STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE

W. H. ALLEN, SECRETARY

Twenty-fifth Annual Report

of the

New Jersey State Department of Agriculture

July 1, 1939—June 30, 1940

Trenton, N. J., December, 1940

State Board of Agriculture

1939 - 1940

LESTER COLLINS, Moorestown, *President*
JAMES C. EWART, Cranbury, *Vice-President*
P. WENDELL BEIDEMAN, Haddonfield
JACOB A. BLAKESLEE, Newton
WILLIAM P. HOWE, JR., Pennington
HOWARD M. SHEPPARD, Cedarville
WALTER SIKKEMA, Paterson
JAMES C. WEISEL, Frenchtown

W. H. ALLEN, *Secretary of Agriculture*

DR. R. A. HENDERSHOTT, *Chief, Bureau of Animal Industry*
WARREN W. OLEY, *Chief, Bureau of Markets*
HARRY B. WEISS, *Chief, Bureau of Plant Industry*

CONTENTS

STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE

W. H. ALLEN, Secretary

Trenton

December 1, 1940.

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 Twenty-fifth Annual Report of the New Jersey Department of Agriculture, for the fiscal year ended June 30, 1940.

Respectfully yours,

W. H. Allen

TWENTY-FIFTH ANNUAL REPORT OF THE NEW JERSEY STATE DEPARTMENT OF AGRICULTURE

July 1, 1939 to June 30, 1940

Report of the Secretary of Agriculture

W. H. ALLEN

New Jersey agriculture, along with that of other states, has been faced for some time with the continuous problem of getting farm income to exceed farm expenses. Returns on both per farm and per acre basis would indicate that New Jersey is in a comparatively enviable position in this respect, compared with all other areas. However, few other sections are confronted with overhead costs such as make up the expense side of the account, so that the spread between income and outgo is narrowed.

In the specialized farming which exists to a large degree in New Jersey, certain groups of farmers are apt to be affected in variable degrees by adverse weather or marketing conditions. Rains beneficial to the dairyman and his pasture land sometimes have an opposite effect on the tomato grower. While several types of agriculture showed less gross income during the year than in 1938-39, gross farm income as a whole was a little greater than a year ago.

Concentration of attention toward improvement throughout the industry is manifested by efforts to obtain equal volumes of crops on fewer acres by various means. These may be cited as the use of better seed, improved soil management, closer planting of crops, modern machinery and more effective pest and disease control. Existing agricultural agencies are in a position to be of service along these lines, and the Department of Agriculture has geared its regulatory activities wherever possible, and especially its promotional or service work, to meet current needs.

The effectiveness of cooperative enterprise among producers has been manifest more than ever. There are now more than 10,000 members of cooperative associations in New Jersey who are availing themselves of the opportunities thus afforded. The twelve produce auction markets and the five egg and poultry auctions, all farmer owned and farmer controlled, continued to show increased volumes of goods handled with a corresponding rise in gross sales. No other method of sale has been as much responsible for farm and community benefits as has this ten-year-old development for which New Jersey is widely known, and with which the Department of Agriculture has been identified in organization, supervision of quality standards and in other ways.

Maintenance of public contacts has been one of the foremost needs and activities, and has been carried out in several ways. Wide dissemination of current market information for producers, and further development of consumer advertising programs on specialized products in conjunction with the New Jersey Council, have served in some degree in the more intelligent movement of crops in this age of growing competition.

ANIMAL DISEASE CONTROL

The mainspring of the bovine tuberculosis eradication program—regular testing of all cattle at intervals to keep in check any recurrence of the disease—functioned throughout the fiscal year. The number of cattle thus tested amounted to more than 206,000, among which the proportion of infected animals was .42 per cent, thus well maintaining the required disease-free minimum of 99.5 per cent. This continuous test program has been found valuable not only as a public health and welfare measure, but also as a means of preventing financial loss to both individual dairymen and the state. Since the inception of the eradication program in 1916, the state has made an investment of some three and one-third million dollars as indemnities.

Importations of cattle during the past fiscal year were 26,040: a difference of less than 100 compared with the year before. On the other hand, there was a 2 per cent rise in the number of cattle under supervision. This increase was due to a wider practice of the principle of home-grown replacements and additions.

There has been a slight increase of farmer interest in the eradication of Bang's disease from cattle, but no material advance has been made because of lack of state funds for indemnification purposes. Without these, the federal government has declined to contribute financially during the past year. Approximately 8 per cent of the state's cattle are under supervision for the control of the disease. However, the status of New Jersey in this respect is much below that of surrounding states also furnishing milk to the same marketing outlets, and it is possible that some future ordinances may work a hardship on producers here until further advances in control are generated.

MARKETING

It is in the marketing of farm products that the department extends its services considerably in the promotional field. As aids in efficient distribution, which often spell the difference between profit and loss, such services have proved beneficial in numerous instances. Fruits and vegetables, certified as to quality, moved to marketing outlets with a better chance for recognition and premium prices. Quality certification on eggs and milk has identified to consumers as superior articles those products meeting specified requirements. Further, the well-developed advertising program previously mentioned has served its purpose in calling the attention of the public to the products so

designated. This program, partly paid for by contributions from growers themselves, was supported by standardizing and maintaining the quality of the output.

Outstanding among marketing problems during the past fiscal year has been the closing of European outlets for farm products as a result of the current war. New Jersey felt this principally in its apple industry, and along with other states was affected by having what amounted to surplus fruit for which only domestic consumption was available. As a result, apples were added to those commodities handled through governmental purchase for relief distribution.

Notable in improved marketing practices have been the tendencies to lengthen the selling period for New Jersey potatoes by storage, and the development of consumer unit packaging of potatoes by one of the cooperative associations. The department supervised the grading of the latter during the first year's trial, and the success attending this grower venture indicated the soundness of further expansion.

PLANT INDUSTRY

The control of plant insects and diseases of economic importance constitutes an important phase of agricultural endeavor. Much of this is done voluntarily by growers who realize that without such action either volume or quality of their crops, or both, would suffer seriously. Certain of these pests, by the very nature of their abundance or hazard to the common good, become subject to quarantine control or regulatory measures.

Chief among these are the Japanese beetle and the Dutch elm disease. In efforts toward control or eradication of both of these, the federal government has entered into the program generously. Services performed under the Japanese beetle program have been twofold: First, inspections of shipments which have permitted distribution of farm products, soil, sand and other commodities far beyond an otherwise restricted zone; and second, the development and introduction of parasites into infested soil to reduce the beetle population.

Considerable check has been made against the spread of the Dutch elm disease by two methods of approach. One has been the destruction of diseased trees. The other, which is probably more far-reaching as far as future control is concerned, is the plan of removing small trees and those of no economic importance in order to prevent them from becoming possible links in the chain of continued spread of this disease.

Numerous surveys conducted by the Bureau of Plant Industry have served not only to aid more constructive planning of departmental programs in various agricultural fields, but also to enlighten the general public on matters of agricultural importance. Of these, the crop and livestock reports, egg supplies and prices, index numbers of farm commodities, the blueberry industry, migratory negro labor, and costs of living are only a few of the diversified studies thus made and described in detail later in this report.

LICENSING AND BONDING

The Department of Agriculture is entrusted with the enforcement of Article 1, Chapter 12, Title 4 of the Revised Statutes (1937), more commonly known as the Milk Dealers' Licensing and Bonding Act; Article 2, Chapter 11, Title 4, known as the Produce Dealers' Licensing and Bonding Act; and Article 1, Chapter 11, Title 4, known as the Cattle Dealers' Law.

MILK DEALERS' LAW

(Article 1, Chapter 12, Title 4)

For several years farmers have been warned to make certain before shipment that the dealers with whom they are doing business have been licensed by the New Jersey Department of Agriculture. In order to make such information readily available, Circular No. 309, "Dealers Licensed Under the Milk Dealers' Licensing and Bonding Act; Produce Dealers' Licensing and Bonding Act; Cattle Dealers' Licensing Act" was published and distributed to approximately 16,000 farmers in the state. These lists proved to be so helpful that their issuance will be repeated for the coming fiscal year.

Through the cooperation of farmers reporting prospective buyers who solicited their milk, it has been possible to reduce the number of unlicensed dealers to a minimum during the past several years. However, a few dealers located outside the state who receive milk from New Jersey dairymen fail to obtain licenses. They base their refusal on the premise that the milk is not purchased until it is delivered to their receiving stations, and these are not in New Jersey.

During the year the department recovered approximately $14,300 for producers. Ninety additional claims, totaling $22,600, are pending settlement. Only two dealers were penalized for operating without a license for the entire year. Licenses were issued to 298 dealers who filed bonds totaling $1,254,200.

NUMBER OF LICENSEES UNDER MILK DEALERS' LAW

County	Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic	2	2	$30,000
Bergen	8	7	37,700
Burlington	23	23	67,300
Camden	8	7	29,000
Cape May	2	1	1,000
Cumberland	25	23	36,200
Essex	16	15	116,400
Gloucester	10	10	10,500
Hudson	2	1	5,000
Hunterdon	11	11	135,000
Mercer	25	25	78,900
Middlesex	18	18	76,500
Monmouth	30	30	75,900
Morris	33	29	65,100
Ocean	2	2	5,000
Passaic	22	18	63,800
Salem	10	6	14,600
Somerset	13	12	49,500
Sussex	4	4	4,800
Union	11	9	44,000
Warren	12	12	38,000
Out-of-State	11	11	270,000
Totals	298	276	$1,254,200
Totals: 1939-40	298	276	$1,254,200
1938-39	301	269	1,183,900
1937-38	310	265	1,095,400
1936-37	331	248	977,900
1935-36	350	234	937,450

PRODUCE DEALERS' LAW

(Article 2, Chapter 11, Title 4)

After the state police had completed their work in checking persons hauling produce over the highways of the state, the Department of Agriculture investigated every report submitted to determine whether or not the produce had been obtained from farmers in New Jersey in violation of the Produce Dealers' Law.

The cooperation of Colonel Mark O. Kimberling, Superintendent of the State Police, in allowing his troopers to spend part of their time in this work aids the Department of Agriculture in enforcing the Act. Such supervision acquaints persons engaged in handling produce with the necessity of obtaining a license, greatly reduces the number of unlicensed dealers, and consequently, results in fewer losses to the farmers of the state.

Because several dealers failed to pay their producers in full, the Department of Agriculture received 123 claims and complaints, which is a much larger number than for the past several years. Some of these claims were promptly liquidated upon notification to the dealers, but others require additional time for adjustment.

For failure to comply with the Produce Dealers' Law by obtaining licenses to conduct their business, it was necessary for the department to penalize ten dealers during the 1939-40 fiscal year.

Licenses were issued to 314 dealers who filed bonds totaling $942,000. This was a slight increase over the previous licensing term, which had a duration of only ten months due to change in the date of the licensing year.

NUMBER OF LICENSEES UNDER PRODUCE DEALERS' LAW

County	Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic	32	32	$96,000
Burlington	6	6	18,000
Camden	5	5	15,000
Cumberland	33	33	99,000
Essex	40	40	120,000
Gloucester	30	30	90,000
Hudson	3	3	9,000
Mercer	9	9	27,000
Middlesex	4	4	12,000
Monmouth	20	20	60,000
Passaic	9	9	27,000
Salem	10	10	30,000
Somerset	1	1	3,000
Union	2	2	6,000
Warren	2	2	6,000
Out-of-State	108	108	324,000
Totals	314	314	$942,000
Totals: 1939-40	314	314	$942,000
1938-39	312	312	936,000
1937-38	321	321	963,000
1936-37	303	303	909,000
1935-36	296	296	888,000

CATTLE DEALERS' LAW

(Article 1, Chapter 11, Title 4)

During the past fiscal year, the department received a comparatively large number of complaints against cattle dealer licensees. All of these were investigated and satisfactory settlements made.

Several weeks were spent checking the records required to be kept by all licensed dealers covering sales of cattle. It was found that this requirement was being fulfilled in a satisfactory manner.

Licenses were issued to 207 dealers.

NUMBER OF LICENSEES UNDER CATTLE DEALERS' LAW

County	Licenses Issued
Bergen	3
Burlington	12
Camden	3
Cape May	4
Cumberland	13
Essex	8
Gloucester	4
Hudson	2
Hunterdon	18
Mercer	8
Middlesex	4
Monmouth	8
Morris	16
Ocean	6
Passaic	13
Salem	16
Somerset	14
Sussex	27
Union	11
Warren	15
Out-of-State	2
Total	207
Totals: 1939-40	207
1938-39	207
1937-38	205
1936-37	204
1935-36	201

THE NEW JERSEY JUNIOR BREEDERS' FUND

The fiscal year ending June 30, 1940, continued the upward trend of loans that has been taking place for the past several years. During the year, 129 livestock loans were made, in the amount of $8,209.12. There was also an increase in requests for agricultural loans, and a total of 51 such loans, amounting to $935.55, were made during the fiscal year.

The beef cattle project, started among 4-H club members in 1938-39, proved so successful that many requests were received for a second loan for this project, together with requests from some new members. There were 35 loans, totaling $2,012.20, made for baby beef purchases during the year.

Low prices were responsible for a drop in the interest in swine production, only 9 such loans, amounting to $303, being made. Further disaster occurred in the swine project through the death within the year of six animals purchased through the Fund. Total losses on account of such deaths amounted to $282, while the amount received from Swine Emergency fees during the year was only $9.75, making a net loss in the Swine Emergency Fund of $272.25. The Calf Emergency Fund also failed to carry itself during the year, having a net loss of $35.15.

An additional reduction in the bank interest rate to 1 per cent further cut the income during the year and this, together with the necessity of replenishing the Reserve for Bad Debts by $453.51, brought the net loss for the year to $569.68, a new low record for the Fund.

Increased interest in the use of the Fund has been shown by students of vocational agriculture, who obtained during the year 38 livestock loans totaling $1,504.92 and 42 agricultural loans totaling $641.47. Thirty-two of the vocational livestock loans were for chickens, four for turkeys, and two for pigs.

The total amount of money outstanding at the close of the fiscal year for both livestock and agricultural purposes was $13,517.41, of which $715.92 was for agricultural loans and the remainder for livestock.

A new ruling providing for the Bang's testing of dairy animals exhibited at the New Jersey State Fair reduced the number of entries considerably. Cash prizes for the entries in all classes of the Junior Breeders' Fund amounted to only $87.50. At local fairs, where 4-H club dairy animals were shown, ribbons were awarded for the best animals in each breed purchased through the Fund. While the management of the Fair permits dairy animals to be shown if they have passed a test for Bang's disease within 30 days, it was felt to be unwise to exhibit under these circumstances and until the Bang's disease control program is under way there will probably be a decrease in the number of dairy animals brought to the Fair.

A real interest is developing in the keeping of production records for dairy animals and 51 production certificates were presented during Agricultural Week in January, to those meeting the regulations. A change in the requirements for production certificates for the coming year was recommended by a committee in charge of such awards and these changes were adopted by the Trustees of the Fund.

Changes were made in the Articles of Incorporation of the Fund to permit its use for the purchase of beef cattle from the original capital, and also to increase the number of trustees to nine, to include all members of the State Board of Agriculture and the Secretary of Agriculture. Changes were made in the by-laws of the Fund to provide regulations for the purchase of beef cattle and also to increase the Swine Emergency Fee from 65 cents to $1 for each $25 borrowed or fraction thereof.

A complete record of both the livestock loans and agricultural loans that were made each year since the Fund was established follows.

LIVESTOCK LOANS

Fiscal Year	Dairy Loans		Beef Cattle		Pig Loans		Chicken Loans		Turkey Loans		Total Livestock Loans	
	No.	*Amount*	*No.*	*Amount*	*No.*	*Amount*	*No.*	*Amount*	*No.*	*Amount*	*No.*	*Amount*
1920-21	30	$2,815.00	..	.....	...	.....	...	.....	..	.....	30	$2,815.00
1921-22	92	7,985.00	..	.....	16	$1,074.98	16	$824.25	..	.....	124	9,884.23
1922-23	81	6,365.00	..	.....	21	1,267.25	13	636.25	..	.....	115	8,268.50
1923-24	96	8,670.00	..	.....	10	409.50	14	932.00	..	.....	120	10,011.50
1924-25	81	7,065.00	..	.....	26	1,320.00	17	1,183.50	..	.....	124	9,568.50
1925-26	71	6,639.50	..	.....	25	1,684.30	32	1,563.10	..	.....	128	9,886.90
1926-27	83	7,444.00	..	.....	19	1,240.00	28	1,112.50	..	.....	130	9,796.50
1927-28	54	4,644.00	..	.....	10	620.00	31	890.70	..	.....	95	6,154.70
1928-29	55	4,960.00	..	.....	13	805.00	15	680.65	..	.....	83	6,445.65
1929-30	37	3,317.50	..	.....	15	876.00	17	692.20	..	.....	69	4,885.70
1930-31	38	3,467.50	..	.....	12	769.00	7	308.00	..	.....	57	4,544.50
1931-32	38	2,875.00	..	.....	8	415.00	9	394.00	..	.....	55	3,684.00
1932-33	24	1,820.00	..	.....	10	426.75	8	323.00	..	.....	42	2,569.75
1933-34	30	2,310.00	..	.....	9	295.00	24	940.43	..	.....	63	3,545.43
1934-35	46	4,169.00	..	.....	3	110.00	23	1,174.49	..	.....	72	5,453.49
1935-36	26	2,050.00	..	.....	5	297.00	18	797.85	..	.....	49	3,144.85
1936-37	32	2,905.00	..	.....	14	941.00	21	894.40	..	.....	67	4,740.40
1937-38	43	4,366.00	..	.....	8	492.50	29	1,614.82	2	$30.00	82	6,503.32
1938-39	45	3,740.00	21	$1,050.00	28	1,377.00	27	1,243.14	5	156.10	126	7,566.24
1939-40	36	3,680.00	35	2,012.20	9	303.00	44	2,012.92	5	201.00	129	8,209.12
Total	1,038	$91,287.50	56	$3,062.20	261	$14,723.28	393	$18,218.20	12	$387.10	1,760	$127,678.28

AGRICULTURAL LOANS *

	Poultry Feed Loans		Pig Feed Loans		Agricultural Prod. Loans		Miscellaneous Loans		Total Agricultural Loans	
	No.	*Amount*	*No.*	*Amount*	*No.*	*Amount*	*No.*	*Amount*	*No.*	*Amount*
1934-35	3	$38.38	..	.....	..	.....	..	.....	3	$38.38
1935-36	..	.....	..	.....	..	.....	..	.....	..	.....
1936-37	6	63.70	..	.....	..	.....	..	.....	6	63.70
1937-38	11	239.74	3	$36.50	..	.....	..	.....	14	276.24
1938-39	22	423.72	5	27.32	9	$128.43	..	.....	36	579.47
1939-40	40	599.02	3	129.43	7	199.08	1	$8.02	51	935.55
Total	82	$1,364.56	11	$193.25	16	$327.51	1	$8.02	110	$1,893.34

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

The use of the Fund by counties since its establishment is shown in the following tables.

AMOUNT LOANED BY COUNTIES TO DATE

County	Amount
Atlantic	.....
Bergen	$75.00
Burlington	9,829.75
Camden	.....
Cape May	938.75
Cumberland	7,535.08
Essex	335.95
Gloucester	3,273.70
Hudson	.....
Hunterdon	7,899.83
Mercer	22,719.11
Middlesex	15,046.00
Monmouth	10,532.15
Morris	5,279.00
Ocean	2,256.00
Passaic	154.25
Salem	16,544.87
Somerset	4,730.00
Sussex	10,535.68
Union	.....
Warren	11,886.50
Total	$129,571.62

NUMBER OF LOANS BY COUNTIES TO DATE

	Livestock Loans					*Agricultural Loans*					
County	Dairy	Beef Cattle	Pig	Chicken	Turkey	Chicken Feed	Turkey Feed	Pig Feed	Agri. Prod.	Misc.	Total Loans
Atlantic	..	..	..	..	..	..	..	..	..	..	..
Bergen	..	..	1	..	..	..	..	..	..	..	1
Burlington	47	..	21	59	5	51	1	4	..	..	188
Camden	..	..	..	..	..	..	..	..	..	..	..
Cape May	7	..	..	4	..	..	..	..	..	..	11
Cumberland	62	..	11	29	..	3	..	..	..	..	105
Essex	..	..	..	19	..	..	..	..	..	..	19
Gloucester	28	..	2	10	..	3	..	..	..	..	43
Hudson	..	..	..	..	..	..	..	..	..	..	..
Hunterdon	113	3	3	11	..	3	..	..	..	..	133
Mercer	170	..	86	27	5	3	2	..	16	..	309
Middlesex	114	23	13	47	..	1	..	2	..	1	201
Monmouth	74	..	12	86	..	..	..	..	..	..	172
Morris	53	..	1	6	..	..	..	..	..	..	60
Ocean	17	..	..	10	..	..	..	..	..	..	27
Passaic	..	..	..	2	..	2	..	..	..	..	4
Salem	91	30	99	32	1	2	3	5	..	..	263
Somerset	35	..	1	1	..	..	..	..	..	..	37
Sussex	104	..	8	21	..	6	..	..	..	..	139
Union	..	..	..	..	..	..	..	..	..	..	..
Warren	123	..	3	29	1	2	..	..	..	..	158
Total	1,038	56	261	393	12	76	6	11	16	1	1,870

AGRICULTURAL WEEK

Centering around a convention of delegates chosen from a number of agricultural organizations and specified by law to elect annually two members to the State Board of Agriculture, the event known as Agricultural Week, has developed into a four-day series of meetings held by commodity and livestock groups. These have been highly profitable. During the last fiscal year Agricultural Week was held in Trenton, January 23-26, 1940.

The New Jersey Farm Show, staged at the same time in the Trenton Infantry Armory, attracted more people than at any other time in its history. The exposition was made up of various types of exhibits of interest to those engaged in agriculture, including modern farm machinery, farm services and supplies, educational displays, and competitive exhibits of apples, sweet potatoes, corn, baby chicks and eggs.

PUBLICITY AND PUBLICATIONS

With the cooperation of New Jersey daily and weekly newspapers and of agricultural publications circulating in the state, the Department of Agriculture has continued its publicity program to acquaint farmers and consumers with timely agricultural information and to call to their attention services available from the department. Special acknowledgment should be accorded "New Jersey Farm and Garden," a monthly agricultural journal which reaches practically every farmer in the state.

In keeping with the trend of general publications, an effort has been made in the publicity project to furnish periodicals with photographs related to New Jersey agriculture and farm products.

"Farm Service News" was issued during the past year on a bi-monthly schedule in order to effect economies in printing and mailing expense. The circulation is now approximately 18,000.

Throughout the year, the Department of Agriculture participated in a number of fairs, conventions and agricultural meetings by means of exhibits of department activities or of New Jersey agricultural products.

Following is a list of the printed publications issued during the past fiscal year:

Circular No. 309—Dealers Licensed Under the Milk Dealers' Licensing and Bonding Act, Produce Dealers' Licensing and Bonding Act, Cattle Dealers' Licensing Act.

Circular No. 310—Laws, Rules and Regulations Pertaining to the Shipment of Nursery Stock Out of New Jersey.

Circular No. 311—Cultivated Blueberry Industry in New Jersey During 1939. Insects of the Cultivated Blueberry.

Circular No. 312—Marketing Cannery Asparagus by Grades in New Jersey.

Circular No. 313—County Boards of Agriculture and State Agricultural Organizations.

Circular No. 314—New Jersey Prices of Hired Farm Labor, Feedstuffs and Fertilizer Materials, and Their Index Numbers, 1910-1939.

Circular No. 315—Spraying for the Control of the Japanese Beetle on Ornamentals and Non-Commercial Fruit Holdings.

Circular No. 316—Information on the Japanese Beetle.

Circular No. 317—Field Experiments with a Nematode Parasite of the Japanese Beetle.

Circular No. 318—Egg Supplies and Prices at Flemington, Vineland and Hightstown Auction Markets.

Circular No. 319—New Jersey Farm Prices and Their Index Numbers, 1936-1939.

Circular No. 320—New Jersey Supplement to the National Poultry Improvement Plan.

Folder—Chapter 6, Title 4 of the Revised Statutes of New Jersey: An Act Concerning the Diseases of Bees.

Handbook—List of Breeding Flocks and Hatcheries Under Official Supervision in New Jersey, 1940.

Reprint—For Your Drinking Milk Change to New Jersey Grade "A."

Reprint—Fresh Eggs in New Jersey.

Twenty-fourth Annual Report of the New Jersey Department of Agriculture, 1938-1939.

Agricultural Week Programs, Women's Agricultural Week Programs, Farm Week Chaff, and Premium List for the New Jersey Farm Show and Agricultural Week.

Six issues of bi-monthly publication Farm Service News.

Report of the Bureau of Animal Industry

DR. R. A. HENDERSHOTT, *Chief*

TUBERCULOSIS ERADICATION

For the first time in recent years, funds both for indemnity and for service were sufficient to conduct an uninterrupted program for the control and eradication of tuberculosis. During the past year, the staff of the Bureau of Animal Industry, aided by local practitioners, conducted 260,692 tuberculin tests of cattle. These tests disclosed 1,090 reactors, 327 fewer than the previous year. The total number of infected premises was reduced from 787 in the 1938-1939 fiscal year to 435 for 1939-1940.

It will be noted that the number of tuberculin tests conducted shows an increase of 12,598 over those of the previous year. This is undoubtedly due to an increase in the size of herds and to the plan of retesting all infected herds at sixty-day intervals until three successive clean tests have been passed.

Throughout the year a few breaks occurred in which reactors were found in previously accredited herds. The history of the herd and its additions, as well as the method of handling is thoroughly investigated and every possible source of infection is eliminated. The owner is advised of the proper method of cleaning and disinfecting and all precautionary measures are followed.

The percentage of infection disclosed on all tests made has been reduced from .57 for the 1938-1939 fiscal year to .42 for the year just closing. When reactors are disclosed they are closely checked and if recently added animals react, the state of origin is determined and notification sent to the chief live stock official there in order that retests may be made of the herds from which the animals originated.

A table showing the areas in which reactors were found during the year accompanies this data. As was expected, the heavily populated dairy counties again contain the majority of infected premises. Sussex County led with 360 reactors on 128 farms; Salem County, second, with 102 reactors on 54 farms and Warren and Burlington Counties tying for third place with 100 reactors each on 50 premises in Warren County and 22 in Burlington.

At the close of the fiscal year ending June 30, 1939, there were under state and federal cooperative supervision in New Jersey, 17,725 herds comprising 202,001 cattle. At the close of the fiscal year ending June 30, 1940, there were under supervision 17,364 herds consisting of 206,187 cattle. This was a decrease in the number of herds under supervision and a slight increase in the number of cattle.

During the past twelve-month period, 260,692 tuberculin tests were made of cattle under supervision, resulting in 1,090 or .42 per cent reaction.

During this fiscal year, 1,400 initial tests were made on 7,461 cattle. On test, 56 or .75 per cent reaction was found. This is an increase over the percentage of reaction found last year when 1,387 herds of 7,118 animals were initially tested and showed 56 or .72 per cent reaction.

The percentage of reactors found in out-of-state cattle added to herds under supervision during the 1939-1940 fiscal year was 1.22. Of 6,123 cattle tested, 75 reacted.

Second, third and subsequent retests are made on herds already under supervision. During 1938 and 1939, 232,818 animals were tested on retest and 1,261 or .54 per cent reacted. During the 1939-1940 fiscal year, 247,108 animals were tested on retest and 959 or .39 per cent reacted.

During 1938 and 1939, indemnity was paid for 1,199 reactors of which 110 were registered and 1,089 grade animals. In the past year, indemnity was paid for 816 reactors, 52 of which were registered and 764, grade animals.

Following is the total amount received by the dairymen and breeders, during the 1939-1940 fiscal year, for 816 reactors condemned and slaughtered as a result of the tuberculin test:

Amount received from salvage of reactors	$34,576.87
Amount paid by the State of New Jersey in indemnities	31,217.19
Amount paid by the United States Government in indemnity	14,893.95
Total	$80,688.01
Average	$98.88

RECORD BY COUNTIES OF INFECTED HERDS AND REACTORS DISCLOSED

July 1, 1939 to June 30, 1940

County	No. newly infected herds	No. infected herds in state 6-30-40	No. reactors disclosed
Atlantic	5	..	6
Bergen	7	4	16
Burlington	22	29	100
Camden	2	2	6
Cape May	..	..	..
Cumberland	8	5	7
Essex	3	..	3
Gloucester	6	5	12
Hudson	1	1	1
Hunterdon	31	21	98
Mercer	18	15	30
Middlesex	12	9	32
Monmouth	37	39	84
Morris	14	6	22
Ocean	6	4	14
Passaic	3	3	6
Salem	54	18	100
Somerset	21	9	34
Sussex	128	118	360
Union	7	6	57
Warren	50	47	102
State	435	341	1,090

Following is a summary by months of the average net returns to the owner for salvage of reactors sold in New Jersey as compared with those sold in competition on the New York City Stock Yards:

	July	August	September	October	November	December
New Jersey	....	$42.49	$41.47	$44.09	$36.57	$39.24
New York	$37.60	34.39	34.60	32.73	29.58	31.80
	January	February	March	April	May	June
New Jersey	$40.88	$49.79	$48.41	$42.13	$42.90	$25.34
New York	34.25	33.41	32.56	33.82	36.63	38.01

The amount of state indemnity paid during this fiscal year for reactors condemned decreased from an average of $49.52 for the fiscal year 1938-1939 to $38.27 for 1939-1940. During the year 26,040 cattle were imported as compared with 25,968 during the previous year.

The following summary indicates the amount of state indemnity paid for reactors resulting from the tuberculin test during the year ending June 30, 1940.

Class of Cattle	Number of Animals	Amount Paid
Registered animals	52	$3,060.33
Grade animals	764	28,156.86
Registered and Grade	816	$31,217.19

Average State Indemnity Paid Per Head:

Registered animal	$58.85
Grade animal	36.85
Registered and Grade	38.26

The following summary indicates the amount of salvage received by owners for reactors resulting from the tuberculin test during the year ending June 30, 1940.

Class of Cattle	Number of Animals	Amount Paid
Registered animals	52	$2,542.90
Grade animals	764	32,033.97
Registered and Grade	816	$34,576.87

Average Salvage Received Per Head:

Registered animal	$48.90
Grade animal	41.93
Registered and Grade	42.37

The following summary gives the total federal indemnity received by owners of condemned cattle.

Class of Cattle	Number of Animals	Amount Paid
Registered and Grade	816	$14,893.95

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

Total amount received by owners for reactors (sum of salvage, federal and state indemnity)	$80,688.01
Average amount received per head by owners for reactors	$98.88

TOTAL STATE INDEMNITY PAID BY COUNTIES

July 1, 1939 to June 30, 1940

Atlantic	$217.36
Bergen	260.50
Burlington	3,080.21
Camden	54.02
Cape May	.....
Cumberland	253.36
Essex	.....
Gloucester	258.69
Hudson	.....
Hunterdon	2,515.69
Mercer	627.40
Middlesex	728.11
Monmouth	2,574.16
Morris	436.67
Ocean	510.06
Passaic	126.97
Salem	2,030.45
Somerset	1,043.47
Sussex	13,057.46
Union	627.30
Warren	2,815.31
State	$31,217.19

TOTAL STATE INDEMNITY PAID, BY COUNTIES, FROM THE BEGINNING OF ACCREDITED HERD WORK IN 1916 TO JUNE 30, 1940

Atlantic	$8,433.11
Bergen	33,207.78
Burlington	319,733.65
Camden	14,067.02
Cape May	10,819.80
Cumberland	75,373.42
Essex	35,993.42
Gloucester	63,360.07
Hudson	4,455.78
Hunterdon	338,031.16
Mercer	178,105.40
Middlesex	75,568.91
Monmouth	125,416.89
Morris	127,743.32
Ocean	30,507.06
Passaic	32,941.39
Salem	352,508.50
Somerset	216,313.46
Sussex	941,392.52
Union	36,561.11
Warren	366,812.36
State	$3,387,346.13

HERDS AND CATTLE UNDER STATE AND FEDERAL SUPERVISION, JUNE 30, 1940

County	Herds Under Supervision	Herds Fully Accredited	*No. of Cattle Under Supervision 6-30-40*			*No. of Cattle Fully Accredited 6-30-40*		
			P. B.	Grades	Total	P. B.	Grades	Total
Atlantic	287	247	2	535	537	1	475	476
Bergen	246	228	172	2,720	2,892	147	2,427	2,574
Burlington	1,266	1,155	1,615	20,893	22,508	1,697	19,106	20,803
Camden	332	299	333	1,393	1,726	332	1,365	1,697
Cape May	204	199	93	796	889	92	768	860
Cumberland	1,144	1,057	513	6,225	6,738	510	6,156	6,666
Essex	142	129	206	2,003	2,209	202	2,002	2,204
Gloucester	1,087	997	493	5,232	5,725	457	4,655	5,112
Hudson	19	17	...	120	120	...	118	118
Hunterdon	2,127	1,911	2,782	24,672	27,454	2,488	22,788	25,276
Mercer	913	843	885	8,685	9,570	666	6,627	7,293
Middlesex	1,251	1,122	809	7,122	7,931	743	4,579	5,322
Monmouth	1,493	1,283	1,195	8,408	9,603	896	7,074	7,970
Morris	1,025	912	2,012	10,615	12,627	1,939	10,105	12,044
Ocean	332	289	2	1,653	1,655	...	1,516	1,516
Passaic	224	203	65	2,674	2,739	52	2,431	2,483
Salem	1,305	1,177	804	15,519	16,323	746	14,532	15,278
Somerset	1,175	1,054	2,480	9,517	11,997	2,417	8,113	10,530
Sussex	1,238	968	2,188	32,413	34,601	1,786	24,459	26,245
Union	220	198	59	3,387	3,446	53	1,335	1,388
Warren	1,334	1,211	1,635	23,262	24,897	1,519	21,475	22,994
State	17,364	15,499	18,343	187,844	206,187	16,743	162,106	178,849

INITIAL TESTS MADE AND REACTORS RESULTING, BY COUNTIES

July 1, 1939 to June 30, 1940

County	Number of Herds Tested	*Animals Tested*		*Animals Reacting*		*Percentage Reacting*		Total Animals Tested	Total Animals Reacting	Per Cent of Total Reacting
		Registered	Grade	Registered	Grade	Registered	Grade			
Atlantic	45	..	55	..	1	..	1.82	55	1	1.82
Bergen	27	..	82	..	..	..	..	82	..	..
Burlington	105	12	710	..	..	..	..	722	..	..
Camden	34	1	63	..	..	..	..	64	..	..
Cape May	14	..	22	..	..	..	..	22	..	..
Cumberland	77	1	209	..	2	..	.96	210	2	.95
Essex	6	..	55	..	..	..	..	55	..	..
Gloucester	83	16	270	..	..	..	..	286	..	..
Hudson	1	..	1	..	..	..	..	1	..	..
Hunterdon	170	202	957	..	5	..	.52	1,159	5	.43
Mercer	70	29	270	..	2	..	.74	299	2	.67
Middlesex	106	17	225	..	1	..	.44	242	1	.41
Monmouth	136	104	378	..	10	..	2.65	482	10	2.07
Morris	75	24	359	..	..	..	..	383	..	..
Ocean	35	1	68	..	5	..	7.35	69	5	7.25
Passaic	17	13	59	..	..	..	..	72	..	..
Salem	99	51	596	..	2	..	.34	647	2	.31
Somerset	100	66	508	..	2	..	.39	574	2	.35
Sussex	107	54	1,189	3	20	5.56	1.68	1,243	23	1.85
Union	18	..	28	..	1	..	3.57	28	1	3.57
Warren	75	4	762	..	2	..	.26	766	2	.26
State	1,400	595	6,866	3	53	.5	.77	7,461	56	.75

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

July 1, 1939 to June 30, 1940

	INITIAL TESTS					*HERD ADDITION TESTS*					*OTHER TESTS*				
		Tested		*Reactors*			*Tested*		*Reactors*			*Tested*		*Reactors*	
	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.
39															
July	41	27	192	..	1	2	..	55	..	1	357	530	5,581	..	7
August	40	..	153	..	..	1	7	6	..	1	453	553	6,016	6	14
September	28	4	199	..	..	2	..	4	..	..	299	978	5,290	..	17
October	45	2	336	..	5	..	..	..	..	..	409	526	6,150	1	10
November	57	10	222	..	..	..	..	..	..	..	422	611	5,978	2	8
December	38	15	259	..	6	..	..	32	..	..	330	391	5,042	3	13
40															
January	36	17	289	..	3	1	2	83	..	..	452	1,278	7,362	4	28
February	36	65	198	1	1	..	3	81	..	1	411	975	5,727	6	31
March	35	9	92	..	..	2	..	25	..	..	518	1,149	8,697	..	27
April	43	1	184	..	2	2	2	47	..	..	528	607	5,939	..	27
May	54	103	245	..	3	2	3	121	1	8	587	1,284	6,029	..	40
June	52	5	163	..	3	..	1	77	..	2	671	764	7,939	..	11
Totals	505	258	2,532	1	24	12	18	531	1	13	5,437	9,646	75,750	22	233
Percentage of Reactors	..	..	..	.39	.95	..	..	..	5.56	2.45	...	...	...	.23	.31
verage Percentage	..	..	..	.9	..	..	..	..	..	2.55	...	...	...	..	.3

Following is a summary of the cattle shipped into New Jersey by months, those condemned on tuberculin test and those shipped out of the state during the year ending June 30, 1940.

Month	Number of Cattle Shipped into New Jersey	Number of Cattle Condemned on Tuberculin Test	Number of Cattle Shipped out of New Jersey
July	3,045	31	16
August	2,468	53	34
September	2,365	44	18
October	2,923	90	157
November	2,785	112	59
December	2,373	86	83
January	1,276	133	60
February	1,204	151	54
March	1,521	139	58
April	1,686	106	56
May	1,944	120	134
June	2,450	29	99
Totals	26,040	1,090	828

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

1935-1936	1936-1937	1937-1938	1938-1939	1939-1940
24,626	28,472	27,338	25,968	26,040

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

July 1, 1939 to June 30, 1940

	INITIAL TESTS					*HERD ADDITION TESTS*					*OTHER TESTS*				
		Tested		*Reactors*			*Tested*		*Reactors*			*Tested*		*Reactors*	
	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.
1939															
July	19	..	61	..	..	..	..	..	..	..	82	7	928	..	..
August	25	1	77	..	..	1	..	1	..	1	272	73	1,318	..	4
September	5	..	12	..	..	..	..	..	..	..	43	52	169	..	1
October	5	..	11	..	..	..	..	..	..	..	90	46	1,505	..	28
November	5	..	39	..	..	..	..	1	..	..	81	71	3,533	..	5
December	4	..	27	..	..	..	..	88	..	1	55	32	1,583	..	9
1940															
January	2	..	2	..	..	..	..	164	..	..	74	91	1,051	..	1
February	12	8	19	..	1	..	..	120	..	..	149	75	1,878	..	15
March	9	1	9	..	..	5	..	58	..	..	130	384	1,317	..	3
April	18	..	71	..	..	1	..	394	..	3	133	95	2,905	..	..
May	9	1	21	..	..	..	..	70	..	3	157	140	2,940	..	21
June	12	..	39	..	..	..	..	40	..	..	66	13	334	..	..
Totals	125	11	388	..	1	7	..	936	..	8	1,332	1,079	19,461	..	87
Percentage of Reactors	..	..	..	..	.26	..	..	..	..	.85	...	...	...	..	.45
Average Percentage	..	..	..	..	.26	..	..	..	..	.85	...	...	...	..	.42

CATTLE TESTED UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ACCREDITED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

July 1, 1939 to June 30, 1940

	INITIAL TESTS					*HERD ADDITION TESTS*					*OTHER TESTS*				
		Tested		*Reactors*			*Tested*		*Reactors*			*Tested*		*Reactors*	
	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.
1939															
July	75	15	502	..	6	40	6	330	..	1	582	506	6,461	1	10
August	60	3	221	..	1	36	19	136	..	..	872	1,316	13,545	3	23
September	31	..	132	..	..	24	5	90	..	..	728	1,160	10,014	2	24
October	117	10	468	..	..	48	24	261	..	2	1,211	894	12,759	2	42
November	89	45	390	..	1	52	12	329	..	6	1,444	1,214	15,172	..	90
December	45	5	161	..	1	51	22	536	..	3	1,006	1,763	12,546	5	45
1940															
January	71	28	334	..	1	105	33	996	..	10	1,048	2,906	13,985	3	83
February	75	91	363	..	2	35	3	405	1	7	945	1,495	12,918	5	80
March	48	67	270	..	7	37	13	424	..	8	794	477	11,138	5	89
April	63	29	559	1	3	18	8	429	..	2	703	644	9,594	10	58
May	71	9	306	1	6	24	9	324	..	8	698	341	5,953	..	29
June	25	24	240	..	..	38	5	219	..	5	373	482	3,889	..	8
Totals	770	326	3,946	2	28	508	159	4,479	1	52	10,404	13,198	127,974	36	581
Percentage of Reactors	..	..	..	.61	.71	..	..	..	.63	1.16	...	...	...	.27	.45
Average Percentage	..	..	..	..	.7	..	..	..	..	1.14	...	...	...	..	.44

SUMMARY OF CATTLE TESTED UNDER ACCREDITED HERD PLAN

July 1, 1939 to June 30, 1940

	Registered Animals	Grade Animals	Total
Initial Tests			
Tested	595	6,866	7,461
Reacted	3	53	56
Percentage of Reactors	.75		
Herd Addition Tests			
Tested	177	5,946	6,123
Reacted	2	73	75
Percentage of Reactors	1.22		
Other Tests			
Tested	23,923	223,185	247,108
Reacted	58	901	959
Percentage of Reactors	.39		
Total			
Tested			260,692
Reacted			1,090
Percentage of Reactors			.42
Percentage of Reactors Based on Cattle Population			.53

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

July, 1939 to June, 1940

County	No. Animals Under Supervision	No. Animals Reacting	Per Cent Reaction on Total Cattle Population	No. Tests Made	Per Cent Reaction on Tests Made
Atlantic	537	6	1.12	818	.73
Bergen	2,892	16	.55	3,897	.41
Burlington	22,508	100	.44	25,776	.39
Camden	1,726	6	.35	1,748	.34
Cape May	889	...	...	932	...
Cumberland	6,738	7	.10	5,449	.13
Essex	2,209	3	.14	3,556	.08
Gloucester	5,725	12	.21	5,741	.21
Hudson	120	1	.83	122	.82
Hunterdon	27,454	98	.36	31,026	.32
Mercer	9,570	30	.31	14,087	.21
Middlesex	7,931	32	.40	11,107	.29
Monmouth	9,603	84	.87	12,206	.69
Morris	12,627	22	.17	14,907	.15
Ocean	1,655	14	.85	1,899	.74
Passaic	2,739	6	.22	3,565	.17
Salem	16,323	100	.61	21,939	.46
Somerset	11,997	34	.28	13,569	.25
Sussex	34,601	360	1.04	49,407	.73
Union	3,446	57	1.65	7,495	.76
Warren	24,897	102	.41	31,446	.32
State	206,187	1,090	.53	260,692	.42

FIVE YEAR SUMMARY BY COUNTIES SHOWING PER CENT OF INFECTION FOUND ANNUALLY BASED ON TESTS MADE AND ON THE CATTLE POPULATION—(Continued)

July, 1938 to June, 1939

County	No. Animals Under Supervision	No. Animals Reacting	Per Cent Reaction on Total Cattle Population	No. Tests Made	Per Cent Reaction on Tests Made
Atlantic	542	1	.18	308	.32
Bergen	2,924	13	.44	3,869	.34
Burlington	22,202	93	.42	26,280	.35
Camden	1,680	7	.42	2,067	.34
Cape May	963	8	.83	1,270	.63
Cumberland	6,728	18	.27	7,705	.23
Essex	2,098	9	.43	4,538	.20
Gloucester	5,423	15	.28	6,243	.24
Hudson	134	...	...	330	...
Hunterdon	27,016	89	.33	28,854	.31
Mercer	9,479	42	.44	13,459	.31
Middlesex	8,046	58	.72	12,597	.46
Monmouth	9,670	137	1.42	11,446	1.20
Morris	12,469	57	.46	13,142	.43
Ocean	1,655	18	1.08	1,768	1.02
Passaic	2,736	14	.51	4,086	.34
Salem	15,832	228	1.44	22,459	1.02
Somerset	12,025	65	.54	13,137	.49
Sussex	33,211	399	1.20	41,666	.96
Union	3,446	23	.67	7,189	.32
Warren	23,722	123	.52	25,681	.48
State	202,001	1,417	.70	248,094	.57

July, 1937 to June, 1938

County	No. Animals Under Supervision	No. Animals Reacting	Per Cent Reaction on Total Cattle Population	No. Tests Made	Per Cent Reaction on Tests Made
Atlantic	529	8	1.51	838	.95
Bergen	3,009	12	.40	3,503	.34
Burlington	21,851	81	.37	26,365	.31
Camden	1,619	2	.12	1,915	.10
Cape May	993	5	.50	953	.52
Cumberland	6,967	46	.66	9,811	.47
Essex	2,236	17	.76	5,019	.34
Gloucester	5,416	24	.44	5,713	.42
Hudson	129	1	.77	139	.72
Hunterdon	26,304	161	.61	28,114	.57
Mercer	9,454	43	.45	11,983	.36
Middlesex	8,175	48	.59	11,694	.41
Monmouth	9,421	105	1.11	11,380	.92
Morris	12,064	50	.41	12,127	.41
Ocean	1,683	43	2.55	2,221	1.94
Passaic	2,806	6	.21	3,470	.17
Salem	15,422	202	1.31	22,325	.90
Somerset	11,860	50	.42	14,286	.35
Sussex	32,769	394	1.20	45,997	.86
Union	3,547	11	.31	6,486	.17
Warren	23,220	119	.51	28,686	.41
State	199,474	1,428	.72	253,025	.56

FIVE YEAR SUMMARY BY COUNTIES SHOWING PER CENT OF INFECTION FOUND ANNUALLY BASED ON TESTS MADE AND ON THE CATTLE POPULATION—(Continued)

July, 1936 to June, 1937

County	No. Animals Under Supervision	No. Animals Reacting	Per Cent Reaction on Total Cattle Population	No. Tests Made	Per Cent Reaction on Tests Made
Atlantic	545	43	7.89	608	7.07
Bergen	2,948	24	.81	2,673	.90
Burlington	21,395	167	.78	24,046	.69
Camden	1,608	10	.62	1,795	.56
Cape May	971	...	...	263	...
Cumberland	6,754	63	.93	6,403	.98
Essex	2,652	53	2.00	3,834	1.38
Gloucester	5,489	38	.69	5,893	.64
Hudson	128	...	...	140	...
Hunterdon	25,932	114	.44	25,385	.45
Mercer	9,520	99	1.04	11,929	.83
Middlesex	8,135	68	.84	11,426	.60
Monmouth	8,964	105	1.17	9,691	1.08
Morris	11,979	83	.69	13,129	.63
Ocean	1,769	...	...	40	...
Passaic	2,955	11	.37	3,475	.32
Salem	14,891	260	1.75	20,367	1.28
Somerset	11,754	35	.30	12,628	.28
Sussex	31,884	448	1.41	41,990	1.07
Union	3,815	94	2.46	9,620	.98
Warren	22,686	197	.87	26,940	.73
State	196,774	1,912	.97	232,275	.82

July, 1935 to June, 1936

County	No. Animals Under Supervision	No. Animals Reacting	Per Cent Reaction on Total Cattle Population	No. Tests Made	Per Cent Reaction on Tests Made
Atlantic	584	6	1.03	621	.97
Bergen	2,875	4	.14	1,562	.26
Burlington	20,904	52	.25	20,459	.25
Camden	1,515	...	...	219	...
Cape May	939	20	2.13	1,109	1.80
Cumberland	6,594	48	.73	5,651	.85
Essex	2,586	37	1.43	3,390	1.09
Gloucester	5,338	13	.24	990	1.31
Hudson	134	3	2.24	137	2.19
Hunterdon	26,277	163	.62	26,303	.62
Mercer	10,145	87	.86	13,393	.65
Middlesex	7,899	53	.67	7,073	.75
Monmouth	8,912	204	2.29	9,984	2.04
Morris	12,075	128	1.06	10,461	1.22
Ocean	1,735	16	.92	2,828	.57
Passaic	2,833	27	.95	4,094	.66
Salem	14,654	234	1.60	18,167	1.29
Somerset	11,622	60	.52	13,619	.44
Sussex	31,730	315	.99	44,461	.71
Union	3,847	22	.57	2,438	.90
Warren	23,474	112	.48	26,037	.43
State	196,672	1,604	.82	212,996	.75

LIVESTOCK AUCTION SALES MARKETS

During the past year inspection of livestock passing through the Harris Sales Company Auction Market continued. The results of this work for the year follow.

Number of Cattle Checked	Number of Cattle Tuberculin Tested		Number of Cattle Ear Punched for Slaughter	Number of Cattle Bled for Bang's Test
	Tested	*Reacted*		
257	1,555	....	96	7

Number of Swine Treated	
Single	*Double**
834	2,387

* Wherever double treatment was employed, swine were also given a protective inoculation of Mixed Infection Bacterin.

INSHIPPED CATTLE

The increase in the cattle population was evidenced by the number submitted to tuberculin test and the decrease in the number of herds under supervision. The latter declined from 17,725 on June 30, 1939, to 17,364 on June 30, 1940, while the number of cattle has increased from 202,001 in 1939 to 206,187 in 1940.

The total of 26,040 cattle imported during this fiscal year, was only 72 in excess of the number imported during the last fiscal year. This change is attributed in part to the educational program carried on during the last two years which has emphasized the importance of home-grown replacements in the matter of disease control.

IMPORT CATTLE RECEIVED FROM VARIOUS STATES FOR DAIRY AND BREEDING PURPOSES, 1939-1940

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Totals
thenia (Quarantine)	...	...	...	...	**14**	...	...	...	...	...	...	2	16
anada	204	121	89	170	79	80	63	20	69	64	68	46	1,073
onnecticut	3	...	3	15	1	11	...	...	1	...	4	3	41
elaware	...	...	...	7	9	5	3	3	1	...	...	...	28
lorida	...	...	...	...	...	...	...	...	...	...	1	...	1
eorgia	18	...	...	...	...	...	...	...	...	...	...	...	18
linois	...	2	...	...	...	...	6	...	...	...	...	...	8
ıdiana	...	...	...	21	20	11	...	...	...	...	...	...	52
ɔwa	...	1	...	...	...	...	...	...	...	...	...	...	1
ansas	...	...	...	...	...	24	...	...	...	...	...	...	24
entucky	19	...	...	...	...	...	...	...	...	...	...	1	20
ancaster Yards	51	30	20	149	107	12	11	4	58	23	20	71	556
laine	13	...	3	...	...	...	...	4	...	...	...	...	20
laryland	130	158	119	170	105	108	48	91	63	70	138	184	1,384
lassachusetts	...	...	...	1	...	2	...	1	...	14	...	...	18
lichigan	312	440	341	421	339	483	149	241	325	202	376	517	4,146
linnesota	78	...	79	...	...	...	...	...	...	...	...	...	157
lissouri	...	25	...	...	...	...	...	...	...	...	125	...	150
ew York	215	195	177	343	366	295	220	207	212	356	280	318	3,184
orth Carolina	...	...	...	...	...	...	23	...	...	...	3	...	26
hio	803	558	668	676	496	340	116	257	227	219	316	444	5,120
ennsylvania	101	76	189	160	**149**	**60**	**117**	44	94	103	161	146	1,400
outh Carolina	...	...	...	...	...	...	...	...	...	14	6	...	20
ennessee	27	46	...	...	...	**14**	...	...	...	...	...	...	87
exas	...	...	...	...	...	...	...	...	...	...	36	37	73
ermont	...	...	...	...	...	...	...	...	...	...	...	1	1
irginia	...	29	1	27	...	50	14	...	...	30	3	11	165
isconsin	1,071	787	676	763	1,100	**878**	**506**	332	471	591	407	669	8,251
Totals	3.045	2,468	2,365	2,923	2,785	2,373	1,276	1,204	1,521	1,686	1,944	2,450	26,040

CATTLE SHIPPED OUT OF THE STATE DURING THE FISCAL YEAR 1939-1940

Month	Number of Lots From Herds Under Supervision	Number of Animals From Herds Under Supervision
July	7	9
August	9	25
September	7	11
October	44	113
November	14	45
December	17	66
January	12	48
February	13	41
March	19	39
April	21	35
May	25	109
June	17	82
Totals	205	623

BANG'S DISEASE CONTROL

There were 139 herds of 2,794 cattle initially tested during the year with 286, or 10.24 per cent, giving a positive reaction. This is slightly below the number of herds so tested last year when 189 herds of 2,221 cattle were tested with 214, or 9.64 per cent, giving a positive reaction.

Throughout the year dairymen were offered an "informative" test. By this method, blood is drawn from the entire herd and the samples identified by serial number. The tests were conducted in the laboratory of the Bureau of Animal Industry and the owner received the report that of the number tested a certain number and per cent were negative, a certain number and per cent positive, suspicious, etc. Through the informative test, the owner is able to know the extent of infection existent in his herd and also to determine whether or not he is financially able to undertake the state supervised herd plan.

During the year, 74 herds comprising 1,935 cattle were submitted to the informative test; 304 animals, or 15.71 per cent, gave a positive reaction; 52, or 2.69 per cent, gave a highly suspicious reaction; 199, or 10.28 per cent, gave a slightly suspicious reaction, and 1,380, or 71.32 per cent, were negative.

On June 30, 1940, there were 437 herds of 17,605 cattle under state supervision for the eradication of Bang's disease, as compared with 323 herds of 14,822 cattle a year ago.

The total number of Bang's tests conducted in the bureau laboratory during the year was 89,576. This was 20.7 per cent greater than the number of tests made last year. Of the 89,576 tests, 83,096 gave a negative, 2,128 a positive, and 4,352 a suspicious reaction.

When a herd has given a negative reaction on four consecutive tests conducted over a period of a year, it is designated as a fully accredited herd and a certificate setting forth this fact is issued to the owner. At the end of this fiscal year there were 206 fully accredited herds; at the close of last year the number fully accredited was 164.

To assist the dairymen of the state in obtaining as complete knowledge as possible of the work in Bang's disease control, the Department of Agriculture, with the cooperation of the federal inspector in New Jersey, compiled a pamphlet in the form of questions and answers on the subject. This was distributed through field representatives and county agricultural agents.

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

Total number of tests made since the work commenced		424,485
Total number of tests showing positive reaction	15,167- 3.57%	
Total number of tests showing negative reaction	388,287-91.48%	
Total number of tests showing suspicious reaction	21,031- 4.95%	
Total number of animals bled on initial test since the work commenced		27,314
Total number of animals showing positive reaction	5,272-19.3%	
Total number of animals showing negative reaction	22,042-80.7%	

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

June 30, 1940

County	Number of Herds Under Supervision	Number of Herds Fully Accredited	Number of Animals Under Supervision
Atlantic	...	...	...
Bergen	10	4	248
Burlington	25	16	1,512
Camden	10	5	177
Cape May	9	5	146
Cumberland	22	6	782
Essex	4	1	265
Gloucester	21	7	734
Hudson	...	...	...
Hunterdon	30	15	1,399
Mercer	50	29	1,453
Middlesex	27	6	2,683
Monmouth	32	18	820
Morris	37	20	2,349
Ocean	1	1	36
Passaic	4	3	272
Salem	31	6	786
Somerset	103	57	2,621
Sussex	9	3	755
Union	1	1	21
Warren	11	3	546
State	437	206	17,605

AGGLUTINATION BLOOD TESTS MADE IN THE BUREAU LABORATORY FOR BANG'S DISEASE

July, 1939 to June, 1940

County	Number of Tests	Negative Reactions	Positive Reactions	Suspicious Reactions
Atlantic	25	24	...	1
Bergen	1,106	1,046	21	39
Burlington	4,708	4,236	194	278
Camden	767	729	17	21
Cape May	490	473	4	13
Cumberland	3,225	3,035	45	145
Essex	2,181	1,995	72	114
Gloucester	3,219	2,968	53	198
Hudson	...	...	...	...
Hunterdon	9,153	8,256	388	509
Mercer	17,064	15,975	206	883
Middlesex	7,605	7,272	81	252
Monmouth	3,177	2,665	286	226
Morris	13,545	12,914	146	485
Ocean	31	18	9	4
Passaic	2,906	2,827	32	47
Salem	2,741	2,401	109	231
Somerset	9,506	8,767	258	481
Sussex	3,845	3,607	76	162
Union	200	171	10	19
Warren	4,082	3,717	121	244
State	89,576	83,096	2,128	4,352

GOATS

Since the passage of the goat testing law in 1939, which required the tuberculin testing of all goats supplying milk sold for human consumption, the Bureau of Animal Industry has been called upon to make both tuberculin and blood tests. Little infection was found in any tested. During the past year, one goat gave a positive reaction to the Bang's test; none reacted to the tuberculin test.

Following is a summary of the tests made for tuberculosis and Bang's disease and the results obtained, as well as the number of herds and cattle by counties maintained under supervision for tuberculosis eradication and Bang's disease control:

RECORD BY COUNTIES OF TESTS MADE ON GOATS

July 1, 1939, to June 30, 1940

County	*Tested for Tuberculosis*		*Tested for Bang's Disease*	
	No. Herds	No. Animals	No. Herds	No. Animals
Atlantic	2	10	3	17
Bergen	6	43	9	174
Burlington	...	...	...	...
Camden	2	56	2	75
Cape May	...	...	...	...
Cumberland	4	54	2	58
Essex	4	16	7	38
Gloucester	4	36	4	51
Hudson	...	...	...	...
Hunterdon	5	94	5	105
Mercer	...	...	1	5
Middlesex	3	10	2	35
Monmouth	1	6	3	10
Morris	20	244	30	436*
Ocean	...	...	...	...
Passaic	2	38	6	126
Salem	3	6	...	...
Somerset	2	53	4	83
Sussex	2	19	3	62
Union	7	58	10	79
Warren	3	24	6	62
State	70	767	97	1,416

* One positive reaction resulted from these tests.

GOAT HERDS UNDER SUPERVISION

County	*Tuberculosis*			*Bang's Disease*		
	No. Herds	No. Herds Accredited	No. Animals	No. Herds	No. Herds Accredited	No. Animals
Atlantic	2	...	10	2	1	10
Bergen	9	2	71	9	5	55
Burlington	...	...	...	...	...	...
Camden	2	...	56	2	2	52
Cape May	...	...	...	...	...	...
Cumberland	3	1	52	1	1	29
Essex	7	...	26	7	3	22
Gloucester	4	...	36	4	3	17
Hudson	...	...	...	...	...	...
Hunterdon	9	...	106	6	3	95
Mercer	1	...	9	2	1	7
Middlesex	5	...	20	3	2	22
Monmouth	...	...	...	3	...	13
Morris	37	3	325	39	15	347
Ocean	...	...	...	...	...	...
Passaic	5	1	74	5	3	72
Salem	3	...	6	...	...	...
Somerset	4	...	66	5	2	47
Sussex	3	...	23	3	1	26
Union	7	...	58	7	...	61
Warren	5	...	30	7	2	32
State	106	7	968	105	44	907

PHYSICAL EXAMINATION OF DAIRY HERDS PRODUCING NEW JERSEY GRADES OF MILK

During the past year the physical examination of animals producing New Jersey official grades of milk has been carried on through a veterinarian who has devoted his entire time to the project.

Following is a report of the physical examinations conducted during the year 1939-1940.

Month	No. Herds Examined	No. Animals Examined	No. Animals Condemned	No. Animals Isolated	No. Animals Passed
July	2	24	...	3	21
August	2	50	...	1	49
September	40	1,288	32	80	1,176
October	65	2,105	21	105	1,979
November	65	1,975	24	124	1,827
December	9	457	1	14	442
January	2	49	...	...	49
February	51	1,458	8	54	1,396
March	64	2,266	7	68	2,191
April	61	1,863	...	43	1,820
May	3	121	...	13	108
June	2	59	...	...	59
Totals	366	11,715	93	505	11,117

POULTRY INSPECTION

Representatives of the Bureau of Animal Industry have continued health inspections of all car and truck lots of poultry arriving in New Jersey at the Newark Poultry Market and at the various poultry terminals. A total of 1,626 cars was inspected. As each car contains approximately 4,000 birds, there were 6,504,000 birds inspected. Of this number a total of 30,052 was condemned as unfit for human consumption. Last year 1,677 cars of approximately 6,708,000 birds were inspected.

One difficulty encountered during the year was the fact that out-of-state birds were inspected and that livestock auction market birds sold within the state were not. At times some of the latter were below standard and were offered on the Newark market in competition with inspected birds. This situation was called to the attention of several of the markets which were involved and apparently has been corrected, as no complaints have been made to this office by the Poultry Market Association of Newark. More stringent control should be applied to birds sold through local markets and those that are unworthy should be disposed of rather than be permitted to enter into competitive sale with sound poultry; then the price paid per pound for good poultry meat will not be influenced and reduced by these inferior offerings.

The following is a summary of the number of carlots of poultry received during the year and the points of origin of such consignments:

Month	Carlots Arriving Pennsylvania Railroad and Poultry Market, Newark
1939	
July	119
August	149
September	115
October	124
November	169
December	148
1940	
January	145
February	115
March	117
April	136
May	165
June	124
Total	**1,626**

A comparison of the number of carlots of poultry released monthly at the New Jersey and New York City terminals during the past fiscal year follows.

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
New Jersey	119	149	115	124	169	148	145	115	117	136	165	124
New York	163	333	421	335	481	465	370	303	351	388	366	339

Total for New Jersey 1,626
Total for New York 4,315

CARLOTS OF POULTRY FROM VARIOUS STATES RELEASED AT POULTRY TERMINALS IN NEW JERSEY

July 1, 1939 to June 30, 1940

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Totals
Alabama	...	...	...	...	1	1	...	...	...	...	...	...	2
Connecticut	7	7	5	6	5	2	5	3	3	3	8	9	63
Delaware	14	16	14	14	16	16	22	23	26	29	29	22	241
Illinois	5	5	4	3	2	4	2	1	1	...	17	...	44
Indiana	4	9	5	5	10	9	5	5	6	9	...	10	77
Iowa	5	6	5	4	4	4	...	...	...	...	...	...	28
Kentucky	5	5	1	3	4	3	5	1	2	1	5	2	37
Maine	...	...	2	4	...	1	...	...	...	2	...	...	9
Maryland	4	11	3	3	5	5	4	6	4	4	6	3	58
Massachusetts	4	7	7	4	7	4	7	4	1	3	9	6	63
Nebraska	...	...	...	...	2	5	1	...	...	...	...	...	8
New Hampshire	1	4	4	4	3	3	5	...	...	1	1	...	26
New Jersey	12	16	15	11	12	10	14	9	5	11	11	13	139
New York	12	14	12	17	19	16	21	14	14	19	18	10	186
North Carolina	...	...	...	...	...	3	4	9	12	10	7	5	50
North Dakota	...	...	...	5	...	...	...	...	...	...	...	...	5
Ohio	...	1	2	2	2	1	1	1	3	...	3	2	18
Pennsylvania	14	21	12	13	19	19	18	9	10	12	15	19	181
Rhode Island	5	5	5	3	6	5	5	2	1	6	7	3	53
South Dakota	11	17	9	12	29	21	5	4	3	...	1	4	116
Tennessee	...	...	1	3	7	3	4	1	4	4	9	3	39
Virginia	14	5	9	7	15	12	17	23	22	21	18	13	176
West Virginia	2	...	...	1	1	1	...	...	...	1	1	...	7
Totals	119	149	115	124	169	148	145	115	117	136	165	124	1,626

PULLORUM DISEASE CONTROL

During the past year there has been an increase in interest among the poultrymen in the control of pullorum disease. Records show that 90,550 birds were submitted to test during the past year as compared with 83,796 for the year previous. This is an increase of 8.06 per cent. Of this number 1,721 birds or 1.9 per cent were positive. In addition to the check tests conducted during the year by the tube method, 3,712 birds were tested by the tube agglutination test alone.

As has been customary for the past year or two, poultrymen were permitted to select either the whole blood or tube agglutination test. A large majority of poultrymen in this state are satisfied with the results obtained with the field or whole blood method of testing as indicated by the comparatively few birds submitted to the tube agglutination test alone.

It is significant that only two reports of loss, from pullorum disease in baby chicks were received during the past spring. In both instances the fault was not in the test but in management.

NUMBER OF FOWLS BLOOD-TESTED FOR PULLORUM DISEASE; NUMBER AND PERCENTAGE REACTING, BY COUNTIES
July 1, 1939 to June 30, 1940

County	Number of Fowls Tested	Number of Fowls Reacting	Per Cent Reacting
Atlantic	6,229	45	.72
Bergen	2,201	...	...
Burlington	17,002	647	3.80
Camden	...	...	...
Cape May	5,506	10	.18
Cumberland	15,113	234	1.55
Essex	...	...	...
Gloucester	9,534	108	1.13
Hudson	...	...	...
Hunterdon	3,471	136	3.92
Mercer	9,940	146	1.47
Middlesex	1,337	4	.30
Monmouth	2,993	18	.60
Morris	1,070	38	3.55
Ocean	1,796	3	.17
Passaic	...	...	...
Salem	5,486	254	4.63
Somerset	4,678	62	1.33
Sussex	3,926	15	.38
Union	...	...	...
Warren	268	1	.37
State	90,550	1,721	1.90

ENCEPHALOMYELITIS

New Jersey has been fortunate this year in having no positive cases of encephalomyelitis reported to date. The Bureau of Animal Industry did not offer protective immunization for horses during the year, but immunization was given by private practitioners at the request and expense of horse owners. The number of such vaccinations reported by counties follows:

County	Number of Horses Vaccinated	Number of Mules Vaccinated
Burlington	77	2
Camden	2	..
Cape May	37	..
Cumberland	17	..
Essex	187*	..
Gloucester	31	..
Mercer	11	..
Middlesex	12	3
Monmouth	69	2
Morris	18	..
Ocean	88	8
Passaic	2	..
Union	63	..
State	614	15

* Included in this number were 176 horses owned by the Essex Cavalry which were immunized before moving to New York state for summer camp.

The heads of five horses suspected of having been affected with encephalomyelitis either were taken to the Rockefeller Institute for Medical Research at Princeton or sent to the Bureau of Animal Industry Laboratory in Washington, D. C., for examination. None of these proved to be infected with the virus of this disease.

STALLION REGISTRATION

During the year representatives of the Bureau of Animal Industry made a physical examination of all stallions within the state standing for public service, in accordance with the provisions of Article 2, Chapter 2 of Title 4 of the Revised Statutes, in order that their annual certificate might be issued. The fees of five dollars for an initial certificate and two dollars for each yearly renewal, were collected and turned over to the office of the State Treasurer.

The following tables show the registration by breeds as well as by counties:

STALLIONS LICENSED, BY BREEDS

July 1, 1939 to June 30, 1940

Breed	Number Licensed
Belgian (purebred)	3
Morgan (purebred)	1
Percheron (purebred)	12
Saddle (purebred)	5
Suffolk (purebred)	3
Thorobred (purebred)	8
Grades*	6
Jack (grade)	1
Total	39

* Includes grade Percheron, Belgian, Morgan, Arabian, Clydesdale and Thorobred.

STALLIONS LICENSED, BY COUNTIES

July 1, 1939 to June 30, 1940

Atlantic	..
Bergen	..
Burlington	2
Camden	3
Cape May	..
Cumberland	1
Essex	1
Gloucester	..
Hudson	..
Hunterdon	8
Mercer	2
Middlesex	1
Monmouth	8
Morris	2
Ocean	..
Passaic	..
Salem	4
Somerset	3
Sussex	1
Union	..
Warren	3
State	39

GLANDERS

Reports of 321 negative mallein tests made on horses for glanders were received by the Bureau of Animal Industry during the past fiscal year. Of this number, 68 were for admission to the state and 253 for export. This was an increase over the preceding year when 159 tests were filed with the bureau, all of which were negative. This increase was partly due to the mallein tests made on horses owned by the Essex Cavalry which were moved into the State of New York for summer camp.

MALLEIN TESTS CONDUCTED AND REPORTED

July 1, 1939 to June 30, 1940

Tests Made by Private Veterinarians

July	4
August	9
September	..
October	..
November	2
December	..
January	59
February	5
March	1
April	..
May	2
June	239
Total	321

ANTHRAX

This year protective inoculation of horses and cattle in the southern counties of New Jersey, was carried out when owners made request for such protection. In conjunction with the county agricultural agents of the counties, the vaccination of 1,077 cattle and 74 horses was completed.

Due to the fact that a death loss occurred in one Mercer County herd, it was necessary, in order to prevent the possibility of the spread of anthrax to the remainder of the herd to immunize all cattle on the premises. This was done and no further losses occurred.

RABIES

During the past year there have been several cases of rabies in dogs reported to the State Department of Health, and two cases of rabies in the human family. During November, 1939, this disease extended to the cattle population and report of its existence in three herds in Sussex County was made by representatives of the Bureau of Animal Industry.

The New Jersey State Health Laboratory confirmed the diagnosis in the herds of Russell A. Bellis, R. D. 1, Newton, where 8 cattle were found diseased; Emil Pfister, R. D. 2, Newton, where one cow was affected and Wilbur Margerum, Unionville, N. Y. (farm in Sussex County), where one cow was affected.

As a result of this outbreak, it was necessary for the Department of Agriculture to order the affected animals slaughtered to protect the milk market. The township reimbursed Mr. Margerum for his loss but Fredon Township, in which the other two herds were located, had no funds to make reimbursement to these owners and special legislation was passed providing state indemnification.

Later in the year a case of rabies was reported in one cow of the herd owned by Mrs. Dora Stults of Cranbury, R. D. 1. This animal was destroyed and appraised in accordance with Section 4:5–9 and 4:5–10 of the Revised Statutes.

HOGS INOCULATED AS A PROTECTION AGAINST CHOLERA INFECTION, BY MONTHS

July, 1939 to June, 1940

Vaccinations Made by Private Veterinarians

Month	Number of Hogs Given Single Treatment	Number of Hogs Given Double Treatment
July	..	787
August	8	688
September	1	569
October	9	974
November	..	693
December	5	413
January	..	443
February	..	266
March	1	320
April	6	539
May	..	989
June	15	1,253
Totals	45	7,934

Total Single	45
Total Double	7,934
Grand Total	7,979

HOGS INOCULATED AS A PROTECTION AGAINST CHOLERA INFECTION, BY COUNTIES

July, 1939 to June, 1940

Vaccinations Made by Private Veterinarians

Counties	Single Treatment	Double Treatment
Atlantic	..	948
Bergen	..	...
Burlington	13	80
Camden	..	34
Cape May	..	992
Cumberland	10	700
Essex	..	...
Gloucester	6	58
Hudson	..	...
Hunterdon	..	952
Mercer	8	283
Middlesex	6	688
Monmouth	2	2,484
Morris	..	388
Ocean	..	16
Passaic	..	4
Salem	..	...
Somerset	..	62
Sussex	..	3
Union	..	152
Warren	..	90
State	45	7,934

Total Single	45
Total Double	7,934
Grand Total	7,979

WORK DONE IN THE BUREAU LABORATORY

In addition to conducting agglutination blood tests for Bang's disease and the calves in the experimental vaccination program, as well as testing for pullorum disease, the following work was performed in the laboratory of the Bureau of Animal Industry during the year:

BACTERIOLOGICAL, MICROSCOPIC AND POST-MORTEM EXAMINATIONS

Animal	No.	Material	Condition Suspected	Findings
Bovine		Uterine exudate	Trichomoniasis	Negative
Bovine		Feces	Parasites	Negative
Bovine		Uterine exudate	Trichomoniasis	Negative
Bovine	1	Spleen	Anthrax	Positive
Quail	1	Bird	Tuberculosis	Entero-Hepatitis
Bovine		Genital organs	Trichomoniasis	Positive—T. Fetus
Bovine		Uterine exudate	Trichomoniasis	Negative
Avian	1	Bird	Pullorum	Negative
Avian	8	Birds	Pullorum	Negative
Avian	14	Birds	Pullorum	2 birds positive S. Pullorum, 12 negative
Porcine	2	Swine	Swine influenza	Infectious Enteritis S. Suipestifer
Bovine	8	Uterine exudate	Trichomoniasis	Negative
Avian	6	Birds	Pullorum	Negative
Bovine	1	Skin lesion	Tuberculosis	Negative
Equine	1	Uterine exudate	Cause of abortion	Streptococcus Equinus
Equine	2	Uterine exudate	Cause of abortion	No. 1 B. Coli No. 2 Streptococcus Equinus
Equine	6	Culture	Examined for breeding	1 E. Coli Infection, 1 Staphylococcus Albus, 4 Negative
Equine	2	Cultures from genital tract	Routine examination for breeding	1 Clean, 1 E. Coli
Bovine	1	Uterine exudate	Routine bacteriological examination	Streptococcus, animal pyogenes
Bovine	1	Kidney	Tuberculosis	Negative
Avian	6	Chicks	Pullorum	Positive S. Pullorum

Animal	No.	Material	Condition Suspected	Findings
Equine	1	Culture	Routine examination for breeding	Strep. Equinus Staph. Albus
Equine	4	Cultures	Routine examination for breeding	Clean
Bovine	1	Feces	Parasites	A few coccidial oocysts
Bovine	4	Milk	Mastitis	1 Staphylococcus, 2 Staphylococcus many leucocytes, 3 Long chain streptococcus, 4 many leucocytes, no bacteria
Bovine	1	Milk	Mastitis	Short chain streptococcus. Many leucocytes
Avian	6	Chicks	Pullorum	Positive S. Pullorum
Equine	2	Cultures	Routine breeding examination	3 colonies Staphylococcus Albus
Bovine	15	Cultures	Trichomoniasis	1 Staphylococcus Albus, 14 Negative
Bovine	25	Milk	Mastitis	2 Short chain streptococcus, many leucocytes; 2 Long chain streptococcus, 5 staphylococcus, 2 Long chain streptococcus, many leucocytes, 2 large staphylococcus, many leucocytes, 1 staphylococcus many leucocytes, 1 large staphylococcus, 1 many leucocytes, 2 no bacteria, few leucocytes, 1 no bacteria many leucocytes, 6 no bacteria
Bovine	1	Fetus	Bang's disease	Guinea pig inoculation and culture was negative for Brucella abortus
Bovine	4	Milk	Mastitis	All 4 samples showed long chain streptococci and leucocytes
	3	Brucella Vaccine	Routine examination	Pure culture Brucella abortus
Avian	7	Chicks	Coccidiosis	Coccidiosis
Equine	2	Culture	Routine examination	Streptococcus Equinus
Bovine	4	Milk	Causative organism	Streptococci
Equine	1	Organs from foal	Navel ill	Streptococcus Edwards Type A
Bovine	1	Lung tissue	Tuberculosis	Mycobacterium tuberculosis

Report of the Bureau of Markets

WARREN W. OLEY, *Chief*

The fiscal year commencing July 1, 1939, ushered in a season of contrasts. During the harvest season, drought was experienced in most parts of the state, with plenty of rainfall in other areas. The months alternated in respect to rainfall. July was universally dry while floods occurred late in August. Again September was dry while October was wet. Some crops were very short, although the season was favorable for quality and volume in the cannery tomato crop.

The fall months were ideal, but the winter was cold and prolonged. Here only, there was little contrast. Cold weather started during the middle of December and continued into March. January was one of the coldest months on record, although at no time were there extremely low temperatures. Again in the spring, variations in conditions resulted. Some crops were harvested under ideal conditions in one part of the state, and brought high prices, yet when the time came to harvest the same crop in the north, low prices were the rule.

The European war practically ended the export of farm crops in September. The result was an accumulation of surpluses usually exported. New Jersey suffered with other states in this. Apples in particular were affected. The Reciprocal Trade Agreements program, which has as a primary object the reopening of foreign markets to American farm products, was seriously disrupted by governmental control of foreign trade put into effect by the belligerents.

The Secretary of Agriculture had estimated that these agreements had made it possible, up to September 1, 1939, to export and sell abroad the farm production of about 5,000,000 acres. Probably the export market would have continued to increase as the effect of the trade agreements developed. There is room for an increase, as during the last few years the agricultural exports from the United States have been but little over one-third the volume of exports for the five years prior to 1930.

One result of the federal farm program has been the higher yields per acre on all crops included in the program. Part of this is due to the crop control program under which there has been a special incentive to withdraw poor land from cultivation and to farm the remaining acreage more intensively. As evidence of this situation, the wheat yield over the United States in 1939 was 26 per cent greater than in 1933. Corn yield increased 31 per cent over the same period, while tobacco increased 16 per cent and cotton, 11 per cent.

Farmers have done much to help themselves. Better seed, especially in

the use of hybrid corn, better soil care, closer planting, more efficient machinery, and better pest control, all combined, have tended to increase crops on fewer acres. But 30,000,000 acres of land in the United States, formerly given over to feed crops for the horses and mules that have been replaced by mechanical motive power, have become available for the production of other commodities to be sold. All this has increased the marketing problem. Coupled with the loss of export markets, a greater problem of efficient distribution and total disposition has arisen.

Certain of these basic crops are not important in New Jersey, but acreage replacement has increased the acreage in those crops with which this state is vitally concerned. Garden State farmers are facing the problem. Shipping point cooperative associations in New Jersey have increased their services. More than 10,000 farmers are members of these cooperatives.

Marketing agencies have found that all states face the same problem and that for some commodities the sale is restricted to nearby points. Local auction markets are peculiarly fitted to serve the area within efficient trucking distance.

It has been the aim of the Bureau of Markets to develop marketing facilities in such a way that more and more of the products of New Jersey farms will be consumed locally. There is room for constructive work here. Consideration has been given to the development of better roadside market operations. All too many roadside stand operators are professional shopkeepers. Supplies are not grown nearby, and conditions on these markets are not as good as in the stores in town. Products offered for sale often are not fresh. The result has been that the reputation of Jersey products has been seriously impaired through the disappointment of the traveling public who thought they were buying where quality, including freshness, would be assured.

In the future, if funds can be secured, much could be done through control and supervision to build up the roadside stand method of farm sales and thus aid in the sale of farm crops. Such a marketing plan would supplement the auction system and would care for those small lots of excellent fruits and vegetables which hinder fast selling in established markets.

The bureau has cooperated closely with other state and federal agencies, and with local agencies in the united effort to move crops in a practical manner to those markets where there is a demand or where one can be developed. The New Jersey Council, through its activities, has been very helpful. Producers have cooperated with the Council and acknowledged the helpfulness of advertising by raising funds to supplement Council work.

The Bureau of Markets had been closely affiliated with the Northeastern Vegetable and Potato Council and with the Northeastern Poultry Producers' Council. Through these organizations plans have been developed to coordinate the work of the various state agencies in the territory. The marketing efforts of the Extension Service and this bureau have been developed so that no duplication of effort has occurred. Each agency has consulted the other and together have accomplished more, through a division of the task, than could otherwise have resulted.

All agencies, in any line of work where the bureau's advice and assistance could be helpful, have been served. Assistance has been given to these efforts by such agencies as the College of Agriculture and Experiment Station, the Farm Bureau, the Grange, the dairy and poultry organizations, the Horticultural Society and county boards of agriculture.

Slight mention has been made of some of the work of the Bureau of Markets. A more detailed report of this and other accomplishments during the past year follows.

CROPS AND MARKETS INFORMATION SERVICE

The crops and markets information service has three general objectives. These are: first, to supply the farmers of New Jersey with timely, unbiased and accurate information on current supplies, existing demand and prevailing prices at leading markets; second, to furnish the growers of this state with economic information concerning conditions in competing areas; and third, to supply to the produce trade information which will help dealers and buyers to locate their needed supplies and to encourage these members of the trade to obtain their supplies in this state.

The work of the market news project of the Bureau of Markets is somewhat different from the other lines of work. Its scope is wider, and it attempts to aid all branches of agriculture, rather than limiting the service to one particular group of farmers.

The service, as now set up, serves fruit and vegetable growers, poultry producers, and, to some extent, dairymen and general farmers. The mailing list indicates that the reports are going to every county of the state and that they are being used by all types of farmers. In addition, the trade, which buys produce in this state, is also obtaining reports on the time and volume of movement of New Jersey's agricultural products. The statistics gathered in connection with this work are used as a basis for some of the work of other projects of the bureau.

In one sense, the work is more or less routine. The real value of market reports is cumulative. This means that the form of the reports issued is much the same from week to week and from year to year. However, the content of reports varies continually. A market report is an attempt to picture the ever-changing market at a particular time, and to analyze the reasons for changes from the time the preceding report was issued. In order to keep the service timely and up-to-date, it is often necessary to make adjustments and additions as changes occur.

All projects instituted during the previous year were continued with the necessary revisions. Two new features were started during the year. The first was the inauguration of a cooperative agreement with the United States Agricultural Marketing Service to issue a weekly report "Truck Crop News" on truck crops for New Jersey and competing areas. This is an outgrowth of the "Inter-State Crop and Market News Service," which was developed three years ago.

Under the present agreement with the federal government, this report goes out each week of the active marketing season, and carries timely information on the condition and volume of movement of leading fruit and vegetable crops. The work is carried out in conjunction with the statistician's office of the United States Agricultural Marketing Service. Comments on the reports issued thus far this season indicate that there is a definite need and appreciation for this type of work, and that such information fills the gap between the existing crop report and the market news service.

The second new project was an attempt to aid the distributing trade by means of a dealer service program. Preliminary steps were taken with the Newark Branch of the National League of Wholesale Fresh Fruit and Vegetable Distributors to develop such a program in the near future. No definite results have been obtained as yet, but it is hoped that the program will go forward during the coming year, and by means of this project, result in a closer relationship between growers, distributors, and the Department of Agriculture.

DAILY MARKET NEWS SERVICE

As in previous years, the collection and dissemination of daily market news was carried on by a cooperative agreement with the United States Agricultural Marketing Service. A cooperative employee of the federal government and this department is stationed at both New York and Philadelphia, and part of the time of these men is spent in collecting information on New Jersey fruits and vegetables. In addition, part of the salary of the man collecting truck receipts at Philadelphia is likewise paid by this department. New Jersey is the principal source of truck receipts at Philadelphia, and such information is valuable to New Jersey growers.

The cooperative arrangement with the federal government is the most economical method of obtaining daily price data, for it prevents unnecessary duplication. Under the present system of distribution, the large markets have the greatest influence in setting prices at country points. The federal government has established market news offices at these large terminals, and it seems logical to become associated with these rather than to establish separate offices to obtain the same information.

The distribution of daily market information was again carried on through the press. An early morning report of prices and conditions on the New York market is released to one of the press services, which in turn releases it to its member papers. The past year, during the active marketing season, approximately 25 daily newspapers were making use of this service.

The early morning report to the radio, the daily press, and direct to the Trenton office for distribution to the produce auction markets was carried on by the New York agent. In addition to furnishing regular daily information to the press, the Philadelphia office was responsible for obtaining potato marketing information in season, and furnished special information on request. All arrangements have been made with the federal government for a continuation of this arrangement in the new year.

WEEKLY MARKET SUMMARIES

Most of the work of this project was concerned with editing and issuing weekly summaries. The first of these is entitled "MARKET CONDITIONS." These reports, as stated in previous years, are an attempt to go further than the ordinary market report, by analyzing some of the reasons for price changes and other factors which affect the market.

During the past year a total of 175 "Market Conditions" reports was issued. These included: white potatoes, 38; apples, 37; sweet potatoes, 29; peaches, 13; asparagus, 12; lettuce, 8; strawberries, 7; tomatoes, 7; onions, 6; spinach, 5; miscellaneous truck crops, 13.

At the time the agreement with the United States Agricultural Marketing Service was made, the miscellaneous truck crop report was replaced by the new weekly on truck crop news.

Most of the information contained in these reports was obtained by correspondence and personal contacts. Cooperation on the part of growers and the trade, as well as officials of other states in supplying the necessary information, was excellent.

The "WEEKLY MARKET REVIEW" was issued regularly throughout the year. This report is of interest and value to poultrymen and dairymen, although some fruit and vegetable growers make use of its contents. It contains grain and feed prices, egg and poultry prices at New York City and shipping point auctions of this state; a brief summary of fruit and vegetable quotations; a short review of the livestock and dressed meat situation at New York City; and a statistical summary. The mailing list for this report is constantly increasing, and at the close of the year contained 1,205 names.

"AUCTION NEWS" is now considered one of the regular seasonal reports. The object of the report is to advertise the produce auction markets of the state to buyers and prospective buyers. In addition, it is mailed to the directors of the various auction markets at their request, and serves to keep them well informed of the services rendered not only by their own, but by the other markets of the state.

At the close of the year, this report was received by approximately 750 produce buyers. The report is issued weekly from the time the first produce begins to move in the spring until fall frosts bring the season to a close. During the past year, this report was allied with some of the advertising work of the New Jersey Council, and served as a means of supplementing the brief advertisements. As has been the case for the past three years, the costs of mailing this report were paid for by the auction markets.

A year ago, a report was developed for growers patronizing the Newark and Paterson farmers' markets. This report was entitled "NEW JERSEY FRESH PRODUCE," and had for its object the advertising of these two large farmers' markets. In addition, it kept buyers at these markets informed of leading items moving through the markets during the active season. Reports continued to be issued weekly for Newark and bi-weekly for Paterson. Mailing lists have been furnished by officials of both markets; the total list at the close of the year amounted to 1,500 names.

As stated previously, a new report entitled "NEW JERSEY TRUCK CROP NEWS" was developed during the past year as an addition to, rather than a replacement of, the regular crop and market reports, which go out at regular intervals. The purpose of this report is to keep the truck crop farmer informed of the condition of crops in various parts of this state and competing areas.

In the summer of 1939, this type of work was carried on under the program developed three years ago and called "Inter-State Crop and Market News." In the spring of 1940, a cooperative arrangement was entered into with the Agricultural Marketing Service of the United States Department of Agriculture, and details from the information obtained and used in the report were shared by the two agencies.

The Bureau of Markets prepares the material for publication, and the franking privilege of the United States Post Office Department defrays mailing costs. The report is issued weekly, and at the close of the year was going to approximately 1,200 growers and buyers in New Jersey.

SPECIAL SERVICES

SUMMARY OF THE POTATO SEASON

The 1939 potato season will long be remembered by most growers as one of the most unusual in several years. The crop was planted very late because of excessive rains during the normal planting period. After this period of heavy rains, a drought set in, and practically no rain fell in the commercial potato sections until the middle of June. This combination of weather was unfavorable for heavy production, and yields for the season were relatively light.

In addition to the unusual weather, the most striking feature was the tremendous increase in the movement of the crop by truck. Rail shipments were the lightest in years, and reports from leading dealers indicated that at least 90 per cent of the total volume of business was handled by trucks.

Lack of demand in midwestern markets was added to other unusual conditions last season. This forced shippers again to seek southern markets and to use nearby markets more than ever before.

Another factor during 1939 was the longer marketing season. In normal seasons, most of the crop is marketed by the end of September, but this year many growers sold a large part of their crop after that time. The trend over the past few seasons seems to indicate that this practice will continue, and it is probable that New Jersey will use storage facilities for potatoes to a greater degree.

Truck shipments to local and nearby markets began during the second week of July. For a period of ten days, movement was comparatively light, with general shipments getting underway around July 20. The period of heaviest movement by rail and truck was between August 10 and August 20, but relatively heavy shipments continued through September and October. Rail shipments for the year totalled 2,557 cars, while truck movement, of

which records were available, was equivalent to 9,588 carlots. At no time during the deal did rail movement exceed that by truck.

AUCTION MARKET QUOTATIONS

During the active harvesting and shipping season for fruits and vegetables, the Department of Agriculture is called upon to furnish growers patronizing the produce auction markets with an early morning market report of prevailing prices and conditions on the New York wholesale market. In the past year this service was carried on from May 1 to October 15.

The teletypewriter was again used for this service. Two leading auctions and the Cumberland County agricultural agent's office were connected by means of this service. The daily information was obtained from the co-operative employee at New York at 8:00 A. M. each morning and immediately relayed via the teletype to these points. In this way the growers using these outlets were able to judge the approximate value of their produce each day, and the auction managers were in a position to inform growers of the condition and general movement of produce through the New York market, which largely influences prices paid the same day at the auction markets throughout the state.

TENTATIVE DEALER SERVICE PROGRAM

During the spring of 1940, interest was noted for the development of "dealer service" programs for the produce trade in various parts of the country. In some of these areas, local groups took the initiative, and worked out advertising and promotional programs for their own markets. In others, individual dealers did most of the work.

Officers and members of the Newark Branch of the National League of Wholesale Fresh Fruit and Vegetable Distributors have shown considerable interest in a similar program for their own area. Work of this type would aid in advertising New Jersey products and would develop a closer relationship between producers and distributors.

DAIRY PRODUCTS MARKETING

The objective of the dairy products marketing project is to aid in the development of a practical milk marketing program for the state. The major activity of the program is the supervision of the production and distribution of milk under the New Jersey official grades and the expansion of the sale of such milk. These grades represent an effort to recognize and identify milk of definite quality standards. Other activities include cooperation with the Milk Control Board, the New Jersey Dairymen's Council, the New Jersey Junior Breeders' Fund and other agencies, as well as the collection and dissemination of information of value to the dairy farmers of New Jersey.

Despite many disrupting influences within and without the industry, the income to dairy farmers in New Jersey continued on a level above those of

surrounding states. Figures taken from the reports of the Milk Control Board show a net weighted average return to all producers for all milk sold in the state of $2.61 per hundredweight for the year as compared with $2.68 for the previous year.

While this figure shows a decrease for the third consecutive year, it is much above the returns paid in other markets, due primarily to the fact that New Jersey is a deficiency state and that more than 80 per cent of her milk supply is sold as Class 1. Under the Federal Marketing Agreement now in effect, governing sales in New York City, the percentage of milk sold in Class 1 ranges from 35 per cent to 50 per cent, according to the monthly production. This situation, plus a slow but steady increase in consumption, has placed the New Jersey producer in a most favorable position.

Notwithstanding these favorable monetary returns, the general dairy outlook is far from satisfactory. The mayor of New York City disconcerted the industry when he announced that only one grade of milk could be sold in that city after September 1, 1940. He stated as his reason the fact that under improved sanitary conditions Grade B equalled in quality the Grade A milk sold at a premium of 3 cents per quart. After this announcement there was a terrific slump in Grade A sales, and the repercussions of the movement spread into the New Jersey metropolitan market. This is a matter of importance to local producers because Grade A premiums alone amount to over $1,000,000 per year for New Jersey produced "A" milk. The newspapers have continued to carry stories relative to this movement by New York City. Such publicity has lessened the sales of Grade A milk, and will have an even greater deterrent effect after the New York City ordinance goes into effect.

Another factor that has had a depressing effect on the general marketing situation is the continued influx of out-of-state milk purchased by dealers within the state at a price much below that established by the New Jersey Milk Control Board. Numerous conferences have been held both by producer groups and with representatives of the United States Department of Agriculture, but the technical difficulties for the administration of a statewide marketing agreement, rather than one without geographical limits, thus far have proven insurmountable.

The most pressing problem of the industry is still the formulation of a long-time plan to coordinate the needs of, and bring equal benefits to, the producer, distributor and consumer. Equally needed is a coordination of the supervisory forces of the state and municipalities so that effort along these lines will not be wasted, and regulations will be standardized to enable the producer and distributor to cut costs entailed in an effort to meet differing production requirements. Also, stimulation of consumption is essential.

NEW JERSEY OFFICIAL GRADES

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

Use of the New Jersey grades is elective. They are used by the dealers who choose to have their supply under the supervision which grading entails, and who agree to pay an inspection fee covering not only their own plant but the producer inspection. Fees vary from 35 to 50 cents per thousand quarts daily produced, dependent upon volume. Payment is entirely by dealers and involves no fee expense to the producers of graded milk.

At the close of the fiscal year there were 55 dealers processing 55,069 quarts of milk daily under the New Jersey official grades. For the past three years the volume has continued to fluctuate between 55,000 and 56,000 quarts. Much of the milk has changed in classification, however, as some of that formerly sold as New Jersey Grade A Pasteurized is now sold as New Jersey Grade B Pasteurized. Of these 55 dealers, 20 sold raw milk only, 20 sold pasteurized milk only, and 15 dealers sold both raw and pasteurized milk. The volume of milk distributed was 72.04 per cent pasteurized and 27.96 per cent raw. This indicates a steady trend towards the pasteurization of the milk supply.

Among the 55 dealers operating under the supervision of the Department of Agriculture, are 30 purchasing dealers, 22 producer-dealers and 3 who both produce and purchase milk. The number of producers involved in the production of this milk is 145. The 55 dealers processing the New Jersey official graded milk sell to 243 sub-dealers, the milk being distributed in 210 municipalities of the state.

When the New Jersey official grades were established, a rigid herd inspection system was introduced and, at the present time, serves as a model for several other inspection agencies, both within New Jersey and in other states. During the fiscal year ending June 30, 1940, 11,300 cattle were inspected in accordance with the grade regulations. The Bureau of Markets has been greatly aided in veterinary inspection work by the cooperation of the Bureau of Animal Industry.

The accompanying table is concerned with the physical examinations of cattle, by counties, during the fiscal year 1939-1940, and the results of those examinations.

PHYSICAL EXAMINATION OF CATTLE, BY COUNTIES, FISCAL YEAR 1939-1940

County	Number of Herd Examinations	Number of Animal Examinations	Number of Animals Passed	Number of Animals Isolated	Number of Animals Condemned
Bergen	8	183	172	10	1
Burlington	27	930	856	67	7
Cumberland	6	156	149	6	1
Essex	4	93	88	3	2
Hunterdon	81	2,703	2,570	113	20
Mercer	10	244	242	2	..
Middlesex	5	238	230	8	..
Monmouth	4	70	68	1	1
Morris	115	3,878	3,698	161	19
Salem	16	333	318	13	2
Somerset	58	1,519	1,462	48	9
Sussex	2	90	83	7	..
Union	5	236	184	26	26
Warren	13	627	599	23	5
Totals	354	11,300	10,719	488	93

SUMMARY

Number of herds examined	354	
Number of herds in which all animals were passed	152	42.94%
Number of herds in which animals were excepted	202	57.06%
Number of animals passed	10,719	94.86%
Number of animals isolated	488	4.32%
Number of animals condemned	93	.82%

Another requirement of the New Jersey official grades for milk is the physical examination twice each year of all employees of farms producing New Jersey Grade A Raw Milk and of employees of bottling plants handling the New Jersey grades for milk. Last year this involved the examination of 500 individuals and medical certificates containing the history of these examinations are now on file in the Department of Agriculture. Each man taking the medical examinations was required to be examined by a physician twice during the year and pronounced by the examining physician a safe individual to handle milk. When the individual had met these requirements, a card of identification was furnished to that effect. Laboratory examinations of specimens submitted by physicians in connection with these physical examinations were made by the New Jersey Department of Health.

The importance of microscopic analysis of samples of milk in determining causes of defect is amply demonstrated by the methods used in policing the New Jersey official grades. While this work is more complete, and incidentally more expensive, than ordinary methods of control, the results justify the extra effort. During the nine years of this close microscopic supervision of the milk qualifying for New Jersey official grades, not one case of infectious disease has been traceable to the milk supply. During the year, 1,739 samples

were collected for analysis. The net weighted average of the butterfat content of these samples was 4.19 per cent.

All of the field work of the New Jersey official grades project is self-supporting. Fees are based on a sliding scale according to the amount of milk processed by the distributor. The income to the Bureau of Markets from fees averaged $22.36 daily, and the total income collected for the fiscal year was $8,161.01.

In order that a comparison of the volume of work accomplished by this project can be made, a summary of progress is reported, presented with each alternate year omitted to conserve space.

	1931-32	1933-34	1935-36	1937-38	1939-40
Number of cooperating dealers	30	35	57	62	55
Number of producers	102	125	219	184	170
Daily production of milk	24,709	30,070	56,372	55,848	55,069
Number of cows examined semi-annually	2,864	3,238	5,971	5,582	5,650
Number of employees examined semi-annually	259	317	516	525	500
Samples collected for analysis	401	876	1,231	1,816	1,739
Butterfat average	3.74%	4.11%	4.10%	4.10%	4.19%
Average daily fee	$12.35	$15.03	$23.74	$22.91	$22.36

ADVERTISING PROGRAM

A major project throughout the year was the advertising program carried on in cooperation with the New Jersey Council and the New Jersey Official Grade A Milk Dealers' Association. The plan was for the producer to allow the dealer to deduct 1 cent per 40-quart can for this advertising campaign; to this the dealer added another 1 cent per can, producer-dealers paying 2 cents per can. To the money thus raised, the New Jersey Council added dollar for dollar, and the campaign was directed by a committee consisting of three dealers and three producers, with the supervisor of dairy products standardization of the Bureau of Markets having general supervision over the whole project.

This advertising campaign was very successful. Nineteen dealers participated, with their producers, and it was possible to carry on a ten-month campaign with 14 newspapers used in the metropolitan area of New Jersey. In addition, sufficient funds remained to prepare a salesmen's brochure, the need for which was demonstrated when newspaper advertising prompted inquiries. The advertising program was developed at a total cost of $6,540, and the Bureau of Markets acknowledges, with deep appreciation, the assistance of the New Jersey Council in advertising this grade of milk.

SPECIAL SERVICES

NEW JERSEY DAIRYMEN'S COUNCIL

Cooperation with the New Jersey Dairymen's Council was continued, and members of the staff of the Bureau of Markets appeared on the program throughout the year.

NEW JERSEY JUNIOR BREEDERS' FUND

Trustees of the New Jersey Junior Breeders' Fund, Inc., were supplied with the services of the supervisor of dairy products standardization to carry out certain field activities necessary in the administration of the Fund. This necessitated 25 farm visits during the year, and attendance at seven fairs in various parts of the state. The supervisor also served as a committee member with representatives of the Agricultural College and Extension Service to determine the awards for meritorious records presented by the trustees of the Fund during Agricultural week.

FRUIT AND VEGETABLE MARKETING

Probably the work of the bureau in its aid to the fruit and vegetable growers is more diversified than in any other line. In the first place, the aids to the cooperative marketing group affect several thousand producers. In addition, many people are served who use the established city farmers' markets as an outlet for the products of their farms. Also, the separate commodity groups that have special problems in packaging, grading and selling are aided in many ways. All this comes under a classification of direct marketing assistance. In addition, the Bureau of Markets in its inspection and certification work influences the prices received by thousands of growers for several million dollars' worth of crops bought on the basis of the grade certified by inspectors.

The largest number served by the regulatory branch is that selling vegetables to processing plants. These plants are a very important outlet, especially for the growers of tomatoes, asparagus, lima beans, peas, beets, pumpkins, and to a lesser extent, spinach, cucumbers for pickling, berries, peaches and other crops. Inspectors determined the grade of each load offered for sale from approximately 25,000 acres of tomatoes, 4,000 acres of asparagus, and as the year closes, arrangements are made whereby inspectors will check the quality of lima beans from several thousand acres to be purchased during the summer of 1940.

This project endeavors, first, to improve the marketing of New Jersey fruits and vegetables; second, to assist growers and shippers in obtaining better outlets and greater returns; and third, to encourage consumer demand for local products. Accomplishment of this program is attempted through the development of shipping point markets, through standardization work at processing plants and at shipping points, by grading and inspection, through promotional efforts at city markets and by consumer educational work.

INSPECTION WORK

Grading and inspection are among the chief activities of this project. Inspection of fresh fruits and vegetables varies considerably from year to year. This is due largely to distribution and market conditions. When there is a fair to good distribution of potatoes to markets outside the metropolitan

area and shipments are made by rail, inspections increase; whereas, when sales are chiefly confined to nearby markets, the service is not used so extensively. In the case of apples, the volume of fruit inspected depends largely on export demands. In both of these commodities there was a reduction during the 1939 summer and fall. The potato market was chiefly nearby, and the European war practically eliminated export outlets for apples.

Cannery crops inspection and auction market work are more consistent. The work on auction markets is largely educational, but regulatory in regard to the consistency of pack and grade, and for government purchases. The grading and inspection of cannery crops is chiefly to determine quality, on the basis of which producers are paid for their product. This service has increased continually. During the 1939-1940 season, 48 federal licensed inspectors were employed on cannery crops inspection.

The inspection service is carried on in cooperation with the United States Department of Agriculture. During the past year, inspectors licensed by the United States Department and employed by the State Department of Agriculture certified the quality and condition of approximately $3,500,000 worth of cannery asparagus and tomatoes, alone. Those connected with this work realize the importance of employing well-trained, capable, efficient, and above all, absolutely neutral inspectors.

CERTIFYING FRESH PRODUCE FOR MARKET

APPLES

Due to the large apple crop in most producing states in 1939 and the poor export demand resulting from the European war, the volume of apple inspections declined considerably from the record of the previous season. Growers were somewhat reluctant to add any additional cost to their packing charges. Some growers, however, continued to use the service during the harvest season and packed in accordance with the official state grades, using these certificates to market their crop. In all cases where this was done, the state lot numbering stamp was used for identification. Most growers reported an unusual amount of worm and sting damage; some were faced with the problem of meeting color requirements. The lack of color was largely due to warm nights during the months of August and September.

The following table shows the number of packages of apples inspected according to grades:

	U. S. No. 1	U. S. Utility	Combination	U. S. Commercial	Others*	Total
Baskets	60,871	...	1,524	...	150,000	212,395
Boxes	25,341	1,078	295	460	...	27,174
Barrels	935	...	...	...	...	935
Totals	87,147	1,078	1,819	460	150,000	240,504

* This amount covers 101 Condition inspections made in cold storages during December, February and April. Cold storage figures are approximate.

ASPARAGUS

The Garden State Asparagus Growers' Association of Bridgeton continued to operate on the same basis as during the 1939 season. In addition to this organization, a similar one was formed in the spring of 1940 by a group of growers in the Swedesboro district. The purpose of both groups was essentially the same; that is, to establish on the market a uniformly graded product identified by tags placed in the individual bunches. Both groups used special end labels on the crates during the 1940 season. This added considerably to the attractiveness of the packages.

The movement of the asparagus crop was coordinated with an advertising campaign supported largely by the New Jersey Council. Each group employed the services of a state inspector who visited the growers regularly and assisted in carrying out the plans of their respective organizations.

WHITE POTATOES

Certification work on potatoes was light during the past season. This was due largely to sales being chiefly confined to the metropolitan area and to New England. Market conditions were not favorable for much rail movement.

The greater part of certification of this commodity was done on farms. Three of the larger growers in the central district of New Jersey used inspection on practically all shipments. Inspectors were stationed at the farms and, according to growers, were of much assistance.

Since only 44 cars and 353 truck and storage lots were inspected, a table showing percentage of U. S. No. 1 and Commercial would not give a true picture of the quality for the season. However, the quality was generally good, but due to lack of sufficient moisture during the growing season, sizes were smaller than during an average season.

Many growers are continuing to store more potatoes for the winter market. This practice seems advisable. The harvest season for New Jersey growers comes during late July, August and September, at which time temperatures are usually high and potato consumption low. With a strong buying power in nearby markets, New Jersey growers should develop good outlets for a large volume of their crop during the fall and winter months. With a minimum of transportation charges, New Jersey growers should be able to compete with more distant shipments.

Two new activities in potato marketing were developed during the year. The State Potato Association, through the marketing committee, developed a three-point plan for aiding the movement of the potato crop. The plan included, first, the employment of a competent man to visit growers and, through aid and advice, assist them to improve the pack of potatoes; second, the development of a survey to be conducted in New Jersey markets to determine the quality of local potatoes compared with those from competing areas, and to ascertain the demand for potatoes from New Jersey; and, third,

an advertising campaign in cooperation with the New Jersey Council. The market survey was conducted by the College of Agriculture; therefore, the results are not included in this report. The field work with growers and dealers was carried out under the supervision of the Bureau of Markets.

A representative from the Department of Agriculture visited 158 farmers, of whom one-fourth were located in the southern and three-fourths in the central sections of New Jersey. In addition, twenty dealers were visited. A brief analysis of the reports shows that in general the quality of New Jersey offerings of potatoes was high. Some poor packs were noted and, in particular, the presence of an unusual amount of small potatoes in packs to be sold as No. 1 grade. This was due to the endeavor of some growers to increase their volume in a year when a small crop was the rule.

Some other unsound practices were noted, and this information was given publicity at the annual meeting of the State Potato Association, and at subsequent local meetings. The findings were also printed in "Hints to Potato Growers," published by the State Potato Association. The potato growers are endeavoring to correct these poor practices, and are organizing a more intensive campaign for the harvest season of 1940.

All dealers also were consulted in order to find out when the crop of potatoes is marketed, and to determine, if possible, how the sale of the New Jersey crop could be made more profitable. Dealers supplied weekly reports on the volume sold by them. The total volume reported by 22 dealers was approximately 4,800,000 bushels. These were sold as follows: In July, 13 per cent; August, 45 per cent; September, 25 per cent; October, 9 per cent; and November, 8 per cent. The state harvest is reported for 1939 as 7,480,000 bushels, and the dealers' report is a fair indication of the movement.

From the percentage figures, it is evident that half the New Jersey crop is marketed in a four-week period when weather is hot, consumption poor, prices at the lowest level and competition very keen. Not only must improvements in grade or pack and package be made, but also some adjustment of the marketing season is advisable.

The other activity was the effort of the Tri-County Cooperative Auction Market Association, Inc., to develop an outlet for potatoes of high quality put up in 15-pound consumer packages. The grading of these potatoes was supervised by a representative of the Bureau of Markets. The design on the bag and the brand name were developed jointly by the Department of Agriculture and the association. The wording was, "Tri-County Brand" and "Garden State Potatoes." Advertising was carried out by the New Jersey Council. The work was started early in 1940 and ended when the supply of good quality stock was exhausted. Approximately 5,000 bags were sold.

The demand for these well-graded Jersey potatoes was keen. In fact, requests came to the association for supplies far in excess of their ability to deliver. The directors were so much encouraged that plans have been made to store a large volume of potatoes for fall and winter sales, and special grading and bagging equipment has been purchased for continuing the sales on a much larger scale.

SWEET POTATOES

With a crop of about 2,325,000 bushels, which is above the 1938 crop, and somewhat higher than the 10-year average from 1929-1938, growers and shippers were forced to hunt markets in an effort to dispose of the harvest. Many carlots were shipped to Canada and to the midwestern markets. The crop was of excellent quality, and in spite of the volume to be moved, prices were never low enough to force growers to call on the Federal Surplus Commodities Corporation to help dispose of the potatoes. During the latter part of the storage season prices were highly satisfactory.

Through the fall and winter months, 58 carlots and 4 trucklots of sweet potatoes were certified, all of which graded U. S. No. 1. This is an indication of the fine quality shipped, although requests for inspection were on the better lots. The number of inspections exceeded that of any previous year.

INSPECTION AT AUCTION MARKETS

As during previous seasons, inspectors were stationed at the following produce auctions: Cedarville, Glassboro and Hightstown. Also, during the tomato season, the Swedesboro auction used the services of an inspector.

In most cases this service was used for educational purposes, the inspector also acting as arbitrator to settle questions which might arise between buyer and seller as to the quality of the product. The auctions sell the farmers' produce on samples. The sample is to be representative of the lot as a whole. If, in the opinion of the buyer, the quality of the lot as a whole is not up to that of the sample, the inspector is called upon to compare the sample with other packages in the lot. If the inspector's decision is that the sample is representative of the lot, the rules of the auctions require the buyer to accept his purchase. But if the inspector finds that the lot as a whole is inferior in quality to the sample, the buyer has the right to reject the lot or to make adjustment with the grower.

Line inspection, which provides for determining the grade of products before sales are made, is most satisfactory. This is especially true of products offered in large volume, such as strawberries, beans and onions. Buyers often have orders for cars or truck lots of these commodities based on a definite grade. It is also the fairest basis for buyers to make purchases. Too often the grower with high quality produce does not receive any premium.

Eight regular licensed inspectors were employed at the produce auctions during the season.

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

TEN-YEAR RECORD OF SHIPPING POINT INSPECTIONS BY PRODUCTS

Product	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40
Apples	549	168	230	91	94	333	160	391	579	672**
Beans	11	33	40	162	91	17	43	3	1	1
Cabbage	..	..	..	..	..	1	..	..	..	..
Celery	..	..	1	..	..	..	..	..	..	..
Corn	..	..	..	1	..	..	..	..	..	..
Cucumbers	..	..	..	..	..	1	..	..	..	..
Lima beans	..	..	..	75	1	..	3	..	..	..
Mixed fruit	..	11	9	1	..	..	..	..	..	..
Onions	2	16	30	223	36	55	42	61	9	3
Peaches	4	24	2	2	..	..	1	..	..	49
Pears	29	14	15	5	..	16	..	1	2	..
Peas	4	..	1	20	2	2	..	..	..	..
Peppers	..	..	..	18	3	..	..	..	..	..
Potatoes	911	217	10	20	40	121	323	5,180	1,972	397
Spinach	..	..	..	1	..	..	..	..	1	6
Strawberries	47	23	152	125	1	1	1	..	..	..
Sweet potatoes	..	6	..	..	..	..	..	45	..	62
Totals	1,557	512	490	744	268*	547*	573*	5,681*	2,564*	1,190

* Does not include inspections at auction markets for which no certificates were written, as included in the columns for 1932-33 and 1933-34.
** Includes 101 certificates issued on "condition only" on apples in cold storages.

FEDERAL SURPLUS COMMODITIES CORPORATION PURCHASES

The Federal Surplus Commodities Corporation again purchased mixed vegetables in the state. Peaches and apples were also purchased. The corporation opened an office in Hightstown during the summer, but moved to Woodbury about the first of September when apple purchases began in considerable volume.

Commodities purchased by the corporation were inspected and certified by licensed inspectors employed and supervised by the Bureau of Markets.

With a large apple crop in New Jersey, as well as in most apple producing states, and with light export demands, growers were faced with difficulty to market their crop. The FSCC purchases aided considerably in disposing of many varieties which are not ordinarily in demand on the domestic market. The corporation purchased U. S. No. 1 and Combination U. S. No. 1 and Utility grades. The purchase of the Combination grade was of special importance to growers. The quality of the 1939 crop was below normal. Stings, worm damage and insufficient color prevented many lots from meeting U. S. No. 1 requirements.

The following is a record of inspections made for Federal Surplus Commodities purchases:

Apples	151 cars, Combination U. S. No. 1 and Utility
	152 cars, U. S. No. 1
	52 cars, mixed grades
Peaches	49 cars, U. S. No. 1

In addition to the cars listed above, the following number of packages of mixed vegetables were purchased:

10,494 bushels of snap beans
2,369 bushels of carrots
32,848 bushels of tomatoes
8,719 bushels of corn
389 bushels of beets
7,814 bushels of lima beans

CERTIFYING CANNERY CROPS

ASPARAGUS

Grades for canning and quick-freezing asparagus, which will provide a definite basis for contracts between the processors and growers, are meeting with increasing favor. During the 1940 season, 9 licensed inspectors were employed by the Department of Agriculture to certify growers' lots of asparagus delivered at the processing plants or receiving stations. Total asparagus inspected was approximately 15,500,000 pounds.

Two distinctly different contracts were used by processors in contracting with growers. Two canners went back to the 9-inch maximum length for spears, including ½-inch tolerance permitted for white at the butt, using the three recognized size terms, large, medium and small. A third processor contracted on an entirely new basis. His grower-processor agreement specified 11 cents per pound for all N. J. No. 1 spears over ⅜ inch in diameter, 5 inches in length, with no tolerance for white; and 4 cents per pound for spears ⅜ inch down to ¼ inch, and for all N. J. No. 2 asparagus. That portion of the spear between 5 and 8¾ inches from the tip was cut into 1¼ inch cuts, and graded as center cuts. Two cents per pound was paid for an entirely green color, or purple which would blanch green. The purpose of this contract was to determine prices to be paid for asparagus for quick-freezing and canning. The 5-inch tips over ⅜ inch, of N. J. No. 1 quality, were chiefly for quick-freezing, while the remaining portion of the lots was used for canning.

The season officially opened with lots being delivered by growers on May 2. During most of May, when the quality is usually best, weather conditions were unfavorable for asparagus growth. Cool weather throughout most of the month caused tonnage to be light, and also favored heavy beetle infestation. During June, conditions were more favorable, but as in most seasons, sizes diminished. As a whole the season did not favor high yields.

The following tables show the number of loads inspected and the average grades each week during the 1940 season. Because of the two different contracts, with the necessary difference in grade, size and length, the results cannot be combined. Table A shows the results using two grades, and combining large and medium sizes in one price range, and small and No. 2 in another, with a separate class for center cuts. Table B shows the results for three sizes of full-length stalks of asparagus in accordance with the official state grades for cannery asparagus. Figures shown in Table B include small purchases of a third contractor using the same method of grades.

TABLE A

Week Ending	Lots Inspected	N. J. No. 1 Large *Per Cent*	N. J. No. 1 Small and No. 2 *Per Cent*	Center Cuts *Per Cent*	Culls and Butts *Per Cent*
May 4	245	38	5	21	36
11	1,208	34	8	18	40
18	1,371	33	8	16	43
25	1,135	32	8	17	43
June 1	1,243	32	8	15	45
8	1,429	30	10	20	40
15	1,339	27	12	17	44
22	1,357	24	15	14	47
29	1,273	26	15	14	45
July 6	750	26	15	13	46
13	255	20	17	15	48
Season	11,605	29	11	17	43

(Total pounds inspected for season 8,256,430)

TABLE B

Week Ending	Inspected	N. J. No. 1 Large *Per Cent*	N. J. No. 1 Medium *Per Cent*	N. J. No. 1 Small *Per Cent*	Culls *Per Cent*	Butts *Per Cent*
May 4	186	24	48	3	4	21
11	507	21	45	4	8	22
18	622	24	38	4	7	27
25	568	21	40	6	7	26
June 1	527	21	43	5	4	27
8	659	19	44	5	6	26
15	661	20	38	4	7	31
22	596	17	37	5	7	34
29	564	16	43	6	5	30
July 6	398	16	44	6	4	30
13	62	13	45	6	6	30
Season	5,350	19	42	5	6	28

(Total pounds inspected for season 7,379,905)

TOMATOES

Growers and canners alike experienced one of the best tomato seasons in many years. Yields were satisfactory and quality excellent. Only one season since 1932, when cannery purchasing began on the basis of grades, have the yields per acre been as high and the quality as good. In 1936 yields and quality compared favorably with 1939.

During the past season more growers made the Ten-Ton Tomato Club of New Jersey than during any previous season. Some growers reported yields of close to 13 tons per acre. Also, some growers stated that they received greater returns per acre than during any season since canners were paying World War prices for all tomatoes accepted.

Canners were well pleased with the high quality manufactured product they were able to prepare. Although deliveries by growers were heavy, canners had little difficulty in keeping up, and growers seldom had to wait long in line before being unloaded. High quality is as beneficial to canners as growers. Tomatoes of high quality can be handled much more rapidly and with less waste and cost.

From the standpoint of inspection work on cannery tomatoes, the 1939 season was highly satisfactory. A minimum of complaints and criticisms was received, perhaps less than during any season since the work was begun in New Jersey. Although a greater tonnage was certified during 1939 than during any previous season, except 1936, the work was carried on with a personnel slightly less than during most seasons. At the same time the organization was such that inspectors were not unduly rushed. This also was due to the excellent quality which made the work much simpler. Anthracnose, mold and decay were never serious, and grading was largely a matter of separating for color.

The relationship between growers and representatives of the Bureau of Markets was undoubtedly made easier and more pleasant through the work of the Department of Agriculture in organizing cannery tomato committees in several areas of the state. Following the disastrous year of 1938, it was thought wise to develop a system so that the true facts could be brought to any individual whether or not he had justifiable complaints. This work was to be carried out by some other than the regulatory agency. Committees were organized and contacted throughout the active season by an administrative officer.

The 1939 season was a favorable one to commence such a personal relations program, and its effects have been recognized by the benefits resulting from the grading work.

As is the case in most seasons, high yields mean high quality. The average yield per acre in New Jersey, during 1939, was 6.9 tons. The previous 10-year average was 5.09 tons. During 1939 the average income per acre was $16.30 per ton, which is considerably higher than the average price for the period since 1932-1938 when inspection was first begun.

Eight canners in New Jersey purchased tomatoes on the basis of grades during the 1939 season. Three contracted on the cannery grades and five on the strained products grade.

The following tables show the results of grading cannery tomatoes in New Jersey, 1939 season, with summaries from previous years.

Week Ending	Total Tons	U. S. No. 1 *Per Cent*	U. S. No. 2 *Per Cent*	Culls *Per Cent*
Aug. 5	2,270	61	36	3
12	16,050	64	33	3
19	36,198	70	27	3
26	36,318	64	33	3
Sept. 2	44,575	66	32	2
9	20,899	65	32	3
16	9,835	59	38	3
23	5,765	55	42	3
30	3,938	55	41	4
Oct. 7	704	47	48	5
14	24	54	42	4
Total	176,576	65	32	3

Seasons	Total Tons	U. S. No. 1 *Per Cent*	U. S. No. 2 *Per Cent*	Culls *Per Cent*
1939	176,576	65	32	3
1938	108,096	53	43	4
1937	113,380	53	43	4
1936	183,027	64	33	3
1935	120,524	62	35	3
1934	91,060	58	39	3
1933	62,979	52	44	4
1932	151,140	58	39	3

SPECIAL SERVICES

Several produce dealers in Mercer, Monmouth and Middlesex counties expressed their desire to have receiving point inspection service available in Trenton. The matter was discussed with the federal authorities in Washington during the winter, and the Washington office agreed that such a service would be desirable.

The state supervisor of fruit and vegetable marketing, having spent two years inspecting fresh fruits and vegetables in the New York markets, and being licensed by the federal office to inspect and certify all fresh fruits and vegetables at shipping point, was entirely capable of giving this service to receivers. Therefore, he was appointed an agent of the United States Agricultural Marketing Service to make receiving point inspections in New Jersey. The supervisor was required to spend two weeks in the New York office and one week in the Philadelphia office to familiarize himself with federal regulations and policies. This is the same requirement made of all inspectors when entering the federal department as receiving point inspectors.

The service was officially established on March 1. From that time until June 30, forty federal inspections were made. Most of these certifications

were made on potatoes, both seed and table stock. The service is beneficial to the receivers in this area. During the past few years when an inspection was necessary, application had to be made to the New York, Newark or Philadelphia offices, which was not only expensive but caused delay.

About December 1, the Department of Agriculture was requested to aid the New Jersey Fruit Institute in developing a store-door delivery system of apple marketing, with two of the larger food chain stores. The work was assigned to the Bureau of Markets. The first aid requested was a survey of cold storages in order to find out the volume of apples held, their ownership, variety, manner of pack, and quality. In this survey the Bureau of Plant Industry aided.

From the information secured, it was possible to work out a plan which was put into effect in Camden, and for a short time in Trenton and intermediate towns. The manager of the program was employed by the Extension Division of the College of Agriculture, which agency felt that this attempt at direct delivery to retail outlets could be classed as an experimental demonstration of direct marketing. After the work was started assistance from the Bureau of Markets consisted of supplying an inspector when needed, and providing information on the holdings of satisfactory apples.

The project was considered a success, and plans are under way to organize a cooperative to continue and expand the method of apple sale with the 1940 crop.

The Bureau of Markets cooperated with the Department of Weights and Measures during the year. At the request of the State Horticultural Society, the Department of Agriculture, in cooperation with the Department of Weights and Measures, promulgated official standards for a 1⅛-bushel box. The Bureau of Markets held meetings with berry growers and attempted to standardize sizes and capacities of berry crates. Cooperation was extended to the standardization committees of the Cooperative Marketing Associations in New Jersey, Inc., and a joint recommendation followed for a standard size in asparagus crates. The association appointed committees to work with seven commodities during 1940, and to make recommendations for package and grade standards.

The Bureau of Markets assisted the State Horticultural Society, as in former years, in the attempt to improve the pack for new varieties of peaches developed at the Experiment Station. The representative from the Department of Agriculture visited growers who marketed these peaches and used the special label designed for this purpose. A total of 38 farm visits was made to the 19 growers cooperating.

Upon the request of county agricultural agents or vocational agricultural teachers, assistance was given to many groups in proper packing methods for both fruits and vegetables.

The Bureau of Markets also assisted in setting up many exhibits and in obtaining materials for exhibits at the State Fair, at county fairs, and at the Farm Show during Agricultural Week.

MARKET ACTIVITIES

Very little change in the method of marketing fruits and vegetables has been made since the development of auction markets. Some new plans have been proposed and studied. There is room for improvement in New Jersey systems, but from results obtained and studies made, it appears that the great nearby city markets, improved whenever possible; city markets within the state; buyer-dealer set-ups with distant contacts already established; and the auction markets, which are continually developing new systems and services, are functioning in such a way that until radical changes are made in agricultural products marketing, it is best to continue to assist in the improvement of the system already in existence.

The Bureau of Markets has continued in close touch with all established markets. The Newark, Trenton and Atlantic City markets have been especially cooperative and have furnished weekly statistical material and other information of value. In return, the bureau has conferred with officials of these markets, met with governing bodies, and helped directly and through the market news service.

Representatives of the Bureau of Markets have met regularly with the directors of the 11 produce auctions and have aided the managers in many ways. The organization, The Cooperative Marketing Associations in New Jersey, Inc., has been of special value. This association represents all of the cooperative marketing associations operating either fruit and vegetable or poultry auctions. Monthly meetings are held and common problems discussed. The combined farmer membership represented in the state association is well over 10,000 persons. The chief of the Bureau of Markets has been the secretary of this organization since its inception.

The sales on each produce auction and the comparisons with the 1938 season are shown in the following table.

SUMMARY OF SALES AT FRUIT AND VEGETABLE AUCTION MARKETS

Market	*Season of* 1939		*Season of* 1938	
	Number of Packages Sold	Value of Sales	Number of Packages Sold	Value of Sales
Beverly	297,265	$135,003.52	234,052	$126,958.33
Cedarville	346,631	334,338.54	362,180	420,293.62
Glassboro	844,169	426,284.57	797,199	389,198.15
Hammonton	58,627	121,505.56	80,248	175,049.33
Hightstown	582,496	338,412.85	576,984	292,065.60
Landisville	433,924	305,450.92	442,282	350,552.43
Newfield	39,319	21,263.63	45,469	24,726.19
Pedricktown	165,859	172,349.95	.....	.....
Rosenhayn	23,367	53,920.65	42,690	105,270.33
Swedesboro	765,026	644,462.01	682,044	532,891.00
Vineland	476,176	300,652.48	504,186	296,907.10
Totals	4,032,859	$2,853,644.68	3,767,334	$2,713,912.08

Average price per package, 1939	$0.707
Average price per package, 1938	$0.720
Per cent of decrease in price per package, all commodities 1939 under 1938	1.805

The summary of sales for each market, as shown in the preceding table, is for a complete season (year of 1939). The 1940 season has been backward and gross sales by volume are behind the corresponding days of 1939 for most of the markets. There are three notable exceptions. This year there has been a great increase in asparagus and strawberry sales. It is expected that the 1940 sales now well under way will be much heavier than the sales of 1939 as reported in the table. To the auction sales should be added a volume of about 4,000 bushels of apples sold by the Flemington Poultry and Egg Auction. This sale, conducted over a ten-week period, was a service rendered by the poultry auction to a few members producing apples.

ANALYSIS OF AUCTION SALES BY COMMODITIES

Commodity	1939 Volume	1938 Volume
Apples	142,231 bus.	73,552 bus.
Sweet corn	101,838 bus.	66,384 bus.
Lima beans	98,382 bus.	75,429 bus.
Onions	81,465 50-lb. sacks	115,297 50-lb. sacks
Peaches	217,885 bus.	118,417 bus.
Peppers	560,828 bus.	572,070 bus.
Pickles and Cucumbers	207,780 bus.	191,099 bus.
Snap beans	141,800 bus.	196,612 bus.
Strawberries	1,820,288 qts.	2,832,016 qts.
Tomatoes	840,163 12-qt. climax	782,412 12-qt. climax
Sweet potatoes	223,664 bus.	232,231 bus.
White potatoes	115,608 100-lb. sacks	163,132 100-lb. sacks
Raspberries	432,332 pts.	1,028,315 pts.
Blackberries	360,504 qts.	620,509 qts.

MUNICIPAL MARKETS

Although a state contribution toward the salary of certain market masters was discontinued several years ago, the market masters have continued to cooperate with this office and have made weekly reports of their market activities. The Trenton and Atlantic City markets are owned and operated by the cities. The Newark Farmers' Market is a private corporation. The Trenton Market shows a decided increase in all sales for the 1939-1940 year over the 1938-1939 year. The Atlantic City Market shows a serious decrease in sales.

The summary of sales on the two city-owned markets for the past year is shown in the accompanying table.

TRENTON AND ATLANTIC CITY MARKETS

July 1, 1939 to June 30, 1940

Market	Bushels or Packages of Produce	Dozens of Eggs	Pounds of Poultry	Value of Sales
Trenton	139,640	77,180	175,880	$209,955.00
Atlantic City	414,422	164,300	74,875	369,237.56
Totals	554,062	241,480	250,755	$579,192.56

NEWARK FARMERS' MARKET

Sales on the Newark Market showed a decided increase over the previous year. Vegetables by the bunch showed smaller demand, but this was more than offset by the sales in packages. During the 1938-1939 period 14,776,451 bunches of vegetables were sold. In the 1939-1940 year 12,997,561 bunches were sold. During the 1939-1940 period the 2,961,577 packages of fruits and vegetables sold showed an increase of more than 250,000 packages over the 2,708,993 packages sold during the 1938-1939 period. This increase was very gratifying because it happened in a year in which the growing season was adverse. The summer and fall of 1939 was dry and production not up to normal, while the spring of 1940 was very backward.

The most important items in the sales summaries at this market follow:

3,396,856	bunches of beets
2,532,718	bunches of parsley
2,002,365	bunches of carrots
1,668,421	bunches of radishes
1,132,854	bunches of green onions
391,419	baskets of tomatoes
362,374	bushels of spinach
236,386	bushels of apples
205,109	crates of lettuce
188,221	bushels of sweet corn
179,617	hampers of cabbage
167,163	bushels of peppers
135,332	100-lb. sacks of potatoes
113,955	crates of celery
81,623	bushels of snap beans

The Bureau of Markets cooperates with the directors of the Paterson Farmers' Market and with other markets in a small degree. No other markets, except the three listed, keep accurate records of daily sales.

POULTRY PRODUCTS MARKETING

The activities of the poultry division in the Bureau of Markets are planned on a permanent basis in order to meet the demands of a comparatively large industry. The size of the operations of the various poultry activities is large enough so that the work is no longer in the experimental stages and, therefore, every effort must be put forth to keep the program on a sound basis.

There was a less favorable relationship between the prices received for poultry products and the price of feed during most of the past year than in some previous seasons. This situation has always created greater demands from producers for improving marketing conditions.

Although fewer chicks were produced during the past hatching season, breeders and hatchery operators in the state did not have to reduce their production of chicks to the same extent as in other parts of the country. This re-

duction in the number of chicks sold should create a more favorable supply situation, while the extensive government purchases of eggs also reduced the number in storage to the extent that it should have a desirable effect on egg prices in the fall. It is impossible to predict the situation which may exist relative to feed prices; however, from the trend in crop estimates of grain production it is generally anticipated that a more favorable feed-egg ratio will occur through the next few months at least.

The poultry division cooperated with the United States Department of Agriculture for the fifth year in administering the National Poultry Improvement Plan in the state. Contracts for continuing this cooperation have been signed by the New Jersey Department of Agriculture. The standardization work continued to improve in its effectiveness through an increase in the use of the better grades of stock produced. During the past year, 2,983 N. J. - U. S. Record of Performance cockerels were sold to hatchery operators and flock owners. This was more than double the number sold during the previous year. These cockerels produced a definite improvement in the hatchery flocks, and it is expected that the demand for such stock will continue to increase.

There were 37 hatcheries in the Plan during the past year as compared with 38 for the previous year. There was a reduction in the incubator capacity from 545,808 eggs to 479,830 eggs. The certification program was increased by three flocks during the year. This change in the number of flocks and incubator capacity was in line with the decreased number of chicks produced during the year.

The Record of Performance breeders continued to carry on their progeny testing work, which is fundamental to all flock improvement. These breeders have done a sufficient amount of such work to understand its importance, and stock produced from Register of Merit birds is being disseminated in the state.

All of the five auction markets conducted the largest annual business in their history and, therefore, the marketing of eggs and poultry meat through auction markets made a new record for New Jersey. The growth of this type of marketing has been gradual and appears to be quite permanent inasmuch as the oldest market has been in operation for ten years.

Records show that each year these auction markets obtained a relatively higher price for eggs than the quotations in New York City. More distributors of eggs are coming directly to the markets for their supply and this trend has been most helpful.

Uniform case-end labels were put into use during the year. A great deal has been saved in both labor and cost of materials by having all of the auction markets use the same type of label except for the name of the market.

Three of the auction markets started selling eggs on a net weight basis as a result of the efforts of this division in demonstrating a lack of uniformity in case weights. In addition to changing to a net weight procedure, it was possible for these markets to obtain a new source of used egg cases and, therefore,

the markets were able to sell the cases to producers at a reduction of from 1 to 2 cents per case. Many producers have reported more satisfactory quality in the cases which they are now obtaining.

The grades for live poultry continued to be used at two of the markets and were installed during the year at a third auction market. These grades proved to be satisfactory and are helpful to both producers and buyers in arriving at a common understanding of quality.

The sixth year of administering the fresh egg law was completed with the egg trade displaying a better attitude toward the law and its enforcement. The inspectors continued to work with the retail egg distributors, encouraging them to understand egg quality and the proper procedure in selling fresh eggs.

The volume of New Jersey State Certified Fresh Eggs sold to retail distributors was doubled during the year. The 15,000 cases sold included a most successful short-time campaign previous to Easter, and over 2,000 cases of an Easter Special Certified Egg were sold.

The help of the New Jersey Council in advertising State Certified Fresh Eggs in the newspapers proved to be beneficial to the program, and it was appreciated by the producers.

POULTRY STANDARDIZATION

The fifth year of administering the National Poultry Improvement Plan in New Jersey was carried on efficiently for both chick producers and chick buyers. The program included breed improvement as well as pullorum disease control. The two regular inspectors carried on most of the flock inspection work, and a temporary inspector assisted for a period of six weeks. It was advantageous to have extra help for this period, as it enabled members of the staff to carry on their other necessary work without interruption.

The several classes for breed improvement and pullorum disease control in New Jersey were as follows:

N.J.-U.S. Approved
N.J.-U.S. Certified
N.J.-U.S. Record of Performance
N.J.-U.S. Register of Merit
N.J.-U.S. Pullorum-Tested
N.J.-U.S. Pullorum-Passed
N.J.-U.S. Pullorum-Clean

It was necessary to prepare a new circular describing the National Poultry Improvement Plan. However, the material was prepared in outline form so that a four-page folder will be used to supplement the regular circular put out by the United States Department of Agriculture in which all details of the Plan are presented. Material formerly published annually in the Record of Performance breeding flock circular was made available to everyone who desired to make use of it.

Considerable time was spent in developing new forms in order to make the Record of Performance work somewhat simplified for the office staff. In doing this, it was also possible to eliminate certain phases of record keeping which could contribute to errors in the individual bird record.

All flocks entered in the breeding stages of the standardization program were required to be tested for pullorum disease under the supervision of the Bureau of Animal Industry. Each flock owner was privileged to choose between the tube agglutination and the stained-antigen whole-blood tests. Most of the breeders chose the latter test which has proven to be satisfactory. The percentage of reactors in flocks tested regularly each year continued to decrease, and practically no problem of pullorum disease has been encountered in chicks from these flocks. Pullorum disease testing was offered to breeders and hatcherymen without their having to participate in any of the breeding stages of the program. This proved desirable and several poultrymen took advantage of the opportunity to have such testing work done for them.

During the year, 183 flocks were selected as compared with 180 flocks the previous year. These flocks contained 91,566 birds or 4,321 more birds than were inspected during the 1938-1939 season.

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

County	No. of Flocks	*Number of Birds* *N. J.-U. S. Certified* Pullorum Tested	*N. J.-U. S. Certified* Pullorum Clean	*N. J.-U. S. Approved* Pullorum Tested	*N. J.-U. S. Approved* Pullorum Passed	*N. J.-U. S. Approved* Pullorum Clean	*N. J.-U. S.* Pullorum Tested	*N. J.-U. S.* Pullorum Passed	*N. J.-U. S.* Pullorum Clean	Totals
Atlantic	9	5,233	...	1,151	...	...	...	...	...	6,384
Bergen	4	...	...	...	...	788	797	616	...	2,201
Burlington	41	5,694	...	1,949	606	841	5,259	...	...	14,349
Cape May	3	5,496	...	...	...	...	...	...	...	5,496
Cumberland	33	11,554	...	3,071	...	223	...	...	...	14,848
Gloucester	10	6,584	...	761	...	...	1,603	...	...	8,948
Hunterdon	8	...	...	1,001	...	...	2,323	...	...	3,324
Mercer	30	...	1,633	5,892	947	859	504	...	...	9,835
Middlesex	4	224	202	166	...	...	1,055	...	...	1,647
Monmouth	4	...	...	979	...	...	1,114	...	...	2,093
Morris	2	...	...	603	...	...	430	...	...	1,033
Ocean	2	1,272	...	...	...	...	523	...	...	1,795
Salem	15	...	...	3,378	...	...	234	1,169	...	4,781
Somerset	8	786	...	1,260	...	...	1,336	1,234	...	4,616
Sussex	10	...	...	1,709	...	839	311	564	188	3,611
Totals	183	36,843	1,835	21,920	1,553	3,550	15,489	3,583	188	84,961

NUMBER OF BIRDS INSPECTED, BY COUNTIES AND BREEDS

County	No. Flocks Inspected	S. C. White Leghorns	R. I. Reds	Barred Rocks	White Rocks	Jersey Black Giants	Jersey White Giants	New Hamp-shires	Brahmas	Turkeys	Pullorum Testing Only	Totals
Atlantic	9	6,234	325	...	...	...	...	...	...	...	...	6,559
Bergen	4	833	...	...	...	...	...	...	...	...	1,413	2,246
Burlington	41	5,065	...	1,061	402	2,000	90	1,581	...	...	6,201	16,400
Cape May	3	1,718	1,880	...	...	...	...	2,046	...	...	...	5,644
Cumberland	33	12,424	...	521	919	...	...	1,495	...	...	...	15,359
Gloucester	10	5,373	844	...	...	...	...	1,428	...	...	1,726	9,371
Hunterdon	8	...	...	421	173	...	...	579	...	...	2,614	3,787
Mercer	30	3,114	288	4,328	247	775	...	1,405	...	307	270	10,734
Middlesex	4	541	...	178	...	...	...	...	...	...	1,055	1,774
Monmouth	4	...	...	1,039	...	...	...	...	...	103	1,022	2,164
Morris	2	729	...	...	...	...	...	...	...	...	471	1,200
Ocean	2	1,501	...	...	...	...	...	...	...	...	550	2,051
Salem	15	...	...	1,387	2,357	...	...	...	38	...	1,536	5,318
Somerset	8	2,121	...	35	...	...	...	126	...	...	2,695	4,977
Sussex	10	2,461	...	416	...	...	...	...	...	148	957	3,982
Totals	183	42,114	3,337	9,386	4,098	2,775	90	8,660	38	558	20,510	91,566

There were 38,678 breeding birds entered in the N. J.-U. S. Certified stage. This was an increase of 1,134 birds over the previous year. It is anticipated that a substantial increase in this stage of the program will be experienced during the coming year. The poultry division continued to place emphasis on this breeding stage inasmuch as the male birds used were from birds with known records in egg production, egg size and egg weight.

The accompanying tables show the number of birds entered according to the major breeds as well as the various stages of the work, and the county in which the flock is located.

The Record of Performance phase of this program continued to demonstrate its merit in the breeding activities in the state. The birds with official records are gaining greater recognition, particularly among hatcherymen who are supplying egg producers with a large number of chicks. The male birds from Record of Performance hens have demonstrated their value in improving flocks supplying hatching eggs to hatcheries. During the hatching season, approximately 29,500 Record of Performance pedigree eggs were set, from which there were produced approximately 17,200 pedigree chicks. The cockerels from these eggs will be examined by the Record of Performance inspector, and those properly qualifying for Record of Performance approval will be used for heading breeding flocks and the pullets will be used in the Record of Performance trapnest project.

Four Record of Performance breeders produced 44 birds which qualified for the N. J.-U. S. Register of Merit stage of the Plan. These birds are used to produce the foundation stock for several flocks and also to supply breeding birds for the specialized breeders. There were 790 eggs set from Register of Merit birds from which 229 Register of Merit pedigree chicks were produced.

A total of 241 flock inspections and 57 sanitary inspections was made to check whether or not those cooperating in the program were carrying out the regulations. There were 42 hatchery inspections made during the year, while an additional 370 farm visits were made in connection with all of the poultry work in the Bureau of Markets. In addition, there were 32 Record of Performance inspections, during which time egg weights were obtained. Twice during the year, the Record of Performance inspector also obtained the body weight for each Record of Performance candidate.

No national conference on the National Poultry Improvement Plan was held. However, a regional conference of the Northeast was conducted in Trenton, in June. This conference was conducted in an informal way in order to discuss several problems in connection with administering the program. No changes were adopted; however, several worthwhile ideas were obtained from the discussions.

Twice during the year the federal coordinators were in the state to observe the work as it is being conducted. They were well pleased with the results and offered encouragement in carrying the program forward. Both the breed improvement and pullorum disease testing work will be carried on in a manner that will be fundamentally sound for breed improvement in the state.

AUCTION MARKETS

The five egg and poultry auction markets in New Jersey each handled the largest volume in their history. The total amount of eggs and live poultry sold through these markets for the year was $4,480,972.53. This was made up through the sale of 478,541 cases of eggs, compared with 384,345 cases during the previous year: an increase of 94,196 cases of eggs. The value of eggs sold amounted to $3,557,038.51. The live poultry sold at the five auction markets included 115,224 crates, weighing 5,582,135 pounds. The value of all live poultry sold at the auctions during the year amounted to $923,934.02, as compared with 108,395 crates of poultry valued at $911,677.59 the previous year.

Eggs and live poultry were sold at each of the markets throughout the year. The total volume and the value of all poultry products sold at the five auction markets during the past five years follows:

Year	Number Cases of Eggs	Number Crates of Poultry	Pounds of Poultry	Total Combined Value
1939-40	478,541	115,224	5,582,135	$4,480,972.53
1938-39	384,345	108,395	5,191,647	4,057,113.69
1937-38	317,292	84,159	3,957,288	3,494,111.61
1936-37	288,865	81,358	3,877,124	3,253,303.74
1935-36	225,721½	59,438	2,815,167	2,598,942.69

The increase in the number of cases of eggs sold was the largest annual increase since the beginning of the auction markets. Buyers have found that it is convenient for them to come to the markets to purchase any quantity of eggs which they want. Eggs can be obtained immediately and the buyer loses no time in accumulating them, thus there has been an increase in the number of buyers which has been helpful in selling a larger volume of eggs.

The average sale price of eggs at the auctions for the entire year was $7.43 per case, as compared with $8.18 for the previous year. This is a substantial reduction in gross income to the producers. There was a decided drop in the egg market relatively early in the winter, and the price continued at this extremely low level for an extended period, therefore, the decrease in gross receipts per unit was caused by a decrease in market prices rather than by any performance on the part of the auction markets. In fact, each year these markets show a slight gain in the premiums over the New York City quotations. The decrease of 75 cents per case, or 2½ cents per dozen for the entire year was a greater decrease than has occurred for some time.

The accompanying table shows that four of the auction markets returned to their members $285,308.82 more than the highest New York quotation for the same grade of eggs. In addition to returning this premium to the producers, the auction markets enabled members to sell their products at a lower cost than through almost any other method that could be devised. The table also shows the volume of eggs handled by each market, the gross price received and a comparison with the New York City quotations. It was im-

possible to obtain any differences between prices paid producers by the Paterson Auction Market and the New York City quotations since that market is using a different system of grading eggs.

SALES AT NEW JERSEY EGG AUCTION MARKETS

July, 1939 to June, 1940

Market	Number of Cases	Gross Price at Auction	New York Quotation	Difference in Favor of Auction
Flemington	169,567	$1,243,489.79	$1,134,227.83	$109,261.96
Hightstown	74,265	564,530.75	509,679.76	54,850.99
Mount Holly	23,992	173,135.29	163,003.49	10,131.80
Paterson	35,242	262,727.20	262,727.20	.....
Vineland	175,475	1,313,155.48	1,202,091.41	111,064.07
Totals	478,541	$3,557,038.51	$3,271,729.69	$285,308.82

Each year the auction markets become more effective in establishing a price for eggs in their respective communities; therefore, the producers who sell their eggs through private outlets are gaining a substantial benefit because of the existence of these agencies. Fortunately, the auctions cover all of the important egg-producing areas in the state.

The volume and value of the live poultry sold by the five auction markets is shown in the accompanying table.

SALES AT NEW JERSEY POULTRY AUCTION MARKETS

July, 1939 to June, 1940

Market	Number of Crates	Pounds of Poultry	Gross Price at Auction
Flemington	63,062	2,966,090	$498,083.30
Hightstown	10,356	554.469	88,829.16
Mount Holly	15,180	817,250	147,460.00
Paterson	9,441	481,155	77,534.23
Vineland	17,185	763,171	112,027.33
Totals	115,224	5,582,135	$923,934.02

This was the second complete year for selling live poultry at all of the auction markets. The Hightstown Auction Market was the last to start sales of this product.

Four of the auctions had an increase in the number of crates of live poultry sold, while there was a decrease at Mount Holly, no doubt due to the decrease in the number of roasters produced in Burlington County. A less favorable ratio between feed and poultry meat prices caused many producers to sell their birds as broilers and influenced many of the producers to refrain from starting any chicks for producing broilers during the winter months. It is expected that the unfavorable meat situation will have a greater influence upon the Mount Holly Auction Market because it is located in a meat-producing area.

Four of the auction markets also showed substantial gains in the number of members served during the year. The circumstances affecting the amount of live poultry sold at the Mount Holly Auction Market also affected the number of members, thus resulting in a decrease in membership at that market. The total membership of all of the egg and poultry auction markets in New Jersey was increased by 361 members. This was well distributed throughout the state as shown in the following table.

AUCTION MARKET MEMBERSHIP, BY COUNTIES

County	Flemington Auction	Hightstown Auction	Mount Holly Auction	Paterson Auction	Vineland Auction	FEPCO	Totals
Atlantic	..	..	..	..	272	..	272
Bergen	..	..	..	78	..	..	78
Burlington	11	47	816	..	3	..	877
Camden	2	..	16	..	27	19	64
Cape May	..	..	..	..	49	12	61
Cumberland	6	..	..	..	498	24	528
Essex	3	..	..	19	..	..	22
Gloucester	..	..	..	..	159	..	159
Hunterdon	1,788	..	..	..	..	..	1,788
Mercer	203	318	1	..	..	..	522
Middlesex	46	161	..	..	..	..	207
Monmouth	5	251	3	..	..	31	290
Morris	98	..	..	97	..	..	195
Ocean	5	22	14	..	..	98	139
Passaic	1	..	..	107	..	..	108
Salem	..	..	..	..	116	..	116
Somerset	317	1	..	1	..	..	319
Sussex	97	..	..	29	..	..	126
Union	31	..	..	3	..	..	34
Warren	393	..	..	26	..	..	419
Totals	3,006	800	850	360	1,124	184	6,324

During the year the auction markets gave more attention to the work of field representatives, as well as to several details in the operation of their plants. The use of uniform case-end labels at all of the auction markets using the state grades, the introduction of the system of selling eggs on a net weight basis, and the reduction in the cost of cases are examples of some of the improvements that have been put into use during the year.

ENFORCEMENT OF STATE GRADES AT THE AUCTION MARKETS

The New Jersey Wholesale Grades for Eggs were used by four of the auction markets, and since the egg trade has become familiar with these grades this inspection service proved to be of material benefit to producers. The use of the Grade B for eggs has become established on the markets and is a suitable identification for satisfactory packages of eggs which do not meet the requirements for the A grade. This grade, however, is not sold as fresh and, therefore, protects the retailers who purchase it.

The fact that inspectors from the Bureau of Markets have worked on the egg grades for several years enables them to be of benefit to both pro-

ducers and buyers in administering egg quality. Many producers have been helped by consulting the inspectors concerning the quality in the eggs which they delivered to the auction markets. This, combined with the work of the field representatives, has caused many producers to install suitable egg rooms, thus increasing the quality and price received for their eggs.

One of the supervising inspectors in the Bureau of Markets made check inspections on all of the auction markets at regular intervals, and made the necessary suggestions or recommendations to the market inspectors. An effort has been exerted to maintain a uniform interpretation of the standards and quality at each of the markets.

The inspector making these check inspections attended the Maryland Poultry Products Marketing School held last September. This enabled him to check his interpretation of egg grades and egg quality with workers of other states, thereby maintaining a more uniform quality throughout the Northeast. It is desirable that members of the staff attend this school in order to keep up-to-date on these problems.

The state grades for live poultry were used throughout the year at the Flemington and Hightstown auctions, and were put into use at the Mount Holly auction. Producers have continued to improve the grading of their poultry before bringing it to the auction markets. This is evidenced by the fact that their birds are sold on a graded basis. Buyers are pleased with the opportunity to purchase live poultry according to grades and have confidence in the inspection service. The use of the grades has reduced the number of birds sold as "Culls" or "As-Is" between 300 and 400 per cent. Furthermore, the grades have made it comparatively easy to sort out those birds which are unfit for human consumption, thereby enabling auction inspectors to destroy such birds.

The Flemington Auction Market has given some attention to the question of dressing birds and selling them through the State Certified Fresh Egg channels. This question was discussed in detail. However, no definite action was taken. It is expected that during the coming year a decision will be made relative to such an enterprise.

FLEMINGTON EGG AND POULTRY AUCTION MARKET

The Flemington Auction Market Cooperative Association, Inc., during the past year handled the largest volume of both eggs and live poultry since its inception ten years ago. This market handled an increase of 26,309 cases of eggs and 219,839 pounds of poultry. The eggs sold for an average of 24½ cents per dozen, and the cost of selling the eggs amounted to 5.21 per cent of the gross receipts. The live poultry sold for an average of 16¾ cents per pound, and the selling cost was 4.87 per cent of the gross receipts. The market handled this large volume of products in an efficient way, having an increase in membership, and there was also an increase in the number of buyers.

This association cooperated generously with the New Jersey State Certified Fresh Egg program, giving all assistance in its power in developing the project. Much credit for the progress made in the sale of State Certified Fresh Eggs can be given to this excellent cooperation.

The field worker employed by the association continued the service of assisting members with problems pertaining to quality in the grading of live poultry. When a producer's eggs or live poultry did not meet the grade specifications, it was the duty of the field representative to visit the farm of that producer and assist him in correcting conditions causing the decrease in the quality of the product. In practically every case it was possible for producers to improve their products following a visit from the field representative.

HIGHTSTOWN EGG AND POULTRY AUCTION MARKET

The egg and live poultry sales at the Hightstown market are operated by the Tri-County Cooperative Auction Market Association, Inc., and it is again possible to report excellent growth because of the outstanding service rendered to its members. This market experienced an increase of 21,528 cases of eggs handled during the year. Even with this large increase, the market was successful in sustaining satisfactory prices for eggs as compared with other outlets. Much emphasis was placed on egg quality by the management and the results attracted more worthwhile buyers. The poultry sale proved to be a satisfactory addition and showed a steady growth during the year.

The average price received for eggs was 25⅓ cents per dozen, and the selling cost was 4.31 per cent of the gross egg receipts. The average price received for the poultry was 16 cents per pound, and the charges were 4.6 per cent of the gross poultry receipts.

Facilities for handling poultry products at this market were greatly improved during the year by a new building for poultry sales and additional space in the egg cellar. These improvements enabled the management to handle products at a lower cost and, at the same time, improve conditions for the buyers.

MOUNT HOLLY POULTRY AND EGG AUCTION MARKET

Considerable improvement was made in the handling of eggs and live poultry at the Mount Holly market during the year. A new procedure for receiving eggs as well as for candling made it possible for the egg department to operate much more efficiently. The same specifications that are used for state grades for live poultry were started and proved to be quite satisfactory. The use of these grades reduced the number of "reject" birds approximately 300 per cent.

The average price received for the poultry was 18 cents per pound, and the selling cost was 4.11 per cent of the gross poultry sales. The eggs sold for an average of 24 cents per dozen, and the selling cost was 4.15 per cent of the gross egg receipts.

An addition to the auction building was started late in the year and will assist materially in the operations of this auction market.

PATERSON EGG AND POULTRY AUCTION MARKET

The North Jersey Cooperative Egg Auction Association, Inc., is located in a deficit egg producing area, and as a result has difficulty in maintaining a constant volume of eggs and poultry meat. During the late summer and fall months a relatively small volume of eggs is handled because many of the members sell their eggs through private channels, such as egg routes, etc. During the spring a relatively large number of eggs is received at the market.

The average price received for eggs was 24⅞ cents per dozen, and the selling cost was 4.7 per cent of the gross egg sales. The average selling price for poultry was 16⅛ cents per pound, and the selling charges amounted to 4.38 per cent of the gross poultry sales.

VINELAND EGG AND POULTRY AUCTION MARKET

The Vineland and South Jersey Cooperative Egg Auction and Poultry Association, Inc., sold the largest volume of eggs in its history. An increase of 35,457 cases was the largest increase experienced by any of the auction markets. The eggs sold for an average of 25 cents per dozen. Notwithstanding the substantial increase in volume, a satisfactory price was maintained. The cost of selling the eggs amounted to 4.21 per cent of the gross egg sales. Live poultry sales were increased by 7,711 pounds. The average price received for live poultry was 14⅔ cents per pound, and the selling cost was 5 per cent of the gross poultry sales.

NEW JERSEY FEDERATED EGG PRODUCERS' COOPERATIVE ASSOCIATION, INC.

The organization known as FEPPCO is a federation of several groups of producers joined for the purpose of marketing their eggs. Excellent progress has been made by the group, and the egg building recently constructed is one of the most up-to-date owned by any cooperative. Eggs are handled for producers living in a large area, and are sold in New York City and northern New Jersey.

Some eggs are packed in cartons, and throughout the year this organization cooperated with the New Jersey Poultry and Egg Cooperative Marketing Association, Inc. in the packing and distribution of State Certified Fresh Eggs. The officers of this organization also took part in many state activities related to egg and poultry distribution problems.

THE NEW JERSEY TURKEY GROWERS' COOPERATIVE ASSOCIATION, INC.

There were approximately 125,000 turkeys produced in New Jersey last year, and practically all of the large growers are members of the Turkey Growers' Cooperative Association. The accomplishments of the organization are now becoming so evident that a still greater increase in membership is anticipated.

The main function of this association is to assist its members in the marketing of their turkeys. This was done during the past year with the use of a suitable tag placed by members on their birds to identify them as New Jersey grown turkeys. The name and address of the grower is indicated on the tag, thus each producer is held responsible for the quality of his birds. The color and design of the tag closely approximates the designs used on other New Jersey agricultural products. Tagged birds were popular with consumers, and the association already has made preparations to market the 1940 crop in the same manner.

In addition to using the tag, the association made it possible for the growers to purchase cellophane for wrapping the birds. This product was obtained at a reasonable cost, and added materially to the attractiveness of the product.

Through the cooperation of the New Jersey Council it was possible for the turkey growers to distribute a leaflet explaining the merits of native grown birds as well as methods for cooking turkeys.

NEW JERSEY FRESH EGG LAW

The sixth year of fresh egg law operation has been completed. Regular inspection service covered all phases of retail distribution. Four full-time inspectors checked the quality of eggs in these outlets and, at the same time, put forth a great deal of effort to have wholesalers, jobbers and retailers become more familiar with the principles of the law and with egg quality problems. The circular "Fresh Eggs in New Jersey" was distributed among all interested retailers and was helpful in educating them to proper handling and selling procedure.

The inspectors spent time with wholesalers and jobbers in an effort to help them become familiar with the law and with the New Jersey grades for eggs. This was done to encourage distributors to handle fresh eggs. An additional problem in this connection involved teaching commercial egg candlers and candling room workers egg quality as interpreted through the fresh egg law.

Late in May it was necessary to employ an inspector to take over the territory handled by the man who resigned to become manager of the State Certified Fresh Egg plant. There was no interruption in the work in this territory and the inspections were continued as usual in all parts of the state. The assignment of a definite territory to each inspector continued to prove efficient. Inspectors become familiar with the quality of eggs handled by any one jobber or retailer and, therefore, are in a position to be of greater service in improving quality.

Thirty-two cases were reviewed at hearings during the year. There were 23 warnings issued, while eight store operators paid penalties and one legal case is pending. The following table shows the number of inspections made, and the number of violations reported during the year.

OPERATION OF NEW JERSEY FRESH EGG LAW

Inspections

July, 1939 to June, 1940

Type	Number
Wholesale Stores	57
Retail Stores	18,469
Roadside Markets	662
Farmers' Markets	51
Retail Routes	485
Total Inspections	19,724
Total Violations Detected	1,313

Records kept in the office covering each inspection give a satisfactory indication of the trends of egg quality as well as seasonal variations in quality. It is hoped that a study of these records may be made to show further trends in the marketing of eggs. This was done for the fiscal year ending in June 1939, but has not been repeated for the past year.

NEW JERSEY STATE CERTIFIED FRESH EGG PROGRAM

There was an increase of approximately 54.1 per cent in the volume of State Certified Eggs sold this year over last year. The program was directed by the board of directors of the New Jersey Poultry and Egg Cooperative Marketing Association, Inc. Progress was made in establishing the eggs among the retailers and consumers, and the State Certified Fresh Egg has become an established brand in northern New Jersey. The cooperation from the New Jersey Council in placing advertising copy in newspapers also proved helpful.

During the year, the association withdrew from the quarters provided by the Flemington Egg Auction to new quarters of its own in Flemington. This move eliminated asking any of the auctions for managerial and candling assistance, and provided a more independent set-up for continuing the work. Operations in the new plant have been started satisfactorily and the volume of eggs has been maintained.

Approximately 2,150 cases of eggs were distributed as a State Certified Easter Special during the ten days previous to Easter. This special promotional activity always assists in increasing the volume as the eggs get into more homes. A temporary salesman was employed by the association for a period of twelve weeks. Several new accounts were obtained through his efforts.

This program has a distinct advantage in helping each of the auctions since all the eggs are purchased at the auction sales. The program has established a standard of quality and price for eggs in northern New Jersey. It has become recognized throughout the country as one of the most direct and unique systems for producer cooperatives to distribute eggs.

MISCELLANEOUS ACTIVITIES

The poultry division gave the usual cooperation during Agricultural Week; the workers conducted the Chick and Egg Show, participated in the program of the New Jersey State Poultry Association, and otherwise cooperated in Agricultural Week activities.

Some time was given to assisting the Northeastern Poultry Producers' Council with its activities, especially in selecting committees to work efficiently and in creating interest on the part of the poultrymen in the thirteen northeastern states.

Report of the Bureau of Plant Industry

HARRY B. WEISS, *Chief*

STATISTICAL AND RELATED WORKS

NEW JERSEY CROP AND LIVESTOCK REPORT

The significance of the crop and livestock reporting service is self-evident, especially in times of national emergency. When a country is preparing itself for defense, the first thing it does is to survey all actual and potential resources. Food is the primary necessity in maintaining an army and conducting defense. What is the real and latent supply of food in our country? This information is available in detailed form. Government agencies know how much of each vital commodity is produced annually and the maximum potential production. This knowledge is the result of constant endeavor by the crop and livestock reporting service.

Of course, it is only one of the many benefits derived from this service. Farmers and merchants are profited by it individually and as a whole. Government agricultural policies are based upon it. The New Jersey Department of Agriculture through its statistical division is participating directly in supplying timely information on acreages, yields per acre, total production, average farm price per unit, and the total farm value of each commodity grown in the state. Moreover, by analysis of these data, the department is in a position to judge which branch of agriculture needs advice and assistance.

Eleven monthly copies of the New Jersey Crop and Livestock Report were issued during the past fiscal year.

EGG SUPPLIES AND PRICES AT THE FLEMINGTON, VINELAND AND HIGHTSTOWN AUCTION MARKETS, 1930 TO 1939

The history of the development of New Jersey egg auction markets is of primary importance to every person connected with the poultry business. In order to ascertain the progress made, the statistical division initiated and completed a study of egg supplies and prices at the Flemington, Vineland and Hightstown farmers' auction markets. The Work Projects Administration cooperated in this work. Results were printed in circular No. 318.

NEW JERSEY FARM PRICES AND THEIR INDEX NUMBERS 1910 TO 1939

One of the duties of the statistical division is to study New Jersey farm prices from month to month and year to year. The change in price of a given commodity or a group of commodities is the best indicator of the financial

condition of the farmers. This condition is usually measured by the index number of farm prices. The farm prices of 30 important New Jersey commodities are available since 1910. From time to time they have been analyzed. During this fiscal year New Jersey farm prices from 1936 to 1939 were studied and the findings reported in circular No. 319.

THE CULTIVATED BLUEBERRY INDUSTRY IN NEW JERSEY, 1939

A survey of the blueberry industry was completed and results printed in circular No. 311.

NEW JERSEY PRICE OF HIRED FARM LABOR, FEEDSTUFFS AND FERTILIZER MATERIALS, AND THEIR INDEX NUMBERS, 1910-1939

VARIATIONS IN WAGES PAID TO HIRED FARM LABOR

From 1924 to 1930 inclusive, New Jersey wages for hired farm labor did not fluctuate greatly. They were, on the average, 125 per cent higher than during the pre-war period 1910 to 1914. The decline began in 1931 and continued through 1933. The lowest year was 1933, when farmers paid 19 per cent more than during the 1910-1914 five-year period. With the improvement in economic conditions, wages began an upward trend in 1934. This tendency still exists. In 1939 New Jersey farmers paid 54 per cent more for labor than during the period from 1910 to 1914. Full information upon this subject was published in circular No. 314.

THE CANNING INDUSTRY IN NEW JERSEY DURING THE 1939 SEASON

There were 24 active canneries in New Jersey during the 1939 season, as compared with 23 in 1938. Their activities were reported in the New Jersey Crop and Livestock Report for May 1940, Vol. 15, No. 10.

LIVE POULTRY SUPPLIES AND PRICES AT THE FLEMINGTON, VINELAND AND MT. HOLLY AUCTION MARKETS

The history of the development of live poultry farmers' auction markets in New Jersey is of primary importance to those who are engaged in growing, selling and buying poultry meat. In order to determine the velocity of the growth of markets and the causes underlying it, the statistical division made arrangements with the Work Projects Administration to undertake the study of this subject. Three representative markets were chosen, namely, Flemington, Vineland and Mt. Holly. The work is almost completed and the findings will be published during the 1940-1941 fiscal year.

SUPPLIES AND PRICES OF VEGETABLES AND FRUITS AT NEW JERSEY FARMERS' AUCTION MARKETS

The volume of business transacted at New Jersey fruit and vegetable auction markets is steadily increasing. It is of interest to the people participating in the development of these markets to know the rate of their growth, the underlying causes for it, prices received, etc. The statistical division has undertaken the study of this matter. The work on this project will be completed during the coming year.

NUMBER AND BREEDS OF CATTLE IN NEW JERSEY

A current project in this division aims to furnish information on the number and breeds of various kinds of cattle in New Jersey on a township, county and state basis for the period from July 1, 1939 to August 1, 1940. The work is being done by members of the Work Projects Administration.

MIGRATORY NEGRO LABOR SURVEY IN MIDDLESEX, MERCER AND MONMOUTH COUNTIES

Field work for the migratory Negro labor survey was done by the Department of Agriculture in cooperation with the New Jersey State Employment Service of the Unemployment Compensation Commission. The tabulations and summaries were made by the Bureau of Plant Industry.

This survey covered Middlesex, Mercer and Monmouth counties. In that area, 325 farmers (operating approximately 25,000 acres of potatoes or 44 per cent of the total state potato acreage) employed approximately 4,119 migratory Negro laborers. Of these 4,119 migrants, 81.5 per cent were male adults, 16.4 per cent were female adults and only 2.1 per cent were children under 16 years of age.

These migrants are good workers, experienced and willing to work at all hours and able to stand the heat. Local help, besides being, in many cases, unsatisfactory, is not available, and will not work for the prevailing wage scale. W.P.A. labor has never proved satisfactory, and owing to the temporary nature of the work, it is difficult for the W.P.A. workers to be reinstated at the termination of the potato harvest. The consensus of opinion among the farmers is that migrant Negro labor is essential to the timely harvest of the potato crop.

Contractors supply 26.5 per cent of this labor, 37.7 per cent is obtained by the farmer himself, and 35.8 per cent applied to the farmers for work.

Florida supplied about 58 per cent of the migrants. Virginia contributed 18 per cent. North and South Carolina accounted for 7.6 per cent. Four per cent came from Georgia. One and one-half per cent originated in Alabama. Less than one per cent gave Maryland and Delaware as their home address.

The average time that these migrants were on the farms, available for work, was approximately 10 weeks. Thirty per cent worked 12 weeks; 17

per cent, 8 weeks; 11.8 per cent stayed longer than 13 weeks; 7.9 per cent were available for 10 weeks; 7.1 per cent worked 6 weeks. Only 3.9 per cent worked less than 4 weeks.

Ninety-three per cent of these migrants arrived on the farms between July 1 and August 15, and 85 per cent left the farms between September 1 and October 31.

SURVEY OF LATE CROP SEED POTATOES IN COLD STORAGE

This potato storage survey, inaugurated in 1937, is made each year and used in connection with seed certification work. Twenty-three cold storage plants are included in the list, of which 13 reported potatoes in storage in 1940.

There were on July 1, 1940, a total of 22,074 packages equivalent to 150-pound sacks in storage within the state as compared with 22,357 in 1939, 16,066 in 1938, and 26,491 in 1937.

COST OF LIVING IN NEW JERSEY

A quarterly publication, entitled "Cost of Living in New Jersey" was first published in October 1938, and has been issued since with the exception of June 1940. Due to a revision and expansion of food prices it was deemed advisable to omit the June 1940 issue.

This quarterly has met numerous public and private demands from a diversity of interests. In the past year, requests were received from Labor Relations Boards, Chambers of Commerce, agricultural and other colleges in various states, departments of the New Jersey Extension Service, State Board of Children's Guardians, home economics departments of several newspapers, private and governmental research agencies, Home Owners' Loan Corporations, Departments of Public Works in various cities, several union organizations, dietitians, hospitals, vocational instructors in public schools and many private individuals. The newspapers have given wide publicity to the findings relative to changes in New Jersey living costs.

SEED CERTIFICATION AND RELATED WORK

RASPBERRY PLANT INSPECTION

Ten nurserymen and growers requested the inspection and certification of raspberry fields so that they might ship raspberry plants into states requiring special certification. During the growing season, two field inspections were made for 93 acres. Of these one-half acre was rejected for excessive virus disease counts. The remainder (92.5 acres) was declared eligible for shipment with certificate.

GRAIN SEED CERTIFICATION

Although the number of acres of seed entered for inspection and the acres which passed field inspections declined from the previous year, the volume of seed prepared for sale increased. This was due in part to an increase in the amount of hybrid corn made available by increases in the foundation seed; and also to the increased demand for wheat seed caused by more liberal allotments from the Agricultural Adjustment Administration. Less oats were sold due to a poor demand brought on by a very late spring which prevented the preparation of the land and made many purchasers decide that it was too late to sow this grain.

A new machine for grading corn, with special rubber rollers to make the screens more effective, was added to the equipment of the New Jersey Field Crop Improvement Association. Several growers built special drying houses for the more rapid fixing of germination. Attention is now being directed towards a program of foundation seed production which will ensure a continuous supply of reliable foundation seed. New crops are to be added to this list, and new strains and varieties will replace those now used as better varieties are brought forward.

GRAIN SEED CERTIFICATION, 1939-1940

Crop	Variety	Acres entered	No. of growers	Acres certified	Bushels tagged and sealed
Barley, spring	Tall Comfort	10	1	10	22.0
Barley, spring	Velvet	25	3	6	22.0
Barley, winter	Md. Smoothawn	204	15	106	2,228.0
Barley, winter	Mo. Early Beardless	41	4	21	274.0
Corn, Hybrid	N. J. No. 2	65	5	65	1,777.0
Corn, Hybrid	N. J. No. 4	72½	22	72½	2,069.0
Corn, Standard	Hulsarts Yellow Dent	18	1	18	24.0
Corn, Standard	Lancaster Surecrop	128½	9	120½	619.0
Corn, Standard	Mercer White Cap	20	2	20	167.0
Corn, Standard	Reids Yellow Dent	18	1	18	172.75
Corn, Standard	Somerset Leaming	27	3	27	229.0
Oats	Kanota	59	5	29	528.0
Oats	Keystone	120	7	103	2,584.0
Rye	Raritan	20	1	20	....
Soybeans	Wilson—5	15	1	15	255.0
Soybeans	Harbinsoy	419½	17	363½	2,859.0
Wheat	Leap's Prolific	425	19	347½	6,151.0
		1,687.5	116	1,362.0	19,980.75

GRASS SEEDS

Timothy	Cornell 4059	4	1	4	198 lbs.
Clover	Kentucky Selection 101	85	1	0	...
Velvet Bent Grass	Raritan	8	2	8	334 lbs.
		97	4	12	532 lbs.

TOMATO SEED CERTIFICATION

The following tables indicate the scope of the tomato seed certification work during the year and the expansion of the work from 1921 until 1939. During the 1939-1940 fiscal year, seed treatment declaration certificates were issued at various times to three New Jersey seedsmen so that they could comply with the requirements of Cuba, Puerto Rico and Mexico. These certificates covered 564 pounds of pepper seed and 8,688 pounds of tomato seed.

GROWERS OF CERTIFIED TOMATO SEED AND ACREAGES CERTIFIED, 1939

Seedsman	Pritchard	Bonny Best	Marglobe	Rutgers	Break O'Day	Total
Campbell Soup Company	74	...	436	353	...	863
Edgar Hurff Company	5	18	64	338	...	425
Francis Stokes Company	...	...	770	310	...	1,080
Joseph White Company	...	...	388	330	...	718
George H. Pedrick Sons	...	...	...	...	3	3
S. Tilden Ashcraft	5	...	...	...	...	5
Total	84	18	1,658	1,331	3	3,094

TOMATO SEED CERTIFICATION PRODUCTION, 1939

Seedsman	*Pounds of Seed*					
	Pritchard	Bonny Best	Marglobe	Rutgers	Break O'Day	Total
Edgar Hurff Company	176	562	1,282	14,680	...	16,700
Campbell Soup Company	714	...	6,306	4,225	...	11,245
Francis Stokes Company	...	...	39,293	5,200	...	44,493
George H. Pedrick Sons	...	...	...	...	82	82
Joseph White Company	...	...	20,000	18,000	...	38,000
S. Tilden Ashcraft	7	...	...	...	...	7
Total	897	562	66,881	42,105	82	110,527

TOMATO SEED CERTIFICATION, 1921-1939

Varietal Distribution of Certified Tomato Seed Acreages

Year	Bonny Best	J. T. D.	Baltimore	Marglobe	Valiant	Break O'Day	Stokes-dale	Rutgers	Grothens Globe	Pritchard	Glovel	Total
921	84	...	44	...	...	...	...	...	...	...	...	132
922	87	...	112	...	...	...	...	...	...	...	...	199
923	103	...	113	...	...	...	...	...	...	...	...	216
924	117	...	210	...	...	...	...	...	...	...	...	327
925	344	...	238	...	...	...	...	...	...	...	...	582
926	274	...	171	...	...	...	...	...	...	...	...	445
927	207	110	121	431	...	...	...	...	...	...	...	869
928	208	55	150	329	...	...	...	...	...	...	...	742
929	133	123	87	360	...	...	...	...	...	...	...	703
930	363	162	250	620	...	18	...	...	...	...	...	1,413
931	219	292	106	689	...	127	...	...	...	...	...	1,433
932	34	61	18	562	...	...	...	...	...	...	...	675
933	12	...	15	543	...	...	...	...	...	99	...	669
934	28	155	91	2,046	...	2	...	...	...	182	...	2,504
935	5	247	61	1,520	...	8	...	730	...	192	...	2,763
936	5	109	40	1,576	...	21	...	1,001	...	208	...	2,960
937	94	100	...	1,365	17	...	67	936	24	136	7	2,746
938	10	48	...	1,113	2	5	2	755	...	146	...	2,081
939	18	...	...	1,658	...	3	...	1,331	...	84	...	3,094

STRAWBERRY PLANT INSPECTIONS

In order to determine the effectiveness of the campaign to control the serious Red Stele disease of strawberries and to provide certification of plants found to be free of the disease, inspections were made when requested for growers and plant sellers throughout the state. Apparently the coordinated efforts of the Department of Agriculture, the Experiment Station and the county agricultural agents to place the information regarding the seriousness of the disease and the method of control before the growers was rather effective since there was a decline in the number of cases found from 39 in 1939 to 14 in 1940.

As an example, one grower who had suffered a 100 per cent loss of his plantings in 1939, and who followed recommendations for control in 1940, had plantings entirely free of the disease. Several 1940 cases were on farms where the disease is still active due to failure to follow complete instructions for making a fresh start, thereby carrying the disease to the new field by planting diseased plants, or by planting lower on the slope in the same field and having the disease carried down in the drainage water.

Only a few cases of Red Stele could be attributed to out-of-state shipments. This small percentage of a large number of shipments of plants from out-of-state nurserymen indicates that the inspection systems set up in those states are becoming highly effective.

In all, plantings on 332 farms were inspected. These embraced 872 acres. Of these, 14 cases of Red Stele disease were found as contrasted with 39 cases in 1939.

STRAWBERRY PLANT INSPECTIONS

County	Number of farms	Acreage inspected	Number of cases of Red Stele found
Atlantic	47	130.0	0
Bergen	13	17⅝	0
Burlington	14	46¾	0
Camden	9	21¼	0
Cape May	8	22¼	0
Cumberland	99	324⅖	2
Gloucester	20	87⅛	0
Hunterdon	4	2½	3
Mercer	23	46⅔	4
Middlesex	32	70¾	3
Monmouth	25	58¾	1
Morris	5	2⅒	1
Ocean	10	11¾	0
Passaic	2	7¼	0
Salem	4	9	0
Somerset	1	¼	0
Sussex	15	12⅜	0
Warren	1	1	0
Totals	332	871.79	14
1939 Totals	408	1,138⅕	39

WHITE POTATO SEED CERTIFICATION, 1939-1940

The production of certified seed potatoes in 1939 was more than twice as great as in the previous year, but was slightly smaller than in 1937. Entries were received from 57 growers for 584.5 acres. Of these, 541 acres passed the necessary field inspections. A total field run yield of 91,003 bushels was harvested for an average yield per acre of 168 bushels. Considering the weather preceding the planting of the crop and while the crop was growing, this is a satisfactory yield.

July produced a below normal rainfall in both the Hightstown and southern New Jersey areas; so that the crop was planted in very dry seed beds. August brought above normal rainfall (+2.78 inches at Bridgeton, +0.09 at Hightstown) but the dry weather of September prevented outstandingly good yields. The United States Weather Bureau records for September showed below normal precipitation, —2.19 inches at Bridgeton and —1.99 inches at Hightstown. Yields were more satisfactory in the southern New Jersey area, which is unquestionably a reflection of the greater amount of rainfall during the growth period. A killing frost came October 16 in both areas. However, drought and Early Blight had previously taken the plants down in the area of central New Jersey.

Insects were not particularly bothersome. Aphids and leaf hoppers, which cause damage in some years, were not a serious problem in 1939. Cutworms were noticed in a few fields, and European corn borers were found in some fields; however, it cannot be said that they did serious damage. Flea beetles were found doing heavy damage on individual plants that had been missed by the Bordeaux sprays. Growers who sprayed carefully and regularly with the Bordeaux mixture had excellent results. Again, as in other years, the Bordeaux dusts gave poor coverage and poor results.

Only a few plants with spots of Late Blight were seen. Early Blight progressed with the dry weather and reduced yields in some cases. Black Leg was present to a small degree in a few lots. A new disease, Bacterial Ring Rot, was found in three lots, which brought about automatic rejection. It was found in one lot that had been rejected previously for mixtures and virus diseases. Of the four rejections for this cause, two were in seed which originated in North Dakota and two were in lots from Maine. Two lots were Cobblers and two were Katahdins. This is a particularly serious disease and the finding of one infected plant during the field inspections or a diseased tuber after digging is sufficient to cause rejection.

Bacterial Ring Rot is carried from year to year in infected tubers, some of which do not show the symptoms plainly. The disease is further spread on the cutting knife and the picker points of the planter. In the field the symptoms of wilting usually do not show until after the plant has reached full vine growth, when a part or all of the plant may suddenly wilt. On digging into the infected hills, rotted tubers are encountered, although some show no apparent discoloration. When the rotted tubers are cut, it is noted

that the rot is confined to and around the vascular ring. Pockets of creamish, cheese-like decay are found. In later stages the whole inside may be invaded by secondary bacteria and become slimy, leaving only a shell. One symptom that is fairly common is external cracks breaking through from the inside. Positive identification can be made by laboratory tests only.

Virus diseases, viz., Leaf Roll, Mosaics and Spindle Tuber, were for the most part present in amounts small enough for roguing. A few fields were rejected for excessive virus content and/or mixtures.

Irish Cobblers lead the varieties both in acres planted and bushels produced. Chippewas were second in acreages planted and bushels produced but had the largest yield per acre. Katahdins, Red Skins, Green Mountains and Houmas were next in order. Yields ranged from 59 to 291 bushels per acre with an average for the total entries certified of 168 bushels per acre. The lowest yield was on a small piece of Irish Cobblers planted about August 20, which did not have a long enough season to make a crop. The highest yield of 291 bushels per acre was made on a field of Chippewas. Other Chippewa yields in the group were above 250 bushels per acre.

Growing late crop seed potatoes after early potatoes or on grain stubble was inferior to growing them after green manure crops, sod or fallow land plowed early and worked till planting time. New and experienced growers alike should be strongly urged not to use land previously in early potatoes or harvested grain crops for growing late crop seed potatoes.

Seed disinfection was applied to only 29 per cent of the seed used to plant the crop. This is a very important and inexpensive step in seed production and should not be eliminated.

The fertilization methods used an average application of 1,992 pounds per acre. More growers used double strength formulas and in view of the observations made over a period of several years the double strength formulas can be safely employed with less cost and less handling. Yields obtained are fully as good as with the single strength formulas.

Prince Edward Isle furnished the largest quantity of foundation seed, with 33 per cent; New Jersey next, 29 per cent, and Maine third, 25 per cent. Other seed lots came from Nova Scotia, New York, North Dakota, Minnesota and Vermont. The seed from Nova Scotia was grown there in tuber units and proved to be almost free of virus diseases when grown here.

Immediately after digging, sales were made and a major part of the crop was moved before the freezing weather prevented further movement. Most of the seed was sold within the state; however, several lots went to Pennsylvania. No previous mention has been made of the movement of Red Skins to Maryland and Tennessee. The selling season for this variety does not arrive until late spring and early summer, hence sales into these states usually are not reported. From one to several cars are usually sold in those states.

A limited quantity, approximately 8,000 sacks, was available for 1940 spring sales.

LATE CROP WHITE POTATO SEED INSPECTION AND CERTIFICATION, 1939

Acres Entered for Certification:

County	Acres	Per Cent
Burlington	10.	1.71
Camden	7.	1.20
Cumberland	302.	51.67
Mercer	35.75	6.11
Middlesex	97.50	16.68
Monmouth	24.25	4.15
Salem	108.	18.48
	584.50	100.

Seed Source:	150-lb. Bags	Per Cent
New Jersey	1,273.2	28.87
Prince Edward Isle	1,442.	32.70
Maine	1,121.4	25.43
Nova Scotia	270.7	6.14
New York	189.	4.28
North Dakota	54.	1.22
Minnesota	35.	.79
Vermont	25.	.57
	4,410.3	100.

Seed Treatment:	Bags	Per Cent
Semesan	1,289.0	29.23
None	3,121.3	70.77
	4,410.3	100.

Previous Cropping of Field:	Acres	Per Cent
Green Manure Crops	311.25	53.25
Fallow	31.50	5.39
Grain Stubble	99.25	16.98
Sod	81.00	13.86
Early Potatoes	38.00	6.50
Truck Crops	23.50	4.02
	584.50	100.

Fertilization:

Tons applied (584.5 acres)	582.52 tons
Average application per acre	1,992 pounds
Heaviest application per acre	3,000 pounds
Lightest application per acre	1,500 pounds

Rate of Plantings:	150-lb. Sacks
Total number of bags of seed planted	4,410.30
Average number of bags per acre	7.55
Heaviest number of bags per acre	10.
Lightest number of bags per acre	5.

Calculated Weight of Seed Piece:
(Spacing 11 x 32 in.—17,958 hills per acre)

Bags per acre	Weight of Seed Piece
5.	0.668 ounces
7.55	0.999 ounces
10.	1.336 ounces

Yield Per Acre (Bushels):

Average yield	168 bushels
Lowest yield	59 bushels
Highest yield (Made by 1 grower Chippewa variety)	291 bushels

Preliminary Expenses Per Acre:

Seed—7.55 bags @ $5	$37.75
Fertilizer—1,988 pounds @ $27 per ton	26.99
	$64.74

PRODUCTION AND DISTRIBUTION OF CERTIFIED WHITE POTATO SEED

	1939	1938	1937
Acres of seed certified	541	268.75	514
Total yield (field run) in bushels	91,003	46,910	96,467
Average yield per acre in bushels	168.21	174.55	187.68
Bags of certified seed sold	18,303	14,405	18,912
Bags sold within the state	17,567	13,680	17,455
Bags sold out of state	736	725	1,457
Pennsylvania	736	725	1,452
New York	0	0	5
(Old sacks used)			
Bags sold untagged (Tags not allowed)	1,053	140	460
Total bags of seed sold	19,356	14,545	19,372
Bags seed unsold December 5	7,836	3,161	15,787
Baskets of seed retained own use	54,154	27,840	46,396
Bushels of seed retained own use	33,846	17,400	28,988

Note: Seed packed and sold in 100 pound bags.

POTATO ACREAGE ENTERED FOR CERTIFICATION, 1939

County	Growers	Cobblers	Chippewas	Katahdins	Red Skins	Green Mts.	Houmas	Total
Burlington	2	6	1.5	...	...	2.5	...	10
Camden	1	...	2.0	...	5	...	...	7
Cumberland	23*	106	94.0	51	43	6.5	1.5	302
Mercer	5	25	6.75	4	...	...	...	35.75
Middlesex	13	56	26.0	12.5	...	3.0	...	97.50
Monmouth	4	18.25	...	6	...	...	...	24.25
Salem	9	46	48.5	13.5	...	...	...	108.
	57	257.25	178.75	87	48	12	1.5	584.5

* Actual number of growers.

ACREAGE FAILING AND PASSING CERTIFICATION

	Acres	Per Cent
Acreage rejected at first inspection	16.5	2.82
Acreage withdrawn at first inspection	5.0	0.86
Acreage rejected at second inspection	22.0	3.76
Total acreages rejected at end of two inspections	43.5	7.44
Acreage rejected at third tuber inspection	...	...
Acreage withdrawn and rejected three inspections	43.5	7.44
Acreage passing three inspections	541.0	92.56

WHITE POTATO SEED CERTIFICATION INDUSTRY OF NEW JERSEY

Year	No. of Growers	Acres Entered	Percentage Rejection	Varietal Distribution	
1934	64	773.50	19.50	Cobblers	717.5
				Green Mts.	14.
				Red Skins	39.
				Katahdins	2.
				Superbas	1.
1935	47	505.12	4.54	Cobblers	444.75
				Green Mts.	5.00
				Red Skins	31.00
				Katahdins	23.75
				Chippewas	0.625
1936	48	474.5	9.38	Cobblers	378.
				Red Skins	79.
				Chippewas	5.25
				Katahdins	3.75
				Warbas	3.
				Superbas	3.
				Green Mts.	2.50
1937	77	643.45	20.12	Cobblers	455.375
				Chippewas	70.75
				Red Skins	70.45
				Katahdins	29.125
				Green Mts.	17.50
				Idaho Russets	0.25
1938	45	355.5	24.47	Cobblers	165.75
				Chippewas	149.75
				Red Skins	18.
				Green Mts.	16.
				Katahdins	6.
1939	57	584.5	7.44	Cobblers	257.25
				Chippewas	178.75
				Katahdins	87.0
				Red Skins	48.0
				Green Mts.	12.0
				Houmas	1.5

SUMMARY OF INSPECTION RESULTS, 1939

	Burlington	Camden	Cumberland	Mercer	Middlesex	Monmouth	Salem	Total
Acreage entered	10	7	302	35.75	97.5	24.25	108	584.5
Number of growers	2	1	23	5.00	13.0	4.00	9	57.0
Average number of acres per grower	5	7	13.13	7.15	7.5	6.06	12	10.25
Acres rejected first inspection*	..	..	16.5	..	4.0	..	1	21.5
Per cent rejected first inspection	..	..	5.46	..	4.1	..	.93	3.68
Acres rejected second inspection	..	..	9.5	..	7.5	5	..	22.0
Per cent rejected second inspection	..	..	3.14	..	7.69	20.62	..	3.76
Acres rejected third inspection	..	..	..	..	..	..	..	..
Per cent rejected third inspection	..	..	..	..	..	..	..	..
Acres rejected total*	..	..	26	..	11.5	5	1	43.5
Acres certified	10	7	276	35.75	86	19.25	107	541.0
Per cent certified	100	100	91.40	100	88.21	79.38	99.07	92.56

* Includes withdrawals.

Varietal Distribution of Rejections and Withdrawals

Acres Rejected and Withdrawn by Inspections

	Acres Entered	First	Second	Third	Acres Certified
Irish Cobblers	257.25	3.5	14	..	239.75
Chippewas	178.75	13.0	2	..	163.75
Katahdins	87.0	5.0	6	..	76.0
Red Skins	48.0	..	..	..	48.0
Green Mts.	12.0	..	..	..	12.0
Houmas	1.5	..	..	..	1.5
Total	584.5	21.5	22	..	541.

SUMMARY OF WEATHER CONDITIONS

	Bridgeton				*Hightstown*			
	July	August	September	October	July	August	September	October
Number of days during which rain fell	5	7	6	8	8	13	8	9
Heaviest daily rainfall (in inches)	0.45	4.28	0.61	1.48	0.80	3.07	0.63	1.64
Lightest daily rainfall (in inches)	.08	.03	.02	.06	.01	.01	.03	.02
Total rainfall (in inches)	1.01	7.45	1.12	5.47	2.49	4.93	1.22	3.97
Deviation from normal (in inches)	—3.44	+2.78	—2.19	+2.37	—2.43	+0.09	—1.99	+0.27
Average relative humidity at 7:30 A. M.*	75	80	84	79	75	83	85	81
Normal for month at 7:30 A. M.*	73	76	77	75	78	81	80	82
Per cent of possible sunshine*	74	55	59	54	73	55	71	48
Deviation from normal (per cent)*	+10	—7	—4	—9	+13	—6	+6	—10
Highest temperature reached	95	97	94	91	96	95	94	87
Average of the high temperatures	87.2	88.1	80.8	68	84	85.3	78.1	65.8
Normal of the high temperatures	87.5	85.3	79.3	68.8	85.3	82.4	76.9	66.0
Lowest temperature reached†	54.0	56.0	47.0	29.0	49.0	58.0	38.0	26.0
Average of the low temperatures	64.9	67.6	57.4	46.2	61.3	65.7	55.3	44.3
Normal for low temperatures	66.2	64.8	57.8	46.9	63.8	62.1	55.4	44.8

Note: Data given above are for Bridgeton and Hightstown official weather bureaus and are given as being more or less representative of the section in southern and central New Jersey respectively where certified seed potatoes are grown.

* Philadelphia station for Bridgeton and Trenton station for Hightstown, such data not being available for the respective stations.

† Ave. date of first killing frost in autumn: Bridgeton, October 22; Hightstown, October 14. Earliest: September 22 (both).

NURSERY INSPECTION SERVICE

Certificates of inspection were issued for the year ending June 30, 1940, to a total of 663 nurseries. Certificates are issued only when the nurseries are found, upon inspection, to be free of dangerously injurious insects and plant diseases. Following is a list of insect infestations observed and the frequency of occurrence:

Insect Pests	Number of Nurseries
Juniper Scale	124
Rhododendron Lace Bug	45
Juniper Webworm	43
Spruce Gall Aphid	37
European Pine Shoot Moth	36
Bagworm	32
Oyster Shell Scale	24
Pine Sawfly (*Neodiprion sertifer*)	16
Pine Leaf Scale	11
Azalea Lace Bug	6
Boxwood Leaf Miner	5
Elm Scale	4
Euonymus Scale	4
San Jose Scale	4
White Pine Weevil	3
Mottled Willow Borer	3
Birch Lace Bug	2
Lilac Borer	2
Cedar Rust of Apple	2
Lecanium Scale	2
Willow Gall	1
Rose Scale	1
Peach Borer	1
Bronze Birch Borer	1
Holly Leaf Miner	1
Pine Tip Moth	1
Oak Scale	1

In all, there were 196 nurseries in which 412 infestations were found, and in which clean-up measures were required before certificates were issued.

DEALER'S CERTIFICATES

Certificates were issued to 52 dealers in nursery stock for the year ending June 30, 1940. These dealers signed agreements to purchase stock only from listed certified nurserymen.

FOREIGN STOCK INSPECTIONS

There were 20 inspections made of nursery stock shipped into this state from foreign countries.

DOMESTIC STOCK INSPECTIONS

The following inspections were made of nursery stock shipped into New Jersey from other states:

	Cases	Cars	Bales	Truckloads
Fall of 1939	331	15	151	...
Spring of 1940	710	35	434	2
Totals	1,041	50	585	2

SPECIAL CERTIFICATES

Special certificates are issued to nurserymen who desire to ship plant material to a state or a foreign country which has special requirements other than the copy of the certificate of inspection. The special certificate attests to the freedom of the stock from insects and diseases at the time of inspection (just previous to shipment). It is also issued on request to persons, not in the nursery business, who desire to make a small shipment or two, to some point outside of the state. A total of 346 of these certificates was issued.

REQUEST INSPECTIONS

Requests are received from time to time for advice in the control of various insects and in other nursery and horticultural problems. In some cases, special calls are necessary. Two hundred and four such calls were made during the year ending June 30, 1940.

CANADIAN NURSERY STOCK INSPECTIONS

In compliance with Canadian regulations, it was necessary to make 94 inspections of plant material for shipment from New Jersey into Canada.

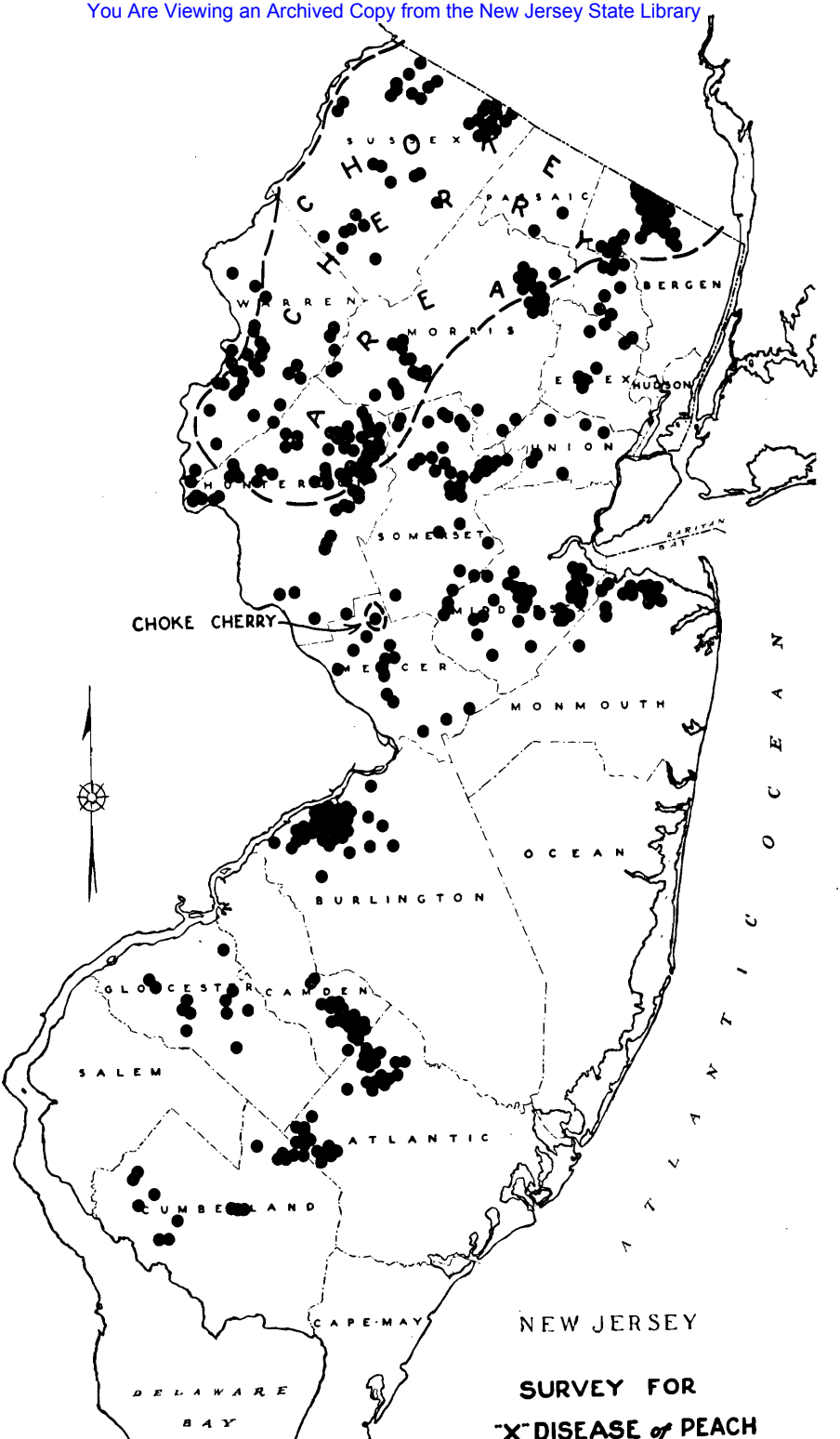
SURVEY FOR "X" DISEASE OF PEACH

Under the sponsorship of the New Jersey Peach Council, and with the cooperation and guidance of Drs. C. H. Haenseler and Robert H. Daines, pathologists of the Agricultural Experiment Station at New Brunswick, the Department of Agriculture made a survey of the state during July, August and half of September 1939 to determine, first, whether or not "X" peach disease is present in New Jersey and, second, the distribution of the wild host of the disease (choke-cherry, Prunus virginiana) in the state. The disease is a virus that has caused serious losses in peach orchards in Connecticut, Massachusetts and New York. It seems to be even more virulent on choke-cherry, causing death of the infected wild host. It has been observed that serious damage occurs in orchards, only where there are diseased choke-cherry trees near the peach trees.

Before beginning the survey, the scouts visited several diseased orchards in Connecticut so that they might become familiar with the disease. E. M. Stoddard of the Connecticut Agricultural Experiment Station has been working with the virus since 1933 and he was available for the guidance of New Jersey men in that state. The actual scouting in New Jersey was begun on July 12.

In planning the project it was considered of primary importance to scout those orchards located within the area where choke-cherry is known to occur. This area has been described* as covering all New Jersey north of a line from Keyport to Salem. Actually scouts found the wild host in a much

* Munns, E. N. The Distribution of Important Forest Trees of the United States. U. S. Department of Agriculture, Miscellaneous Publication No. 287, March 1938.



more limited area, as can be seen from the map which follows. Orchards were inspected, township by township in the counties of Bergen, Passaic, Essex, Sussex, Morris, Union, Warren, Somerset and Hunterdon. Shipments of trees into these counties, within the last three years were also investigated. Each tree in each orchard was inspected and the hedgerows and bordering wild growth were also examined for presence of the wild host.

In an orchard of Iron Mountain peaches at Montvale in Bergen County, a leaf condition that appeared similar to "X" disease was found. No infected choke-cherry could be found in the vicinity, however, and it was later learned that the condition is characteristic on uninfected trees of this variety, and that "X" disease was not present on the samples taken. The condition was thereafter found throughout the state on trees of this variety. One clump of four choke-cherry trees was observed which appeared to be infected with the disease. These trees were found three miles south of Montague, in Sussex County along the Delaware River. Buds were taken and grafted to healthy stock and it was later evident that the disease was not present.

A good sample of the peach trees of Middlesex, Mercer, Monmouth, Burlington and Camden counties was inspected. In the northeastern corner of Mercer County a few healthy choke-cherry trees were found, but it is doubtful if the species occurs naturally this far south. Aside from this record, no choke-cherry was found in these counties, nor in Atlantic, Cumberland and Gloucester counties. Only a rough sample of the peach trees in these last three counties was inspected. Time did not permit the examination of orchards in Ocean, Salem and Cape May counties.

It is expected that some scouting, at least within the choke-cherry area, will be done during August 1940. The disease has appeared within a few miles of New Jersey's northern border, and prompt control measures, when and if the disease appears in New Jersey, no doubt will be of great benefit to the peach growing industry.

There is tabulated below the number of orchards and trees inspected in the various counties:

County	Orchards Inspected	Trees Inspected
Bergen	36	25,858
Passaic	11	5,365
Essex	7	1,835
Sussex	37	22,870
Morris	33	25,759
Union	6	2,483
Warren	33	19,234
Somerset	37	26,030
Hunterdon	66	46,856
Monmouth	15	16,350
Burlington	40	92,120
Camden	22	37,640
Mercer	14	9,645
Atlantic	30	45,000
Cumberland	16	41,600
Gloucester	12	15,000
Totals	449	452,490

EUROPEAN CORN BORER SURVEY

In view of the increase of the European corn borer in this state in the past few years, a survey was begun in September 1939 to obtain information as to the population of the insect over the state. The survey was made in co-operation with the Division of Cereal and Forage Insects of the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture. Their survey methods were followed so that the data from New Jersey would be comparable with those obtained in other infested states. Thus, a few corn fields (5 to 10) are scouted in each county. Twenty-five plants in a row in the center of each field are inspected and the number of these plants which are infested is noted. Then, the first two infested plants in the row are dissected and the number of borers in each plant recorded.

In previous years representatives of the United States Department of Agriculture have made counts in a few (as many as six) counties to determine the borer population. The survey this year, however, was made over all of the state except Hudson County. The insect seems well established over much of New Jersey, and it can be expected that from now on there will be an abundance or scarcity of the borer, dependent upon weather conditions and clean-up measures. The latter, in order to have any appreciable effect upon the corn borer population, would have to be taken over a whole farm area, rather than on some few scattered farms.

EUROPEAN CORN BORER CERTIFICATION

Total Value: $28,990.19 — July, 1939 to June, 1940 — Total Certificates: 6,233

State	Asters	Lima Beans	Snap Beans	Beets	Celery	Chrysanthemums	Dahlias	Gladiolus	Hollyhocks	Rhubarb	Straw	Zinnias	Daisies	Total
Alabama	24	..	..	..	..	..	..	..	..	..	..	..	..	24
Arizona	1	..	..	..	..	12	165	..	..	..	..	..	..	178
Arkansas	3	..	..	..	..	117	268	..	..	1	..	..	..	389
California	35	..	..	..	..	1,041	1,465	..	4	12	..	..	..	2,557
Colorado	39	..	..	..	..	524	196	..	..	..	..	..	4	763
Florida	1,014	2	..	48	..	800	1,960	160	1	523	..	..	..	4,508
Georgia	267	..	..	..	..	1,221	3,663	..	24	701	..	..	..	5,876
Idaho	1	..	..	..	..	39	201	..	..	12	..	..	..	253
Illinois	391	1	490	..	..	1,991	3,548	150	15	121	..	..	28	6,735
Indiana	102	2	..	..	..	598	737	1	17	12	..	..	17	1,486
Iowa	500	..	..	..	..	512	1,670	..	..	10	..	..	39	2,731
Kansas	11	..	..	..	..	406	343	..	..	50	..	..	3	813
Kentucky	144	..	..	..	..	739	1,387	..	21	1,124	..	12	2	3,429
Louisiana	6	..	..	..	..	417	1,281	..	..	..	..	..	1	1,705
Maine	226	14	3	..	..	472	384	..	..	34	..	..	2	1,135
Maryland	..	..	..	..	..	10	..	..	..	..	..	..	..	10
Michigan	1,320	..	..	..	..	1,567	9,035	17	24	6	..	..	10	11,979
Minnesota	3	..	..	..	..	14	..	..	..	..	..	..	..	17
Mississippi	18	..	..	..	..	209	2,042	..	5	..	..	..	..	2,274
Missouri	93	..	660	..	..	590	593	..	3	5	..	..	2	1,946
Montana	2	..	..	..	..	14	..	..	..	..	..	..	..	16
Nebraska	52	..	..	..	..	165	165	..	2	103	..	..	1	488
Nevada	..	..	..	..	..	10	9	..	..	..	..	..	..	19
New Mexico	24	..	..	..	..	257	534	..	12	..	..	..	3	830
N. Dakota	..	..	..	..	..	..	22	..	..	..	..	..	..	22
Ohio	5,046	..	..	..	..	2,738	3,255	88	16	59	..	..	43	11,245
Oklahoma	9	1	..	..	..	374	408	..	..	250	..	..	..	1,042
Oregon	7	..	..	..	..	174	271	..	..	..	..	..	..	452
S. Carolina	107	..	..	..	..	1,307	1,549	35	6	112	..	..	..	3,116
S. Dakota	6	..	..	..	1,000	26	30	..	..	7	..	..	7	1,076
Tennessee	190	1	..	..	..	942	1,287	1	100	728	..	12	6	3,267
Texas	65	..	..	..	..	1,228	2,764	..	67	..	..	..	..	4,124
Utah	28	..	..	..	..	118	198	..	..	..	..	..	..	344
Virginia	457	285	..	..	488	5,443	6,227	..	..	362	..	..	38	13,300
Washington	29	..	..	..	..	700	458	..	..	..	..	..	1	1,188
W. Virginia	..	..	..	..	..	60	..	..	..	..	..	..	..	60
Wisconsin	137	..	..	..	..	642	1,743	..	..	..	..	..	3	2,525
Foreign	..	..	..	..	..	20	41	..	..	..	400	..	..	461
Totals	10,357	306	1,153	48	1,488	25,497	47,899	452	317	4,232	400	24	210	92,383

EUROPEAN CORN BORER INFESTATION

County	Average per cent plants infested	Average number borers per 100 plants
Atlantic	11.2	22.6
Bergen	49.6	292.8
Burlington	26.0	220.8
Camden	20.0	61.6
Cape May	1.2	1.2
Cumberland	7.6	14.2
Essex-Union	28.4	147.2
Gloucester	20.0	53.0
Hunterdon	3.6	8.0
Mercer	11.6	22.6
Middlesex	31.2	211.0
Monmouth	38.4	98.6
Morris	15.2	57.6
Ocean	12.8	23.2
Passaic	12.6	32.9
Salem	6.8	10.8
Somerset	14.4	40.6
Sussex	4.4	6.8
Warren	4.0	6.0
State Average	16.8	70.1

The counties surveyed during 1938 are given below and the 1939 count is compared with that of the previous year.

County	Average number of borers per 100 plants	
	1938	1939
Burlington	818.3	220.8
Camden-Gloucester	97.4	57.3
Mercer	639.7	22.6
Middlesex	536.1	211.0
Monmouth	914.9	98.6

The 1939 corn borer population showed a decrease compared to that of 1938. The decrease in Monmouth, Mercer and Burlington counties is especially significant. Two factors important in the reduction in numbers are: First, the 1939 weather was not so favorable as that of 1938 for development of the insect. Second, the borer had become so widespread in some cornfields in 1938 that the owners gave up raising the crop, thus eliminating from the survey some of the more heavily infested fields.

The work that is being done by the United States Department of Agriculture in the release of parasites of the borer seems promising. Although none of the New Jersey releases, up to the present time, has built up to a point where any degree of control has been obtained, the experience in other states, particularly Ohio and Connecticut, indicates that within the next decade, these imported natural enemies may very well reduce the borer to the class of unimportant insects.

PINE SAWFLIES

In the Twenty-third Annual Report of this department, mention was made of the finding of two imported pine sawflies in this state. The one, Acantholyda erythrocephala (L.), found in a practically abandoned nursery in northern New Jersey, had completely defoliated a five-acre planting of red pine. A very effective spray was applied to the pines in June 1938. A survey was conducted in 1938 to determine the extent of infestation by this insect. The insect was found lightly scattered over the northern half of the state, but no further appreciable infestation was recorded, and it would appear that the insect is normally kept in check by its natural enemies and that, in general, it would cause no more damage than other well distributed pine sawflies.

The second pine sawfly (Neodiprion sertifer Geoffrey) has been causing severe damage in spite of control measures which have been taken in the most heavily infested area. At the present time forest plantations of red pine (Pinus resinosa) and Scotch pine (Pinus sylvestris) over the northern half of the state have been completely defoliated in many cases, this defoliation in the older area being now a yearly occurrence. A few of the trees have been killed, although most of them have been able to endure the defoliation, but the growth of the trees has been greatly hindered. Each year the insect has taken over a larger area.

There are native parasites that have adapted themselves to this insect, but the population of the native parasites certainly has not kept pace with the sawfly population. This insect is considered important because of the great numbers of red pines that have been planted over the state for reforestation purposes. The watersheds of several northern New Jersey municipalities have always favored this species of pine, and defoliation and the possible death of the trees would result in heavy financial loss.

For some years the Forest Insect Laboratory of the United States Department of Agriculture at New Haven has been breeding and releasing parasites for the spruce sawfly Diprion polytomum. Members of the staff have observed that several of the spruce sawfly parasites will also attack Neodiprion. Some releases have been made in this state because of the large area of infestation by this insect, and because many localities could not possibly be sprayed either from the ground or from the air. It is thought that the most promising method of control would be through distribution of parasites over the infested area. From the work done so far, there is every reason to believe that at least two parasitic species, Microcryptus basizonius and Microplectron fuscipennis can be established within a reasonable period of time and with good results.

OAK WEEVIL

In July 1933, at Upper Montclair, Mr. A. S. Nicolay collected a weevil which was identified by L. L. Buchanan of the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture as Mylloceras castaneus Roelofs. This insect has been described from Japan and recorded also from "Amur-Länder." This probably means the Amur river basin near Vladivostok, in Primorsk. The record of Nicolay's find was published in the bulletin of the Brooklyn Entomological Society, Volume 30, 1935. No one in the New Jersey Department of Agriculture was advised of the presence of this insect in the state.

In December 1939 a New York state nursery inspector found the insect at West Hempstead, Long Island. He had the insect identified and found the record of its occurrence in New Jersey. He then communicated with this department concerning the insect. Mr. Nicolay was interviewed shortly thereafter and he described the locality where he had collected the insect. The few leaves that were in evidence on the oak trees at that time showed considerable damage through feeding of the weevil. The literature was reviewed, but no account of the life history of the insect was reported. In 1940, a survey of the northern part of the state has been planned to determine the extent of infestation.

WHITE PINE BLISTER RUST CONTROL AREA PERMITS

Under the provisions of Quarantine No. 63 of the United States Department of Agriculture, and an order of the New Jersey State Board of Agriculture, effective December 21, 1938, in order to prevent the spread of white pine blister rust in this state, currant and gooseberry plants (*Ribes* sp. and *Grossularia* sp.) may be shipped into New Jersey only after a "control area permit" has been issued to the out-of-state consignor. Between July 1, 1939 and June 30, 1940, a total of 274 such permits was issued.

DORMANT SEASON NURSERY INSPECTIONS

During the winter months, 144 nurseries were visited by inspectors so that another check could be made on such insects as scale, webworm and bagworm, whose presence might be detected during the dormant season and against which control measures should be taken at that time. Nurserymen were advised of the presence of these pests and of necessary clean-up measures.

GIPSY MOTH

The New Jersey Department of Agriculture was again fortunate in obtaining from the United States Bureau of Entomology and Plant Quarantine sufficient gipsy moth attractant and material for 500 assembling cages for use in the state. During the first part of July these trap cages were distributed in selected areas in Bergen, Morris, Passaic and Sussex counties. In July, August and the first part of September the cages were visited regularly by the state force and examined for adult male gipsy moths.

DISTRIBUTION OF CAGES

County	Township	Number of Cages
Bergen	Hohokus	45
Bergen	Orville	35
Bergen	Washington	49
Bergen	Palisades	140
Morris	Mendham and vicinity	72
Passaic	Pompton	50
Sussex	Hardiston	72
Sussex	Lafayette	36
	Total	499

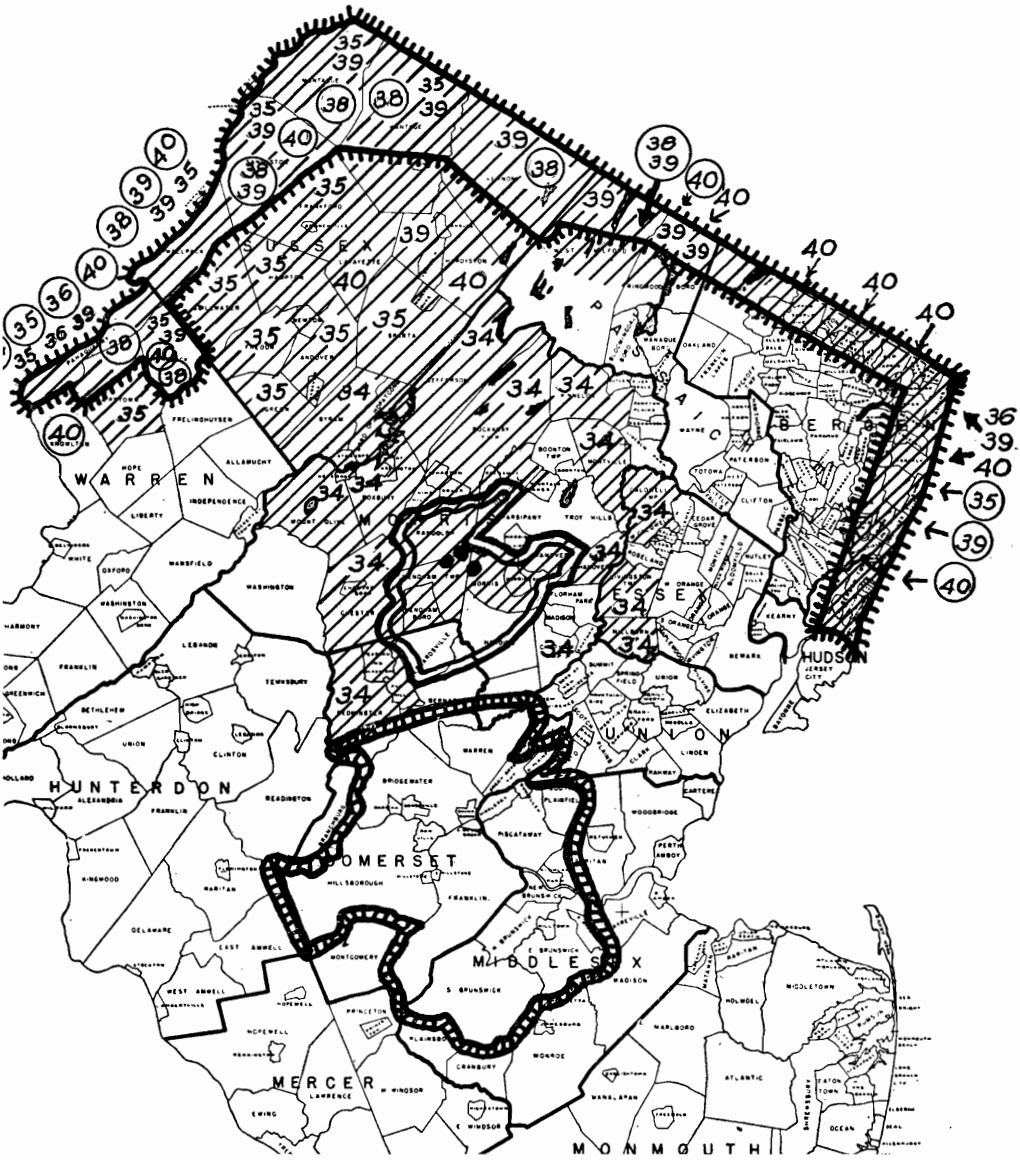
One male adult gipsy moth was captured at a cage in Englewood Borough in Palisades Township, Bergen County. The cage which attracted the moth was located in the residential section of the city where many hundreds of small trees, shrubs, etc., abound. Many of these came from the New England states and it was thought that a small infestation of the insect might have been introduced in this manner.

Inasmuch as a very close job of scouting was necessary, the work was not attempted until the foliage dropped, about the middle of November. After the cage work was completed and before the work at Englewood got under way, the men were assigned duty in areas where only a rough inspection was considered necessary. Starting the middle of November, the intensive scouting work at Englewood continued until January, when it became necessary to discontinue operations because of poor weather conditions. Snow and ice covered all small growth on the ground, and the light was also very poor, making thorough inspection of the high trees impossible.

Scouts did some very important work during January, February and March along the New York state line in the Ramapo Mountain section, and also along the Pennsylvania state line north of the Delaware Water Gap. This scouting work is necessary because of infestations in New York and Pennsylvania not far from the New Jersey line. Several adult male gipsy moths were caught in Ramapo Township, N. Y., only eight miles from the New Jersey state line. This section of the state will be carefully watched until the New York authorities complete scouting work in the areas where these moths were captured. Intensive scouting was again taken up in the Englewood section in March and continued until the foliage appeared in May.

The scouting schedule was not quite completed, and will be started again when conditions allow. However, sufficient work has been done to indicate that no large, widespread infestation exists. Assembling cages will again be distributed in the Englewood section, and may furnish additional leads to the origin of the adult moth caught this season. In addition to the scouting done in the Englewood area and along the New York and Pennsylvania state lines, rough scouting work was carried on in various parts of northern and central New Jersey.

On Saturday forenoons and on days when the weather was unsettled, scouting was done in nearby localities, as long trips were not advisable. It



GIPSY MOTH WORK IN NEW JERSEY, 1934 TO 1940

Shaded area on map indicates territory where assembling cages were distributed. Fiscal years shown by figures not encircled.

Area within heavy black lines (with short lines at right angles) indicates territory roughly scouted. Fiscal years shown by figures in circles.

Area within double black lines indicates area intensively scouted by state and federal forces during fiscal years 1933 to 1940, inclusive. Assembling cages were distributed in this area during fiscal years 1934 to 1940. Black dots in center indicate gipsy moth infestations.

Area within double black lines (connected by short ones) indicates territory in which selected

is on such days that the re-checking of the old infested area of 400 square miles is being completed. In connection with the scouting work in Englewood, burlap bands were applied to many of the large trees, and one man was detailed to watch for gipsy moth larvae beneath the burlap as well as on tree trunks and foliage. This work was done largely on white oaks bearing loose bark under which gipsy moth egg masses might have been concealed and missed by the scouts.

PLAN OF SCOUTING WORK FOR 1941

The plan of work for the fiscal year 1941 calls for further scouting in the Englewood section, until a safe area has been established. The check-up work in the inside territory will be continued on part days, and on completion of the necessary work at Englewood, providing nothing is found there, further work of rough nature will be continued along the New York and Pennsylvania state lines. This work will be altogether in solid woodlands of favorable growth. Should any adult male gipsy moths be caught this summer the work plans will be changed accordingly.

SUMMARY OF SCOUTING WORK

Town	Open acres scouted	Miles of road	Apple trees	Oak trees	Shade trees	Woodland acres scouted	No. of inf.	Burlap bands
Bergen County								
*Palisades (Englewood)	...	...	994	...	20,158	975	...	316
Teaneck	...	...	25	...	200	773	...	...
Harrington	...	...	...	...	...	87	...	...
Middlesex County								
Piscataway	...	...	845	...	5,609	409	...	...
Raritan	...	...	225	...	900	134	...	...
Morris County		10						
Mendham	...	...	...	...	...	133	...	...
Rockaway	...	4	...	...	...	...	...	...
Passaic County								
Pompton	...	...	...	...	...	760	...	...
Somerset County								
North Plainfield	...	...	...	...	...	100	...	...
Hillsboro	...	27	...	...	1,350	1,080	...	...
Warren	...	...	...	...	...	713	...	...
Franklin	...	...	598	...	2,960	334	...	...
Sussex County		24						
Sandyston	...	...	...	...	...	63	...	...
Wallpack	...	4	...	...	...	364	...	...
Warren County		28						
Pahaquarry	...	3	...	...	...	239	...	...
Knowlton	...	...	...	...	...	334	...	...
Hardwick	...	...	...	...	...	208	...	...
Total	...	100	2,637	...	31,177	6,706	...	...

* Scouting in Englewood area intensively done.

In addition to the caged areas shown, a few cages were used in the Deal Beach area in Monmouth County. Scouting work was also done in Passaic, Bergen and Essex counties involving isolated oaks, old orchards and hill-tops. In Hunterdon County one W.P.A. crew scouted old infestations. Because of a report of a gipsy moth infestation in Cedar Grove, a W.P.A. crew did considerable scouting there and in Wayne Township, Little Falls and Singac. All federal W.P.A. work was under state supervision. In Burlington, Ocean and Camden counties, scouting was done at bus stops, picnic grounds, railroad sidings and other places where automobiles congregate.

BEE INSPECTION SERVICE

Requests from beekeepers asking for inspection of their apiaries and surrounding vicinities continued throughout the season from all counties with the exception of Hudson.

The areas surrounding queen rearing apiaries were given a thorough scouting and all colonies found were inspected, to guard against an outbreak of contagious bee diseases.

Queens from the three races of bees, Italians, Caucasians and Carniolans continue to be reared to meet the needs of commercial beekeepers. Improvement is noticeable in all three strains.

Scouting during the winter months when weather permitted was continued. The burning of disease-infected combs and the sterilization of bee equipment, found at this time of the year, has been very noticeable during the past season's work.

APIARY INSPECTIONS

During the 1939-1940 fiscal year, 609 apiaries were visited for inspection; 5,896 colonies and 943 nuclei of bees were examined.

American foulbrood was found in 120 apiaries; 347 colonies were infected with the disease; European foulbrood was found in 8 apiaries; 19 colonies were infected with the disease.

Neglect on the part of some beekeepers in following instructions to clean up and sterilize equipment properly made it necessary to destroy 42 colonies of bees infected with American foulbrood.

Seventy-one colonies were found in plain boxes; 81 colonies were found in hives with immovable combs.

Since the passage of the law July 1, 1939, which prohibits the keeping of bees in boxes or in any other manner interfering with the examination of all combs, an extra effort has been made to contact the owners of such colonies, giving demonstrations and printed information on transferring the bees to movable frame hives.

MICROSCOPIC DIAGNOSIS

One hundred and seven smears of dead bee brood were received by mail and diagnosed microscopically. Eighteen showed the presence of B. pluton, the organism causing European foulbrood; 69 showed the presence of B. larvae, the organism causing American foulbrood, and 20 were negative.

The results of the microscopic diagnosis assist beekeepers in learning the difference between various bee diseases which may appear in their colonies during the season.

CERTIFICATES ISSUED

Thirteen queen rearer's certificates were issued during the fiscal year to the following:

Albert G. Hann, Glen Gardner, July 27, 1939, and April 26, 1940, rearing Caucasians and Carniolans.

E. G. Carr, Lanning Ave., Pennington, July 25, 1939, and April 30, 1940, Italians.

Henry Brown, Cape May Court House, August 1, 1939, and May 14, 1940.

H. N. Conners, Stockton, R. 1, July 31, 1939, and May 2, 1940, Caucasians and Italians.

William Hayes, Far Hills, July 24, 1939, and May 7, 1940, Italians.

Robert Spicer, Wharton, August 3, 1939, and May 22, 1940, Italians.

Fred McGovern, Thermont Road, Denville, May 16, 1940, Caucasians.

Thirty-five certificates were issued during the year for the sale and shipment of colonies of bees to other states.

One certified honey certificate was issued to Richard D. Barclay Est., Riverton.

MEETINGS AND DEMONSTRATIONS

The field meetings held during the summer months, at the following places, were well attended:

Morristown, July 18; Lebanon, July 22, Pomona, August 31; Wharton, September 23; Maplewood, September 30; Vineland, April 24; Roxburg, May 18; and Caldwell, June 22.

The regular monthly meetings of beekeepers in Bergen, Essex and Passaic counties also have been well attended. Interest in management and honey production has increased. The control of bee disease has improved in the metropolitan area as a result of these county meetings.

APIARY INSPECTIONS BY COUNTIES, JULY 1, 1939 TO JUNE 30, 1940

County	Apiaries	Colonies Inspected	Nuclei Inspected	Box Hives	Cross Combed	Apiaries A. fb.	Colonies A. fb.	Apiaries E. fb.	Colonies E. fb.	Burned	Neg.	*Smears* A. fb.	E. fb.
Atlantic	1	4	..	..	..	..	..	..	..	..	..	..	..
Bergen	32	196	..	..	13	10	30	..	..	6	1	5	..
Burlington	33	570	..	2	15	3	8	6	8	..	1	1	5
Camden	14	127	..	..	4	1	6	..	..	..	1	..	1
Cape May	8	181	163	..	..	4	17	..	..	..	..	4	1
Cumberland	12	511	..	..	..	3	3	..	..	..	2	6	..
Essex	37	154	..	..	..	10	13	..	..	..	2	6	..
Gloucester	8	64	..	..	..	3	5	..	..	..	1	3	1
Hunterdon	90	1,768	493	14	16	12	56	1	1	3	1	4	1
Mercer	30	246	125	2	..	7	16	..	..	..	3	4	..
Middlesex	49	274	..	..	1	14	33	..	..	18	..	1	..
Monmouth	4	38	..	..	..	2	15	..	..	..	..	..	..
Morris	72	301	100	3	3	8	14	..	..	10	..	12	..
Ocean	15	71	..	9	7	..	..	..	..	..	1	..	..
Passaic	78	312	..	21	6	14	20	..	..	2	..	1	..
Salem	9	108	..	..	..	2	12	1	10	..	..	3	10
Somerset	54	410	62	5	3	15	46	..	..	3	4	7	..
Sussex	9	59	..	6	5	..	..	..	..	..	..	..	..
Union	29	262	..	6	..	11	43	..	..	..	2	10	..
Warren	25	240	..	3	8	2	10	..	..	..	1	2	..
Total	609	5,896	943	71	81	121	347	8	19	42	20	69	19

DUTCH ELM DISEASE ERADICATION PROJECT

With the Federal Department of Agriculture, the New Jersey Department of Agriculture continued its cooperative work against the Dutch elm disease in New Jersey. Headquarters continued to be maintained at Bloomfield, with field offices located in eight counties throughout the major work area. Policies continued practically on the same plane, with one exception: more emphasis was placed on the pruning of elms in sanitation work rather than removing entire trees. Only those parts actually beetle infested and possibly potential beetle wood are removed under this plan. This change has the full approval of the various property owners throughout the major work area.

The intensive work area has been increased to 4,221 square miles which is an increase of 101 square miles for New Jersey. This intensive area includes 772 square miles in which no disease has been found. Disease, however, was found in Burlington County for the first time during 1939, two cases being recorded adjacent to the Delaware River. The work area for June 30, 1940, is shown on the accompanying map.

Elm-free mapping work continued in the outlying counties thus eliminating many square miles from future eradication efforts. In addition to auto-foot scouting, three autogiros were used in advance survey scouting activities. This outlying area was located between the 100 mile radius line from Columbus Circle, New York City, and the outer boundary of the Dutch elm disease work area of June, 1939. It comprised a strip of land 30 miles in width, the outer boundary of which started at Atlantic City and extended north along the arc of this circle, terminating at a point approximately 10 miles inland from Long Island Sound at Lyme, Conn. Hours flown in New Jersey totalled 81.25. A total of six confirmed trees was located in this survey, none of which was in New Jersey. Observers in New Jersey, however, located 67 Cephalosporium, 53 miscellaneous and 3 sterile trees within the state.

Disease area scouting on this phase of work continued in rough terrain in northern New Jersey beginning on June 29 and terminating on August 18, 1939. A total of 342.62 square miles were flown in 86 hours, 50 minutes flying time, the rate of coverage being 3.95 square miles per hour. Fifty-eight singles and 24 groups of symptomatic elm were spotted and mapped by observers. Ground crews in this area were handled by local county offices. Considerable time and expense are saved by the above method of scouting.

The table below summarizes the identification for the calendar year in New Jersey.

NEW JERSEY COLLECTIONS AND IDENTIFICATIONS

Year	Graphium	Cephalosporium	Verticillium	Miscellaneous	Sterile	Total
1932	...	...	...	1	...	1
1933	740	111	128	192	293	1,464
1934	4,377	1,269	305	798	919	7,668
1935	4,113	4,780	287	4,539	906	14,625
1936	5,793	12,761	602	6,989	1,142	27,287
1937	4,830	7,912	259	10,065	2,654	25,720
1938	16,248	9,816	2,184	12,187	1,977	42,412
1939	8,824	10,514	785	5,378	692	26,193

By referring to the number of specimens received in 1939 as compared with 1938, the reduction recorded is 16,219 specimens submitted for culture to the Federal Laboratory at Bloomfield. The total number of diseased trees found in the state in 1939 was 8,824 as compared with 16,248 found in 1938, thus New Jersey showed a 45.5 per cent reduction in the number of diseased trees found during 1939.

The following table includes totals for all counties in the New Jersey infected zone from 1933 to 1939 inclusive. This great reduction is the most encouraging factor in the 1939 work.

GRAPHIUM CONFIRMATIONS BY COUNTIES AND YEARS IN NEW JERSEY

County	Sq. Miles	1933	1934	1935	1936	1937	1938	1939	Total
Bergen	234.89	13	691	609	718	592	1,662	1,271	5,556
Burlington	...	...	...	...	...	...	...	2	2
Essex	126.00	609	1,462	1,143	938	398	1,930	768	7,248
Hudson	43.74	9	32	16	3	4	7	1	72
Hunterdon	437.00	...	...	6	113	264	2,587	1,146	4,116
Mercer	225.94	...	1	...	3	3	748	452	1,207
Middlesex	309.02	2	100	230	273	130	641	277	1,653
Monmouth	475.35	...	...	3	8	6	43	46	106
Morris	480.19	8	497	705	1,304	1,122	2,126	1,469	7,231
Passaic	207.86	38	600	360	670	392	682	305	3,047
Somerset	305.20	3	96	494	1,015	1,300	3,552	1,622	8,082
Sussex	526.30	...	...	10	9	28	174	470	691
Union	102.10	58	898	534	725	500	1,751	474	4,940
Warren	364.05	...	...	3	14	91	345	521	974
Totals	3,837.64	740	4,377	4,113	5,793	4,830	16,248	8,824	44,925

It is clearly indicated that all counties, with the exception of Monmouth, Sussex and Warren show a substantial reduction. The increases in the above mentioned counties are possibly due to insufficient sanitation efforts. Limitation of funds would not permit a complete sanitation job over these outside areas. Areas were cleaned of possible breeding centers only within one mile of actual diseased trees. The following table indicates diseased trees found over the entire work area in the United States from 1930 to 1939 inclusive.

DUTCH ELM DISEASE TREES FOUND

	1930	1931	1933	1934	1935	1936	1937	1938	1939	Total
Connecticut } Major	..	..	1	55	72	101	125	535	412	1,301
New Jersey } Infection	..	..	740	4,377	4,113	5,793	4,830	16,248	8,824	44,925
New York } Area	..	..	77	2,427	2,258	1,740	1,274	1,321	1,287	10,384
Pennsylvania	..	..	..	..	..	..	..	10	230	240
Conn., Old Lyme	..	..	..	1	4	1	1	..	..	7
Ind., Indianapolis	..	..	..	4	10	19	32	34	14	113
Md., Baltimore	..	..	1	..	..	1	..	..	..	2
Brunswick	..	..	..	..	3	..	..	..	..	3
Cumberland	..	..	..	..	..	1	..	..	1	2
N. Y., Broome Co.	..	..	..	..	..	..	..	..	10	10
Ohio, Athens	..	..	..	..	..	..	1	3	7	11
Cincinnati	1	..	..	..	..	..	..	..	..	1
Cleveland	3	4	1	2	23	..	..	..	..	33
Hockingport	..	..	..	..	..	..	..	..	1	1
Va., Norfolk	..	..	..	1	2	1	..	..	..	4
Portsmouth	..	..	..	..	1	..	..	..	..	1
W. Va., Wiley Ford	..	..	..	..	..	..	5	1	..	6
Total for year	4	4	820	6,867	6,486	7,657	6,268	18,152	10,786	
Grand total to date	4	8	828	7,695	14,181	21,838	28,106	46,258	57,044	57,044

The following table presents the infection area in square miles along with the number of diseased trees found. The estimated elm population in the New Jersey infection area is 10,250,000. It is encouraging however, to note that only four-fifths tree per 1,000 trees found in this area succumbed to Dutch elm disease during 1939. The figure two-fifths tree per 1,000 over the entire area amounting to 26,000,000 trees, should clearly indicate the progress made towards eliminating Dutch elm disease during last year.

DUTCH ELM DISEASE—MAJOR AREA

Year	Infection Area Square Miles	Diseased Trees Found
1937	5,222	6,229
1938	6,637	18,114
1939	8,694	10,753

	Estimated Elm Population 1939 Infection Area	Number Diseased Trees per 1,000 Trees, 1939	Number Diseased Trees per 1,000 Trees, Total all Years
Connecticut	3,000,000	1/8	1/10
New Jersey	10,250,000	4/5	4 2/5
New York	11,000,000	1/6	9/10
Pennsylvania	1,750,000	1/8	1/7
Total	26,000,000	3/5	2 1/5

The fall and winter program constituted the covering of the entire area for devitalized trees. A total of 74,513 trees was tagged for removal or pruning as indicated under the summary of field work. State contact men visited tree owners for removal permission. Special emphasis was placed on obtaining permission to remove trees within a 25-foot radius of diseased trees. It has been proved that a recurrence of the disease may be found in these areas due to root graft. Permission for the eradication of 91 per cent of all eligible trees was obtained. The remaining 9 per cent, for the most part, included out-of-state owners who failed to acknowledge letter requests.

Certain inaccessible areas were clear cut, leaving only those elms of landscape value. These included areas easily flooded and high mountain terrain, which made scouting extremely difficult. Non-scouting clearance continued in outlying areas, thus eliminating the frequent visits by scouting crews, permission men and eradication crews. This procedure entirely eliminates the necessity of tagging trees. Competent crews are sent directly to the areas cleared and they perform the actual eradication upon the finding of infected trees. Results obtained are indicated under "SPECIFIC WORK OF STATE DEPARTMENT."

The practice of releasing fuel wood to owners during the winter months continued. Only wood free of discoloration and beetle infestation was released. Fuel agreements dropped to a new level of 379 as compared to 1,141 signed in the previous year. This reduction was made possible on account of three determining factors.

First, major work involves pruning elms, thereby reducing the amount of fuel wood for release. Second, former signers found that elm was third grade fuel wood, with the added difficulty of resistance to splitting. They requested no release of wood this year. Third, contact men presented effective explanations of the rigid regulations and adverse conditions pertaining to the utilization of elm for fuel.

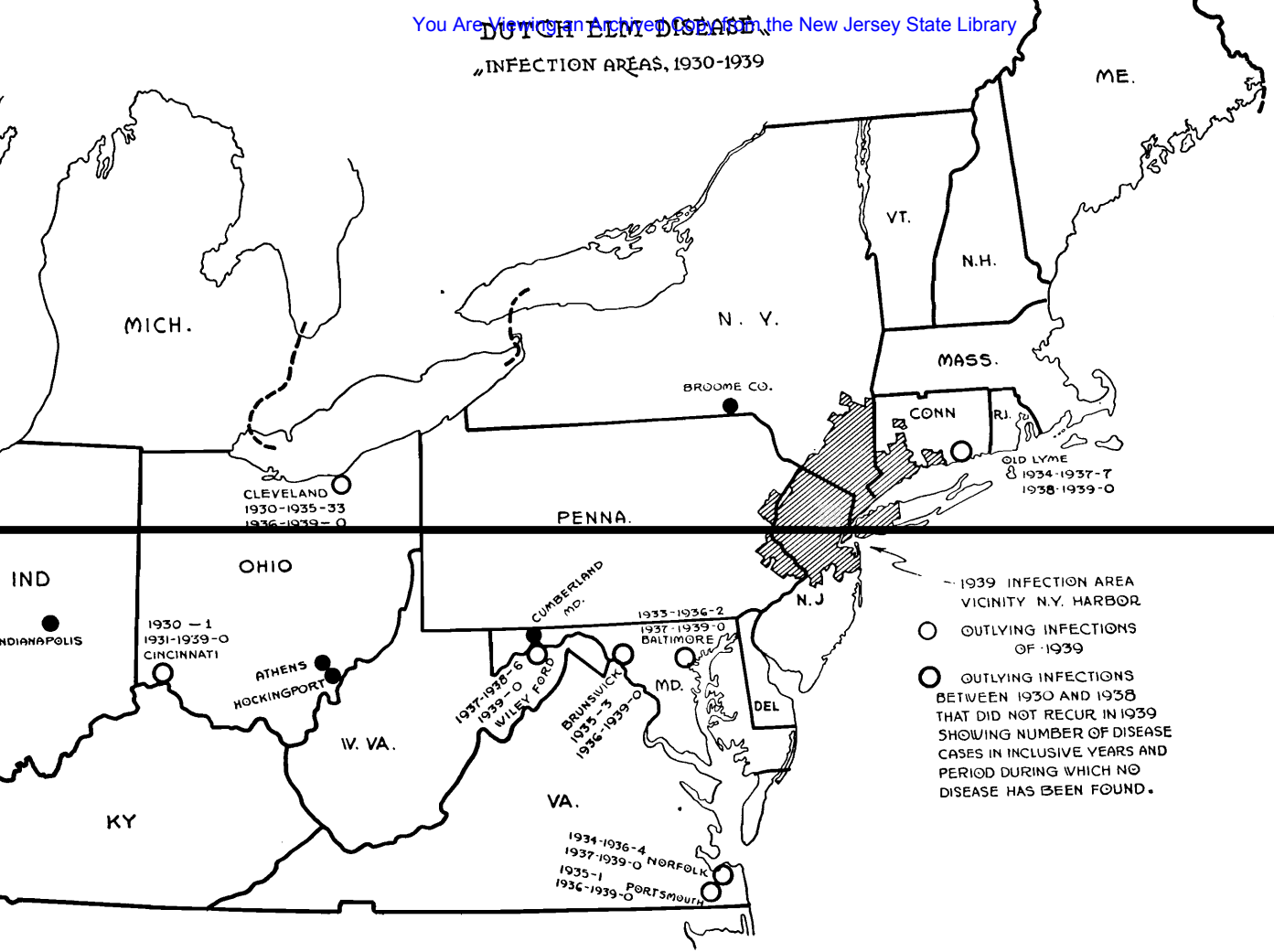
The state office experienced little difficulty in seizing agreement fuel wood at the termination date April 15, 1940. Approximately 70 per cent of the owners consumed the wood or placed it under cover by the above date. The remaining wood on agreement was assigned to the federal department for burning. All owners seemed entirely satisfied with this procedure.

The most discouraging factor of the entire year occurred during the early spring. On March 12, a terrific ice storm swept over the northern part of New Jersey inflicting damage to elm trees. This was probably due to the weak crotch formation of this species. The state office immediately enlisted the cooperation of all newspapers, county agents, Shade Tree commissioners, etc., requesting that all elm be destroyed in preference to other types of wood. This particular type of material is extremely dangerous in that bark beetles, responsible for the dissemination of the Dutch elm disease, breed in slowly dying wood. Ten state men were assigned to clearance work in storm damage areas. A total of 114,995 acres was cleared to the federal department for this type of work. The public's response and cooperation was almost 100 per cent in this connection. A grand total of 35,556 storm damaged trees was pruned. All storm damage debris has been cleared and eradicated, with the exception of Morris County, the most severely afflicted.

As in past years, trap elm wood piles were established to attract Scolytus beetles. Examinations are being made to determine the number of beetles entering these piles. Results so far obtained indicate a substantial reduction in the 1940 beetle population in New Jersey as compared with 1939.

Ten additional contact men were requisitioned from the federal ranks during the busier seasons. Throughout May and June all non-diseased trees of landscape value were released from quarantine. Due to W.P.A. regulations, state men were required to inspect all nurseries throughout the work area for possible diseased trees and beetle material. Special scouting around isolated Dutch elm disease infected trees was also accomplished during this period. This inspection work involved the tagging of actual beetle-infested material.

During the entire year, over 300 special inquiries were handled, involving agricultural problems. The procedure is to have contact men transmit such requests directly to the Bloomfield office where they are forwarded to the proper authorities. This service has met with general approval, as many farmers do not know where to obtain authentic information.



The following is a review of results obtained by the cooperating departments:

1. Specific Work of State Department

Condemnations by mail	3,583	owners
Contacted by agents	35,614	owners
Complaints and inquiries handled	1,832	
Cleared for elm free work	8,225	acres
Cleared for non-scout BM work	132,097	acres

2. Summary of Field Work

Inspection, three times	10,250,000	elms
Tagging and quarantining	26,193	suspected elms
Tagging and quarantining	74,513	BM devitalized elms
Condemning and eradicating	81,010	BM devitalized elms including surplus from 1938. Average DBH 9.2"
Released from quarantine	1,562	elms
Wood piles destroyed	1,675	

3. Condemning and Eradicating

Eradicated within 25' radius	8,824	diseased elms, Av. DBH 11.8"
Pruned	14,719	Average DBH 5.6"
	17,207	Average DBH 18.7"

4. Grand Total of elms removed during year ended June 30, 1940—287,540.

DUTCH ELM DISEASE WEEKLY REPORT

Week Ending Dec. 30, 1939

	Last Week's Report	Connecticut	New Jersey	New York	Pennsylvania	Outside	Present Totals
Number of Employees							
Appointed Dept. Funds	21	..	14	5	2	..	21
W.P.A. Appointees	145	20	33	60	24	8	145
Per Diem Dept. Funds	..	..	..	..	..	..	..
Work Relief Funds	1,531	144	477	590	226	82	1,519
State Appointed	15	1	5	9	..	..	15
State Per Diem	46	..	18	27	..	1	46
Work Assignments							
Scouts	202	..	64	104	..	5	173
DED & Sanitation Personnel	962	124	246	336	190	53	949
Selective Personnel	23	..	8	..	..	16	24
Laboratory Technicians	4	..	4	..	..	..	4
Miscellaneous	434	26	210	150	41	13	440
Scouting Project							
Sq. Mi. Scouted This Week	..	..	..	..	..	..	..
First Go-over	..	..	..	..	..	..	..
Second Go-over	..	..	..	..	..	..	..
Third Go-over	..	..	..	..	..	..	..
BM Scouting	106.16	..	30.28	68.34	..	..	98.62
Sq. Mi. Scouted To Date	..	..	..	..	..	..	..
First Go-over	..	..	..	..	..	..	..
Second Go-over	..	..	..	..	..	..	..
Third Go-over	..	..	..	..	..	..	..
BM Scouting	3,571.97	..	446.73	3,223.86	..	..	3,670.59
Suspects Collected This Week	142	..	..	..	..	..	..
BM Tagged This Week	1,765	..	511	1,068	..	13	1,592

DUTCH ELM DISEASE WEEKLY REPORT—*Continued*

Week Ending Dec. 30, 1939

	Last Week's Report	Connecticut	New Jersey	New York	Pennsylvania	Outside	Present Totals
Laboratory Identification							
Confirmed DED This Week	11	1	3	..	1	..	5
Total Elms Confirmed DED	57,042	1,308	44,925	10,394	240	177	57,044
Total Reported Not DED	343,386	55,137	100,445	121,634	14,417	51,882	343,515
Suspects Unreported	131	..	..	..	..	..	..
Total Suspects Collected	400,559	56,445	145,370	132,028	14,657	52,059	400,559
Total DED's Standing	75	1	65	5	1	..	72
Elms Removed This Week							
Confirmed DED's	31	1	3	..	1	..	5
Sanitation	3,785	835	1,155	1,835	571	237	4,633
Selective	654	..	120	..	..	123	243
Total Elms Removed This Week	4,470	836	1,278	1,835	572	360	4,881
Elms Removed to Date							
Confirmed DED's	56,967	1,307	44,860	10,389	239	177	56,972
Sanitation	4,131,233	510,910	2,112,180	1,385,110	43,554	84,112	4,135,866
Selective	1,204,470	70,590	1,064,213	68,920	..	990	1,204,713
Total Elms Removed To Date	5,392,670	582,807	3,221,253	1,464,419	43,793	85,279	5,397,551
Elms Pruned This Week	1,779	235	341	646	190	123	1,535
Total Elms Pruned To Date	141,685	6,369	16,429	57,114	44,337	18,971	143,220

JAPANESE BEETLE SUPPRESSION

LABORATORY ACTIVITIES FOR NEMATODE PARASITE DISTRIBUTION

The Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture continued its cooperative agreement in the work of this laboratory throughout the year. Funds were also available from the W.P.A. for labor in the conduct of the project. The staff consisted of four members actively engaged in the work throughout the year. In addition, approximately 940 man-days of temporary labor were required. Of the total salaries, approximately 23 per cent were contributed by the Federal Bureau of Entomology and Plant Quarantine, 20 per cent by the state-sponsored W.P.A. project, and 57 per cent by the regular state appropriation. Maintenance of the laboratory building and equipment, and of the automotive equipment, was almost entirely financed with state funds.

STATE-WIDE COLONIZATION PROGRAM

In May 1939, a conference involving the interested state and federal officials was held to examine the results of the experimental field work with the nematode parasite of the Japanese beetle, and to determine whether or not these results justified a large scale colonization program. It was decided that the field results obtained during the past several years do justify a wide distribution of the nematode, and that colonies of the parasite should be established over the entire State of New Jersey. The program adopted has as its objective the completion of the colonization within two years. It was further proposed that colonies of the bacterial disease of the Japanese beetle grubs, known as the Type A Milky disease, be established coincident with the nematode colonies. The work is to be done in cooperation with the Japanese and Asiatic Beetle Investigations Laboratory (federal), located at Moorestown. In this manner these two natural enemies of the Japanese beetle can be generally distributed over New Jersey with a minimum of expense, since no duplication of effort is involved.

After a study of the facilities at the disposal of the cooperating agencies, and the funds which would probably be available, it was determined that the colonies should be approximately 3.5 miles equidistant, or equivalent to one colony per 12.5 square miles. Approximately 560 colonies would be required in New Jersey, assuming that the entire state, with the exception of Sussex County, is infested by the beetles heavily enough to permit colony establishment. Field work on this program was begun in July 1939, and continued into November. It is impossible to conduct work of this type during the winter. Resumption of outside work was undertaken in April 1940, and continued into July.

The general plan was the colonization at Hunterdon, Mercer, Middlesex, Monmouth, Somerset and Union counties during the fall of 1939, and of Bergen, Cumberland, Essex, Hudson, Morris, Passaic, Salem and Warren

counties in the spring of 1940. Actually, a light infestation of beetles was found in Sussex County, and colonies were established in locations where a sufficient host population could be found. The remaining six counties, plus certain small areas in the above named counties, remain to be colonized during 1940-1941.

The initial step in the colonization of a county is to locate suitable sites which are distributed as reasonably as may be expected at 3.5 mile intervals. Emphasis is placed on finding locations favorable for the survival and subsequent dissemination of the parasitic organisms rather than on strictly geometrical arrangement of the sites. The owners of these sites are informed of the nature of the work being done, and asked to sign agreements permitting, first, the conduct of the work and, second, a future examination to determine whether or not the disease organisms have become established. A grub survey is then made on each site to determine whether or not a sufficient host population exists to permit the establishment of the respective disease organisms.

In general, a suitable site is expected to have an average grub population of 5 or more grubs per square foot, and an attempt is made to find such a location in each proposed colony area. In areas where no appreciable grub population can be found, the disease organisms are not distributed because there is little chance that they would survive or be of any benefit. After the location of suitable sites, nematodes and bacterial disease organisms are distributed. Distribution of the nematodes is done by the staff of the nematode laboratory, and the bacterial disease is distributed by members of the Moorestown Japanese Beetle Research Laboratory. The initial contact and grub survey work is conducted cooperatively, these two groups coordinating their effort.

Nematode colonies are each 1,000 square feet in area, treated uniformly by the surface spray method. The dosage applied ranges upward from a minimum of 2,500 nematodes per square foot, using as many as may be available, so that some colonies have been treated with as many as 10,000 nematodes per square foot. Each colony therefore consists of from 2.5 million to 10 million parasites.

The milky disease colonies range from one-half acre to one acre in size, depending upon the conditions at each site. The organisms are spot-distributed at 10-foot intervals over this area, each spot receiving approximately 200 million spores of the disease organism. This is equivalent to approximately 435 treated square feet per acre, requiring about 87 billion spores. The milky disease plot at each colonization site is always separated by a short distance (100 feet, approximately) from the nematode plot in order to prevent any possible initial mutual antagonistic action between the two organisms. After each organism is established, there is little danger of serious antagonism developing.

The following table lists by counties the work which has been completed during the present fiscal year. It will be noted that more contacts and surveys are made than are theoretically required. This is because it frequently happens that a favorable grub population does not exist at a location which otherwise fulfils the requirements. The number of colonies established agrees with the number theoretically required on an area basis, for similar reasons. Some counties received more colonies than theoretically required. Usually this was because the excess colonies were on county border lines, geographically connected with adjoining counties where the numbers of colonies were deficient. In any event, the distribution has been as uniform as conditions permitted.

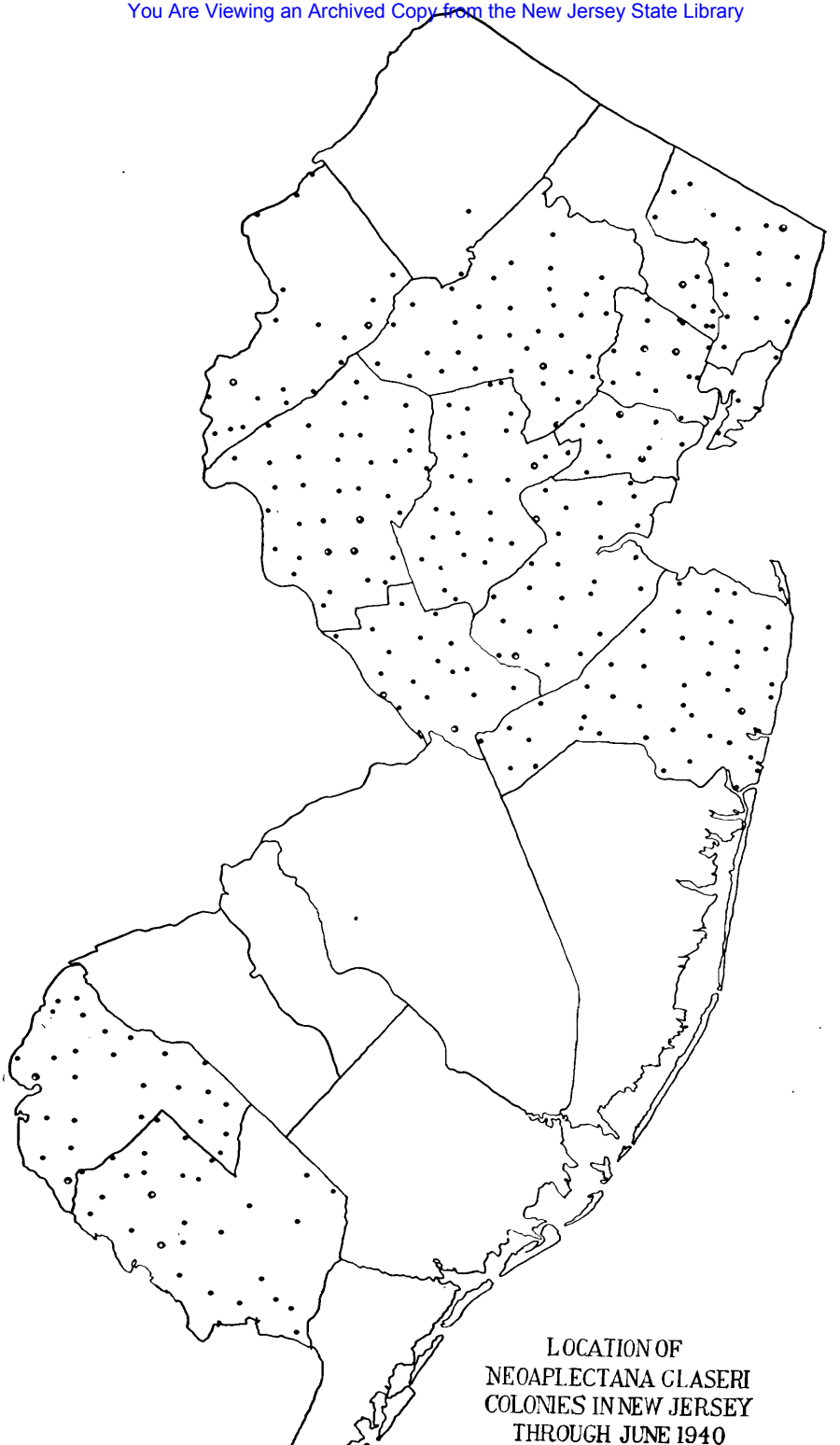
A state map showing the county lines and colonies established during the year is included. As has been stated, a small number of colonies remain to be established in a few areas already largely colonized. In a very few instances, colonies of the milky disease were not established coincident with the nematode colonies. The table and map refer specifically to the nematode colonies, but are approximately true for the milky disease colonies as well.

SUMMARY OF 1939-1940 NEMATODE AND MILKY DISEASE COLONIZATIONS

County	Sites Required at 3.5 Mile Intervals	Preliminary Selections (Contacts) Completed	Grub Surveys Completed	Colonies Established
Bergen	19	24	22	16
Cumberland	40	57	55	29
Essex	10	19	14	12
Hudson	3	4	4	3
Hunterdon	35	69	62	37
Mercer	18	35	28	18
Middlesex	25	47	42	26
Monmouth	38	74	61	45
Morris	38	56	55	36
Passaic	16	33	30	11
Salem	27	53	53	27
Somerset	24	53	53	28
Sussex	..	8	8	2
Union	8	15	15	9
Warren	29	45	44	20
Totals	330	592	546	319

In order to determine the probable success of the nematode colonization work, a representative sampling of the colonies was made, and 23 of the 319 colonies were later dug to determine the extent of parasitism resulting from the nematode introductions. Eleven of the colonies treated in the fall of 1939 were studied, and parasitism was found in 10 of these, one being negative. Twelve colonies established during the spring of 1940 were subsequently dug, with parasitism discovered in each colony.

Five of the previously studied fall colonies were again dug in the spring, and parasitized beetle larvae was recovered from four of these, the negative one being the same colony which failed to yield parasitism the previous fall.



LOCATION OF
NEOAPLECTANA GLASERI
COLONIES IN NEW JERSEY
THROUGH JUNE 1940

In general a higher rate of parasitism was found in the colonies treated in the spring than in those treated last fall. This is attributed to more moist soil conditions prevailing this spring. The results indicate that most of the nematode colonies are well established.

FIELD STUDIES OF THE OLDER EXPERIMENTAL PLOTS

The small frames first established in 1931 were again stocked with healthy beetle grubs and later dug for parasitism. The nematodes have continued to survive in these frames for nine years, and each year they have practically eliminated all of the beetle grubs introduced. There is no evidence of a decline in nematode population.

The large field plot established in 1933 has been the subject of continued study since that time. In 1933 this plot had an average grub population of 87 per square foot, but since June 1934, the population has never been higher than 5.4 grubs per square foot. This spring the grub population averaged 2.3 per square foot, and parasitism was again found. The parasite has survived in this plot for seven years under natural conditions.

The first field plot in which ensheathed nematode larvae were utilized was treated on September 7, 1937, at Springfield. Nematodes were introduced by the sub-surface method of treatment, and ten days after the nematode introduction, 19.9 per cent of all the grubs present were parasitized. Subsequent surveys in later seasons showed a decline in the rate of parasitism, but the current spring survey gave a rate of parasitism of 19.5 per cent of the beetle grubs at the time of digging. In the meantime the grub population has fallen from an average of 38.6 per square foot to 5.5 per square foot. It is encouraging to find that a resumption of heavy parasitism has occurred after a two and one-half year period of only moderately favorable soil conditions, and with a moderate host population.

Three other experimental plots established in 1938 and 1939 were also surveyed in the fall of 1939. Parasitized beetle larvae were recovered in each of these plots.

The persistence of parasitism in every plot is very encouraging and affords definite proof that the artificially cultured parasite can be established in areas where it did not previously exist, and that such introductions give every indication of becoming permanent.

PARASITISM OF ADULT JAPANESE BEETLES BY NEOAPLECTANA GLASERI

The 1938-1939 annual report of this laboratory called attention to the parasitism of adult Japanese beetles by the nematode. During the current year the laboratory developments of the previous year were projected to deal with actual conditions existent in the field. However, the time and labor expended upon the colonization work have seriously curtailed the other work of an exploratory character.

In one experiment, 399,000 adult beetles were subjected to parasitism by holding them in soil infested by the nematodes, usually for a period of 36 hours. Twenty-three per cent, or 91,770 of these beetles became parasitized, as shown by microscopical examination of representative samples. A large number of these adults were liberated at West Orange at a location where the standard Japanese beetle traps were being operated at a distance of from 75 to 150 feet from the liberation point. Samples of trapped beetles were examined periodically and a number of parasitized adults were found in the traps. This demonstrates that parasitized adult beetles actually fly at least 75 feet under field conditions.

Other adult beetles subjected to parasitism by contact with nematode-infested soil were liberated in cages assembled over turf. These confined beetles produced a heavy population of the new generation in the turf, and those adults which were initially parasitized complemented this by the establishment of the parasite, so that at a later survey more than 10 per cent of the grubs found under the frames were parasitized. This further demonstrates that the parasitized adults actually establish new infection foci under field conditions.

A third phase of the mechanism of nematode spread through the agency of parasitized adult beetles was also investigated under field conditions. Two wire cages, each 10 x 10 x 3 feet high, were erected over turf. Each cage was divided into two equal parts, the barrier being so constructed that the adults could fly but not crawl from one half to the other. The barrier was also so constructed that it prevented nematode migration from one half to the other half. The turf on only one half of each cage was then treated with nematodes by the usual surface spray method. Large numbers of trapped beetles were introduced into each cage.

A series of surveys were later conducted in the turf under each cage, and parasitized beetle grubs were found in the originally untreated halves of both cages. This demonstrated that, under field conditions, adults entering soil infested by the nematodes (such as exists at every nematode plot and colony) become infected and act as a vector in disseminating the parasite.

During 1938 and 1939, field diggings had indicated that a very considerable number (as many as 30 per cent) of Japanese beetles are attacked by the nematode parasite after metamorphosis from the pupal stage is complete, and before the newly-developed adults emerge from their pupal cells.

Two emergence frames, each covering 6 square feet, were erected over turf treated with nematodes, and two similar frames were erected over untreated turf, in order to determine whether or not there would be a difference in emergence, and if any emerging beetles in the frames over treated turf were parasitized. It was found that the reduction of emergence under the treated frames was exactly 30 per cent, but none of the emerging beetles was parasitized. These pairs of frames, although erected close to each other, and under similar conditions, may not necessarily have enclosed an equal number of grubs, and the results therefore cannot withstand critical analysis.

This is illustrative of the difficulties always encountered in this type of experiment, since any attempt to equalize the initial grub population would have so disturbed the soil that the conditions would no longer have been those actually encountered in the field. At least, the experiment tends to show that few beetles stricken prior to, or just after, metamorphosis is complete can ever emerge. It would be better if they did, since these individuals would then act as vectors in the dissemination of the parasite.

Full reports on the field activities outlined above have been prepared and distributed to all of the interested agencies. In addition, the New Jersey Department of Agriculture Circular No. 317, "Field Experiments With a Nematode Parasite of the Japanese Beetle," published in June 1940, describes in a general manner the field experiments in progress during the last nine years.

LABORATORY DEVELOPMENTS

During the year the entire personnel was engaged on field and associated laboratory work. Thus, little effort of a developmental nature was possible. Perhaps the most outstanding feature was the encountering, at the height of the fall work, of the first serious disease of this nematode. This disease decimated the nematodes during the ensheathing period, and seriously curtailed the laboratory production for some time.

The disease appears to be a microsporidian nematode parasite, possibly *Duboscia,* which is known to attack several species of nematodes. It was soon found that this disease organism could be controlled by treating all of the equipment used in ensheathing with sulfuric acid-potassium bichromate solution and by using 0.01 per cent formaldehyde in all of the solutions used during the ensheathing of the nematodes. Investigations on the disease control were continued during the winter months, and were successful, in that the disease did not recur during the spring of 1940, with the result that a 100 per cent increase in nematodes available for field distribution was achieved during the spring.

Full reports on the laboratory work have been distributed to interested agencies. In addition, a publication is being prepared describing in detail the biology and the procedures now in use for rearing the nematode parasite of the Japanese beetle.

JAPANESE BEETLE QUARANTINE

The following information summarizes the activities of this project for the calendar year 1939. As heretofore it was conducted jointly by the Bureau of Plant Industry and the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture.

The year 1939 started with seven Class I establishments. As a result of the scouting this number was reduced to four. In addition to the Class I establishments, there were twenty-five Class III establishments scouted whose premises included certified buildings such as greenhouses, packing sheds and

soil storage sheds. The establishments scouted are located in northern New Jersey, consequently the services of but one inspector from the regular personnel was required. Each establishment was scouted six times during the period from July 6 to August 25. Seventeen Class III establishments scattered over the state were scouted at intervals by inspectors during their regular tours of duty. The establishments scouted included humus beds, farm land, aquatic gardens, nurseries and greenhouses.

NURSERIES AND GREENHOUSES SCOUTED

Total nursery establishments scouted	3	scoutings made	18
Total greenhouse establishments scouted	25	scoutings made	212
Total nursery and greenhouse establishments scouted	..	scoutings made	..
Totals	28		230
Total nurseries where beetles were found	1	beetles found	6
Total greenhouses where beetles were found	2	beetles found	6
Total nurseries and greenhouses where beetles were found	..	beetles found	..
Totals	3		12

SAND, PEAT, MANURE, ETC., ESTABLISHMENTS SCOUTED DURING 1939

Number of establishments scouted	1	scoutings made	6

No beetles found.

ORCHARD AND FARM LAND ESTABLISHMENTS SCOUTED DURING 1939

Number of establishments scouted	3	scoutings made	3

Scouting was begun on July 6, 1939, and discontinued August 25, 1939, except at certified greenhouses where scouting is performed intermittently throughout the year.

The first beetle was reported found along the Central Railroad of New Jersey track at Bridgeton Junction on June 13, 1939. The last beetle was reported found on October 13, 1939, at the Perkins and DeWilde Nursery, Shiloh.

Only one man was specifically assigned to scouting, he was paid from federal per diem funds and was assigned a state automobile.

SEASONAL QUARANTINE ON FARM PRODUCTS AND CUT FLOWERS

From the standpoint of commodities offered for certification for the 1939 season, twelve principal commodities showed an average decrease of 59 per cent from 1938. These products were apples, blueberries, carrots, cabbage, eggplant, snap beans, onions, peaches, pickles, peppers, tomatoes and cut flowers. There were three commodities, lima beans, sweet potatoes and cut flowers, that made material gains of 93, 32 and 26 per cent respectively.

Potatoes showed a slight decrease because of adverse weather conditions at the beginning of the season that extended the shipping operations well after the period when certification is required. Most of the crop was moved by truck because this means of transportation amounted to about half the cost of rail delivery, was direct, and time en route was one-third or one-fourth of that by rail.

As a result of the decrease in products offered for certification, inspection stations were reduced 66 per cent, the number of units certified dropped 40 per cent while beetles removed during the course of inspection increased 68 per cent.

The work required but seven temporary inspectors compared with twenty necessary in past seasons.

The decrease in farm products quarantine activities may be explained in part as follows: First, low prices incident to a country-wide increase. Second, adverse weather conditions during the early part of the season. Third, eastern markets able and willing to absorb New Jersey produce, because of proximity to market, quality, immediate delivery, and low transportation rates by trucks. Fourth, the New York World's Fair.

INSPECTION POINTS, NUMBER OF PACKAGES CERTIFIED, BEETLES REMOVED ETC.

Location	Period operated	Hour per day open*	Number of men	Packages certified	Beetles removed
Bloomfield	June 15-Sept. 19	8	†	605	..
Bridgeton	Appt. only	..	G	8,747	1,181
Cedarville	Appt. only	..	G	1,000	..
Glassboro	June 15-Sept. 19	8	5	4,595	2
Landisville	Appt. only	..	G	1,602	..
New Brunswick	June 15-Sept. 19	8	†	383	26
Newfield	Appt. only	..	G	5,846	32
New Lisbon	Appt. only	..	T	2,615	..
Robbinsville	Appt. only	..	T	357	..
Shiloh	Appt. only	..	G	528	2
Trenton	June 15-Sept. 19	8	10	137,133	85
Wheat Road	Appt. only	..	G	989	..
				164,400	1,328

* All stations normally operated 8 hours. However, by previous appointment inspection service was made available at all hours.

(G) These points handled by Glassboro office, where a crew of 5 men was stationed.

(T) These points handled from White Horse, New Jersey office, where a crew of 10 men was stationed.

† Handled by regular nursery and greenhouse inspector

TOTAL AMOUNTS OF EACH KIND OF FARM PRODUCTS AND CUT FLOWERS CERTIFIED; NUMBER OF BEETLES REMOVED

Article	Number of Packages	Number of Beetles Removed
Apples	6,943	3
Beans, lima	353	..
Beans, snap	785	1,181
Beets	49	6
Blueberries	2,616	..
Cabbage	357	..
Cantaloupe	99	..
Carrots	1,038	32
Corn	27	26
Cranberries	9,250	..
Eggplant	172	..
Figs	18	..
Garlic	10	..
Nectarines	20	..
Okra	1	..
Onions	6,508	..
Parsnips	21	..
Peaches	60	2
Pears	10	..
Peppers	760	4
Pickles	2,591	..
Potatoes, sweet	2,449	..
Potatoes, white	126,096	69
Prunes	20	..
Squash	11	..
Tomatoes	2,889	..
Turnips	21	5
Water cress	1	..
Mixed vegetables	24	..
Cut flowers	1,201	..
	164,400	1,328

REFRIGERATOR CAR FUMIGATION AND INSPECTION

In general, fumigation with two fumigants, cyanide and methyl bromide, as a means of certification for farm products, showed a sudden decline of 86 per cent from 1938. The direct cause for such a slump was due to the general increase in production which caused New Jersey growers to dump their produce on glutted eastern markets.

Cyanide fumigation of empty and farm-produce-loaded refrigerator cars fell off 82 per cent from 1938 with a comparable drop of 92 per cent in units of farm products transported by rail. Onions were the only commodity of farm produce fumigated with cyanide and these dropped 16 per cent from 1938. These sudden drops are attributable to adverse results in previous years, general country-wide abundance of crops, truck transportation amounting to about half the cost by rail, and the change from cyanide to methyl bromide as a fumigant.

Since this is the second year that fumigation of farm produce with methyl bromide has been practiced in New Jersey, encouraging results are indicated by an increase in its use of 70 per cent over 1938. Only 900 bags of white

potatoes and 1,000 bags of onions, or five carloads in all, were treated with this fumigant. Some 7,030 units of farm produce were treated in a private fumigator and transported by truck, a gain of 53 per cent over 1938.

Empty refrigerator cars inspected manually as a means of certification increased 66 per cent, yet only 22 per cent of these were used for shipping farm produce.

YEAR-ROUND QUARANTINE ON NURSERY AND ORNAMENTAL STOCK, SAND, SOIL, EARTH, PEAT, COMPOST AND MANURE

Number of classified establishments dealing in nursery and ornamental stock, etc., showing classification as of December 31, 1939.

	Class I	Class III	Class I & III	Totals
Nurseries	2	30	..	32
Greenhouses	..	12	..	12
Nurseries and greenhouses	..	39	..	39
Plant growers	..	49	..	49
Miscellaneous establishments	2	7	..	9
Totals	4	137	..	141

Number of establishments, together with square feet of glass and number of acres involved, which were added to and removed from the classified list during 1939.

Number of establishments classified as of January 1, 1939	275		
Number of establishments added during 1939	1		
Number of establishments classified during 1939		276	
Number of establishments removed during 1939		135	
Number of establishments classified as of December 31, 1939			141
Square feet of glass classified as of January 1, 1939	4,679,697.5		
Square feet of glass added during 1939	.....		
Square feet of glass classified during 1939		4,679,697.5	
Square feet of glass removed during 1939		1,165,322.0	
Square feet of glass classified as of December 31, 1939			3,514,375.5
Number of acres classified as of January 1, 1939	9,055.376		
Number of acres added during 1939	5.000		
Number of acres classified during 1939		9,060.376	
Number of acres removed during 1939		4,509.418	
Number of acres classified as of December 31, 1939			4,550.958

Note: There apparently has been a cumulative error in the number of acres and square feet of glass previously reported as classified. The figures above for square feet of glass and acreage as of December 31, 1939, have been adjusted on this report to agree with the file records.

TOTAL AMOUNTS OF PLANTS, SAND, SOIL, PEAT, COMPOST AND MANURE SHIPPED

	Number Plants Shipped	*Sand, Soil, Earth*		*Peat*		*Compost and Manure*	
		Carloads	Pounds	Carloads	Pounds	Carloads	Pounds
Alabama	48,429	...	12,735	...	...	...	...
Arizona	912	...	3,413	...	...	...	175
Arkansas	6,295	...	5,899	...	...	...	...
California	25,169	4	34,642	...	1,000	...	...
Colorado	6,113	...	35,911	...	...	...	...
Florida	101,885	3	15,304	...	...	...	200
Georgia	205,758	3	12,975	...	...	...	...
Idaho	1,390	...	744	...	...	...	...
Illinois	481,569	9	32,135	...	...	...	...
Indiana	73,046	12	54,082	...	...	...	...
Iowa	53,551	...	72,508	...	...	...	...
Kansas	11,754	...	11,362	...	...	...	...
Kentucky	48,153	4	43,905	...	...	...	...
Louisiana	28,406	...	58,543	...	...	...	...
Maryland	27,955	1	18,572	...	...	...	...
Maine	99,257	11	11,859	...	...	...	...
Michigan	294,603	32	29,649	...	75	...	200
Minnesota	83,356	2	25,815	...	...	...	...
Mississippi	19,191	...	18,273	...	...	...	...
Missouri	40,807	...	61,338	...	...	...	...
Montana	1,487	1	5,709	...	...	...	...
N. Carolina	794,403	7	74,934	...	...	...	1,100
N. Dakota	2,154	...	3,099	...	...	...	...
Nebraska	8,195	...	3,561	...	...	...	...
Nevada	305	...	99	...	...	...	...
New Hampshire	12,195	3	...	...	...	...	...
New Mexico	3,517	...	23,738	...	...	...	...
New York	798,791	71	55,646	...	500	...	...
Ohio	398,015	17	43,874	...	675	...	500
Oklahoma	15,466	...	5,906	...	...	...	...
Oregon	14,052	...	6,511	...	...	...	...
Pennsylvania	65,845	28	31,058	...	...	...	...
S. Carolina	102,152	1	32,620	...	...	...	...
S. Dakota	3,171	...	5,797	...	...	...	...
Tennessee	84,509	6	57,062	...	...	...	...
Texas	56,387	3	52,834	...	...	...	...
Utah	9,249	...	20,446	...	...	...	...
Virginia	106,717	22	28,178	...	...	...	2,020
Vermont	46,788	...	17,581	...	...	...	...
Washington	8,354	1	59,393	...	...	...	...
W. Virginia	62,131	66	6,195	...	75	...	201
Wisconsin	73,949	1	1,295	...	...	...	...
Wyoming	332	...	1,702	...	...	...	...
Foreign	45,299	299	50,719	...	...	...	...
Totals	4,371,062	607	1,147,621	...	2,325	...	4,396

SUMMARY OF TREATMENTS MADE DURING 1939

Articles Treated	Agent	Units Treated	Totals
Plants (Field)	Miscible CS_2	24	
Plants (Initial Treatment)	Lead Arsenate	29,259	
Plants (Retreatment)	" "	4,783	
Plants (No Lead Required)	" "	111,647	145,713
Plants (Tank)	Hot Water	....	
Plants (Tank)	Miscible CS_2	25	25
Plants	Paradichlorobenzene	39,149	39,149
Plants	Methyl Bromide	279,792	279,792
	Total Plants Treated		464,679
Potting Soil	CS_2	1,017.77 cu. yds.	
Potting Soil	Steam	12.61 " "	
Potting Soil	Naphthalene	.... " "	
Potting Soil	CH_3Br	.26 " "	
	Total Potting Soil Treated		1,030.64
Sand	CS_2	.... cu. yds. .. cars	
Soil	CS_2	.39 " " .. "	
Manure	CS_2	1.00 " " .. "	
Leaf Mold	CS_2	7.32 " " .. "	
	Total	8.71 " " .. "	
Surface Soil	CS_2	5,647.50 sq. ft.	
Surface Soil	Miscible CS_2	.... " "	
Surface Soil	Naphthalene	11,953.00 " "	
Surface Soil	Steam	.... " "	
			17,600.50 sq. ft.
(Heeling-in Areas, etc.)			
Surface Soil (Initial Treat.)	Lead Arsenate	1,012 sq. ft.	
Surface Soil (Retreatment)	" "	107,790 " "	
Surface Soil (No Lead Req.)	" "	406,590 " "	
			515,392 sq. ft.
(Containing Growing Plants)			
Surface Soil (Initial Treat.)	Lead Arsenate	365,005 sq. ft.	
Surface Soil (Retreatment)	" "	218,782 " "	
Surface Soil (No Lead Req.)	" "	2,763,182 " "	
			3,346,969 sq. ft.
	Total Surface Soil Treated		3,879,961.50 sq. ft.
Berries	CS_2	3,600 crts.	3,600 crts.
Onions	HCN	3,982 bags	8 cars
Onions	CH_3Br	1,000 "	2 "
Potatoes, white	CH_3Br	900 "	3 "
		5,882	13

Articles Treated	Agent	Units Treated	Totals
(Fumigation Chamber)			
Carrots	HCN	586 bus.	.. cars
Eggplants		61 "	.. "
Lima beans		12 "	.. "
Onions		1,213 bags	.. "
Peppers		452 "	.. "
Tomatoes		2,806 clx.	.. "
		5,130	
Empty Cars			33
	Totals	11,012	46

NUMBER OF MEN EMPLOYED EACH MONTH DURING THE YEAR

	Scouting		*Farm Products*		*Nursery and Greenhouse*		*Totals*	
	Federal	State	Federal	State	Federal	State	Federal	State
January	..	..	..	..	12	12	12	12
February	..	..	..	..	12	12	12	12
March	..	..	..	..	13	12	13	12
April	..	..	..	..	15	12	15	12
May	..	..	..	..	14	12	14	12
June	..	..	6	4	14	12	20	16
July	1	..	12	3	9	9	22	12
August	1	..	12	3	9	8	22	11
September	..	..	10	3	10	8	20	11
October	..	..	..	..	12	13	12	13
November	..	..	..	..	13	12	13	12
December	..	..	..	..	14	12	14	12
	2	..	40	13	147	134	189	147

Note: Those men who are paid from both Federal and State funds are listed only under "Federal" above.

NUMBER OF AUTOMOBILES OPERATED EACH MONTH DURING THE YEAR

	Scouting		*Farm Products*		*Nursery and Greenhouse*		*Totals*	
	Federal	State	Federal	State	Federal	State	Federal	State
January	..	..	..	..	8	20	8	20
February	..	..	..	..	8	20	8	20
March	..	..	..	..	13	19	13	19
April	..	..	..	..	13	19	13	19
May	..	..	..	..	13	20	13	20
June	..	..	2	3	11	17	13	20
July	..	1	4	8	9	12	13	21
August	..	1	4	9	10	11	14	21
September	..	..	2	11	9	10	11	21
October	..	..	..	..	10	21	10	21
November	..	..	..	..	9	20	9	20
December	..	..	..	..	10	20	10	20
	..	2	12	31	123	209	135	242

Note: Includes all cars operated (Quar.-Treat. Div.-Nema. Lab.-Donohoe).

Official Proceedings of the Twenty-fifth Annual State Agricultural Convention

The Twenty-fifth Annual New Jersey State Agricultural Convention was called to order in the Assembly Chamber of the State Capitol at Trenton at 9:30 A. M. Tuesday, January 23, 1940, by Lester Collins, president of the State Board of Agriculture. The convention was opened with an invocation by Reverend Paul W. Kapp, chaplain of the New Jersey State Grange.

Willard H. Allen, state secretary of agriculture, called the roll of delegates, as follows:

DELEGATES OF THE STATE AGRICULTURAL CONVENTION

From County Boards of Agriculture

Name	Address	Term	County
William J. Slack	Hammonton	2 years	Atlantic
L. J. Sanguinetti	Vineland, R. D.	1 year	Atlantic
Steffen Olsen	Ridgewood, R. D. 1	2 years	Bergen
George Trautwein	Closter	1 year	Bergen
F. W. Shivers	Bordentown	2 years	Burlington
Ernest B. Phillips	Jobstown	1 year	Burlington
Joseph F. Shivers	Marlton	2 years	Camden
Samuel D. Tomlinson	Kirkwood	1 year	Camden
Thomas A. Foster	Woodbine, R. D. 1	2 years	Cape May
Henry H. White	Cape May Court House	1 year	Cape May
Renne Gossiaux	Bridgeton, R. D. 4	2 years	Cumberland
W. Walter Ewing	Bridgeton, R. D. 2	1 year	Cumberland
Marcus W. DeCamp	48 Harrison Ave., Roseland	2 years	Essex
Herbert Francisco	Fairfield Ave., West Caldwell	1 year	Essex
George Wurst	Sewell	2 years	Gloucester
Herbert T. Borden	Mickleton	1 year	Gloucester
George Veltman	33 Garrison Ave., Jersey City	1 year	Hudson
Harold B. Everitt	Flemington, R. D.	2 years	Hunterdon
Charles E. Burd	Pittstown	1 year	Hunterdon
Charles B. Probasco	Hightstown	2 years	Mercer
Robert Dilatush, Jr.	Trenton, R. D. 2	1 year	Mercer
William C. Pitney	Matawan, R. D.	2 years	Middlesex
Clifford A. Stults	Cranbury, R. D.	1 year	Middlesex
Carl B. Schenck	Freehold	2 years	Monmouth
Harold C. DuBois	Freehold, R. D.	1 year	Monmouth
William M. McIntyre	30 Colonial Rd., Morristown	2 years	Morris
Leon Doremus	Madison	1 year	Morris
Martin Schubkegel	Lakewood, R. D. 3	2 years	Ocean
Erwin Clement	Lakehurst	1 year	Ocean
Arthur Butt	Clifton, R. D. 1	2 years	Passaic
Henry J. Scherer	Paterson, R. D. 3	1 year	Passaic
Lloyd Yeagle	Elmer	2 years	Salem
Jay C. Garrison	Elmer, R. D. 2	1 year	Salem
Edward M. Haynes	Skillman	2 years	Somerset
David W. Amerman	Neshanic	1 year	Somerset

Name	Address	Term	County
Harry Struble	Sussex	2 years	Sussex
Carl Schneider	Port Jervis, N. Y., R. D. 1	1 year	Sussex
Walter M. Ritchie	402 St. Georges Ave., Rahway	2 years	Union
Charles H. Brewer	Rahway, R. D.	1 year	Union
Walton B. Kostenbader	Blairstown	2 years	Warren
Smith J. Almer	Belvidere, R. D.	1 year	Warren

FROM POMONA GRANGES

Name	Address	Term	County
Martin Decker	204 London Ave., Egg Harbor	1 year	Atlantic
William H. Smith	Clifton, R. D. 1	1 year	Bergen-Passaic
William D. Cowperthwaite	Medford	1 year	Burlington
Abel Clement	Box 163, Haddonfield	1 year	Camden
A. S. Walker	Cape May City, R. D.	1 year	Cape May
William E. Terhune	Chester	1 year	Central District
George L. Brooks	Brookside Farms, Bridgeton, R. D. 2	1 year	Cumberland
Willard Gardiner	Mullica Hill	1 year	Gloucester
Theodore H. Dilts	Three Bridges	1 year	Hunterdon
John Tindall	Hamilton Square	1 year	Mercer
Harry W. Kline	New Brunswick, R. D. 3	1 year	Middlesex & Somerset
Howard Clayton	Freehold, R. D.	1 year	Monmouth
Harry Finlaw	Woodstown, R. D.	1 year	Salem
A. J. McConnell	Newton	1 year	Sussex
Andrew C. Scheer	Blairstown	1 year	Warren

FROM OTHER ORGANIZATIONS

American Cranberry Growers' Association—James D. Holman, Whitesville, 2 years; Theodore H. Budd, Pemberton, 1 year.
New Jersey State Horticultural Society—Preston T. Roberts, Moorestown, 2 years; Leslie N. Applegate, Freehold, 1 year.
New Jersey Association of Nurserymen—Charles Hess, Mountain View, 2 years; C. Courtney Seabrook, Bridgeton, 1 year.
New Jersey Florists' Association—Francis Ruzicka, Main St., Chatham, 2 years; Irving K. Christensen, 304 Hackensack St., Wood Ridge, 1 year.
New Jersey State Grange—Harry E. Taylor, Freehold, 1 year; Henry M. Loveland, Bridgeton, 1 year.
New Jersey State Poultry Association—E. H. Reeman, Vineland, 1 year; W. A. Cray, Stockton, 1 year.
Jersey Chick Association—Elmer H. Wene, Vineland, 1 year; Charles H. Cane, Rosemont, 1 year.
New Jersey Agricultural Experiment Station—Charles Fitting, Hammonton, 1 year.
New Jersey State College of Agriculture—William C. Skelley, New Brunswick, 1 year.
Holstein-Friesian Cooperative Association—Stanley Roberts, Port Jervis, N. Y., R. D., 1 year.
New Jersey Guernsey Breeders' Association—Boyd Fullerton, New Brunswick, 1 year.
New Jersey Alfalfa Association—Joseph W. Miller, Princeton, 1 year.
New Jersey State Potato Association—Staats C. Stillwell, Freehold, 1 year.
Cooperative Growers' Association of Beverly—Paul H. Burk, Beverly, 1 year.
New Jersey Beekeepers' Association—Elmer G. Carr, Pennington, 1 year.
E. B. Voorhees Agricultural Society—H. Earl Propst, New Brunswick, R. D. 3, 1 year.
Blueberry Cooperative Association—Harold B. Scammell, Toms River, 1 year.

APPOINTMENT OF COMMITTEES

The nominating committee, appointed by the president at the delegates' dinner on the evening preceding the convention, follows:

William J. Slack, Atlantic County
Charles Hess, Passaic County
H. B. Scammell, Ocean County
Steffen Olsen, Bergen County
Harold C. DuBois, Monmouth County
Leon Doremus, Morris County
Walton B. Kostenbader, Warren County

Other committees appointed by President Collins at the convention were as follows:

COMMITTEE ON RESOLUTIONS

Marcus W. DeCamp, Essex County
Francis Ruzicka, Morris County
Robert Dilatush, Jr., Mercer County
A. S. Walker, Cape May County
E. H. Reeman, Cumberland County

GOVERNOR'S ESCORT

Elmer H. Wene, Cumberland County
Theodore H. Dilts, Hunterdon County
William P. Howe, Jr., Mercer County

COMMITTEE ON CREDENTIALS

David W. Amerman, Somerset County
Stanley Roberts, Sussex County
Herbert T. Borden, Gloucester County
Jay C. Garrison, Salem County

REPORT OF COMMITTEE ON CREDENTIALS

The credentials committee examined the certificates of delegates and reported them in order.

ELECTION OF BOARD MEMBERS

To fill the two vacancies in membership of the State Board of Agriculture which would occur on July 1, Herbert Francisco of West Caldwell, and John W. H. Thornborrow of Millville, R. D. 2, were nominated. There being no other nominations, the secretary was instructed to cast a ballot for Messrs. Francisco and Thornborrow for four-year terms beginning July 1, 1940, to succeed Howard M. Sheppard of Cedarville, and Walter Sikkema of Paterson.

CITATIONS

Augustine W. Blair, of New Brunswick, Walter W. Elliott, of Andover, and Edward R. Johnstone, of Vineland, cited by the State Board of Agriculture for distinguished service to the agriculture of New Jersey, were presented to the convention during the reading of the citations which follow.

CITATION OF PROFESSOR BLAIR

For fifty years of devoted service in teaching and research, a Citation for Distinguished Service to Agriculture is awarded to you by the State Board of Agriculture.

Since 1890 when you first inaugurated studies in the little known field of agricultural chemistry you have made many valuable contributions to agriculture, particularly in the realm of soil fertility and plant nutrients. Your scientific papers, especially those published since you became affiliated with the New Jersey Agricultural Experiment Station in 1911, have brought distinction to our state and have identified their author as a far-sighted pioneer in maintaining our soils at a productive level, antedating by a quarter of a century the present-day advocates of soil conservation.

To you can be credited much of the efficiency in the use of lime and fertilizers which prevails today on New Jersey farms. Such beneficial influence, multiplying each year as your recommended practices are followed by thousands of farmers, is impossible to measure in tangible terms.

Much of your success in the field of soil science is the result of your conscientious effort to help others, your skillful planning, thoroughness and foresight. These qualities have been recognized by the associates and farmers to whose welfare you have dedicated your career.

Of equal importance has been your influence upon colleagues and students. A true gentleman, respected by your students and co-workers, you have always been a guiding influence in the church, clubs, farm organizations and student affairs in which you participated. As a counsellor in either civic, academic or personal matters you have been fair, sympathetic and understanding.

You are to be congratulated on your successful career as a scientist and teacher. The success of your students and colleagues in their respective fields of work is living testimony of your continuing influence. This citation for meritorious service is offered to you on the occasion of your well-earned retirement from active service as an expression of sincere appreciation and of best wishes for happiness and good health.

CITATION OF MR. ELLIOTT

In the presence of these assembled delegates representing all of New Jersey's diversified types of agriculture, the members of the State Board of Agriculture wish to pay tribute to the many contributions you have made to the betterment of your community, your county and your adopted state.

Speaking for our dairy farmers, in particular, we wish to acknowledge your sound judgment and the capacity for leadership which you have so ably demonstrated as presiding officer of the New Jersey Dairy Council. During the past decade you have never failed to respond to the frequent calls for conferences on the many serious problems confronting our milk producers.

You have been active in every worthwhile and constructive agricultural endeavor particularly in promoting the development of the strong farm organizations which are needed today to voice the interests of agriculture. You have served well the Board of Agriculture of your home County of Sussex, both as its president and as its representative on the State Farm Bureau at Trenton, where you have become recognized for your ability to aid in crystallizing and formulating progressive opinion on farm problems.

You have been an inspiration to others because of your efforts in behalf of the underprivileged youth in our cities. In that field of social welfare you have not only encouraged your charges to better prepare themselves for the responsibilities of American citizenship but you also have demonstrated to them that the true fullness of life may best be attained in agricultural pursuits.

The State Board of Agriculture is pleased to have this opportunity to award to you this Citation for Distinguished Service to Agriculture, thereby acknowledging your strong faith in cooperative effort, your unselfish devotion to your fellow farmers, your interest in both urban and rural youth and your many noteworthy contributions to the betterment of New Jersey farm life.

CITATION OF PROFESSOR JOHNSTONE

Most men who receive awards are honored by their colleagues within their own chosen fields of service. Such honors have been conferred on you because of your high rank among those whose careers have been devoted to research in psychology and to the problems of unfortunates who are handicapped mentally. But true leadership knows no boundaries and is never limited in its influence.

Fortunately, agriculture has shared with the social sciences in your well-rounded career. While winning recognition as a pioneer in the adequate care and training of those who are mentally ill, you always found time to devote the same tireless interest to the problems of your farmer neighbors.

You have always promoted and encouraged research in agriculture, offering the Vineland Training School as a center for carrying on important experiments and valuable demonstrations which have had far-reaching influence on the welfare of farmers, particularly in the counties of southern New Jersey.

Besides giving freely of your own time and means since 1900, you have made available all facilities of the Vineland Training School, including laboratories, classrooms, orchards, land and personnel for use in studying farm problems.

As a result of your generous cooperation better farm practices now prevail in the fields of animal and poultry husbandry, soil conservation, agronomy and horticulture. To you must be credited one of the first plantings of alfalfa in Cumberland County, and the early recognition of the need for improved varieties of grains and fruits. Today fruit growers throughout the state and nation are paying tribute to the splendid new varieties of peaches which resulted from the early breeding studies inaugurated in 1913 at Vineland with your aid. The Vineland Egg Laying Contest and the Poultry Disease Laboratory are also monuments to your broad conception of public service.

In conferring this Citation for Distinguished Service to Agriculture, the State Board of Agriculture acknowledges the many valuable contributions you have made to promote the economic welfare of our farmers and rural communities as well as your success in awakening the general public to the need for recognizing the problems of social welfare existing in our nation.

REPORT OF COMMITTEE ON RESOLUTIONS

The following resolutions, reported favorably by the Committee on Resolutions, were adopted by the Convention:

This convention recognizes with deep sorrow the untimely passing, since our last convention, of those great servants of New Jersey's agriculture—Dr. J. G. Lipman, Director of the New Jersey Agricultural Experiment Station, and Prof. H. J. Baker, Director of Extension, State College of Agriculture.

In recognition of an outstanding devotion to the service of agriculture, this convention resolves that the fifty years of membership on the Essex County Board of Agriculture of Marcus W. DeCamp should be the occasion for a rising vote of appreciation from this convention.

RESOLVED, that this convention endorse Senate Bill No. 1 and urge all members of this convention to assist in every way possible to bring about the early passage and operation of this vital program for the elimination of Bang's disease

AND FURTHER BE IT RESOLVED, that we endorse the following resolution:

"RESOLVED, that the Warren County Board of Agriculture request the Bureau of Animal Industry of the State Department of Agriculture to investigate and publish the results of calfhood and adult vaccination of dairy cows as practiced in the dairy sections of New Jersey in order to determine the efficiency of this practice as a means of protecting New Jersey herds from Bang's disease."

RESOLVED, that the members of this convention most heartily endorse and recommend the continuance of the New Jersey Council. Not only have the efforts of this splendidly conceived and administered agency reacted to the general good of the state, but the close cooperation and very real assistance to agriculture have been an inspiration to all agencies sharing in the joint advertising program.

WHEREAS, the members of the State Board of Agriculture, under the official guidance of its efficient secretary, W. H. Allen, and others, have made it possible to hold this Agricultural Week, including the meetings of the various commodity organizations represented in the agriculture of New Jersey, and

WHEREAS, the Board, the Secretary, and others, have made possible the wonderful exhibit at the Armory, and

WHEREAS, these activities have not only been enjoyed by the delegates to this convention and the general public, but also have been the means of disseminating much information of educational value.

THEREFORE, BE IT RESOLVED, that this body of delegates here assembled extend a rising vote of thanks showing our hearty appreciation.