultry Standardization and Accreditation and List of Breeding Flocks and Hatcheries Under Official Supervision, 1933-1934.
- Circular No. 237—Report of the Governor's Emergency Farm Mortgage Committee, December, 1932-December, 1933.
- Circular No. 238—A Survey of the Nursery Industry in New Jersey.
- Circular No. 239—Truck Crops in New Jersey and Competing Areas.
- Circular No. 240—A Handbook on Egg and Poultry Meat Supplies and Prices, 1922-1933.
- Circular No. 241—Roster of County Boards of Agriculture and State Agricultural Organizations for 1934.
- Circular No. 242—Information on the Japanese Beetle.
- Circular No. 243—Important Nursery Insects of New Jersey.
- Folder—New Jersey Grade A Raw Milk.
- Folder—New Jersey Grade A Pasteurized Milk.
- Eighteenth Annual Report of the New Jersey Department of Agriculture, 1932-1933.
- Six issues of bimonthly publication *State Department Service*.

12-

COOPERATION

The opportunity is hereby taken to acknowledge the helpful and sympathetic cooperation of Governor Moore in the department's efforts to cope with agricultural problems. Many members of the Legislature manifested interest in the work of the department and were helpful in enabling it to achieve whatever progress has been made. The cooperation of the New Jersey State Grange, the New Jersey Farm Bureau, and the State Agricultural College and Experiment Station made possible united effort in many situations.

NINETEENTH ANNUAL REPORT

25

The department also wishes to acknowledge support given by all of the producers' organizations in the state and the willingness of the officers of these groups to give the necessary time and consultation in the development of programs along specific crop and livestock lines. Emphasis should be given to the fact that it was through devoted and unselfish efforts of the members of the department staff that there was definite accomplishment toward the objectives set up at the beginning of the year.

Report of the Bureau of Animal Industry

J. H. McNEIL, *Chief*

TUBERCULOSIS ERADICATION

The efforts of the Bureau of Animal Industry in carrying on the tuberculosis eradication program during the year were concentrated on the signing up and testing of all untested herds throughout the state and on the retesting of herds in which reactors had been found on a previous test.

It was found that, when bureau employees entered an area in which all cattle had been tested previously, they would discover a number of untested herds that had been moved into the area since the test. This situation was found in all sections of the state, and until the work of testing entire counties is undertaken throughout the state as it has been in the southern counties, it is difficult for the field men to estimate the number of untested cattle yet remaining in the state.

During the fiscal year, bureau men were requested to test four entire counties within the state where the percentage of infection had been very low, and, upon tabulation of the results of such testing, it was found that all four counties complied with the federal requirements for accreditation and were recommended for and designated as "Modified-Accredited Areas." These counties and the dates of their accreditation are as follows: Atlantic County, August 16, 1933; Cumberland County, January 3, 1934; Cape May County, May 18, 1934; Camden County, June 27, 1934.

Efforts were made to accredit the lower end of Ocean County and the eastern townships in Burlington County, but when the section was all tested it was found that this area could not qualify as a "Modified-Accredited Area" and, at the end of the year, it was being retested in an effort to have it meet the federal requirements. Other sections of the state will be tested and accredited just as soon as the federal requirements for accreditation can be met.

The testing of herds whose owners had signed up for test and filed applications was completed. Bureau representatives met with some opposition from herd owners who had made a request and signed an accredited herd agreement for the tuberculin testing of their herds, but, when notified that the test was to be made, would not permit their cattle to be tested. Six such refusals were recorded. A tabulation was made of the owners

who refused to sign an accredited herd agreement or permit their cattle to be tested when approached by bureau representatives. One hundred and nine such refusals were reported.

The marketing of reactors to advantage was a serious problem throughout the year, because of the low price of steers and other beef cattle prevailing throughout the country, and also because the State of New York was doing extensive tuberculin testing and selling many reactors through the New York City market, which naturally affects the prices obtained at the Jersey City Stock Yards. However, by properly grading the reactors shipped to Jersey City and selling a number locally, the bureau was able to maintain a fairly high standard throughout the year. During two or three months of the year, New Jersey received a higher salvage value than any other state.

The annual appropriation for the payment of indemnity during the fiscal year was \$120,000. This was found to be inadequate, and a request was made for a supplemental appropriation of \$100,000. This request was granted by the Legislature. In addition, \$33,530.55 was made available from other sources, thus bringing the total amount for the payment of indemnities for reactors to \$253,530.55. This sum was matched by the federal government and indemnity paid accordingly.

Following is a brief summary of the work accomplished in tuberculosis eradication during the year ending June 30, 1934.

At the end of the fiscal year ending June 30, 1933, there were under state and federal cooperative supervision in New Jersey 15,880 herds comprising 163,692 cattle. At the end of the fiscal year ending June 30, 1934, there were under supervision 18,939 herds comprising 184,343 animals, an increase of 19.26 per cent in the number of herds and 12.62 per cent in the number of animals.

During the past twelve-month period, 205,725 tuberculin tests were made of cattle under supervision, with 7,694 reactions resulting. Reactions were found in 3.74 per cent of the tests.

During the year 1932-1933, the percentage of reactors on initial tests was 29.87, 4,268 herds of 30,431 animals having been tested and 9,089 having reacted. During the year 1933-1934, the percentage of reactors on initial test was 19.93, 4,336 herds of 20,536 animals having been tested and 4,092 animals having reacted.

The percentage of reactors among out-of-state cattle added to herds under supervision during the fiscal year 1932-1933 was 2.4. Of 16,035 cattle tested, 385 reacted. In the year 1933-1934, 19,809 cattle were tested and 379, or 2.01 per cent, reacted.

Second, third and subsequent retests are made of herds already under supervision. During the fiscal year 1932-1933, 151,073 animals were tested

on retest and 3,090, or 2.04 per cent, reacted. During the fiscal year 1933-1934, 166,380 animals were tested on retest and 3,223, or 1.94 per cent, reacted.

During the year 1932-1933, indemnity was paid for 10,132 reactors, 302 of which were registered animals and 9,830, grade animals. During the year 1933-1934, indemnity was paid for 7,578 reactors, of which 309 were registered animals and 7,269 grade animals.

Following is the total amount received by dairymen and breeders for 7,578 reactors condemned and slaughtered as a result of tuberculin testing during the fiscal year 1933-1934:

Amount Received from Salvage of Reactors.....	\$140,978.23
Amount Paid by State of New Jersey in Indemnities.....	253,530.55
Amount Paid by the United States Government in Indemnities..	137,448.07
Total	<u>\$531,956.85</u>

This is an average of \$70.20 per head.

TOTAL STATE INDEMNITY PAID, BY COUNTIES,
JULY 1, 1933 - JUNE 30, 1934

Atlantic	\$80.00
Bergen	1,511.19
Burlington	5,172.99
Camden	1,268.28
Cape May	1,282.68
Cumberland	1,538.75
Essex	4,030.81
Gloucester	2,019.19
Hudson	119.27
Hunterdon	35,976.37
Mercer	5,790.11
Middlesex	6,915.26
Monmouth	9,179.88
Morris	15,790.09
Ocean	864.86
Passaic	1,269.25
Salem	6,055.37
Somerset	14,941.57
Sussex	89,454.13
Union	4,419.41
Warren	45,851.09
State	<u>\$253,530.55</u>

NINETEENTH ANNUAL REPORT

29

TOTAL STATE INDEMNITY PAID, BY COUNTIES, FROM THE
BEGINNING OF ACCREDITED HERD WORK IN 1916
TO JUNE 30, 1934

Atlantic	\$6,374.16
Bergen	31,156.15
Burlington	298,649.95
Camden	13,062.96
Cape May	8,922.43
Cumberland	66,574.62
Essex	32,097.82
Gloucester	57,299.41
Hudson	4,218.96
Hunterdon	309,749.04
Mercer	159,687.16
Middlesex	62,653.82
Monmouth	91,400.12
Morris	114,754.54
Ocean	23,946.39
Passaic	31,356.58
Salem	305,613.17
Somerset	202,425.89
Sussex	818,732.39
Union	29,955.07
Warren	330,531.49
State	\$2,999,162.12

NEW JERSEY STATE LIBRARY

STATE DEPARTMENT OF AGRICULTURE

The following summary indicates the amount of state indemnity paid for reactors resulting from the tuberculin test during the year ending June 30, 1934:

Class of Cattle	Number of Animals	Amount Paid
Registered Animals	309	\$20,448.97
Grade Animals	7,269	233,081.58
Registered and Grade.....	7,578	\$253,530.55
Average State Indemnity Paid Per Head—		
Registered Animal		\$66.18
Grade Animal		32.07
Registered and Grade.....		33.46

The following summary indicates the amount of salvage received by owners for reactors resulting from the tuberculin test during the year ending June 30, 1934:

Class of Cattle	Number of Animals	Amount Paid
Registered Animals	309	\$7,234.04
Grade Animals	7,269	133,744.19
Registered and Grade.....	7,578	\$140,978.23
Average Salvage Received Per Head—		
Registered Animal		\$23.41
Grade Animal		18.40
Registered and Grade.....		18.60

The following summary gives the estimated total federal indemnities received by owners of condemned cattle:

Class of Cattle	Amount Paid
Registered and Grade.....	\$137,448.07

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

TOTAL AMOUNT RECEIVED BY OWNERS FOR REACTORS (Sum of salvage, federal indemnity and state indemnity)	\$531,956.85
Average amount received per head by owners for reactors....	70.20

NINETEENTH ANNUAL REPORT

31

HERDS AND CATTLE UNDER STATE AND FEDERAL
SUPERVISION, JUNE 30, 1934

County	Herds Under Supervision	Herds Fully Accredited	Cattle Under Supervision
Atlantic	351	302	610
Bergen	229	141	2,702
Burlington	1,403	1,012	20,020
Camden	386	289	1,500
Cape May	295	253	1,043
Cumberland	1,318	1,077	6,726
Essex	114	30	2,576
Gloucester	1,253	1,014	5,095
Hudson	31	11	172
Hunterdon	2,338	1,180	23,172
Mercer	1,060	735	9,877
Middlesex	1,246	391	6,289
Monmouth	1,341	694	8,242
Morris	1,071	538	10,937
Ocean	421	305	1,846
Passaic	279	224	2,861
Salem	1,492	1,188	14,523
Somerset	1,180	610	11,347
Sussex	1,383	725	30,118
Union	252	48	3,339
Warren	1,496	700	21,348
State	18,939	11,467	184,343

Animals in Herds
Under Supervision

20,022 Registered
164,321 Grade
<hr/>
184,343

Animals in Herds
Fully Accredited

14,804 Registered
100,115 Grade
<hr/>
114,919

INITIAL TESTS AND REACTORS, BY COUNTIES,
JULY 1, 1933—JUNE 30, 1934

County	Number of Herds	Animals Tested		Animals Reacting		Percentage Reacting		Total Animals Tested	Total Animals Reacting	Percentage of Total Reacting
		Registered	Grade	Registered	Grade	Registered	Grade			
Atlantic	4	...	5	..	.....	.....	.....	5	.....	.....
Bergen	52	14	254	..	11	.....	4.33	268	11	4.1
Burlington	206	23	899	2	14	8.7	1.56	922	16	1.74
Camden	104	3	151	..	6	.....	3.97	154	6	3.9
Cape May	33	...	41	..	1	.....	2.44	41	1	2.41
Cumberland	78	5	324	..	14	.....	4.32	329	14	4.26
Essex	54	10	156	..	15	.....	9.62	166	15	9.04
Gloucester	140	3	266	..	6	.....	2.26	269	6	2.23
Hudson	15	...	36	..	3	.....	8.33	36	3	8.33
Hunterdon	690	68	4,062	14	1,070	20.59	26.34	4,130	1,084	26.25
Mercer	99	53	464	..	11	.....	2.37	517	11	2.13
Middlesex	785	21	1,574	..	194	.....	12.33	1,595	194	12.16
Monmouth	429	13	1,095	1	85	7.69	7.76	1,108	86	7.76
Morris	296	107	1,562	8	321	7.48	20.55	1,669	329	19.71
Ocean	102	...	159	..	1	.....	.63	159	1	.63
Passaic	43	4	199	..	1	.....	.5	203	1	.49
Salem	146	15	676	..	16	.....	2.37	691	16	2.32
Somerset	335	73	1,388	3	166	4.11	4.76	1,461	169	11.57
Sussex	247	123	2,832	9	1,212	7.32	42.8	2,955	1,221	41.32
Union	100	2	301	..	26	.....	8.64	303	26	8.58
Warren	378	155	3,400	17	865	10.97	25.44	3,555	882	24.81
State	4,336	692	19,844	54	4,038	7.8	20.35	20,536	4,092	19.93

CATTLE TESTED IN NEW JERSEY UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ON THE STAFF
OF THE STATE DEPARTMENT OF AGRICULTURE
JULY 1, 1933—JUNE 30, 1934

	INITIAL TESTS					HERD ADDITION TESTS					OTHER TESTS				
	Lots	Tested		Reactors		Lots	Tested		Reactors		Lots	Tested		Reactors	
Registered		Grade	Registered	Grade	Registered		Grade	Registered	Grade	Registered		Grade	Registered	Grade	
January	162	49	1,143	6	411	100	31	911	..	8	589	497	5,914	3	57
February	572	43	3,482	1	794	94	78	1,222	4	6	389	331	5,327	7	195
March	43	...	308	...	95	17	45	846	..	7	614	314	6,645	9	166
April	28	9	173	...	8	11	5	653	..	8	401	453	7,820	9	140
May	134	103	1,097	7	454	1	8	290	..	10	340	218	3,538	2	77
June	284	52	1,763	5	489	5	16	318	..	10	419	907	3,788	21	67
July	365	104	1,889	7	410	3	16	664	..	11	409	915	4,410	2	74
August	208	16	656	6	45	1	8	455	1	5	321	572	5,459	9	111
September	246	35	638	..	49	1	45	470	..	5	473	1,459	6,654	16	115
October	139	45	496	1	16	7	6	365	..	25	583	1,519	6,072	12	112
November	254	27	763	..	42	2	5	750	..	12	646	1,036	8,186	6	114
December	278	35	863	2	76	..	59	713	3	20	816	1,423	7,444	15	110
Total	2,713	518	13,271	35	2,889	242	322	7,657	8	127	6,000	9,644	71,257	111	1,338
Percentage of Reactors .....	....	....	....	6.76	21.77	....	....	....	2.48	1.66	....	....	....	1.15	1.88
Age Percentage .....	....	....	....	21.21	....	....	....	....	1.69	....	....	....	....	1.79	....

NINETEENTH ANNUAL REPORT

CATTLE TESTED IN NEW JERSEY UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ON THE STAFF OF THE UNITED STATES DEPARTMENT OF AGRICULTURE
 JULY 1, 1933 - JUNE 30, 1934

	INITIAL TESTS					HERD ADDITION TESTS					OTHER TESTS				
	Lots	Tested		Reactors		Lots	Tested		Reactors		Lots	Tested		Reactors	
		Registered	Grade	Registered	Grade		Registered	Grade	Registered	Grade		Registered	Grade	Registered	Grade
July	2	..	5	..	..	6	..	23	..	..	16	1	144	..	..
August	68	15	673	6	256	4	1	39	..	..	12	10	177	..	9
September	17	5	83	..	17	2	1	238	..	7	66	120	936	..	65
October	20	..	85	..	29	1	..	91	..	1	117	199	1,027	1	43
November	68	4	237	..	32	4	2	127	1	5	131	143	970	1	22
December	69	6	363	..	109	..	..	104	..	1	36	51	708	2	35
January	132	4	543	..	148	1	2	191	..	4	55	67	799	5	34
February	75	1	228	..	51	..	3	120	..	3	29	11	478	..	12
March	95	3	191	..	20	1	..	48	..	1	43	59	1,018	4	20
April	106	1	315	..	58	..	..	46	..	..	30	6	294	..	35
May	73	1	380	..	79	..	3	153	..	4	82	91	1,100	1	23
June	65	13	116	..	4	1	1	90	..	2	72	59	882	..	17
Totals	790	53	3,219	6	803	20	13	1,270	1	28	689	817	8,533	14	315
Percentage of Reactors	..	..	..	11.32	24.94	..	..	..	7.69	2.2	..	..	..	1.71	3.69
Average Percentage	..	..	..	24.72	..	..	..	..	2.26	..	..	..	..	3.52	..

CATTLE TESTED UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ACCREDITED BY THE
 UNITED STATES DEPARTMENT OF AGRICULTURE
 JULY 1, 1933 - JUNE 30, 1934

	INITIAL TESTS					HERD ADDITION TESTS					OTHER TESTS				
	Lots	Tested		Reactors		Lots	Tested		Reactors		Lots	Tested		Reactors	
		Registered	Grade	Registered	Grade		Registered	Grade	Registered	Grade		Registered	Grade	Registered	Grade
July	1	...	16	..	..	8	..	32	..	...	3	23	56	2	....
August	6	3	30	..	3	122	35	566	3	15	28	41	308	...	1
September	14	1	78	..	4	180	105	728	4	8	76	86	843	...	12
October	10	12	96	1	1	153	61	770	1	20	150	225	2,807	16	118
November	26	4	149	..	11	191	45	1,199	15	12	457	444	5,171	7	113
December	34	5	266	1	7	159	70	777	..	20	389	638	3,951	24	96
January	73	4	269	1	29	140	32	894	..	30	593	546	6,093	10	174
February	87	24	576	5	147	90	50	736	..	16	437	680	6,752	19	123
March	49	7	242	..	35	64	95	731	5	12	436	701	7,226	12	126
April	55	35	320	1	12	59	22	586	3	18	590	942	6,913	15	150
May	215	10	543	..	22	53	28	610	4	10	912	1,477	10,534	21	162
June	263	16	769	4	75	133	119	1,256	4	15	1,725	1,766	17,906	15	229
July	833	121	3,354	13	346	1,352	662	8,885	39	176	5,796	7,569	68,560	141	1,304
Percentage of Reactors .....	...	...	...	10.74	10.32	...	...	...	5.89	1.98	...	...	...	1.86	1.9
Average Percentage..	...	...	...	10.33	...	...	...	...	2.25	...	...	...	...	1.90	...

SUMMARY OF CATTLE TESTED UNDER ACCREDITED HERD PLAN
DURING THE YEAR ENDING JUNE 30, 1934

	Registered Animals	Grade Animals	Total
INITIAL TESTS—			
Tested	692	19,844	20,536
Reacted	54	4,038	4,092
	Percentage of Reactors—19.93		
HERD ADDITION TESTS—			
Tested	997	17,812	18,809
Reacted	48	331	379
	Percentage of Reactors—2.01		
OTHER TESTS—			
Tested	18,030	148,350	166,380
Reacted	266	2,957	3,223
	Percentage of Reactors—1.94		
TOTAL—			
Tested			205,725
Reacted			7,694
	Percentage of Reactors—3.74		

TOTAL NUMBER OF REACTORS SLAUGHTERED, BY MONTHS
1933 - 1934

July	606
August	1,408
September	366
October	415
November	569
December	697
January	905
February	581
March	526
April	614
May	563
June	582
Total	7,832

TESTS MADE OF NATIVE CATTLE NOT UNDER STATE AND FEDERAL SUPERVISION
 JULY, 1933 - JUNE, 1934

Tested by Private Veterinarians

	HERD TESTS				OTHER TESTS				TESTS FOR EXPORT			
	Number of Lots	Animals Tested	Animals Reacted	Per Cent Reacted	Number of Lots	Animals Tested	Animals Reacted	Per Cent Reacted	Number of Lots	Animals Tested	Animals Reacted	Per Cent Reacted
-												
y	5	19	..	..	1	1	..	..	..	..	..	..
gust	6	13	..	..	..	..	..	..	..	..	..	..
tember	7	7	..	..	..	..	..	..	1	1	..	..
ober	6	14	..	..	..	..	..	..	3	16	..	..
ember	9	21	..	..	..	..	..	..	..	..	..	..
ember	7	80	..	..	..	..	..	..	..	..	..	..
-												
uary	2	74	1	1.35	..	..	..	..	..	..	..	..
bruary	7	13	2	15.38	..	..	..	..	..	..	..	..
rch	5	24	..	..	..	..	..	..	..	..	..	..
ril	13	60	..	..	..	..	..	..	..	..	..	..
y	6	25	..	..	..	..	..	..	..	..	..	..
e	3	40	..	..	..	..	..	..	1	3	..	..
s	76	390	3	.77	1	1	..	..	5	20	..	..

INSPECTING AND RELEASING INSHIPPED CATTLE

During the fiscal year, bureau representatives inspected and released, if existing regulations were complied with, all cattle shipped into the state from other states. A total of 24,823 animals were released. However, during the fiscal year, 7,694 animals in New Jersey were condemned as a result of the tuberculin test and were slaughtered, and 748 cattle were consigned from New Jersey to other states. Thus, the cattle population of New Jersey was increased 16,381 animals during the year.

The following summary indicates the number of cattle shipped into New Jersey, the number condemned as a result of the tuberculin test, and the number consigned out of the state, together with the actual increase in the cattle population by months during the fiscal year ending June 30, 1934:

MONTH	Number of Cattle Shipped into New Jersey	Number of Cattle Condemned on Tuberculin Test	Number of Cattle Shipped out of New Jersey	Actual Increase in Cattle Population of New Jersey
July	2,527	487	90	1,950
August	3,044	1,300	64	1,680
September	2,966	394	26	2,546
October	2,089	396	83	1,610
November	2,028	769	79	1,180
December	2,034	887	56	1,091
January	1,290	939	26	325
February	1,028	553	43	432
March	1,277	420	58	799
April	1,997	458	88	1,451
May	2,218	500	57	1,661
June	2,325	591	78	1,656
Totals	24,823	7,694	748	16,381

IMPORT CATTLE RECEIVED FROM VARIOUS STATES FOR DAIRY AND BREEDING PURPOSES, 1933-1934

POINT OF ORIGIN	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Athenia (Quarantine) . . . . .	...	22	...	...	...	12	...	...	...	...	...	7	41
Canada	66	19	24	21	24	7	...	...	...	...	...	...	161
Connecticut	1	...	...	5	...	6	1	...	...	...	...	...	13
Delaware . . . . .	...	...	...	...	2	5	...	2	...	...	11	...	20
Illinois	25	...	44	21	23	...	...	...	...	...	40	...	153
Iowa . . . . .	...	28	32	...	1	...	...	...	...	...	...	...	61
Kentucky . . . . .	...	...	...	...	11	53	...	...	69	...	...	33	166
Lancaster (Yards)	10	49	36	14	53	...	...	17	...	...	33	24	236
Maryland	92	70	83	77	73	57	51	53	49	39	65	70	779
Massachusetts	1	...	1	1	...	...	1	...	...	...	2	...	6
Michigan	351	532	443	413	267	292	124	245	207	392	328	420	4,014
Missouri . . . . .	...	26	18	...	...	...	...	...	...	...	...	...	44
New York	11	3	4	34	35	14	12	12	11	6	7	43	192
Ohio	685	823	552	294	328	353	215	213	249	367	542	469	5,090
Pennsylvania	227	216	271	181	290	152	131	103	100	191	284	297	2,443
Tennessee	55	25	124	27	73	13	...	...	...	...	...	72	389
Vermont . . . . .	...	...	...	...	25	...	...	7	...	2	...	...	34
Virginia	95	68	43	...	52	...	...	21	...	12	4	4	299
Wisconsin	908	1,163	1,291	1,001	771	1,070	755	355	592	988	902	886	10,682
Totals	2,527	3,044	2,966	2,089	2,028	2,034	1,290	1,028	1,277	1,997	2,218	2,325	24,823

NINETEENTH ANNUAL REPORT

CATTLE SHIPPED OUT OF THE STATE DURING THE
FISCAL YEAR 1933-1934

Month	Number of Lots from Inshipped Cattle	Number of Animals from Inshipped Lots	Number of Lots from Herds Under Supervision	Number of Animals from Herds Under Supervision
July	8	48	12	42
August	5	50	8	14
September	4	12	9	14
October	5	25	5	58
November	12	35	5	44
December	7	31	11	25
January	5	15	8	11
February	4	23	8	20
March	8	42	9	16
April	12	56	13	32
May	8	42	6	15
June	5	25	17	53
Totals	83	404	111	344

BANG'S DISEASE CONTROL

The control and eradication of Bang's abortion disease is progressing slowly. The occurrence of occasional cases of undulant fever and the activities of boards of health are forcing dairymen to place their herds under supervision for the eradication of this disease.

Restrictions established by other states against the importation of infected or untested animals have forced practically all breeders of purebred cattle to place their herds under supervision. Several dairymen have applied to have their herds tested and will clean up their herds because the cost of replacing infected animals is probably lower at the present time than it will be later. The federal government is offering to indemnify owners, in part at least, for the loss of reacting animals. It proposes to appraise cattle on practically the same basis as is observed in the tuberculosis eradication program, and to pay a maximum of \$20 for a grade and \$50 for a purebred animal, the owner to receive, in addition, the salvage value of the animal.

An increased number of Bang's disease tests were made during the year because the department decreased the length of time between tests. The change seemed advisable as a means of making the program more effective.

The following herds, having passed the required number of tests and their owners having complied with the requirements prescribed by the Bureau of Animal Industry of the New Jersey Department of Agriculture

NINETEENTH ANNUAL REPORT

41

for the maintenance of herds for the prevention and eradication of Bang's abortion disease, were issue accredited herd certificates :

OWNER'S NAME	ADDRESS
Anderson, W. A.....	Princeton
Baker, Edward N.....	Pennington
Baker, Estelle	Pennington
Baker, Horace S.....	Pennington
Benson, R. Lawrence.....	Princeton
Blagden, Mrs. Mabel.....	Red Bank
Borden, C. Lawrence.....	Mickleton
Bregenzer, Nick	Hopewell
Bunting, T. Bruce.....	Burlington
Cleveland, Charles	Eatontown
Coddington, W. R.....	Millington
Cornelius, Henry	Bayville
Cotton, Mrs. Henry	Princeton
DeCou, Howard F.....	Merchantville
Dignan, Thomas S.....	Princeton
Dillon, Clarence	Far Hills
Englehard, Charles	Bernardsville
Fackler, Howard	Trenton
Farkis, John	Cream Ridge
Francisco, Ruth	Towaco
Geran, Mrs. E. H.....	Matawan
Griffin, James F.....	Asbury Park
Hall, J. Elliott.....	Morristown
Hamilton, William H.....	Somerville
Hope, Joseph L.....	Madison
Howe, Edward L.....	Princeton
Hughes, Samuel, Jr.....	Asbury Park
Kappes, A. K.....	Freehold
Kinnicutt, F. H.....	Far Hills
Leeds, Henry W.....	Westville
Lewis, Clarence	Sterlington, N. Y.
Lippincott, A. H.....	Marlton
Lloyd, Mrs. F. G.....	Bernardsville
Loree, L. F.....	West Orange
Loree, R. F.....	Florham Park
Luse, A. R.....	Blairstown
McPherson, C. R.....	Bernardsville
McPherson, Wm. Boyd.....	Cape May
Martin, J. M.....	Bellemead
Merrick, Roger S.....	Farmingdale
Miller, Joseph W.....	Princeton
Moore, David H.....	Hopewell
Moore, Mrs. Paul.....	Convent Station
New Jersey Colony for Feeble Minded.....	New Lisbon
New Jersey State Hospital.....	West Trenton
New Jersey Reformatory for Boys.....	Annandale
New Jersey Reformatory for Women.....	Clinton
North Jersey Training School.....	Little Falls

STATE DEPARTMENT OF AGRICULTURE

OWNER'S NAME	ADDRESS
Post, George B., Sr.....	Bernardsville
Pyne, Upton	Bernardsville
Reeves, A. C.....	Trenton
Russell, Dr. J. E.....	Trenton
Rutherford, Robert	Cape May
Sisco, Wm. F. and Son.....	Campgaw
Smith, E. A.....	Asbury Park
Straus, Herbert N.....	Red Bank
Thompson, Mrs. Lewis S.....	Red Bank
Updike, John D.....	Princeton
Van Ronk, E. H.....	Somerville
Van Zandt Brothers	Blawenburg
Veeder, David A.....	Bayville
Vineland Training School.....	Vineland
Ward, J. E.....	Stockton
Wardell, J. E. and Clifton.....	Asbury Park
Wendover Farms.....	Bernardsville
White, William T.....	Princeton
Zuhkle, P. C.....	Gladstone

The following summary shows the work accomplished since the inauguration of the program for the control of Bang's abortion disease in the state in 1926:

Total number of animals bled since the work commenced...	97,522
Total number of animals showing positive reaction.....	7,005— 7.18%
Total number of animals showing negative reaction.....	87,050—89.26%
Total number of animals bled on initial test since the work commenced	9,660
Total number of animals showing positive reaction.....	2,369—24.52%
Total number of animals showing negative reaction.....	7,291—75.48%

NINETEENTH ANNUAL REPORT

43

HERDS AND ANIMALS UNDER STATE SUPERVISION FOR THE
 ERADICATION OF BANG'S ABORTION DISEASE AND HERDS
 ACCREDITED AS BEING FREE OF IT, BY COUNTIES
 JUNE 30, 1934

COUNTY	Number of Herds Under Supervision	Number of Herds Fully Accredited	Number of Animals Under Supervision
Atlantic .....	..	..	..
Bergen	4	1	113
Burlington	13	4	552
Camden	5	1	90
Cape May	5	2	91
Cumberland	4	1	261
Essex	3	1	173
Gloucester	9	2	208
Hudson .....	..	..	..
Hunterdon	8	3	232
Mercer	29	16	1,226
Middlesex	7	..	495
Monmouth	18	11	412
Morris	13	6	896
Ocean	3	2	42
Passaic	3	2	64
Salem	2	..	89
Somerset	35	14	1,228
Sussex	1	..	16
Union .....	..	..	..
Warren	8	1	440
State	<u>170</u>	<u>67</u>	<u>6,628</u>

AGGLUTINATION BLOOD TESTS MADE IN THE BUREAU
LABORATORY FOR BANG'S ABORTION DISEASE
FISCAL YEAR 1933-1934

COUNTY	Number of Tests	Negative Reactions	Positive Reactions	Suspicious Reactions
Atlantic .....	...	...	..	...
Bergen	421	304	32	85
Burlington	2,000	1,798	75	127
Camden	371	347	6	18
Cape May	177	171	..	6
Cumberland	800	740	5	55
Essex	475	430	7	38
Gloucester	803	765	3	35
Hudson .....	...	...	..	...
Hunterdon	745	709	7	29
Mercer	2,836	2,389	122	325
Middlesex	2,495	2,361	24	110
Monmouth	1,315	1,201	17	97
Morris	5,536	4,825	195	516
Ocean	136	127	..	9
Passaic	108	104	2	2
Salem	184	177	..	7
Somerset	3,603	3,245	99	259
Sussex	34	33	1	...
Union	10	8	..	2
Warren	1,089	995	13	81
State	23,138	20,729	608	1,801

PHYSICAL EXAMINATIONS

Twice annually, in the spring and in the fall, bureau representatives, working in cooperation with the Bureau of Markets, make physical examinations of herds of cattle producing *New Jersey Grade A Raw* and *New Jersey Grade A Pasteurized* milk.

Following is a table indicating the number of herd and cattle examinations made during the 1933-1934 fiscal year and the results of the examinations:

PHYSICAL EXAMINATIONS OF CATTLE, FISCAL YEAR 1933-1934,
BY COUNTIES

COUNTY	Number of Herd Ex- aminations	Number of Animal Examinations	Number of Animals Passed	Number of Animals Isolated	Number of Animals Condemned
Atlantic .....	..	...	...	..	..
Bergen .....	..	...	...	..	..
Burlington	2	47	47	..	..
Camden .....	..	...	...	..	..
Cape May	2	52	49	3	..
Cumberland .....	..	...	...	..	..
Essex	4	64	62	1	1
Gloucester .....	..	...	...	..	..
Hudson .....	..	...	...	..	..
Hunterdon	37	1,174	1,072	56	46
Mercer	10	281	262	11	8
Middlesex	6	474	451	19	4
Monmouth	2	29	28	1	..
Morris	108	2,779	2,680	73	26
Ocean .....	..	...	...	..	..
Passaic .....	..	...	...	..	..
Salem .....	..	...	...	..	..
Somerset	63	1,368	1,313	32	23
Sussex .....	..	...	...	..	..
Union	1	15	15	..	..
Warren	6	255	228	18	9
State	241	6,538	6,207	214	117

SUMMARY

Number of herd examinations made.....	241
Number of herds in which all animals passed.....	115—47.72%
Number of herds in which animals were isolated.....	100—41.49%
Number of herds in which animals were condemned.....	67—27.8 %
Number of herds in which animals were both isolated and condemned..	41—17.01%

STATE DEPARTMENT OF AGRICULTURE

SWINE DISEASE CONTROL

Private veterinarians continued to carry on the work of vaccinating hogs against cholera. They reported that vaccinations were made as follows:

NUMBER OF HOGS INOCULATED AS A PROTECTION AGAINST CHOLERA INFECTION, BY MONTHS, JULY, 1933, TO JUNE, 1934

Vaccinations Made by Private Veterinarians

	Single Treatments	Double Treatments
July	26	1,035
August	42	244
September	52	809
October	23	1,606
November	5	806
December	139	238
January	228	458
February .....	...	106
March .....	...	216
April .....	...	506
May	9	282
June .....	...	343
Totals	524	6,649
Total Single	524	
Total Double	6,649	
Grand Total	7,173	

NINETEENTH ANNUAL REPORT

47

HOGS INOCULATED AS A PROTECTION AGAINST
CHOLERA INFECTION, BY COUNTIES
JULY, 1933—JUNE, 1934

Vaccinations Made by Private Veterinarians

	Single Treatments	Double Treatments
Atlantic	2	1,041
Bergen .....	..	...
Burlington .....	..	297
Camden .....	..	176
Cape May	7	731
Cumberland .....	..	...
Essex .....	..	17
Gloucester .....	..	1,158
Hudson .....	..	...
Hunterdon .....	..	28
Mercer .....	..	...
Middlesex .....	..	232
Monmouth	31	390
Morris	132	128
Ocean .....	..	99
Passaic	227	131
Salem	88	1,128
Somerset	2	67
Sussex .....	..	...
Union	1	947
Warren	34	79
State	524	6,649
Total Single	524	
Total Double	6,649	
Grand Total	7,173	

ENCEPHALOMYELITIS

For a number of years there has appeared in the southern counties of New Jersey during the months of August, September and October, or until early frost, a disease affecting horses and mules which has been diagnosed as forage poisoning, stomach staggers or pasture disease.

These outbreaks have resulted in a large number of fatal cases. Various forms of treatment have been recommended and carried out, especially the injection of prophylactic doses of botulinus antitoxin, but the results have never been entirely satisfactory. Losses have also been reported in other sections of the state and outbreaks have occurred in other states.

On July 18, 1933, an outbreak was noted in which the animals presented symptoms similar to those of pasture disease, but reports of it did not reach the Bureau of Animal Industry until September 18, when the

Cumberland County agricultural agent advised the bureau that a number of fatal cases of forage poisoning had appeared. He requested assistance from the department, and, accordingly, representatives were sent to Cumberland County to make an investigation. The disease was diagnosed as forage poisoning, and prophylactic doses of botulinus antitoxin were administered to the horses in the area where the disease existed.

After more careful observation and checking of the clinical symptoms occurring early in the disease, the diagnosis of forage poisoning was excluded, as there was a high initial temperature, no pharyngeal paralysis, no knuckling or twitching of the intercostal muscles, but the chain of symptoms indicated the disease was encephalomyelitis as described by Kelsner, Record and Meyer. It differed from the disease produced by the western virus in that practically all of the cases where the disease was diagnosed terminated fatally.

In the meantime, the Rockefeller Institute for Medical Research became interested and sent representatives into the area of infection to cooperate with private veterinarians and the Bureau of Animal Industry. During the course of the investigation, brain and blood tissue and parts of internal organs of diseased animals were obtained for experimental work.

The symptoms presented by a few of the animals indicated that they were suffering from a mild form of forage poisoning, and that the two diseases probably existed in this territory at the same time.

Upon inquiry, it was learned that a disease was prevalent in Maryland and Delaware which resembled essentially the disease in New Jersey and that which existed in the western states of Nevada, California, Oregon and Washington.

The area of disease in New Jersey extended along the western and southwestern coast of the state from Salem to West Cape May, about 68 miles. This was divided, however, by a badly infected area from Salem to Port Norris, a distance of 34 miles, and there were four doubtful cases south of Salem. It will be noted, however, that there is a 16-mile break from Port Norris to Goshen in which no cases were reported. The distance from the bay and the river averaged from one to about six miles inland; in Cape May County, not over two miles from the west shore for positive cases and three and one-half miles for all cases reported, positive and otherwise. Practically all of the territory of infection was low marsh land along the bay and river and also the rivers and creeks emptying into the bay.

There was one positive case reported in the interior, in Clayton, but there was no history indicating that the animal had received exposure by being in the infected area. Two cases were reported in Atlantic County, one in Pleasantville, which was apparently a positive case, and the second one at Linwood, further south, which was a doubtful case.

NINETEENTH ANNUAL REPORT

49

Research workers have determined that there are two and possibly more strains of this filterable virus and that the serum that would protect animals against the western virus would not immunize them against the eastern virus. After this was definitely determined by using large doses of antitoxin intravenously, all prophylactic treatment was discontinued.

The investigational work carried on by the Bureau of Animal Industry of the United States Department of Agriculture confirmed the essential facts diagnosed by other agencies, that there are at least three avenues of infection: first, through insect transmission, which had been definitely proven by Kelsner; second, by intranasal instillation of the virus, and, third, by the entrance of the virus through abrasions of the mucous membrane of the mouth.

An attempt will be made to produce an attenuated virus which will produce a permanent immunity, as that produced by a hyper-immune serum does not protect animals for a longer period than three or four weeks.

Following is a summary of the outbreak in New Jersey:

Total number of premises reported on.....	75
Total number of animals on all 75 premises.....	278
Total number of animals on premises where positive diagnosis was made	163
or 59 per cent.	
Total number animals reported lost on all premises.....	78
or 28 per cent. of the total number of animals on all premises.	
Total number of animals sick	54
Total number of animals which recovered.....	4
Total number of animals died.....	50
or 93 per cent of those taken sick.	

Our chief interest is in cooperating with experimental and research agencies and assisting them in developing some form of prophylactic treatment which will produce a permanent immunity and prevent a recurrence of this infection.

GLANDERS

Private veterinarians reported 472 mallein tests of horses made during the fiscal year to determine whether or not they were infected with glanders. No positive cases were reported.

MALLEIN TESTS CONDUCTED AND REPORTED,
FISCAL YEAR 1933-1934

Month	<i>Tests Made by Private Veterinarians</i>	
	Negative	Positive
July	37	..
August	7	..
September	4	..
October	10	..
November	20	..
December	47	..
January	54	..
February	73	..
March	74	..
April	3	..
May	105	..
June	38	..
Total	472	..

ANTHRAX

Because of torrential rains and high waters in the low-lying sections of Salem County during September, 1933, some alarm was felt when the waters receded that this might be an ideal condition for an outbreak of anthrax. Therefore, in cooperation with the county agricultural agent, representatives of the Bureau of Animal Industry vaccinated all horses and cattle in this section whose owners made request for this work.

The regular annual vaccination of horses and cattle in South Jersey as a protection against anthrax infection was carried out during the month of April.

Following is a summary of the vaccinations made during the fiscal year:

Month	Number of Premises	Number of Horses Vaccinated	Number of Cattle Vaccinated
September	33	24	495
April	74	209	1,061
Totals	107	233	1,556

The vaccination work was done at a cost of 20 cents per head, including the material used.

STALLION REGISTRATION

During the fiscal year bureau representatives examined 15 stallions at the request of their owners. A summary of the registrations issued follows:

STALLIONS REGISTERED, YEAR ENDING JUNE 30, 1934—BY BREEDS

BREED	Number
Percheron (Registered)	8
Thoroughbred (Registered)	1
Grade Drafts*	6
Totals	15

*Includes grade Percherons and Belgians.

STALLIONS REGISTERED, BY COUNTIES,
YEAR ENDING JUNE 30, 1934

Atlantic .....	..
Bergen .....	..
Burlington	1
Camden .....	..
Cape May .....	..
Cumberland	1
Essex .....	..
Gloucester .....	..
Hudson .....	..
Hunterdon	4
Mercer .....	..
Middlesex .....	..
Monmouth .....	..
Morris	1
Ocean .....	..
Passaic .....	..
Salem	3
Somerset	1
Sussex	1
Union .....	..
Warren	3
State	15

POULTRY INSPECTION

In compliance with the statutes, representatives of the bureau inspected and released all carlots of healthy poultry arriving at the various quarantine terminals throughout the state. A total of 2,273 cars were inspected. Twenty-eight of these cars contained 1,942 birds which were condemned as being unfit for food. These birds had an estimated weight of 6,896 pounds. These were sent to slaughter under inspection.

A summary of the poultry inspection work follows:

CARLOTS OF POULTRY FROM VARIOUS STATES RELEASED AT RAILROAD TERMINALS IN
NEW JERSEY, JULY 1, 1933-JUNE 30, 1934

PLACE OF ORIGIN	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Alabama .....	...	...	...	...	...	5	...	7	5	6	9	...	32
Arkansas	12	18	9	2	5	6	15	23	27	19	10	10	156
California	34	54	56	64	76	72	45	44	36	26	18	18	543
Colorado	27	41	31	33	33	46	26	25	22	18	25	15	342
Connecticut	6	8	12	4	10	9	12	6	4	4	4	...	79
Delaware	1	...	...	...	...	...	1	...	1	1	...	...	4
Florida	1	5	2	...	1	4	...	1	6	7	6	1	34
Georgia .....	...	...	...	...	...	...	1	1	...	...	...	...	2
Illinois .....	...	...	...	...	...	...	...	...	2	1	...	...	3
Indiana	23	30	22	14	18	27	20	25	21	24	24	20	268
Iowa	4	7	5	1	2	2	4	2	1	4	3	2	37
North Carolina .....	...	...	...	...	...	1	2	3	...	3	...	...	9
North Dakota .....	...	...	...	...	...	...	...	...	2	...	...	...	2
Ohio	23	40	41	39	41	56	27	29	17	19	23	27	382
Oklahoma .....	...	...	...	...	...	...	2	1	1	...	...	...	4
South Carolina .....	...	...	...	...	...	...	...	3	1	...	...	...	4
South Dakota .....	...	...	1	2	1	...	...	...	3	4	6	6	23
Tennessee	15	7	...	...	2	54	7	29	37	64	92	12	319
Texas .....	...	...	...	...	...	...	1	1	...	...	...	...	2
Virginia .....	...	...	...	...	...	27	...	...	...	...	...	...	27
Wisconsin	1	...	...	...	...	...	...	...	...	...	...	...	1
Totals	147	210	179	159	189	309	163	200	186	200	220	111	2,273

NINETEENTH ANNUAL REPORT

53

NUMBER OF BIRDS CONDEMNED AND SLAUGHTERED
AND THEIR APPROXIMATE WEIGHT, 1933-1934

Month	Number of Cars	Number of Birds	Approximate Weight in Pounds
July .....	....	....	....
August	1	181	560
September	3	164	458
October	5	374	1,347
November	13	916	3,472
December	5	291	995
January	1	16	64
March .....	....	....	....
February .....	....	....	....
April .....	....	....	....
May .....	....	....	....
June .....	....	....	....
Totals	<hr/> 28	<hr/> 1,942	<hr/> 6,896

CARLOTS OF POULTRY RELEASED AT THE VARIOUS RAILROAD TERMINALS IN NEW JERSEY,
JULY 1, 1933-JUNE 30, 1934

Month	C.R.R. N. J. J. C.	C. R. R. Nrks.	D.L.&W. Boonton	D.L.&W. J. C.	D.L.&W. Nrks.	Erie Caldwell	Erie Nrks.	Erie Whkn.	Lehigh V. J.C.	Pa. Eliz.	Pa. J.C.	Pa. Nrks.	Total
July	45	..	..	36	..	..	34	9	..	8	..	15	147
August	27	..	..	87	..	..	51	12	1	10	3	19	210
September	22	..	..	74	..	..	45	8	..	8	5	17	179
October	12	..	..	61	..	2*	38	1	..	8	5	32	159
November	10	..	2*	87	..	5*	38	2	..	8	13	24	189
December	92	1	6	77	1	2	66	2	..	12	1	49	309
January	23	..	..	56	..	..	34	15	..	8	2	25	163
February	49	..	..	67	..	..	48	3	..	10	2	21	200
March	53	1	..	66	..	..	38	2	..	8	..	18	186
April	76	4	..	54	..	..	42	4	..	8	1	11	200
May	94	..	..	50	..	..	45	4	..	8	1	18	220
June	20	..	..	33	..	..	31	2	..	8	..	17	111
Totals	523	6	8	748	1	9	510	64	1	104	33	266	2,273

* Carlots of geese.

Following is a comparison of the number of carlots of poultry released monthly at the New Jersey and New York City railroad terminals during the past fiscal year:

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
New Jersey	147	210	179	159	189	309	163	200	186	200	220	111	2,273
New York City	343	505	594	697	728	693	644	502	657	452	507	402	6,724

NINETEENTH ANNUAL REPORT

55

FOWL POX VACCINATION

It was recommended by the State Board of Agriculture at its July, 1933, meeting that fowl-pox vaccination be eliminated as a bureau activity and the work be conducted by owners on their own flocks, under special permit issued by the bureau, or by private veterinarians at the expense of the owner. As there was on hand a quantity of fowl-pox vaccine the work was continued for those having applications on file until the supply of vaccine was exhausted and the flock owners for whom work was usually done were notified of the change.

The following report indicates the number of flocks and birds vaccinated during the 1933 season:

NUMBER OF FLOCKS AND CHICKENS VACCINATED AGAINST
FOWL POX BY THE BUREAU, SEASON OF 1933

COUNTY	Number of Flocks Vaccinated	Number of Fowls Vaccinated
Atlantic .....	..	.....
Bergen .....	..	.....
Burlington	5	4,315
Camden .....	..	.....
Cape May	2	842
Cumberland	1	509
Essex	1	475
Gloucester	2	2,646
Hudson .....	..	.....
Hunterdon	5	1,572
Mercer	5	3,636
Middlesex	4	1,584
Monmouth	6	5,071
Morris	3	1,379
Ocean	8	6,717
Passaic	4	2,487
Salem	1	500
Somerset	1	1,150
Sussex .....	..	.....
Union	1	600
Warren .....	..	.....
State	49	33,483

During the 1933 season 775 permits were issued by the bureau to poultrymen to vaccinate their personally owned flocks.

PULLORUM DISEASE CONTROL

In conjunction with the Bureau of Markets, the Bureau of Animal Industry representatives continued the bleeding of poultry for the elimination by slaughter of poultry affected with pullorum disease.

The short, plate, or field test was used alone in the conduct of the work.

NUMBER OF FOWLS BLOOD-TESTED FOR PULLORUM DISEASE,
NUMBER AND PERCENTAGE REACTING, FISCAL YEAR
1933-1934, BY COUNTIES

COUNTY	Number of Fowls Tested	Number of Fowls Reacting	Per Cent Reacting
Atlantic	98	.....	.....
Bergen	3,146	1	.031
Burlington	1,303	62	4.76
Camden .....	.....	.....	.....
Cape May .....	.....	.....	.....
Cumberland	5,749	61	1.06
Essex	1,965	50	2.54
Gloucester	3,640	77	2.12
Hudson .....	.....	.....	.....
Hunterdon	17,779	57	.32
Mercer	7,771	224	2.88
Middlesex	3,326	35	1.05
Monmouth	1,070	11	1.03
Morris	3,250	28	.86
Ocean .....	.....	.....	.....
Passaic	340	54	15.88
Salem	3,076	109	3.54
Somerset	3,698	84	2.27
Sussex	3,231	56	1.73
Union .....	.....	.....	.....
Warren	65	.....	.....
State	59,507	909	1.53

WORK DONE IN THE BUREAU LABORATORY

Following is a summary of the work (in addition to the conduct of agglutination blood tests for Bang's abortion disease) performed in the laboratory of the Bureau of Animal Industry:

TESTING OF MILK SAMPLES FOR PRESENCE OF AGGLUTININS FOR
B. ABORTUS (BANG'S DISEASE)

Number of samples of milk received	113
Number of positive tests	12
Number of negative tests	99
Number of slightly suspicious tests	2

TESTING OF BLOOD SAMPLES FOR PRESENCE OF PULLORUM
DISEASE IN POULTRY

Number of tests set up and read	104*
Number of tests positive	11
Number of tests negative	93

* This number does not include the rapid or plate tests conducted.

NINETEENTH ANNUAL REPORT

57

BACTERIOLOGICAL EXAMINATIONS

Material	Number	Animal	Condition Suspected	Finding
Pus	1	Bovine	Tuberculosis	S. Aureus
Lymph Gland	12	Bovine	Tuberculosis	Negative
Mammary Gland	1	Bovine	Tuberculosis	Positive
Ear and Heart	1	Bovine	Anthrax	Negative
Genital Organs	1	Bovine	Bang's disease	Negative
Viscera	1	Porcine	Hog Cholera	Cholera and parasitism

PATHOLOGICAL EXAMINATIONS

Material	Number	Animal	Condition Suspected	Finding
Heart	1	Bovine	Unknown	Infarction

MICROSCOPIC EXAMINATIONS

Material	Number	Animal	Condition Suspected	Finding
Feces	1	Bovine	Coccidiosis	Positive
Feces	2	Caprine	Parasitism	Coccidiosis
Skin Scraping	1	Porcine	Parasitism	Negative

POST-MORTEM EXAMINATIONS

Animal	Number	Condition Suspected	Finding
Avis	1	Unknown	Fowl-pox
Avis	3	Paralysis	Infectious Leukemia
Avis	4	Pullorum Disease	Pullorum Disease
Avis	3	Pullorum Disease	Negative
Avis	1	Parasitism	Infectious Leukemia

Report of the Bureau of Markets

WARREN W. OLEY, *Chief*

INTRODUCTION

A review of the activities of the Bureau of Markets over the past fiscal year brings into perspective certain conditions in the country and the state, and the many attempts made to correct the unfavorable phases of these conditions. The year was the fifth of the economic depression which has so demoralized the country. This depression from an agricultural viewpoint is more than five years old. With the change in the administration of the country came a very intensive movement to put men back to work in industry, thereby increasing the purchasing power of the country. The movement also contemplated a reduction in the production of goods (agricultural products, in particular) and sales control.

Federal recovery legislation includes the National Industrial Recovery Act and the Agricultural Adjustment Act. If the two acts are administered in such a way as to meet the objectives of the sponsors, there should be a balanced relationship between agriculture and industry, and between producers and consumers.

We have worked a full year under the N. R. A. Naturally, the bureau's activities were affected greatly by the Agricultural Adjustment Act. The administration of that act is in the hands of Secretary of Agriculture Henry A. Wallace. But the correlation of the activities of the N. R. A. with the administration of the Agriculture Adjustment Act creates many situations which have been met as wisely as possible.

Statistics worked up by a leading economist in the Bureau of Agricultural Economics of the United States Department of Agriculture show that in 1933 dairy farmers in the United States received 38 cents of the consumer's dollar and the distributive agents, 62 cents. In considering all farm products, the figures for 1932 show that the farmer received 33 cents and the distributor, 67 cents. These figures were obtained in years of low prices. In previous years with higher prices the farmer received a larger share. As an example, in 1929, the producer got about 47 cents of the price paid by consumers for 14 important food products. Milk, which requires processing, is but one of these products. The 13 others consist of many food products which have required little or no processing, but the distribution costs of 53 cents include transportation and rehandling. We

in New Jersey are near our chief markets. Our marketing work in New Jersey has largely been along lines which endeavor to eliminate one or two handlings and indirect transportation.

The great endeavor under the Agricultural Adjustment Act is to develop the cooperative movement among producers. There is no question but that basically the cooperative movement is a social movement. It takes from the old order, that group of distributors working on the capital of a few, the profits of distribution and gives those profits to the great mass of producers who supply the goods for sale.

In our cooperative shipping point markets, organized with the aid of the Bureau of Markets during the past seven years, there has been no stock issued. Working reserves for capital have been set up from earnings approximating \$21,000. This money belongs to the thousands of farmers who have used the markets. These cooperative markets conducted a business approximating \$2,600,000 in the 1933-1934 season, returning an estimated profit above the former method of selling to farmer-members of \$250,000.

The development of codes and marketing agreements under the Agricultural Adjustment Act has required constant guarding against restrictions which might injure New Jersey shippers. Codes and marketing agreements are means of leveling out the advantages and opportunities had by some because of their location, and dividing the marketing advantages with other sections of the country not so advantageously located. Codes and marketing agreements are nothing more than rules and regulations of *fair* practices and definitely defined *unfair* practices.

The principal of prorating shipments has come to be the basis of equalizing opportunity in marketing agreements. All codes and marketing agreements are enforced by authorities set up within the industry. It has been obvious that the viewpoint of the code authority is influenced by state or local interests. Therefore, representatives of this bureau worked closely with representatives of the farming interests within New Jersey in order that our interests be protected. This necessitated many trips to Washington, D. C., during the year and the attendance of a bureau representative at code and agreement hearings in nearby cities. It was necessary for the bureau chief to carry on most of this type of work.

The outlined project work of the bureau remained about the same. No new lines of work were attempted. Satisfactory growth within the projects is demonstrated by increased use of the agencies set up. This is noticeable in all lines of work. The detailed report of each project follows.

CROPS AND MARKETS INFORMATION SERVICE

The agricultural situation in New Jersey during the fiscal year 1933-1934 was very much "spotted." Some branches of agriculture prospered to a certain extent, while others continued to feel the depression.

According to records gathered by the crops and markets information service, the vegetable growers of the state had a relatively unprofitable season in 1933. Prices were low and the weather was unfavorable during the latter part of the year. Prospects during the early part of 1934 were also discouraging because of the late spring and higher costs of production. However, prices for many spring crops were comparatively good, and in general were well above the 1933 figures.

The fruit growers suffered from a combination of circumstances, which were mostly unfavorable. The apple market was fairly good during the fall and winter of 1933, and the export market was slightly more favorable than during the previous year. This situation was largely caused by a more favorable rate of foreign exchange, due to the dropping of the gold standard and the depreciation of the dollar. At the opening of the 1933 season, the peach growers had very encouraging prospects. The crop looked good and competition from other states, especially Georgia, was expected to be very light. Early varieties sold well, because of lack of competition, and the outlook for the late or main varieties was exceptional. Then came the storm of late August, which practically ruined all that remained of the crop and left the growers in a very precarious position. After undergoing this catastrophe, the growers made preparations for the 1934 deal. However, the coldest winter of several years was experienced, and practically the entire peach crop was ruined. This disaster was most discouraging, and many orchards will undoubtedly be abandoned because their owners lack funds.

Prices of eggs were low during the greater part of the year, and costs of production were higher because of increased feed costs. The increased costs were brought about by processing taxes on many feedstuffs, following the adoption of codes for various industries allied to agriculture. These taxes could not be passed along to the consumer because the price of eggs is largely dependent on the law of supply and demand.

Of all the farmers, the white potato growers enjoyed the most successful season. In fact, the 1933 potato deal was probably one of the most favorable ever experienced in the history of commercial potato production in New Jersey. Costs of production were very low and prices were relatively high. Competition from other states was exceptionally small, and this fact resulted in an active demand for potatoes throughout New Jersey's deal. An analysis of potato prices during the 1933-1934 season shows that the New Jersey farm netted a higher price than any other commercial potato producing area of the United States.

The work of the crops and markets information service was carried on during the year, with the two general objectives always in mind. These are: to furnish the farmers of the state with timely, unbiased and correct information on current prices at leading markets; and to furnish growers with economic information concerning conditions in competing areas, in order that they may sell their crops to the greatest advantage.

The crops and markets information work was carried on with the idea of performing the greatest amount of service with the least possible expenditure of funds. No new services entailing expense were started. Curtailments of services put into effect during the previous year were continued. These consisted of discontinuing cooperative agreements with various municipalities, operation of the potato office at Hightstown for a shorter period, and an attempt to keep the mailing lists from getting too cumbersome by seeing that they included interested persons only. Because of the loss in services rendered and the requests for renewing the work, it is the hope of the bureau that some lines can be developed again when conditions warrant.

DAILY MARKET NEWS SERVICE

The Bureau of Markets continued its cooperative agreements with the Bureau of Agricultural Economics of the United States Department of Agriculture, during the past fiscal year, for the collection of daily market information at important markets for New Jersey farm products. This policy has been in effect for several years. It is the most economical method of obtaining daily market reports, for it prevents any duplication of effort, and means that the greatest amount of information can be obtained for the least expenditure of money.

A cooperative employee of the department is stationed at New York and Philadelphia for the purpose of collecting New Jersey information. The cooperative agent at the New York market has been stationed in that office for several years. This has been a distinct advantage to the New Jersey farmer, for the man located in the position is thoroughly familiar with conditions in this state, and has given much valuable assistance in various marketing problems which have arisen. At Philadelphia, the cooperative employee was advanced to a position of greater importance during the year. However, an experienced man was appointed to the position and performed his duties in an entirely satisfactory manner.

One important part of the service was discontinued at Philadelphia at the beginning of the fiscal year. This was the daily report on motor truck receipts at that market. This was necessary because of the withdrawal of federal funds. Pennsylvania and New Jersey felt that the service could not be carried on by state money alone. This service was very important to the growers in the southern part of the state, who use the Philadelphia market as their principal outlet. Statistics on truck receipts

were the only guide as to the volume of produce moving to that point during the summer and fall months, as the truck is the only means of transportation used by nearby growers in supplying that market. The discontinuance of the service was unfortunate, but lack of funds made it necessary.

The distribution of daily market information was carried on through the daily newspapers of the state. This was done in cooperation with the Federal Department of Agriculture, as well as with one of the leading press agencies. This method of dissemination of market prices is the most economical, for through it the reports reach the greatest number of growers at practically no expense to this department. The press agency received an early-morning report from the cooperative employee at New York, and the report was made available to growers in various parts of the state in afternoon editions. Approximately 25 daily newspapers are now making use of this service. In addition to the papers within the state, several large daily newspapers in New York and Philadelphia make use of the report.

During the fiscal year, no changes were made in broadcasting daily market information over the radio. As in the past several years, all work of this nature was taken care of by the federal-state employees at Philadelphia and New York. Reports on the Atlantic City and Trenton markets were broadcast from a radio station in each city.

WEEKLY MARKET SUMMARIES

The second of the two objectives of the crops and markets information service is fulfilled through two types of weekly market summaries. The first of these consists of *Market Conditions* reports. As explained in previous reports, these are entirely different from market reports issued by other agencies. In them an attempt is made to inform the growers of important crops of probable competition in other areas by furnishing them with data on acreage, yields, estimated production, carlot shipments, receipts at leading markets, and other information of importance in the distribution of their crop. Each report is limited to a single crop, and in this way the subject is more fully covered than in a general market report covering several products.

Using asparagus as an example of the type of *Market Conditions* reports issued, in the preliminary article the general outlook for the crop as a whole is explained. In follow-up articles, conditions in California, South Carolina, Georgia, and other important competitive sections are given as a means of acquainting New Jersey growers with possible market conditions. The estimated acreage in each area, weather conditions throughout the growing season, probable yields, the approximate date of the opening of the season in each area, dates of peak movement from each district, and approximate closing dates for the shipping season are all

closely watched and comparisons made with previous seasons. In addition, price movements and trends are watched throughout the season, and also compared with previous years. The same information is collected and disseminated for the various regions within the state. This type of report gives the grower a well-rounded and nearly complete picture of the situation. By intelligently using this information, he is able to start his crop to market with at least some idea of the competition it will meet compared with former years.

A total of 185 *Market Conditions* reports were issued during the year. This was about the same number as published during previous years. A review of the reports that were published show that during the year the bureau distributed 40 on apples, 30 on sweet potatoes, 24 on white potatoes, 15 on lettuce, 14 on peaches, 12 on spinach, 11 on asparagus, 10 on strawberries, 9 on tomatoes, 6 on onions, and 14 on miscellaneous truck crops. The miscellaneous truck crop reports contained information on snap beans, lima beans, cabbage, root crops, celery, peppers, and other leading truck crops of the state.

A considerable amount of correspondence and many personal contacts were necessary to obtain information from competing areas. This information was obtained through the cooperation of members of the produce trade at leading markets, officials of other states, as well as private shippers in competing districts. Travel through producing areas of New Jersey was necessary in order to have at all times first-hand information on conditions in leading truck areas of the state.

Figures collected in connection with the various *Market Conditions* reports issued were gathered into one publication during the previous fiscal year, and issued as a mimeographed circular entitled "Truck Crops—Production and Movement in New Jersey and Competing Areas." During the year 1934 this publication was revised, the figures were brought up to date and the information was published as Circular No. 239, "Truck Crops in New Jersey and Competing Areas." The mimeographed report attracted considerable interest, both among growers of this state and among those of other states where truck crops are important parts of agriculture.

The *Weekly Market Review* was issued regularly each week during the year. This review of prices in eastern markets was published without any radical changes from previous years. It contained quotations on grains and feeds at local stations in the state as well as an analysis of conditions in some of the larger nearby markets. It also contained quotations on hay and straw, fruits and vegetables, eggs and poultry. Because of the rapid growth of the egg and poultry auctions, more and more space is being given over to the quotations on those markets. It is now felt that the leading auction markets are a better source of quotations for New Jersey eggs than the New York market, which used to be considered the best basis on

which to sell eggs in this state. The inclusion of these auction quotations has resulted in a large number of inquiries for the review from poultry producers and egg buyers who use it as a guide in studying the egg situation. Many producers not using the auctions use the prices as published in the review as a means of establishing their prices.

SPECIAL SERVICES

POTATO INFORMATION OFFICE

Each year during the active potato marketing season, the New Jersey Department of Agriculture operates a branch office of the market news service at Hightstown. Nineteen hundred and thirty-three was the sixth year in which this temporary field station was open. The general objects of the office are to collect and disseminate market information to the growers and dealers throughout the large central New Jersey potato belt, and to aid all other sections of the state whenever possible.

During 1933 the service was operated on a somewhat different basis than during previous years, because of the department's cooperation with the State Potato Sales Committee. The dealers cooperating with the Potato Sales Committee organized as the Potato Sales Company. Their office was in the same building as ours. Because the majority of the growers and dealers were cooperating in this endeavor to market their potatoes through one office, it was not necessary to perform some of the services previously rendered to the individual growers. The work was largely confined to contact duties with the various dealers and growers making up the sales company. Many special services were rendered to the organization, in the way of informing growers as to the proper time of digging, latest developments at the central office, and attempting to smooth out various difficulties which arose during the deal.

The office was opened on July 17 and operated for a period of eight weeks. The bulk of the crop was harvested and sold by the time the office was closed on September 9. A report of the cooperative endeavor to handle the sales of potatoes in the central New Jersey counties will be found under "Fruit and Vegetable Marketing." The market news office cooperated very closely with those who were carrying out the marketing plan.

As in previous years, the first week of the agent in charge of the Hightstown office was largely spent in field work. Contacts were made with the various growers and dealers in the newly organized association. Because of the change in the general set-up for selling potatoes, there were not as many calls to the office for information as in previous years. This was largely due to the fact that the price was set by a committee, and no variation was made from this set price from day to day, as in previous deals, when the price might vary within a single day. The bureau's records show

that more than 1,100 contacts were made during the eight weeks' period that the office was operated.

AUCTION MARKET QUOTATIONS

During the 1933 harvesting season, the bureau continued to supply the various auction markets of the state with an early-morning report of prices at New York for the important commodities sold over the auction blocks. Many growers patronizing the markets used these quotations as a guide in selling their produce. Many dealers also made use of them in buying at the various blocks.

During the past fiscal year, the various auctions received the reports shortly after 8:30 o'clock each morning. The reports were transmitted early in order that the market master could use the information available as a means of diverting produce to the auction when there was a special demand for it. By having these quotations on hand, several of the auction masters stated that they were able to answer growers' inquiries satisfactorily. They were also able to induce buyers to patronize the market by being able to state probable values. Several sales from long-distance buyers were made during the season in this way.

HAMMONTON BERRY MARKET

As in former years, the bureau, in cooperation with the Bureau of Agricultural Economics of the United States Department of Agriculture, furnished the berry growers of Hammonton and vicinity with daily prices of raspberries, blackberries and huckleberries throughout the active marketing season. Prices covering the Philadelphia, New York, Pittsburgh and Boston markets were made available at noon each day. These prices served as a guide to the growers in the daily sale of their berries. Several shippers also made use of these quotations as a means of determining the various markets to which they should ship. It is felt that this raised price levels on this market.

In addition to the quotations furnished to the berry market at Hammonton, the peach auction located at that point was also supplied with a daily report. The cooperative employee at New York called the auction master each morning at 7:00 o'clock and furnished him with prices. This proved to be very valuable to both producers and shippers.

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 is concerned with 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 Bureau of Markets to recognize and to identify nearby-produced milk of definite quality standards. Other activities include cooperation with the New Jersey Milk Control Board, the New Jersey Dairymen's Council, the New Jersey Junior Breeders' Fund, and other agencies, and the operation of a surplus milk exchange, whereby milk, now listed as surplus, can be placed with dealers needing it and markets found for producers with no outlets.

The past fiscal year was an unusually critical one for New Jersey dairymen. Milk production and the cow population reached peak levels, while at the same time, consumption was decreasing and public buying capacity was seriously impaired. Fortunately for New Jersey dairymen, this period coincides almost exactly with the first year's operations of the New Jersey Milk Control Board. It is generally conceded that New Jersey's dairy industry would have been dangerously near extinction, with its resources dissipated beyond recovery, but for the relief afforded by the regulations of the Milk Control Board. With a stabilized price structure, the producers have gradually been recovering their lost ground, although at the same time they have been confronted with rising production costs, especially in the case of grain feeds. The cooperation between milk control boards of neighboring states has also been helpful in strengthening the position of New Jersey dairymen in their efforts to protect their local markets from milk shipped from distant states.

The matter of maintaining consumption levels for milk has continued to be of increasing importance because the incomes of many families continue to be below normal. It has been very necessary to keep the advantages of fresh milk in a prominent place before the public, especially when advances in retail prices were effected and there was a tendency to substitute other foods for fluid milk. The program of the division of consumer information, which has been developed to meet that situation, is discussed elsewhere in this report.

NEW JERSEY OFFICIAL GRADES

The New Jersey grades represent an effort on the part of the Department of Agriculture to recognize and to identify New Jersey produced milk of definite quality standards.

During the past fiscal year, milk dealers were, as a rule, reluctant to assume any added obligations or supervision. Consequently, but few new dealers placed their milk under the New Jersey grades. Later in the year, as conditions became more stabilized, interest on the part of dealers improved. On the other hand, the volume of milk distributed daily under the grades increased from 23,300 quarts on July 1, 1933, to 30,070 quarts on June 30, 1934. This is an increase of about 32 per cent over the pre-

NINETEENTH ANNUAL REPORT

67

vious year. However, there occurred a small turnover in dealers, especially small ones, and the year closed with 35 dealers, or a net loss of two, selling under the New Jersey grades.

The daily volume of individual dealers varied on June 30, 1934, from 125 quarts to 4,470 quarts. The average was 856.2 quarts per dealer daily. A year previously, each dealer averaged 630 quarts per day.

Since prices were stabilized by the Milk Control Board at a higher level than had previously prevailed, there was a tendency on the part of many consumers to revert to Grade B. Consequently, all Grade A sales decreased in volume. In view of this trend, the increase in volume under the New Jersey grades is significant.

Despite the net loss of two dealers, there was an increase of four farmers producing under the New Jersey grades at the close of the year, or a total of 125 producers.

At the time of the physical and veterinary examinations which were made of the producing herds in November, 1933, a total of 119 herds contained 3,362 cows. In May, 1934, a total of 125 herds were examined to qualify under the New Jersey grades and the cow population was then 3,238 cows. At the former date each herd averaged 28.2 cows, while in May, 1934, each herd averaged 25.8 cows. These figures are not exactly comparable because of herd changes, but indicate no trend toward an increase in the size of individual herds during the past year. The two physical examinations of all the herds were made under the supervision of the Bureau of Animal Industry. Reports on them are included in the report of that bureau.

Of the 30,070 quarts sold under the official grades on June 30, 1934, 15,540 quarts, or 51.6 per cent, were sold as *New Jersey Grade A Pasteurized*. This is nearly double the volume of 8,600 quarts sold a year previously as pasteurized. The daily volume of *New Jersey Grade A Raw* was 14,700 quarts on July 1, 1933, and 14,530 quarts on June 30, 1934, indicating that the volume of raw milk remained almost the same, and also that the new volume acquired under the New Jersey grades was almost exclusively pasteurized. During the year two dealers who formerly sold raw milk exclusively, installed pasteurizing equipment for a part of their output.

Three hundred and seventeen individual employees of farms and bottling plants in the case of *New Jersey Grade A Raw*, and of bottling plants only in the case of *New Jersey Grade A Pasteurized*, were examined by physicians twice during the year. Individual cards of identification are now provided for those having passed these examinations. Acknowledgment is made of the cooperation of the New Jersey Department of Health in making laboratory examinations of specimens submitted by physicians in connection with their examinations of employees.

During the past fiscal year, 876 samples of milk were collected for examination and analysis. With few exceptions, the bacteria counts were maintained well below the standards of 30,000 per cubic centimeter for *New Jersey Grade A Raw* and 20,000 per cubic centimeter for *New Jersey Grade A Pasteurized*. All high counts were not only reported numerically, but the types of organisms were identified and so served as clues to the factors contributing to such high counts. Consequently, indications of trouble were readily traced and conditions immediately corrected. Counts on *New Jersey Grade A Pasteurized* before pasteurization were also made in order that the bureau might know that conditions surrounding production of milk to be pasteurized were practically the same as for *New Jersey Grade A Raw*.

A compilation of the butterfat content as reported in the analyses of the 836 samples of milk collected during the year points to a further rise in butterfat content. Computed on averages weighted according to the volume represented by each sample, the milk sold under the New Jersey grades during the past year averaged 4.11 per cent butterfat. A year previously, an average of 3.92 per cent was reported, while two years previously the samples averaged 3.74 per cent butterfat. The figure of 4.11 per cent butterfat reported for the past twelve months is in line with figures reported on Grade A standards by other agencies during the past year. Of further significance is the fact that most of the *New Jersey Grade A* milk is produced and sold in counties adjacent to Somerset and Morris counties, where, heretofore, milk has not been measured as closely in terms of butterfat as has been the case in the southern part of the state.

In the Borough of Somerville, the ordinance which requires that all of the milk supplied to that community be under the New Jersey grades, was in effect for the second year. The eight dealers serving Somerville, as well as their producers, furnished a supply of milk of unquestioned quality. Close contacts were maintained with and quarterly reports were rendered to the local board of health.

Because of the tendency of the public to replace Grade A milk with Grade B, since the latter is now recognized as safe and of established quality, and because few dealers sell New Jersey Grade A exclusively, consideration is being given to a plan for the establishment of an official New Jersey grade for pasteurized "B" milk.

The bureau cooperated closely with the New Jersey Official Grade A Milk Dealers' Association, whose membership consists of dealers operating under the New Jersey grades, in a program to promote the sale of milk. During the past year, 11 monthly meetings and two special meetings for drivers and route salesmen were held. A sound film, "The Story of Better Milk," was the main feature of the past year. It was shown in 23 public motion picture theaters before a total paying audience estimated at 118,000

NINETEENTH ANNUAL REPORT

69

persons. In conjunction with the showing of this film, 42,000 bottle collars and 20,000 leaflets on the New Jersey grades were distributed at the expense of the dealers.

SUMMARY OF GRADES

	August 1, 1931	July 1, 1932	July 1, 1933	July 1, 1934
Dealers	12	30	37	35
Farms producing	38	102	121	125
Total cows	1,064	2,739	3,203	3,238
Cows per herd	28	27	26	26
Average quarts daily	11,729	24,709	23,300	30,070
Fee income daily	\$5.85	\$12.35	\$11.65	\$15.03
Sub-dealers .....	....	56	73	89
Municipalities where sold .....	....	128	146	164

NEW JERSEY DAIRYMEN'S COUNCIL

The New Jersey Dairymen's Council, which was organized five years ago as the New Jersey State Dairy Committee, has been rendered fullest cooperation by the bureau and one of the staff members has served as secretary since the group was organized. The amount of work involved has increased as conditions became more serious for dairymen. Meetings were held monthly throughout the year. In March, the New Jersey State Dairy Committee was reorganized as the New Jersey Dairymen's Council to serve as a clearing house for dairy problems.

MILK EXCHANGE

During the winter months many dealers were carrying a surplus of milk and a number of producers were entirely without markets. To meet this situation, a milk exchange was established within the bureau as a means of finding market outlets for surplus supplies of dealers and producers.

Despite contingent handicaps, such as varying local health regulations and problems of transportation, markets were found for 11 of the 44 farmers' supplies which were listed. In addition, 33 dealers listed a surplus available for transfer, and all or a portion of the surplus of 11 was placed with other dealers.

One of the most important activities of the milk exchange service was the handling of the entire production of 148 farmers, averaging about 21,000 quarts daily, for a period of 25 days during January while legal proceedings were being carried on by the Milk Control Board against the creamery previously purchasing this supply.

SPECIAL SERVICES

The bureau cooperated with the Milk Control Board by rendering varied field and office assistance to that agency. In addition, the bureau rendered considerable assistance to the trustees of the New Jersey Junior Breeders' Fund, Inc., principally in collecting delinquent loan and interest payments.

To ascertain the volume of milk which was being distributed through schools, both public and parochial, and the influence of recent price rises, a survey was conducted in cooperation with the New Jersey Department of Public Instruction. Results were not completely tabulated by the end of the year, but they indicated that a very small amount of milk was being sold or donated through schools.

CONSUMER INFORMATION SERVICE

The objectives of the consumer information service of the bureau are primarily to increase the use of milk and dairy products, especially as a measure of health and food economy, and to increase the use of all New Jersey agricultural products by using every possible means of disseminating information concerning their availability and value through the use of radio, news releases, booklets, circulars and public talks.

With consumption figures declining and the volume of production near peak levels, the past year presented a very urgent need for maintaining consumer interest in milk and dairy products. To that end, the program of the division of consumer information, started in November, 1932, was expanded to the limit permitted by available funds and personnel. The cooperative arrangement with the Milk Research Council, Inc., of New York City, was continued, and acknowledgment is made of the cooperation of that agency in printing clip sheets and providing mats for the newspaper subscribers.

The entire program was based primarily on an effort to interest the public in the use of milk and dairy products, using as a background New Jersey fruits, vegetables, eggs, poultry, canned goods, and other subjects relating to marketing.

All leaflets and releases, and especially radio talks and newspaper articles, were prepared with the object of presenting helpful and informative subject matter which might prove useful to women listeners and readers. Such a means of distribution provided an opportunity to present points of interest on New Jersey products.

While it is always difficult to measure the results of any promotional program, some index of the scope of the work was indicated in the increased number of newspapers and syndicates receiving the material, the

increased number regularly using mats, and the wider territory covered outside of New Jersey. It is significant that these increases during the past year were made in direct competition with a very large volume of reading column "hand-outs" of excellent quality submitted by commercial interests which were also purchasing advertising space. Further, newspaper incomes have been low with a consequent tendency to reduce the number of pages.

NEWSPAPER RELEASES

During the past fiscal year, 52 weekly articles were released in clip sheets, each covering a six weeks' period. From July 1, 1933, with 390 newspapers, syndicates, writers and correspondents on the mailing list, the number had grown to 478 on June 30, 1934, all of the increase being added by request.

From the most recent clipping service report available, it was found that the Clip Sheet Series No. 13, which covered the six weeks' period of March 26 to April 30, 1934, was published in 136 cities by 193 newspapers, with a total circulation of 2,021,580 for each issue. Expressed in terms of entire coverage for Clip Sheet No. 13, which included two articles for each of the six weeks, the coverage circulation was 24,258,924.

LEAFLETS

During the past year, no new leaflets on New Jersey products were prepared, but 20,450 of the previous year's editions were distributed. These were publications devoted mostly to milk and eggs and the general consumers' booklet, "Healthful Foods—How to Buy Them." In addition, 28,500 copies of "Snappy Milk Drinks" were distributed in June, 1934.

RADIO TALKS

Seven 15-minute radio talks on New Jersey products were given over Station WOR. The cooperation of that station in making available its facilities is greatly appreciated.

MISCELLANEOUS

Exhibits of New Jersey products were prepared for the Trenton Fair and for women's meetings at Trenton, Camden and Newark. The bureau used charts and material referred to under the project heading "Fruit and Vegetable Marketing" as a means of illustrating the need of information on canned goods. Several demonstrations were given before women's organizations and granges during the past fiscal year. During these demonstrations, the importance of the canned goods industry of the state and the wide variety of products canned in the state were emphasized.

The field for the consumers' information service is unlimited, and the response of consumers, distributors and producers indicates that expansion of the program is desirable as a means of promoting interest in New Jersey farm products.

FRUIT AND VEGETABLE MARKETING

In its fruit and vegetable marketing activities, the Bureau of Markets endeavored to render assistance to growers and shippers in improving marketing methods, developing better quality and pack, obtaining new outlets and wider distribution, and promoting consumer demand for New Jersey products. The standardization program was furthered by the maintenance and expansion of comparatively new services, under which relations were established with a larger number of producers than ever before. Much of this involved the certification of quality on the basis of official New Jersey standards at auction markets, at other shipping points, and at canneries.

STANDARDIZATION

Again, as in former years, the Bureau of Markets in developing its fruit and vegetable marketing work felt that the greatest need was improvement in uniformity and quality of commodities offered for sale. More and more each year, buyers, especially those who purchase heavily in distant markets, are demanding a separation of commodities into distinctly graded lots. The same buyers demand uniformity in packages, uniformity in varieties, quality, maturity, and sizes. This is especially true of the buyers for chain stores, which are handling an increasing amount of New Jersey's perishable produce business annually. The same qualities are required by canneries in purchasing their supplies from producers. Meeting these requirements to the satisfaction of the various classes of buyers is the aim of the bureau's standardization project. The following pages describe in detail the standardization work in fruits and vegetables and the results obtained.

INSPECTION OF CANNERY TOMATOES

Four New Jersey canners continued to use the type of contract for tomatoes adopted in 1932, whereby all loads delivered were bought on the basis of official New Jersey grades. The determination of the quality of each load was made by federal-state inspectors in the employ of the Bureau of Markets and paid from fees. By this method, which gives the producer and the canner a certificate on each load of tomatoes indicating the percentage of *No. 1's*, *No. 2's* and *Culls*, a specific value is placed on each delivery. This service was provided at the canning plants of the Campbell Soup Company, Camden; the P. J. Ritter Company, Bridgeton; E. Pritchard, Inc., Bridgeton, and Fogg and Hires, Salem.

NINETEENTH ANNUAL REPORT

73

The volume of tomatoes delivered to all canneries was greatly reduced by the tropical storm occurring just after the middle of August; the tonnage obtained on contract and inspected during the 1933 season was only 40 per cent of that so purchased and inspected during the 1932 season. A total of 25,411 loads, comprising 62,979.5 tons, were inspected. The average quality for the season was 52 per cent *U. S. No. 1's*, 44 per cent *U. S. No. 2's*, and 4 per cent *Culls*. In other words, the general quality was slightly lower than in the season of 1932. This quality resulted in an average price for the season of \$13.46 per ton. A record of the daily volume and average daily quality is shown in the following table:

DATA ON CANNERY TOMATO INSPECTIONS AND
AVERAGE DAILY QUALITY

Season of 1933

Date	Number of Loads Inspected	Tons Inspected	Per Cent		Culls	Average Daily Price
			U. S. No. 1	U. S. No. 2		
Aug. 3	41	43.7	54	41	5	\$13.52
4	20	14.1	47	47	6	12.90
5	16	19.7	49	45	6	13.05
7	3	1.3	56	37	7	13.47
8	33	65.4	49	48	3	13.35
9	107	271.2	58	39	3	14.02
10	230	537.2	60	37	3	14.17
11	289	708.3	59	39	2	14.20
12	242	595.2	61	37	2	14.35
14	287	785.3	63	35	2	14.50
15	507	1,368.6	60	38	2	14.27
16	809	2,188.3	61	37	2	14.35
17	794	2,079.4	62	35	3	14.32
18	602	1,563.6	63	34	3	14.40
19	435	1,134.9	62	35	3	14.32
21	369	1,042.8	63	34	3	14.40
22	184	506.4	55	42	3	13.80
23	337	904.5	52	45	3	13.57
24	486	1,151.1	50	46	4	13.32
25	1,276	3,123.4	43	53	4	12.80
26	1,006	1,824.7	41	54	5	12.55
28	396	755.6	39	56	5	12.40
29	509	1,013.8	39	57	4	12.50
30	527	1,199.4	44	52	4	12.87
31	757	1,863.7	45	51	4	12.95
Sept. 1	1,089	2,961.5	50	47	3	13.42
2	1,086	2,960.3	54	43	3	13.72

STATE DEPARTMENT OF AGRICULTURE

Date	Number of Loads Inspected	Tons Inspected	Per Cent		Culls	Average Daily Price
			U. S. No. 1	U. S. No. 2		
4	789	2,184.1	49	47	4	13.25
5	1,335	3,675.0	54	43	3	13.72
6	1,506	4,147.3	54	43	3	13.72
7	1,805	4,645.4	53	42	5	13.45
8	1,829	4,940.4	53	42	5	13.45
9	1,151	2,927.7	52	44	4	13.47
11	695	1,901.1	52	45	3	13.57
12	782	1,834.0	44	52	4	12.87
13	573	1,342.9	50	47	3	13.42
14	515	1,162.7	39	56	5	12.40
15	198	389.3	42	53	5	12.62
16	100	178.2	38	57	5	12.32
18	233	533.2	36	58	6	12.07
19	385	668.4	36	56	8	11.87
20	287	437.0	42	49	9	12.22
21	124	186.7	45	47	8	12.55
22	111	169.6	43	50	7	12.50
23	78	143.9	44	51	5	12.77
25	57	100.8	55	41	4	13.70
26	125	224.1	54	42	4	13.62
27	97	184.6	56	39	5	13.67
28	84	137.4	51	43	6	13.20
29	43	79.4	51	43	6	13.20
30	21	39.9	45	48	7	12.65
Oct. 2	21	22.3	38	52	10	11.82
3	30	40.6	49	44	7	12.95
Totals or Averages						
1933	25,411	62,979.5	52	44	4	13.46
1932	56,738	151,140.5	58	39	3	16.20

INSPECTION OF CANNERY ASPARAGUS

Contracting for cannery asparagus on the basis of official state grades, which was started in the spring of 1933, was increased considerably during the 1934 season. In addition to the Edgar F. Hurff Company, of Swedesboro, which first contracted on this basis and which expanded the acreage under contract during the past fiscal year, the P. J. Ritter Company, of Bridgeton, began canning asparagus and likewise bought the raw material on grade. All deliveries were inspected and graded by representatives of the bureau. The original standards were revised slightly to meet the local conditions more practically, and the revision was duly approved and adopted by the State Board of Agriculture prior to the cutting season. The method of contracting on grade was considered by the cannerymen and practically all of the growers as the fairest system possible.

NINETEENTH ANNUAL REPORT

75

The contract season of 1934 extended from May 2 to July 5. During this period, the bureau issued certificates on 4,526 loads, which represented an aggregate weight of 2,605,320 pounds of cannery asparagus. Quality varied considerably during the season because asparagus is a product which quickly reacts to weather conditions. The best asparagus was delivered during May. Warmer weather in June resulted in smaller spear diameter and some increase in cull stock due to branching tips.

ASPARAGUS INSPECTED AND AVERAGE QUALITY

Week Ending	Loads	Pounds	Large %	Medium %	Small %	Culls %
May 5	59	35,613	37	52	4	7
12	562	439,132	43	48	2	7
19	497	294,277	43	48	2	7
26	508	308,624	40	51	3	6
June 2	494	344,696	39	52	3	6
9	603	350,117	37	50	3	10
16	584	254,297	32	55	12	8
23	531	272,195	30	61	4	5
30	491	219,899	30	57	7	6
July 5	197	86,470	32	56	8	6
1934 Season	4,526	2,605,320	37	53	3	7
1933 Season	1,934	900,000*	34	52	5	9

* Approximate volume.

INSPECTION AT AUCTION MARKETS

At the request of buyers and auction market officials, the bureau initiated a new type of inspection service at the Cedarville Auction Market. This consisted of line and check inspection, whereby all loads going to the auction block were inspected prior to sale and a grade established; the loads were then reinspected at the time of delivery to the car, truck or platform to check on the grade in previously inaccessible packages. This service was paid for by the buyers and the charge for it could not be deducted from the farmer's invoice. Buyers were given some basis on which they could determine values. The work proved especially helpful on strawberries and onions. Buyers filling No. 1 orders were able to buy lots with confidence. This resulted in largely eliminating conditions which previously would frequently result in rejection or adjustment at the terminal market. Through the bureau's inspection service both quality and pack made a noticeable improvement, which had a beneficial effect on the market in general.

The volume of products inspected at the Cedarville Auction Market is given below:

Product	1933 Season	1934 Season
Strawberries, crates	33,674	27,717
Peas, bushels	630	*
Beans, bushels	110,562	*
Onions, sacks	99,765	*
Lima beans, bushels	56,126	*
Peppers, bushels	16,425	*

* Not ready for harvest at end of fiscal year, June 30, 1934.

A study was made at the close of the season to measure in definite terms the value of the inspection service at the Cedarville market. Buyers were most interested in quality determinations on onions, and the practice developed of selling this product on the basis of quality more so than on any other commodity. Also, the notation of the grade of each lot on each sales ticket gave an accurate basis on which such a study could be made and results measured.

The facts definitely showed that during the entire onion season of 1933, at Cedarville, *U. S. No. 1* stock sold each week at a premium over onions which, according to the line inspection, were below the requirements of the *U. S. No. 1* grade. The average price for the season of *U. S. No. 1* stock was \$1.02½ per 50-pound sack; that of below grade lots was \$.94½. There was a premium for *No. 1*'s of eight cents per sack. Many growers felt that with a normal crop of onions this spread more than justified the expense of proper grading and handling. Of the 90,471 sacks of onions inspected at this market, 62 per cent graded *U. S. No. 1*; an additional 35 per cent were just slightly below the grade requirements, indicating that with only a little more care practically all of the onions sold could have been of straight *U. S. No. 1* quality.

The following table presents comparative data for *U. S. No. 1* grade and below-grade onions at the Cedarville market by weeks during the 1933 season:

	June 26- July 1	July 3-8	July 10-15	July 17-22	July 24-29	July 31- Aug. 2	Season
Sacks <i>No. 1</i>	5,082	21,545	23,676	4,539	925	395	56,162
Sacks below grade	2,892	5,496	11,725	10,972	2,576	841	34,309
Av. price <i>No. 1</i>	\$1.25	\$1.06½	\$.96	\$.95	\$.91½	\$1.02½	\$1.02½
Av. price below grade....	1.19	1.05½	.90	.89	.89½	.99½	.94½
Premium for <i>No. 1</i>	6¢	1¢	6¢	6¢	4¢	3¢	8¢*
Percentage of <i>No. 1</i> 's de- livered	64%	80%	67%	29%	26%	32%	62%

* Although the season average of eight cents per sack for *U. S. No. 1*'s is greater than the premium shows for any individual week, this is explained by the fact that the majority of *No. 1* stock sold during July 3 to 15, when prices of *No. 1*'s were relatively high (averaging \$1.01 for this two-week period), and the majority of below-grade stock sold during July 10 to 22, when below-grade prices were relatively lower (averaging \$.89½ for this two-week period).

NINETEENTH ANNUAL REPORT

77

The bureau was called upon to provide inspection service of a different nature at several other auction markets. At Beverly, an inspector checked loads for honest packing, and was looked upon as the authority in adjusting differences between producers and buyers. Similar service was performed at the Glassboro and Swedesboro auction markets. At the Hammon-ton Peach Auction, the type of service performed varied from that at other auctions in that usually only samples were brought in to the auction block; the inspection service was, therefore, depended upon to see that the lot which the sample represented, and which was being packed on the farm at the time the sample was offered, reasonably conformed with that sample. The educational work done in conjunction with the inspection duties at all these markets had a beneficial influence in improving quality and pack.

SHIPPING-POINT INSPECTIONS

In addition to the inspection of products at auction markets, inspections of fruits and vegetables were made at other shipping points in the state. These were usually made at the request of farmer-shippers, and were mostly on apples for both domestic and export sale. A total of 42,282 bushels of apples were inspected and certified, principally in the fall months of 1933; of this amount, 11,413 bushels were shipped to foreign markets and 30,869 bushels were for domestic sale. The volume of apples exported was only one-fifth of the amount sent to foreign markets during the previous year, because unfavorable prices existed most of the time.

RECORD OF INSPECTIONS BY MONTHS, 1933-1934

Product	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Apples	17	28	21	12	5	2	1	5	..	..	..	..	91
Beans	90	29	..	..	..	..	..	..	..	..	..	43	162
Corn	1	..	..	..	..	..	..	..	..	..	..	..	1
Lima beans	33	42	..	..	..	..	..	..	..	..	..	..	75
Mixed fruit .....	..	1	..	..	..	..	..	..	..	..	..	..	1
Onions	195	..	..	..	..	..	..	..	..	..	..	28	223
Peaches .....	..	2	..	..	..	..	..	..	..	..	..	..	2
Pears .....	..	1	4	..	..	..	..	..	..	..	..	..	5
Peas .....	..	..	..	..	..	..	..	..	..	..	..	20	20
Peppers	7	11	..	..	..	..	..	..	..	..	..	..	18
Potatoes	4	16	..	..	..	..	..	..	..	..	..	..	20
Spinach .....	..	..	..	..	..	..	..	..	..	..	1	..	1
Strawberries ..	..	..	..	..	..	..	..	..	..	..	..	125	125
Totals	347	130	25	12	5	2	1	5	..	..	1	216	744

All growers, shippers, buyers or canners applying for fruit and vegetable inspection were charged a moderate fee for the service in order to provide funds for its operation on a self-supporting basis. The fees charged for this work during the fiscal year totaled \$11,050.47.

The following table of carlot inspections is of special interest in that a study of it will show for which commodities shippers asked inspection. In years when outside markets are good, inspections are requested. This was true especially for beans and onions during the summer of 1933. The table also shows the increasing popularity of inspections and the increasing use of standard grades for many fruits and vegetables not inspected five years ago.

TEN-YEAR RECORD OF INSPECTIONS, BY PRODUCTS

Product	'24-'25	'25-'26	'26-'27	'27-'28	'28-'29	'29-'30	'30-'31	'31-'32	'32-'33	'33-'34
Apples	147	124	..	25	13	1	549	168	230	91
Beans .....	..	..	..	..	..	..	11	33	40	162
Celery .....	..	..	..	..	..	..	..	..	1	..
Corn .....	..	..	..	..	..	..	..	..	..	1
Lima beans .....	..	..	..	..	..	..	..	..	..	75
Mixed fruit .....	..	..	..	..	..	..	..	11	9	1
Onions .....	..	..	..	..	..	..	2	16	30	223
Peaches	443	245	188	154	..	83	4	24	2	2
Pears	2	..	..	..	..	..	29	14	15	5
Peas .....	..	..	..	..	..	..	4	..	1	20
Peppers .....	..	..	..	..	..	..	..	..	..	18
Potatoes	77	27	423	757	789	312	911	217	10	20
Spinach .....	..	..	..	..	..	..	..	..	..	1
Strawberries .....	..	..	..	..	..	..	47	23	152	125
Sweet potatoes .....	..	..	..	..	..	1	..	6	..	..
Totals	669	396	611	936	802	397	1,557	512	490	744

RECEIVING-POINT INSPECTIONS

Thirteen cars of inbound fruits and vegetables were inspected in or near Trenton at the request of receivers who desired an impartial and accurate report as to condition or quality on arrival, whereby satisfactory adjustments could be made with shippers or carriers. Five of these cars were potatoes, both table and certified seed stock; the remainder consisted of one car of tomatoes and seven cars of apples. Straight federal certificates were issued on all these inspections.

OTHER INSPECTIONS

A number of inspections of apples were made in cold storage plants to determine whether or not the fruit conformed with the official state grades as marked on the packages. The use of such grades is optional with the grower, and may be used without shipping point inspection, but when used, the stock in question must meet the specified requirements. The inspections made indicated that a minor proportion of the lots failed to meet the standards, and the owners were notified of this failure.

NINETEENTH ANNUAL REPORT

79

Some growers of sweet corn marketed a portion of their crop in crates branded with the official New Jersey grade for this product. Through the bureau's inspection service at Beverly, a part of these shipments were examined at the shipping point; other lots were inspected at intervals on the New York market, and offending growers were warned of their violations.

DEMONSTRATIONS AND EXHIBITS

A number of demonstrations and exhibits were set up at meetings indicating various features of fruit and vegetable grading and standardization. They were as follows:

- SWEDESBORO:** A demonstration of proper packing of market tomatoes was given to assist growers in developing a new package for this product.
- VINELAND:** The summer meeting of the New Jersey State Horticultural Society offered an opportunity to acquaint growers further with defects barred from official grades on important seasonal products.
- TRENTON:** Cannery tomato grading demonstrations and an exhibit of various New Jersey canned products were featured by the bureau in its Trenton Fair exhibit.
- TRENTON:** Standardization and package features of interest to consumers and producers were presented in the bureau exhibit at the New Jersey Farm Show.
- TRENTON:** Twenty-two students from 12 vocational agricultural schools demonstrated skill in apple packing in a contest held as a part of the Farm Show.
- NEWARK-TRENTON:** Demonstrations on the quality of canned foods were given to various groups of consumers, including the Joint Committee on Economic Food Distribution in New Jersey, the New Jersey Federation of Women's Clubs, and the Mercer County Homemakers.

SHIPPING-POINT MARKETS

Auction markets at points in producing areas in the state continue to hold the most prominent place in marketing activities. By means of the auction markets more people have been directly benefited by the bureau than by any other of its activities. The bureau cooperated with ten auction markets during the past fiscal year. Two of these are markets established during the year. The first of the new ones to be established was the Swedesboro Auction Market, which was organized at the close of the previous year and was operated by the Gloucester County Agricultural Cooperative Association. The market was managed by the personnel of the Glassboro market, which is also operated by the Gloucester County association. A separate committee of the association supervised the Swedesboro market.

The second market established in the past fiscal year was the Hammon-ton auction for berries. For many years the town of Hammonton has operated a municipal street market, chiefly for berries, including straw-berries, raspberries, blackcaps, blueberries, dewberries, and blackberries. The bureau has assisted the municipal authorities for several years in supervising the market sales.

In June, 1934, the municipal authorities appointed a member of their market committee to work with the county agricultural agent and a repre-sentative of the bureau to organize the street market into a market of the auction type. This radical shift was accomplished with considerable mis-givings on the part of many people interested. During the first two or three days' sales some opposition from a few buyers was evident, but by the end of the first week it was seen that the new market was to be suc-cessful. During the few days, six in all, that the market operated at the close of the fiscal year, 4,624 crates of berries were sold for the sum of \$19,944.32. Inasmuch as this record is not comparable with sales on the other nine markets, they are reported separately.

The nine auctions which completed a season are reported upon in the accompanying table for the operating season of 1933. In computing the value of such markets, it is found impractical to report total sales for a fiscal year. One of the nine reported opens in April, four open in June, and four in July of each year. In the table are shown where possible the average number of packages for each sale made and the average price per package. The last two columns indicate the size of the loads at the markets, and, by the price obtained, indicate the average value of the commodities offered at the market. Higher prices indicate that a considerable volume of berries or fruit is offered at the particular market.

SUMMARY OF FRUIT AND VEGETABLE AUCTION MARKETS

Season of 1933

Market	Sales	Number of Packages Sold	Value of Sales	Average No. of Pkgs. per Sale	Average Price per Pkg.
Cedarville	15,668	383,726	\$390,917.40	24.5	\$1.02
Vineland	14,343	178,188	88,355.13	12.4	.50
Rosenhayn	4,810	58,596	60,640.24	12.2	1.03
Landisville .....	.....	315,736	117,666.64	....	....
Glassboro	18,669	424,883	173,597.08	22.8	.41
Swedesboro	3,948	128,853	59,346.93	32.6	.46
Hightstown	19,947	337,992	183,621.01	17.0	.54
Beverly .....	.....	173,852	87,891.00	....	....
Hammonton *	798	62,229	81,039.26	78.0	1.30
Totals		2,064,055	\$1,243,074.69		

* The Hammonton auction in 1933 sold peaches only.

NINETEENTH ANNUAL REPORT

81

In order to determine the actual value of the auction method of selling in terms of dollars and cents to those using the markets, the bureau in former years prepared tables listing important commodities offered for sale, and, using New York City quotations for comparison, showed the difference obtained by selling under the new method of shipping point auction over the old method of consignment to a big market center. For this report the bureau selected two markets: the Cedarville market, which is the auction that has operated the greatest number of years; and the Hightstown market, which is reported upon for its first year. In these two studies, the profit and loss columns indicate that for one year, at least, buyers as well as growers are not as well acquainted with market conditions as they become with greater experience. The tables also show that, as the market grows older and increases its business, the selling charges may be decreased.

SUMMARY OF SALES OF SIX PRINCIPAL CROPS AT
CEDARVILLE AUCTION MARKET

Season of 1933

Product	No. of Packages	Net Value at Cedarville	Net Value at New York	Profit	Percent Profit	Selling Charges at Cedarville
Strawberries ...	33,893	\$61,619.73	\$55,017.61	\$6,602.12	12.1	\$437.17
Peas	8,914	6,133.81	5,428.15	705.66	12.7	89.14
Onions	103,527	97,288.03	87,646.87	9,641.16	10.8	1,035.27
Snap beans	134,879	128,871.34	111,095.95	17,775.39	15.7	1,349.80
Peppers	22,866	7,249.35	6,838.67	410.68	5.7	228.66
Lima beans	58,580	71,314.17	56,968.59	14,345.58	21.0	648.62
Totals ...	362,659	\$372,476.43	\$322,995.84	\$49,480.59	...	\$3,788.66

Selling costs averaged about 1 per cent of gross sales.

Gross sales of all commodities on this market totaled 383,726 packages selling for \$390,917.40.

SUMMARY OF SALES OF EIGHT PRINCIPAL CROPS AT
HIGHTSTOWN AUCTION MARKET

(Tri-County Cooperative Auction Market Association, Inc.)

Season of 1933

Product	No. of Packages	Net Value at Hightstown	Net Value at New York	Profit or Loss	Per Cent Profit or Loss	Selling Charges at Hightstown
Apples	20,875	\$14,256.29	\$13,976.57	\$279.72	.02	\$440.29
Strawberries ..	2,275	3,760.16	4,042.69	-282.53	-.07	120.00
Beans, green...	21,072	18,320.80	18,698.89	-300.69	-.016	566.62
Sweet corn....	34,369	23,853.20	21,475.39	2,377.81	.11	737.73
Peas	2,102	1,503.29	1,022.41	490.88	.48	46.49
Potatoes	21,136	45,419.86	39,754.03	5,665.83	.14	1,404.74
Tomatoes	37,508	16,610.00	12,649.89	3,960.11	.31	651.22
Cabbage	15,743	7,751.11	9,621.76	-1,870.65	-.19	239.72
Totals	155,080	\$131,474.71	\$121,241.63	\$10,320.48	..	\$4,206.81

Selling costs during the first year averaged about 3.2 per cent of gross sales.

Gross sales of all commodities on this market totaled 337,992 packages selling for \$183,621.01.

In order to further show the value of the shipping point auctions in a marketing plan for the state, the following table has been prepared to indicate the growth in business transacted at New Jersey farmer-owned auction markets over a period of six years. This table indicates the confidence that is being built up in fruit and vegetable auction markets.

Year	Packages	Gross Sales
1928	160,656	\$274,711.09
1929	246,925	455,532.98
1930	594,062	816,712.08
1931	902,637	839,604.32
1932	1,311,929	937,417.94
1933	2,064,055	1,243,074.69
Totals	5,280,264	\$4,567,053.10

CITY COOPERATIVE MARKETS

PATERSON MARKET

In the report for the 1932-1933 fiscal year, the outstanding development in city market work reported upon was the organization of the Paterson Market Growers' Cooperative Association, Inc., and the development by that cooperative of the Paterson Farmers' Market. In reporting accomplishments of cooperatives having the calendar year for their fiscal year, it is necessary to confine the report to that period of time. Therefore, in commenting on the progress of the Paterson market, the calendar year 1933 is used.

During 1933, the Paterson market was operated most successfully. According to the report at the annual meeting, 14,233 farm loads were sold during the year to an estimated total of 125,000 customers. The value of sales on the farmers' market was \$850,000. The market was operated during the year at a cost of \$12,875. According to the auditor's statement, the gross profit of the year's operations was \$17,864.46. Allowing for depreciation on buildings, sheds, etc., \$2,972.23 was set aside, making the net profits to the corporation \$14,892.23. The paid-in shares of stock of the corporation totaled 1,679 at the close of the fiscal year of the corporation. In 1933, the market made considerable growth. Starting with a small block of commission houses and offices, the corporation now owns 40 stores. Some privately-owned commission houses have been built on convenient sites.

NEWARK MARKET

The farmers' cooperative association owning the Newark market completed its third successful season. The Bureau of Markets has been called upon on several occasions to advise the association on problems of operation,

NINETEENTH ANNUAL REPORT

83

and, especially during the past year, on problems which arose because of the NRA.

At the close of the fiscal year of the corporation, December 31, 1933, the corporation showed in its annual statement a strong financial condition, with proper reserves set up for depreciation, improvements, etc., and total assets of \$408,782.78. The liabilities include the usual items, the largest of which are mortgages, stock issued, and the surplus item of more than \$71,000.

HACKETTSTOWN MARKET

At the end of June, 1933, a market was opened at Hackettstown, as mentioned in the report for the 1932-33 fiscal year. This market, operated by the agricultural committee of the Kiwanis Club of that town, continued to operate throughout the summer. The market was small and not well supported by farmers. The few who sold there stated that they considered the outlet valuable to them. Aside from occasional visits, the bureau had little to do with this market.

MUNICIPAL MARKETS

Even though the market masters received no compensation for the additional work involved, the bureau received complete reports on the operations of the municipal markets at Hammonton, Atlantic City and Trenton. The markets were compensated only by such advice as the bureau was able to give. Bureau representatives were called on frequent occasions to help on the Atlantic City and Hammonton markets, especially. A summary of the year's activities on these markets is found in the following table:

MUNICIPAL MARKETS

July 1, 1933-June 30, 1934

Market	Bushels or Packages of Produce	Dozens of Eggs	Pounds of Poultry	Pounds of Pork	Value of Sales
Atlantic City	400,913	195,352	72,960	1,435	\$490,108.00
Trenton	327,530	59,565	200,885	....	383,899.00
Hammonton	76,278	.....	.....	....	196,189.95
Totals	804,721	254,917	273,845	1,435	\$1,070,196.95

SPECIAL SERVICES

POTATO MARKETING

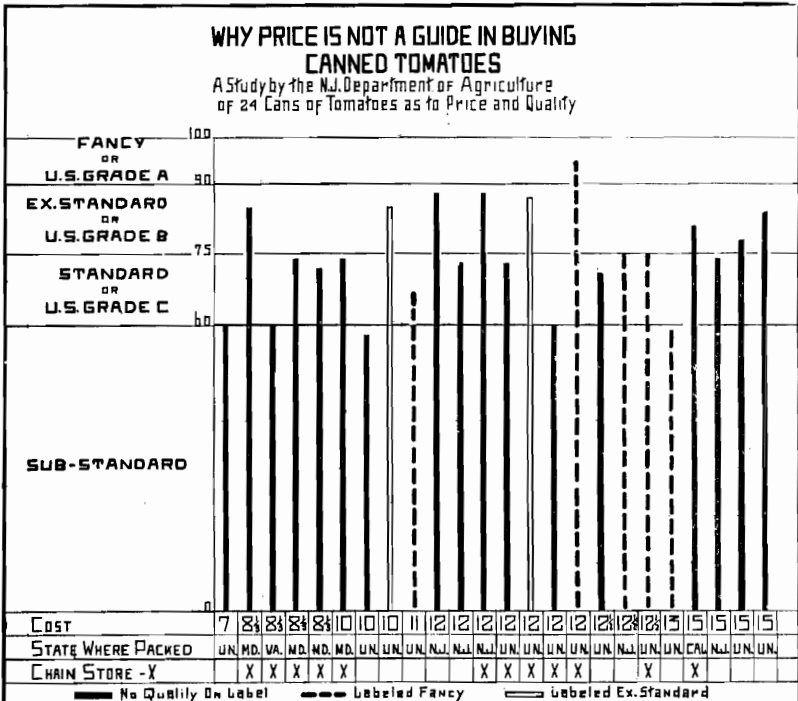
Following the disastrous 1932 potato marketing season, the New Jersey State Potato Association made a serious attempt to coordinate the sales agencies for potatoes in the state and to work out a solution to the problem faced. The bureau cooperated closely with the secretary of that association and aided in organizing the Potato Sales Company, which was composed of about fourteen dealers located in central New Jersey. The bureau also incorporated the committee of producers interested in the project as the

“Central Jersey Cooperative Potato Association, Inc.” The work for the 1933 season was most successful. The Potato Sales Company sold through its one office 1,358,460 100-pound bags of potatoes and received for those potatoes \$2,785,215.19. The total cost of operating the central office was \$15,251.56, which included a telephone and telegraph bill of \$4,949.83, and a distribution account of several thousand dollars.

CONSUMER EDUCATION

An unusual piece of work, and one of much interest to consumers, was a study dealing with the relation between price and quality of canned foods. The basis of this study consisted of purchasing 24 brands of tomatoes canned in six states, in various types of retail stores throughout the state, and analyzing them according to federal standards of quality. The results of this investigation indicated that price was not a reliable guide in the purchase of canned tomatoes, and inferentially, other canned foods. This was further substantiated by a similar study on another canned product in Maryland.

The results of the bureau's tomato study were summarized in graph form and effectively used at several large meetings of consumers. This study and these meetings laid the ground work for further interest in grades and standardization of canned foods on the part of consumers. A reproduction of the chart presenting the findings of the study follows:



NINETEENTH ANNUAL REPORT

85

REVIEW—PURCHASE OF 24 CANS OF TOMATOES

as to

PRICE PAID, GRADE AND LABELING

U. S. "A" OR FANCY			U. S. "B" OR EXTRA STANDARD		
No. of Cans	Price (Cents)	Labeled	No. of Cans	Price (Cents)	Labeled
1	12	Fancy	1	8 $\frac{1}{3}$	No grade
			1	10	Ex. Std.
			2	12	No grade
			1	12	Ex. Std.
			3	15	No grade
			Average price	12.4 cents.	
U. S. "C" OR STANDARD			SUB-STANDARD		
No. of Cans	Price (Cents)	Labeled	No. of Cans	Price (Cents)	Labeled
2	8 $\frac{1}{3}$	No grade	1	7	No grade
1	10	No grade	1	8 $\frac{1}{3}$	No grade
1	11	Fancy	1	10	No grade
2	12	No grade	1	12	No grade
1	12 $\frac{1}{2}$	No grade	1	13	Fancy
2	12 $\frac{1}{2}$	Fancy			
1	15	No grade			
Average price	11.4 cents.		Average price	10.1 cents.	

PUBLICITY

The fruit and vegetable auction markets with which the bureau cooperates were given special publicity both at the opening of the season and again during the height of the selling period. This took the form of advertising letters sent to the wholesale buying trade in the East, but principally in New Jersey and four or five neighboring states. A total of more than 1,500 advertising letters were sent to desirable members of the trade.

POULTRY PRODUCTS MARKETING

In poultry standardization and poultry marketing, the Bureau of Markets continued in full the lines of work established in former years and added to them other standardization and marketing services to make a balanced program rendering the greatest possible service to producers, distributors and consumers. The program for the standardization and marketing of baby chicks, hatching eggs and breeding stock was continued under the same rules and regulations, and in exactly the same way, as in the past. The distribution of the poultry work of the bureau was practically the same as in previous years, service having been rendered in nearly

all counties of the state. The volume of work in these counties was but slightly less than in the preceding fiscal year.

The bureau had under supervision, during the past fiscal year, hatcheries with a capacity of approximately 600,000 eggs. These hatcheries produced, during the baby chick season, approximately 1,000,000 chicks for distribution. *Record of Performance* inspections were continued in about the same volume. The program of standardization, which has been continued for nine years, has resulted in a generalized practice throughout the state of inspection and testing. While the bureau's standardization work does not show a general increase, the same program is being carried out by most of the large breeders and hatcheries in the state on a private basis. This means that many thousand more baby chicks of approximately the same quality as those produced under the bureau's supervision are being sold to New Jersey poultry producers. This has had a tendency to raise the general quality of all chicks produced within the state.

The egg and live poultry auction markets, which were developed in previous years with the aid of the bureau, continued to operate successfully during the past fiscal year. There was an increase of about one-third in the volume of business transacted by them. It is estimated that the poultry producers of New Jersey are now selling approximately 70 per cent of their volume cooperatively. This is a far greater proportion than that of any nearby state. This cooperation has returned a large additional profit to the poultrymen, and has made it possible for the Bureau of Markets to work much more effectively with the poultry industry than it otherwise could. The selling charges were practically the same as in previous years, and the increased confidence of producers in auction selling was strikingly evident.

Two mergers of cooperative organizations took place during the past year: one, the union of the Sunshine Club with the Quality Egg Club, both of Vineland, which resulted in the production of these two clubs being sold by one manager; and the other, a merger of the Cooperative Egg Auction Association of South Jersey, Inc., with the Vineland Poultry Association.

The total amount of eggs available for sale from New Jersey flocks by cooperatives is normally about 235,000 cases. The egg auction markets sold more than 144,000 cases of eggs during the year. It is the expectation of the Bureau of Markets that during the 1934-35 fiscal year a much greater proportion of the total will be sold through the markets established and supervised by the bureau.

The preceding few paragraphs give the high lights of the bureau's poultry products marketing program. The developments in each branch of the project program are given in detail in the following pages.

NINETEENTH ANNUAL REPORT

87

AUCTION MARKETS

The sale of poultry and eggs through auction markets increased approximately one-third during the year. Distribution of service by the different associations changed to some extent with the addition of one new market at Hightstown. The membership chart, included herein, indicates how completely service is rendered to the poultry industry. One of these markets is within reach of every producer, and producers may choose which market they wish to patronize.

AUCTION MARKET MEMBERSHIP, BY COUNTIES

County	Flemington Auction	Burlington Auction	Vineland Auction	Paterson Auction	Hightstown* Auction	Totals
Atlantic .....	..	..	86	..	..	86
Bergen .....	..	..	..	56	..	56
Burlington	23	632	4	..	3	662
Camden .....	..	16	44	..	..	60
Cape May .....	..	..	46	..	..	46
Cumberland .....	..	..	332	..	1	333
Essex	2	..	..	7	..	9
Gloucester .....	..	..	111	..	1	112
Hudson .....	..	..	..	..	..	..
Hunterdon	1,076	..	..	..	..	1,076
Mercer	105	2	..	..	54	161
Middlesex	19	1	..	1	32	53
Monmouth	6	3	..	..	59	68
Morris	16	..	..	54	..	70
Ocean	3	7	..	1	4	15
Passaic	1	..	..	102	..	103
Salem .....	..	1	54	..	..	55
Somerset	138	..	..	2	1	141
Sussex	25	..	..	57	..	82
Union	4	..	..	1	..	5
Warren	144	..	..	32	..	176
Totals	1,562	662	667	313	155	3,369

* The Hightstown membership given includes poultry market membership only. This association also conducts a fruit and vegetable market.

FLEMINGTON EGG AND POULTRY AUCTION MARKETS

The Flemington Auction Market Cooperative Association, Inc., continued to set the pace for all auction markets, both in membership and volume distributed. The membership of this market increased from 1,154 at the beginning of the year to slightly over 1,500 at the end of the year.

The Flemington market during the past fiscal year led all other auctions by selling 64,744 cases of eggs, with a gross value of \$475,638.90, and by selling 21,059 crates of poultry, having a gross value of \$155,132.73. The total value of all sales through the market for the fiscal year ending June 30, 1934, was \$630,771.63. This market maintained an average for all eggs sold, regardless of size, of 24½ cents per dozen, and the total deductions for selling, grading and service charges were 5.26 per cent. This market returned to its members a total of \$30,589.86 above the highest possible quotation for the same goods on the New York City market. This quotation could not have been received for all the eggs sold if they had been sold through the New York market. This figure is given as an indication of the service of this market to its producers.

In addition to the amount of eggs that it sold, the Flemington Auction Market sold a total of 21,059 crates of poultry, with a net weight of 1,011,605 pounds. In comparing the price received with the New York City top quotation for similar grades, it is found that the market returned \$7,904.34 more than could have been obtained through the New York market. In addition to this, it is estimated that this market returned approximately 3 cents or 4 cents per pound additional to its producers, because most of the shrinkage which occurs in transit has to be assumed by the buyer.

During the year the Flemington Auction Market purchased a building and adapted it to its use. It is expected that within a very short time this building will be completely paid for and will serve as a mark of the foresight and efforts of the leadership in Hunterdon County in establishing and maintaining the auction market.

The bureau continues to work with the board of directors of the Flemington market in an advisory capacity in rendering the greatest possible service to poultry producers in this area. A cooperating inspector who inspects all eggs sold through this market is maintained at the market.

NINETEENTH ANNUAL REPORT

89

SALES ON A GRADED BASIS AT THE FLEMINGTON
EGG AUCTION MARKET

July, 1933-June, 1934

Month	Number of Cases	Gross Price Flemington	New York Quotation	Difference in Favor of Flemington
1933				
July	3,904	\$27,794.53	\$26,082.10	\$1,712.43
August	3,919	30,904.97	26,996.00	3,908.97
September	3,520	32,662.76	28,269.57	4,393.19
October	3,880	37,840.43	34,288.88	3,551.55
November	3,838	36,768.44	34,799.27	1,969.17
December	5,007	38,442.16	37,759.97	682.19
1934				
January	5,667	40,268.11	40,163.80	104.31
February	4,526	33,943.08	31,458.40	2,484.68
March	6,858	45,157.47	44,261.04	896.43
April	7,338	42,521.06	42,313.37	207.69
May	8,995	57,782.62	52,565.69	5,216.93
June	7,292	51,553.27	46,090.95	5,462.32
Totals	64,744	\$475,638.90	\$445,049.04	\$30,589.86

Grading and selling charges.....	\$25,057.86
Average price per case.....	\$7.35
Average price per dozen.....	\$0.24½
Per cent of charges to gross receipts.....	5.26

SALES AT THE FLEMINGTON POULTRY MEAT AUCTION

Month	Number of Crates	Pounds of Poultry	Gross Price Flemington	New York Quotation	Difference in Favor of Flemington
1933					
July	2,278	101,964	\$14,971.68	\$14,457.80	\$513.88
August	3,005	137,469	19,343.80	18,069.97	1,273.83
September	2,189	108,282	15,490.38	14,984.34	506.04
October	1,852	91,686	12,590.40	11,310.94	1,279.46
November	2,127	109,108	14,603.85	13,961.95	641.90
December	1,256	64,887	8,783.94	8,455.51	328.43
1934					
January	1,378	74,662	11,387.36	10,963.14	424.22
February	588	31,451	5,487.00	5,426.14	60.86
March	957	49,142	8,776.73	8,234.77	541.96
April	1,028	48,227	8,592.60	8,312.09	280.51
May	1,965	89,854	16,163.44	14,969.48	1,193.96
June	2,436	104,873	18,941.55	18,082.26	859.29
Totals	21,059	1,011,605	\$155,132.73	\$147,228.39	\$7,904.34

Selling charges	\$8,419.38
Average price per pound.....	.15½
Per cent of charges to gross receipts.....	5.42

VINELAND EGG AND POULTRY AUCTION MARKETS

The Cooperative Egg Auction Association of South Jersey, Inc., of Vineland, continued to operate successfully during the year. This association also increased its sale of eggs approximately one-third, from 43,565 cases during the fiscal year ending June 30, 1933, to 58,297 cases for the fiscal year ending June 30, 1934. The average price for all eggs sold was again the same as at the Flemington auction, or 24½ cents per dozen. The selling charges on this auction, however, were slightly lower, amounting to 4.41 per cent of the gross value of sales.

In addition to its splendid record in the sale of eggs, the Vineland association moved the Elmer Poultry Auction to Vineland and made available an auction for the sale of poultry for its members. This auction sold 7,256 crates of poultry, weighing 309,061 pounds, at an average selling cost of 4.42 per cent. This association returned to the producers of South Jersey more than \$20,000 more than what they could have obtained for the same goods on the New York City market, in addition to maintaining a stable market available at all times to the poultry producers of South Jersey.

The association also liquidated all indebtedness during the past year and, on June 1, merged with the Vineland Poultry Association, thereby increasing its membership by several hundred persons. The new association is now incorporated under the single name of the Vineland and South Jersey Cooperative Egg Auction and Poultry Association, Inc. It will carry on the educational program of the Vineland Poultry Association and will sell the products of members of the association through the auction market. This should bring about a considerable increase in the sales made by this association in the coming year.

NINETEENTH ANNUAL REPORT

91

SALES ON A GRADED BASIS AT THE VINELAND EGG
AUCTION MARKET

July, 1933-June, 1934

Month	Number of Cases	Gross Price Vineland	New York Quotation	Difference in Favor of Vineland
1933				
July	3,838	\$27,750.00	\$25,964.23	\$1,785.77
August	3,500	26,718.22	23,750.47	2,967.75
September	3,020	26,142.93	23,489.31	2,653.62
October	3,906	36,864.80	34,266.52	2,598.28
November	3,945	37,132.54	35,259.63	1,872.91
December	4,160	32,471.67	31,780.90	690.77
1934				
January	5,252	38,192.84	37,666.93	525.91
February	4,489	32,235.81	31,839.64	396.17
March	5,774	38,884.38	38,503.22	381.16
April	7,244	44,016.96	43,470.68	546.28
May	7,425	47,383.53	45,653.87	1,729.66
June	5,744	41,033.19	37,935.20	3,097.99
Totals	58,297	\$428,826.87	\$409,580.60	\$19,246.27
Grading and selling charges.....				\$18,912.74
Average price per case.....				\$7.35½
Average price per dozen.....				\$0.24½
Per cent of charges to gross receipts.....				4.41

SALES AT THE VINELAND POULTRY MEAT AUCTION

Month	Number of Crates	Pounds of Poultry	Gross Price Vineland	New York Quotation	Difference in Favor of Vineland
1933					
July	800	32,197½	\$4,000.40	\$4,012.99	— \$12.59
August	958	41,637	5,278.96	5,366.62	— 87.66
September	667	28,499	3,391.35	3,494.24	— 102.89
October	706	31,964	3,908.36	3,770.72	137.64
November	661	31,183	3,692.08	4,004.00	— 311.92
December	266	11,988½	1,362.82	1,432.87	— 70.05
1934					
January	272	12,701	1,591.93	1,726.49	— 134.56
February	154	6,400	795.47	885.00	— 89.53
March	259	12,234	1,676.11	1,850.37	— 174.26
April	474	19,614	2,730.04	2,973.99	— 243.95
May	789	30,785	4,422.23	4,725.58	— 303.35
June	1,250	49,858	7,298.59	7,704.44	— 405.85
Totals	7,256	309,061	\$40,148.34	\$41,947.31	—\$1,798.97
Selling charges				\$1,775.80	
Average price per pound.....				\$0.13	
Per cent of charges to gross receipts.....				4.42	

BURLINGTON COUNTY POULTRY AND EGG AUCTION

The Burlington County Cooperative Poultry Auction Association, Inc., of Mount Holly, also increased its service to the producers of that area during the past fiscal year. This association is primarily interested in the sale of poultry meat, but sells ungraded eggs for its members. This association built its own market during the past year and continued to serve its territory well. This particular territory is devoted largely to the production of heavy roasting chickens, eggs being a by-product, and the association has been a tremendous factor in maintaining a fair price for producers in this area, both for those selling their products through the auction market and, through establishing price quotations, for those not selling through the market.

Detailed information on the sales by this association is given in the following tables:

SALES AT THE BURLINGTON COUNTY POULTRY MEAT AUCTION

Month	Number of Crates	Pounds of Poultry	July, 1933-June, 1934		
			Gross Price Mt. Holly	New York Quotation	Difference in Favor of Mt. Holly
1933					
July	421	21,069	\$3,385.08	\$3,175.83	\$209.25
August	589	29,499	4,820.43	4,549.62	270.81
September	506	26,323	4,496.62	4,441.34	55.28
October	676	38,468	5,872.88	5,964.68	—91.80
November	746	45,561	6,473.12	6,494.88	—21.76
December	716	45,079½	6,803.84	6,737.00	66.84
1934					
January	1,006	63,034	10,125.24	10,191.32	—66.08
February	320	19,538	4,035.27	3,917.57	117.70
March	537	33,658	6,557.89	6,190.73	367.16
April	341	20,098	3,939.70	3,679.18	260.52
May	501	27,298	5,091.19	4,555.58	535.61
June	389	19,801	4,030.75	3,323.45	707.30
Totals	6,748	389,426½	\$65,632.01	\$63,221.18	\$2,410.83
Selling charges				\$3,374.00	
Average price per pound.....				\$0.168	
Per cent of charges to gross receipts.....				5.14	

NINETEENTH ANNUAL REPORT

93

SALES AT THE BURLINGTON COUNTY EGG AUCTION

July, 1933-June, 1934

Month	Number of Cases	Gross Price Mount Holly
1933		
July	127	\$945.39
August	152	1,276.91
September	140	1,163.79
October	128½	1,300.70
November	95½	926.08
December	221½	1,637.41
1934		
January	331	2,350.09
February	178	1,349.96
March	439	2,830.41
April	599	3,211.98
May	693	4,297.39
June	361	2,643.11
Totals	3,465½	\$23,933.22
Selling charges		\$1,009.95
Average price per case.....		\$6.90
Average price per dozen.....		\$0.23
Per cent of charges to gross receipts.....		4.21

PATERSON EGG AND POULTRY AUCTION MARKETS

The North Jersey Cooperative Egg Auction Association, Inc., of Paterson, had the greatest increase in volume of the poultry products auction markets during the past fiscal year. This increase was largely due to the fact that the Paterson auction was established in February, 1933, and had operated for only five months prior to the past fiscal year. This market sold approximately 13,000 cases of eggs on a graded basis and returned on this small number approximately \$10,000 more than the producers could have obtained had they received the highest quoted price on the New York City market for comparable goods.

The Paterson market maintained the highest average price for all eggs sold of the auction markets, or 25½ cents per dozen, one cent higher than either Flemington or Vineland. Its selling charges were also slightly higher than those of the other markets, requiring 5.59 per cent of the gross receipts for egg sales. The comparative highness of the charges was due to the small volume handled. The bureau expects that this market will increase its volume faster during the next fiscal year than any other of the auction markets. During the past fiscal year, the Paterson market also added the sale of poultry as a service to its producers. It sold approximately 87,000 pounds of poultry at an average price of 14¾ cents per pound.

Detailed figures on the operations of the Paterson market follow:

SALES ON A GRADED BASIS AT THE PATERSON EGG AUCTION MARKET

July, 1933-June, 1934

Month	Number of Cases	Gross Price Paterson	New York Quotation	Difference in Favor of Paterson
1933				
July	533	\$3,937.80	\$3,470.33	\$467.47
August	579	4,608.91	3,820.91	788.00
September	573	5,332.43	4,411.95	920.48
October	736	7,759.92	6,478.53	1,281.39
November	752	7,776.91	6,653.28	1,123.63
December	1,359	10,026.29	9,960.36	65.93
1934				
January	1,357	10,244.71	9,572.53	672.18
February	1,054	8,685.76	7,482.02	1,203.74
March	1,467	10,296.21	9,593.10	703.11
April	1,591	9,543.66	9,269.73	273.93
May	1,603	10,285.47	9,494.29	791.18
June	1,063	8,117.64	6,807.25	1,310.39
Totals	12,667	\$96,615.71	\$87,014.28	\$9,601.43
Grading and selling charges.....			\$5,402.21	
Average price per case.....			\$7.63	
Average price per dozen.....			\$0.25½	
Per cent of charges to gross receipts.....			5.59	

SALES AT THE PATERSON POULTRY MEAT AUCTION

July, 1933-June, 1934

Month	Number of Crates	Pounds of Poultry	Gross Price Paterson	New York Quotation	Difference in Favor of Paterson
1933					
July	132	6,170½	\$886.87	\$923.60	—\$36.73
August	253	12,123½	1,683.52	1,617.99	65.53
September	282	14,785	1,904.09	1,943.89	— 39.80
October	232	11,886½	1,485.35	1,476.73	8.62
November	217	11,410	1,541.55	1,491.78	49.77
December	76	3,722	497.01	496.49	.52
1934					
January	40	2,057	308.68	297.94	10.74
February	37	2,366½	405.52	422.07	— 16.55
March	33	1,611	261.44	249.51	11.93
April	72	3,744	676.21	620.46	55.75
May	167	7,664	1,459.70	1,292.46	167.24
June	213	9,702	1,779.27	1,713.01	66.26
Totals	1,754	87,242	\$12,889.21	\$12,545.93	\$343.28
Selling charges			\$682.15		
Average price per pound.....			\$0.14¾		
Per cent of charges to gross receipts.....			5.29		

NINETEENTH ANNUAL REPORT

95

HIGHTSTOWN EGG AND POULTRY AUCTION MARKETS

The Bureau of Markets assisted in the establishment of one additional market for eggs during the past fiscal year. This market was organized as part of the already-established fruit and vegetable market located at Hightstown and operated by the Tri-County Cooperative Auction Market Association, Inc. Because of a lack of egg and poultry production in large volume in this particular territory and the retail sales by producers in the eastern territory, it was rather difficult for this market to maintain egg and poultry sales. In fact, money was lost by the association in its endeavor to render this service.

A new building with a cellar designed for egg auction needs was under construction at the end of the fiscal year, and is expected to lessen the cost of operation. It is believed that this auction will operate quite successfully during the fiscal year ending June 30, 1935. The egg auction department was added to this market in November, 1933, and sold a total of 5,148 cases of eggs during the past fiscal year. On this small number, it was possible for this market to return a total of \$1,050.87 more to producers than they could have received had these eggs been sold on the New York City market at the highest possible quotation. The price received averaged 23½ cents per dozen for all eggs, or one cent less than the Flemington and Vineland prices.

Because of the small volume of eggs handled, the selling charges were extremely high at the Hightstown market. They amounted to 8.82 per cent of the gross receipts. With the new building and the resultant saving in rent, it is the belief of the Bureau of Markets that these charges will be reduced materially and this market will function satisfactorily and give much greater service to producers in this area.

The Hightstown auction sold poultry during November, December and January. The volume was so small, however, that this practice was not warranted and the sale of poultry was discontinued about February 1.

SALES ON A GRADED BASIS AT THE HIGHTSTOWN EGG
AUCTION MARKET

November, 1933-July, 1934

Month	Number of Cases	Gross Price Hightstown	New York Quotation	Difference in Favor of Hightstown
1933				
November	231	\$2,268.44	\$2,114.36	\$154.08
December	513	4,043.79	4,005.42	38.37
1934				
January	662	4,926.33	4,895.18	31.15
February	658	5,014.88	4,903.38	111.50
March	867	6,051.15	5,853.25	197.90
April	988	5,773.58	5,802.93	—29.35
May	818	5,064.44	4,852.42	212.02
June	411	2,986.38	2,651.18	335.20
Totals	5,148	\$36,128.99	\$35,078.12	\$1,050.87

Grading and selling charges..... \$3,188.79

Average price per case..... \$7.02

SALES AT THE HIGHTSTOWN POULTRY MEAT AUCTION

November, 1933-January, 1934

Month	Number of Crates	Pounds of Poultry	Gross Price Hightstown	New York Quotation	Difference in Favor of Hightstown
1933					
November	125	6,173	\$753.68	\$761.39	—\$7.71
December	108	4,540	523.21	564.56	—41.35
1934					
January	10	448	69.62	70.47	— .85
Totals	243	11,161	\$1,346.51	\$1,396.42	—\$49.91

Selling charges	\$113.00
Average price per pound.....	\$0.12
Per cent of charges to gross receipts.....	8.39

SUMMARY OF AUCTION MARKETS

In summarizing the service of the auction markets, it is gratifying to the Bureau of Markets to note that continued confidence is being placed in these markets. This confidence is shown by the increase in membership from 2,150 poultry producers using the various markets on July 1, 1933, to 3,369 on July 1, 1934.

It is shown in the accompanying summary chart that a total of 144,321½ cases of eggs were sold for a total of \$1,061,143.69; that these same producers sold 37,060 crates of poultry, weighing 1,808,495½ pounds, for a total of \$275,148.80, and that the total value of these products sold was \$1,336,292.49. In other words, there was an increase of approximately one-third, in both membership and volume, during the past fiscal year. It is interesting to note that the sales through auction markets gave producers a net return of \$69,298.00 above the amount they could have received had they obtained the highest quoted price on the New York City market for comparable goods, and that the charges to individual producers, as indicated by the various summaries, approximated 5 per cent of the gross, leaving approximately 95 per cent of the total price received for the product to be returned to the producers. It is gratifying to the Bureau of Markets to know that during the trying period of the past fiscal year, this money was returned in cash without any loss whatever to the poultry producers.

Very few complaints about the eggs purchased through them were made to the auction associations and no written complaints were received by the Bureau of Markets. Representatives of the bureau, however, met with buyers on various occasions to discuss the various grades of eggs so that they would have a more thorough understanding of their purchases. This resulted in a lessening of complaints and in the purchase of the *Fancy Grade* in many instances.

NINETEENTH ANNUAL REPORT

97

In order to maintain strict grading on the various markets, representatives of the bureau spent a total of 119 days in making check inspections on all markets and, for the most part, found the eggs as inspected by cooperating inspectors to meet the requirements of the grade. The bureau also made a total of 150 general inspections of the markets, making contacts with buyers and producers, and helping in every way possible to explain the service of these markets to both producers and buyers. Through publicity and otherwise, the bureau was also able to direct the attention of city buyers to the auctions as a source of supply.

SUMMARY OF EGG AND POULTRY AUCTION MARKETS

July, 1933-June 30, 1934

Market	Cases of Eggs	Value	Crates of Poultry	Pounds of Poultry	Value	Total Value	*Difference in Favor of Auctions
Flemington	64,744	\$475,638.90	21,059	1,011,605	\$155,132.73	\$630,771.63	\$38,494.20
Hightstown	5,148	36,128.99	243	11,161	1,346.51	37,475.50	1,000.96
Mount Holly	3,465½	23,933.22	6,748	389,426½	65,632.01	89,565.23	2,410.83
Paterson	12,667	96,615.71	1,754	87,242	12,889.21	109,504.92	9,944.71
Vineland	58,297	428,826.87	7,256	309,061	40,148.34	468,975.21	17,447.30
Totals	144,321½	\$1,061,143.69	37,060	1,808,495½	\$275,148.80	\$1,336,292.49	\$69,298.00

* NOTE: This difference is the amount above the top New York quotation. It is easy to realize that all eggs would not have brought the top quotation for corresponding grades if sold in New York. Therefore, it is reasonable to state that the markets returned considerably more than the figures indicate.

NINETEENTH ANNUAL REPORT

99

POULTRY STANDARDIZATION

The Bureau of Markets conducted its breeding flock standardization program along the same general lines as in former years. The volume of work in this particular project was approximately the same as in 1933, with similar distribution. The number of flocks under supervision was reduced from 153 to 124; the total number of birds from 84,991 to 71,868, and the number of hatcheries from 48 to 35. Distribution, however, remained about the same, with flocks under supervision in 16 counties.

All of the field work in connection with the poultry standardization work was handled by the regular poultry products marketing force, which made 174 flock inspections, including inspections of flock additions. Accompanying tables indicate the distribution of these flocks in their respective classes and the distribution by breeds.

CLASSIFICATION AND DISTRIBUTION OF BIRDS UNDER SUPERVISION

County	No. of Flocks	Number of Birds								Totals
		Super-vised	Super-vised Acc'd	Certi-fied	Certi-fied Acc'd	Certified Meat Production	Approved Breeding Flock (Egg)	Approved Egg Accredited	Approved Breeding Flock (Meat)	
Atlantic	2	98	251	...	...	...	...	...	...	349
Bergen	4	653	57	2,435	...	...	...	...	...	3,145
Burlington	4	662	...	...	1,795	...	...	...	1,010	3,467
Cumberland	15	1,474	...	3,154	...	...	694	1,058	355	6,735
Essex	3	...	...	1,754	...	...	83	...	78	1,915
Gloucester	4	...	...	3,381	...	...	...	...	459	3,840
Hunterdon	21	3,891	123	...	1,996	...	9,353	...	2,529	17,892
Mercer	29	2,392	78	3,684	1,541	535	...	...	376	8,606
Middlesex	7	1,466	...	...	...	233	2,849	189	...	4,737
Monmouth	2	517	539	...	...	...	...	...	...	1,056
Morris	3	3,222	...	...	...	...	...	...	...	3,222
Passaic	1	...	...	...	...	...	...	...	286	286
Salem	12	824	...	...	...	...	...	...	1,867	2,691
Somerset	9	2,617	...	...	...	39	1,017	...	...	3,673
Sussex	6	2,357	...	...	...	...	...	...	128	2,485
Warren	2	...	65	...	...	...	...	...	688	753
Totals	124	20,173	1,113	14,408	5,332	807	13,996	1,247	7,776	64,852

NUMBER OF BIRDS INSPECTED, BY COUNTIES AND BREEDS

County	No. Flocks Inspected	S. C. White Leghorns	R. I. Reds	Barred Rocks	White Rocks	White Wyandottes	Black Minorcas	Light Brahmas	C. M. P.*	A. B. F.† Egg	A. B. F.† Meat	Totals
Atlantic	2	102	49	...	...	...	205	...	...	...	...	356
Bergen	4	3,363	72	...	...	...	...	...	...	...	...	3,435
Burlington	4	2,146	...	749	...	...	...	...	...	...	1,090	3,985
Cumberland	15	5,104	...	2	1	...	...	...	...	1,828	414	7,349
Essex	3	2,033	...	...	...	...	...	...	...	121	91	2,245
Gloucester	4	3,641	...	...	...	...	...	...	...	...	578	4,219
Hunterdon	21	4,521	1,263	1,054	...	150	...	...	...	9,697	2,531	19,216
Mercer	29	5,344	1,246	2,066	166	...	...	...	629	...	377	9,828
Middlesex	7	482	...	1,438	...	...	...	...	294	2,884	...	5,098
Monmouth	2	1,119	...	...	...	...	...	...	...	...	...	1,119
Morris	3	3,556	...	...	...	...	...	...	...	...	...	3,556
Passaic	1	...	362	...	...	...	...	...	...	...	...	362
Salem	12	...	...	...	184	826	...	66	...	...	2,204	3,280
Somerset	9	2,111	211	517	...	65	...	...	46	1,133	...	4,083
Sussex	6	2,735	...	...	...	...	...	...	...	...	136	2,871
Warren	2	...	54	15	...	...	...	...	...	...	797	866
Totals	124	36,257	3,257	5,841	351	1,041	205	66	969	15,663	8,218	71,868

* *Certified Meat Production* class—not inspected for breed characteristics.

† *Approved Breeding Flock* class—not inspected for breed characteristics.

The bureau made a total of 273 sanitary inspections of breeding flocks during the hatching season to see that the rules and regulations were observed by the poultry breeders. It made 43 hatchery inspections during the same period for the purpose of checking egg size, tinted eggs, etc. Added to these figures were 475 farm visits for other purposes, such as adjusting complaints, making explanations of various kinds, collecting accounts, etc.

In addition to the field inspection work, it was necessary to maintain a complete set of records for both standardization and marketing work in order to assist poultry producers in the state in disposing of their products. These records show that reaction to the pullorum test decreased from 2.25 per cent in 1933 to 1.65 per cent in 1934. These percentages cover all birds tested. All the reactors located were removed for slaughter under the supervision of the Bureau of Animal Industry, as in former years. Of the 124 flocks inspected and tested, 33 contained less than 200 birds; 45, between 201 and 500 birds; 36, between 501 and 1,500 birds, and 10, more than 1,501 birds.

In the standard classes, 36,257 birds, or the greatest number, were Single Comb White Leghorns. Barred Plymouth Rocks were second with 5,841, and were followed by Rhode Island Reds with 3,257; White Wyandottes, 1,041; Jersey Black Giants, 969; White Plymouth Rocks, 351; Single Comb Black Minorcas, 205, and Light Brahmas with 66. In the *Approved*, or non-standard class, were 15,663 birds of egg-producing varieties and 8,218 birds of meat-producing varieties.

The eggs from flocks under supervision supplied 35 hatcheries, in whole or in part, having a total capacity of 599,109 eggs and located in 16 counties. Thirty breeder hatcheries, with a total capacity of 311,709 eggs, received their total supply from flocks under state supervision, and five commercial hatcheries, with a total capacity of 287,400 eggs, were receiving eggs from at least one breed under supervision. These hatcheries hatched a total of 916,907 chicks.

RECORD OF PERFORMANCE

Record of Performance work was carried on under the same rules as in previous years and, while curtailed to some extent, still remains the keystone of the poultry breeding industry in the state. Seven poultrymen entered the *Record of Performance* trapnest project for the year, with a total of 2,295 birds. This small number, of course, is a direct result of financial stringency, since this is the most costly part of the whole standardization program. On the other hand, this classification must be maintained in order to supply foundation stock for other breeders not similarly situated.

Because of the cost, many breeders are now employing the stagger system of keeping their *Record of Performance* breeding flocks supplied

NINETEENTH ANNUAL REPORT

103

with official record birds; that is, entering a large number of individuals once every two years instead of every year and sending a few birds to contests during the odd years. *Record of Performance* flocks require full-day inspections once monthly and a three-day inspection once annually for the purpose of weighing eggs from individuals. The ten *Record of Performance* breeders entered a total of 33 breeding flocks, containing 447 breeding females. Distribution of these flocks is shown in the accompanying table.

DISTRIBUTION AND BREEDS OF RECORD OF PERFORMANCE FLOCKS

County	Total Number of Flocks	S. C. White Leghorns	S. C. Rhode Island Reds	Number of Birds
Burlington	2	2	..	18
Cumberland	3	3	..	36
Essex	7	7	..	97
Gloucester	5	5	..	79
Hunterdon	2	2	..	27
Mercer	10	8	2	129
Morris	4	4	..	61
Totals	33	31	2	447

These flocks produced a total of 18,787 eggs, of which 16,079 were set to produce 8,592 *Record of Performance* pedigreed chicks, which in turn will produce the males heading *Certified* flocks, and in the case of exceptionally fine specimens, those heading future *Record of Performance* flocks. Of these 33 flocks, 31 were Single Comb White Leghorns and 2 Rhode Island Reds.

MISCELLANEOUS SERVICES

In addition to the marketing and standardization work connected directly with the auction markets, the Bureau of Markets endeavored to be of service to the two large egg clubs operating in the state and to individual poultry and egg producers, as well as to buyers and distributors. The two egg clubs merged under the name of the **Quality Egg Club** during the fiscal year and are marketing their products under one management, utilizing the outlets formerly used by both associations.

Close contact was maintained with the New York City egg market through personal visits to the Mercantile Exchange and to many wholesale receivers. Similar contacts were maintained for both poultry and eggs in Philadelphia. This resulted in an increased demand from both New York City and Philadelphia, and for the direct purchase by wholesale receivers of eggs from the various auctions. The bureau was also able to aid in the sale of eggs through the auctions by the publicity maintained on eggs and poultry through the various divisions of the bureau. The information supplied through the *Weekly Market Review*

was of great value in advertising the egg auctions. The newspaper quotations supplied by the office and by the auction market associations have been another direct aid.

During the past fiscal year a total of 89 poultry meetings and 61 conferences were attended by representatives of the poultry division of the bureau, and 2,893 people were addressed on poultry marketing and standardization work. Bureau representatives met with the boards of directors of the various egg and poultry auctions at every opportunity and attended many meetings and conferences with the New Jersey State Poultry Association.

The State Poultry Association was largely instrumental in the drafting of the Prall Fresh Egg Bill and in supporting this bill. As members of a committee of this association, bureau representatives were used in an advisory capacity in connection with this law and with certain other phases of the work of the State Poultry Association.

Four egg demonstrations were given during the past fiscal year and nine articles were prepared for publication. In addition to the annual circular on poultry standardization, two additional circulars were prepared; one a poultry handbook in conjunction with the Bureau of Plant Industry, and another containing suggestions for retailers in connection with the Fresh Egg Law. With the passage of the Fresh Egg Law, the bureau, at the end of the fiscal year, was setting up the inspection service for enforcement of the law, and prepared several articles of publicity.

Bureau representatives also spent considerable time and effort on the egg and poultry code for the northeastern states in order to make it more effective, and also to have some representation on the administrative committee. They sponsored an organization of all cooperatives in the northeastern states known as the Northeastern States Association of Egg and Poultry Distributors. This association includes a total of 29 cooperatives, of which 21 are egg auction markets which were established during the past four years on the same plan as the New Jersey egg auction markets. The distributors' association continued its efforts to have included in the code, grades and standards for egg and poultry products. This association united 16,000 poultry producers through their distributing associations and was very effective in its contacts with the Federal Government on codes and other favorable legislation which was proposed for the northeastern section.

Representatives of the bureau were instrumental in requiring eggs purchased for emergency relief use, to be bought and distributed according to a minimum grade. They were enabled to do this because of the appointment by the relief administration of the chief of the Bureau of Markets as consultant to the State Emergency Relief Administration for egg purchases. Better eggs were thereby supplied to needy families.

The Baby Chick and Egg Show, held during Agricultural Week, was supervised by the supervisor of the poultry project.

Report of the Bureau of Plant Industry

HARRY B. WEISS, *Chief*

STATISTICAL AND RELATED WORK

CROP REPORTS

The *New Jersey Crop Report* was issued monthly during the fiscal year with the cooperation of the crop reporters and the Bureau of Agricultural Economics of the United States Department of Agriculture.

The object of issuing this report is to furnish basic current agricultural information to farmers, farmers' cooperative associations, agricultural schools, merchants dealing in farm products, banks, insurance companies, railroads, and various agricultural agencies, located inside and outside of New Jersey. The following are the principal points covered in the reports: (1) the acreage of each commodity planted in New Jersey; (2) the yields per acre of each commodity in New Jersey; (3) the total production of each commodity in New Jersey; (4) current New Jersey prices of agricultural products; (5) current index numbers of these prices; (6) the financial condition of New Jersey farmers, as measured by the index numbers of farm prices; (7) the acreage, condition, yields per acre and total production of various agricultural commodities grown in competing states.

The December and January issues of the *Crop Report* were devoted to a detailed description of New Jersey agriculture during the 1932-1933 crop year. The April copy of the *Crop Report* contained New Jersey data on acreages, yields per acre and total production of all corn, wheat, rye for grain, buckwheat, white potatoes, sweet potatoes, all tame hay and oats from 1866 to 1933, inclusive.

DAIRY DATA

Average monthly data for the period September, 1924, to May, 1934, on the percentage of the cows in a herd that were milked, and the average pounds of milk obtained per cow milked were accumulated. The data were analyzed and published in the May issue of the *New Jersey Crop Report*. The object of the analysis was twofold: (1) To ascertain the monthly variation in the per cent of the total herd milked on New Jersey farms, and (2) to find out the monthly milk production trend on New Jersey

farms. The study showed that the highest percentage of the cows in a herd are milked in June, and the lowest in December. The average production of milk per cow milked has a marked monthly fluctuation. It reaches a peak in June and drops to the lowest level in November.

PRICES OF LIVE BROILERS

The average monthly wholesale prices on the New York City market of colored and Leghorn broilers from January, 1926, to April, 1934, were obtained from the Bureau of Markets. The data were studied to determine: (1) the months of the year during which live broilers are sold at the highest, medium and lowest price, and (2) what class of broilers commands the highest price. The analysis indicated that the wholesale price per pound of colored broilers is highest during April and lowest during September. On the other hand, the peak wholesale price of Leghorn broilers prevails during March and the lowest during September. Colored broilers command a higher price per pound than Leghorns. The greatest difference in price between colored and Leghorn broilers is usually in May and June, when the wholesale price of colored broilers is between 7 and 8 cents higher than that of Leghorn broilers. The smallest difference occurs during March, when the wholesale price of colored broilers is a little more than 1 cent higher than the Leghorn price.

This study was published in the June issue of the *New Jersey Crop Report*.

THE CANNING INDUSTRY IN NEW JERSEY

A survey was made of the quantity of agricultural goods canned commercially in New Jersey during 1933, and the results were published in the January issue of the *Crop Report*.

EGG AND POULTRY MEAT SUPPLIES AND PRICES

A study of egg and poultry meat supplies and prices for the years 1922 to 1933, inclusive, was completed in cooperation with the Bureau of Markets and published as Circular No. 240 of the department. The main points discovered in this study are:

(1) The price of eggs on the New York City market is determined by four factors; namely, the quantity of shell eggs in storage in the United States, the quantity of frozen eggs in storage in the United States, receipts of fresh eggs on the New York City market, and last but not least, the purchasing power of the consumer.

(2) From 1922 to 1931, inclusive, the purchasing power of the consumer was relatively high and stable, and the supply of eggs, although fluctuating, was comparatively uniform. These two factors stabilized the

market and prevented not only wide price fluctuations, but a serious decline. During the years 1932 and 1933, however, the situation was different than previously. The purchasing power of the consumer had declined more than 50 per cent below its level during the period 1922 to 1931, inclusive. In 1932, the total supply of eggs was less than normal, but this did not prevent a steady decline in price during that year. This decline continued into 1933, although the supply for that year was approximately normal. The factor determining price, then, during these two years, was not supply alone, but the ability of the consumer to pay.

(3) The quantity of frozen eggs in storage influenced the fluctuation of egg prices more than the quantity of any other type of eggs. The study proves very definitely that the price of eggs depends very strongly on the quantity of frozen eggs in storage. Consequently, it was concluded that by removing a definite quantity of frozen eggs from storage, it is possible to increase the farm price of eggs.

(4) Measuring the financial condition of a poultry farmer by the cost of chicken feeds and by the price received for eggs, it was found that the last seven months of 1933 were the hardest in the history of New Jersey poultry farmers. Many other points of value to the poultrymen were developed in this study.

THE BEE INDUSTRY IN NEW JERSEY

The United States Census of 1930 reported that there were 10,392 hives of bees owned in New Jersey on farms and elsewhere, April 1, 1930, that the total production of honey in 1929 amounted to 239,492 pounds, and that the number of farms reporting beekeeping on April 1, 1930, was 1,326.

Persons who are connected very closely with the beekeeping industry in the state believe that the census figures presented above, as far as the size of the beekeeping industry is concerned, are incomplete. Consequently, it was decided to make a survey of the New Jersey bee industry. This survey is being carried on in cooperation with the United States Department of Agriculture. The object of the survey is to determine the size of the industry and its location. The results of the survey will be published during the next fiscal year.

WORK FOR THE NEW JERSEY MILK CONTROL BOARD

When, in June, 1933, the New Jersey Milk Control Board began to function, it needed current and historical data pertaining to the condition of the dairy industry in the state. Some of the information valuable to the control board was already available through the efforts of the Bureau of Plant Industry, but some of it had to be collected, analyzed, and inter-

puted. Consequently, this bureau, during the past fiscal year, was engaged in gathering, tabulating and presenting the data required by the New Jersey Milk Control Board.

Among the numerous projects completed and submitted to the Milk Control Board were the following: (1) index numbers of the cost of production of milk in New Jersey and the general purchasing power of the New Jersey factory payroll; (2) the average farm price of milk in New Jersey; (3) studies in milk and cream distribution facilities in the New Jersey sector of the New York metropolitan area; (4) retail prices of 42 food articles in Newark, and (5) the ratio of the price of concentrated feeds to the price of milk.

PURCHASING POWER AND MILK PRODUCTION COSTS

The New Jersey Milk Control Board is regulating prices of milk and cream to producers, dealers and consumers. In order to have a scientific basis for such regulation, the board must follow very closely the changes which are going on in the matter of costs of production of milk and in the buying capacity of the consumer. Consequently, the Bureau of Plant Industry was instructed to gather information pertaining to these two points, to tabulate it and to present it in the form of index numbers.

The monthly average data for the period January, 1923, to June 30, 1934, were collected on the following factors entering into the cost of production of milk on New Jersey farms: price of concentrates, price of hay, price of farm labor, price of milk cows and farm taxes. These items were properly weighted and combined into the index numbers, which showed the trend in costs of production from month to month. The index numbers were plotted on charts.

The factors which entered into the index number of the general purchasing power of the New Jersey factory payroll were: total weekly payroll of New Jersey's factory employees and the cost of living in the United States. The monthly data on these two items were gathered from January, 1923, to June 30, 1934. The index number, showing a trend of purchasing power from month to month, was calculated and plotted on a chart.

AVERAGE FARM PRICE OF MILK IN NEW JERSEY

Monthly data on the average farm price of milk in New Jersey were gathered from January, 1923, to June 30, 1934. The index number of the price was calculated and plotted on a chart. The Milk Control Board was informed from month to month about the magnitude of change in the farm price of milk.

NINETEENTH ANNUAL REPORT

109

MILK AND CREAM DISTRIBUTING FACILITIES

In order to determine how keen competition is among milk dealers in the New York metropolitan area, a survey on milk and cream distributing facilities was initiated jointly by a representative of this bureau and Dr. Leland Spencer, of the New York State Milk Control Board. Approximately 800 questionnaires were sent to milk dealers and producer-dealers located in the New Jersey sector of the New York metropolitan area. The same questionnaire was mailed to the milk dealers and producer-dealers in the New York State sector of the metropolitan area by Dr. Leland Spencer. The main points of the questionnaire which was sent to each individual dealer and producer-dealer were: (1) location of milk and cream routes, (2) number of milk and cream routes, and (3) quantity of milk and cream sold on each route.

Milk dealers and producer-dealers cooperated. The results of this survey were being tabulated at the end of the year.

RETAIL PRICES IN NEWARK

In order to ascertain the relative position of the retail price of milk to prices of other food commodities, monthly average data on retail prices of 42 food articles in Newark from January, 1923, to April, 1934, were obtained from the United States Department of Labor. The data were analyzed and presented to the Milk Control Board.

FEEDS-MILK RATIO

The object of this study was to determine the financial condition of dairy farmers, as it is measured by the price received by farmers for 100 pounds of milk and the price paid by farmers for 100 pounds of concentrates.

The period of time covered in this study was from January, 1923, to April, 1934. The results of the study were submitted to the Milk Control Board in the form of index numbers, which were plotted on a chart.

FINANCIAL CONDITION OF NEW JERSEY FARMERS

Index numbers of prices are statistical devices used in measuring relative changes from one point of time to another. In the following presentation, the five-year period, 1910-1914, is taken as a base. Prices for every month are compared with the five-year, 1910-1914, average monthly price. The results of comparison are expressed in the terms of percentages. Consequently, in our studies, the index number of the price for any month is a percentage of the 1910-1914 average price. For example, the index number of the price of grains and tame hay in January, 1929, was 119. This means that the January, 1929, price was 19 per cent higher than the average January, 1910-1914, price. In May, 1934, the index number stood at 77.

This means that the May, 1934, price, was 23 per cent below the May, 1910-1914, price.

The series of six index numbers are briefly discussed in this article. The first series consists of the index numbers of grains and tame hay; the second, vegetables and potatoes; the third, fruits and berries; the fourth, meat animals; the fifth, milk, and the sixth, eggs and poultry meat.

GRAINS AND TAME HAY

INDEX NUMBERS OF FARM PRICES OF GRAINS AND
TAME HAY, 1929 TO MAY, 1934

(1910-1914=100)

Month	1929	1930	1931	1932	1933	1934
January	119	120	112	71	59	77
February	126	122	113	68	58	82
March	129	116	113	66	60	78
April	124	116	110	63	57	78
May	123	117	104	65	72	77
June	114	114	98	59	69	..
July	112	103	87	57	81	..
August	117	107	82	59	79	..
September	118	114	77	60	74	..
October	120	115	69	58	72	..
November	118	114	70	57	75	..
December	123	113	67	57	73	..

The farm prices of New Jersey grains and tame hay did not fluctuate greatly during the period 1923-1929. In 1929, the lowest level was reached during July, when the index stood at 112 and the highest level during March, when the index was 129. The economic depression began to exert its influence on farm prices of grains and tame hay in 1930. The 1930 index numbers of prices were declining steadily. Yet they were still from 3 to 22 per cent above the pre-war, 1910-1914, level.

A very serious and sudden drop in prices took place during 1931, 1932, and the first four months of 1934. From June, 1931, to June 1, 1934, the farm prices of grains and tame hay were considerably below the 1910-1914 level. The lowest level was registered during July, November, and December, 1932, and April, 1933, when the index number stood at 57, or 43 per cent below the pre-war, 1910-1914, level. May, 1933, was the turning point in the behaviour of the prices of grains and tame hay. The May, 1933, index number was 72, as compared with 57, the April, 1933, index. After May, 1933, the prices of grains and tame hay remained approximately 25 per cent higher than during the slump period. At the end of the past fiscal year there were indications that farm prices would continue to increase, because of the unusual drought that prevailed in the grain and hay producing states.

NINETEENTH ANNUAL REPORT

111

The financial condition of the farmer is measured, not alone by the amount of money received for products sold, but by the amount of money paid for things which are used in production and living. If, for example, farm prices decline 20 per cent and the prices of the things which farmers buy decline 20 per cent at the same time, the financial status of the farmer remains unchanged. But if, for example, farm prices decline 20 per cent and the prices of the things which farmers buy decline only 10 per cent, the financial condition of the farmer is impaired, because the purchasing power of his products are declining. Using the same quantity of products, the farmer is obliged to buy a smaller number of units of things. In other words, the exchange value of his products is lower. This situation existed for many farm commodities prior to the depression period. Its magnitude, however, was not as great at that time as during the depression period.

In the following table, New Jersey index numbers of the purchasing power of grains and tame hay are presented.

NEW JERSEY INDEX NUMBERS OF PURCHASING POWER OF
GRAINS AND TAME HAY

(1910-1914=100)

Month	1929	1930	1931	1932	1933	1934
January	77	78	82	60	58	66
February	81	80	83	59	57	69
March	83	77	84	58	60	65
April	80	77	83	56	56	65
May	79	78	79	58	71	64
June	74	77	76	54	67	..
July	72	69	69	52	76	..
August	75	72	66	55	71	..
September	76	77	63	56	64	..
October	78	77	56	55	62	..
November	77	77	57	54	65	..
December	80	76	54	54	63	..

Examining this table we see that the purchasing power of grain and tame hay fluctuated in quite a narrow range during 1929, 1930, and the first half of 1931. In January, 1929, the purchasing power stood at 77; *i.e.*, a unit of grains and tame hay had the ability to buy only 77 per cent of a thing, as compared with 1910-1914, when it had the ability to buy 100 per cent of the same thing. In June of 1931, the index stood at 76, but beginning July, 1931, the index plunged into a period of decline until April, 1933. The lowest purchasing power of grains and tame hay was during July, 1932, when it stood at 52 per cent, or 48 per cent below the pre-war, 1910-1914, level. Since May, 1933, the purchasing power of grains and tame hay has been increasing slowly. Although the farm prices of grains and tame hay have somewhat improved since the summer of 1933, the prices paid by farmers for commodities bought have increased at a higher rate

than the prices received; therefore, the purchasing power is kept low. In May, 1934, it was 64, or 36 per cent below the pre-war, 1910-1914, period.

We conclude, therefore, that New Jersey producers of grains and tame hay were still in the period of financial depression in May, 1934.

VEGETABLES AND POTATOES

INDEX NUMBERS OF FARM PRICES OF VEGETABLES AND
POTATOES, 1929 to MAY, 1934

Month	(1910-1914=100)					
	1929	1930	1931	1932	1933	1934
January	179	179	164	77	80	106
February	182	188	185	70	87	114
March	136	188	163	60	77	118
April	152	213	115	68	75	124
May	149	133	116	83	63	79
June	153	140	104	89	95	..
July	189	130	118	96	132	..
August	211	147	110	90	162	..
September	216	181	148	115	144	..
October	212	178	130	100	131	..
November	160	138	87	79	116	..
December	183	158	94	93	109	..

The prices of New Jersey vegetables and potatoes remained above the pre-war, 1910-1914, level until November, 1931, when they stood at 87, or 13 per cent below the pre-war parity. From November, 1931, until June, 1933, with the exception of September and October, 1932, the prices were in the period of a slump. They were considerably below the 1910-1914 level. In July, 1933, the prices began to improve greatly, because of the high price of white potatoes. The improvement continued until May, 1934, when another downward trend took place. In May, 1934, the price was 21 per cent below the 1910-1914 level.

NEW JERSEY INDEX NUMBERS OF PURCHASING POWER
OF VEGETABLES AND POTATOES

Month	(1910-1914=100)					
	1929	1930	1931	1932	1933	1934
January	115	117	120	65	78	91
February	117	124	136	60	86	96
March	87	125	122	53	77	98
April	98	142	87	60	74	103
May	96	89	86	74	62	65
June	99	94	81	81	92	..
July	122	87	93	88	123	..
August	136	99	88	83	145	..
September	139	121	120	107	124	..
October	138	119	106	94	113	..
November	104	93	71	75	100	..
December	119	106	76	79	94	..

Analyzing the data presented in the table at the bottom of page 112, it is evident that the purchasing power of vegetables and potatoes was quite adequate during 1929-1930 and the ten months of 1931. In November, 1931, the purchasing power fell to 71, or 29 per cent below the 1910-1914 level. The low purchasing power continued, with the exception of September, 1932, to May, 1933. In June, 1933, it went up and continued to be above or a little below the pre-war level until April, 1934. In May, 1934, the purchasing power took a sudden drop, again reaching the depression bottom.

It must be kept in mind that the 1933 and 1934 improvement in prices and purchasing power was due almost exclusively to the high price of white potatoes. Prices for other vegetables underwent some improvement, but not as great as white potatoes. The current vegetable and white potato prices are on a very low level, but the prices paid by farmers are increasing.

FRUITS AND BERRIES

INDEX NUMBERS OF FARM PRICES OF FRUITS AND BERRIES
FROM 1929 TO MAY, 1934

(1910-1914=100)

Month	1929	1930	1931	1932	1933	1934
January	158	190	115	97	95	104
February	137	187	105	90	86	113
March	134	195	117	91	87	113
April	139	174	110	95	82	100
May	146	209	170	112	98	101
June	117	183	94	81	79	..
July	199	185	144	125	116	..
August	154	116	74	81	105	..
September	254	123	95	76	118	..
October	244	151	122	108	129	..
November	220	158	103	121	115	..
December	235	146	100	116	101	..

The prices of fruits and berries began to decline in 1930. The farm price reached its bottom during August, 1931, when it stood at 74, or 26 per cent below the pre-war, 1910-1914, level. During the depression period, one feature characterized the farm price movement of New Jersey fruits and berries. The price went down considerably when New Jersey farmers had the bulk of crops to sell, and went up when a very small quantity was available for market.

Examining briefly the data presented in the above table, it is readily seen that the 1929 and 1930 purchasing power was more or less adequate. In 1931 it began to decline. The decline was not as rapid as in the case of grains and vegetables. In May, 1934, the purchasing power stood at 83, or 17 per cent below the 1910-1914 level. If the quantity of production of fruits had been normal, the farmers would have had fair years, but 1933

NEW JERSEY INDEX NUMBERS OF PURCHASING POWER
OF FRUITS AND BERRIES

(1910-1914=100)

Month	1929	1930	1931	1932	1933	1934
January	102	124	84	82	93	89
February	88	123	77	78	85	95
March	86	129	87	80	87	94
April	90	116	83	84	81	83
May	94	139	130	100	96	83
June	75	123	73	74	77	..
July	128	124	113	115	108	..
August	99	78	59	75	94	..
September	164	83	77	71	102	..
October	158	101	99	102	111	..
November	143	106	84	114	99	..
December	153	98	81	110	87	..

and 1934 production was unusually low. The relatively fair price could not counterbalance the extremely low yields. Fruit growers and some berry growers are in an extremely difficult financial situation. This is especially true in regard to peach growers, who completely lost their crop this year, and who were in an unfavorable monetary condition during the past three years, due to the short crop or low price received.

MEAT ANIMALS

INDEX NUMBERS OF FARM PRICES OF MEAT ANIMALS
FROM 1929 TO MAY, 1934

(1910-1914=100)

Month	1929	1930	1931	1932	1933	1934
January	145	152	124	75	61	65
February	142	145	114	69	57	64
March	147	144	110	71	63	70
April	158	152	111	76	68	69
May	145	147	109	74	68	69
June	162	138	100	71	69	..
July	164	135	105	78	71	..
August	175	136	102	77	70	..
September	161	132	92	70	71	..
October	133	122	80	58	59	..
November	133	118	75	57	60	..
December	140	123	76	59	63	..

The farm price of meat animals began to decline in 1930. In September, 1931, it struck a level lower than during the 1910-1914 period. Since September, 1931, it has stood considerably below the 1910-1914 level. The current farm price of meat animals does not show a marked tendency toward improvement. In 1934, it is as low as during 1933 and 1932.

NINETEENTH ANNUAL REPORT

115

NEW JERSEY INDEX NUMBERS OF PURCHASING POWER
OF MEAT ANIMALS

(1910-1914=100)

Month	1929	1930	1931	1932	1933	1934
January	94	99	91	64	60	56
February	91	95	84	59	56	54
March	94	95	82	62	63	58
April	102	101	84	67	67	58
May	94	98	83	66	67	57
June	105	93	78	65	67	..
July	106	91	83	72	66	..
August	113	91	94	71	63	..
September	104	89	86	65	61	..
October	86	82	75	55	51	..
November	86	79	71	54	52	..
December	91	83	72	56	54	..

The purchasing power of meat animals began to decline in the latter part of 1931. It continued through 1932, 1933, and the first five months of 1934. The May, 1934, purchasing power stood at 57, or 43 per cent below the 1910-1914 level.

It is fortunate that New Jersey farmers are not engaged extensively in raising meat animals. Prices received for this product are disastrously low. Even the government subsidy does not bring prices to the pre-war, 1910-1914, level.

MILK

INDEX NUMBERS OF FARM PRICES OF MILK
FROM 1929 TO MAY, 1934

(1910-1914=100)

Month	1929	1930	1931	1932	1933	1934
January	160	148	121	92	65	120
February	166	150	124	94	71	125
March	174	156	126	93	72	132
April	186	170	134	78	85	142
May	201	180	145	107	98	163
June	214	191	154	110	169	..
July	204	172	140	96	151	..
August	168	159	118	84	144	..
September	178	167	118	84	148	..
October	184	150	107	76	127	..
November	160	143	101	72	123	..
December	152	125	93	72	124	..

The farm price of milk began its decline in 1930. In January, 1933, it reached its lowest point, or an average of 35 per cent below the pre-war,

1910-1914, level. From February to May, 1933, inclusive, the farm price of milk showed a slight tendency to increase. The real increase took place during June, 1933, when the New Jersey Milk Control Board began to operate. The June, 1933, farm price of milk was 69 per cent above the pre-war, 1910-1914, level. Since June, 1933, the price has remained on a comparatively stable level. The dairymen of the state are at the present time in a better financial position than any other group of farmers. This statement is supported not only by the index numbers of the milk price on the farm, but also by the data on the purchasing power of milk, which are presented in the following table.

NEW JERSEY INDEX NUMBERS OF PURCHASING POWER OF MILK
(1910-1914=100)

Month	1929	1930	1931	1932	1933	1934
January	103	97	88	78	64	103
February	106	99	91	81	70	105
March	112	103	94	82	72	110
April	120	113	102	69	84	122
May	130	120	111	96	96	135
June	138	128	119	100	164	..
July	132	115	110	88	141	..
August	108	107	94	77	129	..
September	115	112	96	79	128	..
October	119	101	87	72	109	..
November	104	96	82	68	106	..
December	99	84	76	69	107	..

In May, 1934, the purchasing power of milk stood at 135, or 35 per cent above the pre-war, 1910-1914, level.

EGGS AND POULTRY MEAT

INDEX NUMBERS OF FARM PRICES OF EGGS AND POULTRY
MEAT, 1929 TO MAY, 1934

(1910-1914=100)

Month	1929	1930	1931	1932	1933	1934
January	160	154	113	98	91	79
February	164	153	108	93	70	87
March	161	124	101	85	72	88
April	155	145	118	92	84	99
May	153	138	105	85	81	94
June	161	135	108	88	89	..
July	165	126	126	93	95	..
August	165	137	117	94	93	..
September	173	147	125	96	93	..
October	175	146	131	99	95	..
November	165	137	119	94	91	..
December	158	118	113	89	79	..

NINETEENTH ANNUAL REPORT

117

The farm price of eggs and poultry meat began to decline in 1930. In February, 1933, it reached its lowest level, being 30 per cent below the pre-war, 1910-1914, level. Since that time the farm price has improved very slowly. In May, 1934, it stood at 94, or 6 per cent below the 1910-1914, period. Poultry meat does not show as great a tendency to decline as eggs. Egg producers do not share the improvement in prices and purchasing power. The second half of 1933 and the first five months of 1934 witnessed an abnormal situation created by the artificial means employed to raise the general level of prices. The price of eggs was moving down and the price of poultry feed was going up. This process is still in operation, forcing many farmers engaged in egg production to dispose of their flocks and to find some other occupation either in agriculture or industry.

NEW JERSEY INDEX NUMBERS OF PURCHASING POWER OF
EGGS AND POULTRY MEAT

(1910-1914=100)

Month	1929	1930	1931	1932	1933	1934
January	103	101	82	83	89	68
February	105	101	79	80	69	73
March	103	82	75	75	72	73
April	100	97	89	81	83	83
May	99	92	80	76	79	78
June	104	91	84	80	86	..
July	106	85	99	85	89	..
August	106	92	94	87	83	..
September	112	99	102	90	80	..
October	114	98	107	93	82	..
November	107	92	97	89	78	..
December	103	79	92	85	68	..

The purchasing power of eggs and poultry meat has stood at a low level since 1932. The May, 1934, purchasing power stood at 78, or 22 per cent below the pre-war, 1910-1914, level. The purchasing power of eggs is considerably lower than that of poultry meat.

CONCLUSION

One very definite and important factor stands out in the course of the present analysis. The relationship of farm prices to the prices paid by farmers for commodities bought is not in favor of the farmer. During the most acute period of the economic depression, when farm prices reached the extremely low level, the prices paid by farmers did not decrease proportionately. Farmers were at a disadvantage. Their income sank, yet they were obliged to pay for commodities considerably higher prices than were economically justified. Since the middle of 1933, when farm prices of the majority of products showed a tendency toward improvement, the prices

paid by farmers have shown a still greater tendency to improve. To illustrate this point, let us compare the index numbers of New Jersey farm prices with the index numbers of prices paid by farmers during 1932, 1933 and five months of 1934.

INDEX NUMBERS OF NEW JERSEY FARM PRICES AND INDEX
NUMBERS OF PRICES PAID BY FARMERS

(1910-1914=100)

	Farm Prices of Grains and Tame Hay	Farm Prices of Vegetables and Potatoes	Farm Prices of Fruits and Berries	Farm Prices of Meat Animals	Farm Prices of Milk	Farm Prices of Eggs and Poultry Meat	Prices Paid by Farmers *
1932							
January	71	77	97	75	92	98	118
February	68	70	90	69	94	93	116
March	66	60	91	71	93	85	114
April	63	68	95	76	78	92	113
May	65	83	112	74	107	85	112
June	59	89	81	71	110	88	110
July	57	96	125	78	96	93	109
August	59	90	81	77	84	94	108
September	60	115	76	70	84	96	107
October	58	100	108	58	76	99	106
November	57	79	121	57	72	94	106
December	57	83	116	59	72	89	105
1933							
January	59	80	95	61	65	91	102
February	58	87	86	57	71	70	101
March	60	77	87	63	72	72	100
April	57	75	82	68	85	84	101
May	72	63	98	68	98	81	102
June	69	95	79	69	169	89	103
July	81	132	116	71	151	95	107
August	79	162	105	70	144	93	112
September	74	144	118	71	148	93	116
October	72	131	129	59	127	95	116
November	75	116	115	60	123	91	116
December	73	109	101	63	124	79	116
1934							
January	77	106	104	65	120	79	117
February	82	114	113	64	125	87	119
March	78	118	113	70	132	88	120
April	78	124	100	69	142	99	120
May	77	79	101	69	163	94	121

* As published by the U. S. Department of Agriculture.

In 1932, with very few exceptions, the monthly prices received by farmers were considerably below the pre-war, 1910-1914, level. For example, the August price of grains and tame hay stood at 59 per cent of the pre-war period, vegetables and potatoes at 90 per cent, fruits and berries at 81, meat animals at 77, milk at 84, and eggs and poultry meat at 94. At the same time, farmers paid more for commodities bought than they used to pay before the war. They paid 108 per cent, or 8 per cent more than during the pre-war period. Such disparity is very dangerous, because (1) exchange, the big instrument of trade, is working one-sidedly to the detriment of the farmers, and (2) farmers, if they have money, are very careful in buying things; *i.e.*, they are acquiring only those commodities which are absolutely necessary in living and production.

During the second half of 1933, the disparity between farm prices and prices paid by farmers began to be narrower. Some commodities such as vegetables, potatoes and milk were in an advantageous position. On the other hand, grains, tame hay, fruits, berries, meat animals, eggs and chickens lagged considerably.

The first five months of 1934 witnessed another setback. All commodities, except milk, were at a considerable disadvantage. In May, 1934, the farm price of grains and tame hay stood at 77 per cent of the 1910-1914 level, vegetables and potatoes at 79, fruits and berries at 101, meat animals at 69, eggs and poultry meat at 94. At the same time farmers were obliged to pay for commodities bought 121 per cent of the 1910-1914 level, or 21 per cent more than during the pre-war period.

THE NURSERY INDUSTRY IN NEW JERSEY

A survey of the nursery industry was completed and published as Circular No. 238, of the department.

The survey included information received from 531 of the 687 nurseries in the state. The acreage of the non-reporting nurseries is known to constitute less than 7 per cent of the total acreage of all nurseries in the state. Information on the following subjects was obtained in the survey and is included in the circular: size of nurseries, acreage in various types of plants, amount of business transacted in 1932, investment in business, number of men employed, and destination of shipments.

FARM CREDIT AND FINANCE WORK

THE GOVERNOR'S EMERGENCY FARM MORTGAGE COMMITTEE

In the fall of 1932 at the suggestion of Mr. Duryee, Governor A. Harry Moore appointed the Emergency Farm Mortgage Committee. This committee consists of Dr. Frank App, of Bridgeton; Paul H. Burk, of Beverly; C. H. Roberson, of Freehold; State Senator A. C. Reeves, of Lawrenceville, and Clifford E. Snyder, of Pittstown.

The committee organized with Mr. Burk as chairman and N. A. Back of the Department of Agriculture as secretary. It was arranged between the committee and the Department of Agriculture that Mr. Back was to devote as much of his time as necessary to the work of the committee. This arrangement has worked out very well.

In October, 1933, Governor Moore, at the suggestion of the Federal Farm Credit Administration, appointed an advisory committee to the Emergency Farm Mortgage Committee consisting of David H. Agans, of Three Bridges; William B. Duryee, of Trenton; Charles H. Laird, Jr., of Moorestown; Dr. Jacob G. Lipman, of New Brunswick, and William C. Spargo, of Dover.

The committee held three meetings during the year, and members of the advisory committee met with it. The meetings on August 11, 1933, and February 8, 1934, were joint meetings with the executive committee of the New Jersey Federation of National Farm Loan Associations.

During the year, 317 requests for information and assistance were received by the committee. These were attended to by the secretary. In 44 cases, investigation revealed a hopeless condition due principally to excessive indebtedness which could not be sufficiently scaled down and to a lack of farming experience. In the remaining cases, assistance consisted of giving information and help in refinancing existing debts, staying foreclosures while refinancing was in progress and working out composition and extension agreements between farmers and their creditors.

The cooperative relationship established in the previous year with the Court of Chancery was continued and extended. The committee was accorded the privilege of certifying worthy cases to the court and, on the basis of such certification, the court granted stays in numerous foreclosures until refinancing could be completed or an extension or composition agreement could be effected.

In the past it had been almost impossible to obtain a reasonable federal farm loan on a poultry farm in New Jersey because of certain limitations in the Federal Farm Loan Act and because of certain rules and regulations promulgated by the Federal Farm Loan Board.

During the summer of 1933, action by the Federal Government resulted in materially raising the price of grains, and, consequently, the price of poultry feeds. Unfortunately, there was no commensurate increase in the price of eggs and poultry meat. In fact, during the summer of 1933, prices for these commodities reached the lowest point on record in ten years. Caught between the nether millstone of low prices and the upper millstone of high feed costs, the well established poultry industry in the state was faced with difficulty. It was evident that any readjustment in the price situation would be slow and that immediate relief was imperative.

It was the thought of the mortgage committee that a measure of relief could be afforded through a change in the rules and regulations of the Farm

Credit Administration liberalizing loans to poultry farmers. Carrying out this thought, the committee arranged and held two meetings together with representatives of the executive committee of the New Jersey Federation of National Farm Loan Associations and the New Jersey Poultry Association with officials of the Farm Credit Administration in Washington. As a result of these conferences, the Farm Credit Administration promulgated new regulations for the appraisal of poultry farms. The essence of the new regulations is that (1) poultry farming is considered a *bona fide* agricultural enterprise, (2) poultry buildings shall be valued as such for lending purposes and not at their value for general farming purposes, and (3) a maximum loan of 50 per cent of the appraised normal value may be loaned on a poultry farm.

As a result of the changes, several hundred poultry farmers have received loans from the Farm Credit Administration which have enabled them to refinance existing mortgages, pay pressing bills and so retain possession of their homes and remain in business during the period of price readjustment.

The influx of applications to the Farm Credit Administration in Springfield, Mass., during the summer and autumn of 1933, resulted in seriously crippling appraisal work for a time, with the result that many urgent cases remained unattended. The mortgage committee cooperated with the New Jersey Bankers' Association in presenting to the officials of the Farm Credit Administration at Springfield, the need for a liberal and speedy appraisal policy in New Jersey. The committee joined with the New Jersey Bankers' Association and with the Agricultural Extension Service in preparing an educational program covering federal farm credit facilities for presentation to meetings of rural bankers and farmers in the state.

At the request of the Governor's Farm Mortgage Committee and following its investigation, a number of cases involving the rejection or serious reduction of applications for federal farm loans were reconsidered by the Farm Credit Administration and adequate loans were approved.

During October, 1933, it was forcibly brought to the committee's attention that the Regional Agricultural Credit Corporation of Albany, N. Y., was pursuing a very strict policy of loan collections, and, in a number of instances, was threatening drastic action unless payments were made as scheduled, despite the borrower's inability to meet the conditions. It was the considered opinion of the committee that the policy of the Regional Agricultural Credit Corporation was not justified in view of heavy losses suffered by many farmers because of storm damage and low prices. These facts were presented to the Farm Credit Administration in Washington with the result that the collection policy of the Regional Agricultural Credit Corporation was appreciably tempered.

Operations of the Regional Agricultural Credit Corporation in New Jersey during 1932 and the early part of 1933 showed that there were several deficiencies in the chattel mortgage laws of the state which unnecessarily increased the cost to farmers of loans obtained from the corporation. The most serious of these defects in the New Jersey chattel mortgage laws were (1) the requirement that the complete chattel mortgage had to be recorded, and (2) the requirement that the entire amount be paid over to the borrower at the time the mortgage was given.

Under the guidance of the Governor's Farm Mortgage Committee and with the active cooperation of the Farm Credit Administration and a legislative committee* a bill was prepared which created a new type of mortgage to secure loans made by federal agencies to farmers in New Jersey for the purpose of raising crops and livestock. The bill as prepared was passed by the Legislature and the Governor signed it on April 25, 1933. The act provides for the separate filing of mortgages securing such loans at a nominal fee. It also provides that such loans may be paid over to the borrowers in installments as they actually need the funds in their operations. The provisions of this act apply to the four newly organized Production Credit Associations as well as to the Regional Agricultural Credit Corporation. It is conservatively estimated that farmers in New Jersey will save at least \$20,000 each year through this act.

At the meeting of the Governor's committee with the executive committee of the New Jersey Federation of National Farm Loan Associations, February 8, 1934, the subject of the proper appraisal of farm properties for loaning purposes by federal agencies was considered. It was the consensus that there is a great need for a uniform system of appraisal. At the request of the joint meeting, a committee consisting of members of the staff of the New Jersey Agricultural Experiment Station and the New Jersey College of Agriculture made a comprehensive study of the problems of farm appraisals in New Jersey.

A report incorporating the findings of the appraisal committee, and including basic score cards for the appraisal of all types of farms, was submitted to the Governor's Emergency Farm Mortgage Committee. Arrangements are being made to test the score cards in the field under typical appraisal conditions. If these tests prove satisfactory and after any necessary changes have been made, it is the intention of the Governor's committee to recommend the score cards for use in New Jersey by the National Farm Loan Associations and the Farm Credit Administration.

In view of the fact that the Governor's committee has no official standing and has no power to enforce its recommendations, its success in adjusting a majority of cases presented to it is very gratifying. However, in a few cases the committee has been handicapped by the lack of authority.

* The committee consisted of Senator S. Rusling Leap, of Woodstown; Senator Horace G. Prall, of Lambertville, and Assemblyman Elmer S. King, of Morristown.

Recently there have been several amendments to the Federal Bankruptcy Act which, in an indirect way, give the recommendations of the mortgage committee a larger degree of authority. Briefly, the federal legislation provides for the appointment (by the Federal District Court) of agricultural conciliation commissioners in every agricultural county. These commissioners are charged with the duty of hearing cases involving farm debt difficulties and trying to work out friendly extension agreements between farmers and their creditors. Failing an amicable settlement, farmers may petition to be adjudged bankrupt. The Federal Court then has the farmer's estate appraised and a settlement is worked out which, when approved by the court, becomes mandatory upon all parties.

Terms of settlement are outlined in the law. Their general purpose is to leave the farmer in possession of his property under the jurisdiction of the Federal Court for a period of five or six years, during which time the farmer makes certain stipulated payments based on the appraised price of the property and during which time the farmer may regain full possession of his property by paying only the full amount of the appraised price to the creditors.

There are several important factors which militate against the extended use of this legislation by farmers except as a last resort. Although the farmer pays a fee of \$10 with his original application, there is no limitation in the act on additional charges. Should it be necessary to appoint a receiver or some similar court official to supervise the operations on the farm for a five- or six-year period, such charges may be considerable. Unless an amicable settlement can be effected, the farmer must be adjudged bankrupt to receive the benefits of this law. This will hurt his credit standing.

For these reasons, most farmers will prefer to adjust their difficulties with their creditors through some unofficial body such as the Governor's committee which can accomplish the same results without the attendant publicity and expense. The legislation is important to the committee in that it constitutes a "club behind the door" to lend weight to the committee's recommendations.

The committee is cooperating with the federal courts in organizing the work of the conciliation commission. It plans to cooperate to the fullest extent with the conciliation commissioner whenever such cooperation is requested.

COOPERATION WITH THE STATE E. R. A.

At the request of the director of rural rehabilitation of the State Emergency Relief Administration, information gathered by the department was made available for use in his work.

SURVEY OF LEGAL CHARGES

At the request of the New Jersey Federation of National Farm Loan Associations, a survey was made of the legal charges paid by farmer borrowers in New Jersey for obtaining federal farm loans.

The findings of the survey are based on information received from 223 farmer-borrowers in ten National Farm Loan Associations in New Jersey. Additional information about charges for recording and filing mortgages in connection with federal farm loans was obtained from county clerks and registers of deeds.

A report covering the findings of the survey was issued in mimeographed form.

IDLE-FARMS-FOR-SALE LISTING SERVICE

In the autumn of 1932 the department instituted an idle-farms-for-sale listing service. During the past year, requests for idle farm lists were received in considerable number so that it became necessary to replenish the supply. Before doing so, it was decided to revise and supplement the list. In order to do this, requests for lists of owners of idle farms were mailed to 296 township tax assessors. One hundred and sixty-eight replies were received. Ninety-three of the 168 reported no idle farms. Sixty-nine assessors gave the names and addresses of 544 idle-farm owners. These were contacted and 85 applications for listing were received.

FARM TAX DELINQUENCY SURVEY

A survey to determine the extent of farm tax delinquency was begun during the year.

Questionnaires were sent to the tax collector of each township in the state, 233 in all. Replies were received from 146 tax collectors. Twelve collectors reported no farms in their townships and 19 submitted incomplete reports which could not be used. The information given in the remaining 114 reports is being checked and augmented with certain data assembled by the state auditor.

SEED CERTIFICATION AND RELATED WORK

RASPBERRY CERTIFICATION

Three nurserymen requested certification of raspberry plants. This service is necessitated by the restrictions of ten states which require that raspberry plants shipped therein must be field-inspected and certified as to freedom from transmissible diseases. Sixty-six acres were examined, two of which were rejected for excessive mosaic content. The fields

inspected were in the Hammonton area and in Little Silver. St. Regis, Latham and Chief were the main varieties inspected, including a few plants each of several other varieties.

GRAIN CERTIFICATION

The program of certifying grain seeds under a plan of cooperation with the New Jersey Agricultural Experiment Station which was started in 1932, has expanded to take in other crops and more growers. It is further expected that the certification of adopted varieties of high-yielding strains, which are also practically free from seed-borne diseases and properly graded, will grow as more farmers learn that New Jersey certified grain seeds are available.

SUMMARY OF GRAIN CERTIFICATION

JULY 1, 1933—JUNE 30, 1934

Crop	Variety	Number of Growers	Acreage Entered	Acreage Certified	Bushels Tagged and Sealed for Sale
Wheat	Leap's Prolific	4	36	14	160.5
Wheat	Poole	2	10	10	68.0
Oats	Keystone	5	63	38	817.5
Oats	Kanota	5	54	25	598.0
Barley	Bon Ami	4	46	40*	295.0
Barley	Velvet	2	15	0	0
Corn	Hulsart's Yellow Dent	1	10	10	45.0
Corn	Lancaster Sure Crop	3	33	13	74.5
Corn	Mercer White Cap	1	8	8	131.5
Corn	Reid's Yellow Dent	2	46	26	197.25
Corn	Somerset Learning	3	46	46	334.0
Rye	Wisconsin No. 6	1	4	0	0
Soy Beans	Wilson-5	1	3	3	24.0
Soy Beans	Harbinsoy	1	3	3	*

* All seed planted by grower.

The chief reasons for rejection were excessive disease content, excessive weed seed contamination, failure to meet germination standards, and failure to meet weight per bushel standards.

WHITE POTATO CERTIFICATION

Unlike several previous seasons the rainfall during the growing season of late-crop certified seed potatoes was above normal. A copious supply of rain during the entire month of August provided a deviation from the normal of +5.61 inches at Bridgeton and +5.38 inches at Hightstown. Part of this ample rainfall came as a tropical storm and in numerous instances caused drowning-out of low spots in fields.

In the southern New Jersey counties the rainfall was only slightly above normal during September giving way to a below-normal (-2.74 inches) rainfall in October. This was accompanied by moderately cool temperatures which brought the crop through in fine shape. In the central Jersey counties, the rainfall in September continued to be excessive (+2.94 inches above normal) which at least partially explains the difference between the yields of these two sections.

Growers in central New Jersey counties who planted late-crop seed for the first time this year, have raised the question regarding planting dates and frost dates. From weather bureau records it was learned that the average date of the first killing frost in the autumn at Bridgeton is October 22 and at Hightstown, October 14, with September 22, the earliest killing frost date ever reported for both places.

Based on the weather bureau records and from observations made during the growing period, it is evident that the planting dates allowed in the certification rules will permit the growing of a sizable crop provided that favorable weather prevails during the growing season and proper cultural methods of spraying and cultivating are followed. Yields obtained by some growers in the southern New Jersey counties this year indicate that a large crop of clean-skinned tubers can be grown if soil moisture is adequate and moderately cool temperatures prevail. This is in direct contrast to the past several years when drought and high temperatures during September and early October cut the yield considerably.

The first frost to kill potato vines this year occurred on October 25 in both sections when the temperature dropped sharply and caused the frosting of a few tubers which were exposed or near the surface. Low temperatures on November 15 caught two growers with a total of two acres undug, resulting in a complete loss.

Early blight, *Alternaria solani*, although present did not prove to be as serious as late blight, *Phytophthora infestans*. The latter made its appearance with the continuance of excessive rainfall, and, had it not been for the change to drier weather, would have accounted for heavy losses of blight-rotted tubers. In central New Jersey, more late blight rot was found on

the tubers. This rot was, no doubt, associated with the higher September rainfall. October in both sections was below normal in rainfall and accounted for the excellent digging conditions almost generally experienced.

A wide difference in the protection against late blight could be seen between dusting and spraying. In well-sprayed fields it was difficult to find even a trace of late blight infection, whereas in poorly sprayed and dusted fields infections attained a fairly good distribution. Insects failed to be really troublesome, although some growers had difficulty in the early season in getting rid of Colorado potato beetles, which migrated from the early potato crop or from host weed plants. The severity of the early season storms probably kept the aphids in check, although in a few fields they started to become numerous late in the season.

Yields ranged from 45.6 bushels to 304 bushels per acre, the average on 736.62 acres being 168.2 bushels per acre. The largest yields were obtained in South Jersey on fields which were well drained and had no low spots in them. Many other fields would have had much higher yields had it not been for the affected low spots. One grower whose farm is near the tidal backwaters of Salem County lost six and one-half out of eight acres because of an extreme rise in the tide. The difference in yield due to the previous cropping of the field was not as important in 1933 as in years when the rainfall is normal or below normal. The following table gives yields classified according to the crop previously grown on the field:

365	acres of green mature crops	174.75 bushels average
164	acres of fallow land plowed early and kept tilled	149.99 bushels average
81.25	acres of sod plowed under	166.95 bushels average
69.25	acres of early potatoes	147.47 bushels average
31.12	acres of grain stubble	224.61 bushels average
26	acres of truck crops	183.21 bushels average

Seed disinfectants were used on 80.11 per cent of the seed planted. These in every case were of the instantaneous-dip type. The remainder was untreated. One grower handled his seed in such a manner as to produce a heavy callous over the cut edge. The stand as a result was as near 100 per cent as can be attained with a mechanical planter. The procedure consists of cutting the seed in advance and holding it in a cellar which is moderately cool and in which moisture is provided by sprinkling periodically or by using a barrelful of water with old sacks laid over the chime of the barrel and in the water as a wick. This method is to be very highly recommended especially when planting in soils with high temperatures. The sealing of the cut by the callous prevents the rapid rotting of the seed piece which often occurs in late-planted seed crops.

Fertilizers were applied at an average rate of 2,007 pounds per acre, with extremes of 1,000 pounds and 2,500 pounds per acre. The analyses generally were 4-8-7 with occasional slight variations from this formula. Several growers used double strength combinations such as 10-16-14, 10-20-20, and 9-18-14.

The tendency to plant home-grown seed has increased so that 44.5 per cent of the crop was planted with seed which had been planted in New Jersey one or more years. Prince Edward Isle supplied 43.3 per cent of the parent seed stock, Maine 11.3 per cent and Vermont .9 per cent. The seed source test plots on the Alfred Sloan farm showed only a small percentage of disease in a few of the sample lots planted. Field inspections showed a comparatively small percentage of virus diseases present. In certain cases where virus diseases average more than a trace it will be unwise to carry the seed over as parent stock for another year. With this in mind, two carloads of Prince Edward Isle certified seed from fields of clean readings and known history have already been shipped into South Jersey.

The Kandle Seed Club is still operating as a selling agent for the growers, although there are some growers who prefer to market their seed as individuals. It is interesting to note and record here that a few sacks of certified Red Skin seed shipped to Tennessee during the past few years resulted in the purchase of a solid car of last year's seed for planting in the fall of 1933. Reports coming from Tennessee indicate that this variety, recently classified by Dr. William Stuart as being the same as Dakota Red, produces well in that section. In the past fall, a demand for certified cobbler seed was uncovered in Pennsylvania and in consequence several carloads were shipped into the section of Lancaster and Harrisburg. It is expected that more will be sold in the same state during the spring shipping season.

Although there is plenty of room for improvement and for more widespread adoption, many growers took pains in padding diggers and graders, and exercised more care in handling the crop than previously. The results of this added care have been a better-appearing package which should meet with the approval of purchasers. One-hundred-pound sacks were used to a much larger extent this year, and it appears that the small-sized packages will come into increased use and replace the larger bags as they have already done in the marketing of the commercial crop.

NINETEENTH ANNUAL REPORT

129

SUMMARY OF SEED POTATO CERTIFICATION, 1933

Acres Entered for Certification

County	Acres	Per Cent
Burlington	2.00	0.26
Camden	8.00	1.02
Cumberland	343.50	43.78
Gloucester	7.00	.89
Mercer	13.00	1.66
Middlesex	134.50	17.14
Monmouth	22.00	2.80
Salem	254.62	32.45
	<hr/>	<hr/>
	784.62	100.00

Seed Source

	Bags	Per Cent
New Jersey	2,553.5	44.52
Prince Edward Isle	2,482.8	43.29
Maine	646.0	11.27
Vermont	53.0	0.92
	<hr/>	<hr/>
	5,735.3	100.00

Seed Storage

	Bags	Per Cent
Del Bay	2,811.0	49.01
South River	772.0	13.46
Woodstown	509.5	8.88
Hightstown	338.0	5.89
Salem	337.0	5.88
Keansburg	220.0	3.84
Pitman	195.0	3.40
Philadelphia	136.0	2.37
Vineland	117.0	2.04
Freehold	105.0	1.83
Bridgeton	64.8	1.13
Englishtown	55.0	0.96
Newark	33.0	0.58
Camden	32.0	0.56
Mount Holly	10.0	0.17
	<hr/>	<hr/>
	5,735.3	100.00

Seed Treatment

	Bags	Per Cent
Semesan	4,594.3	80.11
None	1,141.0	19.89
	<hr/>	<hr/>
	5,735.3	100.00

STATE DEPARTMENT OF AGRICULTURE

Previous Cropping of Field

	Acres	Per Cent	Average Yield per Acre
Green manure crops	365.0	49.55	174.75 bu.
Fallow	164.0	22.26	149.99 bu.
Sod	81.25	11.03	166.95 bu.
Early potatoes	69.25	9.40	147.47 bu.
Grain stubble	31.12	4.23	224.61 bu.
Truck crops	26.0	3.53	183.21 bu.
	736.62	100.00	

Fertilization

Tons applied (736.62 acres)	708.57 tons—includes 30.85 tons double strength mixtures
Average application per acre	2,007. pounds
Heaviest application per acre	2,500. pounds
Lightest application per acre	1,000 pounds full strength; 900 pounds double strength

Rate of Planting

	150-lb. Sacks
Total number of bags of seed planted	5,735.3
Average number of bags per acre	7.44
Heaviest planting per acre	10.29
Lightest planting per acre	4.00

Calculated Weight of Seed Piece

(Spacing 11x32 in.—17,968 hills per acre)

Bags per Acre	Weight of Seed Piece
4.00	0.534 ounces
7.44	0.994 ounces
10.29	1.374 ounces

Yields per Acre (Bushels)

Average yield (736.62 acres)	168.21 bu.
Lowest yield	45.6 bu.
Highest yield	304.4 bu.

Preliminary Expenses per Acre

Seed—7.44 bags @ \$4.00 per sack	\$29.76
Fertilizer—2,009 pounds @ \$26.00 per ton	26.12
	\$55.88

NINETEENTH ANNUAL REPORT

131

WHITE POTATO SEED CERTIFICATION IN NEW JERSEY
1929-1933*

Year	Number of Growers	Acres Entered	Percentage Rejection	Varietal Distribution	
				Variety	Acreage
1929	64	621.	12.64	Cobblers	584.5
				Green Mts.	19.0
				Red Skins	17.5
1930	64	593.	12.65	Cobblers	584.5
				Green Mts.	2.5
				Red Skins	6.0
1931	77	904.5	5.86	Cobblers	874.5
				Green Mts.	1.0
				Red Skins	29.0
1932	63	729.17	1.44	Cobblers	672.0
				Green Mts.	3.50
				Red Skins	53.67
1933	60	784.62	6.12	Cobblers	683.50
				Green Mts.	20.00
				Red Skins	80.50
				Katahdins	0.62

* For 1919-1928 data see *Fifteenth Annual Report*.PRODUCTION AND DISTRIBUTION
CERTIFIED CROP OF WHITE POTATO SEED OF NEW JERSEY.

	1933	1932	1931
Acres of seed certified.....	736.67	718.67	851.5
Total yield (field run) in baskets.....	198,253	134,239	182,669
Total yield (field run) in bushels.....	123,908	83,899	114,168
Average yield per acre in baskets.....	269.14	186.8	214.5
Average yield per acre in bushels.....	168.21	116.7	134.1
Bags certified seed sold.....	15,941	8,261	21,007
Bags sold South Jersey.....	.....	986	476
Bags sold Central Jersey.....	15,105	7,268	20,518
Bags sold out of state.....	836	7	13
Delaware.....	.....	.....	1
Pennsylvania.....	836	.....	.....
New York.....	.....	.....	2
Washington, D. C. ....	.....	.....	10
Virginia.....	.....	7	.....
Bags sold untagged (tags not allowed; old sacks used).....	2,091	3,476	855
Bags sold South Jersey.....	90	1,513	255
Bags sold Central Jersey.....	2,001	1,953	600
Total bags of seed shipped.....	18,032	11,737	21,862
Bags seed unsold Dec. 1st.....	11,301	10,227	9,108
Baskets of seed retained for own use...	52,531	34,393	36,891
Bushels of seed retained for own use...	32,582	21,495	23,057
Bags sold in 100-pound sacks*.....	7,433	.....	.....

* All other bag figures are on 150-pound bag basis.

ACREAGE ENTERED FOR CERTIFICATION, 1933

County	Growers	Cobblers	Green Mountains	Red Skins	Katahdins	Total
Burlington	1	2	....	....	....	2
Camden	1	....	....	8	....	8
Cumberland	32	261	10	72.5	....	343.5
Gloucester	1	7	....	....	....	7
Mercer	2	3	10	....	....	13
Middlesex	8	134.5	....	....	....	134.5
Monmouth	3	22	....	....	....	22
Salem	18	254	....	....	.62	254.62
Total	66*	683.5	20	80.5	.62	784.62

* Actual number of growers.

ACREAGE FAILING AND PASSING CERTIFICATION

	Acres	Per Cent
Acres rejected at first inspection .....	...	...
Acres withdrawn at first inspection	14.5	1.85
Acres rejected at second inspection	33.5	4.27
Total acres rejected at end of two inspections	33.5	4.27
Acres rejected at third (tuber) inspection .....	...	...
Acres withdrawn and rejected three inspections	48	6.12
Acres passing three inspections	736.62	93.88

INSPECTION RESULTS BY COUNTIES, 1933

	Burlington	Camden	Cumberland	Gloucester	Mercer	Middlesex	Monmouth	Salem	Total
Acres entered	2.00	8.00	343.5	7.00	13.00	134.5	22.00	254.62	784.62
Number of growers	1.00	1.00	32.0	1.00	2.00	8.00	3.00	18.00	66.00
Average number of acres per grower....	2.00	8.00	10.7	7.00	6.5	16.8	7.33	14.2	11.89
Acres rejected first inspection*.....	.....	.....	8.0	.....	.....	.....	.....	6.5	14.5
Percentage rejected first inspection*.....	.....	.....	2.33	.....	.....	.....	.....	2.55	1.85
Acres rejected second inspection*.....	.....	.....	17.5	7.00	.....	9.00	.....	.....	33.5
Percentage rejected second inspection*.....	.....	.....	5.09	100.00	.....	6.69	.....	.....	4.27
Acres rejected third inspection*.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Percentage rejected third inspection*.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Acres rejected total*.....	.....	.....	25.5	7.00	.....	9.00	.....	6.5	48.00
Percentage certified	2.00	8.00	318.00	.....	13.00	125.5	22.00	248.12	736.62
Percentage certified.....	100.00	100.00	92.58	.....	100.00	93.31	100.00	97.45	93.88

Includes withdrawals.

VARIETAL DISTRIBUTION OF REJECTIONS AND WITHDRAWALS

Variety	Acres entered	Acres Rejected and Withdrawn			Acres certified
		First Inspection	Second Inspection	Third Inspection	
Irish Cobblers	683.5	9.5	28.5	...	645.5
Red Skins	80.5	5.0	...	...	75.5
Green Mountains.....	20.0	...	5.0	...	15.0
Katahdins	0.62	...	...	...	0.62
Totals	784.62	14.5	33.5	...	736.62

TOMATO SEED CERTIFICATION

The tomato seed certified for seed purposes was grown in Burlington, Mercer, Gloucester, Camden and Salem counties. The acreage of certified seed for 1933 was expected to reach 1,000 acres. Destructive storms in the middle of August suddenly terminated the inspection work.

The history of tomato seed certification is as follows:

Year	Acres Certified	Growers
1921	128.0	16
1922	199.0	23
1923	219.0	32
1924	327.0	40
1925	582.0	58
1926	456.0	71
1927	871.0	74
1928	743.0	68
1929	703.0	63
1930	1,414.5	94
1931	1,434.0	155
1932	675.0	110
1933	669.5	71

The 1933 acreage was distributed as follows:

Variety	Acres
Marglobe	543.0
Pritchard	99.5
Baltimore	15.0
Bonny Best.....	12.0
	<hr/>
Total	669.5

WHITE PINE BLISTER RUST CONTROL

Funds provided late in the fiscal year by the Division of Plant Disease Eradication, United States Department of Agriculture permitted the hiring of a temporary agent. Work was started in mid-June, and, as a result of intensive scouting around natural white pine stands in Montague Township, Sussex County, blister rust infection on white pine was located for the first time since 1918. By the close of the year a total of eight diseased trees had been found. The infections were of 1925, 1927, 1928 and 1931 origin. Plants of the alternate host, *Ribes* species (currants and gooseberries), were found growing in moist sites and along streams in and about the pine stands.

In order to prevent a general spread of the disease to all of the stands in this section, a crew of five C. C. C. men was procured to eradicate the *Ribes* where they occurred in heavy concentrations. Scattered bushes were pulled. At the close of the year, approximately 2,100 acres of land had been scouted to protect 400 acres of white pine. The eradication crew worked 81 man hours to pull 707 American black currants, escaped red currants and one pasture gooseberry to protect 15 acres of pine.

Thirty-eight sites of recently reforested plantations were examined for blister rust conditions. These sites contained 164,200 white pines. One site of two acres of 20-year-old trees was inspected on request. Near these sites were located 152 red currants, 240 cultivated gooseberries, 14 American black currants, and 10 flowering currants. Twenty-eight of these bushes showed infection. In each case the owner's attention was called to the danger of these bushes and the need for eradication.

The protective zone around the Washington Crossing forest nursery was maintained by scouting for the regrowth of *Ribes* which had been pulled in previous seasons. A total of 394 American black currants were pulled by a scout and by an eradication crew composed of nursery workers. Most of these bushes were sprouts and seedlings whose growth had started since the previous eradication work. A total of 24 man hours was spent on this nursery sanitation project.

One request for a pine-shipping permit as outlined in Federal Quarantine No. 63 was received from a Clifton nurseryman. This application was canceled by the owner when he was informed of the terms to be met in gaining such a permit. His reason for withdrawal was that his annual volume of white pine sales would not be worth the cost of creating *Ribes*-free zones.

NURSERY INSPECTION SERVICE

The plant inspection activities of the bureau for the fiscal year ending June 30, 1934, included nursery inspections, domestic and foreign nursery stock inspections, the issuance of special certificates, special request inspections, the certification of stock consigned to Canada, Christmas tree inspections, and the certification of narcissus bulbs in compliance with federal regulations.

FOREIGN AND DOMESTIC STOCK INSPECTIONS

The following tables summarize the work done by the bureau in inspecting nursery stock shipped into New Jersey from other states and from foreign nations:

FOREIGN STOCK INSPECTIONS

Fall of 1933	4 cases
Spring of 1934	21 cases

DOMESTIC STOCK INSPECTIONS (ORNAMENTAL)

	Cases	Cars	Crates	Bales	Barrels
Fall of 1933	251	7	..	4	7
Spring of 1934	441	37	9	35	32
Totals	692	44	9	39	39

DOMESTIC STOCK INSPECTIONS (FRUIT)

	Bales	Truck	Cases	Cars	Boxes
Fall of 1933	4	1	4	..	..
Spring of 1934	44	..	87	2	16
Totals	48	1	91	2	16

NURSERY INSPECTION

The annual inspection of nurseries was begun in June and finished in September, except in the case of a number of new nurseries, which were inspected after that month. In nurseries where growing stock is found to be infested with insects and diseases that are injurious, the owners are requested to destroy or spray the infested plants. Later, a reinspection is made and, if the bureau's recommendations have been followed, a certificate is issued. Certificates are issued when possible on September 1 of each year and are valid until the following September.

NINETEENTH ANNUAL REPORT

137

Eight hundred and thirty-two nurseries and dealers' establishments were inspected and certified, and certificates were issued as follows:

General	582	Fruit	3
Perennial	24	Privet	3
Greenhouse	21	Asparagus	2
Dahlia	15	Orchid	2
Rose	13	Roots	2
Berry	10	Evergreen	1
Bulb	8	Herbaceous	1
Aquatic	5	Dealers	140
		Total	832

NEW ENGLAND STOCK INSPECTIONS

A total of 1,011 cases, 6.5 carlots and 1 truck of nursery stock shipped into New Jersey from the quarantined gipsy moth area of the New England States were inspected. Each plan was individually examined.

SPECIAL CERTIFICATES

Special certificates were issued to private citizens and to nurserymen who wished to ship nursery stock to other states and to foreign countries. A certificate was issued at the time of packing if the stock in question was found to be free from injurious insects and plant diseases. One hundred and thirty-six of these certificates were issued.

SPECIAL REQUEST INSPECTIONS

Each year, numerous requests are received for advice on the control of various insects and on nursery and horticultural problems. In most cases they necessitate visits to the person requesting aid. Ninety-six of these visits were made during the year ending, June 30, 1934.

CANADIAN STOCK INSPECTION

In compliance with Canadian regulations, 168 certificates were issued to cover stock consigned from New Jersey to Canada.

CHRISTMAS TREE INSPECTION

A total of 31,240 Christmas trees shipped into New Jersey from the slightly infested gipsy moth area of the New England States were examined for gipsy moth infestations. No infestations were intercepted.

NARCISSUS BULB INSPECTION

The inspection of narcissus bulbs destined for places outside of New Jersey is made necessary by the provisions of a federal quarantine. The inspection work is summarized as follows:

Total number of bulbs inspected—1,242,950
 Total number of shipping certificates issued to growers—1,193
 Total number of bulbs sterilized—439,300

INSECT AND DISEASE INFESTATIONS OCCURRING IN
 NEW JERSEY NURSERIES DURING THE YEAR ENDING
 JUNE 30, 1934

Insect Pests	Number of Nurseries
Juniper Scale	127
Oyster Shell Scale	51
Rhododendron Lace Bug	36
Euonymus Scale	32
Boxwood Leaf Miner	21
Bag Worm	21
Spruce Gall Aphid	20
Pine Leaf Scale	15
Elm Scale	11
Juniper Web Worm	10
Azalea Lace Bug	8
Poplar and Willow Borer	5
San Jose Scale	5
Fire Blight	4
Lilac Borer	3
Boxwood Canker	3
Scurfy Scale	2
Cedar Galls	1
Pine Shoot Moth	1
Leaf Spot	1
Juniper Mite	1
Pine Saw Fly	1
Rose Scale	1
Total	380

Three hundred and eighty insect infestations were found in 182 nurseries.

BEE INSPECTION SERVICE

Because of decreased appropriations for bee inspections, area clean-up work was necessarily abandoned. Calls for inspections and routine work occupy all the time of one bee inspector.

One encouraging feature of the work during the year ending June 30, 1934, was the great interest of beekeepers in controlling bee diseases as indicated by calls for inspections and the number of samples of dead bee brood submitted for diagnosis.

The usual care was exercised in regard to queen-rearing apiary areas by giving them very careful inspection to guard against the entrance of contagious bee diseases into such areas.

INSPECTIONS

During the 1934 fiscal year, 5,011 colonies of bees were inspected in 390 apiaries. One hundred and twenty-five of these were in hives with immovable combs and 36 in plain boxes. The remainder were in some type of movable comb hive.

American foulbrood was found in 435 colonies in 116 apiaries. Twenty-one per cent of the apiaries and 8 per cent of the colonies inspected during the fiscal year were infected with this disease. However, these percentages are not excessive, since inspections were made principally where disease was suspected or known to exist. Ten cases of European foulbrood were discovered in seven apiaries. Sacbrood was found in 284 colonies.

Their owners failing to take proper steps to eradicate disease therefrom, 36 colonies infected with American foulbrood were burned.

Microscopic diagnosis of 44 samples of dead bee brood showed seven to be infected with *B. pluton*, the organism causing European foulbrood; 26 infected with *B. larvae*, the germ causing American foulbrood, and 11 with no evidence of either of these diseases.

APIARY INSPECTIONS, JULY 1, 1933-JUNE 30, 1934

County	Apiaries	Colonies	Box	Cross Comb Hives	Apiaries Afb*	Apiaries Efb†	Colonies Afb*	Colonies Efb†	Colonies Sacbrood	Burned	Brood Samples Diagnosed*†
Bergen	3	4	..	..	2	..	3	..	..	..	2Afb
Burlington	48	687	..	2	17	3	33	3	4	7	4Efb, 1Afb, 3 Neg.
Cape May	1	22	..	..	..	..	..	..	15	..	.....
Camden	9	86	..	..	3	..	3	..	1	..	.....
Cumberland	26	407	1	2	5	..	12	..	5	..	1Efb, 2Afb,
Essex	16	61	..	..	5	..	10	..	..	..	4Afb, 1Efb 3 Neg.
Gloucester	20	198	..	25	10	..	28	..	2	..	1Efb, 1 Neg.
Hunterdon	77	1,771	22	28	14	1	57	1	87	9	5Afb
Mercer	18	175	..	8	8	..	31	..	20	..	2Afb, 1 Neg.
Middlesex	22	92	..	2	5	..	15	..	8	..	.....
Monmouth	18	256	..	6	8	1	46	1	1	..	5Afb
Morris	46	463	8	21	14	..	62	..	76	..	.....
Ocean	3	19	2	..	..	1	..	3	..	..	.....
Passaic	3	20	..	..	1	..	5	..	11	..	.....
Salem	2	29	..	..	..	1	..	2	8	..	.....
Somerset	54	350	1	11	16	..	89	..	9	20	2Afb, 1 Neg.
Sussex	10	175	..	..	5	..	36	..	20	..	.....
Union	8	43	2	..	2	..	3	..	2	..	3Afb
Warren	6	153	..	20	2	..	2	..	15	..	2 Neg.
Totals	390	5,011	36	125	117	7	435	10	284	36	7Efb, 26Afb, 11 Neg.

* Afb indicates American foulbrood.

† Efb indicates European foulbrood.

QUEEN-REARERS' CERTIFICATES

Four queen-rearing apiaries were certified. They were located at Phillipsburg, Cape May Court House, Glen Gardner and Pittstown.

CERTIFIED HONEY

After proper examination of their apiaries, permits for the use of the certified honey label were issued to three beekeepers.

MISCELLANEOUS

Beekeepers' tools and apparatus were exhibited at the Trenton Fair, September 25-30, 1933, and at the New Jersey Farm Show, Trenton, January 22-26, 1934. An observation hive of bees was exhibited in Atlantic City, during National Honey Week, November 13-18, 1933.

A report of honey which caused nausea to those who ate it was investigated. The floral source could not definitely be determined. Samples were submitted to the State Board of Health, and also to authorities at Washington, D. C., but no help came from either source.

Lectures on honey and bees were given at Grange meetings, as follows: Parsippany, January 2; Hackettstown, March 21; Flanders, March 22; Grandin, March 29, and Morganville, April 25. Lectures were also given at a meeting of the Lions Club, Plainfield, April 11; at a meeting of the Essex County Beekeepers' Society, Newark, January 4, and at a conference of county agricultural agents, at New Brunswick, January 6.

A discussion of pressing beekeepers' problems was given before groups of beekeepers at Freehold, Morristown, Westfield and Newton. The attendance was 16, 14, 15 and 6 respectively.

Field meetings and demonstrations were held at Westfield on July 8; at Lebanon, August 1; at Cape May Court House, August 25; at Alloway, May 24, and at Hope, June 23.

The file of beekeepers' names had not been thoroughly revised for many years, so a thorough revision was attempted. This was done both by personal visitation and by mail.

The supply of "A Manual of Bee Husbandry" had become entirely exhausted, but requests for such a publication continued to be made. In view of the possibility of a new edition being printed, the manual was thoroughly revised and an index was added.

In a number of instances, assistance and advice were given regarding the removal of bees from places where they were objectionable.

THE GIPSY MOTH

ASSEMBLING CAGE WORK

Assembling cage work is a valuable phase of the gipsy moth eradication project and it may be used in conjunction with scouting work, as a check, or in outside territory to determine whether infestation exists.

Abdominal tips are sheared from virgin female adult moths and preserved in benzol. During the flight of the male adult moths, a small open top tin can is nailed to a tree, in which is placed a wad of absorbent cotton saturated with the gipsy moth attractant. A small area of the trees around the can is covered with tree tanglefoot. The moths attracted to the trap by the odor are thus caught in the tanglefoot. As the usual distance of flight by the male moth is less than one mile, an infestation is expected to be located within **that area**.

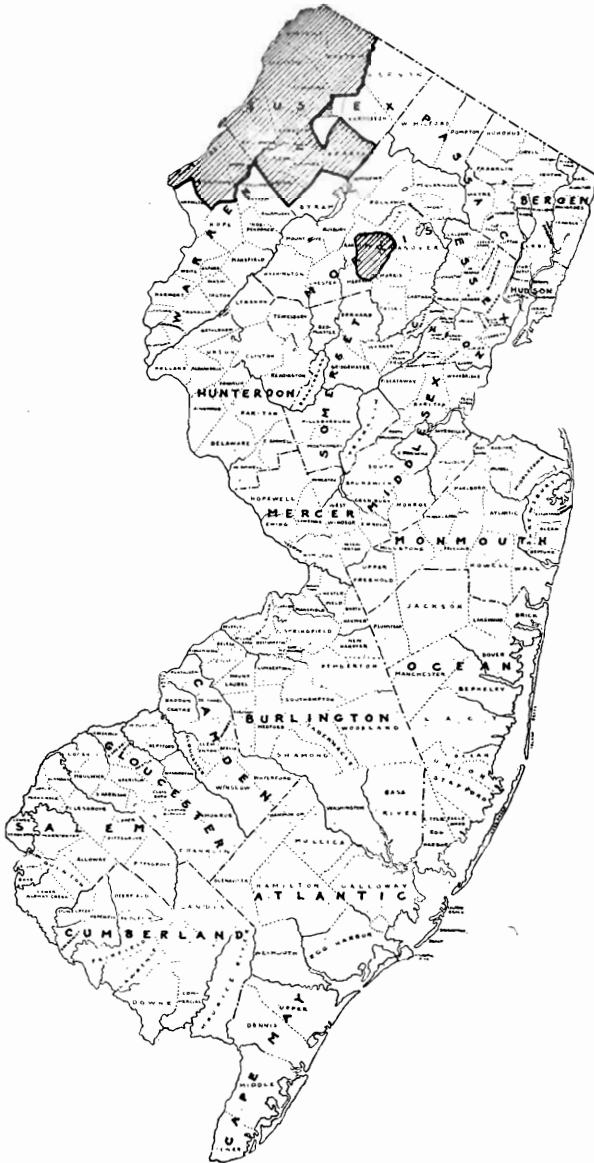
During the months of July, August and the greater part of September, the gipsy moth crew was engaged in assembling cage work. One adult male gipsy moth was taken at cage No. 12 in Randolph Township near Mount Freedom. This is about one and one-half miles northeast of the infestation found in Mendham Township in the previous season.

CAGES PUT OUT, BY COUNTIES

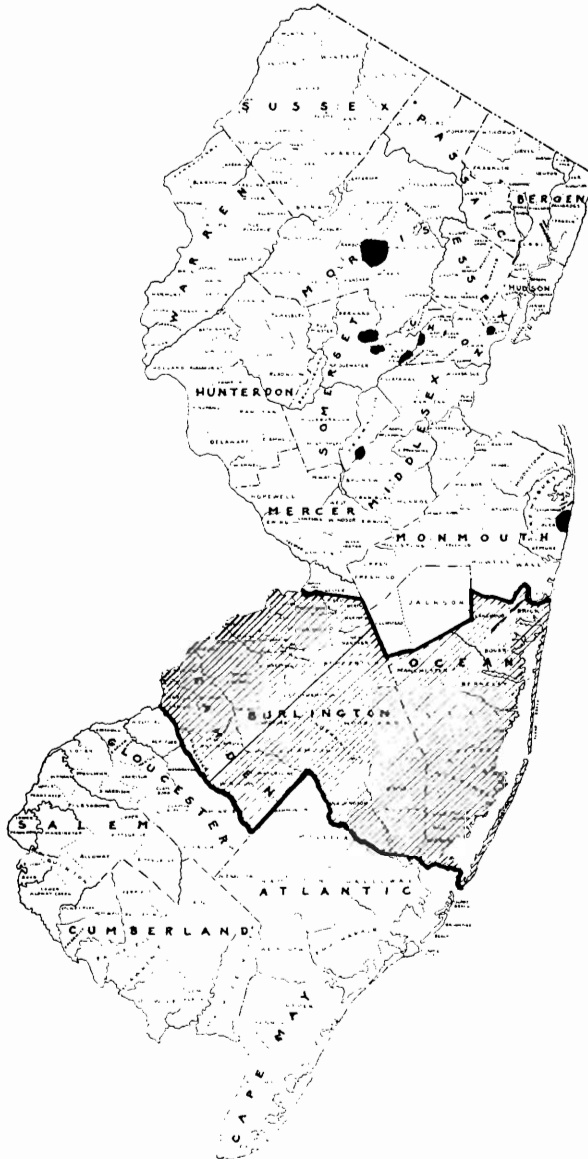
County	No. of Cages	County	No. of Cages
Essex	112	Hunterdon	40
Morris	721	Middlesex	50
Sussex	22	Burlington	6
Somerset	132	Japanese Beetle Laboratory ..	1
		Total	1,084

QUARANTINE WORK

A check of nursery stock and forest products entering New Jersey from the gipsy moth infested area in Pennsylvania was made at the bridges north of Frenchtown. The bridge tenders were on the watch for trucks and automobiles carrying such material but no reports were turned in of any contraband shipments.



AREA IN WHICH 834 GYPSY MOTH ASSEMBLING CAGES WERE DISTRIBUTED, 1933-1934.



GYPSEY MOTH SCOUTING, 1933-1934.

SOLID AREAS INDICATE SOLID SCOUTING. SHADED AREAS INDICATE OPEN SCOUTING (ISOLATED OAKS, FRUIT TREES, IMPORTANT GROWTH ON WOOD-EDGES, PICNIC GROUNDS, BUS STOPS, ETC.).

SCOUTING WORK

Scouting work is necessary and is the only method known whereby it is possible to definitely locate a gipsy moth infestation. By scouting is meant the inspection of trees, shrubs, and anything on which gipsy moth egg masses may be deposited.

Because of the male miller found at Randolph much scouting was done at that point. The snow and ice interfered considerably with the scouting work the last of February and operations were temporarily suspended in the Mendham area.

Inasmuch as no gipsy moth work has ever been attempted in the southern part of the state, it was decided to roughly scout the main highways in Burlington, Ocean and Camden counties. In this scouting work, all important trees along the highways, large oaks in the open, important wood-edges for a reasonable distance from the roads, old orchards, etc., were inspected. Also, particular attention was given to areas in the vicinity of bus stops, picnic groves, and places where automobiles are common.

At the conclusion of this scouting, work was resumed at Mendham. Three new and fertile gipsy moth egg masses were found at the old infestation. Apparently a few of the egg masses last season hatched late, and the larvae thus had access to the new foliage which was not sprayed.

CLEAN-UP WORK

The only clean-up work necessary was the spraying of the area in Mendham where egg masses were found. The entire top of the ridge and the northeast slope were thoroughly sprayed. This included the area where the three egg masses were found, and, in addition, the area in which the ledges are located.

RESULTS OF SCOUTING WORK

STATE DEPARTMENT OF AGRICULTURE

Place Worked	Acres Woodland	Miles Roadside	Miles Wood-edge	Shade Oak Trees	Fruit Trees	Acres Sprayed	Infestation	Egg Masses	Adult Male Moths
Burlington County	333.00	...	43.00	3,619	753	...	..	..	..
Camden County	3.50	11.50	...	710	...	...	..	..	..
Bernards Township	57.50	...	...	...	...	...	..	..	..
Deals, Interlaken	6.00	.50	...	4,306	...	...	..	..	..
Elizabeth, City .....	...	...	...	225	75	...	..	..	..
Fanwood, Borough	12.00	...	...	...	...	...	..	..	..
Hanover Township	49.75	...	...	...	...	...	..	..	..
Mendham Township	102.50	...	...	...	...	32.50	1	3 (new)	..
Miscellaneous	24.50	...	...	1,859	75	...	..	..	..
Morris Township	202.50	...	...	...	...	...	..	..	..
North Plainfield Township	11.50	...	...	...	...	...	..	..	..
Ocean County	279.50	...	28.25	2,515	18	...	..	..	..
Randolph Township	356.75	...	...	...	...	...	..	..	1
South Brunswick Township ...	37.50	...	...	...	...	...	..	..	..
Warren Township	66.50	...	...	...	...	...	..	..	..
West Long Branch	17.00	1.50	...	2,067	...	...	..	..	..
Totals	1,560.00	13.50	71.25	15,301	921	32.50	1	3	1

JAPANESE BEETLE SUPPRESSION

A report of the Japanese beetle activities for the summer of 1933 must be prefaced by the presentation of the last subheading of the Japanese beetle suppression report which appeared in the eighteenth annual report of the Department of Agriculture. This subheading considers the arrangement and planning of the corn trap crop areas in the South Jersey trapping areas.

One hundred and seventy-five plots were sown by broadcasting corn at the rate of one bushel per acre. This seeding was done during the first two weeks of May. In most of the cases the germination and stand were excellent. However, a siege of hot weather unprecedented for the time of the year, occurred over a two-day period, June 9 and 10. Because of this extreme heat, a considerable number of plants were permanently stunted. Unfortunately, about 140 of the 175 planted plots were severely damaged by the hot weather. As such, of course, their magnetism as a trap crop area was substantially reduced. Even so, the captures in many of these locations were gratifying.

Another principal change in the trapping procedure as compared with previous years was the adoption of a large-size beetle trap. The trapping work of 1933 indicated definitely that traps with one-gallon beetle receptacles were of inadequate size to accommodate the large number of beetles attracted to the traps. Accordingly, during the spring of 1933, plans and specifications were prepared for a modified Japanese beetle trap with a ten-gallon beetle receptacle. One thousand of these traps were ordered, of which 925 were distributed in southern New Jersey.

The beetles as usual established themselves in great numbers on the farm apple orchards. The foliage soon disappeared. It must be borne in mind, however, that these trees had already suffered a preliminary destructive action due to the extensive feeding of tent caterpillars.

The Japanese beetle trapping season of 1933 presented circumstances which, for the most part, were disadvantageous for the operation of traps which depend on chemotropic conditions. Heavy beetle emergence occurred during the first week in July. This emergence was coincidental with ideal trapping weather. The captures during the first week in July were heavy. In many instances the traps (large traps) became filled within the trapping period of one day.

In one location it was definitely known that six of the large traps captured 65 gallons during a three-day period (the Thursday, Friday and Saturday of the first week in July). The second week of July was cool and the attitude of the beetles was one of indifference toward trap attraction. The third and fourth weeks of July presented reasonably good trapping weather. However, the entire month of August was generally very unsatisfactory from the weather standpoint because of an apparent alternation

between rainfall and high humidity, both conditions being non-conducive to satisfactory trapping.

During the summer of 1932, trapping work was conducted in Salem county involving 350 farms with a placement of about 2,400 small traps. The captures during the summer of 1932 in this area of about 150 square miles totaled about 40,000 gallons. The trapping weather during the summer of 1932 was ideal, having at one time 14 consecutive days when trapping captures were excellent. During the season of 1933, 200 square miles were trapped in South Jersey involving 980 ten-gallon traps and 300 one-gallon traps. The total notated captures in 1933 were 27,261 gallons as compared with the 40,000 gallons captured the year previously.

During the summer of 1933, the trapping area was increased to include approximately 200 square miles. Instead of placing traps on every farm, an attempt was made to advantageously locate trap crop areas in which a number of the larger traps were placed. This work involved 150 farms, about 980 of the large traps and about 300 of the small traps. The significant feature of the trapping work of 1933 was that, during the first week of July, at a time a considerable number of beetles had emerged from the ground and the females had not yet laid very many eggs, the capture should have reached the proportion that it did. In view of the investigational work conducted this summer, it is very conservatively estimated that the females captured during the first week of July averaged at least ten eggs and that the ratio of males to females in the traps was about one to one. It was significant to note that, in many instances where the traps were placed on the windward side of heavy Japanese beetle infestations of an economic crop, the infestation was very substantially reduced and that in many instances the crop was saved by the active operation of Japanese beetle traps. This is particularly true of small plantings of sweet corn.

The usual fall grub surveys were made in South Jersey localities and again in Ocean County. The population of grubs indicated a decrease of the infestation in Salem County and a slight increase in the infestation in Cumberland County. The grub surveys conducted in Ocean County indicated that a drastic reduction in beetle population had taken place in locations where trapping work had been done. This circumstance was also confirmed by the firmly rooted condition of the grasses.

In September, 1933, one of the rooms in the Elmer headquarters was converted into an incubation room for the culture of nematodes. These nematodes were cultured on galvanized iron trays, 24 by 30 inches in size, in which was poured nutrient agar. After considerable difficulty with temperatures, it was deemed advisable to abandon further fall effort on this nematode project. In the spring of 1931, the nematode-raising equipment was moved to a building at White Horse.

Almost the entire month of April was devoted to the culturing of nematodes in trays in a medium of raw, ground potatoes which was substituted for the nutrient agar as a result of an experimentation conducted during the winter. Again, considerable difficulty was encountered because of a development of acidity in excess of the tolerance of the nematodes. However, with diligent attention, 49 trays were finally considered in a condition for field application. On the night of May 1, applications were made on two fields in Cumberland County, one a seven-acre pasture with a grub population of 25 per square foot, and the second a twelve-acre pasture with a grub population of 23 per square foot. The following morning a pasture near Shirley was inoculated with nematodes both by the direct method of burying and surface application during rain.

Grub surveys made at the location of inoculation during the first week in June revealed practically no parasitism. It is believed that the interval between the time of application of nematodes and the cessation of feeding was too short for effective work. These locations, however, will be carefully checked in the fall of 1934 to ascertain the status of the parasitism established by the introduced nematodes.

In the spring of 1934, the members of the Committee on Plant Industry of the State Board of Agriculture, formed a Japanese Beetle Trap Committee, this committee having for its purpose the acceptance of orders for Japanese beetle traps from residents of the state and negotiation with manufacturers of traps and accessory equipment for the manufacturing of these traps at a reasonable price. After intensive work and wide circularization, orders for 500 traps were assembled. These traps were delivered either directly to the premises of the purchaser or to the county agents of the respective counties for the benefit of the purchaser. These traps employed for the first time a screw-cap attachment arrangement between the funnel wall and the beetle receptacle.

The usual spring grub surveys were made with the results paralleling those of previous years. The grub reduction during the winter months was negligible in spite of the fact that temperatures well below zero were encountered for many days during the winter. However, the extensive snow cover on the surface of the ground prevented the reduction of the soil temperature to the point where larvæ destruction would take place. A soil thermograph bulb placed one inch below the surface of the ground at the Japanese Beetle Laboratory at Moorestown had a minimum reading of 27° F. for the entire winter period.

The two spring grub surveys made during the first few days of June indicated about 50 per cent loss in grubs as compared with the grub population ascertained by the grub survey made the month previously. This population reduction is undoubtedly attributable to the visitations of black birds and starlings.

Spring arrangements for the trapping work for the summer of 1934 involved the usual area in South Jersey and approximately 25 square miles in Central Jersey. An infestation quite annoying locally has established itself in the vicinity of Hightstown and Cranbury.

Additional experimentation was planned for municipal trapping involving five communities in New Jersey. These communities were Pennington, Princeton, Lawrenceville, Allentown and Stelton. The principle employed in each of these cases is the establishment of community attractants on the outskirts of the municipality limits in order to lure the beetles from the town proper to the trap crop areas and to traps.

JAPANESE BEETLE QUARANTINE WORK

(*Calendar Year 1933*)

The following report will indicate the extent of the quarantine work that was carried on jointly by the Bureau of Plant Industry and the Bureau of Plant Quarantine of the United States Department of Agriculture. The work is more detailed than is here shown and full records are available in office files.

TRAPPING

Following the plan inaugurated in 1932, 680 traps with liquid bait were placed in 15 locations in Sussex County. Two men, with automobiles, were assigned to this work, with headquarters at Newton and Franklin. One thousand thirty-two beetles were caught during the year, the heaviest infestation again being at Franklin, where 545 beetles were caught.

NURSERY AND GREENHOUSE SCOUTING

All Class I establishments were scouted during the summer, as well as an area of 1,000 feet surrounding each establishment. In order to accomplish this work, it was necessary to station one crew, consisting of a foreman and three scouts, at Rutherford. A crew working out of White Horse was also assigned to scouting nurseries and greenhouses, intermittently, and the remainder of its time was consumed by farm products inspection work. During the year, 673 scoutings were made at 125 establishments, or an average of 5.38 per establishment.

The following table shows the relative concentration of Class III establishments in New Jersey as compared with the entire area under quarantine, as of December 31, 1933.

	Entire Area.	New Jersey.	Per Cent in N. J.
No. Class I establishments	1,852	102	5.5
No. Class I and III establishments	16	2	12.5
No. Class III establishments	492	288	58.5
No. Classified establishments	2,360	392	16.6

SAND, MOSS AND PEAT SCOUTING

Three crews were assigned to sand, moss and peat scouting. One was stationed at New Brunswick, one at White Horse, and the other at Glassboro. Practically all the pits, however, were found infested, although they varied in degree. As customary, when the pits were found to be infested, the crews were transferred to other phases of the work. The crews working out of New Brunswick and Glassboro were subsequently assigned to farm products inspection work at Cedarville, while the crew stationed at White Horse was assigned to farm products work in this section.

In the fall, the scouting was resumed to determine the absence of infestation and subsequent releasing of the pits from the summer requirements.

FARM PRODUCTS

Farm products inspection in the state during the year required the services of 33 men, operating from 11 inspection points, 5 of which were by appointment. The increase of eight men over last year was made necessary, in spite of the reduction in the total amount of units certified, by the vast quantities of beans which were shipped to midwestern points.

In 1932, a goodly portion of the beans being certified at Cedarville originated in certain sections of Cumberland and Cape May counties, where farm land scouting failed to reveal infestations on a great many of the farms. As reported for the year, when large buyers at Cedarville were making up cars to be shipped outside the area, they restricted their purchases, whenever possible, to beans offered by "accredited" farms. However, the infestation this year was such that practically all the beans shipped had to be inspected, which was accomplished by subjecting them to the treatment with the so-called "bean machine."

A failure of the bean crop in the midwest created a very good market for New Jersey beans. More than 70,000 bushels of beans were certified for shipment from the State of New Jersey to points outside the quarantined area, a majority of which were shipped to the Midwest.

The Midwest crop failure not only afforded a market for beans in the Cedarville section, but in other bean centers of the state as well. A large quantity of beans were certified at a large farm at Cream Ridge.

It was rather difficult to count the number of beetles escaping from hampers of beans when subjected to this procedure, but there is a record of 4,602 beetles being removed from beans certified in this state.

The demand for immediate certification of beans was so great that it was necessary to construct 12 additional bean machines, as well as 35 temporary wire frames in order to render adequate inspection service.

No berries were fumigated at Hammonton during the year and only 2,388 crates of blueberries were fumigated at New Lisbon. The local markets for this commodity, as well as the inclusion of Boston, Mass., inside the quarantined area accounts for the decrease in the berries certified.

One hundred and forty-two packers of fruits had their method of packing and grading approved during the year. The same scheme of notifying all inspection points was carried out again during the year.

FARM LAND SCOUTING

In order to enable us to grant certification on commodities restricted by the quarantine with the least amount of inconvenience to the grower or shipper, we continued to scout as many farms as possible and, in the absence of any appreciable infestation, the farm became "accredited." However, this year, the infestation was such that at the height of the shipping season practically all farms were found infested and actual inspection was necessary on the products offered for shipment. However, earlier in the season, certification was granted on the basis of absence of infestation. During the season approximately 305 such farms were scouted.

INSPECTION POINTS, NUMBER OF PACKAGES CERTIFIED AND NUMBER OF BEETLES REMOVED

Place	Period Operated	Hours per Day Open	Number of Men	Packages Certified	Beetles Removed
Bridgeton	June 15 to Sept. 15	8	*	8,055	649
Cedarville	June 15 to Sept. 15	8	12	27,968	2,517
Glassboro	June 15 to Oct. 15	8	10	24,074	640
Hammonton	June 15 to Sept. 9	8	2	2,068	0
Newfield	June 15 to Sept. 15	8	†	9,756	0
Newport	June 15 to Sept. 15	8	*	1,472	312
Pedricktown	June 15 to Sept. 15	8	†	43	5
Rosenhayn	June 15 to Sept. 15	8	*	90	0
Rutherford	June 15 to Oct. 15	8	1	110	0
Swedesboro	June 15 to Sept. 15	8	†	804	6
Trenton	June 15 to Oct. 15	8	8	9,570	491
Totals				84,010	4,620

* These points were taken care of from Cedarville, where a crew of 12 men was stationed.

† These points were taken care of from Glassboro, where a crew of 10 men was stationed.

NINETEENTH ANNUAL REPORT

153

TOTAL NUMBER OF PACKAGES OF FRUIT, VEGETABLES AND CUT FLOWERS CERTIFIED IN THE REGULATED AREA OF NEW JERSEY, SUMMER OF 1933, AND NUMBER OF BEETLES REMOVED

Articles	Number of Packages	Number of Beetles Removed
Corn	101	1
Lima Beans	8,864	1,041
String Beans	61,769	3,561
Apples	119	...
Peaches	10,405	...
Blackberries	137	...
Blueberries	1,900	17
Raspberries	486	...
Bananas	2	...
Cut Flowers	227	...
Totals	84,010	4,620

NUMBER OF BALES OF OAK LEAVES AND SPHAGNUM MOSS CERTIFIED BY ALL OFFICES IN THE REGULATED AREA OF NEW JERSEY FOR SHIPMENT TO EACH STATE

State	Moss	Oak Leaves	Total
Colorado .....	..	7	7
Florida	1	..	1
Illinois	6	..	6
Indiana	5	..	5
Maryland	13	..	13
Michigan .....	..	20	20
North Carolina	17	..	17
New York	111	..	111
Totals	153	27	180

NUMBER OF PLANTS OF NURSERY AND ORNAMENTAL STOCK CERTIFIED FOR SHIPMENT TO VARIOUS STATES, BY MONTHS, 1933

January	340,981
February	176,900
March	385,270
April	374,707
May	261,090
June	213,110
July	185,845
August	107,488
September	79,246
October	158,848
November	286,213
December	230,313
Total	2,800,011

During the year, 3,597,441 plants were certified to dealers inside the area, making the total number of plants certified, 6,397,452.

CARLOADS OF EACH CLASS OF SAND, SOIL, PEAT, ETC.,
CERTIFIED EACH MONTH AND TOTALS

Month	Processed Material	Molding	Marl	Clay	Peat	Total
January	23	11	2	4	1	41
February	14	12	5	3	..	34
March	12	10	4	4	..	30
April	13	19	2	8	2	44
May	20	37	4	6	2	69
June	23	51	3	47	..	124
July	29	29	4	14	..	76
August	16	23	9	44	..	92
September	16	35	6	14	..	71
October	13	144	7	75	1	240
November	14	31	5	18	..	68
December	9	12	2	6	..	29
Totals	<u>202</u>	<u>414</u>	<u>53</u>	<u>243</u>	<u>6</u>	<u>918</u>

CARLOADS OF MANURE CERTIFIED FOR SHIPMENT TO
OTHER STATES

State	Carloads
Maryland	5
New Mexico	1
New York	1
Ohio	1
West Virginia	1
Total	<u>9</u>

TOTAL AMOUNT OF ARTICLES CERTIFIED AND NUMBER OF
BEETLES REMOVED IN THE STATE OF NEW JERSEY
DURING THE YEAR 1933

		Beetles Removed
Total Packages, Farm Products	83,783	4,620
Total Packages, Cut Flowers	227	....
Total Bales, Moss and Oak Leaves	180	....
Total Plants Certified	2,800,011	....
Total Carloads, Sand, Soil, Etc.....	912	....
Total Carloads, Manure	9	....
Total Carloads, Peat	6	....
Total		<u>4,620</u>

NINETEENTH ANNUAL REPORT

155

SOIL TREATMENTS WITH VARIOUS SUBSTANCES

46	trees treated in the field with carbon disulphide
225	plants treated—carbon disulphide dip
3,348	plants treated—hot water
1,499.34	cubic yards potting soil fumigated with carbon disulphide
12.25	cubic yards potting soil treated with arsenate of lead
29.14	cubic yards potting soil steam sterilized
4.13	cubic yards manure fumigated with carbon disulphide
.17	cubic yards leaf mold fumigated with carbon disulphide
4,975,847	square feet leaded area in certified status
4,409,418	square feet of which contains
559,930	growing plants
566,429	square feet heeling-in area
3,391.43	square feet surface fumigated with carbon disulphide
2,742	square feet surface fumigated with carbon disulphide emulsion
44	cars sand fumigated with carbon disulphide

SCOUTING, 1934

100 establishments scouted
358 scoutings made

TOTAL MEN EMPLOYED AT ALL OFFICES

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Nursery and Greenhouse...	12	14	21	32	35	39	27	27	22	27	26	22
Maintenance	3	2	2	3	3	3	3	3	3	2	2	2
Farm Products .....	..	..	..	..	..	10	31	31	12	..	..	..
Soil Treatment	1	3	2	3	3	3	3	3	3	3	3	3
Trapping .....	..	..	..	..	..	2	2	2	..	..	..	..
Intermittent* .....	..	20*	17*	11*	10*	..	..	..	..	..	..	..
Totals	16	19	25	38	41	57	66	66	40	32	31	27

* These men were hired intermittently, depending upon weather conditions for soil sampling, grubbing-in experimental plots, etc. Their length of employment was very erratic—sometimes but one or two days during the entire week. Therefore, these figures were not included in the totals for each month.

EUROPEAN CORN BORER "CERTIFICATES OF INSPECTION" ISSUED, JULY 1, 1933, TO JUNE 30, 1934

State	Chrysanthemums	Asters	Hollylocks	Dahlia Cut Flowers	Dahlia Plants	Celery, Cases	Rhubarb	Beans	Beets, Crates	Misc.	Totals
Alabama	....	...	...	.....	109	...	...	...	...	...	109
Arizona	48	1	...	.....	42	...	...	...	...	...	91
Arkansas	68	4	5	.....	544	...	22	...	...	...	643
California	1,346	43	...	.....	356	...	...	...	...	...	1,745
Colorado	161	38	...	.....	69	...	...	...	...	...	268
Dist. of Col.	....	1	...	.....	...	...	...	...	...	...	1
Florida	1,115	19	5	.....	25	...	62	...	...	...	1,226
Georgia	1,569	82	6	4 Bxs.	667	...	1,000	...	...	46	3,374
Idaho	51	2	1	.....	50	...	...	...	...	...	104
Illinois	1,123	185	36	24-2 Bxs.	2,122	250	930	4,652	705	3	10,032
Indiana	613	72	24	1 Bx.	504	...	106	1	...	...	1,321
Iowa	489	185	...	.....	211	...	...	...	...	...	885
Kansas	470	53	2	.....	145	...	3	...	...	...	673
Kentucky	1,755	118	12	1 Bx.	1,138	...	1,676	...	...	36	4,736
Louisiana	322	13	12	.....	172	...	502	...	...	...	1,021
Maryland	12	...	...	.....	2	...	...	...	...	...	14
Michigan	1,349	166	40	.....	367	...	10	510	...	...	2,442
Minnesota	1	...	...	.....	...	...	...	...	...	...	1
Mississippi	318	19	6	.....	893	...	...	...	...	1	1,237
Missouri	564	82	18	.....	531	...	12	667	...	...	1,874
Montana	....	3	...	.....	...	...	...	...	...	...	3
No. Carolina	6	...	...	.....	29	...	...	...	...	...	35
Nebraska	228	25	...	.....	73	...	...	...	...	...	326
Nevada	12	1	...	.....	...	...	...	...	...	...	13
New Mexico	380	63	...	.....	108	...	1	...	...	...	552
Ohio	2,709	378	60	1 Bx.	985	...	27	2,855	...	6	7,021
Oklahoma	631	73	14	.....	218	...	3	...	...	...	939
Oregon	567	36	5	.....	78	...	4	...	...	...	690
Pennsylvania	4	...	...	.....	...	...	...	...	...	...	4
So. Carolina	752	109	14	.....	424	...	21	...	...	...	1,320

So. Dakota	61	8	...	.....	17	...	...	...	...	...	86
Tennessee	1,000	84	35	.....	571	...	138	...	...	16	1,844
Texas	887	75	12	.....	203	...	440	...	...	...	1,617
Utah	48	3	...	.....	...	...	...	...	...	...	51
Virginia	3,354	333	77	.....	1,509	10	208	...	...	73	5,564
Washington	442	12	...	.....	110	...	...	...	...	...	564
Wisconsin	408	44	4	.....	736	...	514	...	...	6	1,712
Wyoming	18	19	...	.....	...	...	12	...	...	...	49
Foreign	50	...	...	.....	...	...	...	...	...	...	50
Totals	22,931	2,349	388	24-9 Bxs.	13,008	260	5,691	8,685	705	187	54,237
Total value of above shipments, \$54,237.00.											

THE DUTCH ELM DISEASE

The Dutch elm disease, which has spread over practically all northwestern and central Europe and south to Italy, leaving dead elms in its wake, was discovered in New Jersey in June, 1933. Its seriousness was recognized by both federal and state authorities, and, immediately, the Federal Department of Agriculture put a small force in the field to determine its extent.

The disease in question is caused by a parasitic fungus (*Ceratostomella ulmi*) which develops in the sapwood and causes the death of the infected tree. The disease is presumably spread by insects, especially the bark beetle, *Scolytus multistriatus*, which develops in dying and dead trees and which feeds upon healthy trees. The disease may spread slowly or rapidly, and, in acute cases, the younger leaves wilt and the wilting soon extends until all the foliage is involved. Sometimes there may be a partial yellowing or browning before withering takes place. At other times the leaves dry up while still green. These are the external symptoms. Positive identification of the disease must be made in a laboratory by culturing the disease from twig samples of the tree.

During the summer and fall of 1933, federal scouts found approximately 700 diseased trees in the area covered by Essex, Hudson, Bergen, Passaic, Union, Middlesex, Somerset and Morris counties, principally in Essex County. Eradication work was engaged in by the New Jersey Agricultural Experiment Station, the Federal Department of Agriculture and by various municipal shade tree commissions, but without adequate funds, and, as the scouting continued, it became apparent that unless enough money was forthcoming the spread of the disease could not be checked.

The Federal Department of Agriculture, through its continued scouting activities in New Jersey during the winter of 1933-1934 and the spring of 1934 developed the fact that the Dutch elm disease was widespread in the northeastern section of the state, especially in the counties previously mentioned. This scouting was continued during the spring and summer, and, by June, 1934, it was apparent that a serious situation had developed and that the extinction of all the elms in the state was threatened.

The American elm is one of the most important shade trees in northern New Jersey. It is estimated that more than a million elms exist in New Jersey, most of them being in the northern half of the state. For example, five northern New Jersey cities report a total of nearly 50,000 elms representing thousands of dollars invested in planting, care and real estate values.

By June, 1934, 1,421 infected trees had been found in New Jersey, distributed by counties as follows: Bergen 106, Passaic 133, Hudson 10, Essex 872, Union 271, Middlesex 16, Somerset 6, Morris 7. Of this total, 1,200 had been removed. But, on the other hand, newly infected trees were being discovered at a rapid rate and it was estimated that 1,500 would be found in New Jersey during the summer and fall scouting.

Up to this point the Federal Government had spent in New Jersey about \$175,000; the state, \$5,000, and various municipalities, \$15,000. Realizing the seriousness of the situation, the Legislature in July, 1934, appropriated \$30,000 for the destruction of diseased trees, and eventually more than 1,800 trees were destroyed with such funds. However, the spread of the disease has been faster than was anticipated and at present (October 11, 1934) 1,443 diseased trees are standing which during the coming spring and summer will constitute a menace to healthy elms. At this writing the states of New Jersey, New York and Connecticut have formulated a plan, involving the eradication of the disease, which is to be presented to the President of the United States.

The disease has resulted in the loss of thousands of elm trees in Continental Europe and England during the past 15 years, and its national importance in this country should be immediately recognized and adequate funds should be provided for its extermination.

OFFICIAL ACTION RELATIVE TO THE DUTCH ELM DISEASE

In view of the discovery of the Dutch elm disease in New Jersey in June, 1933, and subsequent findings, the State Board of Agriculture on August 15, 1934, authorized the Bureau of Plant Industry to enter into agreements with the nurseries in the infected area whereby the sale of elms would be restricted to the infected territory of New Jersey. This action was thought necessary in order to assure the inspection authorities of other states that their interests were being protected. In accordance with such authorization, agreements were entered into with 340 nurseries in Essex, Hudson, Passaic, Union, Middlesex, Somerset, Morris and Bergen counties. The text of this agreement is given on page 160.

STATE DEPARTMENT OF AGRICULTURE

STATE OF NEW JERSEY

DEPARTMENT OF AGRICULTURE

WILLIAM B. DURYEE, *Secretary*

TRENTON

....., N. J.

....., 1933.

This is to certify that I, proprietor of the nursery, located at in County, New Jersey, do hereby agree to cooperate with the State Department of Agriculture in its effort to prevent the spread of the Dutch elm disease by accepting the following restrictions:

1. That no elm stock growing in my nursery will be moved or transported to any point outside of the area comprising Essex, Hudson, Passaic, Union, Middlesex, Somerset, Morris and Bergen counties. It is understood that if this area is enlarged this and the following restrictions shall apply to the enlarged area.
2. That I shall furnish the New Jersey Department of Agriculture with a weekly record of all shipments of elm trees made by me to points within the above area, giving the number of trees and the name and address of the consignee.
3. That, if I receive orders for elm trees from places outside the above-named area, such orders will be filled wherever possible with stock from nurseries outside the above-named area.

.....
Witness

.....
Proprietor

Number of elm trees (all species) at time of agreement

During the fall of 1933, elms in 33 nurseries in Essex, Union and adjoining counties were examined for symptoms of the Dutch elm disease and signs of the bark beetle supposed to spread the disease. No evidence of the Dutch elm disease was found in any nursery. Only in three nurseries was there noticeable beetle feeding, and there was no proof that the feeding was that of *Scolytus multistriatus*.

During February, 1934, arrangements were made with the Department of Agriculture and Markets of the State of New York whereby firms in the Dutch elm territory of New Jersey could ship elm nursery stock to the Dutch-elm-infected territory of New York. New York firms in the infected area were, of course, permitted to make similar shipments to the New Jersey area.

MISCELLANEOUS ACTIVITIES

During the fiscal year, the bureau chief continued to act as secretary of the Joint Committee on Rural Electrification in New Jersey and of the New Jersey Agricultural Forum. The meetings of the former body were devoted to the history of lighting, proper and improper wiring and lighting, and developments in electric soil and sash-house heating. The meetings of the latter were occupied with financial and tax problems of municipalities, farm credit, the relation between the farmer and the consumer, and food rackets.

Official Proceedings of the Nineteenth Annual State Agricultural Convention

TRANSACTION OF BUSINESS

Elmer H. Wene, president of the State Board of Agriculture, called the nineteenth annual State Agricultural Convention to order in the Veterans' Room of the War Memorial Building, Trenton, N. J., at 9:45 o'clock, Tuesday morning, January 23, 1934. The Rev. D. D. Rossell, of Columbus, chaplain of the New Jersey State Grange, led the meeting in prayer.

William B. Duryee, state secretary of agriculture, called the roll of delegates. Delegates whose names are marked with a single asterisk (*) were absent and were not represented by alternates; those whose names are unmarked were present. Two asterisks (**) indicate a vacancy for which no delegate was certified.

DELEGATES TO STATE AGRICULTURAL CONVENTION

FROM COUNTY BOARDS OF AGRICULTURE

Name	Address	Term	County
William J. Slack	Hammonton	2 Years	Atlantic
H. O. Packard	Hammonton, Alternate for		
Frank Makarius	Risley	1 Year	Atlantic
Arthur Lozier	Hackensack, R. D.	2 Years	Bergen
Henry Behnke	Hackensack, R. D.	1 Year	Bergen
*Harold J. Pew	Mount Holly	2 Years	Burlington
George T. Reid	Mount Holly	1 Year	Burlington
Maurice Collins	Merchantville	2 Years	Camden
*Howard H. Bell	Mt. Ephraim	1 Year	Camden
C. N. Shellenger	Green Creek	2 Years	Cape May
Walter Taylor	Cape May, R. D.	1 Year	Cape May
Frank L. Ott	Bridgeton, R. D.	2 Years	Cumberland
Howard M. Sheppard	Cedarville	1 Year	Cumberland
Marcus DeCamp	Roseland	2 Years	Essex
Herbert Francisco	West Caldwell, Alternate for		
Gilbert Squire	Livingston	1 Year	Essex
A. Clinton Clement	Westville	2 Years	Gloucester
T. Wood Wyne	Thorofare	1 Year	Gloucester
**			Hudson
Geo. A. Veltman	33 Garrison Ave., Jersey City.	1 Year	Hudson

NINETEENTH ANNUAL REPORT

163

Name	Address	Terms	County
Harold B. Everitt	Flemington	2 Years	Hunterdon
Charles Burd	Pittstown	1 Year	Hunterdon
Russell Applegate	Robbinsville	2 Years	Mercer
Weldon Shivers	Trenton, R. D. 1	1 Year	Mercer
Spencer Perrine	Cranbury	2 Years	Middlesex
Lawrence J. Smith	South River, Box 222	1 Year	Middlesex
Ruben G. Dorrer	Freehold, R. D. 4	2 Years	Monmouth
Archie Height	Freehold, R. D.	1 Year	Monmouth
Charles Broadhead	New Vernon	2 Years	Morris
Scott Parks	Chester	1 Year	Morris
H. H. Ober	Lakewood	2 Years	Ocean
Erwin Clement	Lakehurst	1 Year	Ocean
Herman Herfort	Paterson, R. D. 1, Alternate for Arthur Butt	2 Years	Passaic
Walter Sikkema	Paterson, R. D. 2	1 Year	Passaic
Edward Broomell	Woodstown	2 Years	Salem
Albert Kessler	Woodstown, R. D. 2	1 Year	Salem
F. M. Van Derveer	North Branch	2 Years	Somerset
Harry W. Kline	New Brunswick, R. D. 6	1 Year	Somerset
Jacob S. Katzenstein	Franklin	2 Years	Sussex
Mrs. W. W. Roy	Newton, Box 73	1 Year	Sussex
John Kulp	Springfield	2 Years	Union
Charles H. Brewer	Rahway, R. D. 2	1 Year	Union
*Frank Pursel	Alpha, R. D.	1 Year	Warren
Nils B. Swenson	Hackettstown	1 Year	Warren

FROM POMONA GRANGES

Name	Address	Term	County
Martin Decker	Egg Harbor, Alternate for Henry Tapken	1 Year	Atlantic
Herman G. W. Henniger	Clifton, R. D. 1	1 Year	Bergen and Passaic
Clinton H. Cowperthwait	Medford	1 Year	Burlington
**			Camden
J. Reid Chambers	Eldora	1 Year	Cape May
A. W. Fund	Livingston	1 Year	Central District
Leon Spencer	Millville, R. D. 1	1 Year	Cumberland
Albert C. Ridgway	Mullica Hill	1 Year	Gloucester
Theo. H. Dilts	Three Bridges	1 Year	Hunterdon
**			Mercer
Harry W. Kline	New Brunswick, R. D. 6	1 Year	Middlesex and Somerset
Charles H. Okerson, Jr.	Freehold, R. D. 2	1 Year	Monmouth
*Newton B. Shimp	Bridgeton, R. D.	1 Year	Salem
William Leport	Sussex	1 Year	Sussex
*W. A. McCain	Vail	1 Year	Warren

FROM OTHER ORGANIZATIONS

- American Cranberry Growers' Association—Theodore H. Budd, Pemberton, 2 years;
Edward Crabbe, Toms River, Alternate for James D. Holman, Whitesville, 1 year.
- New Jersey State Horticultural Society—Howard F. DeCou, Merchantville, 2 years;
Newlin B. Watson,* Greenwich, 1 year.
- New Jersey State Grange—Walter H. Whiton, Neshanic, 1 year; Henry M. Loveland, Bridgeton, 1 year.
- New Jersey State Poultry Association—John H. Weed, Vineland, 1 year; Henry Rapp, Jr., Farmingdale, 1 year.
- New Jersey Agricultural Experiment Station—Jacob G. Lipman, New Brunswick, 1 year.
- New Jersey State College of Agriculture—James Neilson,* New Brunswick, 1 year.
- Holstein-Friesian Cooperative Association—P. P. VanNuys, Bellemead, 1 year.
- New Jersey Guernsey Breeders' Association—William M. Nulton, Jr., New Brunswick, 1 year.
- New Jersey Alfalfa Association—David S. Croshaw, Wrightstown, 1 year.
- New Jersey State Potato Association—R. C. Clayton, Freehold, R. D., 1 year.
- Cooperative Growers' Association of Beverly—William K. Hookstra, Beverly, 1 year.
- New Jersey Beekeepers' Association—Paul L. Holcombe, Lambertville, R. D., 1 year.
- E. B. Voorhees Agricultural Society—Clarence M. Alles, Flemington, R. D. 3, 1 year.

APPOINTMENT OF COMMITTEES

President Wene appointed the following committees:

COMMITTEE ON CREDENTIALS

George T. Reid, Mount Holly
Mrs. W. W. Roy, Newton
Walter Sikkema, Paterson

GOVERNOR'S ESCORT

Walter H. Whiton, Neshanic
John H. Weed, Vineland
William J. Slack, Hammonton

TELLERS

Erwin Clement, Lakehurst
C. N. Shellenger, Green Creek
R. C. Clayton, Freehold

REPORT OF CREDENTIALS COMMITTEE

Mr. Reid, after examining the credentials of the delegates, reported that the Credentials Committee had found them all correct, with the exception that the Gloucester County Board of Agriculture had no delegates as such, but the Gloucester County Agricultural Cooperative Association had two delegates although it is not specifically named in the state agricultural law as being entitled to any delegates. Mr. Herman C. Demme, president of the association, explained that it represents a merger of the County Board of Agriculture with the Gloucester County Agricultural Cooperative Association and that the association had taken over all duties and functions of the board. Upon a motion regularly made and seconded, the convention voted to admit the association's two delegates.

ELECTION OF BOARD MEMBERS

President Wene called for nominations for two members of the State Board of Agriculture. Herman C. Demme, of Sewell, Richard S. Schomp, of Stanton, and Walter Taylor, of Cape May, were nominated. Upon a motion regularly made and seconded, the nominations were voted closed and the delegates cast their ballots. Later, Mr. Shellinger reported for the tellers that Mr. Demme had received 55 votes, Mr. Schomp 56 votes, and Mr. Taylor 16 votes. President Wene thereupon declared Mr. Demme and Mr. Schomp elected.

The new board members were elected for four-year terms to succeed President Wene and H. Norman Fogg, of Hancock's Bridge, whose terms expired June 30, 1934.

AWARDING OF CITATIONS

President Wene announced that it is the custom of the State Board of Agriculture to confer citations for outstanding contributions to agriculture upon New Jersey agricultural leaders. The persons selected by the board to receive such citations at the 1934 convention were Edward E. Cooper, of Plainfield, and former State Senator David H. Agans, of Three Bridges.

President Wene awarded a citation to Mr. Cooper, saying:

"Mr. Cooper—

"The State Board of Agriculture has invited you to come here this morning, and in the presence of all of the delegates from every part of New Jersey, to pay tribute to your outstanding service to agriculture.

"While you are active in every worthwhile and constructive agricultural endeavor, especial recognition is given to the fact that for twenty-three years you have served as president of the Somerset County Board of Agriculture. During that period many changes in agriculture and agricultural policy have taken place.

The organization of county extension service, under federal, state and county sponsorship, was developed under your leadership, and largely through your interest and direction the work is vigorous and constructive.

"With a background of practical farming, you have striven to make the lot of farmers in your county and state more worthwhile. We note with interest that your bed is in the same farm house and in the same room in which you were born.

"There are few in this state who have given more to the cause you support. We publicly commend you now for your outstanding contribution to agriculture in Somerset County and in New Jersey, in token of which we hand you this certificate bearing the official seal of the state."

President Wene then conferred a citation upon Senator Agans, saying:

"Senator Agans—

"An attempt to cite your contributions to agriculture is to record agricultural history in New Jersey for a generation. You are probably best known as the Master of the State Grange, an honor which has come to you in the wake of thirty-four years of active membership in that organization. Many other positions of distinction have come to you during that period, all of which you have richly earned. You have served agriculture through membership in the State Legislature, first as assemblyman and later as senator over a period of nine years, representing Hunterdon County in particular, and all the rural interests of the state in general. Insofar as the Department of Agriculture is concerned, you have been a member of the State Board of Agriculture and later became supervisor of markets at the period when the present well-developed system of auction markets had its inception.

"You have been master of the State Grange for fourteen years and overseer, or second in command, of the National Grange for seven years. General acceptance of your ability and capacity to lead has made your successive elections to these offices a matter of record only.

"In every movement to improve agriculture and to make conditions better for the farmers of this state, you have given unstintedly of your time, energy and ability. As a member of the State Board of Taxation, you contributed greatly to the public recognition of the need of tax relief on real estate. As chairman of the New Jersey Joint Committee on Rural Electrification, you have helped to bring the benefits of electricity to farm homes throughout the state.

"In all of these positions and many others, your pecuniary reward has been slight but that has not affected your determination to serve.

"In honoring you today with this certificate, the State Board of Agriculture pays tribute to your sterling worth as a citizen of your community, your county and your state. We humbly ask divine blessing upon you and Mrs. Agans and say "*well done*," while urging you to continue your efforts in behalf of a more abundant life for New Jersey's farm families."

SPEAKING PROGRAM

Addresses were given by Governor A. Harry Moore; William B. Duryee, state secretary of agriculture, and L. H. Bean, economic advisor, Agricultural Adjustment Administration.

Upon the conclusion of the program, the convention adjourned at 12:15 P. M.