

STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE

W. H. ALLEN, *Secretary*



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

July 1, 1950—June 30, 1951

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Trenton, N. J., June 30, 1951

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Messrs. Denise and Jacobus will retire from the board on June 30, 1951. The new members will be Carleton E. Heritage of Richwood and Walter M. Ritchie of Rahway.

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STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE
W. H. ALLEN, *Secretary*
TRENTON

June 30, 1951

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

I have the honor to transmit, on behalf of the State Board of
Agriculture, the Thirty-sixth Annual Report of the New Jersey Depart-
ment of Agriculture, for the fiscal year ended June 30, 1951.

Respectfully yours,

W. H. Allen

THIRTY-SIXTH ANNUAL REPORT OF THE NEW JERSEY STATE DEPARTMENT OF AGRICULTURE

The Year in Review

At the beginning of the 1950-51 fiscal year, the Korean war was about one month old. As a result of this conflict, the United States has experienced a year in which the many effects of war have been manifested. The national defense effort, coupled with an active military program, has created labor shortages in many farm areas, and temporary unemployment and dislocation in industries shifting to defense production. Farm and industrial prices have sometimes moved in conformity with anticipated increases but at other times have declined because of supply and other factors.

FARM VALUE OF AGRICULTURAL PRODUCTS

Farm prices of many commodities rose during the past fiscal year, but increases were more than offset by greater costs in the production of those commodities. The total value of New Jersey agricultural products for the calendar year 1950 was \$311,437,000, an increase of about \$9,000,000 from the 1949 production. Most of the agricultural industries showed advances; the greatest was made by the vegetable industry, which increased in value from about \$43,000,000 in 1949 to \$50,000,000 in 1950.

The total value of production of eggs, poultry and potatoes was actually less than in 1949. Potatoes especially suffered a severe drop in price from 1949 to 1950, partly because of the record-breaking yield per acre even in the face of some cut in acreage, and partly to other factors.

As in the past several years, eggs, which amounted to \$77,154,000, led all other commodities in the value of production. Milk was second in value of production with \$61,600,000. Other farm values included: Vegetables, \$50,100,000; poultry, \$24,200,000; grains, \$21,800,000; nursery and greenhouse products, \$17,500,000; meat animals, \$16,200,000; hay, \$14,700,000; potatoes, \$10,800,000; tree fruits, \$10,400,000; berries, \$5,400,000 and miscellaneous products, including seeds, honey and lumber, \$1,600,000.

THE WORK OF THE DEPARTMENT

The work carried on by the State Department of Agriculture can be classified as regulatory or promotional. The regulatory activities consist

of the enforcement of laws adopted by the Legislature from time to time and directed to the Department. The promotional services have been developed for the benefit of agriculture in the State, and, directly or indirectly, for its farmers and consumers.

An important activity of the Department for many years has been the eradication of bovine tuberculosis. Since the beginning of accreditation work in 1916, nearly \$4,000,000 of State money has been appropriated for indemnity to owners of cattle which were slaughtered after reacting to tuberculin tests. Constant vigilance is maintained by annual tests on herds. Appropriations for indemnification this year amounted to less than \$20,000, a fraction of the amount spent annually in the early years of the program. In this year's tests, only one animal out of every 765, or only 0.13 per cent, was a reactor.

Also important to the dairy industry are the efforts being made to reduce brucellosis in herds. In addition to a test and slaughter program on a voluntary basis, the calfhooed vaccination program presents a promising outlook for control. The vaccination of calves has developed a high degree of resistance to brucellosis, and more are being so treated each year. The work has been carried on for five years, and as the animals mature and comprise an increasing percentage of the herd, the benefits of vaccination are recognized more readily. As a result, the program is gaining wider acceptance. About 13,000 calves were vaccinated in the first year of the control program; during the current fiscal year, 20,000 calves were vaccinated.

Marketing is one of the most important parts of the agricultural enterprise, for upon it often depends the success or failure of a whole year's work. The processing industry remains a vital factor in New Jersey's agricultural economy, absorbing the production of about 60,000 acres each year. Asparagus and tomatoes are by far the most important crops for processing. Almost 200,000 tons of tomatoes were delivered to canneries on the basis of official grades this year, and nearly 47,000,000 pounds of asparagus for canning or freezing. The adoption of official standards for these and other products by producers and the canning industry has been an important step in the further progress and stability of this industry in New Jersey.

The volume of fresh products inspected during the past year was about 55 per cent more than for the previous year. This was due largely to the great increase in the volume of potatoes. The equivalent of 8,000,000 sacks of potatoes was marketed under official grades. About 70 per cent of the volume this year was purchased by the Federal government under the terms of a support price as provided in a Federal Marketing Agreement.

Farmer-owned auction markets continued to serve their areas efficiently. Produce auction markets at shipping points showed greater volume and gross value, with an increase of about 3 per cent in the average per package price during the year. Egg and poultry auctions handled a record volume of eggs, but slightly less poultry was sold than during the previous year. The

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total value of eggs, poultry products and livestock sold through these markets was \$39,765,000 for 1950-51.

The Department is extremely active in the control or eradication of many insects and plant diseases. These include nursery inspections, blueberry stunt disease, strawberry red stele disease, golden nematode of potatoes, European corn borer, Japanese beetle quarantine, bee diseases, Dutch elm disease, canker stain disease and maintenance of freedom from Gipsy moth infestations.

Of prime importance to the State's agriculture is the Department's seed certification work. Growers are becoming increasingly aware of the advantages of certified seeds, realizing that by using it they can achieve the most efficient production. Efforts in this direction concern tomato seed, seed potatoes, and various grains, including hybrid corn, barley, oats, rye and soybeans.

ACKNOWLEDGEMENT

This summary would be incomplete without mention of the diligence and devotion to duty of the staff of the Department. The efforts of these members in their respective endeavors have contributed to a better agriculture in the Garden State, and have benefited both rural and urban citizens in New Jersey.

STATE DEPARTMENT OF AGRICULTURE

LICENSING AND BONDING

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

MILK DEALERS LICENSING AND BONDING ACT

Licenses were issued to 214 dealers who filed bonds totaling \$4,136,000.

MILK DEALERS LICENSING AND BONDING

July 1, 1950 to June 30, 1951

County	Licenses Issued	Bonds Filed	Amount of Bond
Atlantic	5	5	\$97,000
Bergen	8	8	133,000
Burlington	12	12	210,000
Camden	9	9	108,000
Cape May	2	2	4,000
Cumberland	12	12	135,000
Essex	13	13	507,000
Gloucester	9	9	58,000
Hunterdon	9	9	374,000
Mercer	19	19	284,000
Middlesex	12	12	219,000
Monmouth	21	21	232,000
Morris	24	24	274,000
Ocean	3	3	77,000
Passaic	14	14	369,000
Salem	7	7	65,000
Somerset	12	12	218,000
Sussex	1	1	3,000
Union	7	7	135,000
Warren	4	4	34,000
Out-of-State	11	11	600,000
Totals	214	214	\$4,136,000

The total amount of bonds issued during the year represents an increase over the four previous years, although the number of bonds filed and licenses issued remained the same as last year, and was less than the three previous years.

MILK DEALERS LICENSING AND BONDING

July 1, 1946 to June 30, 1950

	Licenses Issued	Bonds Filed	Amount of Bond
1949-50	214	214	\$4,066,200
1948-49	235	235	4,071,000
1947-48	247	246	3,578,000
1946-47	264	263	3,118,600

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PRODUCE DEALERS LICENSING AND BONDING ACT

Comparing May, the first month of the 1950-51 licensing year under this Act, June and July with the same months the previous year, fruit and vegetable growers expected to harvest better crops than in 1950, when New Jersey experienced a severe drought.

According to statements from dealers, this year was not favorable as far as profits were concerned, and by the end of the year, more complaints had been received from growers against dealers for failure to pay than during the previous year. Although satisfactory settlement was obtained in almost every case, one long-established dealer petitioned the Court to operate under Chapter 11 of the Bankruptcy Act, and another was placed in the hands of a receiver.

Claims and complaints totaled approximately \$14,203.

Licenses were issued to 396 dealers who filed bonds totaling \$1,191,000.

PRODUCE DEALERS LICENSED AND BONDED

May 1, 1950 to April 30, 1951

County	Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic	52	52	\$156,000
Burlington	3	3	9,000
Camden	8	8	24,000
Cumberland	64	64	195,000
Essex	36	36	108,000
Gloucester	36	36	108,000
Hudson	1	1	3,000
Hunterdon	1	1	3,000
Mercer	18	18	54,000
Middlesex	11	11	33,000
Monmouth	23	23	69,000
Passaic	9	9	27,000
Salem	8	8	24,000
Somerset	1	1	3,000
Union	2	2	6,000
Warren	6	6	18,000
Out-of-State	117	117	351,000
Totals	396	396	\$1,191,000

These figures represent a decrease from the licenses and bonds issued in previous years, and also the amount of bonds, as can be seen in the following tables:

PRODUCE DEALERS LICENSED AND BONDED

May 1, 1946 to April 30, 1950

	Licenses Issued	Bonds Filed	Amount of Bond
1949-50	401	401	\$1,202,000
1948-49	418	418	1,261,000
1947-48	423	423	1,269,000
1946-47	406	406	1,218,000

CATTLE DEALERS LICENSING ACT

The 1950-51 licensing year began a few days after the Korean War broke out, and there was considerable speculation by licensees as to how much this would affect their business. The large dealers and many of the smaller ones renewed their licenses as usual, while others delayed operations to see if they could determine a definite trend back to heavy purchases of dairy cattle before investing in such animals. Many dealers during the past five years handled mostly beef animals, which brought good prices, regardless of criticism from the public that beef prices were too high. Dealing in dairy animals requires money, care in handling, experience in the selection of individual animals and contacts in those States in which a dealer intends to purchase his cows.

In July, dealers reported prices of \$300 and more for beef cattle and \$450 and up for dairy animals.

The demand for beef continued good, and during the annual check-up of dealers' records, it was obvious that most licensees were more interested in beef than in dairy animals. However, this did not result in a short supply of dairy cows if a dairyman was willing to pay the price.

Toward the end of the fiscal year, when it became apparent that the Korean affair was not likely to spread in the immediate future, several persons never before licensed decided to obtain licenses to deal in beef cattle. This resulted in an increase in the number of licensees over that of the two previous years.

Licenses were issued to 229 dealers.

CATTLE DEALERS LICENSED

July 1, 1950 to June 30, 1951

County	Licenses Issued
Burlington	22
Camden	5
Cape May	2
Cumberland	15
Essex	6
Gloucester	4
Hunterdon	21
Mercer	10
Middlesex	3
Monmouth	16
Morris	17
Ocean	6
Passaic	8
Salem	21
Somerset	14
Sussex	28
Union	8
Warren	20
Out-of-State	3
Total	229

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CATTLE DEALERS LICENSED

July 1, 1946 to June 30, 1950

1949-50	218
1948-49	219
1947-48	232
1946-47	233

THE NEW JERSEY JUNIOR BREEDERS' FUND

During the fiscal year ending June 30, 1951 a total of \$17,821 was loaned to 160 borrowers. This amount is slightly below that of the two previous years but is still well above the average yearly loans. The amount outstanding at the close of the year was \$27,651, of which \$21,165 represented loans for dairy animals, \$6,004 for beef cattle, \$264 for poultry and \$215 for agricultural loans.

During the year, charges totaling \$1,030 were made against the Calf Emergency Fund because of death of animals or non-breeding of dairy animals.

Subscriptions to breed journals given to borrowers cost the Fund \$192 during the year. In addition, through the generosity of William A. Haffert, subscriptions to *New Jersey Farm and Garden* were given free to each borrower.

Awards were presented to Junior Breeder borrowers at the Flemington Fair, the Sussex County Farm and Horse Show, the 4-H Baby Beef Show and at the dairy banquet during Farmers Week.

TOTAL AMOUNT LOANED, BY COUNTIES

County	Loaned 1950-51	Total Loans Since 1921
Atlantic	\$ 918.82	\$ 2,099.87
Bergen	.....	75.00
Burlington	1,045.00	16,748.91
Camden	551.15	551.15
Cape May	.....	2,427.43
Cumberland	400.00	8,521.63
Essex	.....	605.30
Gloucester	475.00	5,949.30
Hudson	.....	.....
Hunterdon	2,300.00	18,838.21
Mercer	368.10	28,585.95
Middlesex	2,500.00	31,179.84
Monmouth	1,600.00	20,793.65
Morris	.....	6,244.00
Ocean	.....	2,956.00
Passaic	75.00	716.25
Salem	.....	28,405.44
Somerset	1,100.00	14,829.20
Sussex	4,094.00	34,226.67
Union	.....	.....
Warren	2,394.00	20,299.58
Totals	<u>\$17,821.07</u>	<u>\$244,053.38</u>

LIVESTOCK LOANS MADE ANNUALLY SINCE ESTABLISHMENT OF THE JUNIORS BREEDERS FUND

Fiscal Year	Dairy		Beef Cattle		Pig		Poultry		Lamb		Total Livestock	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1920-21	30	\$2,815.00	.....	.....	.....	.....	.....	.....	.....	.....	30	\$2,815.00
1921-22	92	7,985.00	.....	.....	16	\$1,074.98	16	\$824.25	.....	.....	124	9,884.23
1922-23	81	6,365.00	.....	.....	21	1,267.25	13	636.25	.....	.....	115	8,268.50
1923-24	96	8,670.00	.....	.....	10	409.50	14	932.00	.....	.....	120	10,011.50
1924-25	81	7,065.00	.....	.....	26	1,320.00	17	1,183.50	.....	.....	124	9,568.50
1925-26	71	6,639.50	.....	.....	25	1,684.30	32	1,563.10	.....	.....	128	9,886.90
1926-27	83	7,444.00	.....	.....	19	1,240.00	28	1,112.50	.....	.....	130	9,796.50
1927-28	54	4,644.00	.....	.....	10	620.00	31	890.70	.....	.....	95	6,154.70
1928-29	55	4,960.00	.....	.....	13	805.00	15	680.65	.....	.....	83	6,445.65
1929-30	37	3,317.50	.....	.....	15	876.00	17	692.20	.....	.....	69	4,885.70
1930-31	38	3,467.50	.....	.....	12	769.00	7	308.00	.....	.....	57	4,544.50
1931-32	38	2,875.00	.....	.....	8	415.00	9	394.00	.....	.....	55	3,684.00
1932-33	24	1,820.00	.....	.....	10	426.75	8	323.00	.....	.....	42	2,569.75
1933-34	30	2,310.00	.....	.....	9	295.00	24	940.43	.....	.....	63	3,545.43
1934-35	46	4,169.00	.....	.....	3	110.00	23	1,174.49	.....	.....	72	5,453.49
1935-36	26	2,050.00	.....	.....	5	297.00	18	797.85	.....	.....	49	3,144.85
1936-37	32	2,905.00	.....	.....	14	941.00	21	894.40	.....	.....	67	4,740.40
1937-38	43	4,366.00	.....	.....	8	492.50	31	1,644.82	.....	.....	82	6,503.32
1938-39	45	3,740.00	21	\$1,050.00	28	1,377.00	32	1,399.24	.....	.....	126	7,566.24
1939-40	36	3,680.00	35	2,012.20	9	303.00	49	2,213.92	.....	.....	129	8,209.12
1940-41	34	2,503.50	40	2,309.10	3	110.00	34	1,321.10	.....	.....	111	6,243.70
1941-42	40	3,127.00	43	2,754.48	10	295.50	24	888.88	.....	.....	117	7,065.86
1942-43	24	2,095.00	39	2,654.85	1	50.00	7	377.20	.....	.....	71	5,177.05
1943-44	21	2,055.00	32	2,348.77	2	95.00	1	36.25	.....	.....	56	4,535.02
1944-45	13	1,305.00	35	2,384.68	.....	.....	.....	.....	.....	.....	48	3,689.68
1945-46	13	1,160.00	17	1,675.19	.....	.....	.....	.....	14	\$375.28	44	3,210.47
1946-47	36	3,930.00	30	3,040.20	.....	.....	.....	.....	.....	.....	66	6,970.20
1947-48	79	9,755.00	28	3,846.40	1	45.00	.....	.....	.....	.....	108	13,646.40
1948-49	151	19,570.00	33	3,746.10	1	50.00	1	13.00	.....	.....	186	23,379.10
1949-50	112	14,092.50	56	5,929.15	5	225.00	2	180.00	.....	.....	175	20,426.65
1950-51	97	11,539.00	55	6,004.97	.....	.....	4	166.00	.....	.....	156	17,709.97
Totals	1,658	\$162,419.50	464	\$39,756.09	284	\$15,593.78	478	\$21,587.73	14	\$375.28	2,898	\$239,732.38

AGRICULTURAL LOANS MADE ANNUALLY SINCE ESTABLISHMENT OF THE JUNIOR BREEDERS FUND *

Fiscal Year	Feed		Crossbred Poultry		Agricultural Production		Fat Barrow		Miscellaneous		Total Agricultural	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1934-35	3	\$38.38	.....	.....	.....	.....	.....	.....	.....	.....	3	\$38.38
1935-36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1936-37	6	63.70	.....	.....	.....	.....	.....	.....	.....	.....	6	63.70
1937-38	14	276.24	.....	.....	.....	.....	.....	.....	.....	.....	14	276.24
1938-39	27	451.04	.....	.....	9	\$128.43	.....	.....	.....	.....	36	579.47
1939-40	43	728.45	.....	.....	7	199.08	.....	.....	1	\$8.02	51	935.55
1940-41	29	506.63	.....	.....	6	240.26	.....	.....	.....	.....	35	746.89
1941-42	2	160.70	.....	.....	3	104.85	.....	.....	.....	.....	5	265.55
1942-43	.....	.....	2	\$72.50	.....	.....	.....	.....	.....	.....	2	72.50
1943-44	.....	.....	1	100.00	.....	.....	.....	.....	.....	.....	1	100.00
1944-45	1	21.45	1	48.00	.....	.....	.....	.....	.....	.....	2	69.45
1945-46	1	27.65	.....	.....	.....	.....	.....	.....	.....	.....	1	27.65
1946-47	.....	.....	.....	.....	.....	.....	3	\$134.00	.....	.....	3	134.00
1947-48	.....	.....	1	25.00	.....	.....	10	388.00	.....	.....	11	413.00
1948-49	3	75.00	.....	.....	.....	.....	1	75.00	.....	.....	4	150.00
1949-50	8	309.63	.....	.....	1	9.89	1	18.00	.....	.....	10	337.52
1950-51	3	68.00	.....	.....	1	43.10	.....	.....	.....	.....	4	111.10
Totals	140	\$2,726.87	5	\$245.50	27	\$725.61	15	\$615.00	1	\$8.02	188	\$4,321.00

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

Report of Division of Information

FRED W. JACKSON, *Director*

During the past fiscal year, the activities of the Division of Information have been directed primarily toward bringing the services and regulatory functions of the State Department of Agriculture to the attention of farmers, farmers' organizations and trade groups dealing with farmers. In addition, considerable time has been devoted to cultivating and maintaining contacts with distributors and trade groups concerned with the sale and distribution of New Jersey farm products.

Other activities have included the expansion of publicity programs aimed at promoting consumer interest in New Jersey products. Timely information is prepared on current crops throughout the season. However, each year it becomes more apparent that New Jersey producers face increased competition on local markets from products grown in more distant areas and supported by well-financed promotion and sales programs.

The Division has been able to use effectively all available media, including daily and weekly newspapers, the radio, farm publications, exhibits, appearances before and attendance at meetings of consumer organizations, as well as direct contacts with officials of farm commodity groups and cooperatives. For many years the Division has enjoyed excellent relations with officers of concerns engaged in wholesale and retail food trade, department stores and those who purchase New Jersey farm products for processing and sale as canned or frozen foods.

The Division acknowledges the excellent cooperation of the individuals and concerns identified with these media and channels of trade. Many examples of direct benefits to growers and grower groups can be cited as a result of their cooperation, particularly during emergencies or on occasions when a surplus is anticipated or movement is sluggish. Growers in other states are compelled to spend large sums to establish and maintain relations with the trade comparable to those enjoyed by most New Jersey commodity groups as a result of Department activities during the past 15 years.

EDITORIAL ACTIVITIES

News Releases and Special Articles

During the past fiscal year, 249 news releases were issued by this Division to approximately 180 newspapers and radio stations in New Jersey, New York City and Philadelphia. While a clipping service is not available, a

regular inspection of at least 12 weeklies and four or five dailies reveals that the releases are used extensively. A special effort is made to render timely and convenient service to the correspondents and editors who frequently submit special requests for data and additional information.

During the past year, food has become an item of primary interest to every citizen. Consequently, editors are using much more agricultural information than ever before in both the news and food columns. The same is true of radio program directors, who are constantly seeking information on prices, crops, storage holdings, weather and other factors affecting production.

While an effort is made to recognize and publicize all phases of Department activities, it is obvious that functions such as those concerned with marketing have greater news value than those devoted to regulatory work. That tendency accounts for the variation in the classification of releases according to subject matter and to divisions, as listed below:

Administration	13
Division of Animal Industry	12
Division of Information	
Farmers Week	
Advance	14
Current	59
Other stories	29
Division of Markets	102
Truck Crop News	25
Other stories	23
Division of Plant Industry	48
Office of Milk Industry	21
Miscellaneous	21
	32
Total	249

The following table gives a comparison of the number of releases issued in each classification during the past four years:

	1950-51	1949-50	1948-49	1947-48
Administration	13	12	10	12
Division of Animal Industry	12	17	14	20
Division of Information	102	90	92	48
Division of Markets	48	54	50	56
Division of Plant Industry	21	35	38	36
Office of Milk Industry	21	25	*14	—
Miscellaneous	32	34	27	18
Totals	249	267	245	190

*For period January 1 - June 30, 1949

The decline in the number of releases issued during the past fiscal year is due in part to the transfer of the cost of living and food price studies from the Department of Agriculture to the Department of Labor and Industry. That service had accounted for 18 or 20 reports and releases each year.

Because of the increase in the use of photographs, an effort has been made to service New Jersey newspapers, as well as a number of magazines.

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About 300 glossy prints and several sets of mats were distributed during the year.

Special acknowledgment should be made of the continued cooperation of the editors and staff of *New Jersey Farm and Garden* throughout the entire year and, in particular, for the special issues published each January to publicize the annual Farmers Week meetings. The editorial page in each issue of *New Jersey Farm and Garden* is made available to the Secretary of Agriculture, providing an excellent means for reaching the 25,000 readers, an almost complete cross-section of New Jersey agriculture. A review of 1,500 to 2,000 words on current farm topics is prepared each month by this Division. Excellent cooperation also has been extended by the *Pennsylvania Farmer*, *American Agriculturist*, *Rural New Yorker*, as well as by the editors of news letters and house organs issued by farm commodity groups.

Recognizing the need for keeping both producers and consumers informed about facts and statistics concerned with the milk industry, a series of monthly releases has been issued during the past year. However, there is a definite need for much more such information, especially among producers, many of whom are inclined to complain about the prices they are receiving. On the other hand, an effort has been made to discourage the controversial discussions concerning milk which have appeared frequently on the front and editorial pages of New Jersey daily and weekly newspapers.

No consistent radio program has been developed by the Division, largely because of the lack of qualified personnel. Many opportunities are available for greater participation, in addition to furnishing weekly news releases. Excellent cooperation has been extended by those radio stations which have farm programs.

PUBLICATIONS AND CIRCULARS

All publications and circulars prepared by Department staff members are edited, prepared for printing and proofread in this Division. Last year most of the publications were routine reports, including:

- Circular No. 377—Facts and Figures—Annual Potato Summary—Crop of 1499. (Delivered 7/20/50)
- Circular No. 380—Dealers Licensed Under the Milk Dealers' Licensing and Bonding Act, Produce Dealers' Licensing and Bonding Act and Cattle Dealers' Licensing Act. (Delivered 12/14/50)
- Circular No. 381—Facts and Figures—Annual Potato Summary—Crop of 1950. (Delivered 6/15/51)
- Report—Thirty-fourth Annual Report of the New Jersey State Department of Agriculture—July 1, 1948 - June 30, 1949. (Delivered 11/10/50)
Fifteen bound copies — Thirty-fourth Annual Report. (Delivered 1/10/51)

*Farm Service**News—*

Six issues — July, September, November, 1950; January, March, May, 1951.

Binding—

12 issues of *New Jersey Farm and Garden*, for calendar year 1950. Delivered 4/3/51)

- Folders— For Your Drinking Milk—Ask for New Jersey Premium. (Delivered 7/25/50)
 For Your Drinking Milk—Ask for New Jersey Grade A, Grade B. (Delivered 8/17/50)
- Leaflet— An Act Concerning Diseases of Bees— Chapter 6 of Title 4 of the Revised Statutes of New Jersey. (Delivered 10/24/50)

As of June 30, 1951, the following have been edited but delivery has not been completed by the printers:

- Circular No. 379—Manual for Milk Testers in New Jersey. (Being multilithed in the Department.)
- Circular No. 333—Marketing Fresh Eggs in New Jersey. (2nd Revision)
- Circular No. 382—Marketing Green Asparagus for Processing by Grades in New Jersey.
- Booklet— Official Grades for Raw and Pasteurized Milk and Cream.
- Leaflet— Brucellosis Control Program.
- Report— Thirty-fifth Annual Report of the New Jersey State Department of Agriculture—July 1, 1949 - June 30, 1950.

Other publications edited and issued, principally for the 1951 Farmers Week are as follows:

- 1951 Farmers Week Program
 Women's Program—1951 Farmers Week
 Highlights of Your Convention
 Citations for Distinguished Service to New Jersey Agriculture, 1951
 Flyers—Vocational Agriculture Rally
 National Catholic Rural Life Conference
 Beef Cattle Meeting
 Livestock and Crops Meeting
Chaff—Six issues—one each day during Farmers Week.

Farm Service News was issued in July, September and November 1950 and January, March and May 1951. This publication serves as a direct medium for reaching about 20,000 farm and rural readers within the State. As usual, the March issue was devoted exclusively to the annual listing of the hatcheries and breeders whose baby chicks and breeding stock have qualified under the NJ-US Poultry Improvement program, thus eliminating the cost of publishing such a listing in a separate circular.

FARMERS WEEK PUBLICITY

One of the major activities of this Division from October to January is the arrangements and advance and current publicity for Farmers Week. Now including seven days of meetings, Farmers Week has become the major event of New Jersey agriculture, in which more than 40 farm and commodity groups participate. Attendance has grown each year. The Division director acknowledges the cooperation of *New Jersey Farm and Garden*, as well as other press and radio editors who aid in promoting Farmers Week. Each year, the editorial staff of the Agricultural Extension Service of Rutgers University assists in handling the publicity during Farmers Week.

During the last Farmers Week, the Department of Agriculture was fortunate in acquiring an attractive exhibit which will be available for other occasions.

COOPERATION WITH STATE PROMOTION SECTION

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

The allotment for agriculture was divided among eight projects. Although the allotments were supplemented by funds from the cooperating commodity groups, the activity of each necessarily was curtailed because of the limited funds available.

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

Because of the success of the publicity program carried on with the home economics staff of the Extension Service at the State College of Agriculture last year, that program was continued during this past year. Special illustrated releases on New Jersey foods were made available to the Extension Service for distribution to local papers through the offices of the home agents in each county. The releases consisted of mats of original recipes using New Jersey products in season, made into dishes by a home economics specialist and photographed in a New York City studio. These mats were turned over to the county home agents for distribution to the papers. As the year closed, about 40 daily and weekly papers were using the releases quite regularly.

Acknowledgment again should be made of the cooperation of the home economics staffs of the four principal utilities. These include about 40 home economic specialists who are responsible for many meetings and demonstrations on food subjects throughout the year. Consequently, there are numerous occasions when New Jersey farm products can be featured or included in recipes, thus presenting them directly to thousands of food-minded housewives. Two of the utilities again prepared consumer leaflets on New Jersey products at their own expense. One concern continued sponsoring a series of general institutional advertisements emphasizing the availability of local products and illustrated with photographs made on New Jersey farms.

Brief outlines of the projects carried on cooperatively with the farm commodity groups during 1950-51 follow:

Cooperative Marketing Associations in New Jersey, Inc.

A considerable volume of New Jersey-grown fruits and vegetables is marketed through the 10 cooperative produce auction markets which are

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organized in a State-wide cooperative. This organization sponsored a series of advertisements in *The New York Packer* and *The Produce News*, the two principal publications of the produce trade. There were eight insertions in each of these publications, running from April 28 to June 30. The layout included a map of New Jersey showing the locations of the produce auction markets and the copy, which was revised each week, included a list of crops in season. During the 1950 season, more than 1,200 different buyers from 13 states and Canada purchased New Jersey products at the auctions, which furnish an outlet for a considerable volume of New Jersey produce. They also establish a price level for many other transactions and so are beneficial in maintaining food markets.

Blueberry Cooperative Association

This group, which marketed a large crop of cultivated blueberries under the *Tru-Blu* label, operates through a well-planned sales program. At present, the value of the State's cultivated blueberry crop exceeds that of cranberries or any other small fruit. The association also carries on a consistent advertising and publicity program toward which a small allotment of State funds met the cost of 770 locations for posters on the platforms of the New York subway and the Hudson and Manhattan Railroad, and at the stations and terminals of several commuter railroads.

New Jersey Field Crop Improvement Cooperative Association

This organization produces and sells certified field crop seeds, which are especially important to New Jersey dairymen and poultrymen who produce home-grown feeds. The New Jersey hybrid varieties of corn have been featured in the series of cooperative advertisements with mention of soybeans, wheat, oats and barley in season. The advertisements, now on a full year basis, were carried in 10 issues of *New Jersey Farm and Garden* and nine issues of *The Moos*.

New Jersey Peach Industry Committee

Last year the promotional activities of this State-wide organization continued to call attention to new varieties of New Jersey peaches now available. To counteract the tendency of many housewives to delay canning until the Elberta season in late August, a special project was planned to point out high quality peaches available from mid-July until early September. This idea was featured in releases, photographs and recipes issued during July and August.

As usual, the campaign was conducted with the cooperation of food editors, radio commentators, representatives of the wholesale and retail trade and others concerned with the promotion of food products. A review of the season's prospects was prepared and gift boxes of peaches and cultivated blueberries were distributed. There was an excellent response in terms of newspaper reader column space, editorial mention and radio time.

New Jersey Potato Industry Committee

During July and August 1951, a series of nine advertisements was sponsored in cooperation with the New Jersey Potato Industry Committee in *The Produce News* and *The New York Packer*. Included on the same pages were advertisements of most of the New Jersey dealers officially designated to handle potatoes.

New Jersey Apple Institute

New Jersey growers had little serious difficulty in moving the main season varieties of apples, so most promotional activity again was concentrated on the summer varieties. A series of releases, photographs and recipes was issued illustrating how the Starr, Twenty Ounce and Wealthy varieties could be used by consumers. In addition, a woman publicity agent in New York City was retained to handle relations with the newspaper and magazine food page editors, radio food editors and the utilities representatives. Gift packages of Stayman apples were sent to the editors in January 1951, followed by Rome Beautys in March. As usual, the publicity response was excellent and aided materially in moving the crop. A series of announcements scheduled on the Alfred McCann Food Hour on station WOR proved effective in moving late holdings of the Rome Beauty variety.

MISCELLANEOUS SERVICES

The Division is called upon frequently for a wide variety of services. The director continues to serve as secretary of the Farm Electrification Council of New Jersey, a program which originated in the Department in 1928. During the past year, the Council has sponsored an active educational program devoted to more efficient use of electricity on New Jersey farms, since the project of extending electrical service is nearing completion. Monthly mailings of articles on types and uses of electrical equipment have been prepared for extension workers and teachers of vocational agriculture. In June, a farm tour was held in Burlington County in cooperation with the Agricultural Extension Service.

A similar assignment for the director is that of serving as secretary of the Committee on Agriculture of the New Jersey State Chamber of Commerce. That activity consists largely of arranging for and conducting the farm-industrial tours scheduled by the Committee. Those tours have been held every year since 1938 and have helped to develop good relations between business and agriculture in New Jersey. The 1950 tour, held in August, visited four farms in Hunterdon County.

Other activities have included the preparation of special articles, most of them with photographs, for the *Washington Star*, *The Dairymen's League News*, *American Agriculturist*, *New Jersey Counties*, and *New Jersey Municipalities*... Cooperation in preparing special articles on agriculture has been extended frequently to feature writers and members of the Associated Press staff.

As in previous years, considerable time was devoted to servicing requests for information on New Jersey agriculture. While these are received from many different sources, two groups continued to account for most of them during the past year. These were city residents and others considering the purchase of farms in New Jersey, and pupils writing for information under the direction of their teachers. The receipt of such requests always varies but usually reaches a peak during the spring season and the last six months of the fiscal year, when the servicing of them becomes quite a task for the office staff. However, as a public agency, the Department is obligated to meet such requests, which provide an opportunity to make new and favorable contacts with many who eventually locate in New Jersey.

Report of the Division of Animal Industry

DR. R. A. HENDERSHOTT, *Director*

REVIEW OF THE YEAR'S ACTIVITIES

Since 1938, the trend in New Jersey has been toward fewer and larger dairy herds. During the period from 1938 to 1951, the total cattle population increased from 198,263 head in 18,313 herds to 204,802 head in 11,912 herds. In 1938, the herds averaged 10.8 animals, while in 1950 there were 17.2 animals per herd, an increase of 59.2 per cent.

A survey of the monthly reports of the Division during the past 20 years indicates that there was a steady increase in the number of herds and cattle until 1935, when the gradual decrease in the number of herds and the increase in number of cattle began.

There has been a marked decline in the number of herds containing from 1 to 30 animals, especially in the 1 and 2-cow herds, which were maintained mostly to serve farm families. In larger herds of 30 or more animals, the trend is reversed and shows a sharp increase. The largest herd reported in 1950 was a single herd of 1,431 animals in Sussex County.

Little change in the rank of counties in terms of dairy cattle population has occurred since 1938. Sussex County still leads, with Hunterdon, Warren, Burlington and Salem counties following in order in 1950 as in 1938. Urban and suburban counties such as Essex, Union, Bergen and Passaic, showed a noticeable decline in dairy cattle population.

HERDS AND CATTLE IN NEW JERSEY

1938 to 1950

County	1938		1950		1938		1950		1938	1950	Per Cent Decrease or increase in Average Number Cows Per Herd
	Herds	Per Cent of Total Herds in State	Herds	Per Cent of Total Herds in State	Total Cattle population	Per Cent Total Cattle Population	Total Cattle Population	Per Cent Total Cattle Population	Average Number Cows Per Herd	Average Number Cows Per Herd	
Atlantic	316	1.73	155	1.30	535	.27	576	.28	1.7	3.72	118.82
Bergen	242	1.32	139	1.17	3,003	1.51	1,659	.81	12.4	11.94	-3.71
Burlington	1,309	7.15	952	7.99	21,586	10.89	24,802	12.11	16.5	26.05	57.88
Camden	338	1.85	222	1.86	1,616	.82	1,783	.87	4.8	8.03	148.61
Camden May	241	1.32	104	.87	975	.49	503	.25	4.0	4.84	21.00
Camdenland	1,306	7.13	720	6.04	6,918	3.49	6,960	3.40	5.3	9.67	82.45
Camdensex	152	.83	61	.51	2,393	1.21	1,005	.49	15.7	16.48	4.97
Camdenchester	1,151	6.29	817	6.86	5,399	2.72	5,884	2.87	4.7	7.20	53.19
Camdenson	25	.14	5	.04	128	.06	34	.02	5.1	6.80	33.33
Camdenterdon	2,215	12.10	1,690	14.19	25,850	13.04	29,290	14.30	11.7	17.33	48.11
Camdenrcer	1,000	5.46	531	4.46	9,645	4.86	9,330	4.56	9.6	17.57	83.02
Camdenrlesex	1,323	7.22	605	5.08	8,172	4.12	6,395	3.12	6.2	10.57	70.48
Camdennmouth	1,555	8.49	914	7.67	9,204	4.64	8,759	4.28	5.9	9.58	62.37
Camdenrris	1,051	5.74	711	5.97	11,990	6.05	11,356	5.54	11.4	15.97	40.08
Camdenan	400	2.18	190	1.60	1,737	.88	1,191	.58	4.3	6.27	45.81
Camdenssaic	248	1.35	137	1.15	2,931	1.48	1,569	.77	11.8	11.45	-3.06
Camdenem	1,353	7.39	1,038	8.71	15,471	7.80	16,967	8.28	11.4	16.35	43.42
Camdenerser	1,228	6.71	796	6.68	11,854	5.98	13,033	6.36	9.7	16.37	68.76
Camdenessex	1,259	6.87	1,039	8.72	32,525	16.40	35,764	17.46	25.8	34.42	33.41
Camdenion	253	1.38	85	.71	3,566	1.80	1,444	.71	14.0	16.99	21.36
Camdenrren	1,348	7.36	1,001	8.40	22,765	11.48	26,498	12.94	16.7	26.47	58.50
State	18,313	100.	11,912	100.	198,263	100.	204,802	100.	10.8	17.19	59.17

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SIZE OF HERDS OF CATTLE IN NEW JERSEY

Number of Animals In Herd	1938 and 1950		Per Cent of Total Herds in State	
	Total Number of Herds in State		1938	1950
	1938	1950	1938	1950
1	5,392	2,885	29.44	24.21
2-5	5,754	3,473	31.42	29.16
6-10	1,533	806	8.37	6.77
11-15	1,264	517	6.90	4.34
16-20	1,202	584	6.56	4.90
21-25	926	612	5.06	5.14
26-30	613	579	3.35	4.86
31-35	415	493	2.27	4.14
36-40	321	399	1.75	3.35
41-50	375	592	2.05	4.97
51-60	191	350	1.04	2.94
61-70	99	235	.54	1.97
71-80	73	120	.40	1.01
81-90	43	73	.23	.61
91-100	15	51	.08	.43
101-125	40	80	.22	.67
126-150	14	21	.08	.18
151-175	11	13	.06	.11
176-200	7	3	.04	.03
201-250	7	10	.04	.08
251-300	3	6	.02	.05
301-350	4	1	.02	.008
351-400	3	4	.02	.033
401-500	3	2	.02	.016
501-600	1	1	.005	.008
601-700	2	1	.01	.008
701-800	1	0	.005	.....
801-900	1	0	.005	.....
Over 1,000	0	1 (1,431)	.....	.008
Totals	18,313	11,912		

ILLEGAL IMPORTATIONS — INTRODUCTION OF INFECTION

Some of the greatest means of introducing livestock diseases to the cattle population of the State are:

1. Through the direct transfer of animals from herd to herd,
2. Through the livestock auction markets, which in some instances become infected through the docketing of an infected animal and this infection multiplied through subsequent exposure of clean stock to the infected animal at the time it is on the market, and
3. Through the interstate movement of animals which have not been examined for health.

To control brucellosis in animals moved intra-state, several states now require animals moved from herd to herd to be accompanied by a record of a negative blood test conducted within 30 days of the time of movement.

At present, when farmers are having difficulty maintaining help and must sell their herds, these herds are bought by cattle dealers who distribute them to many farms. Such a practice obviously offers a potential

means for the dissemination of brucellosis or other infectious, contagious diseases.

Much time is spent by the Division in checking the health of animals brought into the State for resale for dairy purposes. These animals must pass a test for tuberculosis and brucellosis within 30 days of importation and be certified free from other infectious diseases. They are also subjected to a retest for brucellosis and reactors are either sent to slaughter or returned to the state of origin on a permit, if the state livestock sanitary official approves such action.

This Division recommends that the situation be discussed with livestock leaders and a regulation similar to that existing in Ohio, Wisconsin and Michigan be put into effect. This would require all cattle moved from the farm, except for immediate slaughter, to be accompanied by a test certificate indicating a negative reaction to the test for brucellosis. Any reactors or suspects disclosed would either go to slaughter or remain upon the farm of the owner.

There is an increasing disregard for compliance with health requirements on the interstate movement of dairy animals in certain sections of the State. With only a small staff, it is impossible for the Division to police the border to prevent these illegal movements.

Livestock Auction Markets

There is probably no better means of transmitting disease throughout the State than through environmental sanitation practices in effect at the livestock auction markets. No inspection is required of animals consigned to these markets for sale. The markets are seldom cleaned and disinfected. Although some have concrete floors, the majority have dirt floors even in pens set aside for swine. These swine are treated with virulent hog cholera virus and the pens become a source of virus infection for any pigs occupying them.

As far back as 1938, legislation was recommended to provide for control of livestock auction markets. These markets leave much to be desired from the standpoint of construction, cleanliness and sanitation. Under present conditions, they should not be permitted to offer any livestock for sale except for immediate slaughter.

Throughout the year, Division representatives made weekly calls at the livestock auction markets in the State, and checked the livestock offered for sale for infectious and contagious diseases. Any questionable animals were immediately taken out of the sale line and segregated for treatment or sent to slaughter immediately.

A veterinarian approved by this Division and employed by the Harris Sales, Woodstown, examines all the stock passing through that market. Cattle offered for sale for dairy purposes which have not been tuberculin tested within 60 days of the market date are tested prior to sale. Until this

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year, animals had to be tuberculin tested within 30 days but the Legislature has extended the time to 60 days.

A summary of the work done by the attending veterinarian, Dr. Arthur Gerberling, during the fiscal year and the livestock sold at the Harris Sales during the year follows:

Cattle		Cattle	Swine Immunized	
Transferred		T.B. Tested	Single Treatment	0
Inshipped	Lots		Double Treatment	1,777
Local	559	898	Total	1,777

LIVESTOCK SOLD AT HARRIS SALES STABLES

July 1950 to June 1951							
Lambs	Cattle	Bulls	Calves	Hogs	Goats & Sheep	Steers	Eggs
207	6,596	749	12,453	11,643	2,177	549	.....
		Horses	Poultry		Reactors		
		776	.....		100		

The Division maintains a representative at the Jersey City Stock Yards to examine reactors to both the tuberculin and brucellosis tests. Under the supervision of this office, he bleeds inshipped animals arriving in this vicinity to test for brucellosis and also checks on slaughter stock to see that it goes to slaughter.

A quantity of the stock which comes into the yards has been purchased in the West by large slaughtering establishments in the metropolitan area, 90 per cent of which have Federal inspection. The cars are unloaded at the Jersey City Stock Yards and the stock is lightered to New York.

DIRECT RECEIPTS OF LIVESTOCK AT JERSEY CITY STOCK YARDS

July 1950 to June 1951

	Cattle	Sheep	Calves	Hogs
1950				
July	12,322	56,733	7,035	15,116
August	10,707	68,093	7,023	13,545
September	11,570	64,781	7,682	16,083
October	11,095	6,278	61,559	19,085
November	10,922	50,230	5,319	18,645
December	12,008	75,985	6,391	17,336
1951				
January	11,960	5,217	95,338	21,816
February	8,088	47,859	3,034	13,609
March	10,346	86,592	1,634	20,556
April	10,232	95,983	3,382	21,856
May	9,635	73,632	7,774	25,114
June	9,291	69,973	4,780	18,671
Totals	128,176	701,356	210,951	221,432

In addition, truck lots are brought in for sale at the yards. A Division representative checks on these to see that the stock reaches slaughtering establishments throughout the State which are licensed by the State Board of Health and maintain veterinary inspection.

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LIVESTOCK SOLD AT THE JERSEY CITY STOCK YARDS FOR SLAUGHTER
AT POINTS THROUGHOUT THE STATE

1950	July 1950 to June 1951						
	Cows	Bulls	Steers	Total Cattle	Calves	Sheep	Hogs
July	1,275	142	147	1,564	5,999	4,110	2,997
August	847	147	270	1,264	6,441	272	4,495
September	1,134	111	316	1,561	5,985	2,365	3,732
October	1,614	267	469	2,350	6,390	4,550	3,342
November	1,783	132	424	2,339	4,587	3,150	2,204
December	1,492	153	295	1,940	4,587	2,400	2,656
1951							
January	1,656	270	269	2,195	2,793	1,506	2,976
February	1,357	150	119	1,626	2,007	29	2,200
March	1,520	123	4	1,647	1,105	508	2,204
April	1,470	180	51	1,701	1,100	238	2,359
May	851	11,175	22	12,048	2,845	229	3,940
June	512	88	83	683	5,428	2,698	3,382
Totals	15,511	12,938	2,469	30,918	49,267	22,055	36,487

MISCELLANEOUS ANIMAL DISEASES

Suspected Vesicular Disease

During the year, a report was received on the occurrence of foot, teat and mouth lesions in an animal in the herd of Thomas Lackner of Walpack. The animal was drooling and exhibited a sore foot and healed ulcers on the teat. Examination of the mouth revealed an ulcer on the tip of the tongue; temperature, pulse and respiration were normal. Close examination of the foot proved it to be an ordinary case of foot rot.

The heifer had recently freshened and had been in isolation in the garage. Examination of the remainder of the herd revealed only two additional cases of foot rot.

X-Disease

Early in the fiscal year, a suspected case of X-disease was reported on the farm of Paul Uhlig, of Glen Gardner. Several heifers exhibited skin lesions which were examined for external parasites with negative result. The skin over the face, neck, udder and abdomen revealed thickening similar to previously observed cases of X-disease. Of two lots of young stock housed in different barns, only one lot was affected.

Another suspected case was reported on the farm of C. J. Allen, Neshanic. Examination of this animal revealed skin lesions simulating X-disease but judged to be photosensitization.

Recently, Dr. Peter Olafson, of Cornell University, has produced X-disease through the feeding of a commercial grain concentrate offered for sale by one of the major feed manufacturing companies. A report from Germany indicates that the cause is chemical in nature and was produced there through a chemical paint used in barns. The condition is considered non-infectious in nature.

Listerellosis

Listerellosis is a disease of animals transmissible to man. In animals the infective agent, *Listeria monocytogenes*, attacks the brain, causing paralytic symptoms. The animal appears dumb and usually reveals a paralysis of one or both ears.

The following cases were reported and investigated by the Division during the year: A. Kopycynski of Blairstown, 1 cow lost; Frank Oldis of Titusville, 1 heifer lost.

Leptospirosis

An outbreak of leptospirosis occurred during October in the dairy herd at Annandale Reformatory, causing eight abortions. This disease, relatively new in the State, was previously diagnosed in the herd at the Walker-Gordon Laboratory Company, Plainsboro. The disease, caused by *Leptospira icterohemorrhagiae*, results in bloody milk.

Tests for albumenuria were conducted on all animals in the Reformatory herd. Those showing albumen were isolated and returned to the herd only after a negative test for albumen was received. Control procedures were set up and the disease subsided without any further spread.

Anthrax

No positively diagnosed cases of anthrax were reported during the year. However, as in previous years, 746 cows on 38 premises and 14 horses on 8 premises in Salem County were vaccinated as a protection against anthrax during the year.

Johne's Disease

Johne's disease or paratuberculosis was diagnosed in a valuable purebred beef breeding herd. The application of the Johnin test disclosed those animals harboring infection. Recommendations were made for correction of the insanitary conditions on the farm, including drainage of the yards and the installation of facilities to provide an adequate supply of uncontaminated drinking water. The same herd has a parasite problem which will also be aided by improved sanitation.

Scabies

Cattle scabies continues to increase, particularly in North Jersey. This parasitic disease is transmissible from animal to man and has been found in New Jersey herds only in recent years.

Despite the fact that this condition has been called to the attention of veterinarians and farmers, it remains generally unreported. Knowledge of its existence reaches the Division through reports received from Federally inspected slaughtering establishments where ante-mortm inspection of stock discloses the condition. The disease could become serious if not reported and controlled.

SWINE DISEASES

Hog Cholera

Hog cholera continues to be the major infectious disease of swine in the State. At several State institutions outbreaks of cholera occurred again this year, despite prompt vaccination to protect the swine. The difficulty arises because farrowing extends over a considerable period of time. Consequently, virus employed in the application of the serum-virus method of vaccination is being reintroduced on the farm. The virus of hog cholera can be carried on the clothing and shoes of attendants and by birds and small animals. It is almost impossible to prevent the spread of virulent virus on premises where frequent vaccinations are applied during the year. Most of the difficulty has been encountered in herds in Bordentown, Vineland and Leesburg.

Experimental Use of Rabbit-Adapted Attenuated Live Hog Cholera Virus

During the past year, several laboratories succeeded in adapting hog cholera virus to either laboratory animals or embryonated eggs. Through this means, the virulence of the virus is so reduced that it no longer is capable of producing infection, but induces protection in the body of the animal treated.

After conferring with the farm supervisor of the Department of Institutions and Agencies, it was decided to treat experimentally part of the swine herd at each of four State institution farms. One week after vaccination with one of these products, a second lot of shoats was vaccinated with the serum-virus method and the two lots put together. All trial results were successful and it is expected that more swine will be treated in the same way during the coming year.

If the employment of such products continues to produce the desired results, the use of fully virulent hog cholera virus will probably be restricted, particularly at auction markets, in an endeavor to reduce the incidence of hog cholera in the State.

Swine Erysipelas

This infectious disease of swine, reported to be quite prevalent in Nebraska, Iowa and Illinois, has rarely been found in New Jersey swine herds. During January, a farmer in Middlesex County purchased 67 head of swine through the auction sales market at New Holland, Pennsylvania. The farmer, a European displaced person, was not acquainted with the health requirements governing the importation of swine and the 67 head were trucked into New Jersey without a veterinary examination and health certificate.

A week after importation, the local veterinarian reported swine erysipelas. On investigation it was learned that 50 per cent of the imported herd had died. Anti-erysipelas serum and antibiotics were administered to bring the disease under control. The premises were cleaned and disinfected and

the owner instructed on the laws and regulations governing the importation of livestock into New Jersey.

Since the animals were purchased through an auction market in Pennsylvania, the Pennsylvania State Veterinarian was notified of the condition. An investigation by Pennsylvania authorities revealed that the swine had been entered in the sale market as illegal importations from Maryland and the authorities of that state were so informed.

Nutritional Deficiency in Swine

With the higher prices received for pork, farmers are paying greater attention to losses of animals due to anemia and nutritional deficiency. A number of calls were made at the request of owners who reported loss of baby pigs. In most instances, faulty nutrition was responsible for the losses. Quite a few cases of under-development of a portion of the shoat population were corrected by separating the healthier pigs and feeding them A. P. F. factor.

Good results were obtained in correcting baby pig anemia by painting the udder and teats of the sows with syrup in which iron was incorporated.

Rheumatoid Disease of Swine

This is a relatively new disease of swine which made its initial appearance in a small swine herd owned by John Huff of Dias Creek, Cape May County during the year. The symptoms are principally lameness similar to that observed in swine erysipelas and brucellosis. The legs become swollen and painful and the animal has difficulty in walking. Originally, the condition was reported as swine erysipelas by the local veterinarian. The administration of 300,000 to 1,000,000 units of penicillin failed to cause any improvement in the condition of the swine herd involved. Although two different breeds of swine, Berkshire and Red Durocs, were maintained on the premises, only the Durocs were affected. The swine were housed and fed as one herd.

Learning that one of the biologic houses was interested in a study of the possible relationship between rheumatoid disease of swine and rheumatic arthritis in the human family, with particular reference to the use of cortisone, the Division arranged for the laboratory to purchase four of the Durocs of this herd for laboratory study. This laboratory later reported evidence of rheumatoid infection had been found in the affected joints.

The remained of this herd was sold for slaughter under inspection, and operations at the farm are now being carried on with the offspring of the unaffected herd. No further trouble has been reported.

Swine Brucellosis

Attention was called to a rather severe outbreak of swine abortion occurring on several garbage feeding farms in the State. Tests of several blood samples collected from aborting sows indicated that the cause of the abortions

was *Brucella suis* infection. The owners were contacted and the seriousness of the infection, from the standpoint of the herd and from that of the persons handling swine, was explained.

Although arrangements were made to test the swine herds, they were not carried out because of pressure brought upon the owners by neighboring garbage feeders who feared compulsory State testing.

Several 4-H Club swine project leaders and vocational agricultural agents sponsoring such projects were informed of the swine brucellosis. Arrangements were made to place herds under supervision for brucellosis tests.

MEETINGS AND SALES

Farmers' Institutes

During February, the Division assisted the New Jersey Agricultural Experiment Station in addressing groups of farmers at Farmers Institute meetings throughout the State. At each of these meetings, from forty to sixty minutes was allotted for a discussion of mastitis in dairy animals. Following presentation of the talk, questions on ailments of farm animals were answered. In all, twelve group meetings were attended in ten important livestock counties. All breed association annual meetings were attended by staff members and provided an opportunity to discuss disease control problems.

Purebred and Farm Sales

For many years, the Division has prepared individual health charts on animals consigned to purebred sales and also on animals involved in farm sales. An agent of the Division is in attendance at these sales prepared to answer questions regarding the movement of animals into other states.

Each sale requires considerable time and effort in the preparation of individual health certificates. This service has been complimented by both seller and purchaser, who appreciates receiving official health certificates immediately on purchase of an animal.

During the past year, these sales have more than doubled and are an increasing expense to the Division both in time and travel. The increase in number of sales has, in part, been influenced by the failure of some breeders to maintain an adequate supply of help on the farm. The good will built up through this service justifies the cost; however, the following work must be performed in the office to prepare charts for sales:

1. Check brucellosis and tuberculin test record of the animal with the sale health requirements.
2. Check official vaccination date with office files.
3. Check tuberculosis and brucellosis accrediting numbers and date of last tests.
4. Contact by phone or letter owner or sale manager when health requirements have not been complied with.
5. Prepare two copies of health papers for each animal to be sold and check catalogue with lot numbers.

Following is a record of the sales covered during the fiscal year and

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number of New Jersey and out-of-state cattle for which individual charts were prepared:

Total sales conducted during year in New Jersey	27
Total cattle included in sales	1,722
Sales containing New Jersey cattle only	12
Cattle in sales—all charts prepared during office hours	813
Sales containing out-of-state cattle only	3
Cattle in sales—all charts prepared after office hours	193
Sales containing New Jersey and out-of-state cattle	12
New Jersey cattle in these sales—all charts prepared during office hours	217
Out-of-state cattle in these sales—all charts prepared after office hours	499
Sales held during office hours and clerked without charge	18
Sales held Saturday afternoons and clerked at the owner's expense	9

CATTLE IMPORTED AND RELEASED FOR DAIRY AND BREEDING PURPOSES

STATE DEPARTMENT OF AGRICULTURE

Origin	July 1950 to June 1951												Total
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	
Canada	24	143	58	46	30	11	1	17	20	42	104	50	546
Connecticut	63	54	17	10	13	.....	29	4	19	61	47	64	391
Delaware	3	.....	19	.....	2	.....	9	.....	2	1	2	.....	38
Florida	.....	1	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	3
Illinois	1	.....	3	.....	1	6	7	.....	.....	.....	.....	.....	18
Indiana	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....	1	10
Iowa	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Isle of Jersey	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	76	.....	76
Kansas	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Kentucky	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Maine	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Maryland	51	40	26	24	28	21	30	24	7	22	40	45	358
Massachusetts	.....	.....	.....	2	.....	.....	3	.....	.....	.....	4	4	13
Michigan	316	244	223	225	209	145	182	138	119	103	300	182	2,386
Minnesota	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	25	7	36
Missouri	.....	.....	.....	.....	.....	1	.....	5	.....	5	15	.....	26
New Hampshire	.....	1	.....	.....	.....	.....	.....	.....	1	1	1	1	4
New York	369	506	621	381	397	258	253	180	285	293	362	347	4,252
North Carolina	.....	.....	.....	.....	.....	.....	1	.....	.....	1	4	.....	6
Ohio	156	156	87	150	123	107	124	44	42	126	74	59	1,248
Oklahoma	4	.....	.....	.....	.....	1	.....	.....	87	19	.....	3	114
Oregon	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Pennsylvania	152	282	182	107	59	16	55	54	115	131	111	80	1,344
Rhode Island	.....	.....	1	.....	.....	.....	.....	.....	.....	1	2	2	6
South Carolina	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Texas	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	6
Vermont	1	11	.....	13	5	.....	16	.....	.....	.....	.....	3	49
Virginia	16	6	.....	.....	11	.....	14	.....	.....	.....	1	9	57
Washington	.....	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
West Virginia	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
Wisconsin	531	836	744	695	755	547	486	392	244	291	385	225	6,131
Totals	1,689	2,313	1,982	1,653	1,640	1,115	1,211	868	944	1,108	1,553	1,082	17,158

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

July 1950 to June 1951

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Connecticut	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	2
Maryland	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Massachusetts	.....	.....	.....	3	.....	1	.....	.....	.....	.....	.....	.....	4
Michigan	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
New York	6	1	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	9
Pennsylvania	.....	.....	.....	1	4	.....	19	.....	1	1	.....	.....	26
Ohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Vermont	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Totals	6	1	.....	5	5	1	20	1	1	1	3	1	45

FEEDEE STEER IMPORTED AND RELEASED BY STATE OF ORIGIN

July 1950 to June 1951

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Delaware	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	4
Florida	.....	.....	.....	.....	.....	.....	.....	25	.....	.....	.....	.....	25
Iowa	.....	.....	.....	.....	.....	42	.....	.....	.....	.....	.....	.....	42
Kansas	49	15	.....	25	.....	.....	.....	.....	.....	41	68	.....	198
Lancaster St. Yds.	86	98	61	122	57	204	112	217	89	285	234	523	2,088
Maryland	.....	.....	.....	.....	6	10	2	8	12	.....	6	.....	44
Missouri	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	.....	15
New York	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....	3	10
Oklahoma	.....	.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	31
Pennsylvania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	162	76	238
Texas	51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	91
Virginia	.....	.....	.....	.....	.....	5	.....	3	.....	.....	.....	.....	8
Totals	186	113	61	147	63	265	114	253	108	357	485	642	2,794

SUMMARY OF INSHIPMENTS

July 1950 to June 1951

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Totals
Total Cattle Imported	1,689	2,313	1,982	1,653	1,640	1,115	1,211	868	944	1,108	1,553	1,082	17,158
Calves Under 6 mos. Imp'd.	6	1	.....	5	5	1	20	1	1	1	2	1	44
Total Dairy and Breeding Cattle Imported July 1950 to June 1951	1,695	2,314	1,982	1,658	1,645	1,116	1,231	869	945	1,109	1,555	1,083	17,202
Total Dairy Cattle Imported	1,319	2,293	2,616	1,934	1,663	1,053	781	740	899	1,069	1,184	1,437	16,988
Feeder Steers Imported July 1950 to June 1951	186	113	61	147	63	265	114	253	108	357	485	642	2,794
Feeder Steers Imported July 1949 to June 1950	78	77	41	140	.....	422	50	40	93	54	47	785	1,827
Total Dairy Cattle and Feeder Steers Imported July 1950 to June 1951	1,881	2,427	2,043	1,805	1,708	1,381	1,345	1,122	1,053	1,466	2,040	1,725	19,996
Total Dairy Cattle and Feeder Steers Imported July 1949 to June 1950	1,397	2,370	2,657	2,074	1,663	1,475	831	780	992	1,123	1,231	2,222	18,815

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RECORD OF BLOOD TESTS MADE ON INSHIPPED ANIMALS

July 1, 1950 to June 30, 1951

State of Origin	Lots Bled	Cattle Bled	Reactors Number	Resulting Percentage
Canada	59	483	2	.41
Connecticut	41	414	1	.24
Delaware	12	38	.....	.....
Florida	2	3	.....	.....
Illinois	5	13	.....	.....
Indiana	2	10	.....	.....
Iowa	1	1	.....	.....
Isle of Jersey	5	76	.....	.....
Kansas	3	45	.....	.....
Kentucky	4	10	.....	.....
Maine	2	14	3	21.43
Maryland	65	318	3	.94
Massachusetts	15	20	1	5.00
Michigan	149	2,546	7	.27
Minnesota	6	113	.....	.....
Missouri	3	21	.....	.....
New Hampshire	4	4	.....	.....
New York	552	4,685	40	.85
North Carolina	3	6	.....	.....
Ohio	97	1,322	5	.38
Oklahoma	8	116	.....	.....
Oregon	1	1	.....	.....
Pennsylvania	265	1,356	6	.44
Rhode Island	6	7	.....	.....
South Carolina	1	1	.....	.....
Texas	1	6	.....	.....
Vermont	11	43	.....	.....
Virginia	17	74	.....	.....
Washington	1	30	.....	.....
West Virginia	3	3	.....	.....
Wisconsin	245	6,396	13	.20
Totals	1,589	18,175	81	.45

The number of cattle shipped into New Jersey during 1950-51 shows an increase for the first time since 1946-47, when a downward trend began.

1946-47	1947-48	1948-49	1949-50	1950-51
28,853	26,842	21,445	18,815	19,996

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

STATE DEPARTMENT OF AGRICULTURE

CATTLE SHIPPED OUT OF NEW JERSEY

July 1950 to June 1951

Month	Lots From Herds Under Supervision	Animals From Herds Under Supervision
1950		
July	35	133
August	52	200
September	174	293
October	171	263
November	68	92
December	107	204
1951		
January	69	164
February	39	70
March	64	167
April	75	139
May	139	241
June	63	169
Totals	1,056	2,135

VETERINARY PERSONNEL

For a number of years the Division has had difficulty in recruiting veterinary personnel because of the low salary scale compared with those available elsewhere. Also, during the past year, the Division has had increasing difficulty in obtaining the services of private veterinary practitioners to assist the Division in testing for tuberculosis and bleeding for brucellosis.

At the annual meeting of the Veterinary Medical Association of New Jersey, the matter of payment for veterinary service was again discussed. Also, at the time of the meeting of the brucellosis advisory committee this subject was discussed in connection with the possible employment of lay technicians to assist in the collection of blood samples. To alleviate this condition, the Division recommended that the price for tuberculin testing or blood letting be advanced from 15 to 25 cents per head, the price paid in neighboring states.

In January, Dr. Herbert J. Jenne, chief of the Bureau of Brucellosis Control, was granted a year's leave of absence to accept a position with the Federal government. Dr. Walter L. Mackey will serve as chief of the Bureau during Dr. Jenne's absence.

Dr. John Benson, veterinary bacteriologist, was granted leave to accept a commission in the veterinary corps. The position, which the Division has been unable to fill so far, carries a starting salary of \$4,120.

Dr. John Morris, of the brucellosis field staff assigned to Monmouth County, accepted a captaincy in the U. S. Army.

Several recent graduates were contacted to fill these positions. Dr. W. C. Carter of Mount Holly is currently assigned to Burlington County on brucellosis control work and Dr. Fred J. Wolfe of Belvidere to Warren, part of Somerset and part of Morris on brucellosis work.

LEGISLATION

In Chapters 4:5-93-37 and 4:5-28 of the Revised Statutes of New Jersey, the law provides that to be eligible for indemnity animals imported into the State must be accompanied by a health certificate showing the status of the herd of origin and a record of tests for tuberculosis and brucellosis conducted within 30 days prior to importation.

In contrast to the above provision, Chapters 4:5-65; 4:5-66 and 4:5-67 provide for the retesting for tuberculosis of those animals brought into the State contrary to the provisions of the laws and regulations. It also provides that the State shall have such irregular shipments held in quarantine and retested at the owner's expense and shall cause proceedings to be instituted for violations of this article. However, even after these retests are conducted, such cattle can never be eligible for payment of indemnity because they did not enter in accord with the legal provision requiring a tuberculin test and the approval of the chief regulatory officer of the state of origin.

Since these animals change ownership often, they could subsequently react to a test for either tuberculosis or brucellosis and be presented for appraisal. They require either some method of permanent identification (such as a hot iron brand designation) or of checking on these animals during their lifetime, in order to rule out the illegal payment of indemnity in contradiction to Chapter 4:5-28 or 4:5-37.

Until recently the Division required that animals brought into New Jersey illegally be sent to slaughter or to the state of origin, after receipt of a written permit from the chief regulatory official of the state of origin.

This procedure must be discontinued because of the legal provision of Chapter 4:5-67, which reads as follows:

Where cattle are imported into the state contrary to this articles the department shall hold them in quarantine pending their examination and proper testing for tuberculosis, and shall cause proceedings to be instituted for violations o fthis articles.

The following is respectfully recommended as a substitute for Chapter 4:5-67:

Where livestock are imported into the state contrary to full compliance with the laws of the state and the rules and regulations of the State Board of Agriculture, they shall be held in quarantine apart from all other livestock for a period of ten days during which time the importer may be able to obtain health certificates carrying the approval of the livestock sanitary official of state of origin. At the end of ten days, if official approval has not been obtained, the livestock shall either be branded and sent to slaughter without indemnity under a permit from the director of the division of animal industry or arrangements made and written permit obtained from the livestock sanitary official of the state of origin and the stock returned to the state of origin.

STATE DEPARTMENT OF AGRICULTURE

POULTRY DISEASE CONTROL

During the past year, the Division issued a number of certificates covering the consignment of hatching eggs and baby chicks outside of the country. All certificates covering foreign shipments, in addition to being certified by this Division, must also be approved by Dr. J. R. Porteus, U. S. Inspector in Charge for New Jersey.

A total of 38,925 baby chicks was certified for shipment to ten countries; of this number, 25,550 were shipped to Israel. Eight countries received 4,380 pullets. Nearly all of the shipments were made by airplane. Greece received 1,240 hatching eggs. One poultry farm owned by William Durling of Princeton shipped 199 bantams to the British West Indies.

NEW JERSEY EXPORTS OF HATCHING EGGS AND POULTRY

July 1, 1950 to June 30, 1951

Country to which consigned	Hatcheries Shipping	Eggs	Pigeons	Chicks	Cockerels	Pullets	Turkey Eggs	Turkey Poults	Ducklings	Bantams
Argentina	1	100	....	.....	.....	.....	....	....	....	.....
Brazil	1	.....	....	2,000	.....	.....	....	....	....	.....
Br. W. Indies	3	.....	....	550	.....	550	....	80	....	199
Canal Zone	2	.....	....	.....	.....	750	....	15	....	.....
Colombia	1	.....	....	1,700	.....	.....	....	....	....	.....
Cuba	2	.....	....	2,100	.....	.....	....	....	....	.....
Dominican Rep.	1	.....	....	.....	.....	125	....	....	....	.....
Egypt	1	.....	....	.....	.....	.....	24	....	....	.....
France	1	275	.....	.....	.....	.....	....	....	....	.....
Greece	2	1,240	.....	.....	.....	.....	....	....	....	.....
Israel	2	.....	....	25,500	.....	.....	....	....	....	.....
Italy	1	.....	....	925	.....	.....	....	....	....	.....
Netherlands	.....	.....	....	.....	.....	.....	....	....	....	.....
West Indies	2	.....	....	650	650	775	....	....	....	.....
Panama	2	.....	....	525	.....	600	....	110	15	.....
Puerto Rico	3	.....	13	4,725	1,700	930	....	55	....	.....
Spain	1	80	.....	.....	.....	.....	....	....	....	.....
Venezuela	2	150
Virgin Island	2	250	500	15
Totals		1,695	13	38,925	2,350	4,380	24	275	15	199

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Poultry Inspection

In 1924 and 1925, a serious outbreak of European fowl pest occurred in poultry arriving in carload lots in the metropolitan area of New Jersey. At that time it was necessary to establish quarantine yards to receive such poultry, to maintain a representative to inspect the poultry and to check on its delivery to slaughtering establishments.

This inspection work has been carried on since that time and no further outbreaks of contagious or infectious diseases have occurred. However, all shipments are now made by truck, concentrating on the poultry market at Vanderpool Street Terminal, Newark.

Dr. Sidney A. Wells and Elton A. Culver, Division representatives, make daily inspections of all truck lots received at this point, condemning any poultry considered unfit for human consumption. They also inspect the poultry market for sanitation and make recommendations for the improvement of any unsanitary premises.

This inspection work is important to the New Jersey poultry industry, because it prevents the opportunity for diseased or exposed birds to be sent to State farms, thus jeopardizing the health of the industry. At this particular time, when many are concerned with the possibility of biologic warfare and disease control officials are somewhat alarmed about opportunities of sabotaging the poultry industry through the introduction of fowl plague virus and virulent strain of Newcastle virus, the inspection work at markets such as that in Newark takes on added significance.

POULTRY INSPECTION AT NEWARK TERMINAL

July 1, 1950 to June 30, 1951

State of Origin	Truck Loads Inspected	Birds Inspected	Approximate Weight
Connecticut	1,160	1,368,000	5,790,000
Delaware	941	1,142,000	4,705,000
Indiana	1	1,000	5,000
Maine	89	89,000	441,000
Maryland	1,120	1,297,000	5,600,000
Massachusetts	190	190,000	950,000
New Hampshire	38	38,000	185,000
New Jersey	1,123	1,311,000	5,615,000
New York	815	827,000	4,075,000
North Carolina	41	41,000	205,000
Pennsylvania	1,012	1,196,000	5,065,000
Rhode Island	162	162,000	810,000
Tennessee	8	8,000	36,000
Virginia	768	748,000	3,840,000
Totals	7,468	8,418,000	37,322,000

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POULTRY CONDEMNED AT POULTRY TERMINALS

July 1, 1950 to June 30, 1951

	Birds Condemned	Approximate Weight in Pounds
1950		
July	2,300	9,200
August	3,400	13,600
September	3,300	13,200
October	3,800	15,200
November	2,800	11,200
December	2,700	10,800
1951		
January	3,200	12,800
February	3,300	13,200
March	3,800	15,200
April	3,100	12,400
May	4,100	16,800
June	3,300	13,200
Totals	39,100	156,800

Pullorum Disease Control

A review of the following table shows the increase in pullorum testing work this season, when 851,049 birds were tested in the field compared with 809,718 last season. Of this number, 1,102 reactors, or 0.13 per cent, were disclosed. This compares with 2,291 reactors, or 0.28 per cent, last season.

It may be said that the pullorum testing agents are becoming more proficient in pullorum testing and poultrymen are satisfied with the results obtained through the agent-testing method. A Division employee checks the testing agents periodically throughout the year and the results of the check tests have been encouraging.

Throughout the State, some poultrymen have more confidence in the tube or laboratory method of testing, which is optional with them, and insist on the tube test. However, only 65,030 birds were tested by this method this season as compared with 95,649 last season. Of the number tested, 3.71 reactors or 0.57 per cent were disclosed, as compared with 103 reactors or 0.11 per cent last season. These figures include tests made on a few large commercial flocks in the State which resulted in an exceedingly high percentage of infection. The owners of these flocks immediately withdrew from the program.

In one of these flocks, a variant strain of pullorum disease was diagnosed and a special antigen was prepared in the Division laboratory to conduct a test of the flock in an effort to reduce the variant pullorum infection. The flock has been retested and the Division believes that it will be on the official list at the end of the coming season.

Also, check tests were made of reactors and negative birds found on field test; the results were favorable.

The work in pullorum testing in New Jersey has not only increased but has become practically a year-round project. This is partially due to

the fact that hatcheries in Maryland and Delaware have supply flocks in New Jersey and are demanding a year-round egg supply. In the National Poultry Improvement Plan, the Division has met the changing demands of the poultry industry and has rendered service whenever and wherever it has been requested or needed.

**FOWL BLOOD-TESTED FOR PULLORUM DISEASE,
NUMBER AND PER CENT REACTING, AND RECORD OF CHECK TESTS MADE, BY COUNTIES
July 1, 1950 to June 30, 1951**

County	Fowl Tested in Field	Number Reacting	Per Cent Reacting	Fowl Tested in the Laboratory	Number Reacting	Per Cent Reacting	Total Fowl Tested	Total Fowl Reacting	Per Cent Reacting	Total Laboratory Check Tests Conducted	Number Reacting	Per Cent Reacting
Atlantic	46,565	70	.15	.....	.....	.....	46,565	70	.15	143	.....	.....
Bergen	11,095	91	.82	698	1	.14	11,793	92	.78	.....	.....	.....
Burlington	27,731	35	.13	1,697	.....	.....	29,428	35	.12	.....	.....	.....
Camden	7,689	.....	.....	532	.....	.....	8,221	.....	.....	.....	.....	.....
Cape May	30,826	91	.30	1,552	270	17.40	32,378	361	1.11	6	6	100.00
Cumberland	191,550	127	.07	7,264	.....	.....	198,814	127	.06	296	.....	.....
Essex	773	50	6.47	.....	.....	.....	773	50	6.47	5	3	60.00
Gloucester	50,769	38	.07	921	2	.22	51,690	40	.08	176	.....	.....
Hudson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunterdon	59,837	50	.08	25,371	80	.32	85,208	130	.15	25	9	36.00
Mercer	39,558	4	.01	5,532	2	.04	45,090	6	.01	8	.....	.....
Middlesex	38,821	22	.06	1,630	.....	.....	40,451	22	.05	31	.....	.....
Monmouth	111,467	62	.06	12,115	1	.01	123,582	63	.05	237+15*	5	2.11
Morris	4,850	32	.66	25	.....	.....	4,875	32	.47	.....	.....	.....
Ocean	149,346	240	.16	1,806	3	.17	151,152	243	.16	286	17	5.94
Passaic	5,814	22	.38	965	9	.93	6,779	31	.46	5	5	100.00
Salem	44,859	144	.32	833	.....	.....	45,692	144	.32	356	4	1.12
Somerset	19,224	11	.06	190	.....	.....	19,414	11	.06	2	.....	.....
Sussex	7,261	.....	.....	1,510	2	.13	8,771	2	.02	.....	.....	.....
Union	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warren	3,014	13	.43	2,389	1	.04	5,403	14	.26	.....	.....	.....
State	851,049	1,102	.13	65,030	371	.57	916,079	1,473	.16	1,576+15*	49	3.11
1949 - 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	809,718	2,291	.28	95,649	103	.11	905,367	2,394	.26	2,321+46*	170	7.32

*Hemolyzed samples not tested.

BUREAU OF ANIMAL TUBERCULOSIS CONTROL

At the close of the 1949-50 fiscal year, 230,187 tuberculin tests had been conducted, with 242 reactors, or 0.11 per cent reactions for the year. There were 109 infected herds being carried at the end of the year. At the close of the 1950-51 fiscal year, 227,980 tests had been conducted, resulting in 298 reactors or 0.13 per cent. There were 104 infected herds being carried at the close of the year.

There was an increase in the number of reactors and in the percentage of reactions, and a slight decrease in the total tested and the number of infected herds being carried at the end of the year.

The difference in the totals tested from year to year can be attributed, in part, to the number of retests required of herds in which reactors were disclosed, so that the herd can be returned to a non-infected herd status. Reacting herd additions sometimes have been in a herd a short time and the retests of these herds can be held to a minimum. Also, in retesting infected herds, the subsequent disclosure of reactors often means that more than the prescribed three tests are indicated in order to return the herd to a non-infected status.

Another contributing factor in this yearly difference in totals tested is the size or number of animals comprising the infected herds. Retests of small infected herds will not contribute to the totals tested nearly as much as retests of large infected herds.

At present ten State and three Federal men are engaged in tuberculosis control activities. This force, plus the veterinary practitioners, conducts annual tuberculin tests of all cattle and goats in the State. The regularly employed State and Federal men, in addition to conducting tuberculin tests, are called upon to perform other duties, such as rebleeding inshipments, investigating disease outbreaks, checking the health status of animals at auction markets and policing State borders to prevent the importation of bootleg cattle. All of these activities limit the time devoted to tuberculin testing.

During the fiscal year, 17.25 per cent of the 227,980 tests were conducted by State men, 4.69 per cent by Federal men and 78.06 per cent by veterinary practitioners. State men conducted a few more tests than previously, but there is still room for improvement in this respect, especially in some territories.

During the year, one extensive break of 34 reactors in a herd comprised of 39 head, and 7 other herd breaks disclosing from 5 to 11 reactors, accounted for 48 reactors. These herds were the largest individual contributors to the reactors totals; the remainder was contributed by disclosure of one, two or three reactions in accredited and other herds which the Bureau now looks upon as normal.

Reaction disclosures are, for the most part, most difficult to trace to a definite origin. This is especially true when reactors are disclosed in accredited herds, many of which have qualified for accreditation for long periods. These herds, in most cases, after having disclosed one, two or three reactors,

many of which prove to be No Visible Lesions when slaughtered, proceed to clear up under retesting routine without any more difficulty.

The herds in which extensive outbreaks are encountered or, at times, in outbreaks of lesser degree, usually contain one extensively affected animal, accounting for the possible transmission of the disease to other animals. Why the disease in these animals progresses to the spreader stage without having previously shown sufficient reaction to condemn remains a puzzle. Environmental factors can seldom be definitely incriminated as being the cause of these breaks. Sanitation and the environmental surroundings of some of these places are not of the best, but this alone will not cause the disease. Definite evidence of infection on the premises has to be proved. This is often difficult because in many cases considerable time has elapsed since a known infected animal was on the premises.

Reaction deviations, and these include unexpected disclosures in herds of good health status, can be accounted for in many different ways. Soon after becoming active, tuberculosis is supposed to cause a reaction. This activity may be brought about by the recent infection of an animal or by the breaking down of an encapsulated, inactive lesion which might have been harboured by the animal for several years. Reactions of this nature have been encountered from time to time and, of course, cannot be foreseen or guarded against. Also, reactions are brought about by other sensitizing organisms known as the acid fast group of which Johnne's Disease (paratuberculosis) and many other simple, non-pathogenic organisms are members. These organisms are capable of causing deviation reactions which cannot be distinguished from reactions caused by tuberculosis. It is thought that these account largely for the high percentage with No Visible Lesions.

Avian and human tuberculosis can be transmitted to cattle, and while organized lesions do not always result, sensitization to the tuberculin test does take place. The Bureau has suspected that human tuberculosis has been transmitted to cattle in some cases and in others, consideration has been given to the possibility of an infection of the avian type. All of these deviations, with the exception of those caused by active tuberculosis, tend to increase the No Visible Lesion cases.

A high percentage of reactions is still found among herd additions. During the year, 298 reactors were disclosed, of which 66 or 22.15 per cent were not eligible for indemnity. This situation not only materially contributes to the reaction totals, but could prove a disease-disseminating factor and a menace to native herds and cattle. There is some evidence that reacting herd additions, due to the nature and extent of lesions presented at time of slaughter, could have and did transmit the disease to native cattle which reacted at the same time. There were two outstanding instances of this encountered during the year.

One herd comprised of 53 head disclosed 5 reactors at the time of the annual test. Four of these were herd additions and three of the four presented from slight to generalized (one) tuberculosis lesions when slaughtered.

One of the five reacting animals was a native and presented extensive lesions of only one gland when slaughtered. Members of the Bureau are inclined to assume that the native animal picked up the infection from the herd addition presenting generalized lesions.

In the other case, a herd comprised of 59 animals disclosed 5 reactors when subjected to the annual test. One of these, a herd addition, presented tuberculosis lesions when slaughtered and the other four had no visible lesions. It was again assumed that the herd addition transmitted the disease to the other four native animals and they reacted in the early stage of the disease before organized macroscopic lesions could develop.

The cervical tuberculin test, supposedly more sensitive than the regular intradermal test, was applied to some problem and semi-problem herds several times during the year. This test is too sensitive for routine application but is indicted in herds that are difficult to clean up, in the hopes of disclosing a reaction in an animal failing to react to the regular test which might be causing the trouble. This was demonstrated in a few instances during the year and enabled the Bureau to make better progress in cleaning up herds.

During the year, 11 counties qualified and were listed for reaccreditation for a two-year period. Seven of these counties showed decreases in number of both herds and animals since the last accreditation, while in Gloucester, Hunterdon, Monmouth and Warren counties, more animals were noted in fewer herds.

COUNTIES LISTED FOR REACCREDITATION FOR TWO-YEAR PERIOD

County	Dates Tested	Herds	Cattle	Reactors
Bergen	3/1/49	162	1,784	6
	3/1/51	111	1,391	1
Essex	5/1/49	66	1,067	0
	5/1/51	52	972	0
Gloucester	9/1/48	919	5,569	0
	9/1/50	817	5,881	0
Hunterdon	8/1/48	1,787	27,747	14
	8/1/50	1,667	29,416	5
Mercer	1/1/49	596	8,608	1
	1/1/51	503	8,548	1
Middlesex	7/1/48	745	6,541	2
	7/1/50	615	6,380	1
Monmouth	7/1/48	1,066	8,400	4
	7/1/50	907	8,802	4
Ocean	7/1/48	231	1,289	0
	7/1/50	196	1,152	2
Passaic	8/1/48	158	1,491	1
	8/1/50	136	1,161	0
Sussex	5/1/49	1,038	34,506	5
	5/1/51	997	33,854	18
Warren	5/1/49	1,015	24,937	15
	5/1/51	952	26,229	15

On June 30, 1951 there were 11,273 herds of 200,496 head of cattle under supervision, a decrease of 689 herds of 4,609 cattle from the number recorded at the beginning of the fiscal year.

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During the year, initial tests were conducted on 796 herds of 5,359 cattle, resulting in the disclosure of 4 reactors, or 0.07 per cent reaction. The per cent of reaction disclosed on tests of cattle added to herds under supervision was 1.54 or 66 reactors in 4,293 cattle tested.

A total of 227,980 tuberculin tests was conducted, resulting in 298 reactors or 0.13 per cent reaction, as compared with 0.11 per cent a year ago. Of the 298 reactors disclosed, 232 were eligible for indemnity. Of those eligible, 31 were purebred and 201 were grade animals.

TEN-YEAR SUMMARY OF TUBERCULIN TESTING
1941-51

Fiscal Year	Herds Under Supervision	Animals Under Supervision	Tests Conducted	Reactors Resulting	Per Cent Reaction
1941-42	16,174	209,027	258,877	871	.34
1942-43	15,965	212,323	235,221	580	.25
1943-44	16,212	216,014	244,496	1,030	.42
1944-45	15,803	208,459	232,087	3,138	1.35
1945-46	14,867	201,349	256,183	962	.38
1946-47	14,347	202,034	255,447	949	.37
1947-48	13,478	201,238	248,997	411	.17
1948-49	12,692	200,817	236,937	378	.16
1949-50	11,962	205,105	230,187	242	.11
1950-51	11,273	200,496	227,980	298	.13

In 1950 New Jersey dairymen imported 16,988 head of dairy cattle, of which 3,936 were retested as herd additions, disclosing 41 reactors. In 1951, 17,202 head of dairy cattle were imported and only 4,293 were subjected to herd addition tests, resulting in 66 reactors.

STATE INDEMNITY PAID FOR REACTORS TO TUBERCULIN TEST
July 1, 1950 to June 30, 1951

Class of Cattle	Animals	Amount Paid	Average State Indemnity Paid Per Head
Registered	31	\$ 4,294.00	\$138.52
Grade	201	14,279.35	71.04
Registered and Grade	232	\$18,573.35	80.06

SALVAGE RECEIVED BY OWNERS FOR REACTORS TO TUBERCULIN TEST
July 1, 1950 to June 30, 1951

Class of Cattle	Animals	Amount Paid	Average Salvage Received Per Head
Registered	31	\$ 6,677.54	\$215.40
Grade	201	40,749.51	202.73
Registered and Grade	232	\$47,427.05	204.43

FEDERAL INDEMNITY PAID FOR REACTORS TO TUBERCULIN TEST
July 1, 1950 to June 30, 1951

Class of Cattle	Animals	Amount Paid	Average Federal Indemnity Paid Per Head
Registered	31	\$ 1,481.46	\$47.79
Grade	201	4,919.36	24.47
Registered and Grade	232	\$ 6,400.82	27.59
Total amount received by owners for reactors (Sum of salvage, Federal and State indemnity)			\$72,401.22
Average amount received per head by owners for reactors			\$312.07

The amount of State indemnity paid during this fiscal year for reactors condemned increased from an average of \$76.59 for the fiscal year 1949-50 to \$80.06 for 1950-51. During the year, 17,202 dairy cattle and 2,794 steers—a total of 19,996 head—were imported, compared with a total of 18,815 during the previous year.

CATTLE TUBERCULIN TESTED UNDER ACCREDITED HERD PLAN
July 1, 1950 to June 30, 1951

INITIAL TESTS

	Lots	Registered Animals	Grade Animals	Total
Tested	796	706	4,653	5,359
Reacted		.....	4	4
		Percentage of Reactors		.07

HERD ADDITION TESTS

Tested	887	209	4,084	4,293
Reacted		2	64	66
		Percentage of Reactors		1.54

OTHER TESTS

Tested	11,870	25,257	184,203	218,228
Reacted	.....	25	203	228
		Percentage of Reactors		.10

Tested	227,980
Reacted	298
Percentage of Reactors	.13
Percentage of Reactors Based on Cattle Population	.15

TOTAL STATE INDEMNITY PAID FOR TUBERCULIN TEST REACTORS
July 1, 1950 to June 30, 1951

County	
Atlantic	\$ 233.04
Bergen	.....
Burlington	2,166.01
Camden	.....
Cape May	.....
Cumberland	880.31
Essex	.....
Gloucester	300.00
Hudson	.....
Hunterdon	2,481.00
Mercer	100.00
Middlesex	275.00
Monmouth	3,343.36
Morris	75.00
Ocean	.....
Passaic	.....
Salem	2,042.23
Somerset	1,087.78
Sussex	3,712.50
Union
Warren	1,877.12
State	<u>\$18,573.35</u>

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TOTAL STATE INDEMNITY PAID FOR TUBERCULIN TEST REACTORS
FROM BEGINNING OF ACCREDITED HERD WORK IN 1916
TO JUNE 30, 1951

County	
Atlantic	\$ 9,994.94
Bergen	37,793.59
Burlington	525,557.10
Camden	19,378.26
Cape May	10,954.64
Cumberland	82,990.30
Essex	40,686.29
Gloucester	66,781.56
Hudson	4,455.78
Hunterdon	372,670.62
Mercer	190,944.81
Middlesex	85,446.84
Monmouth	141,316.05
Morris	156,438.04
Ocean	34,199.08
Passaic	37,153.60
Salem	377,696.32
Somerset	228,080.85
Sussex	1,047,216.93
Union	40,867.91
Warren	396,108.44
State	<hr/> \$3,906,731.95

HERDS AND CATTLE UNDER STATE AND FEDERAL SUPERVISION

TUBERCULIN TESTS MADE AND REACTORS DISCLOSED

County	Herds Under Supervision June 30, 1951	Herds Fully Accredited June 30, 1951	Cattle Under Supervision, June 30, 1951			Tuberculin Tests Made July 1, 1950 to June 30, 1951	Reactors Disclosed	Per Cent of Infection
			Reg.	Grade	Total			
Atlantic	130	102	93	445	538	914	4	.44
Bergen	109	98	215	1,167	1,382	1,450	1	.07
Burlington	918	823	2,972	21,368	24,340	26,208	46	.18
Camden	206	182	387	1,310	1,697	1,887	.....	.....
Cape May	98	86	93	448	541	1,297	.....	.....
Cumberland	670	613	665	6,164	6,829	6,772	12	.18
Essex	52	49	221	751	972	987	.....	.....
Gloucester	768	701	950	4,989	5,939	6,700	5	.07
Hudson	5	5	.....	35	35	63	.....	.....
Hunterdon	1,617	1,521	4,326	24,643	28,969	31,966	37	.12
Mercer	485	461	2,080	6,219	8,299	8,746	1	.01
Middlesex	563	506	1,059	5,598	6,557	9,471	4	.04
Monmouth	881	809	3,123	6,290	9,413	10,673	42	.39
Morris	681	621	2,556	8,877	11,433	12,669	2	.02
Ocean	157	152	27	1,122	1,149	1,201	.....	.....
Passaic	129	121	12	975	987	1,018	.....	.....
Salem	1,019	906	1,193	15,804	16,997	21,279	38	.18
Somerset	753	695	3,565	9,264	12,829	14,429	16	.11
Sussex	1,000	875	4,530	29,343	33,873	39,144	59	.15
Union	79	69	45	1,591	1,636	2,741	.....	.....
Warren	953	878	1,726	24,355	26,081	28,365	31	.11
State	11,273	10,273	29,838	170,658	200,496	227,980	298	.13

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INFECTED HERD RECORD

County	Infected Herds in New Jersey June 30, 1951	Cattle in Infected Herds June 30, 1951
Atlantic	1	123
Bergen	1	18
Burlington	20	986
Camden	.....	.....
Cape May	.....	.....
Cumberland	7	251
Essex	.....	.....
Gloucester	4	259
Hudson	.....	.....
Hunterdon	12	432
Mercer	1	28
Middlesex	.....	.....
Monmouth	2	72
Morris	1	150
Ocean	.....	.....
Passaic	.....	.....
Salem	15	665
Somerset	11	405
Sussex	12	425
Union	.....	.....
Warren	17	695
State	<hr/> 104	<hr/> 4,509

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

July 1, 1950 to June 30, 1951

	INITIAL TESTS					HERD ADDITION TESTS					OTHER TESTS				
	Lots	Tested		Reactors		Lots	Tested		Reactors		Lots	Tested		Reactors	
1950		Reg.	Gr.	Reg.	Gr.		Reg.	Gr.	Reg.	Gr.		Reg.	Gr.	Reg.	Gr.
July	12	5	37	.....	.....	1	.....	6	.....	.....	46	42	923	.....	.....
August	9	5	15	.....	.....	1	1	7	.....	.....	19	80	537	.....	.....
September	11	38	40	.....	.....	.....	.....	13	.....	.....	198	160	1,031	.....	1
October	11	1	72	.....	.....	1	.....	12	.....	.....	238	470	2,516	.....	1
November	13	19	55	.....	.....	.....	.....	2	.....	.....	209	740	2,482	6	26
December	6	3	19	.....	.....	.....	.....	9	.....	.....	204	438	3,110	.....	.....
1951															
January	16	17	105	.....	.....	2	9	21	.....	.....	234	1,192	4,187	1	12
February	3	.....	18	.....	.....	2	.....	8	.....	1	183	1,204	1,789	6	4
March	16	12	90	.....	.....	2	.....	41	.....	4	440	1,087	6,024	.....	5
April	24	84	89	.....	.....	2	.....	7	.....	.....	209	1,121	3,539	.....	5
May	40	7	194	.....	.....	2	5	15	.....	.....	254	3,61	3,017	3	3
June	24	32	71	.....	.....	.....	.....	2	.....	.....	139	517	1,574	.....	5
Totals	185	223	805	.....	.....	13	15	143	.....	11	2,373	7,412	30,729	16	62
Per Cent Reaction				.....	.....				.....	7.69				.22	.20
Average Per Cent Reaction									6.96					.20	

**CATTLE TESTED UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ON THE STAFF OF
U. S. DEPARTMENT OF AGRICULTURE**

July 1, 1950 to June 30, 1951

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	INITIAL TESTS					HERD ADDITION TESTS					OTHER TESTS				
	Lots	Tested Reg.	Gr.	Reactors Reg.	Gr.	Lots	Tested Reg.	Gr.	Reactors Reg.	Gr.	Lots	Tested Reg.	Gr.	Reactors Reg.	Gr.
1950															
July	4	.....	14	.....	.....	.....	.....	.....	.....	.....	23	248	370	.....	.....
August	7	3	39	.....	.....	1	.....	15	.....	.....	15	16	612	.....	.....
September	6	.....	17	.....	.....	.....	.....	14	.....	.....	49	1	456	.....	.....
October	6	.....	33	.....	.....	.....	.....	7	.....	.....	54	4	494	.....	.....
November	7	.....	52	.....	.....	.....	.....	9	.....	.....	79	9	1,103	.....	.....
December	3	.....	8	.....	.....	.....	.....	3	.....	1	50	76	829	.....	.....
1951															
January	5	2	7	.....	.....	.....	.....	1	.....	1	61	59	1,111	.....	.....
February	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	31	223	659	.....	.....
March	1	.....	3	.....	.....	.....	.....	35	.....	4	66	285	1,065	.....	1
April	4	28	39	.....	.....	3	.....	6	.....	.....	29	139	434	.....	.....
May	1	.....	3	.....	.....	.....	.....	10	.....	.....	50	161	1,389	.....	.....
June	7	1	40	.....	.....	1	.....	10	.....	.....	64	108	446	.....	.....
Totals	51	34	255	.....	.....	5	.....	110	.....	6	571	1,329	8,968	.....	1
Per Cent Reaction				.....	.....				.....	5.45				.....	.01
Average Per Cent															
Reaction				.....					5.45					.01	

CATTLE TESTED UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ACCREDITED BY THE
U. S. DEPARTMENT OF AGRICULTURE

July 1, 1950 to June 30, 1951

	INITIAL TESTS					HERD ADDITION TESTS					OTHER TESTS				
	Lots	Tested		Reactors		Lots	Tested		Reactors		Lots	Tested		Reactors	
1950		Reg.	Gr.	Reg.	Gr.		Reg.	Gr.	Reg.	Gr.		Reg.	Gr.	Reg.	Gr.
July	14	6	93	.....	.....	101	17	224	1	1	111	342	444	.....	6
August	6	19	22	.....	.....	63	28	148	.....	.....	68	255	468	.....	1
September	25	3	74	.....	.....	67	6	386	.....	3	431	1,596	6,274	1	1
October	64	11	565	.....	2	73	10	291	.....	5	997	1,787	19,851	1	19
November	89	69	591	.....	1	84	43	483	.....	2	1,199	2,583	18,975	.....	22
December	41	128	229	.....	.....	76	8	304	1	4	669	3,167	11,464	1	15
1951															
January	63	20	311	.....	1	61	10	323	.....	7	1,073	4,177	19,010	3	21
February	20	27	102	.....	.....	52	8	332	.....	6	788	1,271	13,989	.....	9
March	97	59	584	.....	.....	84	23	641	.....	7	1,449	3,548	22,322	2	15
April	59	37	365	.....	.....	76	5	263	.....	10	1,056	4,607	19,387	1	25
May	50	28	457	.....	.....	73	27	272	.....	2	813	1,843	10,394	.....	5
June	32	42	109	.....	.....	59	9	164	.....	.....	272	340	1,796	.....	1
Totals	560	449	3,593	.....	4	869	194	3,831	2	47	8,926	25,516	144,374	9	140
Per Cent Reaction				.....	.11				1.03	1.23				.04	.10
Average Per Cent Reaction				.10					1.22					.09	

SIX YEAR SUMMARY SHOWING PER CENT OF TUBERCULOSIS INFECTION FOUND ANNUALLY

July 1950 to June 1951

July 1949 to June 1950

County	July 1950 to June 1951			July 1949 to June 1950						
	Animals Under Supervision	Animals Reacting	Per Cent Reaction on Total Cattle Population	Tests Made	Per Cent Reaction On Tests Made	Animals Under Supervision	Animals Reacting	Per Cent Reaction on Total Cattle Population	Tests Made	Per Cent Reaction On Tests Made
Atlantic	538	4	.74	914	.44	572	2	.35	1,102	.18
Bergen	1,382	1	.07	1,450	.07	1,645	2	.12	1,994	.10
Burlington	24,340	46	.19	26,208	.18	24,701	46	.19	27,222	.17
Camden	1,697	.....	.....	1,889	.....	1,772	.....	.....	1,943	.....
Cape May	1,541	.....	.....	1,297	.....	503	.....	.....	507	.....
Cumberland	6,829	12	.18	6,772	.18	6,917	15	.22	7,859	.19
Essex	972	.....	.....	987	.....	1,005	.....	.....	1,154	.....
Gloucester	5,939	5	.08	6,700	.07	5,942	6	.10	6,579	.09
Hudson	35	.....	.....	63	.....	32	.....	.....	32	.....
Hunterdon	28,969	37	.13	31,966	.12	29,416	29	.10	31,267	.09
Mercer	8,299	1	.01	8,746	.01	9,323	7	.08	8,280	.08
Middlesex	6,557	4	.06	9,471	.04	6,380	7	.11	9,894	.07
Monmouth	9,413	42	.45	10,673	.39	8,823	12	.14	9,991	.12
Morris	11,433	2	.02	12,669	.02	11,492	2	.02	11,263	.02
Ocean	1,149	.....	.....	1,201	.....	1,193	2	.17	1,274	.16
Passaic	987	.....	.....	1,018	.....	1,565	1	.06	1,098	.09
Salem	16,997	38	.22	21,279	.18	16,871	32	.19	21,737	.15
Somerset	12,829	16	.12	14,429	.11	13,002	5	.04	14,242	.04
Sussex	33,873	59	.17	39,144	.15	35,655	49	.14	41,686	.12
Union	1,636	.....	.....	2,739	.....	1,796	1	.06	2,324	.04
Warren	26,081	31	.12	28,365	.11	26,500	24	.09	28,739	.08
State	200,496	298	.15	227,980	.13	205,105	242	.12	230,187	.11

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SIX YEAR SUMMARY SHOWING PER CENT OF INFECTION FOUND ANNUALLY

July 1848 to June 1949

July 1947 to June 1948

County	July 1848 to June 1949				July 1947 to June 1948					
	Animals Under Supervision	Animals Reacting	Per Cent Reaction on Total Cattle Population	Tests Made	Per Cent Reaction On Tests Made	Animals Under Supervision	Animals Reacting	Per Cent Reaction on Total Cattle Population	Tests Made	Per Cent Reaction On Tests Made
Atlantic	567	9	.159	1,279	.70	674	2	.30	717	.28
Bergen	1,778	27	.152	2,132	1.27	2,122	1	.05	2,504	.04
Burlington	24,116	38	.16	26,065	.15	23,102	62	.27	27,596	.22
Camden	1,689	1	.06	1,954	.05	1,706	2	.12	2,079	.10
Cape May	511	.....	.....	506	.....	558	1	.18	484	.21
Cumberland	6,985	5	.07	7,688	.07	6,358	12	.19	7,607	.16
Essex	1,076	.....	.....	1,088	.....	1,133	.....	.....	1,057	.....
Gloucester	5,758	5	.09	6,144	.08	5,706	1	.02	5,597	.02
Hudson	32	.....	.....	39	.....	42	.....	.....	.....	.....
Hunterdon	28,942	28	.10	31,431	.09	30,670	47	.15	30,461	.15
Mercer	9,138	4	.04	9,633	.04	8,791	20	.23	10,555	.19
Middlesex	6,945	8	.12	9,872	.08	6,845	7	.10	9,970	.07
Monmouth	8,202	11	.13	9,742	.11	8,168	5	.06	9,496	.05
Morris	11,405	1	.008	12,641	.007	12,422	18	.14	14,471	.12
Ocean	1,194	.....	.....	1,185	.....	1,314	3	.23	1,653	.18
Passaic	1,744	.....	.....	1,503	.....	1,855	1	.05	2,761	.04
Salem	16,371	68	.42	22,982	.30	16,862	67	.40	22,029	.30
Somerset	12,619	12	.10	13,610	.09	12,397	9	.07	13,449	.07
Sussex	34,493	106	.31	45,367	.23	33,935	118	.35	55,145	.21
Union	1,907	.....	.....	2,909	.....	2,127	.....	.....	2,697	.....
Warren	25,345	55	.22	29,167	.19	24,451	35	.14	28,669	.12
State	200,817	378	.19	236,937	.16	201,238	411	.20	248,997	.17

SIX YEAR SUMMARY SHOWING PER CENT OF INFECTION FOUND ANNUALLY

County	July 1946 to June 1947				July 1945 to June 1946					
	Animals Under Supervision	Animals Reacting	Per Cent Reaction on Total Cattle Population	Tests Made	Per Cent Reaction On Tests Made	Animals Under Supervision	Animals Reacting	Per Cent Reaction on Total Cattle Population	Tests Made	Per Cent Reaction On Tests Made
Atlantic	711	1	.14	663	.15	644	8	1.25	1,110	.72
Bergen	2,143	1	.05	2,331	.04	2,563	.....	.....	2,614	.....
Burlington	22,220	162	.73	29,277	.55	21,131	257	1.28	42,680	.60
Camden	1,601	26	1.62	1,895	1.37	1,694	1	.06	1,886	.05
Cape May	583	.....	.....	589	.....	579	1	.14	646	.15
Cumberland	6,728	32	.48	9,832	.33	6,776	13	.18	10,301	.13
Essex	1,350	.....	.....	1,360	.....	1,578	3	.20	1,528	.20
Gloucester	5,475	7	.13	6,926	.10	5,641	15	.24	6,534	.23
Hudson	42	.....	.....	54	.....	75	.....	.....	143	.....
Hunterdon	30,930	62	.20	30,099	.21	29,909	50	.16	28,147	.18
Mercer	8,901	27	.30	10,627	.25	9,290	26	.26	10,450	.25
Middlesex	7,168	17	.24	10,781	.16	7,060	44	.53	9,647	.46
Monmouth	9,036	10	.12	6,869	.15	9,253	21	.20	9,913	.21
Morris	12,110	136	1.12	14,661	.93	11,729	8	.07	11,929	.07
Ocean	1,472	5	.34	1,567	.32	1,485	8	.52	2,083	.38
Passaic	2,050	3	.15	2,994	.10	2,289	27	1.05	2,519	1.07
Salem	17,162	34	.20	21,840	.16	16,774	70	.40	19,545	.36
Somerset	12,345	12	.10	15,803	.08	12,103	26	.20	13,084	.20
Sussex	33,078	349	1.06	56,231	.62	33,324	278	.83	46,534	.60
Union	2,380	.....	.....	2,436	.....	2,726	4	.14	5,382	.07
Warren	24,549	65	.26	28,612	.23	24,726	102	.42	29,508	.35
State	202,034	949	.47	255,447	.37	201,349	962	.46	256,183	.38

THIRTY-SIXTH ANNUAL REPORT

STATE DEPARTMENT OF AGRICULTURE

GOATS

TUBERCULOSIS

County	Under Supervision June 30, 1951				Fully Accredited June 30, 1951				Number Tested July 1950 to June 1951			
	Herds	Reg.	Grade	Tot.	Herds	Reg.	Grade	Tot.	Herds	Reg.	Grade	Tot.
Atlantic	11	17	71	88	7	17	63	80	11	17	71	88
Bergen	19	16	62	78	14	9	50	59	19	16	63	79
Burlington	15	1	75	76	9	1	55	56	18	1	65	66
Camden	5	4	68	72	4	4	63	67	5	4	68	72
Cape May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland	3	1	49	50	2	1	48	49	3	1	49	50
Essex	5	.....	53	53	5	.....	53	53	5	.....	53	53
Gloucester	21	2	60	62	9	2	31	33	22	2	61	63
Hudson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunterdon	27	3	260	263	18	3	235	238	27	203	257	460
Mercer	11	5	29	34	7	4	25	29	9	4	27	31
Middlesex	8	23	29	52	7	22	29	51	9	22	33	55
Monmouth	24	47	67	114	18	40	48	88	24	47	57	104
Morris	39	32	232	264	32	19	200	219	44	29	221	250
Ocean	6	.....	16	16	1	.....	1	1	6	.....	16	16
Passaic	17	112	45	157	14	111	38	149	17	112	45	157
Salem	6	.....	11	11	3	.....	8	8	7	.....	11	11
Somerset	21	42	296	338	14	33	274	307	25	141	421	562
Sussex	4	.....	49	49	1	.....	42	42	3	.....	48	48
Union	5	5	10	15	4	5	8	13	5	5	16	21
Warren	7	24	58	82	5	24	55	79	6	24	56	80
State	254	334	1,540	1,874	174	295	1,326	1,621	266	628	1,638	2,266

BRUCELLOSIS

Atlantic	11	17	74	91	5	17	56	73	12	17	66	83
Bergen	16	17	47	64	8	10	23	33	16	18	46	64
Burlington	14	12	76	88	7	9	53	62	10	9	41	50
Camden	5	.....	67	67	3	.....	58	58	3	.....	61	61
Cape May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland	4	2	49	51	2	2	47	49	4	1	50	51
Essex	6	15	24	39	5	15	22	37	7	42	29	71
Gloucester	11	2	32	34	3	2	8	10	13	2	34	36
Hudson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunterdon	23	10	231	241	10	.....	207	207	23	11	373	384
Mercer	6	9	12	21	4	8	10	18	5	9	10	19
Middlesex	9	17	36	53	4	1	25	26	11	16	37	53
Monmouth	21	34	64	98	13	24	47	71	12	30	16	46
Morris	36	79	129	208	22	70	98	168	29	52	202	254
Ocean	4	.....	13	13	1	.....	4	4	3	.....	10	10
Passaic	15	101	33	134	10	101	20	121	11	101	24	125
Salem	6	.....	7	7	4	.....	5	5	4	.....	4	4
Somerset	27	32	292	324	16	19	252	271	18	19	474	493
Sussex	4	2	39	41	2	1	1	2	5	.....	48	48
Union	4	5	12	17	.....	.....	.....	.....	3	5	7	12
Warren	11	60	37	97	7	60	24	84	6	60	19	79
State	233	414	1,274	1,688	126	339	960	1,299	195	392	1,551	1,943

BUREAU OF BRUCELLOSIS CONTROL

The 1950-51 fiscal year was the fifth year of the revised program for the control and eradication of brucellosis. During this period, the attitude of New Jersey dairymen has changed from one of indifference toward any plan for control of the disease to acceptance, and in many cases, a desire to cooperate, in order to get the job done as quickly as possible. This is also the trend throughout the United States. Many states are far ahead in their programs, and at the present time North Carolina, New Hampshire and Maine are modified certified brucellosis-free. Other states are operating under programs which should accomplish this within the next few years. Because New Jersey is a cattle importing state, such progress in cattle raising areas is important. As a result of extensive vaccination programs, many imported animals have been immunized as calves and are much more valuable from a brucellosis standpoint as herd additions.

In accordance with the recommendations of the brucellosis advisory committee, New Jersey plans were revised to conform as closely as possible with the national program recommended by the U. S. Livestock Sanitary Association and the U. S. Bureau of Animal Industry. The revised plans were approved by the State Board of Agriculture and are now in use. Besides standardizing the terminology and classification of the plans the program allowed a more realistic interpretation of such problems as herd additions and persistent titres following calthood vaccination. The development of unity in the method of control and eradication of brucellosis throughout the nation is an important step in reaching the ultimate goal of eradication.

Brucellosis can be controlled by a combination of calthood vaccination, blood testing and economical removal of reactors. However, the elimination of infected animals is recognized as the only way in which brucellosis can be eradicated. Eradication has been set up as the goal of the program. A little carelessness or easing of pressure will allow the disease to re-entrench itself and nullify the time, effort and money which has been spent on it.

CALFHOOD VACCINATION

Vaccination of calves continues to be an important control measure in infected herds and is being used more widely by clean and certified herds as a valuable insurance policy against widespread infection and abortion, in case of accidental exposure.

An understanding of the value and limitations of calthood vaccination is becoming more widespread. The immunity produced is not absolute and the degree of resistance provided depends upon many factors, including the variations in response of individual animals to the antigen employed. In almost any case, the disease can be produced if the virulence and number of organisms used is large enough.

There has been considerable speculation regarding the duration of a substantial degree of resistance to brucellosis infection following vaccination.

It has been stated without foundation that immunity is almost completely gone by the time an animal which has been calfhood vaccinated reaches four or five years of age. Recent work has shown that more than 85 per cent of a group of animals exposed to virulent infection during the fourth and fifth pregnancies was able to resist the infection, while all the control animals succumbed to the disease. This indicates that a high degree of resistance can be expected to be maintained at least to this age.

Recently, it has been reported that the amount of resistance conferred by vaccination is not significantly influenced by the age of the animal at the time of vaccination. It was demonstrated that there is no appreciable difference in resistance to infection between animals vaccinated between six and eight months of age and those vaccinated at later dates, up to two years of age.

During the past year, a new record was set in the total number of calves vaccinated. Each year a considerable increase has been shown over the total of the previous year. Since the beginning of the program, 82,626 calves have been officially vaccinated. In 1947, 13,381 were vaccinated; in 1948, 14,813; in 1949, 16,183; in 1950, 18,305 and in 1951, 19,944.

Not only has the total number of calves vaccinated each year increased, but the number of herds practicing calfhood vaccination and the number of animals maintained in these herds has also risen in proportion. At the present time, 42 per cent of the total herds in the State, containing 68 per cent of the animals, is enrolled under the calfhood vaccination program.

Because more than half the total number of herds in the State contain five or less animals, it can be assumed that almost all of the calf-raising herds are practicing vaccination at the present time, and that the majority of herds not enrolled are small ones raising few, if any, calves.

The report from the West Virginia experiment on Huddleson's mucoid vaccine was received. Definite conclusions regarding the possible value of "M" vaccine were not formulated, but the report states that brucella organisms were recovered at some time from the milk of every animal that was vaccinated and subsequently exposed to infection. This would certainly indicate that exhaustive tests are necessary before any widespread use of this product is risked.

BLOOD TEST

This phase of the program has continued to expand both on an individual herd and a township basis. Increased interest in the control of the disease has resulted in better cooperation of herd owners in the township group-testing plan and more requests for herd tests by individuals throughout the State.

There has been a considerable increase in the number of herds certified as brucellosis-free. On June 30, 1950, a total of 1,334 herds was certified and by the end of this year, this total had risen to 1,744. During the year, only eight herds disclosed sufficient infection to cause their being removed

from the certified herd list. In most cases, the introduction of infection can be traced to improper herd additions. Also significant is the fact that some of the above herds do not practice calffood vaccination.

During the past year, 791 herds were initially tested. On this first test, a total of 612 herds had no reactors. This is about three-fourths of the herds, containing almost half the total number of animals tested.

Progress was made in the township group-testing program during the year, indicating that this is the most practical and economical method of expanding the work. It is anticipated that testing will be done next year in as many townships as possible. The number which can be tested is limited almost entirely by the manpower available to do the necessary retesting, as well as the initial work. As an example of what can be done, in Gloucester and Hunterdon counties the remaining townships are ready for initial testing at the present time.

Last year, seven townships in five counties were group-tested. Of 500 herds in these areas, 430, or 86 per cent, were enrolled under a blood testing program. These herds contained 4,668 animals, or 87 per cent of a total cattle population of 5,337.

MILK RING TEST

The milk ring test has recently been used on a limited scale in certified herds as a substitute for one of the semi-annual blood tests. Some samples have arrived broken or with the milk soured, but on the whole the test has proved a valuable aid in the program. It is planned to continue and expand the use of this test next year to relieve the field staff of some of the blood testing burden, permitting the enrollment of more herds and allowing extra time for additional work in problem herds.

PERSONNEL

During the year, Dr. Herbert J. Jenne, chief of the Bureau of Brucellosis Control, was granted a one-year leave of absence to accept a position with the Federal government in Washington. Dr. Walter L. Mackey has replaced Dr. Jenne. Dr. John H. Morris is now serving as a captain in the Veterinary Corps. Dr. William C. Carter was added to the staff in June and has been assigned as brucellosis field supervisor in the Burlington-Ocean County area.

COMPLICATING FACTORS

Vibriosis and trichomoniasis continue to be complicating factors in the program. The occurrence of abortions in a herd is generally first attributed to a brucellosis infection. This is often the case in infected herds, but in some instances a vibrio or trichonomad infection has been demonstrated in the same herd and is responsible for some of the trouble.

Abortions in clean or certified herds are almost always caused by vibriosis or trichomoniasis and it is important to establish this without doubt

STATE DEPARTMENT OF AGRICULTURE

in order to maintain the confidence of the owner in the brucellosis program. Fortunately, these complicating diseases are usually self-limiting or can be eliminated by good herd management.

STATE INDEMNITY PAID FOR REACTORS TO BRUCELLOSIS TEST

July 1, 1950 To June 30, 1951

Class of Cattle	Animals	Amount Paid
Registered	36	\$ 5,019.95
Grade	130	9,050.42
Registered and Grade	166	\$14,070.37

Average State Indemnity Paid Per Head:

Registered Animal	\$139.44
Grade Animal	69.62
Registered and Grade	84.76

SALVAGE RECEIVED BY OWNERS FOR REACTORS TO BRUCELLOSIS TEST

July 1, 1950 To June 30, 1951

Class of Cattle	Animals	Amount Paid
Registered	36	\$ 7,526.76
Grade	130	27,995.61
Registered and Grade	166	\$35,522.37

Average Salvage Received Per Head:

Registered Animal	\$209.08
Grade Animal	215.35
Registered and Grade	213.99

FEDERAL INDEMNITY PAID FOR REACTORS TO BRUCELLOSIS TEST

July 1, 1950 To June 30, 1951

Class of Cattle	Animals	Amount Paid
Registered	36	\$ 1,773.38
Grade	130	3,130.81
Registered and Grade	166	\$ 4,904.19

Average Federal Indemnity Paid Per Head:

Registered Animal	\$49.26
Grade Animal	24.08
Registered and Grade	29.54

Total amount received by owners for reactors \$54,496.93
(Sum of salvage, Federal and State indemnity)

Average amount received per head \$328.29

**REACTORS TO THE TEST FOR BRUCELLOSIS APPRAISED, THEIR APPRAISED VALUE, AND THE TOTAL
AND AVERAGE AMOUNTS RECEIVED BY OWNERS FROM SALVAGE, STATE AND FEDERAL INDEMNITY**

July 1, 1950 to June 30, 1951

County	Reactors Appraised			Appraised Value			Total Amount Paid to Owners (Salvage, State and Federal Indemnity)			Average Amount Paid Owners Per Head		
	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total
Atlantic	.....	.....	.....	\$ .....	\$ .....	\$ .....	\$ .....	\$ .....	\$ .....	\$ .....	\$ .....	\$ .....
Bergen	.....	6	6	.....	2,475.00	2,475.00	.....	2,141.98	2,141.98	.....	357.00	357.00
Burlington	4	13	17	1,965.00	4,245.00	6,210.00	1,668.00	3,830.83	5,498.83	417.00	294.68	323.46
Camden	.....	3	3	.....	840.00	840.00	.....	634.96	634.96	.....	211.65	211.65
Cape May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland	1	10	11	360.00	3,415.00	3,775.00	359.80	2,973.90	3,333.70	359.80	297.39	303.06
Essex	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gloucester	2	14	16	900.00	4,710.00	5,610.00	786.95	4,245.46	5,032.41	393.48	303.25	314.53
Hudson	.....	1	1	.....	350.00	350.00	.....	283.99	283.99	.....	283.99	283.99
Hunterdon	2	18	20	990.00	6,735.00	7,725.00	824.35	6,084.65	6,909.00	412.18	338.04	345.45
Mercer	5	17	22	1,750.00	5,140.00	6,890.00	1,668.10	4,929.64	6,597.74	332.62	289.98	299.90
Middlesex	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monmouth	2	11	13	825.00	3,805.00	4,630.00	825.00	3,538.53	4,363.53	412.50	321.68	335.66
Morris	6	4	10	2,259.00	1,100.00	3,359.00	2,240.04	912.75	3,152.79	373.34	228.19	315.28
Ocean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Passaic	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salem	7	10	17	3,160.00	4,180.00	7,340.00	3,029.08	3,498.36	6,527.44	432.73	349.84	383.97
Somerset	4	6	10	1,780.00	2,235.00	4,015.00	1,533.34	1,950.32	3,483.66	383.34	325.05	348.37
Sussex	3	15	18	1,550.00	5,077.50	6,627.50	1,385.43	4,681.34	6,066.77	461.81	312.09	337.04
Union	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warren	.....	2	2	.....	475.00	475.00	.....	470.13	470.13	.....	235.07	235.07
State	36	130	166	\$15,539.00	\$44,782.50	\$60,321.50	\$14,320.09	\$40,176.84	\$54,496.93	\$397.78	\$309.05	\$328.29

THIRTY-SIXTH ANNUAL REPORT

**REACTORS TO THE TEST FOR BRUCELLOSIS APPRAISED, THE AMOUNT OF SALVAGE RECEIVED
AND THE STATE AND FEDERAL IDEMNITY PAID**

July 1, 1950 to June 30, 1951

County	Reactors Appraised			Amount of Salvage Received			Amount of State Indemnity Paid			Amount of Federal Indemnity Paid		
	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total
Atlantic	.....	.....	.....	\$ .....	\$ .....	\$ .....	\$ .....	\$ .....	\$ .....	\$ .....	\$ .....	\$ .....
Bergen	.....	6	6	.....	1,541.98	1,541.98	.....	450.00	450.00	.....	150.00	150.00
Burlington	4	13	17	870.05	2,547.54	3,417.59	597.95	958.29	1,556.24	200.00	325.00	525.00
Camden	.....	3	3	.....	334.96	334.96	.....	225.00	225.00	.....	75.00	75.00
Cape May	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland	1	10	11	159.80	1,973.90	2,133.70	150.00	750.00	900.00	50.00	250.00	300.00
Essex	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hampden	2	14	16	386.95	2,850.86	3,237.81	300.00	1,044.60	1,344.60	100.00	350.00	450.00
Hudson	.....	1	1	.....	183.99	183.99	.....	75.00	75.00	.....	25.00	25.00
Hunterdon	2	18	20	441.45	4,443.04	4,884.49	282.90	1,210.65	1,493.55	100.00	430.96	530.96
Mercer	5	17	22	887.29	3,673.27	4,560.56	543.99	912.07	1,456.06	236.82	344.30	581.12
Middlesex	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monmouth	2	11	13	444.31	2,560.79	3,005.10	280.69	721.89	1,002.58	100.00	255.85	355.85
Morris	6	4	10	1,098.76	512.75	1,611.51	841.28	300.00	1,141.28	300.00	100.00	400.00
Ocean	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Passaic	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Union	7	10	17	1,629.08	2,498.54	4,127.62	1,050.00	749.82	1,799.82	350.00	350.00	600.00
Warren	4	6	10	823.64	1,357.97	2,181.61	523.14	442.35	965.49	186.56	150.00	336.56
Windsor	3	15	18	785.43	3,229.89	4,015.32	450.00	1,076.75	1,526.75	150.00	374.70	524.70
York	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warren	.....	2	2	.....	286.13	286.13	.....	134.00	134.00	.....	50.00	50.00
State	36	130	166	\$7,526.76	\$27,995.61	\$35,522.37	\$5,019.95	\$9,050.42	\$14,070.37	\$1,773.38	\$3,130.81	\$4,904.19

THIRTY-SIXTH ANNUAL REPORT

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STATE INDEMNITY PAID FOR REACTORS TO BRUCELLOSIS TEST

December 16, 1940 to June 30, 1951

Class of Cattle	Animals	Amount Paid
Registered	1,031	\$ 91,758.61
Grade	2,831	122,698.59
		<hr/>
Registered and Grade	3,862	\$214,457.20

Average State Indemnity Paid Per Head:

Registered Animal	\$89.00
Grade Animal	43.34
Registered and Grade	55.53

SALVAGE RECEIVED BY OWNERS FOR REACTORS TO BRUCELLOSIS TEST

December 16, 1940 to June 30, 1951

Class of Cattle	Animals	Amount Paid
Registered	1,031	\$ 86,416.08
Grade	2,831	239,279.07
		<hr/>
Registered and Grade	3,862	\$325,695.15

Average Salvage Received Per Head:

Registered Animal	\$83.82
Grade Animal	84.52
Registered and Grade	84.33

FEDERAL INDEMNITY PAID FOR REACTORS TO BRUCELLOSIS TEST

December 16, 1940 to June 30, 1951

Class of Cattle	Animals	Amount Paid
Registered	1,025*	\$ 43,166.76
Grade	2,837	59,599.12
		<hr/>
Registered and Grade	3,862	\$102,765.88

Average Federal Indemnity Paid Per Head:

Registered Animal	\$42.11
Grade Animal	21.01
Registered and Grade	26.61

*One claim was paid during the fiscal year 1945-46 involving 6 animals paid on a registered basis by the State and on a grade basis by the Federal government.

Total amount received by owners for reactors \$642,918.23
(Sum of salvage, Federal and State indemnity)

Average amount received per head \$166.47

REACTORS TO THE TEST FOR BRUCELLOSIS APPRAISED, THEIR APPRAISAL VALUE, THE TOTAL
AND AVERAGE AMOUNT RECEIVED BY OWNERS FROM SALVAGE, STATE AND FEDERAL INDEMNITY

December 16, 1940 to June 30, 1951

County	Reactors Appraised			Appraised Valuation			Total Amount Paid to Owners (Salvage, State and Federal Indemnity)			Average Amount Paid Owners Per Head		
	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total
Atlantic	1	71	72	185.00	8,790.00	8,975.00	\$ 156.97	\$ 8,032.86	\$ 8,189.83	\$156.97	\$113.14	\$113.75
Bergen	5	22	27	1,255.00	6,025.00	7,280.00	1,149.90	5,343.70	6,493.60	229.98	242.90	240.50
Burlington	78	133	211	20,310.00	26,120.00	46,430.00	17,885.87	22,921.85	40,807.72	229.31	172.34	193.40
Camden	12	20	32	3,740.00	3,645.00	7,385.00	3,396.88	3,076.66	6,473.54	283.07	153.83	202.30
Cape May	.....	63	63	.....	7,295.00	7,295.00	.....	6,618.39	6,618.39	.....	105.05	105.05
Cumberland	53	190	243	14,710.00	35,225.00	49,935.00	14,135.20	33,085.84	47,221.04	266.70	174.14	194.33
Essex	.....	15	15	.....	1,400.00	1,400.00	.....	1,305.92	1,305.92	.....	87.06	87.06
Hampden	15	106	121	3,845.00	21,385.00	25,230.00	3,364.53	19,995.15	23,359.68	224.30	188.63	193.06
Hudson	.....	1	1	.....	350.00	350.00	.....	283.99	283.99	.....	283.99	283.99
Hunterdon	123	164	287	35,190.00	40,590.00	75,780.00	28,934.40	33,851.46	62,785.86	235.24	206.41	218.77
Mercer	95	350	445	24,305.00	62,505.00	86,810.00	20,859.04	56,886.14	77,745.18	219.57	162.53	174.71
Middlesex	86	597	683	14,245.00	77,860.00	92,105.00	12,788.69	70,781.55	83,570.24	148.71	118.56	122.36
Morristown	58	101	159	12,925.00	17,450.00	30,375.00	11,724.78	15,980.82	27,705.60	202.15	158.23	174.25
Morris	154	311	465	38,859.00	54,942.00	93,801.00	32,872.88	46,535.05	79,407.93	213.46	149.63	170.77
Ocean	.....	9	9	.....	1,885.00	1,885.00	.....	1,740.20	1,740.20	.....	193.36	193.36
Ossage	6	49	55	1,460.00	7,790.00	9,250.00	1,357.82	6,761.24	8,119.06	226.30	137.98	147.62
Passaic	67	243	310	18,140.00	35,410.00	53,560.00	16,828.01	32,599.14	49,427.15	251.16	134.15	159.44
Perth	145	241	386	37,255.00	38,330.00	75,585.00	31,322.48	32,729.39	64,051.87	216.02	135.81	165.94
Union	66	43	109	14,405.00	10,402.50	24,807.50	12,450.30	9,169.72	21,620.02	188.64	213.25	198.35
Warren	.....	9	9	.....	1,265.00	1,265.00	.....	1,180.15	1,180.15	.....	131.13	131.13
Warren	67	93	160	14,225.00	14,395.00	28,620.00	12,113.70	12,697.56	24,811.26	180.80	136.53	155.07
State	1,031	2,831	3,862	\$225,054.00	\$473,069.50	\$728,123.50	\$221,341.45	\$421,576.78	\$642,918.23	\$214.69	\$148.91	\$166.47

REACTORS TO THE TEST FOR BRUCELLOSIS APPRAISED, THE AMOUNT OF SALVAGE RECEIVED
AND THE STATE AND FEDERAL IDEMITY PAID

December 16, 1940 to June 30, 1951

County	Reactors Appraised			Amount of Salvage Received			Amount of State Indemnity Paid			Amount of Federal Indemnity Paid		
	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total
Atlantic	1	71	72	\$ 28.95	\$ 4,073.61	\$ 4,102.56	\$ 78.02	\$ 2,529.17	\$ 2,607.19	\$ 50.00	\$ 1,430.08	\$ 1,480.08
Bergen	5	22	27	441.48	3,375.87	3,817.35	471.49	1,449.62	1,921.11	236.93	518.21	755.14
Burlington	78	133	211	7,183.28	12,776.33	19,959.61	7,423.75	7,098.80	14,522.55	3,278.84	3,046.72	6,325.56
Camden	12	20	32	1,149.88	1,577.19	2,727.07	1,647.00	1,024.31	2,671.31	600.00	475.16	1,075.16
Cape May	.....	63	63	.....	3,490.81	3,490.81	.....	1,920.17	1,920.17	.....	1,207.41	1,207.41
Cumberland	53	190	243	6,090.20	19,433.39	25,523.59	5,729.43	9,537.42	15,266.85	2,315.57	4,115.03	6,430.60
Essex	.....	15	15	.....	846.86	846.86	.....	276.55	276.55	.....	182.51	182.51
Hudson	15	106	121	1,566.94	11,757.70	13,324.64	1,229.90	5,898.15	7,128.05	567.69	2,339.30	2,906.99
Madison	.....	1	1	.....	183.99	183.99	.....	75.00	75.00	.....	25.00	25.00
Meriden	123	164	287	10,717.80	20,128.75	30,846.55	12,867.80	9,758.83	22,626.63	5,348.80	3,963.88	9,312.68
Monmouth	95	350	445	8,328.10	34,177.54	42,505.64	8,595.45	15,495.21	24,090.66	3,935.49	7,213.39	11,148.88
Middlesex	86	597	683	5,413.59	39,704.37	45,117.96	4,458.20	19,160.48	23,618.68	2,916.90	11,916.70	14,833.60
Montgomery	58	101	159	5,065.71	9,558.18	14,623.89	4,360.19	4,297.18	8,657.37	2,298.88	2,125.46	4,424.34
Morris	154	311	465	11,184.84	23,040.02	34,224.86	14,768.21	16,377.70	31,145.91	6,919.83	7,117.33	14,037.16
Ocean	.....	9	9	.....	954.91	954.91	.....	573.70	573.70	.....	211.59	211.59
Passaic	6	49	55	511.86	3,527.39	4,039.25	565.95	2,154.02	2,719.97	280.01	1,079.83	1,359.84
Paterson	67	243	310	7,747.76	20,255.61	28,003.37	6,301.42	7,988.81	14,290.23	2,778.83	4,354.72	7,133.55
Perth Amherst	145	241	386	11,836.17	17,354.27	29,190.44	13,264.60	10,278.21	23,542.81	6,221.71	5,096.91	11,318.62
Richmond	66	43	109	4,744.52	5,528.23	10,272.75	5,073.96	2,620.85	7,694.81	2,631.82	1,020.64	3,652.46
Salem	.....	9	9	.....	687.14	687.14	.....	324.41	324.41	.....	168.60	168.60
Union	67	93	160	4,405.00	6,846.91	11,251.91	4,923.24	3,860.00	8,783.24	2,785.46	1,990.65	4,776.11
State	1,031	2,831	3,862	\$86,416.08	\$239,279.07	\$325,695.15	\$91,758.61	\$122,698.59	\$214,457.20	\$43,166.76	\$59,599.12	\$102,765.88

THIRTY-SIXTH ANNUAL REPORT

STATE DEPARTMENT OF AGRICULTURE

HERDS AND ANIMALS IN HERDS OPERATING UNDER THE BRUCELLOSIS CONTROL
PLANS AND THOSE CERTIFIED BRUCELLOSIS-FREE

June 30, 1951

County	PLAN A		PLAN B		PLAN D		Total	Total
	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals
Atlantic	127	339	2	165	.....	.....	129	504
Accredited	111	318	.....	.....	.....	.....	111	318
Bergen	44	361	6	106	.....	.....	50	467
Accredited	31	231	1	22	.....	.....	32	253
Burlington	104	2,295	50	2,886	3	277	157	5,458
Accredited	44	1,190	8	451	.....	.....	52	1,641
Camden	46	529	2	87	1	47	49	663
Accredited	30	389	.....	.....	.....	.....	30	389
Cape May	97	474	.....	.....	.....	.....	97	474
Accredited	85	442	.....	.....	.....	.....	85	442
Cumberland	418	2,520	36	1,332	3	223	457	4,075
Accredited	252	1,848	3	170	.....	.....	255	2,018
Essex	14	50	2	441	.....	.....	16	491
Accredited	11	41	.....	.....	.....	.....	11	41
Gloucester	276	1,830	27	786	2	189	305	2,805
Accredited	138	995	1	2	.....	.....	139	997
Hudson	4	30	.....	.....	.....	.....	4	30
Accredited	3	9	.....	.....	.....	.....	3	9
Hunterdon	340	5,830	164	5,773	8	471	512	12,074
Accredited	176	3,976	11	730	.....	.....	187	4,706
Mercer	126	2,598	20	762	4	379	150	3,739
Accredited	73	1,887	5	173	.....	.....	78	2,060
Middlesex	118	728	26	2,845	.....	.....	144	3,573
Accredited	51	515	3	175	.....	.....	54	690
Monmouth	287	3,442	17	1,001	3	234	307	4,677
Accredited	142	2,356	2	225	.....	.....	144	2,581
Morris	148	1,902	42	2,971	4	921	194	5,794
Accredited	111	1,614	6	162	.....	.....	117	1,776
Ocean	139	371	22	519	1	109	162	999
Accredited	116	292	.....	.....	.....	.....	116	292
Passaic	13	124	3	129	.....	.....	16	253
Accredited	9	78	.....	.....	.....	.....	9	78
Salem	79	1,235	33	1,319	2	124	114	2,678
Accredited	38	606	2	64	.....	.....	40	670
Somerset	186	4,376	44	1,566	5	295	235	6,237
Accredited	135	3,420	8	392	.....	.....	143	3,812
Sussex	99	2,880	65	4,348	12	782	176	8,010
Accredited	43	1,012	8	1,094	.....	.....	51	2,106
Union	22	142	4	47	.....	.....	26	189
Accredited	8	112	3	7	.....	.....	11	119
Warren	63	1,209	59	2,261	5	284	127	3,754
Accredited	32	732	6	236	.....	.....	38	968
State	2,750	33,265	624	29,344	53	4,335	3,427	66,944
Accredited	1,639	22,063	67	3,903	1,706	25,966

THIRTY-SIXTH ANNUAL REPORT

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AGGLUTINATION TESTS CONDUCTED IN THE DIVISION LABORATORY ON ANIMALS IN HERDS
UNDER SUPERVISION FOR THE CONTROL OF BRUCELLOSIS

July 1, 1950 to June 30, 1951

County	Tests Made	Negative	Positive	Suspicious	Samples Ins. Sera	Not Hemo-lyzed	Tested Broken
Atlantic	484	452	5	26	....	....	1
Bergen	635	592	17	26	....	....	....
Burlington	4,790	4,407	96	283	3	....	1
Camden	746	655	44	47	....	....	....
Cape May	479	471	1	7	....	....	....
Cumberland	4,766	4,263	201	290	3	....	9
Essex	480	428	3	47	1	....	1
Gloucester	3,358	3,082	121	149	1	....	5
Hudson	66	63	1	2	....	....	....
Hunterdon	12,721	11,509	438	764	2	....	8
Mercer	5,016	4,613	108	295	....	....	....
Middlesex	6,630	6,420	31	179	....	....	....
Monmouth	5,294	4,853	81	359	....	....	1
Morris	5,643	4,989	213	436	....	....	5
Ocean	448	359	53	36	....	....	....
Passaic	383	351	7	24	....	....	1
Salem	2,894	2,545	150	199	....	....	....
Somerset	8,275	7,592	144	531	2	....	6
Sussex	9,546	8,563	298	675	2	....	8
Union	184	170	1	13	....	....	....
Warren	3,013	2,711	96	201	....	3	1
State	75,851	69,088	2,109	4,589	14	3	48
		Per Cent Negative		91.08			
		Per Cent Positive		2.78			
		Per Cent Suspicious		6.05			
		Per Cent Not Tested		.09			

SUMMARY — BLOOD SAMPLES DRAWN FROM CATTLE — ROUTINE BRUCELLOSIS TESTS

Veterinarians Bleeding	Fiscal Year 1950 - 1951	
	Lots	Animals
New Jersey Division of Animal Industry	1,098	14,814
U. S. Bureau of Animal Industry	1,311	29,669
Accredited Practitioners (State Expense)	2,100	34,404
Accredited Practitioners (Tests at Owner's Expense)	1,279	13,011
Totals	5,788	91,898

SUMMARY — BLOOD SAMPLES DRAWN FROM INSHIPPED CATTLE — BRUCELLOSIS TESTS

New Jersey Division of Animal Industry	1,143	10,805
U. S. Bureau of Animal Industry	216	2,697
Accredited Practitioners (State Expense)	6	75
Accredited Practitioners (Dealer or Owner Expense)	230	4,621
Totals	1,595	18,198

STATE DEPARTMENT OF AGRICULTURE

SUMMARY — BLOOD SAMPLES DRAWN FROM GOATS — ROUTINE BRUCELLOSIS TESTS

New Jersey Division of Animal Industry	69	538
U. S. Bureau of Animal Industry	57	295
Accredited Practitioners (State Expense)	57	1,056
Accredited Practitioners (Tests at Owner's Expense)	12	54
Totals	<u>195</u>	<u>1,943</u>

SUMMARY — MISCELLANEOUS BLOOD SAMPLE DRAWN — ROUTINE BRUCELLOSIS TESTS

Accredited Practitioners	5	35 pigs
(Tests at Owner's Expense)	1	1 horse

CALFHOOD VACCINATIONS REPORTED

July 1, 1950 to June 30, 1951

County	Plan A		Plan B		Plan C		Plan D			Adults	Total			
	Lots	Calves	Lots	Calves	Lots	Calves	Lots	Calves	Heifers		Lots	Calves	Heifers	Adults
Atlantic	1	1	....	....	....	....	2	12	4	....	3	13	4	....
Bergen	6	24	....	....	3	22	....	....	....	....	9	46	....	....
Burlington	75	338	77	440	383	2,003	9	61	6	....	544	2,842	6	....
Camden	11	40	3	19	21	84	1	2	....	....	36	145	....	....
Cape May	5	12	....	....	4	7	....	....	....	....	9	19	....	....
Cumberland	63	205	24	97	43	187	6	29	5	....	136	518	5	....
Essex	....	....	3	34	1	2	11	58	....	....	15	94	....	....
Gloucester	59	225	26	135	59	192	8	42	3	....	152	594	3	....
Hudson	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Hunterdon	234	751	177	642	741	2,192	21	79	12	1	1,173	3,664	12	1
Mercer	99	425	31	117	142	492	11	58	3	54	283	1,092	3	54
Middlesex	12	95	36	320	65	175	1	....	1	....	114	590	1	....
Monmouth	148	563	21	156	116	429	9	41	10	....	294	1,189	10	....
Morris	61	198	35	217	96	322	26	235	....	1	218	972	....	1
Ocean	4	4	17	61	9	41	3	8	....	....	33	114	....	....
Passaic	2	3	5	25	6	7	....	....	....	....	13	35	....	....
Salem	54	191	50	191	243	859	5	35	2	....	352	1,276	2	....
Somerset	162	595	45	174	225	644	22	86	1	....	454	1,499	1	....
Sussex	70	234	102	661	616	2,016	36	174	44	....	824	3,085	44	....
Union	4	10	2	4	9	20	1	....	2	....	16	34	2	....
Warren	44	155	62	258	410	1,670	11	40	....	6	527	2,123	....	6
State	1,114	4,069	716	3,551	3,192	11,364	183	960	93	62	5,205	19,944	93	62

THIRTY-SIXTH ANNUAL REPORT

HERDS AND ANIMALS UNDER BRUCELLOSIS CONTROL PLANS INCORPORATING THE USE OF CALFHOOD VACCINATION

To June 30, 1951

County	Plan A		Plan B		Plan C		Plan D		Total	
	Herds	Cattle	Herds	Cattle	Herds	Cattle	Herds	Cattle	Herds	Cattle
Atlantic	3	7	1	122	.....	.....	....	....	4	129
Bergen	2	274	....	.....	3	142	....	....	5	416
Burlington	51	1,871	44	2,790	366	14,096	3	277	464	19,034
Camden	11	171	2	95	25	509	1	47	39	822
Cape May	10	62	.....	.....	2	2	....	....	12	64
Cumberland	72	1,418	24	913	47	1,279	2	137	145	3,747
Essex	.....	.....	2	441	3	36	....	....	5	477
Gloucester	45	1,089	13	580	55	1,341	2	176	115	3,186
Hudson	.....	.....	.....	.....	.....	.....	....	....	....	.....
Hunterdon	218	4,958	138	5,214	751	14,429	8	621	1,115	25,222
Mercer	67	1,979	19	617	140	2,944	4	360	230	5,900
Middlesex	20	790	18	1,802	104	1,308	....	....	142	3,900
Monmouth	112	2,082	19	936	145	2,263	3	224	279	5,505
Morris	49	1,302	27	1,966	93	2,276	2	589	171	6,133
Ocean	13	58	14	450	5	216	1	82	33	806
Passaic	2	35	2	44	5	107	....	....	9	186
Salem	42	1,016	32	1,205	232	6,685	2	131	308	9,037
Somerset	115	2,978	47	1,771	225	3,420	3	116	390	8,285
Sussex	73	2,734	45	3,060	543	18,790	13	781	674	25,365
Union	4	59	1	1	12	112	1	6	18	178
Warren	44	919	50	2,233	468	13,652	4	193	566	16,997
State	953	23,802	498	24,240	3,224	83,607	49	3,740	4,724	135,389

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LOTS, CALVES, HEIFERS AND ADULTS VACCINATED FOR BRUCELLOSIS CONTROL

July 1, 1946 to June 30, 1951

County	Lots Vaccinated	Calves Vaccinated	Heifers Vaccinated	Adults Vaccinated
Atlantic	10	41	4	.....
Bergen	32	205	8	.....
Burlington	2,469	11,494	27	83
Camden	136	524	16	84
Cape May	13	24	.....	.....
Cumberland	584	2,147	7	7
Essex	79	433	15	.....
Gloucester	557	1,854	3	13
Hudson	.....	.....	.....	.....
Hunterdon	4,953	14,960	31	156
Mercer	1,324	4,756	25	205
Middlesex	554	2,699	6	9
Monmouth	1,375	5,140	90	133
Morris	959	4,287	6	297
Ocean	138	416	.....	.....
Passaic	44	136	.....	1
Salem	1,461	5,023	2	24
Somerset	2,113	6,673	7	58
Sussex	3,273	12,490	131	188
Union	71	135	4	6
Warren	2,461	9,189	19	48
State	22,606	82,626	401	1,312

STATE DEPARTMENT OF AGRICULTURE

DIVISION LABORATORY REPORT

Following is a report of the work completed in the laboratory of the Division for the year ending June 30, 1951:

BLOOD TESTS MADE FOR BRUCELLOSIS ON INSHIPPED ANIMALS

Samples	18,175*
Samples broken (not set)	14
Insufficient sera (not set)	1
Tests set	18,160*
Tests read	18,160*
Samples positive	81
Samples negative	18,079*

* This figure includes titre carrying calfhood vaccinates eligible for entry.

BLOOD TESTS MADE FOR BRUCELLOSIS ON ANIMALS IN HERDS UNDER SUPERVISION

Samples received	89,555
Samples broken (not set)	58
Insufficient sera (not set)	19
Tests set	89,478
Tests read	89,709
Samples positive	2,202
Samples highly suspicious	911
Samples slightly suspicious	4,179
Samples negative	82,409
Samples hemolyzed	8

BLOOD TESTS MADE FOR BRUCELLOSIS OF VACCINATED CATTLE

Samples received	4,054
Samples broken (not set)	2
Tests set	4,052
Tests read	4,062
Samples positive	89
Samples highly suspicious	100
Samples slightly suspicious	455
Samples negative	3,418

MILK RING (ABR) TEST FOR BRUCELLOSIS

Samples received	408
Samples broken (not set)	15
Samples sour (not set)	10
Samples tested	383
Samples positive	62
Samples suspicious	49
Samples negative	272

BLOOD TESTS MADE FOR PULLORUM DISEASE OF POULTRY

Samples received	66,625
Samples broken (not set)	2
Insufficient sera (not set)	2
Tests set	66,621
Tests read	66,621
Samples positive	420
Samples negative	66,186
Samples hemolyzed	15

HOTIS TESTS FOR MASTITIS ON MILK SAMPLES OF ANIMALS

Number animals tested	1,957
Number quarter samples tested	7,727
Streptococci infected quarters	1,010
Staphylococci infected quarters	69
Negative quarters	6,624
Quarters disclosing other organisms	24

BACTEROLOGICAL, MICROSCOPIC AND POST MORTEM EXAMINATIONS

Animal	Number of Specimens Received	Specimen Received	Condition Suspected	Laboratory Findings
Avian	9	Birds	Unknown	Undetermined
Avian	6	Poult	Unknown	Undetermined
Avian	1	Turkey	Unknown	Undetermined
Avian	46	Chicks	Unknown	Undetermined
Avian	6	Poult	Unknown	E. Coli
Avian	2	Birds	Unknown	E. Coli
Avian	4	Birds	Unknown	Coryza
Avian	30	Chicks	Unknown	Cecal coccidiosis
Avian	22	Chicks	Unknown	Gizzard erosion
Avian	14	Birds	Unknown	Leukosis
Avian	2	Pullets	Unknown	Leukosis
Avian	13	Chicks	Unknown	Unabsorbed egg yolk
Avian	3	Livers and ovaries	Unknown	Leukosis and tumor of ovaries
Avian	4	Birds	Unknown	Paralysis
Avian	13	Chicks	Unknown	Newcastle's Disease
Avian	6	Poult	Unknown	Mycosis of crop
Avian	1	Bird	Unknown	Carcinoma of crop
Avian	1	Turkey	Cause of death	Internal hemorrhage
Avian	1	Bird	Cause of death	Death caused by injury
Avian	1	Bird	Cause of death	Injury allowing intestines to protrude
Avian	2	Birds	Cause of death	Obstruction in digestive tract
Avian	3	Birds	Unknown	Badly decomposed
Avian	6	Birds	Unknown	Roundworms
Avian	1	Bird	Unknown	Round and cecal worms
Avian		Intestines and cecum of chicken	Cecal worms	Confirmed
Avian	4	Birds	Fowl Typhoid	Confirmed
Avian	2	Pullets	Fowl Cholera	Confirmed
Avian	2	Pullets	Fowl Pox	Confirmed
Avian	1	Bird	Bronchitis	Confirmed
Avian	4	Chicks	Bronchitis	Newcastle's Disease
Avian	6	Chicks	Navel infection	Unabsorbed yolks
Avian	217	Birds	Pullorum disease	Negative
Avian	2	Pullets	Pullorum disease	Negative
Avian	2	Turkeys	Pullorum disease	Negative
Avian	69	Birds	Pullorum disease	Confirmed
Avian	9	Chicks	Pullorum disease	Confirmed
Bovine		Sections of	Anthrax	Negative

Bovine		lung, liver, spleen Ear, spleen, liver lungs	Anthrax	Negative
Bovine	2	Ears	Anthrax	Negative
Bovine	1	Head	Listerellosis	Negative
Bovine	80	Milk samples	Brucella abortus	Negative
Bovine	5	Milk samples	Brucella abortus	Confirmed
Bovine	3	Feti	Brucella abortus	Confirmed
Bovine	4	Feti	Brucella abortus	Negative
Bovine		Fetal stomach contents	Brucella abortus	Negative
Bovine	3	Feti	Vibrio fetus	Negative
Bovine	4	Fetal stomach contents	Vibrio fetus	Negative
Bovine	3	Feti	Vibrio fetus	Confirmed
Bovine	1	Fetal stomach contents	Vibrio fetus	Confirmed
Bovine	1	Liver	Vibrio fetus	Unable to examine due to preservative used
Bovine	1	Placenta	Unknown	Vibrio fetus
Bovine	1	Semen	Brucella, Vibrio and Trichomoniasis	Negative
Bovine	1	Urine	Brucella, Vibrio and Trichomoniasis	Negative
Bovine	3	Feti	Brucella, Vibrio and Trichomoniasis	Negative
Bovine	1	Placenta	Brucella, Vibrio and Trichomoniasis	Negative
Bovine	1	Fetal stomach contents	Brucella, Vibrio and Trichomoniasis	Negative
Bovine	4	Urines	Pathogenic organisms	Negative
Bovine	2	Urines	C. renale	Confirmed
Bovine	3	Urines	Albumin	Confirmed
Bovine	1	Fetus and placenta	Pathogenic organisms	Negative
Bovine	5	Feti	Pathogenic organisms	Negative
Bovine	1	Calf	Unknown	Undetermined
Bovine	1	Uterine sample	Pathogenic organisms	Negative
Bovine	2	Feti	Pathogenic organisms	Negative
Bovine	1	Placenta	Pathogenic organisms	Negative
Bovine		Liver, spleen, heart, lungs, kidney, tongue	Pathogenic organisms	Negative

		brain, lymph glands		
Bovine	1	Milk sample	Pathogenic organisms	C. pyogenes
Bovine	1	Feces and mucosal scrapings	Johne's Disease	Acid-fast organisms present
Bovine	1	Lymph gland	Actinomycosis bovis	C. pyogenes
Bovine	1	Tube of exudate	Actinomycotic rosettes	Negative
Bovine	1	Tube of exudate from hind leg of steer	Blackleg	Negative
Bovine	1	Feces	Parasites and ova	Negative
Bovine	2	Skin scrapings	Mites	Negative
Canine	1	Pup	Unknown	Heavy infestation of Dipylidium caninum
Equine	1	Foal's head	Listerellosis	Negative
Equine		Internal organs from colt	Unknown	E. Coli
Equine	2	Blood samples	S. abortivoequina	Negative
Equine	1	Foal	Unknown	Undetermined
Equine	1	Foal	Unknown	Equine virus abortion
Equine	40	Vaginal swabs	Pathogenic bacteria	Negative
Equine	1	Urine	Pregnancy	Negative
Equine	1	Urine	Pregnancy	Cuboni test indicates positive chemical reaction
Ovine	1	Sheep	Unknown	Aerobacter aerogenes
Ovine	1	Lamb	Unknown	Badly decomposed
Ovine	1	Lamb kidney	Unknown	Undetermined
Porcine	3	Pigs	Unknown	E. Coli
Porcine		Internal organs from pig	Unknown	Pasteurella suilla
Porcine		Internal organs from pig	Unknown	Undetermined
Porcine	3	Pigs	Unknown	Undetermined
Porcine	7	Pigs	Unknown	Hog cholera
Porcine	1	Pig	Unknown	Bi-polar organisms recovered
Porcine	1	Pig	Unknown	Condition due to irritating material injected
Porcine		Lymph gland and lung	Pathogenic bacteria	Negative
Porcine		Sections of liver, kidney and cecum	Unknown	Negative
Porcine	3	Pigs	Cause of death	Baby pig anemia
Porcine	4	Pigs	Brucella	Negative
Porcine	1	Pig	Erysipelas	Negative
Cavy	1	Rabbit	Cause of death	Undetermined

Report of the Division of Markets

WARREN W. OLEY, *Director*

The outbreak of war in Korea, just prior to the beginning of this fiscal year, found American agriculture confronted with surpluses and attempting to adjust production to more manageable proportions. In July, the Government was still ordering more storage bins to take care of its record grain holdings, while Congress was authorizing the Commodity Credit Corporation to draw on the Treasury for \$2 billion more to carry out price support commitments on 1950 crops.

Many people remembered the shortages that developed after this country entered the Second World War, and began buying up household supplies of staples, such as sugar, shortening, canned goods and soaps, causing temporary distribution difficulties. This action was entirely unnecessary, as the country had large food reserves, and the agricultural industry was better prepared than ever before to swing into higher production.

At the beginning of the year, there were large surpluses of dairy products, poultry products and potatoes. These three items, in particular, greatly affect the New Jersey farmers' income. In 1950, the United States experienced its fourteenth year of expanding total agricultural production. During that time, there was a more rapid, larger and steadier increase in agricultural production than during any other period. During the last decade, there was an increase of approximately one-third in food output from about the same agricultural producing plant.

This great increase in productivity on the part of the farmer has been due primarily to improved techniques based on experiment station and other scientific findings, including hybrid corn, plant and animal disease control, improved fertilizers, farm machinery and other labor-saving devices. New Jersey has progressed along with the rest of the nation, as can be seen in the greatly increased yields of some crops and the greater production in dairy and poultry plants.

The potato producers and dealers of New Jersey, realizing the danger in unregulated marketing of potatoes in the face of large supplies throughout the nation, voted in the spring of 1950 for a Federal Marketing Agreement and Order. New Jersey had developed a poor reputation on the markets because of improper grading and poor marketing practices. The order limited sales to better grades supported by official inspection. Also, New Jersey growers were assured of price support for the 1950 crop as compensation for submitting to regulation. The result of the program was satisfactory. New Jersey potatoes earned a good reputation in the markets. In the face of stiff competition from other states, Garden State shippers were able to sell approximately 1,500,000 hundredweights at the commercial markets at prices

slightly better than sales from competing areas. This condition prevailed until about September 10, when other Eastern areas cut prices considerably below support prices. New Jersey growers then turned to the Government as a market.

Distant buyers were well pleased with the better quality and grade of New Jersey potatoes. There will be no Government support program for the 1951 potato crop, and all areas are on a free competitive basis. In order to hold the advantage gained in the 1950 season, growers and shippers have decided to continue the Federal Marketing Order, which is an assurance that quality shipments will be maintained. Growers will submit to compulsory inspection, in spite of the fact that no compensatory support price will be obtainable.

Because of the great competition for markets and for better than average prices, producers of several commodities other than potatoes continue planning and making effective improved marketing programs. During the year, this was evident in an increased quality marketing program among egg producers, in the development of another apple marketing association, in the standardization program for both pack and package of the fruit and vegetable auction associations, and in the increase in packing in consumer packages. Business relations with wholesale buyers have been improved through quality guarantees and attempts to consider fully buyers' needs and conveniences.

The Division has continued to work closely with other State agencies, especially with the Division of Weights and Measures of the Department of Law and Public Safety, with the Department of State in the agricultural cooperative field, and with representatives of Federal agencies. Relations with the College and Extension Service, the Farm Bureau, the Grange and the State's many commodity groups with whom the Division works are cordial and cooperative.

The following pages give in detail the objectives and accomplishments of all sections of the Division, and the accomplishments of those organizations with which the Division is closely allied.

BUREAU OF MARKET REPORTING AND COOPERATIVES

This Bureau was originally developed as a market news agency and when the services of the Department were reorganized, the responsibility of service to and regulation of the State's agricultural cooperatives was added to it. The market information project, which includes crop acreage and condition, has for many years issued material designed to serve agriculture in three ways. These are: the collection and dissemination of crop and market information from competing sections outside of the State, and of prices of New Jersey-grown farm products sold in the terminal markets and at auction markets where prices can be obtained, and the promotion and distribution of information about New Jersey-grown crops that will encourage buyers both in and out of the State to come to New Jersey to obtain their supplies.

The service project on cooperatives assists in setting up and dissolving cooperatives, giving constructive criticism of by-laws of new cooperatives, based on past experiences with other cooperatives, and reviewing and analyzing the financial statements and annual reports of the cooperatives in order to point out any weaknesses which might eventually ruin the cooperative. Cooperatives are now as much a part of the daily farm operation in most cases as the farm chores, and are, therefore, important to the general farm population. The cooperative may be classed as a tool or an extra hired hand which does for the producer the things which he delegates to it. A complete review of this subject will be found later in this report.

MARKET REPORTING

Daily price reports covering New Jersey-grown commodities are obtained by telephone from cooperative employees in the Philadelphia and New York market over a State-leased wire. In addition, a more complete report is received by mail. This information is relayed to auction markets within the State, where it is available to growers, buyers and other interested in this type of information. In addition to price, the information also includes the demand, the condition of the market, and the types of containers being used and their acceptance. At the same time that the information is relayed to the cooperatives, information about the crops available at the auction markets is obtained, giving this office a complete summary of conditions at both shipping point and terminal market. Daily information is also available by mail to any New Jersey grower or buyer who requests the service from the Federal Market News offices in New York and Philadelphia, which cooperate with this Department through the Division of Markets.

CROP INFORMATION

Crop information in this and competing areas is obtained from growers and shippers. Most of this is obtained through personal contacts by telephone or by mail, and supplements crop reports obtained from the Crop Reporting Service of the Federal Bureau of Agricultural Economics. This agency also cooperates with the Division of Markets and by working together closely, overlapping effort is avoided, which helps to make a more efficient service in each instance.

PROMOTIONAL ACTIVITIES

Part of the crop and market information service is devoted to promoting the sale of New Jersey-grown fruits and vegetables. Under this program, efforts are made to attract buyers to New Jersey to obtain their needed supplies during the active marketing season. This is accomplished by articles for the trade papers, mostly in cooperation with the Division of Information. Arrangements have been made to supply two weekly trade papers with the Truck Crop News; this has been well accepted by the papers and published in each issue. Direct advertising takes the form of the Auction News, which is written by the Bureau and covers the produce available at the auction

markets in the State. The expenses of the Auction News are defrayed by assessments on the auction markets.

In addition to the Auction News, a calendar for the appropriate month is mailed to about 750 buyers along with the Auction News during the last week of the preceding month. The calendar emphasizes in chart form the commodities that will be available at the auction markets during the month shown. The Bureau has also cooperated with the Farm Bureau in supplying information for use in television programs on which New Jersey commodities are featured. In the promotional part of this program, some emphasis has also been placed on the part of the consumer's dollar received by the grower. Also, information has been given on the complicated production and distribution problems met in bringing the commodity to the consumer. Many city people do not understand the amount of labor and transportation involved in providing their daily menu. Special broadcast work has been done by the chief of the Bureau on several Philadelphia stations, to further the sale of apples.

WEEKLY PUBLICATIONS

Weekly Market Review

The Weekly Market Review is issued every week during the year and is a digest of prevailing prices of feeds and grains, eggs, livestock, poultry, fruits and vegetables and milk. In addition to the current price information, the Review carries a statistical summary which compares prices obtained on the same date one week and one year previous. Feed and grain prices, f.o.b. Philadelphia, in carlot amounts bagged, are obtained by telephone from contract sources on the Commercial Exchange in Philadelphia. Feed ingredients, rather than mixed feed quotations, are given because of the wide range in feed formulas on which it is difficult to get true price comparisons.

A rather complete review of information of interest to the egg producers is published weekly. Prices at the sale or sales of the various egg auction markets in the State are given. An average price for each grade and weight in the market during the week or year previous is given for comparison. Prices quoted on the New York terminal egg market are also used for comparison. Receipts or volume in cases of eggs in the New York market during the week are given, together with figures of the week and the year before, and the accumulative totals from March 1 of the current year and the comparative amount of the previous year to the same date. Stocks on hand in New York or cold storage holdings and withdrawals are shown in another table. This gives a fairly well-rounded picture of egg supplies, production and prices of eggs. In livestock and poultry, the auction market figures and the New York terminal market figures are given. In chart form are comparative figures of fruits and vegetables in the New York and Philadelphia markets.

Market Conditions Reports

The Market Conditions reports are weekly publications mailed to inter-

ested growers at their request. These reports are unique in market reporting channels and have been well received by the growers. Possibly the main reason for interest in these reports is that they are concise, single sheet reports on one commodity covering prices, crop information, government regulations, transportation information, and other items of interest collected from many private, commercial and government reports on the subject. Sometimes it is possible to get information on prospective plantings in New Jersey and competing areas which may influence the grower in planting his particular acreage. Immediately before the harvest season, reports on conditions in competing areas and the extent of the harvest both preceding and following the New Jersey harvest are given, with the thought that the grower can time his harvest to get the best returns. During the harvest season the emphasis is placed mostly on terminal market conditions, prices and distribution. As the Market Conditions are based on a crop year, in some cases the report overlaps the fiscal year being reported, which extends from July 1 to June 30, and this summary may include the late part of a crop planted in 1950 and the early part of a crop planted in 1951.

Three reports were issued at the start of the harvest season on conditions of asparagus, the principal early crop during the spring months. It is grown both for fresh market and for cannery. The consumer's asparagus season in the East usually starts with the first offerings from California, which were reported this year on February 16. Six crates averaging 30 pounds were sold on that date for \$42.50 each. As more asparagus came on the market, the price declined. The Swedesboro and Pedricktown auction markets opened for the sale of asparagus on April 25, but a few crates were sold prior to this date. New Jersey asparagus was found as far west as Ohio, as far north as New England and Canada and as far south as Washington, with an occasional unload in Richmond. Prices of fresh market asparagus were fairly good this year, possibly reflecting the higher contract price of cannery asparagus.

The 1951 strawberry crop in many parts of the United States suffered from too much rainfall and high temperatures. There was also a shortage of labor for harvesting in some localities, and due to the high inventory of processed and quick-frozen strawberry stocks, processors were not too interested in entering the deal. These factors all influenced the poorer returns to the growers. New Jersey was particularly affected, due to the late harvest in Virginia and the early harvest in the lower New England States, New York and Long Island, as shown by the eight reports issued on this crop. Early prices were good, but these declined rapidly at the height of the New Jersey deal. The range of prices in the New York market was generally lower this year than the range of prices quoted last year.

One report was issued on onions. New Jersey growers planted about 2,900 acres this year, practically the same as last year, but slightly higher than average. The price dropped during the harvesting or shipping season, and during part of the deal growers did not receive adequate returns for their investment.

Eight reports were issued on peaches, one of these on the 1950 crop. In 1950, production for the country as a whole was well below average, particularly in the southern states. The largest production in the East was found in New York, New Jersey and Pennsylvania. Generally, the growers had a good year in 1950, but prospects for the 1951 crop are not as good. Production is high in all producing areas, except in the Central states, and there are likely to be heavy receipts in the nearby markets of late-maturing varieties, principally the Elbertas, from competing areas at a time when New Jersey peaches are being harvested and marketed.

There has been considerable variation between Bureau of Agricultural Economics estimates and those reported by individuals and associations in the competing areas, especially in fruit estimates. The Crop Reporting Service gets its estimates from growers and tries to arrive at reasonable basic figures. Some individuals, when reporting on the crop, tend to color their estimates in the hope of influencing the market. This Bureau's reports, while based on BAE estimates, also reflect information from private sources.

Six reports were issued on tomatoes, one on the 1950 crop. The early market this June was high, prices being about \$4.50 on 5/8-bushel baskets and about \$3 on 12-quart climax baskets. As July progresses, this price is sure to decline. Most competing sections have favorable weather conditions and expect good crops.

Sixteen reports were issued on white potatoes, some of which referred to the 1950 crop. The Market Conditions reports were limited in material during the marketing of the 1950 crop, because New Jersey had a price support program and a marketing agreement. Most of the New Jersey acreage was handled by farmers eligible for support, and the crop was sold to the Government at the support price. The commercial level was below the support price and the general market price was made in Long Island and Pennsylvania where no support program was in effect. The support program helped New Jersey growers financially, but many in the industry felt that the growers should have made a sacrifice and sold more of the crop to the trade. This was particularly stressed because the quality of the 1950 crop was excellent and it would have created a favorable impression among the receivers. Many potatoes were sold at a premium over the Long Island and Pennsylvania offerings, because of the excellent grading.

Facts and figures on the 1950 crop were reported in the Annual Potato Summary, which was published by the Department.

Six reports were issued on sweet potatoes. The 1950 crop for the country as a whole was above the 1949 crop but below the average for the preceding 10 years. The sweet potato crop probably needs more attention than any other crop produced in New Jersey. The market for New Jersey sweet potatoes is becoming more and more restricted and unloads in nearby markets from other producing areas are increasing. Also, the price being paid for sweets from some of these producing areas is well above the price received for New Jersey-grown sweet potatoes. Some of this appears to be caused

by a change in consumer preference. The increase in sales is in the Puerto Rican variety, mostly from North Carolina, where a great amount of work on variety improvement and marketing has been done in the last few years.

Seven reports were issued on apples. The 1951 apple crop in the United States was about 10 million bushels larger than average, but about 15 million bushels below the big crop of 1949. New Jersey growers are in about the same position as the sweet potato growers inasmuch as unloads from New Jersey in the New York and Philadelphia markets have decreased, while supplies from competing areas have increased. The Government, through the PMA, subsidized the apple growers through the part-payment of apples shipped in export trade. This relieved the market of some of the small sizes and helped to move some apples. Disappearance of apples from storage was exceptionally high during the spring of 1951, possibly because of an abnormal amount of waste in the apples or a high level of consumer use. The State of Washington, however, dumped quite a few apples late in the spring because there was no market.

Four reports were issued on lettuce. New Jersey lettuce growers received fairly good prices at the beginning of 1951, averaging about \$2 a crate. However, at the end of the deal the price averaged about \$1.50. The lettuce market was out of balance during most of the spring months because of the large crop in California. One interesting incident occurred during the lettuce marketing season. California growers signed agreements among themselves to disk under part of the production, and assessed themselves 25 cent a crate on what was sold to pay those growers who destroyed part of their crop. An injunction was obtained in the courts by the Department of Justice against the growers destroying their crop. The injunction was granted because the court felt that the Department of Justice had proved that this act was in violation of the anti-trust laws. This, however, is in direct contrast to a marketing agreement administered by the U. S. Department of Agriculture, in which the same program would be permitted.

Auction News

The Auction News was issued weekly during the active marketing season to promote the sale of New Jersey commodities at the produce auctions, most of which are cooperatives. All stationery and mailing costs of the publication are paid by the produce auction markets on a prorated basis. The News is written by the Bureau chief and the necessary clerical assistance is furnished by the Department.

Truck Crop News

The New Jersey Truck Crop News was issued weekly during the growing season in cooperation with the Weather Bureau of the Department of Commerce and the Trenton office of the Bureau of Agricultural Economics. Information on growing conditions and possible time of harvest is given in this report. As the report includes conditions all over the State, it is mailed

to the buyer list of the Auction News as a supplement to the information published in that sheet. Mailing is made under the franking privilege and at no cost to the Department.

SERVICE WORK WITH COOPERATIVES

As has been stated before, the Bureau was charged with service work for cooperatives during the reorganization of the Division. Previously, the work that had been done with cooperatives had been performed by the director of the Division. Due to the increase in the number of cooperatives, the demands made by them and the additional work of the Division in general, the director was unable to devote as much time to the cooperatives as was desirable.

The Bureau has compiled information on the cooperatives which is to be the basis of a general program of assistance for cooperatives. During 1951, amendments and a supplement to the cooperative law, strengthening the agricultural cooperative act, were introduced in the Legislature and passed both houses, but at the close of the fiscal year had not yet been signed by the Governor. The amendments included an administrative feature providing that a certified copy of the incorporation papers would be filed with the Secretary of Agriculture after being filed with the Secretary of State. This amendment was requested because of the amount of time spent by Bureau personnel studying the Secretary of State's files to find the cooperatives that were incorporated in the State. Almost 200 organizations were checked with the incorporation papers to determine whether they were incorporated under the State act.

Some cooperatives were originally formed under special charter of the Legislature; others were incorporated under the act, "Associations Not For Pecuniary Profit." Most of these had been reincorporated under Title 4, Chapter 13, of the Revised Statutes, known as the Agricultural Cooperative Association Act. Those which had not changed were contacted, with the thought that they might like to change over in order to get the benefits of the cooperative law. Some discrepancies found in the incorporation papers were called to the attention of the cooperatives.

The original act provided that a copy of the annual audit must be filed with the Secretary of Agriculture not later than three months after the close of the fiscal year of the cooperatives. Many cooperatives have not complied with this provision; in some cases, the cooperative was out of existence or had done no business. In cases where the association was known to have been out of business for some time with no thought of reorganizing, the Bureau recommended that the cooperative be dissolved. A few associations followed this recommendation; others felt that they might be unable to get together a sufficient number of former members to go through the dissolution procedure outlined in the original act.

In an effort to make it easy for these cooperatives to be dissolved and also to obtain compliance in the filing of the annual statements, the 1951

supplement contains a provision for dissolution by proclamation. Briefly, the supplement provides that any cooperative which does not file an annual financial statement for a period of three years shall have its name certified by the Secretary of Agriculture to the Secretary of State. After checking for accuracy, the Secretary of State will dissolve the corporation by proclamation. Any cooperative so dissolved may be reinstated by complying with a provision of the act within three months after being notified. According to Bureau records, of the 193 cooperatives registered with the Secretary of State and not dissolved, 26 have filed annual financial statements within the past three years.

As all information received in this office on the finances and the by-laws of the cooperatives is confidential, the Legislature in writing the original law must have intended that the filing of the information with the Secretary of Agriculture would be a safeguard against loss or destruction of association records. Records on one cooperative were destroyed, creating a problem in the dissolution of that cooperative. If all the records had been safely filed, the cooperative would at least have known the names of its members during the active years. As the original act states that at dissolution each member receives an equal share of the assets, dissolution would have been fairly easy. The Bureau is attempting to give additional service by analyzing the financial statements and pointing out weaknesses in the financial structure which might eventually cause financial losses to the cooperatives and their members.

Eight sets of by-laws were submitted by cooperatives being formed during the year. Of these, five contained paragraphs in violation of provisions of the cooperative act, and in some cases in conflict with other paragraphs. Letters were sent to these cooperatives, drawing attention to the errors and suggesting changes. Assistance was also given to cooperatives that were revising their by-laws to allow for changes in the activities of the association.

For the past several years, the director has requested an additional employee to be used in the Bureau to assist in these analyses and give more service to cooperatives.

From time to time the Department gets requests from manufacturers and jobbers or distributors for the names of cooperatives which might be interested in purchasing certain products for the members. Requests are also received from buyers for the names of cooperatives handling New Jersey commodities that they might wish to buy. In order to make this information available, the Bureau has begun a classified listing of all cooperatives and commodities which they handle, which will be cross-indexed for ready reference.

For some years, the produce, egg, poultry and livestock auction markets have met together to discuss their problems and exchange ideas. Believing that this could be done in a modified way on a larger scale, the Bureau started "The Cooperative News," which contains information on the cooperative

law, the work of the Department in the interest of cooperatives, and other items of interest. A copy of this is mailed to each cooperative on record.

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 on the part of the Division of Markets to recognize and identify nearby-produced milk of definite quality standards. Other activities include cooperation with the Office of Milk Industry, the New Jersey Dairymen's Council and other agencies, and the assistance given to livestock auction associations in the supervision and operation of livestock sales by auction.

That the New Jersey farmer producing commercial milk is feeling the pinch of circumstances is quite evident from the decrease in number of dairy farmers. As of April 1, 1951, there were 4,554 farmers producing commercial milk, as compared with 4,704 on April 1, 1950, a decrease of 150 farmers during that year. Also on April 1, 1940, there were 5,953 producers of commercial milk, a decrease of 1,399 farmers in 11 years. Figures of the U. S. Bureau of Animal Industry show the number of cows on New Jersey farms to be slightly above that of 1940. Farmers remaining in business have in many instances increased their herds in order to use all facilities economically. Production per cow per day has increased greatly during those 11 years, due to efficient management. One of the bright spots in the picture, as far as the New Jersey dairyman is concerned, is the steady increase in the consumption of milk. This is estimated at 2.41 per cent above April 1950, and 48.39 per cent above 1940.

NEW JERSEY OFFICIAL GRADES

Since 1931 milk produced under the New Jersey official grades has been regarded as the outstanding milk marketed in New Jersey, with the possible exception of Certified milk. During these 20 years, there have been notable strides in the supervision of all milks, making the product safer, and through the reduction in the time limit between the producer and the consumer, more palatable. A number of tests originated by outstanding health authorities during these 20 years have been adopted as routine measures by enforcement agencies. To bring these accomplishments into the grades work and the regulations covering the production of milk under the New Jersey official grades, during the past fiscal year the grade regulations were revised and rewritten by the supervisor of dairy products standardization. The result was reviewed and ratified without change by the New Jersey Official Grades Milk Dealers Association, submitted to the New Jersey Board of Agriculture and adopted on April 11, 1951. The regulations became effective July 1, 1951.

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 supplies under the supervision which grading entails, and who agree to pay an inspection fee covering not only their own plant, but the producer inspection also. Fees vary from 55 cents to 65 cents per thousand quarts produced daily, dependent upon volume. Payment is entirely by dealers and involves no fee expense to the producers of graded milk.

At the close of the fiscal year, 27 dealers were processing 110,028 quarts of milk daily under the New Jersey official grades program. Of these 27 dealers, 1 distributes only raw milk, 25 only pasteurized milk, and 1 sells both raw and pasteurized milk. Only a small percentage of milk is sold as raw.

Among the 27 dealers operating under the supervision of the Department of Agriculture, 17 are purchasing dealers, 6 producer-dealers and 4 both produce and purchase milk. The number of producers involved in the production of this milk is 360.

When the New Jersey official grades were established, a rigid herd inspection system was introduced which, 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, 1951, there were 21,430 cows examined in accordance with the grade regulations.

PHYSICAL EXAMINATION OF COWS

July 1950 to June 1951

County	Herd Examinations	Animal Examinations	Animals Passed	Animals Isolated	Animals Condemned
Bergen	2	49	49	.....	.....
Camden	1	21	21	.....	.....
Cumberland	1	18	17	1	.....
Essex	5	178	177	1	.....
Hunterdon	280	6,796	6,682	109	9
Morris	62	2,388	2,378	10	.....
Mercer	45	1,201	1,179	22	.....
Monmouth	2	65	62	3	.....
Salem	32	849	839	10	.....
Somerset	284	7,598	7,451	144	3
Sussex	50	1,848	1,825	22	1
Union	1	26	26	.....	.....
Warren	9	393	389	4	.....
Totals	774	21,430	21,095	326	9

	Number	Per Cent
Herds in which all animals were passed	573	74.03
Herds in which animals were excepted	201	25.97
Animals passed	21,095	98.44
Animals isolated	326	1.52
Animals condemned	9	.04

Another requirement of the New Jersey official grades is the physical examination of all employees on farms producing New Jersey Grade A Raw Milk and of employees in bottling plants handling the New Jersey grades of milk. Each man taking the medical examination was required to be examined by a physician twice during the year and pronounced safe to handle milk. When the individual had met these requirements, a card of identification was furnished to that effect. There were 304 milk handlers' cards issued during the year. Laboratory examinations of specimens submitted by physicians in connection with physical examinations were made by the New Jersey Department of Health.

The importance of microscopic analysis of milk samples 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 20 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, 4,580 samples were collected for analysis.

LIVESTOCK AUCTION MARKETS

The livestock auctions in New Jersey have experienced another banner year, despite some minor alarms when the Office of Price Stabilization started issuing its quotas for New Jersey slaughterers and then announced a nation-wide rollback on beef. The cause of apprehension was groundless as both these orders actually benefited the market for New Jersey-produced livestock, as it limited western and midwestern supplies, particularly beef.

There was a slight increase in the number of animals marketed during the year, but the price has lifted the gross sales to the highest total ever attained by markets of this kind in New Jersey. There seems to be no limit to the ability of New Jersey livestock auctions to handle volumes with the greatest possible return to the farmer. Cooperatives are especially beneficial in obtaining the high prices that go only with high volume operations. They are all returning dividends from these operations; how long these benefits will continue depends entirely upon the economic situation of the United States in general. Even if a recession develops, the livestock auction markets are the best method yet devised for obtaining commensurate prices for cull livestock for the New Jersey producer.

LIVESTOCK AUCTION MARKETS

	Head Sold	Value
Flemington	28,613	\$1,845,333.45
Hackettstown	46,035	3,885,674.68
Mount Holly	4,056	168,874.25
New Egypt	13,418	1,386,352.31
Sussex	34,550	2,719,011.95
Woodstown	35,141	2,875,645.93
Totals	161,813	\$12,880,892.57

During the fiscal year, 161,813 head of livestock were sold, with a gross value of \$12,880,892.57, an increase of 1.27 per cent in volume over the previous year, and of 38.99 per cent in gross receipts.

SPECIAL SERVICES

It was proposed during the latter half of 1950 to reorganize the New Jersey Official Grades Milk Dealers Association, an organization composed of dealers cooperating in the official grades program of the Department of Agriculture. This reorganization was accomplished early in 1951, and the association now has a program which, if carried out, will effectively promote the sale of New Jersey-produced milk. The Department of Agriculture assigned to the supervisor of dairy products standardization the task of assisting with the reorganization and the formulation of the necessary policies to effectuate this goal, and considerable time has been spent since January on this project. The supervisor of dairy products standardization has drawn up a new set of incorporation papers which changed the name of the organization, and also rewrote the by-laws of the association to bring them into line with the changes necessary for the development of the new program.

The supervisor of dairy products standardization was appointed a member of the program committee of the New Jersey Dairymen's Council, and has spent considerable time on the activities of that committee.

BUREAU OF FRUIT AND VEGETABLE SERVICE

During this fiscal year, as in the past, it has been the policy of the Division of Markets to work closely with those interested in the marketing and distribution of fresh farm products. During the last several years, and especially this year, this relationship has been of great importance, due to changing conditions which affect the marketing of some of the State's most important crops. The administrators of the Division of Markets feel that commodity groups should be kept well informed regarding the marketing of certain commodities under Government regulations and controls. Such groups are in a better position to decide what is best for the industry on a State-wide basis and whether programs advanced by the Government should receive the sanction of a majority of the group, making it possible for all to participate.

The Bureau of Fruit and Vegetable Service is concerned with all phases of the marketing of fresh fruits and vegetables produced in New Jersey. Generally, these include the establishment and development of outlet facilities such as shipping point auction markets locally, and terminal markets in large adjacent cities; city market and consumer educational and promotional work to create greater demand for New Jersey products; assistance to growers and shippers to promote better grading and packaging, insuring greater returns; and supervision of the grading and inspection, under Federal or State standards, of fresh fruits and vegetables which are shipped to terminal markets outside of New Jersey or delivered to processing plants within or outside of the State.

The greatest activity of the Bureau is the inspection and certification of fresh fruits and vegetables to be marketed in the fresh form or used for processing in accordance with Federal and/or State standards. The inspection service in New Jersey is operated under a three-way agreement between the U. S. Department of Agriculture, the New Jersey Department of Agriculture and the New Jersey Agricultural Society. Each of these organizations has definite functions and responsibilities under the agreement. The responsibility of the U. S. Department is to supply sufficient trained and licensed personnel to handle the work properly and to conduct the training of any new personnel needed. It is the joint responsibility of the U. S. and New Jersey Departments to interpret grades and their application and to supervise the general conduct of the work. In addition, the Bureau chief has the responsibility of securing the needed personnel and assigning duties within New Jersey.

The New Jersey Agricultural Society employs the personnel approved by the chief of the Bureau, collects fees for services rendered and pays salaries and expenses of the inspectors employed. Under this arrangement, the work has been carried on since August 1945. It has been a satisfactory arrangement and, in general, the work has grown progressively better from year to year. Inspections on all commodities during this fiscal year amounted to approximately 55 per cent more than last year. This was due mainly to the heavy buying of white potatoes by the Government under price support and also to mandatory inspection on most commercial shipments of potatoes as required under a marketing agreement and order.

The percentage of this fiscal year's potato crop purchased by the Government was approximately the same as the last two seasons; however, the volume inspected this year was about 157 per cent greater than last season, and 14 per cent greater than the bumper crop of the 1948-49 season.

PURPOSE OF INSPECTION

The shipping point inspection service is set up to aid the orderly marketing of fresh fruits and vegetables. It furnishes information to growers, shippers and receivers that enables them to trade on a basis of mutual understanding, through uniform standards. These standards cover size, cleanliness, brightness, color, freshness, firmness, decay and other quality and condition factors which have a bearing on the determination of grade. Uniform terms are used in the description of specific commodities. Grade is established by inspection of representative samples and determination of percentages of factors affecting the quality and condition of the product. Certificates issued on products inspected are accepted in all courts as prima facie evidence of the truth of the statements included.

Prices paid by the trade are usually based upon grade, and millions of dollars worth of produce is bought and sold annually upon shipping point inspection and grade certification.

New Jersey growers and shippers realize that to maintain a high position

in the produce marketing field, they must keep abreast of the advances in marketing practices employed in competing areas. The Bureau of Fruit and Vegetable Service, through the shipping point inspection service, aids New Jersey growers and shippers by inspecting and certifying various commodities, as well as by giving advice on proper grading and packaging practices.

On the principle that prices paid for raw products for processing should be directly proportionate to quality delivered, most New Jersey processors contract with growers for such products as asparagus and tomatoes, while some contract for apples, carrots, sweet potatoes, green tomatoes and red peppers, to be delivered on a grade basis. Each load delivered is sampled and the samples graded by inspectors employed by the New Jersey Agricultural Society. The results obtained on the graded sample are applied to the entire load and are used in determining the value of each load delivered, consistent with prices for each grade predetermined by grower and by processor in advance of the season. This system encourages growers to produce and deliver a high quality raw product, which in turn gives processors an opportunity to pack quality products at relatively consistent costs.

CERTIFYING FRESH PRODUCE

Apples

Apple growers were faced again this year with a long Indian Summer at harvest time. Cold nights, needed for good color, were few and far between. Red sport varieties took on fairly good color despite the adverse weather but old line varieties, such as Delicious, Stayman and Rome Beauty acquired sufficient color only on outer branches. Growers had to spot-pick these varieties, leaving the poorly colored fruit on the trees as long as possible. When favorable weather did not come, growers were forced to harvest to avoid loss from apples dropping or becoming too ripe on the trees.

Only two of the larger growers requested inspection on most of their apples during the harvesting and packing season. During October and November 1950, 24 certificates were issued covering 47,679 bushel containers, which were lot-numbered and placed in cold storage.

On January 5, 1951, the U. S. Department of Agriculture announced a Government purchase program on fresh apples for distribution to school lunches, public institutions and eligible charitable organizations. The program announcement contained specifications as to acceptable varieties, sizes, containers and type of pack, and also prices to be paid and limitations of purchases and grades. The announcement read in part: "Purchases will be limited to the outlets available to USDA . . . Grade U. S. No. 1 or better . . . All apples shall comply with the U. S. Standards for Export as to condition, except that not more than 15 per cent of the apples in any container shall be further advanced in maturity than firm ripe, and except that McIntosh may be ripe."

Inspection and certification by Federal-State inspectors was a mandatory

part of the program in establishing the eligibility for acceptance by the Production and Marketing Administration.

In the early months of the program, only a few lots were offered by New Jersey growers and handlers of apples. Most lots offered failed to meet minimum grade requirements of the program and were not accepted. The program was originally scheduled to end on February 17, 1951, but was extended, first to the end of March, then through April. As the end of the storage season approached, apple growers and handlers who had shown little interest in the program from January to March became concerned about the large amount of storage holdings. Dull market conditions, slow demand and low prices caused apprehension as to whether they could market their storage holdings through commercial channels. Offerings to USDA took a sharp rise and most apples purchased under the program were moved during April.

In 1946, the U. S. Government provided a program known as the Export Subsidy Program for the export of United States-produced apples to Great Britain. The terms of the program provided that the U. S. Department of Agriculture would subsidize the purchase of fresh apples by the British Government in the United States in an amount equal to one-half the market value, provided such a subsidy did not exceed \$1.25 per bushel, FAS (Free Alongside Ship), at port of export. This program was so successful that it was later extended to cover pears and made available to many other countries. The program specified acceptable varieties, sizes, grades and type of packages. It required that all apples be certified by Federal-State inspectors as meeting the program specifications in addition to certification of varieties, sizes and grades.

Each year since its institution, the program has been renewed during September and maintained all through the storage period. Most of the apples exported from New Jersey under this program during the fiscal year went to England and Belgium, and a few to Germany.

A summary of apple inspections and the purposes for which they were made shows that there were 70 lots containing 33,585 bushels on the School Lunch Program, 33 lots of 9,583 bushels on the Export Subsidy Program, 54 lots containing 9,841 bushels exported through the normal commercial export channels, and 77 lots consisting of 64,880 bushels inspected in storages or for commercial domestic trade.

Green Corn

The agreement between the Cooperative Growers Association in Beverly and several large chain store organizations to deliver field-fresh corn daily to stores in cities within convenient truck hauling distances, was continued again this year. This program was begun in 1945 as an experiment and was so successful that it has been repeated each year.

Corn shipped under the program is as near field-fresh as possible when it reaches the retail counters of the participating stores. Growers start cut-

ting operations each morning shortly after midnight. Powerful spotlights attached to tractors furnish light. Each grower cut his allotted quota for the day and has the corn packed and ready for shipment between 5:00 a. m. and 9:00 a. m.

Prices to growers are dependent upon quality. Before shipment each lot is inspected, the grade determined and certificates issued specifying the quality, condition and grade. Inspections are made by New Jersey Agricultural Society inspectors. Experienced inspectors, working under Bureau supervision, are assigned to this work. So that shipments are not delayed and movement may begin as early as possible each day, inspectors begin work at the farms between 4:30 a. m. and 5:00 a. m. They inspect at the farms until about 8:00 a. m. and then proceed to the Beverly Market where small lots are inspected and loaded. The last of the morning shipments are usually loaded and moving by 9:00 a. m. This, however, does not end the inspector's day. Many lots are sold by the market to receivers other than those participating in the "field-fresh" program. Some of these lots are sold on a grade basis and shipped outside of the radius considered nearby and with no set hours of delivery. Most of these shipments are moved throughout the day and as late as 11:00 p. m.

There was a material increase in volume inspected and marketed this year over last year. Last year, general drought conditions during the growing season reduced production to a minimum. Volume this year was lower than in the peak year of 1947, when 34,316 packages were handled.

This method of marketing green corn has filled a demand for corn of high quality. The housewife is able to serve her family corn with less than one day between field and table, which has retained all of the sweetness, flavor and freshness inherent in the variety. The popularity and success of the program can be measured to some extent by the amount of green corn inspected since the program has been in operation. In 1945 there were 12,680 packages; in 1946, 26,735; in 1947, 34,316; in 1948, 26,229; in 1949, 12,181 and this season, 22,658 packages. Packages consisted of open-mesh sacks, bushel baskets and wire-bound crates, each containing from 55 to 60 ears of corn.

White Potatoes

The volume of white potatoes inspected in the 1950-51 fiscal year was the highest on record for New Jersey. Growing conditions were almost ideal and this, together with the improved growing practices now being employed, produced the highest average yield in the history of potato farming in New Jersey—approximately 300 bushels per acre.

Good soil conditions and ideal germinating weather got the 1950 crop off to a good start. Early in the growing season, rainfall was timely and sufficient to keep the plants healthy and vigorous. Drought conditions became apparent in June and many growers used irrigation facilities until heavy rains early in July provided sufficient moisture to assure proper completion of growth.

Inspection and certification of white potatoes began the second week in July, although volume did not begin to increase until the third week. Digging was retarded on several occasions by heavy rains during July. The high quality and large size of the early varieties indicated that a bumper crop was in prospect.

The widespread support of potato prices by the U. S. Government was discontinued on the 1950 crop except in areas operating under a Federal Marketing Agreement and Order. Under this agreement, growers and shippers in the area are permitted to control the marketing of their own crop by setting up measures along certain lines as specified in the law, by which commercial shipments can be regulated. Whether a producing area operated under a marketing agreement and order depended upon the desires of the industry itself within the area. In other words, it was necessary to hold a referendum of growers and shippers within the area. The results of such referendum indicated to the Production and Marketing Administration whether the area should be permitted to operate under a marketing agreement and therefore become eligible for price support.

Prior to the referendum, meetings were held at various points in the producing areas of New Jersey to acquaint growers and shippers with the operation of a marketing agreement. When the referendum was held, more than two-thirds of the producers voting, representing more than two-thirds of the production, voted to have the 1950 crop regulated as to size and grade on commercial shipments.

The marketing committee was composed of eight growers and four dealers, each with an alternate, elected by members of the group which they represented and approved by the Secretary of Agriculture. The responsibility of the committee was to set up minimum standards on commercial shipments and enforce the regulations. Under the Marketing Agreement and Order, inspection was mandatory except for certain specified exemptions. The minimum grade and size which the marketing committee specified for New Jersey potatoes to be sold through commercial channels was U. S. Commercial, with 85 per cent or more U. S. No. 1 quality, 2 inches in diameter.

By voting in favor of a marketing agreement, New Jersey became eligible to participate in the 1950 Government price support program. Potatoes sold to Commodity Credit Corporation under the support program were exempt from regulation by the potato marketing committee.

On April 4, 1950, the PMA office in New Brunswick announced the terms and prices which would apply to the 1950 crop of New Jersey potatoes purchased by CCC. The prices were for potatoes fully graded, packed in new sacks and loaded on through carriers. Prices per hundredweight were: July and August, \$1.55; September and October, \$1.65; November, \$1.75; December, \$1.85; January 1951, \$1.95; February, \$2.05; and March and April, \$2.10. These prices were reduced by the following service charges in the amount shown for each, when the service was not performed: Hauling, 3 cents; grading, 5 cents; new sacks, 19 cents; used sacks, 10 cents; sacking, 2

cents; inspection, $2\frac{1}{2}$ cents; loading in sacks, $2\frac{1}{2}$ cents, in bulk, 5 cents; selling, 5 cents. If none of the services was performed, a total of 9 cents was deducted from the above, graded, sacked and loaded f.o.b through carrier prices.

The potatoes purchased by CCC had to meet the following grades and sizes for graded lots: U. S. No. 1 or better, U. S. Commercial and U. S. No. 2 — each 2 inches, minimum size; and U. S. No. 1 — Size B — $1\frac{1}{2}$ to 2 inches in diameter. Potatoes which were not graded were purchased on a composite grade basis with inspection certificates showing the percentage of U. S. No. 1, U. S. No. 2 and U. S. No. 1—Size B in each lot.

The object of potato purchases by CCC was to support potato prices in New Jersey. However, while every attempt was made to utilize the potatoes purchased, it was impossible to find outlets during periods of heavy offerings, and a large percentage of the crop was returned to the grower at 1 cent per hundredweight for stock feeding or dumping back on the land as fertilizer. Normal consumer outlets were for fresh use as food (school lunches, institutions and charitable organizations), processing and stock feed.

Under this program, inspection and certification were mandatory. The New Jersey Agricultural Society entered into an agreement with CCC whereby the Society agreed to render checkloading services. Checkloading was performed by Society inspectors at all points except one at which PMA furnished the personnel. Dyeing of all potatoes used for stock feed or dumped was required by PMA, and the supervision of proper dyeing was the responsibility of the State-supervised inspectors.

The Federal-State Shipping Point Inspection Service is, without doubt, the greatest individual factor in the operation of a support program. The U. S. Department of Agriculture will not accept for purchase any product offered under a price support program without an inspection report certifying that the product meets all requirements as specified in the purchase announcement. Inspection determines whether program specifications have been met. Certificates issued contain all information pertinent to the purchaser and seller; such information is the basis upon which fiscal settlement is made.

Percentagewise, the 1950-51 inspections of New Jersey potatoes for commercial shipment and Government purchase were approximately the same as for the 1949 crop. The heavy increase in production, however, vastly increased the tonnage inspected. During the fiscal year 1949-50, there were 10,454 inspections of 3,096,683 hundredweights, of which the Government purchased 2,189,700 hundredweights, or approximately 70 per cent. This year, 18,429 lots were inspected, totaling 8,057,418 hundredweights; the Government purchased 5,637,825 hundredweights, or approximately 70 per cent.

Sweet Potatoes

Although the sweet potato is one of the leading crops produced in New Jersey and attempts have been made to assist growers and shippers to establish

and maintain a good reputation in the commercial markets, as yet not enough interest has been shown to encourage development of a program for this purpose. The New Jersey Sweet Potato Industry Committee, aided by staff members of the Department and the State Agricultural Experiment Station, has attempted for several years to encourage uniform grading, packing and marketing under a specially designed label. The committee advocated that all potatoes packed under the label be inspected and certified by Federal-State inspectors. The lack of interest shown by growers and dealers has, so far, discouraged the advocates of the program. However, sales of sweet potatoes made through the produce auctions have increased greatly. This past year, a new storage and curing house was constructed by the Landisville Association. Sweet potatoes from this house sold by the association topped prices from any other selling agency. Sales by the Vineland Association of central-graded potatoes were also much heavier.

A bumper New Jersey crop this year met with serious competition both in sales and prices in the nearby and other markets from superior quality Puerto Rican sweet potatoes grown and shipped from some of the southern states. New Jersey dealers and growers were left with large storage holdings late in the storage season, and an appeal was made to PMA to purchase some of the excess stock. On April 10, the New Brunswick PMA office announced that the Government would purchase 60,000 bushels of Jersey sweet potatoes at \$1.50 per bushel for U. S. No. 1 unwashed and \$1.55 a bushel for U. S. No. 1 washed. By the end of the month, only 10 lots containing 6,000 bushels made U. S. No. 1 grade and were purchased. Four other lots offered were below grade and were not accepted. The program closed at the end of the month because of lack of interest. The associations operating storage houses and doing central packing were not caught by the low prices.

Total sweet potato inspections during the fiscal year consisted of 26 lots including 13,501 bushels.

CANNERY CROPS

Asparagus

Except for price, contracts between processors and growers were about the same for the 1951 season as they were in 1950. Processors offered from 2 cents to 3 cents per pound more this season than last year on a graded basis. Last year's prices ranged from 11 cents to 13 cents. Asparagus deliveries to processors began earlier than was anticipated due to ideal growing conditions produced by favorable weather. First deliveries began the last week in April and volume increased rapidly.

On April 23, only 16 New Jersey Agricultural Society inspectors were assigned to the grading of asparagus, but by the middle of that week it was evident that the force would have to be increased to full strength as rapidly as possible. By the end of the month, 45 men were on the job.

This season, there was a considerable increase in the number of asparagus receiving stations established by the processors and brokers. The reason

for this was the competition caused by additional processors coming into the New Jersey producing areas to secure their raw supplies. The establishment of receiving stations in or near concentrated producing areas makes it more convenient for producers to make short-haul deliveries, thereby saving time and money to the growers. It is also an incentive for growers to contract with the processor or broker whose station is nearest and most convenient for delivery. Because of the increase and spreading out of receiving stations, more Federal-State inspectors were needed to do the grading work under New Jersey Standards or contract specifications.

Approximately 16,000 acres of asparagus are grown in New Jersey for processing. Nine processors and nine brokers operated 32 receiving stations throughout the producing areas this year; 56 men were needed for the grading work. Weather conditions were generally good during the season, and growers did an excellent job in controlling insect pests that normally infest the fields. The total volume inspected was much larger than in 1950.

As was stated above, contracts for most asparagus were the same this season as in 1950. Contracts specified that all asparagus delivered would be graded by New Jersey Agricultural Society inspectors on the basis of New Jersey No. 1 quality, 7-inch spears, $\frac{3}{8}$ -inch diameter and larger, measured at butt, with $4\frac{1}{2}$ inches minimum girth.

During the season, Circular No. 312, "Marketing Green Asparagus for Processing by Grades in New Jersey," was revised to clarify to growers and processors the interpretation of definitions of terms used in the standards.

Through the courtesy of Francis A. Raymaley of Seabrook Farms, the photographic facilities of the company were made available to the Department. New Jersey No. 1 and No. 2 grades were made and printed in the revised circular (No. 382) dated April 1951. Considerable time and effort was spent by the Bureau chief and two shipping point supervisors in preparing material for the revised edition.

Most processors ended their packing operations by the end of June, and all stations were closed by the end of the first week in July. Under the 1950 contracts based on the New Jersey Standards, the Agricultural Society inspectors graded 44,768,888 pounds of asparagus. An average of 75 per cent of this amount conformed to grade and size specifications, for which growers were paid at contract prices. An average of 7 per cent was below the grade and size specifications and 18 per cent was classified as butts. A butt is that part of the spear in excess of the specified length, in this case, 7 inches. Growers received no payment for off-quality, undersize or butts.

In the 1951 season, under the same contract inspectors graded approximately 46,722,000 pounds. The figures for the 1950 season were not included in the annual report for 1949-50. Because this work is performed during the height of the year's activities and at the end of the fiscal year, it is impossible to complete the analysis of all inspection records in time for this report. The records will be analyzed during the winter, a complete tabu-

lation will be available in the Division office and published in the next annual report.

While most asparagus was graded as outlined for the 1950 season, there were approximately 7,913,000 pounds delivered and graded in 1951 in accordance with canner-grower contract specifications, as in previous years. In the 1950 season, a total of 3,870,322 pounds was so graded. Of this amount, 87 per cent was pay weight, 2 per cent classified as culls and 11 percent classified as butts.

Tomatoes

The cannery tomato deal was from ten days to two weeks late in starting in the 1950 season, compared with a normal year. First deliveries began August 1. Early season deliveries were disappointing to processors from the standpoint of quality and volume. Rains throughout the producing areas in late July caused general cracking of the crown-set fruit around the stem. This fruit is always first to ripen and first to be harvested and delivered.

With perfect growing and ripening weather during August and about half of September, New Jersey tomato growers harvested their highest average yield per acre and highest quality since the Department began keeping records. In only two previous seasons, 1941 and 1947, was a greater volume of overall tonnage inspected. In these years, the acreage contracted was considerably larger than this year.

Both volume and quality, which were low at the beginning, increased rapidly as the season progressed, and by the fourth week of August, deliveries of excellent quality reached a high volume peak throughout the State. This high level was maintained until about September 10, when rains continuing intermittently for several days began to affect quality adversely. Tomatoes began to show fresh cracks, exposing the flesh to infection. Molds and decays began setting up in the cracks. Anthracnose became prevalent and as a result of the cool, wet weather conditions, the development and spread of late blight became quite general.

These conditions did much to lower the quality of the tomatoes, but the condition was made worse by growers who started picking under-colored stock, fearful of losing a great deal of their tonnage. By the end of September, volume was considerably reduced and quality poor. All processors closed their plants at the end of the first week in October.

In the 1950 season, inspectors supervised by the Bureau graded 195,697 tons of tomatoes. The average grades for the State were 69 per cent U. S. No. 1; 29 per cent U. S. No. 2 and 2 per cent culls. In 1949, a total of 147,076 tons was graded, with average grades of 63 per cent U. S. No. 1, 34 per cent U. S. No. 2 and 3 per cent culls.

SUMMARY 1950 CANNERY TOMATO SEASON AND COMPARISON WITH PREVIOUS TEN YEARS

Seasons	Total Tons	U. S. No. 1 (Per Cent)	U. S. No. 2 (Per Cent)	Culls (Per Cent)
1950	195,697	69	29	2
1949	147,076	63	34	3
1948	132,561	60	36	4
1947	204,395	62	35	3
1946	107,737	65	33	2
1945	73,549	64	33	3
1944	112,801	68	31	1
1943	149,786	66	32	2
1942	179,363	55	42	3
1941	220,655	63	35	2
1940	162,813	55	41	4

Other Cannery Crops

While asparagus and tomatoes are the two main crops for processing upon which the grading service is requested, 712 tons of sweet peppers, 466 tons of green tomatoes and several thousand tons of other commodities such as carrots, sweet potatoes and apples were also graded.

Other Vegetables

Inspection of fresh asparagus for export to Canada has been increasing for the past few years, and has become large enough to have a marked effect on sales prices for asparagus for fresh consumption in nearby markets. For the past several years, some Canadian processors have arranged with local buyers in the Swedesboro area to act as brokers in purchasing fresh bunched and crated asparagus at the auction market. The local broker also arranges inspection at shipping point and transportation facilities.

The Canadian Import Requirements on various fruits and vegetables state that asparagus may not be shipped into Canada unless it meets the requirements of the U. S. No. 2 grade for asparagus for fresh market. Packages must bear certain markings and shipments must be accompanied by inspection documents certifying quality, condition and grade. Shipments will not be cleared at the international border by customs officers unless they have been certified by an official inspector as meeting Canadian Import Requirements. During the shipping season in 1951, New Jersey inspectors certified 46 truckloads containing 68,765 packages for Canadian shipment.

In addition to certification of products specified, either for fresh market or processing, men were stationed at several of the fruit and vegetables auction markets for inspection and arbitration purposes. Other products inspected and certified during the fiscal year were snap beans, beets, cabbage, lettuce, onions, peaches, squash, fresh tomatoes for market, and several lots of mixed vegetables.

In addition to the regular shipping point inspection work, the main project with which this Bureau is concerned, three of the full-time Federal-State inspectors are Federal Collaborators under Letter of Authorization. This authorization entitles them to make inspections on interstate shipments of produce arriving in New Jersey terminals. These shipments are certified on straight Federal certificates rather than the Federal-State type used for

shipping point work. During this fiscal year, these men made 57 terminal inspections on potatoes, turnips, carrots, honeydew melons, onions, parsley and sweet potatoes.

SHIPPING POINT INSPECTION BY PRODUCTS

1941-51

	41-42	42-43	43-44	44-45	45-46	46-47	47-48	48-49	49-50	50-51
Apples	100	609*	151	408	47	349	213	100	789	234
Asparagus	....	....	....	16	6	44	3	50	93	46
Beans	....	7	2	3	1	....	....	....	....	1
Beets	1	3	6	3	17	....	....	....	....	1
Cabbage	1	1	3	22	14	4	13	3	8	5
Carrots	....	3	16	4	3	2	5	5	6	....
Cauliflower	....	....	....	....	....	....	1	5	2	....
Celery	....	....	....	1	2	6	11	5	2	....
Corn	3	....	....	1	51	82	100	91	37	67
Cucumbers	....	....	6	8	3	1	2	3	8	....
Eggplant	1	....	1	12	3	....	....	....	....	....
Lemons	....	....	....	....	....	1	1	....	1	....
Lettuce	....	1	....	20	2	4	1	4	1	2
Onions	1	2	....	3	26	10	38	36	28	15
Onions, green	....	....	....	....	....	....	....	10	....	....
Parsley	....	....	....	....	....	....	....	....	1	....
Parsnips	....	....	....	11	7	....	....	....	....	....
Peaches	1	1	1	3	7	3	....	....	1	1
Peppers	....	....	17	52	50	12	78	36	48	....
Potatoes	1,328	2,941	5,206	2,827	5,994	11,333	14,066	12,586	10,454	18,429
Radishes	....	....	....	1	....	....	1	7	3	....
Rhubarb	....	....	....	....	2	....	....	....	....	....
Rutabagas	....	....	....	....	2	....	....	....	....	....
Spinach	8	30	1	13	17	....	1	....	2	....
Squash	....	....	....	7	1	....	....	....	1	6
Sweet Potatoes	29	19	47	178	20	41	5	33	5	26
Tomatoes	....	....	....	....	....	....	6	....	1	1
Turnips	....	....	1	2	21	15	2	....	1	....
Mixed fruits & vegetables	....	....	....	....	....	....	357	684	550	....
Mixed vegetables	....	4	9	77	65	31	210	155	128	3
Totals	1,473	3,621	5,467	3,672	6,361	11,938	15,114	13,813	12,170	18,837

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

MARKET ACTIVITIES

As in former years, the Division has worked closely with established markets. New Jersey has no terminal markets, but is flanked on both sides by the New York and Philadelphia terminals, which are among the largest in the world. Because of volume of farm products handled on them, the general price level is set for the area through sales on these markets.

The market system for fruits and vegetables in New Jersey is designed primarily to serve the large consuming public, not only in the State but in the Northeast. This system is made up of wholesale produce markets in the larger cities, and in country or assembly-point markets serving buyers from hundreds of the smaller cities and towns in the market area. These markets are supplemented by a few retail farmers' markets and by numerous roadside

markets located principally along heavily traveled highways. Many sales also are made directly from farmers' packing houses or directly from the fields to trucker-buyers.

As has been stated, the general price level is determined at the large terminal markets, but under the New Jersey system the price to the farmer at the local assembly or auction market may be as good as, or even better than the price received at New York or Philadelphia. The reason for this is the saving in time and transportation costs to and from those cities, together with handling costs in the terminals. Delay in food distribution resulting in deteriorated quality is also a factor in price returns.

Making fruit and vegetable products at secondary markets attractive to buyers is an important factor in prices received at the auction and city markets. Great improvements have been made along these lines. Growers are conscious of the value of clean containers of standard size and in general, are doing a better grading job than before. Market associations are planning sales more convenient for buyers. Better business arrangements have been developed with the buyers coming to these markets.

Practically all of the market facilities in New Jersey are farmer-owned and operated. The farmer has quickly recognized the value of up-to-date facilities and has made them possible as the need has been shown.

The Bureau works closely with all of the organizations and associations operating farmers' markets. Regular weekly reports are made to the office from 11 of them, and in return, the Bureau uses the material from these reports in promotional activities. Representatives of the Division work with market managers, attend annual meetings and most of the monthly directors' meetings. The value of such activities is reflected in the success and new developments in these associations.

Shipping Point Auction Markets

As in former years, information covering the harvesting or calendar year is used when describing the activities of these markets. This report covers the entire marketing season of 1950 and information on the first six months of 1951.

The 1949 year had been a discouraging one to most Garden State vegetable growers. In that year, the State experienced a disastrous drought, which seriously cut total production and hurt quality in commodities produced, contributing to lower prices. In the year 1950, growing conditions were much better and production on the vegetable farms was increased considerably over 1949. Along with increased crops came better quality, resulting in better prices for many vegetables. Volume on the shipping point auctions increased nearly 10 per cent and prices for all commodities sold at these markets averaged 2.75 per cent higher than in 1949. It should be noted, however, that farmers' costs, especially that of labor, also increased and have been raised still further in 1951.

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SUMMARY OF SALES AT FRUIT AND VEGETABLE AUCTION MARKETS

Market	Season of 1950		Season of 1949	
	Packages Sold	Value of Sales	Packages Sold	Value of Sales
Beverly	302,788	\$299,898.36	292,454	\$248,457.48
Beverly Consigned and Special	413,918	483,568.07	228,141	350,149.80
Cedarville	731,536	1,293,523.79	667,759	1,123,653.63
Glassboro	433,401	755,194.81	393,662	582,654.29
Hammonton	150,082	441,895.32	172,812	464,868.65
Hightstown	326,449	329,888.00	358,202	364,792.37
Hightstown Special Sales	65,152	103,084.75	64,037	129,661.60
Landisville	444,732	602,995.35	406,598	618,793.22
Landisville Consigned and Special	130,485	186,590.00	122,343	170,442.31
Pedricktown	148,729	395,467.74	165,487	417,602.86
Swedesboro	830,190	1,722,919.62	787,982	1,765,254.64
Vineland	767,308	1,094,692.68	833,846	1,069,777.44
Totals—by Auction	4,135,215	\$6,936,475.67	4,078,802	\$6,655,854.58
Totals—all sales	4,744,770	\$7,709,718.49	4,493,323	\$7,306,108.29
				Average price per package (by auction), 1950 \$1.677
				Average price per package (by auction), 1949 \$1.632
				Per cent of increase in price per package, all commodities 2.75
				1950 over 1949
				(In addition to markets listed, other markets may have had special sales, no record of which is available in Division of Markets office.)

The spring of 1951 was about two weeks earlier than in 1950. The longer marketing period, combined with good growing weather, has resulted in a large increase in volume of production. There was a 24 per cent increase in volume of sales during the 1951 season (to June 30) on the auction markets over the volume during the corresponding period of 1950. Prices, however, have averaged 5.7 per cent under the 1950 prices, largely because of a reduction of nearly 20 per cent in strawberry prices. Strawberries account for about 20 per cent of total value of spring sales on these markets.

Asparagus is the most important commodity sold during May and June at the shipping point markets. In 1951, the volume amounted to 419,308 crates (30 pounds), an increase of 10,000 crates over 1950. Prices averaged 29 cents a crate higher in 1951. The strawberry volume totaled 121,866 crates (24 quarts), as compared with 69,795 crates in 1950 and 34,841 crates in 1949. Lettuce also increased 48,609 crates over the volume produced in the spring of 1950.

The supervisor of fruit and vegetable standardization devoted the greater part of his time to the shipping point auction markets. He attended directors' meetings of each association and worked closely with the market managers. He supervised the work of inspectors assigned to these markets, and aided in developing new methods, instituting standardized packages and improving grading and packing. He has continued to work with buyers and to encourage better relations between buyer and market associations.

PRINCIPAL COMMODITIES SOLD AT FRUIT AND VEGETABLE AUCTION MARKETS
VOLUME IN 1950 WITH 1949 COMPARISONS

Commodity	Unit	1950	1949
Apples	Bushels	16,981	32,954
Peaches	Bushels	262,316	286,609
Blackberries	Crates, 24 quarts	5,197	6,693
Blueberries & huckleberries	Crates, 12 pints	41,710	40,066
Raspberries	Crates, 12 pints	23,635	41,590
Strawberries	Crates, 24 quarts	69,826	83,649
Asparagus	Crates, dozen bunches	419,389	497,300
Beans, lima	Bushels	67,697	63,794
Beans, snap	Bushels	127,717	111,027
Beets	Dozen bunches	13,663	43,838
Broccoli-rabe	Bushels	42,485	43,156
Cabbage	Bushels	56,910	111,471
Cantaloupes	Bushels	35,138	40,315
Carrots	Dozen bunches	1,555	5,031
Carrots	Bushels	2,329	2,621
Cauliflower	Crates, 1½ bushel	9,177	13,120
Corn, sweet	Bushels or sacks	117,116	86,297
Cucumbers and pickles	Bushels	196,054	166,925
Dandelion	Bushels	33,732	37,068
Eggplants	Bushels	95,467	72,830
Lettuce	Crates, 2 dozen	217,987	241,126
Okra	Climax baskets, 12 qts.	36,081	26,752
Onions	Sacks, 50 lbs.	161,625	164,509
Parsley	Bushels	25,416	25,691
Peppers	Bushels	643,581	697,329
Potatoes, sweet	Bushels	303,752	196,272
Potatoes, white	Sacks, 100 lbs.	81,802	90,116
Radishes	Bushels	11,734	13,141
Rape	Crates	23,995	23,401
Scallions	Bushels	6,529	6,924
Spinach	Bushels	5,531	3,379
Squash	Bushels	28,883	38,433
Tomatoes	Climax baskets	799,173	474,075
Watermelons		12,610	11,744
Miscellaneous	Packages	162,788	279,556

City Farmers' Markets

As in the past, the Division has cooperated with the management of city farmers' markets. The largest of these are farmer-owned and controlled. No special improvements in facilities were made at these markets during the year. Visits were made by Division personnel and aid was given on numerous occasions when requested. This aid was largely in matters pertaining to package regulations and grading standards. Division representatives attended meetings of directors and membership meetings.

Mention has been made in two previous reports of the development of a farmer-owned and operated retail market in Trenton. The market has completed its third year of operation. It has had marked success financially, and has been a satisfactory outlet for farmer-salesmen. Consumer patrons of the market have increased in number. During the year, committees from other states and one European group studying market facilities visited the Trenton Market with Division guides, and expressed approval of the marketing system employed.

The Division again obtained weekly statistical information on sales and returns at the farmer-owned market in Newark and the municipal market in Atlantic City. This detailed information aids in determining the supply and sources of various farm products and the efficiency of distribution. The factual material is now used by the Federal Bureau of Agricultural Economics to supplement the statistical material of its office. Such information, coming from the largest market in the metropolitan area and from a market in New Jersey's largest seashore resort, provides a cross-section of valuable information.

Atlantic City Market has about held its position in volume and value during the past year. During the year, 7,830 farmers' loads sold for \$985,602.75. In the 1949-50 season, 7,923 loads sold for \$957,201.75. The value to the farmer for his load during 1950-51 was \$125.88, while in 1949-50 it was \$120.81. In 1950-51, these loads consisted of 514,944 bushels of produce, 150,801 dozens of eggs and 96,621 pounds of poultry. In 1949-50, sales consisted of 544,405 bushels of produce, 132,900 dozens of eggs, and 72,750 pounds of poultry.

The volume of sales at the Newark Farmers' Market was slightly higher this year than in 1949-50. The market handled 7,038,843 bunches of vegetables in 1950-51, compared with 6,263,178 bunches in 1949-50; it sold 1,539,424 packages of fruits and vegetables in 1950-51, compared with 1,530,484 packages sold during 1949-50.

Miscellaneous Activities

During the year, several complaints relative to deception or misbranding on roadside markets were received. While the Division does not have direct authority over such practices, investigations were made. By bringing the situation to the attention of the proprietor, the conditions were corrected. A common complaint was that some operators erected signs advertising commodities as of New Jersey origin ahead of the season. In two cases Jersey strawberries were advertised for sale two weeks ahead of the season. On investigation, the berries were found to be of poor quality from a southern state. Similar cases involved sweet corn and tomatoes.

The State-wide association of auction market representatives continued its operations as in former years. This association represents livestock, fruit and vegetable, and poultry and egg groups. An annual meeting, several monthly meetings of the fruit and vegetable section, and an annual marketing dinner sponsored by the State association during Farmers Week were part of its activities. The fruit and vegetable section also held its annual dinner with the buyers patronizing the produce auctions.

The Bureau assisted many individual farmers with problems of proper grading and packing and obtaining better markets for their products. The Bureau also conducted groups from other states and foreign countries through the State, explaining the operation and effectiveness of some of the State's marketing practices.

BUREAU OF POULTRY SERVICE

The work of the Bureau of Poultry Service continued to expand during the 1950-51 fiscal year. New records of accomplishment were established in each project.

Poultry Standardization. A total of 840,768 birds was certified in 673 flocks in 19 counties, with 109 hatcheries cooperating. The number of birds participating was 16.3 per cent greater than the previous record high of 722,716 birds in 1949-50. The importance of these services may be measured by the fact that approximately 30 million chicks and poults (three out of every four hatched in New Jersey last year) were produced from flocks under Bureau supervision.

Egg Grading and Inspection. For the second consecutive year, more than a million cases of eggs were marketed through seven cooperative associations, five of which are under official grading programs. Also, the Bureau supervised inspection of 200,000 cases in eight candling-cartoning projects under the Federal-State grading program and 70,000 cases in the State Certified Fresh Egg project. Eighteen independent marketing projects participated in the State grading program, 14 of which entered during the last quarter of the fiscal year, so that volume figures for the year must be omitted. Altogether, the egg sales volume of projects cooperating with the Bureau exceeded 1,270,000 cases.

Bureau services to the foregoing projects and to the poultry industry in general were correspondingly increased. Official grading and egg law enforcement were conducted with the normal staff; however, arrangements were completed for the addition of one new inspector at the beginning of 1951-52 fiscal year. The additional volume of work in poultry standardization was handled with no increase in staff, except for one temporary worker who was added during the peak season of inspection.

The poultry improvement projects of the Bureau are reported under the title, "Poultry Standardization." The paid staff consists of the supervisor and one full-time inspector, with one seasonal assistant. Without public expense, their efforts are multiplied many times through the work of 87 certified flock selectors, 13 pullorum testing agents, 109 hatchery owners and 673 breeders who are participants in the N. J.-U.S. Poultry and Turkey Improvements Plans. Although privately employed, all are trained by and responsible to the Department.

Through a similar arrangement in the poultry products marketing projects, the small State-employed staff supervises many privately employed inspectors who are responsible to the Department. The departmental staff on this work includes a supervisor who directs the work of the four inspectors assigned to Fresh Egg Law enforcement and supervises 49 licensed egg and poultry inspectors. Of these, 19 are employed by six cooperative marketing associations under the State grades, four are State graders in four privately-owned companies, two are licensed Federal-State graders engaged in one cooperative association and 10 are inspectors in privately-owned cand-

ling projects on the Federal-State grading program, which is administered in New Jersey by the State Department of Agriculture. In May, 14 additional State-licensed graders were qualified to work under Bureau supervision in 14 dealer plants newly admitted to the program. Official recognition is given to the application of grades by these qualified persons, whose work is checked by the State supervisor, and who are subject to further control through State inspections at wholesale and retail points of distribution. This plan makes possible the large volume of product certification and the high degree of achievement in the poultry products marketing project.

The Poultry Bureau staff continued to perform many services beyond its specified regulatory and marketing functions. Poultry producers, distributors and consumers have requested many special services, and such requests are accommodated by staff members incidental to their regular lines of work. Cooperative activities related to the Bureau's program were carried on with other agencies of State, Federal and other states' governments, and with various educational, health, promotional, police and regulatory agencies.

POULTRY STANDARDIZATION

The Division of Markets carried on the poultry breed improvement program, coordinated with that of the U. S. Department of Agriculture and with other states. The National Poultry Improvement Plan has been in operation in New Jersey 16 years, replacing the State program established in 1923. The National Turkey Improvement Plan has operated for 8 years.

During 1950-51, a total of 840,768 birds in 673 flocks was enrolled. Thirty-eight State men examined 38.9 per cent of the birds, field agents the remainder. The latter are closely checked and assisted by the Bureau of Poultry Service inspector and two Division of Animal Industry men. One temporary Poultry Service inspector, employed September through December, assisted in handling the 118,052 bird increase, 16.3 per cent more than in 1949-50.

The use of privately employed flock selecting and pullorum testing agents was continued. The supervisor of poultry standardization supervised the work of 100 agents; 87 were licensed as flock selectors and 82 as testing agents (some of each type of agent qualified in both selecting and testing). Nine additional hatcheries joined the program, increasing the number of participants to 109 hatcheries, the largest number ever enrolled.

New Jersey is steadily progressing in the control of pullorum disease. With the exception of a few flocks, all cooperators were able to have their flocks well under the minimum pullorum rating of less than 1 per cent tolerance.

The State Board of Agriculture has extended official recognition to pullorum testing agents for a period of three years, ending in 1952, to permit flocks on which they work to be classified as Pullorum-Clean. As a result of this change in the method of classifying flocks, the number of birds in

the Pullorum-Clean classification increased from 383,601 in 1949-50 to 583,021 in 1950-51.

The various stages used this season were:

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

Extent of Program

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

POULTRY STANDARDIZATION PROGRAM

N.J.-U.S. Improvement Plans	1950-51	1949-50	Per Cent Changes in 1951
Flocks cooperating	673	674	— 0.15
Total number of breeders	840,768	722,716	+ 16.3
Hatcheries cooperating	109	100	+ 9.0
Hatchery capacity cooperating	9,816,430	8,561,020	+ 14.6
Hatchery capacity in New Jersey	13,250,000	13,500,000	— 1.85
Birds in pullorum classes only	1,537	14,359	— 89.2
Birds in Approved stages	677,645	626,037	+ 8.2
Birds in Certified stages	161,586	82,320	+ 96.2
Birds in ROP Trapnest	4,083	4,524	— 9.7
Birds qualified in Register of Merit	312	298	+ 4.69
Birds qualified for Honor Roll	241	158	+ 52.5
Females in ROP breeding pens	1,682	2,380	— 29.3
ROP chicks produced	63,178	70,592	— 10.5
ROP chicks and cockerels sold	9,654	3,859	+150.1
ROP chicks and cockerels entering New Jersey	4,554	7,869	— 42.1
ROP cockerels leg banded	10,121	8,126	+ 24.6
Percentage of birds reacting to the pullorum test	0.141	0.197	.....
Flock inspections	548	378	+ 44.97
Hatchery inspections	173	111	+ 55.9
ROP inspections	35	43	— 18.6

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

County	Flocks	N.J.-U.S. Certified			N.J.-U.S. Approved			N.J.-U.S.		Pullorum Clean	Totals
		Pullorum Controlled	Pullorum Passed	Pullorum Clean	Pullorum Controlled	Pullorum Passed	Pullorum Clean	Pullorum Controlled	Pullorum Passed		
Atlantic	27	.....	.....	17,598	.....	1,769	20,457	.....	.....	.....	39,824
Bergen	6	.....	.....	.....	.....	4,376	697	.....	.....	.....	5,073
Burlington	26	.....	.....	8,134	.....	531	20,741	.....	.....	.....	29,406
Camden	3	.....	.....	38	.....	.....	5,618	.....	.....	.....	5,656
Cape May	7	.....	.....	.....	.....	.....	16,678	.....	.....	.....	16,678
Cumberland	171	.....	.....	88,608	1,978	4,590	96,929	.....	.....	.....	192,105
Essex	1	.....	.....	.....	.....	171	.....	.....	.....	.....	171
Gloucester	32	.....	.....	25,813	1,375	2,583	20,673	.....	.....	.....	50,444
Hunterdon	65	.....	.....	714	10,411	29,391	46,388	.....	119	.....	87,023
Mercer	40	.....	.....	161	.....	.....	51,537	.....	.....	1,418	53,116
Middlesex	21	.....	793	1,319	.....	2,506	31,696	.....	.....	.....	36,314
Monmouth	69	.....	690	1,457	16,581	53,480	47,960	.....	.....	.....	120,168
Morris	2	.....	.....	1,493	.....	.....	1,511	.....	.....	.....	3,004
Ocean	74	.....	2,509	5,507	28,460	61,834	33,005	.....	.....	.....	131,315
Passaic	13	.....	.....	.....	.....	3,937	1,699	.....	.....	.....	5,636
Salem	75	.....	.....	5,338	5,471	9,434	13,003	.....	.....	.....	33,246
Somerset	20	.....	.....	11	426	12,215	6,977	.....	.....	.....	19,629
Sussex	12	.....	.....	1,403	481	613	5,198	.....	.....	.....	7,695
Warren	9	.....	.....	.....	.....	1,023	3,242	.....	.....	.....	4,265
Totals	673	.....	3,992	157,594	65,183	188,453	424,009	.....	119	1,418	840,768

NUMBER OF BREEDERS, BY COUNTIES AND VARIETIES

County	S. C. White Leghorns	New Hamp- shires	Rhode Island Reds	Barred Rocks	White Rocks	White Wyan- dottes	Cornish	Black Minor- cas	Others	Crosses	Turkeys	Totals
Atlantic	30,960	4,780	.....	3,225	376	.....	220	263	.....	.....	.....	39,824
Bergen	3,474	682	220	.....	.....	.....	.....	.....	.....	.....	697	5,073
Burlington	7,769	11,085	4,125	1,809	889	.....	.....	.....	.....	2,894	835	29,406
Camden	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,127	529	5,656
Cape May	6,790	5,009	2,651	325	.....	.....	.....	.....	.....	1,903	.....	16,678
Cumberland	126,086	26,075	6,979	1,142	2,533	265	813	172	269	27,686	85	192,105
Essex	.....	.....	.....	.....	171	.....	.....	.....	.....	.....	.....	171
Gloucester	37,376	2,691	822	815	518	.....	.....	.....	.....	6,916	1,306	50,444
Hunterdon	44,005	16,460	2,805	8,539	784	.....	.....	.....	119	13,546	765	87,023
Mercer	7,027	16,213	.....	307	.....	.....	.....	.....	1,296	27,519	754	53,116
Middlesex	31,133	.....	793	1,418	.....	.....	145	.....	.....	1,365	1,460	36,314
Monmouth	107,593	2,849	569	602	876	.....	.....	.....	.....	5,357	2,322	120,168
Morris	3,004	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,004
Ocean	127,945	1,163	.....	.....	.....	.....	.....	.....	.....	1,404	803	131,315
Passaic	826	2,773	100	.....	664	9	.....	.....	14	465	785	5,636
Salem	17,484	2,812	187	1,573	2,201	409	.....	.....	.....	8,181	399	33,246
Somerset	13,581	1,720	255	.....	.....	.....	.....	.....	.....	3,937	136	19,629
Sussex	1,713	1,553	1,453	.....	.....	.....	.....	.....	.....	2,285	691	7,695
Warren	1,736	1,395	83	.....	.....	.....	.....	.....	.....	.....	1,051	4,265
Totals	568,502	97,260	21,042	19,755	9,012	683	1,178	435	1,698	108,585	12,618	840,768

Lack of improvement in cleaning up pullorum has caused the elimination of small flocks from the State program. The trend in New Jersey continues to be toward larger breeding flocks, with no reactors on the last pullorum test. An increasing number of hatcheries require more pedigreed males on their flocks, even on their cross-breeds.

The first attempt in New Jersey to improve interior egg quality through ROP family breeding was started during the year. One ROP breeder cooperated in the breaking out of eggs so that a record could be made of the albumen height from each family. The study shows that the quality of a single egg from each hen provides a high indication of her normal quality performance. Each group of sisters produced eggs of comparable quality. Because of the large number of other breeding factors that need improving, progress on interior egg quality may be slow.

Participation in the turkey program totaled 12,618 birds in 1950-51, a fractional per cent increase.

The tenth annual qualification and examination day for flock selectors and pullorum testers was held in Trenton. Instructors from the Poultry Department of the College of Agriculture cooperated with the Division of Markets and the Division of Animal Industry in presenting the program. Twenty-four persons were qualified by examination and field tests after instruction emphasizing breed improvement and pullorum disease control. Selecting agents operated only in the Approved and Certified breeding stages. Testing agents operated in the Pullorum-Controlled, Pullorum-Passed, and Pullorum-Clean stages. The use of pullorum testing agents to qualify flocks for the Pullorum-Clean classification has worked satisfactorily.

Federal supervisors visited the State twice last year. At a regional conference of State contact men and inspectors, New Jersey served as the host state, with the Poultry Department of the College of Agriculture cooperating with the Division of Markets in this activity. Thirty men from 11 states, together with four from the coordinating office in Washington, attended the conference.

Staff members continued to cooperate in the program of the New Jersey Poultry Breeders' Association, which helps meet the need for disseminating information on breed improvement.

Several lots of N.J.-U.S. ROP hatching eggs were air-shipped to Italy, Spain and Israel during the past season, the Division cooperating with breeders in the necessary certification and in expediting transportation. One lot exported totaled over 5,100 pedigreed eggs.

MARKET ACTIVITIES

Cooperative Marketing

The highest point in the 21-year history of New Jersey cooperative egg marketing was attained by the farmers' auction markets in Flemington, Hightstown, Mount Holly and Vineland, all of which are under State inspection supervision, and in Paterson and Hackettstown, which operate on market grades.

The total of 1,067,278 cases of eggs sold on these markets was about 6 per cent greater than in 1949-50, the previous high year. (For the first time, Hackettstown's volume is reported here.) Total value of eggs handled by these markets was \$17,459,946.07, which was 16.4 per cent more than the previous year. The average auction price per dozen eggs, regardless of quality or size, was 54.53 cents per dozen; 11.5 per cent higher than the 1949-50 average of 47.4 cents.

Because of variations in selling factors among the various markets, direct comparisons of prices received are not made; however, this annual report always includes the individual markets' averages. Vineland commanded the highest annual average price of \$16.48 per case. Hightstown's annual average price was \$16.39; Flemington, \$16.34; Paterson, \$16.04; Mount Holly, \$15.99 and Hackettstown, \$15.36. These average prices are for all eggs of all sizes and qualities.

The five live poultry auctions (Flemington, Hackettstown, Hightstown, Mount Holly and Paterson) sold a total of 6,548,720 pounds of poultry from July 1, 1950 to June 30, 1951, which was 8.7 per cent less than the previous year. The total value was \$1,893,542.44, which was 11 per cent greater than the previous year. The five auctions' 1950-51 average-per-pound price of 28.9 cents was 21.4 per cent higher than the 1949-50 average. The Mount Holly average price per pound was the highest, 31.15 cents. Flemington averaged 29.11 cents; Hackettstown, 28.73 cents; Hightstown, 27.71 cents and Paterson, 26.30 cents per pound, for all varieties and qualities of live poultry items.

SUMMARY OF SALES AT EGG AND POULTRY AUCTION MARKETS

July 1, 1950 to June 30, 1951

Market	Cases of Eggs	Value of Eggs	Crates of Poultry	Pounds of Poultry	Value of Poultry	Total Value
Flemington	329,457	\$5,383,787.93	59,316	3,158,486	\$919,343.22	\$6,303,131.15
Hackettstown	19,698	302,467.65	10,220	583,237	167,569.97	470,037.62
Hightstown	136,230	2,458,045.96	18,666	973,075	269,670.56	2,503,202.21
Mount Holly	48,966	782,873.78	21,173	1,126,039	350,811.32	1,133,685.10
Paterson	52,451	841,244.06	12,772	707,883	186,147.37	1,027,391.43
Vineland	480,476	7,916,041.00	.....	.....	.....	7,916,041.00
Totals	1,067,278	\$17,684,460.38	122,147	6,548,720	\$1,893,542.44	\$19,353,488.51
Average price per case, 1950-51		\$16.36				
		Average price per pound of live poultry, 1950-51			\$0.289	
Average price per case, 1949-50		\$14.22				
		Average price per pound of live poultry, 1949-50			\$0.238	

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AVERAGE PRICE PER DOZEN EGGS ON SIX NEW JERSEY AUCTION MARKETS

Month	1950	1949	1939
July	\$0.5225	\$0.6503	\$0.2647
August	.4845	.6349	.2678
September	.5234	.6157	.2948
October	.5294	.5333	.3029
November	.5668	.5205	.3118
December	.6603	.4558	.2453
	1951	1950	1939
January	.5046	.3674	.2372
February	.5006	.3811	.2260
March	.5462	.4479	.2305
April	.5368	.4112	.2218
May	.5491	.3743	.2146
June	.6197	.4371	.2384

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

Year	Cases of Eggs	Crates of Poultry	Pounds of Poultry	Total Combined Value Eggs and Poultry
1950-51	1,067,278	122,147	6,548,720	\$19,353,488.51
1949-50	1,007,268	123,392	7,170,230	16,035,952.60
1948-49	807,739	102,301	5,194,487	16,331,155.63
1947-48	724,749	91,445	4,709,002	14,550,468.95
1946-47	561,673	78,441	4,106,573	10,498,824.87
1945-46	417,851	49,066	2,571,721	6,092,989.74
1944-45	512,667	42,644	2,132,829	7,399,916.56
1943-44	668,597	62,667	3,136,619	8,824,088.21
1942-43	707,019	106,846	5,182,047	10,532,636.03
1941-42	632,570	135,620	6,533,789	8,008,928.58
Totals	7,107,411	914,569	47,286,017	\$117,628,449.68

Auction Markets Egg-Feed Ratio

This report also includes the annual summary of the monthly ratios of egg prices compared with feed costs. Compiled by the Department from current and past statistics, these ratios provide a measuring stick of the economic condition of the New Jersey egg producers. The ratios are published in the Division's reports and in *New Jersey Farm and Garden*. Correct predictions of economic probabilities have been made for several years on the basis of analyses of previous years' ratios.

Analysis of the 1950-51 egg-feed ratios, correlated with the known facts of consumer income and high prices of foods competing with eggs and assumptions concerning future feed supplies and costs, indicate that the 1951-52 market egg production season should be relatively profitable for the New Jersey poultryman. The year just ended has been encouraging, with five months of highly favorable egg-feed ratios, five months of good ratios and only two months of "breaking even" or possible small losses. Optimism stimulated by the past 12 months could cause ill-advised expansion, of course, with consequent market egg surpluses and lower prices during the 1952 spring.

A strong demand for replacement chicks is indicated for the coming winter and spring.

The accompanying table shows that the monthly average price of all eggs on the six New Jersey auction markets reached its highest point, 66.03 cents per dozen in December 1950; and February 1951, with an average of 50.06 cents per dozen, was the lowest month. However, there was an extremely narrow range of variation—only 16 cents—between high and low months, and little change from month to month. The volume figures indicated that New Jersey flock management skill has resulted in high autumn production, so that about as many eggs are now being marketed in the naturally short season as in the normally surplus months of spring. The annual average price of all eggs sold was 55.23 cents per dozen.

NEW JERSEY EGG AUCTIONS—EGG-FEED RATIO									
EGGS									
	1950	JULY 1949	1939	1950	AUGUST 1949	1939	1950	SEPTEMBER 1949	1939
Total dozens sold	2,048,280	1,647,720	891,300	2,399,040	1,865,310	900,540	2,463,840	2,450,160	855,660
Total price paid	\$ 1,070,247	\$ 1,071,544	\$ 235,920	\$ 1,162,281	\$ 1,184,268	\$ 241,138	\$ 1,289,593	\$ 1,508,631	\$ 252,290
Average price per dozen	\$.5225	\$.6503	\$.2647	\$.4845	\$.6349	\$.2678	\$.5234	\$.6157	\$.2948
FEED									
Average 100 lb. scratch	\$ 3.95	\$ 3.70	\$ 1.60	\$ 3.95	\$ 3.70	\$ 1.50	\$ 3.95	\$ 3.65	\$ 1.86
Average 100 lb. mash	\$ 4.75	\$ 4.55	\$ 2.18	\$ 4.85	\$ 4.65	\$ 2.16	\$ 4.70	\$ 4.65	\$ 2.02
Average laying ration	\$ 4.35	\$ 4.13	\$ 1.89	\$ 4.40	\$ 4.18	\$ 1.83	\$ 4.33	\$ 4.15	\$ 1.94
RATIOS									
Dozen eggs required to buy 100 lb. feed	8.3	6.4	7.1	8.6	6.6	6.8	8.3	6.7	6.6
Number lb. feed dozen eggs will buy	12.0	15.7	14.0	11.6	15.2	14.6	12.0	14.8	15.2
EGGS									
	1950	OCTOBER 1949	1939	1950	NOVEMBER 1949	1939	1950	DECEMBER 1949	1939
Total dozens sold	2,875,050	2,669,760	995,430	2,915,400	2,638,230	969,330	2,545,770	2,670,720	1,135,350
Total price paid	\$ 1,522,029	\$ 1,424,023	\$ 301,570	\$ 1,652,328	\$ 1,370,077	\$ 302,284	\$ 1,680,894	\$ 1,217,202	\$ 278,465
Average price per dozen	\$.5294	\$.5333	\$.3029	\$.5668	\$.5205	\$.3118	\$.6603	\$.4558	\$.2453
FEED									
Average 100 lb. scratch	\$ 3.95	\$ 3.65	\$ 1.78	\$ 4.00	\$ 3.50	\$ 1.77	\$ 4.15	\$ 3.60	\$ 1.83
Average 100 lb. mash	\$ 4.65	\$ 4.55	\$ 2.54	\$ 4.70	\$ 4.45	\$ 2.52	\$ 4.80	\$ 4.45	\$ 2.58
Average laying ration	\$ 4.30	\$ 4.10	\$ 2.16	\$ 4.35	\$ 3.98	\$ 2.14	\$ 4.48	\$ 4.03	\$ 2.20
RATIOS									
Dozen eggs required to buy 100 lb. feed	8.1	7.6	7.1	7.7	7.6	6.9	6.8	8.8	9.0
Number lb. feed dozen eggs will buy	12.3	13.0	14.0	13.0	13.1	14.6	14.7	11.3	11.2

NOTE: The July-November 1950 totals and averages have been revised, since originally published, to include the volumes and values of Hacketts-town eggs, previously omitted.

NEW JERSEY EGG AUCTIONS—EGG-FEED RATIO—Continued

	JANUARY			FEBRUARY			MARCH		
	1951	1950	1939	1951	1950	1939	1951	1950	1939
EGGS									
Total dozens sold	2,755,950	2,888,190	1,099,080	2,630,370	2,715,600	1,085,550	3,088,710	2,912,310	1,372,230
Total price paid	\$ 1,390,532	1,060,982	260,807	1,316,809	1,034,868	245,376	1,687,107	1,304,442	316,303
Average price per dozen	\$.5046	.3674	.2373	.5006	.3811	.2260	.5462	.4479	.2305
FEED									
Average 100 lb. scratch	\$ 4.30	3.60	1.54	4.35	3.60	1.54	4.40	3.65	1.56
Average 100 lb. mash	\$ 4.95	4.45	2.04	4.90	4.35	2.04	4.95	4.40	2.06
Average laying ration	\$ 4.63	4.03	1.79	4.63	3.98	1.79	4.68	4.03	1.81
RATIOS									
Dozen eggs required to buy 100 lb. feed	9.2	10.9	7.5	9.2	10.4	7.9	8.6	8.99	7.9
Number lb. feed dozen eggs will buy	10.9	9.1	13.3	10.8	9.6	12.6	11.7	11.1	12.7
EGGS									
Total dozens sold	2,924,790	2,559,150	1,213,620	2,980,110	2,763,180	1,388,070	2,391,030	2,437,710	1,117,170
Total price paid	\$ 1,570,090	1,052,393	269,176	1,636,246	1,034,197	297,863	1,481,786	1,065,549	266,289
Average price per dozen	\$.5368	.4112	.2218	.5491	.3743	.2146	.6197	.4371	.2384
FEED									
Average 100 lb. scratch	\$ 4.35	3.75	1.58	4.40	3.90	1.64	4.30	3.90	1.69
Average 100 lb. mash	\$ 4.95	4.45	2.11	5.00	4.65	2.18	4.90	4.65	2.18
Average laying ration	\$ 4.65	4.10	1.84	4.70	4.28	1.91	4.60	4.28	1.94
RATIOS									
Dozen eggs required to buy 100 lb. feed	8.66	9.97	8.3	8.56	11.4	8.09	7.4	9.8	8.1
Number lb. feed dozen eggs will buy	11.5	10.0	12.1	11.7	8.7	11.2	13.5	10.2	12.3

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The price of the average laying ration (50 per cent scratch grain and 50 per cent mash) varied only 40 cent per 100 pounds from its low to its high month (\$4.30 in October and \$4.70 in May); these were normal seasonal changes. A simple annual average of 1950-51 monthly prices of the laying ration is \$4.37 per 100 pounds, 22 cents higher than the 1949-50 average.

The simple annual average of the 1950-51 monthly egg-feed ratios is 8.2 dozens of eggs, equal in purchasing power to 100 pounds of laying ration. This average was 8.7 dozens in 1949-50, a year of considerable complaint by poultrymen. Their economic position was comparatively improved during the past year.

State Certified Fresh Eggs

Supervision of inspection of State Certified Fresh Eggs was continued for the thirteenth year. Four member auction markets — Flemington, Vineland, Hightstown and Mount Holly — supply wholesale graded lots of eggs for this project, which individually inspects and cartons the eggs under State supervision. The volume purchased is determined by the volume of the source market. Of the 71,956 cases (2,158,680 dozens) purchased, 11.6 per cent more than last year, Flemington supplied 22,528 cases (31.3 per cent of the total purchased); Vineland, 38,292 cases (53.2 per cent); Hightstown, 8,348 cases (11.6 per cent) and Mount Holly, 2,788 cases (3.87 per cent).

SUMMARY OF CERTIFIED EGG PROJECT
July, 1950 to June 1951

	Dozens Sold 1950	Dozens Sold 1949	Monthly Average Purchase Price 1950	Selling Price Wholesale In Cartons 1950	Average Markup 1950	Earnings or Loss Per Dozen 1950
July	145,357	107,887	\$0.5434	\$0.6370	\$0.0936	—\$0.0131
August	148,254	113,423	.5679	.6701	.1022	— .0074
September	140,679	120,378	.6190	.7230	.1040	— .0025
October	154,613	133,355	.6009	.7075	.1066	+ .0076
November	157,125	127,341	.6025	.7155	.1130	+ .0170
December	152,424	150,587	.6714	.7654	.0940	+ .0023
	1951	1950	1951	1951	1951	1951
January	164,015	144,750	.5355	.6435	.1080	+ .0182
February	160,365	143,481	.4969	.6175	.1206	+ .0326
March	200,090	160,910	.5515	.6661	.1146	+ .0225
April	170,088	154,500	.5352	.6576	.1224	+ .0273
May	153,585	154,163	.5518	.6641	.1123	+ .0073
June	170,730	161,041	.6136	.7255	.1119	— .0007
Totals	1,917,325	1,671,816				

Purchases from all auctions during the past year were valued at \$1,241,943.01 compared with the previous year's \$929,285.87. The total "yield" of eggs for cartoning purposes was 1,917,325 dozens, or 89.22 per

cent of the eggs purchased. The 10.78 per cent loss on reject eggs was a fractional percentage higher than the previous year. The yearly average price paid to the auctions by Certified was .5753 cents per dozen, whereas the average price commanded by all eggs on all New Jersey auctions was .5523 cents. The annual average markup between purchase and selling price was .1065 cents per dozen, which was .0028 cents lower than the previous year. The project had satisfactory earnings, as shown by the annual audit filed with this Department.

NEW JERSEY FRESH EGG LAW

Neighboring states have raised the question of adequate enforcement of fresh egg laws. The issue is important because of the interstate traffic in eggs, and the fact that some companies operate in several states.

With four egg law inspectors for a population of 4,873,000 consuming an estimated 150 million dozens of eggs annually, New Jersey has one inspector to slightly more than a million persons. At times this ratio appears to be inadequate, yet New Jersey is envied on this score by most Northeastern states. Some difficulties encountered in respect to egg law violations are the result of insufficient manpower for egg inspection in neighboring states. Another factor is the degree of variation in law enforcement procedure. Personnel responsible for egg law enforcement in the Northeast attempt to exchange views in order to obtain a clearer understanding of their respective problems.

In New Jersey the objective is to use the fresh egg law as the rule by which eggs are to be marketed, primarily where eggs are graded for consumer purchase. Enforcement methods continue to be educational; however, the police powers may be invoked quickly as the occasion demands. The Department encourages the sale of eggs as "fresh" when they conform to legally fresh requirements and through inspection, provides protection to consumers, so that they gain confidence and satisfaction in the product. This has worked well with the development of programs in which eggs are prepared in consumer-package form.

Imperfections are evident if the enforcement work is critically observed. Inspection personnel constantly evaluate their services and seek to improve procedures. During the latter part of the year, a method was determined to cause persons or firms to become conscious of their responsibility, on the premise that the burden of proof is with the law enforcement agency, and that the person or firm affected by the law is responsible for compliance with the law. In the case of chain store organizations, which control both the packaging and retailing of the eggs they sell, eggs were inspected as usual during an observation period, but findings were accumulated until the end of the period. Allowance was made for human error. If the degree of error exceeded practical limits, formal action on the violations was taken. Of the chain store organizations of all sizes, the cumulative record of violations of only one required drastic action. Although it was necessary to

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caution several other firms, their response in correcting marketing practices was satisfactory.

The senior inspector made 316 wholesale visits during the year. These included chain store warehouse candling rooms, but for the most part represented independent firms.

Egg law inspections were made in 9,521 stores during the past year, 8.69 per cent fewer than the previous year. Violations among all stores totaled 944, or 9.91 per cent, unchanged from 1949-50. Among independent stores, 7.45 per cent were found in violation, and among chain stores, 30.96 per cent. The frequency of violations was slightly less than last year among independent stores. However, it was nearly 4 per cent greater among chain stores. This increase is attributed largely to the violations of one organization. Of all violations found, 257 were considered serious enough to warrant issuing warnings; 34 resulted in hearing, of which two were settled without penalty and the remaining 32 were assessed penalties totaling \$325.

Grading and Inspection Service

The application and supervision of official New Jersey wholesale grades for eggs, official New Jersey consumer grades for eggs, official New Jersey grades for live poultry, supervision of the Federal-State egg grading service and the inspection of turkeys when marketed under the "Blue Tag" program are all a part of this project.

An enterprising group of poultrymen in the Monmouth-Ocean County area exerted considerable effort in establishing an egg marketing and promotional plan, involving quality control and source identification under the "Jersey Jill" trademark. After nearly a year of preparation, the project got under way in May 1951. It incorporated official grading and caused a sharp increase in the number of firms participating in the State program. Previously most of the poultrymen in this area marketed their eggs without official grading. The Department's services are performed at the receiver's place of business. Continuous inspection is rendered by licensed personnel employed by such firms, supervised by the Department. Because a specific quality requirement is stipulated in the contract between the producer and receiver, the quality of shipments of producers' eggs has also been evaluated by Department personnel at the request of the receiver, so that the information may be used by the producer to make improvements.

The rapid expansion of the grading service overtaxed the supervisory facilities. The alternative to providing additional inspection personnel was to confine activities to the amount of work which could be handled conveniently, which would have been unjust to those who had not entered the program earlier, but deserved State service. In order to handle the work properly, a scale of grading fees was developed to provide sufficient income for the salary and expenses of a senior inspector in maintaining supervision. As the year ended, agreements between the Department and all participating marketing groups were being completed, so that the new fee system will begin operation during the new fiscal year.

The auction markets at Flemington, Hightstown, Mount Holly and Vineland continued using official grades for eggs. The first three also used official grades for live poultry. At these marketing points, the State program has its most satisfactory contact with producers, because practically all eggs are packaged by the producer and submitted for inspection by licensed graders employed by the respective auctions.

The relationship of the Department to the Federal-State egg grading service is that of a cooperating agency. The State staff's functions in this service include the grading of eggs conforming to consumer grades. This supervision is part of the Department's responsibility under agreement with the U. S. Department of Agriculture. New Jersey inspectors examine the firms which apply for service and pass upon the qualifications of those who are to be licensed as graders. The State also collects fees and makes the necessary reports to the Washington office.

The perishable quality of eggs probably causes more producer complaints than most poultry farm problems. Invariably, low quality at levels close to the producer results from one of four faults, or a combination of these, some of which can be regulated by the poultryman, although other may be beyond his immediate control. Feeding, breeding, health and environment are major factors affecting egg quality. Neglect of any factor will result in lowered egg quality.

As a result of a complaint from a producer whose eggs were graded mostly B grade, when formerly they had been grading A and AA, Department personnel made a rather thorough examination. An egg from each breeder hen was candled and broken out and the quality measured in accordance with the procedures and standards prescribed for such observation. It was determined that breeding was involved, but not wholly responsible for the drop in grade. Environment was not entirely conducive to maintaining egg quality. The combination of these two defects was sufficient to lower the grading of the product. Feeding and health factors were not observed as these were apparently satisfactory to maintain production and hatchability, but the effect of poor health at some previous time could have left its mark. The ROP breeder cooperating in this work plans, through careful selection and elimination of the families producing the faulty eggs, to improve his average egg quality genetically. His hatchery supplies chicks for a large number of market egg flocks, and therefore, the benefits of his improvements will be wide-spread.

Requests were received from groups of poultrymen near Plainfield and in Toms River to visit farms of their members and observe egg quality. Recommendations were made for improving environmental conditions to conserve quality in the case of those near Plainfield; conditions in the Toms River area were found to be fairly good.

Turkey Blue Tag Program

The inspection of turkeys under the "Blue Tag" program was performed again this year in cooperation with the New Jersey Turkey Growers' Cooperative Association. Eleven participating growers identified approximately 6,000 turkeys in this manner.

Special Poultry Activities

The Bureau cooperated with 4-H and Vo-Ag interests in conducting Farmers Week programs. Elimination egg grading contests were held throughout the State prior to the final events at Trenton. A regional egg grading contest was conducted in Harrisburg, Pennsylvania, for the Northeastern Poultry Producers Council. Assistance was given the New Jersey Turkey Growers' Cooperative Association in conducting their annual dressed turkey show.

Meetings of the sub-task group of the U. S. Department of Agriculture on the application of standards and on egg packing materials and grades,

were attended by staff members. A staff member again acted as an instructor at the Neppco Egg Grading and Marketing School, held this year in Rhode Island.

Staff members also participated in various regional programs, including the Business Management Conference for Cooperative Marketing Associations held in Columbus, Ohio; the Poultry Allied Industry Conference in Philadelphia; eastern activities of the Poultry and Egg National Board; the "Teen-Egg" Cooking Contest sponsored by four New Jersey egg auction markets; a broiler consumption promotional conference; and meetings of the State Poultry Association, Jersey Chick Association, and many county associations.

The New Jersey chick promotional display was renovated for use at fairs and poultry meetings. One issue of Farm Service News was devoted to information about the poultry standardization program. Listings of co-operating breeding flocks and hatcheries, with their official ratings, were published and distributed.

News release on egg and poultry subjects were prepared in cooperation with the Division of Information. Special material was supplied for agricultural and consumer radio programs and assistance given writers and editorial workers on poultry assignments.

A large poultry attendance was attracted by the two-day poultry educational sessions of Farmers Week, to which the Bureau staff devotes special efforts. Awards for meritorious service to the poultry industry in the form of "golden eggs" were presented at the annual banquet to Wallace S. Suydam of Quakertown, long-time industry leader, and Warren W. Oley, director of the Division of Markets, in recognition of nearly 25 years as head of the State's agricultural marketing program.

Bureau personnel assisted several organizations allied with the poultry industry by serving on committees, and as secretaries of the New Jersey Turkey Growers' Cooperative Association, New Jersey Poultry and Egg Cooperative Marketing Association, the New Jersey Record of Performance Association and the poultry commodity committee of New Jersey Farm Bureau.

The controversy between the State health authorities and the U. S. Department of Agriculture over the new regulations for dressed poultry inspection continued through the year. The New Jersey Department of Agriculture was asked by both sides to attempt an amicable settlement. Although the Federal agency requested that the State Department invoke the general agreement covering inspection supervision and participate in installing inspection at applicant dressing plants, the request was declined because of the health agency's views concerning its jurisdiction in the fields of inspection for wholesomeness and environmental sanitation. Several conferences were held, at which the New Jersey Department acted as intermediary because of its concern for the orderly marketing of poultry. A near-crisis was averted as the July 1, 1951 deadline for compliance with the new regula-

tions approached. The State Department of Agriculture was granted an extension of special permits on a temporary basis so that dressing plants could handle the large volume of cannery poultry during the summer months when expended laying flocks are marketed. Poultry marketing groups, as well as dressers and canners, have expressed their appreciation for the efforts of the New Jersey Department in this difficult problem. As the year ended, it appeared a solution would be reached through a tentative agreement whereby the Health Department's environmental sanitation staff will share authority with the Federal Department's inspection supervisor.

Report of the Division of Plant Industry

HARRY B. WEISS, D.Sc., *Director*

BUREAU OF ENTOMOLOGY

NURSERY INSPECTION

A total of 567 nurseries was inspected and certified during the year starting September 1, 1950, after being found free of injurious insects and plant diseases. Where infestations of insects were found in some nurseries, clean-up and re-inspection were required before the issuing of nursery certificates. A total of 354 infestations was found and controlled in 148 nurseries.

INSECT INFESTATIONS

Insect Pests	Number of Infestations
Juniper Scale	77
Rhododendron Lace Bug	60
Bagworm	45
Oyster Shell Scale	32
Taxus Mealy Bug	25
Azalea Lace Bug	22
Euonymus Scale	22
Holly Leaf Miner	11
Juniper Webworm	8
Pine Leaf Scale	8
Spruce Gall Aphid	7
Lilac Borer	6
Boxwood Leaf Miner	5
European Pine Shoot Moth	5
Tulip Scale	5
Black Vine Weevil	2
Red Spider	2
Soft Scale	2
Wooly Aphid	2
Peach Tree Borer	1
Pine Tip Moth	1
Poplar Galls	1
Rose Scale	1
Sycamore Lace Bug	1
Thrips	1
Oak Scale	1
Willow Galls	1

Dealers' Certificates

Certificates were issued to 82 dealers in nursery stock after they had signed agreements to sell stock only from sources approved by this Department. Representatives of the Division inspected held-over stock and checked sources of supply on the premises of four dealers during the winter.

Special Certificates

A total of 397 special certificates was issued during the year ending June 30, 1951. Such certification is provided to nurserymen shipping to states or foreign countries requiring special phytosanitary certification or to individuals who desire to move plant material from New Jersey. Such special certification attests to the freedom of the stock from insects and plant diseases, just prior to shipment.

Special (Request) Inspections

A total of 117 inspections was made of the premises of residents of the State desiring information on the identification and control of insects and plant diseases affecting their property.

Canadian Certificates

Special certification is required before plant material may be shipped into the Dominion of Canada. A total of 97 such inspections was made and necessary certificates issued.

Domestic Inspections

Of the nursery stock entering New Jersey from other states, 145 shipments were spot-inspected to check the efficiency of inspection services in the states of origin. No case of infestation was found.

Special Corn Borer Certificates

Certain states, notably the western tier, where the European corn borer is not present or is present only in small numbers, require special certification of certain plant materials before they may be shipped. A total of 176 such certificates was issued.

Phylloxera Certification

One shipment of plant material was inspected and certified as free of *Phylloxera*, in accordance with the requirements of certain European countries.

Raspberry Plant Certification

Fourteen inspections were made of a total of 27.75 acres of raspberry plants for five growers who desired inspection and certification of their plantings for freedom from virus diseases before shipping to states requiring such certification.

Dormant Season Inspections

During the fall and winter months, stock growing in 28 nurseries was inspected for various scales and other insects. No infestation was found.

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Miscellaneous Inspections

One planting of *Berberis thunbergii* was inspected for trueness to type, at the request of Dr. L. M. Melander of the U. S. Department of Agriculture. Also, three Japanese beetle certificates were issued after inspection by nursery inspectors.

BLUEBERRY STUNT DISEASE

This report on the sixth year of blueberry stunt certification covers the 1950 calendar year. Two inspections are made each year, one in the spring and one in the fall, when foliar symptoms are most conspicuous. In order that a grower might be eligible for certification and movement of his plants as "stunt-free", he is required to remove diseased bushes within ten days. Fields showing diseased bushes in excess of three-fourths of 1 per cent (0.75 per cent) at any one inspection, or in excess of 1 per cent for the two inspections, are rejected. If a grower has more than one field, the diseased bushes in any rejected field must be removed in order to keep the remaining entered fields certifiable.

Summary of Spring Inspection (1950)

Thirty-three growers entered a total of 446.2 acres, but voluntarily withdrew 49.7 acres when it was anticipated that the inspection force would be unable to inspect such a large acreage before the spring symptoms disappeared. Of the 396.5 acres inspected, 14.5 were rejected because the number of plants tagged exceeded the tolerance of three-fourths of 1 per cent. A total of 474 diseased bushes had to be removed from the certifiable 382 acres, giving an average of 1.24 stunted bushes per certifiable acre at this inspection.

Summary of Fall Inspection (1950)

During the fall inspection, of the certifiable 382 acres it was necessary to reject an additional 6 acres on which the total number of bushes tagged during both inspections exceeded the 1 per cent tolerance. A total of 207 diseased bushes had to be removed from the remaining 376 certifiable acres, giving an average of 0.55 stunt-diseased bushes per acre certified. As in 1949, the appearance of the fall symptoms was spotty and certain fields had to be reinspected when the symptoms were more apparent.

STATE DEPARTMENT OF AGRICULTURE

SUMMARY OF 1950 BLUEBERRY STUNT INSPECTION

Grower	Acres Entered	Acres Inspected		Acres Rejected		Stunt Bushes Tagged	
		Spring	Fall	Spring	Fall	Spring	Fall
Ahlich	24.75	15.75	15.75	.....	.....	40	11
Anderson	8.00	8.00	8.00	.....	.....	2	.....
Applegate	2.00	2.00	2.00	.....	.....	.....	.....
Arpin	15.00	15.00	15.00	.....	.....	14	5
Atlantic Blueberry Co. (Galletta)	24.00	18.00	18.00	.....	.....	47	12
Bebee	11.00	11.00	11.00	.....	.....	4	.....
Brown	8.00	8.00	8.00	.....	.....	2	8
Budd	25.00	25.00	25.00	.....	.....	2	1
Cavileer	14.00	10.00	10.00	.....	.....	11	.....
Clevenger	11.00	11.00	11.00	.....	.....	.....	.....
Cutts Brothers	13.00	13.00	13.00	.....	.....	.....	.....
Daumont	12.00	12.00	.....	12.00	.....	.....	.....
Di Donato	6.00	6.00	6.00	.....	.....	.....	.....
Galletta	16.00	16.00	16.00	.....	.....	1	.....
Haines, E. & Bro.	34.67	15.00	15.00	.....	.....	.....	.....
Haines, H. & E.	31.00	20.00	20.00	.....	.....	6	23
Hamilton	13.00	13.00	13.00	.....	.....	1	.....
Heimbac	4.00	4.00	4.00	.....	.....	11	30
Knapp	5.00	5.00	5.00	.....	.....	.....	3
Leach	21.75	21.75	21.75	.....	6.00	111	24
Lovett's	2.00	2.00	2.00	.....	.....	.....	.....
Manning	10.50	10.50	10.50	.....	.....	26	5
Mood	9.00	9.00	9.00	.....	.....	.....	.....
Newman & Dunfee	11.00	11.00	11.00	.....	.....	34	.....
Norcross	7.00	7.00	7.00	.....	.....	2	.....
O'Neill	20.00	20.00	20.00	.....	.....	57	24
Pinkham	15.00	15.00	12.50	2.5	.....	45	32
Pursell	3.00	3.00	3.00	.....	.....	.....	.....
Rogers	35.00	35.00	35.00	.....	.....	18	6
Scammell	10.00	10.00	10.00	.....	.....	.....	.....
Scarano	6.50	6.50	6.50	.....	.....	22	20
Stevenson	6.00	6.00	6.00	.....	.....	15	.....
White	12.00	12.00	12.00	.....	.....	3	3
Totals	446.17	396.50	382.00	14.5	6.00	474	207

Spring—33 Growers—446.2 acres

49.7 " voluntarily withdrawn

396.5 " inspected

14.5 " rejected

382.0 " remaining, an average of 1.24 stunted bushes per certifiable acre; 474 plants tagged.

Fall—382.0 acres inspected

6.0 " rejected

376.0 " remaining, an average of 0.55 stunted bushes per acre certifiable; 207 plants tagged.

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BLUEBERRY STUNT INSPECTION

1945-50

Year	Growers in Program	Acres Certified	Stunt Bushes	Stunt Bushes per Acre Certified
1945	14	155.25	698	4.7
1946	26	350.23	2,002	5.7
1947	23	338.88	813	2.4
1948	21	358.30	519	1.4
1949	34	364.41	550	1.5
1950	33	376.00	681	1.8

During the 1950 inspection, the Division was concerned with a decided increase in the amount of stunt found in certain plantings, especially in the Magnolia area in Pemberton. A sharp increase in diseased bushes was observed in plantings that had shown only small amounts of infection in the past. In the course of the spring inspection, it was thought that the drought during the summer of 1949 might have caused injury and masked the fall symptoms of that year. As a result, bushes were being removed in the spring of 1950 which ordinarily would have been removed in the fall of 1949. However, these same fields continued to show an abundance of stunt during the fall inspection.

BLUEBERRY STEM CANKER

During January 1951, a meeting was held to consider the potential danger of blueberry stem canker, *Phylospora corticus*, to the New Jersey blueberry industry. Representatives of the industry, the State Agricultural Experiment Station, the Cranberry and Blueberry Research Laboratories in Pemberton, the Agricultural Research Administration in Beltsville, Maryland, and of this Division reviewed the available information and considered possible means of protecting the industry.

This fungus disease causes injury by girdling branches and canes, causing a reduction in fruit and death to the canes above the cankered areas. It is known to be established in Florida, Alabama, Mississippi, North Carolina and Georgia and its presence is suspected in other southern states.

It was thought that the disease could not live in this State and no reports of injury of this nature had been received, but it was agreed that this Division should survey the commercial blueberry plantings during the dormant season to determine whether any plants were harboring the disease.

It was decided to inspect first the premises of those growers who also had plantings in North Carolina, then search out and inspect any plants or cuttings from that state, and finally to broaden the program to include as much territory as possible in the allotted time.

Before the start of this project, a grower reported that canker was present in plants brought from North Carolina in 1935. Quick inspection proved this to be true and a later, more thorough inspection showed a heavy and scattered infection through several varieties of North Carolina plants and the presence of the disease to a lesser degree in adjacent New Jersey-

grown plants. Unlike the canker in the South, however, little or no apparent reduction in fruit bud production or dying of canes was observed.

During February, 503.5 acres were inspected and in March, up to the time of discontinuance on March 19, an additional 709 acres were inspected, giving a total of 1,212.5 acres inspected. Of these, 274 acres comprising eight plantings were found to be infected with stem canker to some degree as follows:

10	acres, heavy, scattered in Concord, Cabot, Pioneer and Stanley
15	" trace, 2 Concord
11	" " 2 Cabot
12	" " 2 Cabot and 1 Concord
10	" " 1 Cabot
	1 acre, heavy, (one corner of planting) Cabot and 1 Jersey (trace)
80	acres, heavy in $\frac{1}{4}$ acre (10 Concord and 6 Cabot)
135	" trace, 1 Cabot

Attempts to trace the source of the infected plants were unsuccessful. At first it was thought that the source of infection was a planting of blueberries brought from North Carolina in 1935, the first found to be infected. A concentration of infected plantings in this same general area seemed to verify this, but one infected planting was from wood obtained from New Jersey plants near Chatsworth in 1940. Upon investigation, it was determined that these plants had come from uninfected New Jersey plants. It appears that the infection must have come from several sources. Also, at this time it seems unlikely that this disease will be of major importance in New Jersey unless a more virulent strain of the fungus develops. However, such strains should have appeared before this, since it is now known that the disease has been present in the State at least since 1935.

STRAWBERRY RED STELE DISEASE

During March and April, 1951, a total of 117.5 acres of strawberries entered by 41 growers was inspected for red stele disease. Of these, 115.5 were certified as free of disease. One field, containing two acres, was found to be infected and refused certification.

POST-ENTRY QUARANTINE

In accordance with the revised foreign plant pest act of the U. S. Department of Agriculture (Quarantine 37, revised September 1, 1948) the importation of certain plant materials is restricted. Such materials may be imported only under permit and must be grown under constant supervision by this Department until deemed free of virus diseases and safe for release for propagation or sale. The quarantine period is usually about two years but *Dianthus* sp. is now released after one year of inspection and supervision.

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IMPORTATIONS SUBJECT TO POST-ENTRY QUARANTINE

July 1, 1950 to June 30, 1951

Date of Entry 1950	Country of Origin	Quantity and Material	Destination by Counties
July	Norway	50 Hydrangea	Middlesex
August	Philippines	2 Jasminum	Union
	France	36 Dianthus	Somerset
November	Holland	10 Ilex	Cumberland
	England	100 Rosa	Morris
	Holland	25 Prunus	Union
December	Turkey	48 Vistis	Bergen
	Holland	4,000 Rosa	Bergen
	Holland	189 Rosa	Bergen
	Holland	2,000 Jasminum	Monmouth
		500 Acer	
		1,750 Euonymus	
	Holland	1,000 Euonymus	Monmouth
	Holland	160 Wisteria	Morris
		2,653 Acer	
		350 Euonymus	
		905 Hydrangea	
	Holland	13 Sorbus	Morris
		16 Acer	
		27 Euonymus	
		156 Acer	
		1,178 Hydrangea	
		23 Quercus	
		8 Aesculus	
		121 Rubus	
	Holland	400 Acer	Union
	England	1 Prunus	Passaic
		6 Cratægus	
Belgium	50 Anthurium	Union	
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January	Denmark	1,000 Dianthus	Passaic
February	Holland	15,000 Rosa multiflora	Bergen
	Holland	1,000 Rosa budsticks	Morris
March	Holland	60 Ilex	Monmouth
	Holland	150 Acer	Monmouth
	Holland	1,000 Acer	Morris
	Holland	1,025 Acer	Morris
	Holland	60 Hydrangea	Morris
	Holland	906 Acer	Morris
	Holland	100 Acer	Passaic
	Holland	700 Acer	Union
	Holland	50 Laburnum	Union
	April	Holland	5 Rhododendron	Bergen
Holland		50 Ilex	Camden
Holland		25 Acer	Camden
Italy		7 Ficus	Cape May
May	France	84 Dianthus	Somerset
	Germany	22 Rosa	Monmouth
	Holland	50 Hydrangea	Bergen
June	Belgium	70 Anthurium	Bergen

A compilation of the plant materials released since the establishment of these requirements, either because inspection for an adequate time had proved them to be free of disease or because they were destroyed, follows:

Shipment Received From Hoboken	Type of Release Following Inspection Period	Destruction of Material	Quantity and Kind of Material Imported	Country of Origin	Destination by Counties
2/4/49		1/15/51	27 Quercus	France	Mercer
3/3/49	1/15/51		40 Rosa	England	Bergen
3/4/49		7/27/49	50 Primula	Holland	Passaic
3/15/49	1/15/51		10 Prunus	France	Morris
3/21/49	1/15/51		24 Ficus	Yugoslavia	Cumberland
			1 Olea		
			16 Vaccinium		
3/21/49	1/30/50		1,800 Rosa	Holland	Middlesex
3/30/49	6/6/51		225 Prunus	Holland	Cumberland
3/30/49	1/15/51		100 Acer	Holland	Cumberland
4/5/49	1/15/51		3 Cydonia	Italy	Gloucester
4/21/49	1/15/51		100 Acer	Holland	Bergen
4/22/49		5/9/49	8 Berberis verruculosa	Canada	Camden
4/27/49		7/27/49	15,035 Azalea indica	Belgium	Passaic
4/27/49		7/27/49	2,500 Azalea indica	Belgium	Passaic
6/1/49		5/22/49	90 Acer	Holland	Passaic
7/27/49		5/22/51	300 Hydrangea	Holland	Somerset
11/2/49	1/15/51		1,250 Dianthus	Denmark	Passaic
11/9/49	(transferred out of state)		2 Anthurium	Brazil	Union
11/17/49		5/12/50	10 Camellia	Japan	Passaic
11/28/49		4/-/51	12 Rosa	England	Essex
12/21/49		5/26/50	500 Hibiscus	Holland	Monmouth
1/13/50	5/18/51		116 Dianthus	Holland	Bergen
1/19/50	6/6/51		500 Dianthus	Denmark	Union
2/6/50	5/29/51		105 Dianthus	France	Monmouth
2/14/50		7/27/50	3 Juniperus	Japan	Bergen
2/28/50		3/6/50	24 Rosa	England	Bergen
3/13/50		7/25/50	8 Azalea	England	Cumberland
3/15/50		5/26/50	100 Hydrangea	Holland	Mercer
4/5/50		6/5/50	8 Ribes	Germany	Bergen
4/13/50		8/25/50	8 Prunus	France	Bergen
4/18/50		11/8/50	50 Laburnum	Holland	Bergen
5/23/50		7/25/50	200 Hydrangea	Holland	Cumberland
5/25/50		7/25/50	1,000 Hydrangea	Holland	Cumberland
8/11/50		8/22/50	10 Ilex	Holland	Cumberland

A total of 213 inspections of post-entry materials was made during the year ending June 30, 1951. In addition, three post-entry premise investigations were made to determine if facilities were adequate to grow post-entry materials according to regulations.

Three cases of undetermined disease in plant material imported into New Jersey under these restrictions were found, attesting to the value and necessity of this quarantine. A planting of 250 *Prunus* spp. (flowering cherry) developed symptoms in 1949 and 1950 indicating a virus disease. Neither the U. S. Department of Agriculture pathologist nor other specialists recognized the disease. Diseased plants were removed and destroyed and the remaining plants were held over until 1951 before release.

One *Sorbus beissneri*, of a lot of 64 originally imported, developed a bright yellow chlorosis, which did not fit the description of *Sorbus* variegation virus. The plant remains under observation. The third case, a planting of 75 *Rubus deliciosus*, developed conspicuous ring spots. The disease has not been identified.

These findings illustrate the danger of introducing virus diseases into this country. The symptoms were lacking at the time of inspection in Hoboken and appeared only after the plants were in the ground and actively growing. Only the periodic inspections and the restrictions on disposal of the material prevented the dissemination of this diseased material through propagation and sale.

WEED CONTROL CONFERENCE

On June 13, 1951, Frank A. Soraci, chief of the Bureau of Entomology attended a conference on the subject of weed control. Representatives of the departments of Health, Conservation and Economic Development and Highways and the State Agricultural Experiment Station constituted a committee to recommend measures on this subject to the Governor. Each member of the committee submitted a report to the secretary of the committee.

The following is a copy of Mr. Soraci's report:

"The literature I have seen to date indicates that ragweed control in urban areas has been a successful and beneficial program. Since the New York City project has received so much attention here today, we should be sure to realize that the problem in New York City is not comparable with the problem in the State of New Jersey. It is my thought that the program in New York would not have progressed so rapidly and been so outstanding, if it had been started on a State-wide basis. Of course, the New York City program concerned miles of sidewalks and paved areas with only backyards containing ragweed. A State-wide program in New Jersey would involve miles of open land and farm land and relatively small concentrations of pavement and built-up areas.

"I would recommend that the program would be a broad one, attempting to control weeds, generally. A ragweed control program could not enlist the aid of as many interested people as one concerned also with poison ivy, and one concerned with beautification of roadsides.

"There is some evidence that the weed control agent which has received most consideration here, 2,4-D, has caused some injury on farms and farm land. The direct injury has been to sensitive crops adjacent to sprayed plots. However, it is reported* 'that in some instances, 2,4-D has remained in the soil in toxic quantities and injured new crops planted therein. 2,4-D breaks down in warm, moist soils in 30 to 60 days, but it may persist in cool, dry soils for six months or longer. More 2,4-D is retained by heavy soils than by light soils. Ordinarily, it is not safe to plant sus-

* Agricultural Chemicals, May 1951, page 37.

ceptible crops the season following a spring or early summer treatment with 2,4-D.' This reference is to conditions in California and may not affect a properly conceived New Jersey program. However, it should be borne in mind that, under certain conditions, damage can be done on farms. There would also be the problem of using farm spraying machinery for a 2,4-D operation. I believe that is more thoroughly covered by the remarks of Messrs. Rex and Aldrich.

"It would seem to me to be logical that a properly coordinated program be started in the larger cities. Larger concentrations of population would benefit thereby, with a minimum amount of expenditure. Concurrently, or as a next step, the weed control program could be carried to the state, county and municipal roads. This effort should remove, for most of the population, the very heavy concentrations of pollen that are released in their immediate vicinity. As the program progresses, and benefits are realized, those concerned with this problem would be developing a strong argument in convincing the farmer that his help is vital in achieving the desired results.

"We have information that 2 to 3 per cent of the inhabitants east of the Rocky Mountains, with the exception of certain areas, suffer from breathing ragweed pollen. We should know, and the public should know, of the severity of this suffering. It should also be important to bring before the public other basic medical information. Are protective drugs satisfactory and available? If not, what are the prospects of development of such drugs. Perhaps by medical means, relief might be forthcoming for those allergic to pollens of weeds, grasses, trees, shrubs, flowers, house dust, soap flakes, foods, etc., and a weed control program would benefit only some of these sufferers.

"There have been here set forth considerations which seem to bear on the problem. Nevertheless, the New Jersey Department of Agriculture would be willing and anxious to cooperate in any way possible in furthering the final program."

RODENT ECTOPARASITE SURVEY

Because civil defense authorities have been concerned with the possible introduction into the State of diseases which are transmitted to man by ectoparasites of rodents, and because little is known of the ectoparasite population in New Jersey, a survey was started in June 1951, in cooperation with the State Agricultural Experiment Station. Dr. Elton Hansens of the Station is directing the survey, aided by two inspectors provided by this Department.

Rats were collected from garbage or refuse dumps near Perth Amboy, South River, Rahway, Newark, Secaucus, Fairview, Englewood, Hackensack, Hasbrouck Heights, Lyndhurst, Pine Brook, Palisades Park and Bloomingdale. The rat harborage in the metropolitan area are especially important from the standpoint of biological warfare. A total of 163 rats was collected from the above locations during the month. These, and 65 more previously col-

lected, were deparasitized and the parasites stored for later sorting and identification.

The Division hopes to be able to develop this survey so that eventually a good knowledge of the bionomics of ectoparasites of rodents in the State can be obtained. Seasonal fluctuations and relationship of host to environment would probably be as important as a knowledge of species and abundance.

X-DISEASE (YELLOW-RED VIROSIS) OF PEACH TREES

On January 17, 1939, the State Board of Agriculture adopted a quarantine prohibiting the movement of peach and choke-cherry stock from Massachusetts, Connecticut, Rhode Island and New York to New Jersey and requiring other incoming shipments to be marked with their point of origin, because of X-disease or yellow-red virosis. This action was taken because the virus disease had ruined many orchards in Connecticut and New York and some emergency measure was considered necessary until the hazard to New Jersey could be determined.

During the summers of 1939 and 1940, with funds provided by the New Jersey Peach Council, two men surveyed the State to determine whether X-disease was present either on the peach trees or on the wild host, choke-cherry (*Prunus virginiana*). It was determined that X-disease was not present in New Jersey on either of its two hosts and that choke-cherry was native only in the northern third of the State.

From 1940-49, the disease spread over almost all sections of the United States where choke-cherry was present. That plant grows as far west as the Dakotas, Nebraska and Kansas, and as far south as Alabama at higher elevations. It extends north to Labrador on the East coast and northern Alberta in the West. Another cherry, *Prunus demissa*, which exists in the far western states, is apparently the wild host of a western form of X-disease, which also attacks peach trees.

In the summer of 1949, the Division was informed of the possible presence of X-disease in the State. With the cooperation of the New Jersey Agricultural Experiment Station, this Bureau conducted a survey in the areas where choke-cherry is present. The disease was found first on choke-cherry in a solid area of about 25 square miles to the south and east of Colesville in Sussex County. The infected area includes the towns of Libertyville, Plumbsock and Quarryville. Another infection of approximately one square mile was found at Hardistonville, near Franklin, in Sussex County. It is believed that all infections recorded in that survey were of 1948 or 1949 origin.

During the summer of 1950, another survey was made of the area where choke-cherry is native. The current year's survey shows only slight extension of the boundaries of the area found diseased last year, but a much more general occurrence of symptoms on the wild host within the diseased area. However, new infections have been found on choke-cherries in the vicinity

of Mount Olive (Morris County) and Old Tappan (Bergen County), with a suspicious area developing near Hainesville (Sussex County).

At present, the disease is taking over on the native wild host in the State, following a pattern of spread similar to that found wherever it has become established. The disease is expected to spread rapidly throughout the choke-cherry in New Jersey during the next few years. However, it is now known that choke-cherry is the primary host and that peach trees are infected only when grown closely associated with the primary host. There is no spread from peach to peach under orchard conditions, although the virus is readily transmitted from peach to peach by budding or grafting after foliage symptoms appear in the spring and before the cessation of growth in the fall.

The eradication of choke-cherry is the method of controlling the disease in an orchard. In those out-of-State areas where peach growers have contended with the problem for a number of years, eradication of the primary host for a distance of 500 feet around the orchard has proved effective in protecting peach trees.

Under present conditions, it is difficult to justify retention of the X-disease quarantine by this State. That quarantine is now neither reasonable nor biologically sound. The disease is one which can be of importance only in the northern third of the State and can be controlled with reasonable effort by the orchardist. It is unlikely that the quarantine will have any effect upon the effort that the orchardist will need to expend in protecting his trees.

GOLDEN NEMATODE (*Heterodera rostochiensis*) OF POTATOES

For the third consecutive year, a survey was conducted to determine whether New Jersey potato fields were infested with golden nematode, a pest of extreme importance in Europe, known to occur only on Long Island in the United States.

Beginning in mid-July and ending in mid-September 1950, samples of soil and debris were taken from potato graders throughout the State by an inspector of this Bureau and a supervisor of the Federal project located in Hicksville, Long Island. The samples were bagged, stored and dried in the greenhouse at the Department's laboratory in White Horse. Also, a few samples of soil were taken from recently harvested fields. Late in September and early in October, 1950, an experienced laboratory crew of four men from the Federal project established processing and diagnostic facilities at White Horse. The samples were washed and screened and the residue examined microscopically to locate nematodes that might be present.

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SAMPLING FOR GOLDEN NEMATODE SURVEY

County	Represented Grader Acreage	Number of Grader Samples	Sampled Field Acreage	Number of Field Samples
Burlington	1,500	541	143	100
Cumberland	3,359	246	73	58
Gloucester	15	2	.....	.....
Hunterdon	.....	.....	25	6
Mercer	9,965	1,497	183	210
Middlesex	4,215	1,132	58	38
Monmouth	4,814	1,286	341	317
Morris	.....	.....	13	13
Ocean	108	20	50	52
Salem	1,057	74	18	14
Warren	6	4	5	2
Sub-totals	25,039	4,802	909	810
	Total acreage represented in the 1950 survey		25,948	
	Total samples collected in the 1950 survey		5,612	

It is encouraging to note that no golden nematode was found despite the large number of samples collected, and the extensive acreage represented by this sampling (approximately three-fifths of the total potato acreage of the State). Although the survey method is not intensive, the organism would probably have been found by now if it were present in New Jersey potato fields in any large quantity.

During 1950 it was demonstrated that, in spite of the precaution of admitting only soil-free plant material into the United States, golden nematode cysts can be carried in the minute quantities of soil accompanying such shipments, even when plants have been quite carefully washed and cleaned. It was considered important, therefore, to check New Jersey establishments which had imported plant material in recent years. The grounds of five plantmen, who had imported a considerable quantity of material from known infested countries, were checked. A total of 18 soil samples was taken and processed during November 1950, but no golden nematode was found.

During the year, certain changes were made in the New York State quarantine on account of this nematode, giving some relief to potato growers within the quarantined area, but on "exposed" land which had proven negative for nematode infestation through intensive survey over a period of years. The changes were acceptable to this Department since it was considered that they did not add to the hazard to the New Jersey potato industry.

EUROPEAN CORN BORER ABUNDANCE SURVEY

A survey was again conducted in the fall of 1950 to determine the abundance of European corn borers throughout the State. This is a cooperative Federal-State project conducted in the infested states, which informs farmers and agencies engaged in the control of agricultural pests as to areas in need of control measures. The survey also furnishes basic information to guide state and Federal agencies in their programs of parasite releases.

The method of survey consists of random sampling of 10 fields in each county (except Essex and Union counties, in each of which only five fields are sampled, and Hudson County, where no sampling is done), then computing the average number of borers per 100 plants in these fields.

EUROPEAN CORN BORER ABUNDANCE SURVEY

1949 and 1950

County	Average Number of Borers per 100 Plants	
	1949	1950
Atlantic	67	39
Bergen	33	119
Burlington	142	39
Camden	93	138
Cape May	135	60
Cumberland	30	18
Essex-Union	60	58
Gloucester	41	53
Hunterdon	6	9
Mercer	21	124
Middlesex	18	65
Monmouth	37	17
Morris	16	18
Ocean	89	6
Passaic	9	49
Somerset	Trace	10
Salem	7	14
Sussex	15	39
Warren	2	25
State mean comparable counties (19)	43	47

The State-wide corn borer population has been more or less stable since 1947, when the average was 59 borers per 100 plants. Since then, the State averages have been: 1948, 59; 1949, 43; and 1950, 47. Significant build-up of population occurred in 1950 in Bergen, Mercer and Middlesex counties and decreases were found in Burlington, Cape May and Ocean counties.

No study has been made of the reasons for the changes. Local weather conditions, insecticide use and parasite populations could be responsible for the changes reported.

JAPANESE BEETLE HEARING

A public hearing to review the present Federal Japanese Beetle Quarantine and to consider its revocation or extension was called by the U. S. Department of Agriculture on March 30, 1951. This Department favors retention and extension of the quarantine to include infested points which might provide a hazard to the remaining uninfested portions of the United States. The plant growers of the nation were almost unanimous in asking continuation of present measures.

STRAWBERRY VIRUS DISEASES

This Division was represented at a conference of plant quarantine officials and agricultural experiment station workers in Beltsville, Maryland, to discuss measures which might be taken to control virus diseases of strawberry plants. This subject is being investigated at Beltsville by pathologists of the U. S. Department of Agriculture. It was learned that there is considerable varietal variation in susceptibility to these diseases, which are extremely injurious to some horticultural varieties, but not to others. The diseases are apparently aphis-transmitted. The known vectors are present in New Jersey and the diseases have been found in both cultivated and wild plants.

It was established that legislation regulating the movement of strawberry plants into New Jersey would have no benefit at this time. It was agreed that methods of controlling the diseases and their carriers would be investigated in this State, and that the strawberry breeding project now being conducted at the State Agricultural Experiment Station would be concerned with the development of resistant varieties.

When means for controlling the diseases within New Jersey have been developed, quarantine measures for keeping out additional infected material or carriers should be considered.

Personnel

In order to complete the field work assigned to this Bureau for the summer of 1950, 14 men were hired for a 10-week period beginning July 1. Nine temporary employees were assigned to the Japanese beetle farm produce certification program, two to the gypsy moth trapping program, two to the survey of X-disease of peach and one assisted in the survey for golden nematode of potatoes. All the temporary employees assisted in the blueberry stunt certification project for short periods before and after completing their assignments.

JAPANESE BEETLE QUARANTINE ENFORCEMENT

The Japanese Beetle quarantine on farm produce went into effect June 20, 1950 and was lifted August 25, 1950. This year, one station set up by the Department for dusting trucks with DDT, for the mutual convenience of the truckers, shippers and the Department, was located on Route 33, near Freehold; the other two stations were located on Route 25, one near Hightstown and one near Robbinsville. In the Glassboro area, trucks and railroad cars requiring treatment were serviced at the point of loading.

There was no change in the regulations covering DDT treatment of potatoes and/or onions being shipped in carload or truck load lots. Trucks were given two applications of DDT, one before and one after loading, while railroad cars were given one application after loading.

The shipment of white potatoes (carloads and truck loads combined)

to points outside the Japanese beetle regulated area dropped 31 per cent from the previous year, due mostly to the fact that only 57 carloads were shipped this year compared with 352 carloads in 1949. The number of truck loads of potatoes shipped remains fairly constant—666 in 1948, 635 in 1949 and 624 in 1950—although the trend is downward.

Production and Marketing Administration activity in the shipment of potatoes was greatly curtailed this year. Thirty-six of the 57 cars of potatoes shipped by rail were ordered by the PMA, a sharp decline from the previous year, when 320 of the 352 cars of potatoes shipped out of the regulated area were ordered by PMA.

The shipment of peppers and tomatoes was heavier than usual this year, as can be seen in the following table:

Commodity	Truck and Carloads		
	1948	1949	1950
Peppers	13	17	28
Tomatoes	6	13	82

All the tomatoes came from the Glassboro area. Most of those shipped in 1948 and 1949 were partially ripe or blushed tomatoes, whereas the tomatoes shipped in 1950 were entirely green. The shipments were the result of a business operation of two large packing brokers who made their initial entry in this territory buying and grading tomatoes for large repacking companies in the South and West. The 82 truck loads consisted of 29,705 boxes of tomatoes, each containing two 5/8-bushel baskets of tomatoes. The entire operation netted 59,410 baskets of tomatoes for the farmers in this district.

In the process of certification, the tomatoes were dumped on an inclined slat table, where dirt and debris fell through, then the tomatoes went through a wash, from which they passed over rollers into the shipping boxes. The boxes, brought up from the South in the trucks that took back a load of tomatoes, had already been stamped with the names of the repacking company. As the empty boxes were unloaded from the truck, they were inspected for Japanese beetle. The truck was then given a dusting with DDT to kill any beetle that might be in the truck, particularly in the ice bunker where beetles in number were often found.

Although there are now quick and inexpensive insecticide and fumigation treatments for year-round certification of plant stock, 2,430,424 plants and roots (39 per cent) were certified for shipment by visual-manual inspection, compared with 3,853,973 certified by treatment. A partial explanation of this is that it is cheaper and quicker to ship some plant material, such as seedlings and roots grown in light soil and sand, soil-free rather than to use an authorized treatment. Prior to 1948, the only treatment approved during the season of adult beetle flight for plants after digging, with or without soil, and plants in pots, was methyl bromide used in fumigation chambers. In 1948, ethylene dibromide-chlordane was approved as a chemical agent for the treatment and certification of plants with soil (after

digging or in pots). Because it is effective against all stages of the Japanese beetle, this insecticide can be used in any season for quick certification (24-hour holding period) of plant material with soil.

In 1948, chlordane dust was used by a large New Jersey nursery for the certification of several plots containing growing plants. However, these plots have since lost their certified status because the nursery failed to make the required retreatments found necessary after soil analyses. Because the decrease in chlordane concentration in the top three inches of soil has proved to be rapid, the nursery may have been influenced in its decision by the necessity of retreating every year.

Chlordane dust of 5 per cent strength, applied at the rate of 200 pounds per acre, constitutes a full dose. With few exceptions, it was found that one year after application of initial treatment, the chemical residue amounted to less than five pounds of 100 per cent chlordane per acre, which is one-half of the required amount for certification. Therefore, under a ruling made this year, no soil samples are to be taken from plots treated with chlordane, but such plots are to be retreated yearly at the rate of 100 pounds of 5 per cent dust per acre, to bring the concentration to the required 200 pounds of 5 per cent dust per acre.

DDT dust continues to be used extensively. Ground so treated continues in certified status on the basis of analysis finds from soil samples. A table showing the basis of retreatment follows:

Concentration as Shown by Analysis	Retreatment Required at Rate of
Over 19.5 lbs. per acre	No retreatment required
15 to 19.5 lbs. per acre	200 lbs. of 5 per cent DDT per acre
10 to 14.5 lbs. per acre	300 lbs. of 5 per cent DDT per acre
5 to 9.5 lbs. per acre	200 lbs. of 10 per cent DDT per acre
0 to 4.5 lbs. per acre	250 lbs. of 10 per cent DDT per acre

One soil sample, consisting of 50 scattered borings, is taken from each treated area of 20,000 square feet or less. Two soil samples of 100 scattered borings are taken from a plot having an area content of from 20,100 to 40,000 square feet, and so on.

FARM PRODUCE CERTIFIED FOR SHIPMENT BY DDT TREATMENTS

Commodity	Rail Cars	Trucks	Totals
White potatoes	55	553	608
Onions	.....	11	11
Totals	55	564	619

An additional 181 trucks received only the initial application of DDT before loading. Presumably these trucks were loaded with potatoes for shipment outside the Japanese beetle quarantine area, and should have received a second application of DDT before proceeding into the noninfested area.

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FARM PRODUCE CERTIFIED FOR SHIPMENT BY METHYL BROMIDE FUMIGATION

Commodity	Rail Cars	Trucks	Totals
Lima beans	.....	4	4
Blueberries	2	7	9
Corn	.....	4	4
Mixed loads	.....	7	7
Onions	.....	3	3
Peaches	.....	5	5
Peppers	.....	28	28
Totals	2	58	60

FARM PRODUCE CERTIFIED FOR SHIPMENT BY VISUAL-MANUAL INSPECTION BEFORE LOADING, AND/OR APPROVED GRADING AND PACKING PROCEDURE

Commodity	Rail Cars	Trucks	Totals
Potatoes	1	64	65
Blueberries	.....	2	2
Cucumbers	.....	1	1
Mixed load	.....	1	1
Onions	.....	1	1
Peaches	.....	7	7
Green tomatoes	.....	82	82
Totals	1	158	159

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

Beans, snap	.....	2	2
Blueberries	1	2	3
Onions	.....	2	2
Potatoes	1	.....	1
Totals	2	6	8

FARM PRODUCE SHIPPED UNDER "P" PERMIT

(Destined for Isolated Japanese Beetle Quarantine Areas)

Commodity	Trucks
Potatoes	7

TOTAL FARM PRODUCE CERTIFIED FOR SHIPMENT

Commodity	Rail Cars	Trucks	Totals
Beans, lima	.....	4	4
Beans, snap	.....	2	2
Blueberries	3	11	14
Corn	.....	4	4
Cucumbers	.....	1	1
Mixed loads	.....	8	8
Onions	.....	17	17
Peaches	.....	12	12
Peppers	.....	28	28
Potatoes, white	57	624	681
Tomatoes, green	82	82
Totals	60	793	853

Valued by shippers at \$580,283.

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CUT FLOWERS CERTIFIED FOR SHIPMENT

Commodity	Rail Cars	Trucks	Totals
1950		Boxes	
July		186	
August		47	
September		27	
October		25	
	Total	285	
	Valued by shippers at \$5,085.		

PLANTS SHIPPED

1950	Outside	Inside	Totals
	Area	Area	
July	164,871	44,743	209,614
August	92,960	18,697	111,657
September	151,276	21,392	172,668
October	322,508	129,700	452,208
November	258,452	44,674	303,126
December	361,412	328,092	689,504
1951			
January	534,267	35,173	569,440
February	383,646	56,118	439,764
March	481,348	196,963	678,311
April	1,291,245	314,944	1,606,189
May	366,165	69,086	435,251
June	246,228	52,189	298,417
Totals	4,654,378	1,311,771	5,966,149
	Valued by shippers at \$1,625,816.		

CERTIFICATION ANALYSIS OF PLANTS SHIPPED

Plants treated "after digging" with a fumigant (methyl bromide ethylene dichloride, ethylene dichloride-bromide, or ethylene dibromide-chlordane)	912,677	
Plants treated in the field "before digging" with DDT, chlordane, or lead arsenate—2,941,259. It is estimated one-third of this last item was shipped	883,260	
Plants treated in the field "before digging" with ethylene dichloride-dibromide, or methyl bromide solution	37	
Plants manually and visually inspected	2,430,424	
		4,226,398
Estimated number of plants that either came from the shippers' certified greenhouses, or came to the shippers from other nurseries as certified stock		1,739,751
Total		5,966,149

STATE DEPARTMENT OF AGRICULTURE

SUMMARY OF PLANT TREATMENTS

Plants Before Digging

Insecticidal Agent	Plants	Square Feet
DDT (includes initial treatments, retreatments, and areas previously treated that did not require any additional DDT to retain a certified status)	2,940,017	5,957,199
Lead arsenate (includes retreatments, and areas previously treated that did not require any additional lead arsenate to retain a certified status)	111	4,050
Chlordane (includes initial treatments, retreatments, and areas previously treated that did not require any additional chlordane to retain a certified status)	1,131	70,608
Ethylene dichloride-dibromide	19	.....
Methyl bromide solution	18	.....
Totals	2,941,296	6,031,857

Plants After Digging

Methyl bromide	317,937
Ethylene dichloride	47,381
Ethylene dichloride-dibromide	454,800
Ethylene dibromide-chlordane	92,559
Total	912,677

SURFACE SOIL TREATED IN GREENHOUSES, FRAMES,
SHEDS AND HEELING-IN-AREAS

DDT (includes initial treatments, plus retreated areas, and areas previously treated that did not require any additional DDT to retain a certified status)	349,272
Lead arsenate (includes initial treatments, plus retreated areas, and areas previously treated that did not require any additional lead arsenate to retain a certified status)	136,674
Carbon disulphide	5,723
Total	491,669

POTTING SOIL TREATED

Agent	Cubic Yards
Carbon disulphide	258.19
Chloropicrin	125.23
Chlordane	137.00
DDT	160.07
Heat	213.51
Total	894.00

PERSONAL CALLS MADE

Plant material and soil	3,998
Cut flowers	31
Farm produce	385
Total	4,414
Plant stock and roots manually inspected for certification—	2,430,424.

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MEN EMPLOYED

	Farm Produce		Nursery & Greenhouse		Totals	
	Federal	State	Federal	State	Federal	State
1950						
July	5	11*	2	1	7	12
August	5	11*	2	1	7	12
September	.....	.....	6	3	6	3
October	.....	.....	6	3	6	3
November	.....	.....	6	3	6	3
December	.....	.....	6	3	6	3
1951						
January	.....	.....	6	3	6	3
February	.....	.....	6	3	6	3
March	.....	.....	6	3	6	3
April	.....	.....	6	3	6	3
May	.....	.....	6	3	6	3
June	.....	.....	6	3	6	3

* Small amount of nursery work done by 2 of these 11 men.

AUTOMOBILES OPERATED EACH MONTH DURING THE YEAR

	Federal	State
1950		
July	12
August	12
September	11
October	10
November	10
December	9
1951		
January	9
February	9
March	9
April	9
May	9
June	9

BEE CULTURE

In March 1949, an intensive State-wide survey was initiated to locate colonies of bees which might be abandoned and serving as reservoirs of bee diseases. This survey has continued through the past year, with scouting and inspections carried out road by road and township by township. The work has been completed in more than half the State. Essex, Cape May, Passaic and Salem counties were thoroughly surveyed during the year. The survey program has been conducted without curtailing the inspection and certification program required by law.

In the course of the survey, it has been noted that beekeeping in the suburban areas, mainly Bergen and Essex counties, is becoming a thing of the past. Housing has expanded so much that little open country is available for bee forage. Bee colonies are being moved to adjoining rural counties, where they are being located on farms and summer home properties.

Regular inspections of bee yards were made during the year in every

county except Ocean. Requests for assistance in diagnosing a brood disorder, which appeared in various parts of the State during the summer of 1950, were received. However, it was impossible to make microscopic diagnosis. Tests made by the U. S. Department of Agriculture were apparently negative. The disease has also made its appearance in nearby states, destroying brood in the unsealed stage and weakening colonies.

Some colonies were so weakened that they did not survive the relatively mild 1950-51 winter. Bees were confined within their hives because of weather only during the first two weeks in January and then only in the northern half of the State. In Hunterdon, Sussex and Warren counties, colonies died leaving considerable amount of low quality honey in the combs. Typically, the insides of the hives and combs were covered with moisture. Dysentery had developed in some colonies, causing some of the bees to scatter throughout the hives; others escaped, only to be killed by the low temperatures outside. Most of the colonies were re-established in the spring by the addition of package bees purchased from the South.

Unfavorable winter weather and poor food supplies resulted in an estimated State-wide 20 per cent winter loss. The colonies which were provided with plenty of upper ventilation and sufficient feeding of dry sugar on the inner hive cover during the winter months, as recommended by this Department, came through the winter nicely. The colonies so provided built up normally in the spring, and swarming was uncommon in comparison with previous years.

The number of colonies rented for pollination of various fruit and vegetable crops was larger than in previous years. The continued selection of breeding stock for certain characteristics to meet the needs of a particular environment was encouraging. The three races of bees, namely Italians, Caucasians and Carniolans, continue to be the most popular. The necessary inspections of apiaries and surroundings were made for beekeepers producing queens and package bees for the trade.

SUMMARY OF BEE PROJECT

County	Apiaries	Colonies	Crossed Comb	American Foul Brood			European Foul Brood			Microscopic Determinations		
				Nuclei	Apiaries	Colonies	Apiaries	Colonies	Colonies Burned	A. f.b.	E. f.b.	Negative
Atlantic	6	32	.....	.....	2	5	.....	.....	.....	1	.....	.....
Bergen	133	601	10	.....	12	36	.....	.....	.....	19	.....	1
Burlington	12	136	.....	.....	9	18	4	9	.....	6	19	8
Camden	7	165	.....	.....	1	13	2	8	.....	5	9	27
Cape May	6	277	.....	19	2	9	.....	.....	.....	.....	1	.....
Cumberland	53	608	3	.....	12	35	1	15	5	15	8	1
Essex	12	58	.....	.....	4	5	.....	.....	.....	1	.....	.....
Gloucester	2	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Hudson	1	6	.....	.....	1	1	.....	.....	.....	1	.....	.....
Hunterdon	42	913	.....	621	1	5	.....	.....	.....	.....	.....	5
Mercer	43	679	.....	.....	5	12	.....	.....	2	1	.....	4
Middlesex	10	56	.....	.....	2	3	.....	.....	.....	.....	.....	.....
Monmouth	11	59	.....	.....	1	1	.....	.....	.....	.....	.....	.....
Morris	43	357	.....	.....	10	13	.....	.....	10	1	.....	2
Passaic	156	901	8	14	10	18	.....	.....	.....	2	.....	.....
Salem	37	402	15	.....	6	43	.....	.....	.....	3	.....	16
Somerset	26	211	.....	.....	1	1	1	2	.....	8	1	2
Sussex	10	111	15	.....	1	10	.....	.....	.....	.....	.....	1
Union	7	50	.....	.....	2	5	.....	.....	4	2	.....	2
Warren	47	454	4	.....	6	8	.....	.....	3	2	.....	.....
Totals	664	6,086	55	654	88	241	8	34	24	67	38	73

Summary

During the fiscal year, 664 apiaries were visited. A total of 6,086 colonies and 654 nuclei was examined for bee diseases. American foul brood, *Bacillus larvae*, was found in 241 colonies located in 88 apiaries and in order to prevent further outbreaks of this disease, 24 colonies were burned.

European foul brood, *Bacillus pluton*, was found in 34 colonies in eight apiaries. This disease continues to appear in the low-lying lands of South Jersey. The moving of infected colonies to new locations and the introduction of young, vigorous queens of resistant stock is the method of control commonly used with success.

Fifty-five colonies were found with crossed comb. When the beekeepers were shown how to increase their income by installing modern frames, cooperation in correcting this condition was generally achieved. Fourteen queen-rearing certificates and 24 transfer certificates were issued.

Microscopic Determinations

One hundred seventy-eight smears of dead bee brood were received for microscopic determination. The organism *B. larvae*, causing American foul brood, was found in 67 smears; the organism *B. pluton*, causing European foul brood, in 38 smears. Seventy-three of the smears were apparently negative for bee diseases.

GYPSY MOTH PROJECT

H. A. Ames, supervisor of this project, retired as of January 31, 1951, after being employed on this project in New Jersey since 1923. Scouting and controlling Gypsy moth was his work for 44 years, during which time he had served under Federal, Federal-New Jersey cooperative, and New Jersey authorities. His interest, competence and enthusiasm played a large part in the success of the control and extermination program in this State.

During July, 850 Gypsy moth traps were placed in New Jersey along roadsides that had been scouted for Gypsy moth egg masses during the previous fall, winter and spring months. A program of extensive roadside scouting had been started in the fall of 1949. This program was to cover the more heavily traveled roads of the State to locate infestations that might have been started from egg masses or other stages of the insect carried by vehicles into New Jersey. The traps are designed to serve as a check on the scouting work. They were serviced at 10-day intervals during the season when the male moths would normally be flying. During 1950, the traps were confined to the northern and central counties. The regular four-man crew was supplemented by two additional inspectors, in order to service the large number of traps. Throughout the season, weather conditions were favorable for this work. No Gypsy moths were captured in the traps in New Jersey.

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On August 22, 1950, this Division was notified by the Federal Gypsy Moth Project in Greenfield, Massachusetts, that a male moth had been captured on the previous day in a trap on route 9-W in New York State just a few hundred feet north of the New Jersey border. Twenty-five traps were dispatched to this Department on the following day, and were immediately set up at proper sites, surrounding the capture trap for a distance of about one-quarter mile. Coming so late in the season, trapping was not expected to give a true indication of the existence of an infestation in this area. With a moth capture so close to the New Jersey border, the Division planned to intensify the trapping and scouting work in the vicinity during the following months.

The trapping efforts on both sides of the New Jersey-New York State border, surrounding the point of capture, proved futile. The traps were finally taken up on September 18, 1950.

After the trapping season, the inspectors returned to Gypsy moth scouting. A careful check of the woodland and other growth near the moth capture failed to reveal any sign of infestation by the Gypsy moth.

SUMMARY OF GYPSY MOTH SCOUTING
Fall, 1950 to June 1951

County	Open Miles Scouted	Woodland Miles Scouted	Woodland Acres Scouted	Open Acres Scouted
Atlantic	93.51	97.75	.....	.....
Bergen	231.75	64.75	230	180
Camden	136.00	59.00	.....	.....
Essex	105.50	28.25	.....	.....
Hunterdon	126.25	11.75	.....	.....
Mercer	41.25	2.00	.....	.....
Morris	164.75	38.00	.....	.....
Passaic	81.75	46.75	.....	.....
Sussex	145.25	20.50	.....	.....
Warren	190.00	21.25	.....	.....
Totals	1,316.01	390.00	230	180

During the scouting work, no sign of Gypsy moth infestation was found.

With the completion of the scouting in June 1951 and the anticipated trapping of scouted areas to follow, the Division plans to discontinue the extensive roadside survey. If the 1951 trapping fails to capture Gypsy moths, scouting of selected sites, using only the regular crew of three inspectors, will be resumed.

STATE DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT PATHOLOGY

DUTCH ELM DISEASE CONTROL
(for the calendar year, 1950)

Experimental

The Bureau of Plant Pathology again cooperated with the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture in experimental work involving continuation of the Princeton spray plot. New Jersey contributed 450 gallons of DDT emulsifiable concentrate and the services of one man for 10 days. Experimental plots were established in West Orange to create disease and bark beetle infestation conditions suitable for testing the effectiveness of varying dosages of DDT insecticides. Four representatives of this Bureau spent five weeks with Federal agents in locating, surveying and marking trees on the two plots selected for this purpose. The initial sprays were applied early in the spring of 1950. This project will be continued for at least two, and probably three, years if financial support and available manpower permit.

The Bartlett Tree Expert Company of Stamford, Connecticut, requested the cooperation of the U. S. Department of Agriculture and this Bureau in conducting a New Jersey field test with a preparation known as Carolate, designed to ameliorate the Dutch elm disease on trees no more than 5 per cent infected, provided the treatment is applied as soon as symptoms are noted. In composition, Carolate is approximately 95 per cent high calcium hydrated lime to which three chemicals have been added. A series of research investigations conducted at the Agricultural Experiment Station in Kingston, Rhode Island, has shown that the preparation arrests the progress of the Dutch elm disease fungus in recently infected trees.

Accordingly, the Carolate treatments were applied to 20 roadside elms, averaging 15 dbh, in Dukes Park, Somerville. Dr. Roger Swingle of the Federal Division of Forest Pathology made the twig inoculations with spore suspensions of the Dutch elm disease fungus. Unfortunately, cankerworm depredation of these experimental trees interfered with the full evaluation of the benefit of the treatment. When cankerworm spraying became necessary, the proximity of cattle grazing land interfered with the thorough application of the recommended DDT spray. By mid-summer 1950, the inoculated check trees did not display any greater degree of infection than those that had been Carolate-treated. However, final appraisal of this experiment will be postponed until the late spring of 1951.

During the summer of 1950, approximately 250 request inspections were serviced by four field representatives. Most of these inspections were requested by private property owners, in most cases in areas where municipal or county shade tree men are not actively engaged in shade tree protection.

1950 Dutch Elm Disease Control Survey

The Dutch elm disease control staff of this Bureau devoted about 90 per

cent of its time in the summer of 1950 to a survey of shade tree commissions to determine their activity in Dutch elm disease control and related practices. In planning programs of work, questions concerning the degree of cooperation that can reasonably be expected from various municipalities have often arisen. Since only fragmentary information was available, a survey was conducted during the summer of 1950 to obtain facts on the ability and inclination of municipalities to apply the Bureau's recommendations. Representatives of 249 municipalities were interviewed, with a prepared questionnaire used as the basis of the interviews. Some of the questions, with the responses obtained, follow:

Is there a legally established shade tree commission in your municipality?

Shade tree commissions exist in 100 of the 249 municipalities. In several additional municipalities there are shade tree committees, or the duties of the shade tree commission are assumed by another department of the municipal government, such as the road, park or buildings and grounds departments. In approximately 50, there was no interest in shade tree maintenance.

If there is a shade tree commission, does it function?

Of the 100 shade tree commissions, 94 are active. Inactivity usually exists because there has been a curtailment of funds, or because funds were never made available.

Is there a direct appropriation for shade tree work?

In almost all the municipalities where shade tree commissions operate, an appropriation is made for shade tree work. In many more, funds are diverted or labor is made available by some other department, usually the street department. The size of appropriations varies greatly. However, the figures are generally misleading because some of the largest appropriations are consumed almost entirely by the salaries of administrative personnel. As a result, no money is left for labor, materials, equipment, or for the hiring of spraying services or climbers to prune. For this reason, several organizations with the largest appropriations have been the poorest cooperators in Dutch elm disease control work.

Do you systematically scout your municipality for Dutch elm disease?

In only 21 of the 249 municipalities is there systematic scouting for the disease. In several others, the responsible officials attempt to observe conditions during other work, but such observations are usually superficial. In a number of municipalities, a Bureau representative has scouted the town and reported the location of any diseased trees to local authorities. This system has worked quite satisfactorily.

Are trees sprayed for defoliator control?

Some sort of spraying program is conducted in 67 of the 249 units. This ranges from thorough spraying according to State recommendations

to a poor job done by untrained help with inadequate equipment. In 182 municipalities, no spraying was done.

Are trees sprayed for elm bark beetle control?

For the past several years, State recommendations have included a procedure for spraying healthy trees heavily with DDT to prevent the entrance of bark beetles and the introduction of the Dutch elm disease fungus. Few municipalities are using this treatment because the cost of \$2 to \$3 per tree would soon exhaust their available funds. Also, some are concerned about the harmful effects of the accumulation of DDT in the soil under the tree.

In all, 30 municipalities reported the application of bark beetle sprays, but only a few of these are applying the full dose in the recommended manner.

What is the trend of Dutch elm disease in your municipality?

Dutch elm disease was reported on the increase in 68 towns, static in 62 and decreasing in 53. The remaining units have had none, or do not know the status of the disease.

Does your municipality own a sprayer satisfactory for shade tree spraying?

Approximately one-fifth of the municipalities owns a sprayer of some description, ranging from converted fire engines to the largest available mist blowers. Twenty-four hydraulic sprayers and 13 mist blowers were listed in this survey.

Are commercial arborists engaged for tree spraying?

Commercial arborists are hired to do tree work in 49 municipalities. The adequacy of the equipment, the nature and concentration of material applied and the timing and thoroughness of the application vary with the individual engaged. In many cases, the price is so low that recommended amounts of material are obviously not being used. In other cases, recommendations are followed exactly.

Is your municipality prepared to spray Dutch elm disease symptomatic trees of 1950 according to State recommendations?

The recommendations include a section urging that trees showing Dutch elm disease symptoms be sprayed immediately with a heavy dose of DDT to prevent contaminated bark beetles from leaving the infected tree. This is important because usually the infected tree remains until winter when street department crews are not so busy. If the trees are sprayed promptly, the late summer emergence of a brood of bark beetles, which can serve as carriers of the infection, will be avoided.

Few organizations followed this recommendation. They objected to the expense and although they promised to remove the trees promptly, in most cases the trees were not removed until the new brood of beetles had emerged.

What disposition has been made of symptomatic trees of last year?

It is important for the reasons mentioned previously that infected trees be removed promptly. An attempt is always made to impress this fact upon persons responsible for the removal. Despite repeated warnings, only about one-third of the infected trees is removed promptly, one-third the following winter, and the remaining one-third is removed only when considered hazardous to life and property.

What attention is paid to wood which accumulates when elms are cut?

Cut elm wood constitutes a menace in Dutch elm disease control because recently cut elm is a favorite breeding place for the bark beetles. Therefore, the wood should be burned immediately.

In 81 municipalities, the cut elm wood which accumulates from the pruning of street trees receives prompt attention. Usually, the wood is kept separate and burned, because the authorities recognize the importance of controlling the disease. In most municipalities, no attention is paid to the accumulation of elm wood on private property. In only five towns were various municipal employees on the alert for woodpiles, instructing owners to burn the elm wood immediately.

Is the elm leaf beetle a serious pest in your municipality?

In 160 units this insect is a serious pest; in 89, it is not. Some authorities feel that the defoliation of elms by this insect weakens the trees and makes them more susceptible to Dutch elm disease. Many progressive communities are controlling the pest effectively by spraying, but others still need to be educated regarding its importance.

Will the municipality remove or spray an elm tree infected with Dutch elm disease and located on private property?

Only 9 of the 249 units work on trees on private property. Representatives of many more would like to remove such trees because a thorough job of Dutch elm disease control on street trees may be nullified by neglecting several infected trees on private property which subsequently serve as sources of infection for street trees. However, most men hesitate to request authority to work on elms on private property because demands would then be made for work on trees of other species and available funds and labor in most cases are insufficient to meet present demands.

Would publicity concerning Dutch elm disease control be helpful?

In towns where the shade tree commissions are active, publicity was favored almost unanimously. In towns where nothing is being done, publicity is not desired because this work requires money and most municipalities hesitate to increase their budgets to finance additional activities.

Summary

Shade tree commissions have been organized in 100 of the 249 municipalities included in the survey. In nearly every case where a commission

exists, it is active. Most have direct appropriations, but some depend on other departments for labor or funds. A few have no money with which to work, and so remain inactive.

The degree of cooperation which can be expected in Dutch elm disease control work varies from none to strict compliance with recommendations. Only about one-fifth of the units has spraying equipment and another fifth hire commercial arborists to spray trees. Only about one-tenth of the municipalities has anyone systematically scouting for Dutch elm disease. A sizeable group depends on a Bureau representative to scout the town. When infected trees are found, they are usually removed promptly.

Generally, recommendations involving the application of heavy dosages of DDT, either to a healthy tree to prevent bark beetle invasion or to an infected tree to prevent the flight of contaminated beetles, are not being followed. The treatment requires several dollars worth of material and, in the case of an infected tree represents an extra expense, since the tree must be removed later. As a result of such inattention, diseased trees multiply in succeeding years.

In most municipalities, authorities prefer to remove and burn confirmed Dutch elm disease trees. However, unless a representative of this Bureau follows each case closely, many trees are allowed to stand and produce bark beetles. These trees are not removed until they are dead and are no longer a menace from the standpoint of disease transmission.

Supplemental Activities

Full information on the current status of Dutch Elm Disease control and recently-annexed research information on the subject was again presented at the annual meeting of the New Jersey Federation of Shade Tree Commissions in Atlantic City. This presentation permitted a thorough examination and discussion of the results of the 1950 survey report. In many municipalities, labor shortages interfered with the prompt performance of recommended practices in a comprehensive Dutch elm disease control program.

CANKER STAIN DISEASE CONTROL

During the 1950 calendar year, two field men spent 225 days on canker stain disease control. Approximately 95,000 plane trees were examined in 72 political units; 205 new cases were found and tagged for removal.

The number of trees inspected and the political units scouted is somewhat lower than in previous years because of the demand of the work on other projects. Furthermore, the number of reported new cases is not truly representative, as Delaware and Pennsauken townships in Camden County were not scouted because of the lack of interest shown in removing trees previously tagged. The disease rate is high in both of these townships, and it is estimated that 175 diseased trees remain standing in these two communities, delimiting a rather dangerous area in that part of the State.

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As the demands for scouting for canker stain disease control exceed the available manpower, the continued scouting of uncooperative municipalities cannot be justified. Accordingly, the responsible officials in several communities were notified that the Bureau's cooperation in scouting for canker stain-diseased trees would be suspended in their municipalities until the tagged trees were removed and destroyed. This ultimatum revived municipal interest in the problem and authorities have advised the Bureau that they desire a resumption of the scouting and tagging assistance, with full assurance that tagged trees would be removed promptly. The recommended work has received their attention.

PROGRESSIVE REPORT—CANKER STAIN DISEASE CONTROL

County	Trees	Tagged Trees to January 1, 1950			Tagged in 1950	Total Tagged Trees Standing Jan. 1, 1951
		Total	Removed	Standing		
Atlantic	8,000	.....	.....	.....	.....	.....
Burlington	16,350	82	74	8	19	27
Cape May	DNS*	.....	.....	.....	.....	.....
Camden	42,300	1,471	1,327	144	186	330
Cumberland	DNS*	.....	.....	.....	.....	.....
Gloucester	DNS*	17	17	.....	.....	.....
Hunterdon	DNS*	.....	.....	.....	.....	.....
Mercer	DNS*	1	1	.....	.....	.....
Middlesex	12,250	.....	.....	.....	.....	.....
Monmouth	15,350	1	1	.....	.....	.....
Salem	DNS*	38	20	18	.....	18
Somerset	DNS*	.....	.....	.....	.....	.....
Union	DNS*	.....	.....	.....	.....	.....
Warren	1,000	11	7	4	.....	4
Totals	95,250	1,621	1,447	174	205	379

*Did not scout in 1950.

TOMATO PLANT INSPECTION PROJECT

The New Jersey State Board of Agriculture received petitions from the New Jersey Cannery Association and allied groups to impose, beginning in 1951, a quarantine on the importation into the State of all tomato plants except those that were either certified late blight-free or were so found after examination at their New Jersey destination. Following a public hearing on this subject in Woodbury, the State Board announced that because of the absence of definite experience and information regarding the administration of such a quarantine, no action would be taken in 1951. The Campbell Soup Company immediately proposed that shipments of tomato plants into this State for the Campbell Soup Company be examined, to provide information on the mechanics of inspection. Realizing that such information would be helpful both in procuring information on the general condition of plants, particularly from the standpoint of disease, and in gaining actual field experience on the practicability of such an inspection service, the Bureau assigned three inspectors to this work. The shipments were received by trucks

and refrigerator cars. A complete analysis of the individual reports will be made and summarized.

The inspectors submitted for laboratory examination 305 tomato plants from approximately 25,000,000 from which they took representative samples. These examinations, made at the Campbell Soup Company Research Laboratories in Riverton, did not reveal any late blight-infected plants. Four plants showed early blight infections on leaf and petioles and one plant was infected with bacterial wilt. The other plants were infected with nonpathogenic organisms or displayed such injuries as stem bruises, fertilization or spray burn and excessive heating in transportation. Examinations of the 13 shipments of 5,234,550 Georgia-grown tomato plants did not disclose any plants sufficiently symptomatic to be submitted to the Department of Plant Pathology at Rutgers University for laboratory culture.

Examined on the basis of representative samples were 34 shipments to Riverton, totaling 14,582,850 plants; 25 shipments to Swedesboro, totaling 10,367,170 plants, and 13 shipments to Trenton, totaling 5,234,550 plants. The final total was 72 shipments of 30,184,570 plants. Forty-one man-days were required to make these inspections.

A detailed report of the tomato plant inspection project will be prepared. This experience in inspecting loads of southern-grown tomato plants will be helpful in the disposition of requests for similar service in the future. The employment of strict sanitation measures and a well-timed, effectively applied spray schedule in the Georgia tomato fields is believed to be the most satisfactory insurance against the transportation of late blight-infected tomato plants into New Jersey.

TOMATO SEED CERTIFICATION

The inspection of fields entered for certification during the summer of 1950 was delayed because of a rather unseasonable spring, not only in New Jersey but also in the plant-growing areas of the South. Previously, active field inspection was begun during the last week in July; in 1950, little inspection was done before August 7. As usual, the conditions of the fields varied from those encountered in previous years. Late blight made an early appearance in the fields, in many instances requiring extra precautions in the application of fungicides. Even so, some fields with heavy vine growth became infected with late blight, which caused the decay of many early fruits. The favorable growing weather during August caused a decline in the anticipated severity of late blight, so that the delivery of tomatoes to the canneries was quite acceptable.

Invariably, field inspections are complicated by the appearance of mosaics, leaf-spotting diseases and fruit anthracnose. In an almost unprecedented fashion, tomatoes delivered to the canneries during the second and third weeks in August were practically free of fruit spots and stem-end cracks.

Since 1948, the canhouse tomato industry has been occasionally and annoyingly beset with a complication known as internal browning, a disease

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of tomato fruit of virus origin, which causes a brown discoloration of the outer and supporting walls of the fruit. Mechanical processing does not remove this discolored tissue and it is included in the finished product, much to the consternation of the canners. Dr. Francis Holmes, plant virus specialist of Rockefeller Institute, New York City, has investigated internal browning and determined that the large-leaved plantain, *Plantago major*, is the host in which this virus overwinters. The characteristic symptoms of this virus on the plantain foliage are reasonably well understood. From a practical standpoint, the destruction of this weed within about 50 feet of the tomato field should protect the commercial crop effectively.

Fusarium wilt is becoming more prevalent in the cannery acreage. The incidence of this disease, although not serious at present indicates that some investigation should be started.

The total 4,744 acres certified represents a reduction of 273 acres from 1949. Rutgers, with 3,860 acres, is still the predominant variety. However, the certified acreage of Marglobe rose from 306 in 1949 to 607 in 1950. Improved Garden State, a new variety introduced by the Campbell Soup Company, is included in the 1950 acreage.

ACREAGE CERTIFIED, 1950

Seedsman	Rutgers	Mar- globe	Prit- chard	Garden State	Stokes- dale	Val- iant	Balti- more	Improved Garden State	Totals
Campbell Soup Co.	1,677	.....	.....	68	.....	.....	.....	27	1,277
Ritter Seed Co.	1,091	211	.....	.....	20	.....	.....	.....	1,322
Calif. Packing Corp.	728	272	12	.....	8	36	15	.....	1,071
Francis Stokes Co.	86	124	.....	.....	47	44	.....	.....	301
Swedesboro Seed Co.	160	.....	.....	.....	.....	.....	.....	.....	160
H. J. Heinz Co.	118	.....	.....	.....	.....	.....	.....	.....	118
Totals	3,860	607	12	68	75	80	15	27	4,744

POUNDS OF SEED SAVED, 1950

Seedsman	Rutgers	Mar- globe	Prit- chard	Garden State	Stokes- dale	Val- iant	Balti- more	Improved Garden State	Totals
Campbell Soup Co.	37,325	.....	.....	1,300	.....	.....	.....	575	39,200
Ritter Seed Co.	38,450	9,450	.....	.....	1,200	.....	.....	.....	49,100
Calif. Packing Corp.	11,308	2,108	142	.....	225	359	276	.....	14,418
Francis Stokes Co.	4,257	7,788	.....	.....	3,240	2,160	.....	.....	17,445
Swedesboro Seed Co.	5,036	.....	.....	.....	.....	.....	.....	.....	5,036
H. J. Heinz Co.	1,058	.....	.....	.....	.....	.....	.....	.....	1,058
Totals	97,434	19,346	142	1,300	4,665	2,519	276	575	126,257

VARIETAL DISTRIBUTION OF CERTIFIED TOMATO SEED ACREAGES
1921-50

Year	Bonny Best	J. T. D.	Balti- more	Mar- globe	Val- iant	Break O'Day	Stokes- dale	Rutgers	Prit- chard	Clove	Garden State	Camp- bell (#178)	On- tario	Improved Garden State	Totals
1921	84	.....	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	132
1922	87	.....	112	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	199
1923	103	.....	113	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	216
1924	117	.....	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	327
1925	344	.....	238	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	582
1926	274	.....	171	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	445
1927	207	110	121	431	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	869
1928	208	55	150	329	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	742
1929	133	123	87	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	703
1930	363	162	250	620	.....	18	.....	.....	.....	.....	.....	.....	.....	.....	1,413
1931	219	292	106	689	.....	127	.....	.....	.....	.....	.....	.....	.....	.....	1,433
1932	34	61	18	562	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	675
1933	12	.....	15	543	.....	.....	.....	.....	99	.....	.....	.....	.....	.....	669
1934	28	155	91	2,046	.....	2	.....	.....	182	.....	.....	.....	.....	.....	2,504
1935	5	247	61	1,520	.....	8	.....	730	192	.....	.....	.....	.....	.....	2,763
1936	5	109	40	1,576	1	21	.....	1,001	208	.....	.....	.....	.....	.....	2,960
1937	94	100	.....	1,365	17	.....	67	936	136	7	.....	.....	.....	.....	2,746
1938	10	48	.....	1,113	2	5	2	755	146	.....	.....	.....	.....	.....	2,081
1939	18	.....	.....	1,658	.....	3	.....	1,331	84	.....	.....	.....	.....	.....	3,094
1940	13	.....	.....	1,182	1	5	493	1,847	39	.....	.....	.....	.....	.....	3,580
1941	33	.....	.....	1,246	33	.....	380	2,547	48	.....	.....	.....	.....	.....	4,287
1942	10	.....	.....	1,006	1	.....	363	3,355	116	.....	.....	.....	.....	.....	4,851
1943	35	.....	.....	1,143	1	.....	188	3,865	155	.....	116	1	.....	.....	5,504
1944	.....	.....	75	1,163	.....	.....	164	5,095	105	.....	155	13	.....	.....	6,770
1945	.....	.....	.....	647	.....	.....	375	3,294	84	.....	199	47	.....	.....	4,646
1946	.....	.....	25	923	121	.....	718	4,595	131	.....	150	.....	.....	.....	6,663
1947	.....	.....	28	899	.....	.....	67	6,279	155	.....	746	.....	24	.....	8,198
1948	.....	.....	25	481	25	.....	36	4,041	6	.....	316	.....	16	.....	4,946
1949	.....	.....	24	306	88	.....	73	4,445	81	.....	.....	.....	.....	.....	5,017
1950	.....	.....	15	607	80	.....	75	3,860	12	.....	68	.....	.....	27	4,744

Tomato Seed Certificates

During the fiscal year 1950-51, 19 seed treatment declaration and 11 seed certification certificates were issued to six New Jersey seedsmen, covering shipments of 4,382 pounds of tomato seed, 99 pounds of pepper seed and 29 pounds of carrot, onion, cabbage, cucumber and okra seeds. The shipments went to Cuba, Puerto Rico, Mexico, Southern Rhodesia, the Union of South Africa and Portuguese East Africa.

Also during this period, 23 phytosanitary certificates were issued to validate the shipment of vegetable seeds to South America.

LABORATORY ACTIVITIES

Parasites of the European Corn Borer

A survey was again conducted in October and November of 1950 to determine the range and importance of several parasites of the European corn borer previously released in New Jersey. Using a sampling plan devised in 1947 and employed each year since then, a sample of 50 live borers was collected from each of 91 areas of 100 square miles each.

The collected borers were sent to the European Corn Borer Laboratory of the U. S. Department of Agriculture in Moorestown where they were reared and the resulting parasites identified.

RESULTS OF EUROPEAN CORN BORER PARASITE SURVEY
1947 - 50

	1947	1948	1949	1950
<i>Lydella grisescens</i>				
Blocks from which recovered	82	88	75	90
Per cent of total borers infected (entire state)	14.8	26.4	15.4	19.8
<i>Macrocentrus gifuensis</i>				
Blocks from which recovered	23	48	24	24
Per cent of total borers infected (entire state)				
<i>Horogenes punctorius</i>				
Blocks from which recovered	12	21	14	14
Per cent of total borers infected (entire state)	0.5	1.4	0.8	1.1

Lydella grisescens — This fly parasite showed the best distribution yet recorded. It was found in 90 of the 91 samples and the rates of parasitism for the individual samples ran as high as 58.8 per cent (Mannington Township, Salem County.) Many of the samples showed more than 25 per cent parasitism.

Macrocentrus gifuensis — This parasite was found in the same number of blocks as last year, with the percentage parasitized somewhat higher. However, the season of 1948 showed much better performance than in either 1949 or 1950.

Horogenes punctorius — A group of blocks in Burlington and Ocean counties yielded this parasite, which has not done especially well in New Jersey. The distribution was approximately the same as last year.

Airplane Spraying for Forest Insect Control

Airplane applications of DDT solution were used again this year against the pine sawfly and cankerworms and one property was sprayed as an experiment for the control of elm leaf beetle.

A total of 761 acres on 25 different properties in seven counties was sprayed for control of the pine sawfly, *Neodiprion sertifer*. The material applied was a commercially-prepared DDT solution containing one pound of DDT per gallon, applied at the rate of one gallon per acre. Nearly all the spraying was done during the period April 27-29, although a few late orders were filled April 29-May 21.

Good control was obtained in all the sprayed areas, a few of which had never been sprayed before. Several had not been sprayed since 1947. Some property owners are having their plantings sprayed annually, although this is not necessary from the standpoint of sawfly infestation.

The properties sprayed in 1951 for control of *Neodiprion sertifer* are listed below:

Property	County	Acres
Armstrong, Robert V.	Sussex	15
Bliss, Mrs. Walter	Somerset	6
Bradley, Charles B.	Morris	40
Brauer, Charles	Warren	6
Commonwealth Water Co.	Union	30
Cuse, Robert	Somerset	47
Dunwalke Farms	Somerset	165
Goldwater, Dr. Leonard	Hunterdon	40
Hammett, Dr. John	Sussex	45
Harman, J. R.	Mercer	18
Jersey City Watershed	Morris	40
Kimball, R. G.	Warren	30
Lawrenceville School	Mercer	20
Lechner, Robert	Hunterdon	24
Levy, Dr. Harry	Hunterdon	10
Marcak, Charles	Warren	15
Riehle, Fred	Hunterdon	10
Rocker, Louis P.	Sussex	35
Rogers, John	Morris	15
Schley, Reeve, Jr.	Hunterdon	10
Serles, Frank	Somerset	18
Shellenberger, Rolfe	Warren	15
Tranquility Farms	Warren	20
Washington Crossing State Park	Mercer	77
Wolfe, Benedict	Hunterdon	10
	Total	761

Airplane spraying was also employed for the control of cankerworms this year. A total of 347 acres on eight properties in six counties was sprayed during the period May 13-21. A DDT solution containing one pound of DDT per gallon was applied at the rate of one gallon per acre. The results were satisfactory, but cankerworm damage was generally much less prevalent this year than in 1949 and 1950, so the contrast between sprayed and unsprayed areas was much less spectacular.

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The properties sprayed for cankerworm control in the spring of 1951 are listed below:

Property	County	Acres
Corsuti, Carlos	Somerset	10
Duffy, Timothy	Sussex	10
New Jersey Sanitorium, Glen Gardner	Hunterdon	220
Passanante, Charles	Morris	12
Ringwood Manor State Park	Passaic	40
Washington Crossing State Park	Mercer	30
Washington Rock State Park	Somerset	15
Wile, Edwin	Mercer	10
	Total	<hr/> 347

At Ringwood Manor State Park, Passaic County, the elm leaf beetle has constituted a perennial problem. There are many large elms on the property and no available sprayer is capable of reaching the tops of these trees. For the past several years, the trees have been protected from cankerworm damage by airplane spraying but have been severely defoliated by elm leaf beetle later in the season. This year, the elms were watched closely for elm leaf beetle development. On June 12, newly-hatched larvae were found and pin point discolorations due to feeding could be observed on the leaves.

On June 16, the 40-acre area was sprayed by plane with a DDT solution containing one pound of DDT per gallon, applied at the rate of one gallon per acre.

On June 28, the area was examined carefully for elm leaf beetle damage, but none was found. Throughout the summer, the foliage remained in fine condition. It therefore appears that two airplane sprayings, one about April 15 and one about June 15, will satisfactorily control the beetles at Ringwood Manor State Park, under weather conditions similar to those which prevailed this year.

Adult Japanese Beetle Damage Survey

(Summer 1950)

A survey of the damage to host plant foliage caused by the feeding of adult Japanese beetles was conducted during the period August 10-25. The methods of observation and scoring were similar to those employed during the period 1940-49, but the number of observations was reduced by 50 per cent to shorten the time required for the survey.

This year, there was a general increase in the severity of the damage. No county showed a decrease, six had the same averages as last year, and 14 counties had increased damage this year. The most spectacular damage occurred in Warren, Sussex and Hunterdon counties. Throughout the State the damage was the heaviest since 1944.

The relative trend of the Japanese beetle damage in the State for the past 11 years is shown below:

ABUNDANCE INDEX	
1940	3.8
1941	3.6
1942	4.2
1943	4.2
1944	4.2
1945	3.6
1946	3.8
1947	3.9
1948	4.0
1949	3.9
1950	4.1

Cankerworm Survey

Because of limitations of time and personnel, it was not possible to conduct as comprehensive a survey this year as last. However, some observations were made at each of the survey locations selected last year, with the following conclusions:

- (1) There has been a striking reduction in cankerworm damage to foliage this year as compared with last year. In some locations, where oaks and other susceptible trees were completely defoliated last year, larvae and damage were difficult to find this year.
- (2) Defoliation was serious in only a few locations. The heaviest damage was observed in and around Somerville, with fairly heavy damage in Neshanic, Livingston and Lambertville. At these locations, 40 per cent or more of the foliage was estimated to have been damaged.
- (3) The sharp reduction is unexplained. Possibly, the open winter permitted increased activity by parasites and predators.
- (4) Such fluctuations make it difficult to predict the severity of the infestation in a given locality. This is important in advising property owners whether or not to have their trees sprayed.

Experiment with a Virus Disease of Neodiprion sertifer

During the past two years, reports of the Canadian Department of Agriculture have included work with a virus disease of *Neodiprion sertifer*, the sawfly which has been causing heavy damage to red and Scotch pine in New Jersey. A request was submitted by the U. S. Department of Agriculture through the Forest Insect Investigations Division in New Haven, Connecticut, for material to be used in some cooperative experimental work in New Jersey.

On April 1, the Canadian Laboratory of Insect Pathology, Sault Ste. Marie, sent to New Haven a sufficient quantity of the virus disease organism to prepare 100 gallons of spray. On April 30 and May 1, representatives of this Department and the U. S. Department of Agriculture undertook a cooperative experiment at Stephens State Park, near Hackettstown. Sixty

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gallons of spray were prepared and applied to red pine heavily infested with recently hatched *Neodiprion sertifer* larvae. About 350 trees, distributed over one-half acre, ranging in height from 8 to 15 feet were sprayed. Cloth trays 8 feet square were placed under five trees in the treated area and under five in a comparable control area, to catch the larvae which dropped as the disease progressed.

RESULTS OF *Neodiprion sertifer* EXPERIMENT

Dead Larvae Collected from Pines Sprayed April 30 and May 1														
Collection Dates	4	7	8	9	10	12	14	15	16	17	18	21	22	25
Sprayed:														
Tray No. 1	2	4	.....	24	182	65	58	38	17	8	28	9	.....	.....
Tray No. 2	5	6	.....	4	165	116	84	49	26	18	42	15	.....	.....
Tray No. 3	7	6	.....	47	393	337	375	97	107	59	143	41	.....	7
Tray No. 4	10	15	5	61	469	466	286	91	131	69	105	31	5	4
Tray No. 5	3	3	.....	14	126	104	132	49	24	16	32	11	.....	.....
Checked:														
Tray No. 1	2	1	1	1	.....	.....	.....	6	.....	4	.....	.....	.....	.....
Tray No. 2	.....	.....	.....	2	.....	.....	.....	5	.....	.....	.....	.....	.....	.....
Tray No. 3	1	2	.....	.....	1	.....	13	5	.....	.....	.....	.....	1	.....
Tray No. 4	.....	.....	.....	.....	2	.....	.....	1	.....	.....	.....	.....	.....	.....
Tray No. 5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Heavy mortality was occurring by May 10, about 10 days after introduction of the disease, but by May 21 the collections had dropped to a low level. By the latter date, live larvae were difficult to find, and the larvae being collected from the trays were those which had died several days earlier and had adhered to the trees until dislodged by wind or rain.

In order to accumulate a stock of material for use next year, 40 gallons of spray were applied to approximately 150 trees on May 14 and 15. By this time, the larvae were about half-grown and it seemed likely that they would be practically full-grown by the time they were killed by the virus. Cloth trays 8 feet square were placed under two of the sprayed trees to determine when the first larvae were dropping. By May 24, 10 days after spraying, a few sick larvae were found. During the next few days, the most heavily infested twigs from this late-sprayed area were collected and placed in cloth-bottomed wooden boxes and stored under cover for the disease to develop. The affected larvae were collected for storage in distilled water, in accordance with instructions furnished by the Canadian forest pathologists. An ample supply of material for next year's spraying was collected in this manner.

When the two previous experimental tree blocks had been sprayed, some concentrate remaining was diluted and applied from a "Flit-gun" type of sprayer at a volume and concentration which could be applied by plane. No effort was made to cover the trees systematically; the operator merely walked between the rows of trees spraying the material upward and allowing it to drift onto the trees. By May 31, typical groups of flaccid larvae could be found in this sprayed plot. Twigs containing several thousand dead larvae were collected to supply additional larvae for stock.

Cooperation in Federal Forest Pest Survey

Preliminary arrangements for cooperation in a forest pest survey conducted by the U. S. Department of Agriculture were described in the annual report for 1949-50. In September 1950, a representative of the U. S. Department of Agriculture worked in New Jersey with a representative of this Bureau. They visited plantings of red pine, white pine and Norway spruce at locations spotted over the northern half of New Jersey, according to the plan described last year. There were about 20 groups of plantings located roughly 20 miles apart.

Observations and counts were made to determine the degree of infestation of the pines by the European pine shoot moth, the sawfly *Neodiprion sertifer*, and other pests. White pine was examined for infestation by the white pine weevil, the pine twig borer and the pine bark aphid. On Norway spruce, the white pine weevil and spruce gall aphid were observed. Considerable interest was aroused by a heavy bagworm infestation on white pine near Everett in Monmouth County. Several trees had been killed by defoliation and many were nearly stripped of foliage, a condition which had not been observed elsewhere.

The survey showed that red pine should not be planted in most of New Jersey because it is heavily attacked by the European pine shoot moth. However, there is an area beyond a line from the Delaware Water Gap to Culvers Lake to High Point where red pine is probably the best evergreen species, especially since white pine and the spruces are heavily attacked by white pine weevil in this area.

Annual observations of this kind are planned for the future on a cooperative basis.

*Termination of Rearing Work on *Macrocentrus ancyliivorus**

On October 12, 1950, representatives of the State Agricultural Experiment Station, the Extension Service, the Federal Bureau of Entomology and Plant Quarantine and this Department met to examine the present status and prospects of the program for rearing *Macrocentrus ancyliivorus*, an important parasite of the Oriental fruit moth. It was decided that, for the present, this work should be suspended, pending the outcome of newer control procedures made possible by the development of synthetic organic insecticides. At this time it seems desirable to review briefly the history of this project, its accomplishments, and the reasons for termination.

This laboratory began work on the rearing of *Macrocentrus ancyliivorus* in the winter of 1942. At that time, no insecticide or cultural practice was effective in controlling the Oriental fruit moth, which had become a serious insect in New Jersey peach orchards. The natural presence or artificial dissemination of parasites of the moth was the only practical control known. Since natural occurrence of the parasites could not be relied upon, their purposeful collection, rearing, and liberation in the affected areas was being practiced by several Eastern states, the Federal Bureau of Entomology and

Plant Quarantine and a small number of private establishments offering parasites for sale. The supply of parasites available did not meet the demand of orchardists or satisfy the scope of the problem. This led to the beginning of the rearing program undertaken by the State Department of Agriculture.

The procedure for obtaining *Macrocentrus* at that time involved the fall collection of parasitized strawberry leaf rollers, *Ancylis comptana*, which are the natural reservoir of the parasite and one of its most important hosts. The collected material was stored over the winter and incubated in the spring for parasite emergence. The emerging parasites were then liberated in the peach orchards. A variation of this procedure was to force the emergence of *Macrocentrus* and liberate the parasites in caged beds of strawberries containing an artificially-induced high infestation of leaf rollers. The resultant parasite yield was then distributed at the appropriate time. Some progress had also been made in the laboratory rearing of *Macrocentrus*, using the Oriental fruit moth as host, and rearing the latter on stored green apples collected the previous year. This procedure was relatively expensive and laborious, but allowed the storage of parasitized host cocoons for a limited period of time. In this way, a reasonable number of parasites could be accumulated for field release.

This laboratory investigated both of the above-outlined procedures. The strawberry bed method was never used, although beds were established and equipment obtained for the storage and incubation of the parasites. The Oriental fruit moth method was used with a reasonable amount of success for one year and part of the next. However, it was discovered in October 1943 that *Macrocentrus* could be reared on the potato tuber moth, *Gnorimoschema operculella*, with far less trouble, labor and expense than with the older procedures.

The discovery of the potato tuber moth method was made independently and almost simultaneously by three of the laboratories working on fruit moth control. The rearing could be continued throughout the year for the maintenance of culture stock, and rapidly expanded in scope to meet the requirements for field liberation. A larger number of parasites could be produced than was feasible by the older methods, and for the first time, parasites were available in numbers for release against the first brood of fruit moths, as well as the second. Since the third brood of moths causes most of the commercial damage in peaches, the advantage of attacking both first and second brood moths is obvious.

During the 1944, 1945 and 1946 seasons, the *Macrocentrus* produced by this laboratory were used mostly in experiments designed to establish the relative efficiency of parasitism resulting from liberations on the first and second brood moths, respectively. The conclusion reached was that one female parasite liberated on the first brood of moths caused a reduction in final moth population (third brood) equal to the effect of three parasites liberated on the second brood. Best results were obtained by liberations on both first and second brood moths (May 15-June 10 and June 15-July 10, re-

spectively), when a reasonably effective commercial control resulted. Synchronizing the parasite rearing and field liberation with fruit moth development was a highly critical matter. For the next several years, field releases were made on a limited scale only, most emphasis being placed on attempts to improve the culture methods rather than quantity production.

By 1946, the general emphasis in insect control work shifted to the employment of the many new organic insecticides. The earlier work on control of the Oriental fruit moth was with DDT and benzene hexachloride. Benzene hexachloride soon fell into disfavor, and the use of DDT may be expected to decline because of the danger of excessive residues on the fruit at the time of harvest. Frequent build-up of mite populations is observed following the use of DDT, and there is some indication that concentrations poisonous to plants may develop rapidly in the soil following the repeated use of this material. More recently, the use of parathion has been favored. This insecticide, if used intelligently, seems free of the objections outlined above, but admittedly is hazardous to human beings in its application.

These developments have contributed to an unstable outlook as far as biological control of the Oriental fruit moth is concerned. The use of the insecticides is so new that it is still difficult or impossible to foretell the final effect. The insecticides give better and more dependable control than do the parasites. The cost of each is roughly the same. The problems of synchronization and weather conditions are less critical with the insecticides. Another important factor is that the production of *Macrocentrus* on the potato tuber moth has not fulfilled the initial bright promise. The culture of these insects involves some serious problems in disease control. Means were devised for completely eliminating a microsporidian parasite, *Nosema* sp., which caused serious losses in both host insect and parasite. The bacterial diseases of the host were less easily controlled, and as a result, production was erratic and influenced by the fluctuating development of these disease organisms.

After considering the many aspects of the problem, it was agreed that this laboratory would discontinue work with *Macrocentrus* for the present. The amount of work involved in continuing the cultures did not appear commensurate with the results obtained. Possibly, interest will be stimulated in the field of biological control at a later date, if the insecticides do not satisfactorily meet the conditions required for long-range insect control.

Studies on Shade Tree Fertilization

In 1947, this laboratory began investigations designed to develop more satisfactory methods and formulations for the fertilization of shade trees, particularly in highly developed residential sections of New Jersey's metropolitan areas. The primary emphasis has been placed on elm trees because of their importance in the majority of street plantings and parks, but maples were considered to a certain extent. The current year's work has been a continuation and expansion of the work as presented in the past several annual reports.

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Particular emphasis was placed on the continued study of the 25 large elms in Branch Brook Park, Newark, which were selected for fertilization trials in 1948. Leaf samples were first taken from these trees in mid-September 1948. The analyses of these samples indicated a general deficiency in zinc and manganese. Selected trees were then treated by subsoil application of zinc and/or manganese as suggested by the analytical results. The applications were made early in May 1950. Comparable deficiency trees in each category were left as controls. Leaf samples were collected in mid-September 1949 and 1950, and subjected to analysis in order to appraise the results of the applications. The general analyses for this group of trees are given in Table 1.

Table I
 RANGE OF CHEMICAL CONSTITUTION IN LEAVES OF 25 MATURE ELMS, BRANCH BROOK PARK
 RESULTS ON OVEN-DRIED BASIS

Element	1948			1949			1950			"Standard Values"
	Low	Median	High	Low	Median	High	Low	Median	High	
Nitrogen, per cent	1.08	1.37	1.65	0.93	1.47	2.28	1.09	1.60	2.14	1.50
Phosphorus, per cent	0.150	0.185	0.215	0.145	0.200	0.285	0.153	0.174	0.250	0.20
Potassium, per cent	0.83	1.22	1.80	0.75	1.13	2.18	0.63	1.31	1.90	1.50
Calcium, per cent	1.04	1.62	2.15	1.31	1.74	2.25	1.31	1.89	2.71	1.75
Magnesium, per cent	0.17	0.23	0.43	0.17	0.26	0.46	0.140	0.235	0.445	0.26
Iron, ppm	140	430	720	230	360	630	263	465	790	500
Manganese, ppm	18	42	220	22	58	500+	28	84	408	80
Zinc, ppm	10	34	128	38	47	76	20	43	73	50
Boron, ppm	81	92	140	72	84	121	80
Copper, ppm	12	16	32

(ppm—parts per million)

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In Table 1, the tentative standard value for each element is given in the right-hand column. The median value, rather than the arithmetical average, has been used, so that a few exceptional values will not exert an undue influence on the result. Paying particular attention to the median values, it is observed that as a whole, this group of trees has improved during the period 1948-50. This change is due to the influence of climate rather than treatment, and re-emphasizes the fact that nutritional studies on larger plant growth must be continued over a period of years for valid conclusions to be reached.

Special emphasis is placed on zinc content because this element seems characteristically low in so many of the larger trees thus far sampled and analyzed. The results of detailed study of the Branch Brook Park trees are given in Table 2. The zinc content is given on leaf samples collected in mid-September, reported on an oven-dry basis.

Table 2
ZINC CHANGES IN MATURE ELM TREES

Tree No.	Treatment	P.P.M.* Zinc			Percentage Change		
		1948	1949	1950	1948-49 1948 Base	1949-50 1949 Base	1948-50 1949 Base
CL - 76	Mn	50	57	73	+ 14	+ 28	+ 46
77	0	59	48	43	- 23	- 10	- 27
78	Mn	71	75	47	+ 6	- 36	- 34
79	Mn-Zn	33	46	43	+ 39	- 7	+ 30
80	0	35	49	44	+ 40	- 10	+ 26
81	0	85	69	44	- 19	- 36	- 48
82	0	46	46	36	0	- 22	- 22
83	0	34	45	22	+ 31	- 51	- 35
84	0	32	47	20	+ 47	- 57	- 38
85	Mn-Zn	17	45	41	+165	- 9	+141
86	Mn-Zn	20	49	18	+145	-172	- 10
87	0	15	59	23	+293	- 61	+ 53
88	Zn	33	70	16	+112	- 77	- 52
89	Zn	26	67	45	+158	- 33	+ 73
90	0	34	50	51	+ 47	+ 2	+ 50
91	0	87	49	44	- 44	- 10	- 49
92	Mn	92	60	39	- 35	- 35	- 58
93	0	22	45	48	+105	+ 7	+118
94	0	56	38	36	- 32	- 5	- 36
95	0	99	46	44	- 54	- 4	- 56
96	0	128	43	44	- 66	+ 2	- 66
97	0	10	52	45	+420	+ 13	+350
98	10-10-10 +Mn-Zn	10	48	45	+380	- 6	+350
99	0	13	54	42	+315	- 22	+223
100	0	51	40	45	- 22	+ 12	- 12

* Parts Per Million

The trees designated as 79, 85, 86, 88, 89 and 98 are low-zinc trees which have been treated with a zinc compound. The control trees for this group are trees 80, 83, 84, 87, 90 and 93, which received no fertilization. The control group is selected on a basis of location as well as initial similarity in analysis to the treated group. These data have been condensed in

Table 3, in which each group of six is treated as an entity, and the average values and percentage change in zinc content recorded.

Table 3

AVERAGE CHANGES IN ZINC CONTENT, TREATED VS. UNTREATED TREES

	Zinc Content, P.P.M.			Percentage Change		
	1948	1949	1950	1948-49 1948 Base	1949-50 1949 Base	1948-50 1948 Base
Zinc-treated	23	54	45	+135	- 35	+ 52
Controls	29	49	35	+ 69	- 29	+ 21

Considering the data on zinc changes given in Table 2 and Table 3, it appears that the treatment with zinc made early in the spring of 1949 was beneficial. However, considering the changes occurring in other initially low-zinc trees, notably trees 87, 93, 97 and 99, it seems that 1948, in which this work began, may have been a low zinc assimilation year. The universal decline of the initially high-zinc trees may indicate that what is actually being studied is a normal fluctuation in zinc content from year to year, tending to center about a normal of 40 parts per million of zinc. This conclusion is not in agreement with that in the 1949-50 annual report; the changes occurring the first year after treatment were not continued the following year.

The fertilization of large trees, especially where grass must be maintained under the spread, presents a difficult mechanical problem. In the work reported here, from 60 to 120 holes 18 inches deep have been punched under the tree canopy and the fertilizer materials introduced in these holes. The study of this group of 25 trees should be continued without any further attempts at fertilization, in order to determine the normal trend of nutrition. At the same time, other large elms should be selected for further experimental work.

The response of these trees to the application of manganese has been more encouraging than that following the zinc applications. Table 4 shows the changes in the manganese content of the foliage of the 25 elms under study at Branch Brook Park.

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Table 4

MANGANESE CHANGES IN TREES AT BRANCH BROOK PARK

Tree No.	Treatment	P.P.M.Mn			Percentage Change		
		1948	1949	1950	1948-49 1948 Base	1949-50 1949 Base	1948-50 1949 Base
CL - 76	Mn	55	131	178	+138	+ 30	+224
77	0	22	32	48	+ 45	+ 50	+118
78	Mn	31	47	60	+ 52	+ 28	+ 93
79	Mn-Zn	62	144	153	+132	+ 6	+147
80	0	35	49	44	+ 40	- 10	+ 26
81	0	94	88	115	- 6	+ 31	+ 22
82	0	17	23	28	+ 35	+ 22	+ 65
83	0	27	57	60	+111	+ 5	+122
84	0	26	42	43	+ 61	+ 2	+ 65
85	Mn-Zn	28	100	173	+257	+ 73	+518
86	Mn-Zn	55	140	135	+155	- 4	+145
87	0	83	140	230	+ 69	+ 64	+177
88	Zn	79	304	212	+285	- 30	+168
89	Zn	98	203	251	+107	+ 24	+156
90	0	35	34	42	- 3	+ 24	+ 20
91	0	45	59	84	+ 31	+ 45	+ 87
92	Mn	30	51	72	+ 70	+ 41	+140
93	0	49	75	107	+ 53	+ 43	+118
94	0	222	500+	475	+125	- 5	+114
95	0	191	500+	408	+162	- 18	+114
96	0	40	47	69	+ 17	+ 47	+ 73
97	0	28	51	60	+ 82	+ 18	+114
98	10-10-10 +Mn-Zn						
		32	94	90	+194	- 4	+181
99	0	110	189	275	+ 72	+ 46	+150
100	0	17	36	58	+112	+ 61	+241

In Table 4, it will be noted that trees CL 76, 78, 79, 85, 86 and 92 were initially low-manganese trees, treated with a manganese compound by sub-surface application. Control trees for this group are CL 77, 80, 82, 83, 84, 90, 91, 93, 96, 97 and 100. In addition, the group of initially high-manganese trees, CL 87, 88, 89, 94, 95 and 99, will be noted.

Table 5

AVERAGE CHANGES IN MANGANESE CONTENT,

Treated vs. Untreated Trees

Group	P.P.M. Manganese		Percentage Change 1948 to 1950
	1948	1950	
Manganese-Treated Trees	43	128	+211
Check-Low Manganese Trees	31	58	+ 95
Initially-High Manganese Trees	130	308	+146

While all of the groups gained in manganese, the differences shown in the manganese-treated trees seem to indicate clearly a beneficial effect from manganese application. A comparison of the field notes with the data in Table 4 shows that every low-manganese tree making a significant gain in that element has also shown a definite improvement in general appearance. In general, the untreated low-manganese trees did not gain enough to put them past the danger point. These data suggest that there is some point, perhaps

30-40 parts per million of manganese, where the tree cannot, unaided, overcome the deficiency, whereas if the initial content is in the range of 60-80 parts per million or above, the tree will continue in this range or even gain in manganese content. The studies on these trees should be continued for several years before any definite conclusion is reached.

Selection of Additional Trees for Study in Branch Brook Park

The results of the work to date have made it desirable that the older series of 25 large elms in Branch Brook Park remain undisturbed for further observation and yearly foliar analyses to show the long term trend. The unsatisfactory status of these trees is not entirely confined to deficiencies of manganese and zinc. In previous reports, the danger of drawing conclusions from "shot-gun" applications of fertilizer formulations was stressed. In order to expand the scope of these trials on large-tree fertilization, 20 additional trees were selected some distance from any of the initial group. These trees were sampled in mid-September 1950, and the samples subjected to analysis. Results are significantly the same as were found for the older group; zinc and manganese are commonly low, all are in need of a liberal N-P-K fertilization, and the application of dolomitic limestone to supply magnesium and calcium is indicated.

Experimental Nurseries of Small Elms

A plot of small elms was established at White Horse in the spring of 1949. Sixty trees, averaging about 8 feet in height, are included in this group. These trees have received two applications of specially mixed fertilizers since planting. The experimental mixtures are made with a commercial 10-10-10 fertilizer, the minor elements being added in various proportions to investigate their effect. In general, those trees receiving manganese and zinc combined with the N-P-K fertilizer are making the best growth, and indications are that the addition of manganese has been most beneficial. All of these trees were sampled in mid-September, and the foliage subjected to analysis. The results indicate that the trees are absorbing both manganese and zinc from the insoluble compounds added to the basic fertilizer. In some cases, it appears that toxic amounts of the micro-nutrients are being absorbed, to the detriment of the trees. Check trees, receiving no fertilization, are making no growth for the most part, and many of these appeared to be on the verge of dying by June 1950. This will undoubtedly cause a change in the initial plan of fertilization. Until more data are accumulated through further observation and analytical work, it does not seem advisable to enter into a detailed examination of the results.

An additional plot of 847 elm seedlings was begun in Groveville in May 1950. These seedlings are too small for any experimental work, which must be delayed until the surviving trees are definitely established. Survival has been better than expected, and it is possible that work may be begun on this plot in the early spring of 1952.

SEED CERTIFICATION

LATE CROP WHITE POTATO SEED CERTIFICATION

The New Jersey State Potato Association again requested the seed inspection service of this Division to inspect the late crop of seed potatoes. A total of 268.5 acres was entered and accepted for inspection, an increase of 75 per cent over the 115 acres accepted in the previous year. It is significant to note that in 1949 four counties entered potatoes for inspection; this year, growers from six counties, principally in Central Jersey, filed applications. It is felt that an increase in the seed potato acreage will result when the commercial tablestock producer in the Central Jersey area makes an attempt to reduce production costs by raising some of his seed. This procedure is advisable when growers have the equipment, land requirements and the proper attitude toward seed production.

Annual tests in the field have proved New Jersey seed equal to northern-grown seed and when more New Jersey farmers have the proper concept of growing seed, greater interest will be shown.

Cumberland County still leads the State in potato seed acreage, although its acreage declined from 71 per cent to 36 per cent of the total New Jersey acreage. This year, three central counties, Mercer, Middlesex and Monmouth, had 55 per cent of the seed acreage, whereas the previous year, the same counties accounted for only 17 per cent.

The Katahdin variety continues to be the most popular seed, with Chipewa second and Cobbler third. There were no inspections of the Pawnee and Mohawk varieties this year and production of Pawnee will be completely discontinued because of its susceptibility to common scab. Pawnee, under proper soil conditions, is an extremely desirable early potato to compete with the Irish Cobbler.

A new variety grown for seed in New Jersey for the first time is the Kennebec. The seed obtained for this planting was heavily infected with spindle tuber, causing a complete rejection of the entire acreage. However, the performance of Kennebec was so encouraging that a greater acreage is expected to be planted the following year. New sources of seed have been located and it is hoped that the spindle tuber problem in this variety will be controlled.

For the first time, New Jersey seed producers were offered, through the Division of Plant Industry of the Maine Department of Agriculture, a plan to test their seed crop in Florida during the winter months. The sole purpose of this test was to obtain advance information on the extent of spread of virus diseases in New Jersey seed stocks. The response of New Jersey growers was discouraging. More applications were not received mainly because the sample had to be dug by hand three weeks before harvest. By selecting a sample before digging, it is felt that a true disease reading cannot be obtained. It is hoped that this difficulty will be corrected

before this coming season so that more seed producers will take advantage of this program.

Generally speaking, the growing season was good and satisfactory yields were obtained in most cases. The percentage of rejections was low. The most important rejection was of a field infected with bacterial ring rot. The tolerance for this disease in New Jersey is zero. Bacterial ring rot was detected late in the growing season when a special field inspection was being made for the disease.

The inspection service aims to keep the standards of certification high. However, the Department also realizes that standards must be consistent with the production of potatoes under normal field conditions. Continual efforts are being made to produce seed which is true to varietal type, free from disease and in good physical condition.

INSPECTION AND CERTIFICATION WORK OF NEW JERSEY
LATE CROP WHITE POTATO SEED, 1950
ACRES ENTERED FOR CERTIFICATION

County	Acres	Per Cent
Cumberland	96.58	36
Mercer	68.75	25
Middlesex	51.00	19
Burlington	28.50	11
Monmouth	12.00	5
Camden	11.67	4
Totals	268.50	100

SEED SOURCE

	100-lb. Bags	Per Cent
Maine	1,788	50
New Jersey	811	23
Wisconsin	414	11
New Brunswick, Canada	310	9
Prince Edward Isle	166	4
New York	60	2
Nova Scotia	25	1
Totals	3,574	100

PRODUCTION OF CERTIFIED WHITE POTATO SEED OF NEW JERSEY

Variety	1949		1950	
	Acres Passed	Production (bushels)	Acres Passed	Production (bushels)
Cobbler	4.0	804.0	36.25	6,162
Katahdin	89.5	19,178.0	162.33	37,260
Chippewa	27.0	6,750.0	42.67	9,870
Sequoia	5.5	1,226.5	2.50	562
Red Skin	9.0	1,602.0	9.00	1,890
Pawnee	5.5	880.0
Triumph25	50
Totals	140.5	30,440.5	253.00	55,794

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ACREAGE FAILING AND PASSING CERTIFICATION

	Acres	Per Cent
Rejected or withdrawn at first inspection	4.0	1.5
Rejected or withdrawn at second inspection	6.5	2.4
Rejected at third inspection	5.0	1.9
Rejected or withdrawn three inspections	15.5	5.8
Passing three inspections (certified)	253.0	94.2

VARIETAL DISTRIBUTION OF REJECTIONS AND WITHDRAWALS

Variety	Acres Entered	Acres Rejected and Withdrawn by Inspections			Acres Certified
		(First)	(Second)	(Third)	
Katahdin	167.33	.....	.....	5.00	162.33
Chippewa	46.67	4.00	.....	.....	42.67
Cobbler	39.25	.....	3.00	.....	36.25
Red Skin	9.00	.....	.....	.....	9.00
Kennebec	3.50	.....	3.50	.....	.....
Sequoia	2.50	.....	.....	.....	2.50
Triumph	.25	.....	.....	.....	.25
Totals	268.50	4.00	6.50	5.00	253.00

POTATO ACREAGE ENTERED FOR CERTIFICATION, 1950

County	Growers	Katahdin	Chippewa	Red Skin	Triumph	Sequoia	Cobbler	Kennebec	Totals
Cumberland	8	60.00	28.00	.....	.25	.....	6.00	2.33	96.58
Mercer	6	36.50	7.00	.....	.....	.....	25.25	.....	68.75
Middlesex	3	45.00	.....	.....	.....	.....	6.00	.....	51.00
Burlington	2	17.83	9.67	.....	.....	.50	.....	.....	28.50
Monmouth	1	8.00	2.00	.....	.....	.....	2.00	.50	12.00
Camden	1	.....	.....	9.00	.....	2.00	.....	.67	11.67
Totals	21	167.33	46.67	9.00	.25	2.50	39.25	3.50	268.50

POTATO ACREAGE ENTERED FOR CERTIFICATION, 1949

County	Growers	Katahdin	Chippewa	Red Skin	Pawnee	Sequoia	Cobbler	Mohawk	Totals
Cumberland	10	70.0	27.0	4.5	9.0	.....	.....	.....	110.5
Mercer	1	21.5	.....	.....	.....	.....	4.0	1.5	27.0
Burlington	1	3.0	1.5	5.0	1.5	11.0
Camden	1	4.55	5.0
Totals	13	94.5	27.0	9.0	10.5	5.5	4.0	3.0	153.5

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STATE DEPARTMENT OF AGRICULTURE

WHITE POTATO SEED CERTIFICATION IN NEW JERSEY

Year	Growers	Acres Entered	Percentage Rejection	Varietal Distribution	
1945	29	341.00	13.34	Katahdin	178.50
				Chippewa	70.50
				Sequoia	43.00
				Cobbler	20.50
				Red Skin	19.00
				Green Mountain	5.00
				Sebago	4.00
				Mohawk	.50
1946	27	342.465	40.38	Katahdin	178.945
				Chippewa	77.69
				Cobbler	37.33
				Sequoia	21.00
				Red Skin	16.00
				Sebago	4.50
				Pawnee	4.00
				Green Mountain	3.00
1947	21	316.00	16.77	Katahdin	144.67
				Cobbler	65.83
				Chippewa	50.50
				Pawnee	26.75
				Red Skin	25.00
				Green Mountain	2.00
				Pontiac	1.00
				Mohawk	.25
1948	17	184.50	10.07	Katahdin	105.00
				Chippewa	31.20
				Pawnee	21.50
				Cobbler	2.50
				Green Mountain	2.00
				Sebago	1.50
				Mohawk	1.50
				Sequoia	.50
1949	13	153.50	8.47	Katahdin	89.50
				Chippewa	27.00
				Red Skin	9.00
				Pawnee	5.50
				Sequoia	5.50
				Cobbler	4.00
1950	21	268.50	5.80	Katahdin	162.33
				Chippewa	42.67
				Cobbler	36.25
				Red Skin	9.00
				Sequoia	2.50
				Triumph	.25

GRAIN SEED CERTIFICATION

Seed certification is a system of standards and inspections that has developed in New Jersey over a period of 27 years to assure the farmers of high quality seed. A large investment is made annually by taxpayers to support the work of plant breeders and scientists in developing new varieties and improving methods of handling seed. Through the channels of seed certification, these new seed developments from the agricultural experiment stations can be put into production by New Jersey farmers. Those working with the certification program increase a handful of seed of a superior variety to thousands of bushels without losing the genetic characteristics of the seed or lowering the quality in any other way. Thus, not only does the certifying agency maintain pure supplies of seed of accepted varieties, it also increases breeders' seed so that it is available to all those desiring a supply.

A secondary factor in certification is the control of the distribution of weed seeds. The seriousness of the weed problem is not fully recognized by many land owners. Many farmers feel that weeds have always been in their fields and probably always will be. Loss from weeds is recognized by national authorities as even greater than that from plant and animal insects and diseases combined. Without a thorough survey, it is difficult to express in dollars the losses that occur in New Jersey annually from weeds but a Kansas survey revealed that farmers were losing \$5 to \$15 per acre, depending on market value, from weeds infesting grain fields. Weeds rob the soil and crop of plant food just as they do of moisture, thus contributing to lower crop yields.

Dockage due to weeds is frequently a source of serious loss in the market value of the farm products. There are other weeds that will impart a flavor or taste to food products, lowering their market value. Also, poisonous weeds frequently cause livestock losses.

Probably the most important problem, not yet completely explored, is the weed's place in harboring insect pests and plant diseases. Great losses are suffered annually by the spread of virus diseases from weeds to crops. Viruses are rarely transmitted by seed; they are usually carried over in perennial weeds. Two examples of this type of disease are the aster yellows and cucumber mosaic. A number of fungus diseases also require weed plants to complete their life cycles. Stem rust of wheat, to which the Thorne variety is extremely susceptible, is harbored in weeds during a portion of the year. Take-all, a fungus foot-rot disease which attacks grain crops and is increasing in New Jersey, has been found on certain grasses, such as quack grass and buffalo grass.

Weed seed tolerances are low in certified seed. Every effort is made by this Division in field inspection to eliminate fields containing inseparable weed seeds. Seed fields are rejected without hesitation when poisonous weeds are found.

The processing and cleaning equipment used to clean certified seed is designed and operated to eliminate weed seeds completely. Several special cleaning machines, owned by the New Jersey Field Crop Improvement Cooperative Association, are used to remove any trace of weed seeds that may infest land owners' farms.

It is felt that continual effort to suppress the dissemination of weed seeds through field crop seed is an important agricultural and economic factor of certification.

Corn

A total of 547 acres was entered for hybrid seed corn inspection. This is approximately 31 acres less than that of the previous year, when 577.83 acres were entered. The biggest acreage changes were noted in the increased production of N. J. No. 7, the complete halt of production of U. S. No. 13 and Ohio K-24 and a reduction in the N. J. No. 2 acreage.

Field inspection, which includes the supervision of the detasseling and roguing of off-type plants, found the producers of hybrid seed corn doing a satisfactory job. Ten acres of N. J. No. 4 and five acres of N. J. No. 7 were rejected in the field when inspection revealed ear parent pollen was shedding. This phase of hybrid seed corn production is extremely important and every available inspector was used to assure proper cross-pollination.

Insect infestations in the field, such as those of the European corn borer and the corn ear worm, were noted. On farms where dusting with insecticides was practiced, an economical control was achieved. Dusting with DDT for control of the Japanese beetle was rather extensive in the central portion of the State. Dust was applied when the silks were receptive to pollen. Applications were made by high-clearance machines and airplanes, and in all cases satisfactory results were obtained. Continued research is needed for controlling other seed-damaging insects that occur in the field.

Weather conditions in the fall did not help reduce moisture in the seed corn fields. Most fields of seed were harvested with excessive amounts of moisture and without the proper drying equipment, the seed soon became moldy. The largest percentage of loss occurred in the N. J. No. 4 hybrid, which possesses a large, heavy kernel which dries slowly. Eight loads of seed were rejected upon delivery to the Kingston Grading Plant because of high moisture content. At no time were the standards for certified seed lowered so that poor quality seed could pass.

The grading and processing operation was carried out carefully and it was felt that one of the finest packages of New Jersey certified seed corn was placed on the market. The entire crop of seed moved to the dealers and it is expected that all will be sold.

Approximately 1,500 bushels of seed corn were held over by the Certified Seed Growers' Association in cold storage. The 1949 seed was retested and proved to be of high quality, and therefore certified. Lots possessing

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any trace of Angoumois grain moth-damaged seed were rejected from certification. The Division sealed 1,406 bushels of carry-over seed.

FIELD INSPECTION OF HYBRID SEED CORN

1950

Hybrid	Growers	Acres Entered	Acres Passed	Acres Rejected
N. J. Number 7	17	379.0	374.0	5.0
N. J. Number 4	10	140.5	130.5	10.0
N. J. Number 2	2	16.0	16.0	.....
Foundation:				
(J42xB42)	1	3.5	3.5	.....
(B42)	1	8.0	8.0	.....
Totals	31	547.0	532.0	15.0

SEALING RECORD OF HYBRID SEED CORN

Hybrid	Carry-over 1949		New Crop 1950		Totals
	Flat Grades	Round Grades	Flat Grades	Round Grades	
N. J. Number 2	446	.....	493	49	988
N. J. Number 4	82	7	1,922	201	2,212
N. J. Number 7	19	.....	9,347	165	9,531
U. S. Number 13	852	.....	.....	.....	852
Totals	1,399	7	11,762	415	13,583

NEW JERSEY HYBRID SEED CORN

CLEANING AND GRADING RECORDS FOR 1950

	N. J. No. 2		N. J. No. 4		N. J. No. 7	
	1950	1949	1950	1949	1950	1949
Number of growers' records used	2	5	8	7	12	12
Acreage involved	16	67	88.5	112	303	237
Rough corn received at mill:						
(pounds)	38,296	135,494	192,343	202,723	707,377	428,442
(bushels)	684	2,419	3,435	3,620	12,632	7,651
Bushels rough corn (ear parent) harvested per acre	42.8	36	38.8	32	41.6	28
Total bushels of flat grades certified	493	1,662	1,922	1,989	8,996	4,548
Average bushels of flat grades per acre	30.8	24.8	21.7	17.7	29.6	19.2
Bushels of large flats	292	1,124	1,736	1,647	1,180	506
Per cent of large flats	59	67	90	83	13	11
Bushels of medium flats	168	479	186	302	4,517	1,979
Per cent of medium flats	34	29	10	15	50	44
Bushels of narrow flats	33	59	.....	40	3,299	2,009
Per cent of narrow flats	7	4	.....	2	37	45
Average percentage of flat grades harvested per acre	72	68.8	56	55	71	59

Barley

The season started with an increase of 36 per cent in Wong barley acreage. In 1950, 511.2 acres were entered for certification. Of this, 379.2 acres satisfactorily met all the requirements of the Division. About 26 per cent of the acreage was rejected, slightly more than normal. The previous

year, 374.5 acres were entered for certification; 300 acres were finally accepted, resulting in a rejection of 20 per cent.

The seed crop was damaged by many uncommon conditions during the growing season. Insects, primarily army worm, and disease (leaf blotch) plus unfavorable weather conditions reduced seed production to a point where it was difficult to offer sufficient quantities of certified seed. The mild, open winter also materially reduced the grain in the seed fields. Army worm infestation was one of the worst in many years. In some fields, an estimated loss of 25 to 30 per cent in seed was due to this insect.

The bin inspections or seed house inspections were delayed to the late maturity and harvesting of the grain. Seed analysis and germination tests were satisfactory. The screening of waste products from the seed cleaning operation, which normally averages about 17 per cent of the total weight, went as high as 30 per cent this year. Test weights on uncleaned samples averaged 42 pounds per bushel. After seed clipping and cleaning, test weights averaged 49 to 50 pounds per bushel.

The hot-water treatment program used for the control of loose smut is still effective. In field inspection, absolutely no loose smut infection was detected in the foundation seed fields and only a slight trace in the certified fields.

After the final cleaning and sealing of barley was completed, a total of 9,999.5 bushels had been sealed. Although the acreage planted in 1950 was larger than that of 1949, a smaller amount of seed was certified. The smaller amount resulted from reduced yields per acre and an increased number of rejections.

WONG BARLEY PROGRAM

Variety	Growers	1950			Bushels Sealed
		Acres Entered	Acres Passed	Acres Rejected	
Wong (foundation)	1	.....	.....	.....	110
Wong (registered)	4	24.5	24.5	.....	535
Wong (certified)	25	486.7	354.7	132	9,354.5
Totals	30	511.2	379.2	132	9,999.5

Wheat

This year, the largest acreage of wheat in the history of New Jersey agriculture was entered for certification. Applications were accepted for 821.7 acres of wheat, 799.7 of the Thorne variety and 22 of Leap's Prolific. This acreage represents an increase of 78 per cent over that of last year, due to the increased demand for certified seed.

However, the increased acreage did not produce the additional certified seed that New Jersey farmers wanted. The same climatic conditions and insect infestations cited in the barley report also affected the wheat yield. A large quantity of seed had to be disqualified because of poor appearance.

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Appearance is an important factor in distributing seed and in building confidence in certified seed among farmers.

SEED WHEAT PROGRAM

Variety	Growers	1950			
		Acres Entered	Acres Passed	Acres Rejected	Bushels Sealed
Thorne	29	799.7	571.2	228.5	9,711
Leap's Prolific	2	22.0	22.0	.....	250
Totals	31	821.7	593.2	228.5	9,961

Rye

Two applications for the certification of 10 acres of Balboa rye were accepted. This is the first time in nine years that a variety of rye has been recommended by the State Agricultural Experiment Station for certification. During the bin inspection, all lots of seed entered were rejected for possessing inseparable poisonous weed seeds.

SEED RYE PROGRAM

Variety	Growers	1950			
		Acres Entered	Acres Passed	Acres Rejected	Bushels Sealed
Balbo	2	10	.....	10	.....

Oats

The acreage entered for certification was approximately the same as that of the previous year. The 1950 acreage was 106.5 acres, as compared with 106 acres entered in 1949.

A total of 2,904 bushels of certified oats was sealed. This quantity of seed is extremely small compared with the commercial acreage of oats planted in New Jersey. It is estimated by the New Jersey Crop Reporting Service that approximately 55,000 acres will be planted to oats this year in New Jersey. New Jersey seed oats are not favored by New Jersey farmers because often the seed does not possess the bright color and heavy test weight of the northern-grown seed. Color and test weight are results of climatic conditions and in no way lower the quality of the seed. Although the majority of the dealers know these facts, great resistance is found in selling New Jersey seed oats. Next year, a field test will be attempted in which northern-grown seed and New Jersey seed can be compared for growth and yield.

SEED OATS PROGRAM

Variety	Growers	1950			
		Acres Entered	Acres Passed	Acres Rejected	Bushels Sealed
Clinton	5	96.5	87.5	9.0	2,583
Mohawk	1	10.0	10.0	.....	321
Totals	6	106.5	97.5	9.0	2,904

Soybeans

Greater interest was shown this past year than previously in the certification of soybeans. This year, a total of 28 growers entered 674.5 acres for inspection, an increase of 118 per cent over the 313.5 acres entered the previous year. Field inspection ended with 76.5 acres being rejected for bad appearance, a disease count above the tolerance of varietal mixture or presence of weeds.

From the seed house inspection, purple stain disease was noted in many samples. This disease has been increasing for several years and it was felt that the certified seed program should take the initial step in its control. Research is incomplete and opinion as to what can be done for control of this fungus and the amount of harm it does to plant population and yield varies among experiment stations. The disease has some definite potentials for reducing yields and also gives an objectionable appearance to the seed. It is well known that certified seed must possess good appearance, genetic purity, high germination and be free from weed seeds, if it is to sell. Samples of seed that had different percentages of purple stain were studied for appearance and it was concluded that any seed possessing more than 2 per cent purple stain would be rejected from certification. It was also felt that all certified soybeans should be treated with a seed disinfectant to help prevent the spread of this disease. It is hoped that by limiting the percentage of purple stain in certified soybeans and treating certified seed with seed disinfectant, the spread of the disease might be checked.

The quality of soybeans this year was excellent. Moisture content was kept below 14 per cent; cracked and inert matter were reduced to less than one-half of 1 per cent.

SEED SOYBEAN PROGRAM

Variety	Growers	1950			
		Acres Entered	Acres Passed	Acres Rejected	Bushels Sealed
Lincoln	8	184	145	39	1,806
Chief	3	49	49	.....	1,072
Hawkeye	17	441.5	230	211.5	4,494
Totals	28	674.5	424	250.5	7,372

SUMMARY OF ALL CERTIFICATION

Crop Year	Growers	1946-50			
		Total Acres Entered	Total Acres Certified	Per cent of Rejection	Total Bushels Sealed
1950	128	2,670.90	2,025.90	24.00	43,819.50
1949	99	1,833.83	1,573.08	14.20	41,935.00
1948	83	1,275.00	1,019.50	20.00	27,278.50
1947	101	1,359.90	1,015.70	25.30	23,937.50
1946	96	1,416.90	1,063.90	24.90	27,218.50

Report of the Office of Milk Industry

ARTHUR F. FORAN, *Director*

CHESTER D. SCHOMP, *Deputy Director*

The Office of Milk Industry has been administered so as to provide a stabilized market for milk produced by New Jersey producers and to assure to the consumers of the State an ample supply of quality milk.

Because of economic conditions, the Federal Government established the Office of Price Stabilization during the period covered by this report, and the rulings of that agency directly affect the pricing of milk at the State level. The OPS is authorized by law to set up ceiling prices for commodity goods on a national basis. The ceiling prices set were the prices in effect during the base period of December 21, 1950 to January 26, 1951. Although producers have faced increased costs since the last price was fixed by this Office on October 15, 1950, it has been impossible to increase the producer price due to the OPS ceilings.

The OPS would permit a consumer price increase only on that milk for which the producer received an increase. Due to the large quantity of milk imported, especially in North Jersey, an increased producer price by the Office of Milk Industry would have created a two-price system to consumers. Such a situation would have the effect of pricing the New Jersey producer out of the market. The competitive conditions of milk at the consumer level would not permit dealers marketing New Jersey-produced milk to charge an additional cent per quart over the milk produced outside New Jersey.

ADMINISTRATION

The staff of the Office of Milk Industry is divided into four main sections, which deal respectively with producers, dealers, consumers, and licensing and investigations. To coordinate the work, weekly meetings of the section chiefs are held so that each can become acquainted with the policy and activities of the other sections. During this fiscal year, the entire staff met occasionally to discuss policies and regulations.

Personnel changes included the addition to the staff of an investigator, an auditor, a clerk-stenographer and a part-time employee for calibration work, all to fill vacancies. The staff was complete at the close of the fiscal year.

In order to keep the Office informed of conditions and activities in the over-all milkshed supplying New Jersey, staff members attended 19 out-of-State hearings and conferences during the year. Such attendance is desirable because of the need to keep posted on trends in nearby markets which

affect New Jersey conditions. The Federal Order regulations on the New York and Philadelphia markets adjacent to New Jersey are important factors which must be considered in all regulations concerned with the stabilization of the market within the State.

PUBLIC HEARINGS

The Statute requires that before a price change of any kind is made, a public hearing shall be held at which anyone interested will be given an opportunity to present testimony regarding the contemplated price change. Accordingly, the following hearings were held by the Deputy Director in the absence of Director Foran.

1. A public hearing was held on Monday, August 7, 1950 in the War Memorial Building, Trenton, to consider:

- (1) Prices to be paid to producers for milk in each of the following classifications: Class I, Class II and Class II-A.
- (2) Recommendations for changing the marketing areas as now outlined by the Office of Milk Industry.

At this hearing 13 witnesses testified. The representatives of the consumers opposed any increase in the price of milk and did not feel that producers' costs had increased enough to effect any price change at this time. As a result of the hearing, it was decided to increase the price to producers 42 cents per hundredweight on testimony given by the producers and dealers.

2. A public hearing was held on Monday, September 25, 1950 in the War Memorial Building, Trenton, to consider prices to be paid to producers for milk in each of the following classifications: Class I and Class II.

Thirteen witnesses testified for conditions affecting consumers, producers and handlers. As the result of the testimony given by these witnesses, it was decided to increase the producer price an additional 22 cents per hundredweight, bringing the Class I price to \$5.87 per hundredweight for 3.5 per cent butterfat milk.

3. A public hearing was held on Friday, December 8, 1950 in the War Memorial Building, Trenton, to consider definitions of trade practices within the milk industry in the State.

Three witnesses appeared at this session of the hearing. Several interested parties stated that they had not had enough time to prepare for a hearing of this nature and requested that the hearing be adjourned until a later date. The hearing was adjourned until December 19, 1950.

At the hearing held on December 19, five additional witnesses testified regarding fair trade practices and the necessity for them to be regulated in the industry. The North Jersey Milk Dealers Association requested additional time to submit further evidence on testimony taken at the hearing. The hearing was then adjourned until January 16, 1951.

At the January 16 session, there were no additional witnesses, but previous witnesses entered additional testimony regarding fair trade practices.

As a result of this testimony, the conclusion drawn was that milk dealers were opposed to a code of ethics based on fair trade practices that would regulate by order, discounts, free materials, free services, etc.

4. A public hearing was held on Thursday, December 21, 1950 at the Salem County Court House in Salem, for the purpose of considering prices to be paid to producers for milk in each of the following classifications: Class I and Class II.

At this hearing, nine witnesses appeared and gave testimony. The hearing was called at the request of the South Jersey Milk Dealers Association for the purpose of reducing the price of \$5.87 per hundredweight. However, there was not sufficient evidence presented at the hearing to warrant a price reduction. Shortly after this hearing, the Office of Price Stabilization froze the price of milk at the consumer level.

5. A public hearing was held on Tuesday, May 22, 1951, in the War Memorial Building, Trenton, to consider:

- (1) Prices to be paid to producers for milk in each classification as fixed by the Office of Milk Industry.
- (2) A formula for fixing the prices of milk other than Class I.

At this hearing, ten witnesses appeared and gave testimony on the subject of the hearing. Determination of the facts and evidence submitted at this hearing would warrant a price increase to the producer above the \$5.87 per hundredweight price fixed in October 1950, but due to the ceiling prices fixed at the consumer level by the OPS, nothing has been done to increase this price. It is felt that if a producer price increase were granted, dealers would not continue to buy New Jersey produced milk if they had to collect one cent additional, or one cent more than the price of milk produced outside of the State and sold by dealers to consumers in New Jersey.

PRICE ORDERS AND REGULATIONS

During the fiscal year, the following orders and regulations were issued:

Order 50-4, issued September 1, 1950, effective September 16, 1950, increased the price of milk to producers 42 cents per hundredweight, making the price \$5.65 per hundredweight for 3.5 per cent butterfat milk. This order also eliminated the 22 cents handling differential allowed to dealers on Class II-A milk.

Order 50-5, dated September 30, 1950, and effective October 15, 1950, increased the price to producers on Class I milk 22 cents per hundredweight to \$5.87 per hundredweight for 3.5 per cent butterfat milk. This order was in effect when the OPS ceilings became effective at the consumer level and consequently, no further price orders have been issued during the period covered by this report.

No new regulations were issued during the past year, but after several conferences with various groups, existing regulations were amended. Regulation F-20, concerning wholesale delivery on Sunday was amended by Regulation F-22.

Regulation F-19, concerning the posting of prices, was amended to permit a change of price within the month on a 72-hour notice to the Office of Milk Industry.

Regulation F-21, which required that a 30-day notice be posted before discontinuance of sale or purchase, was not in effect to the whole industry. Regulation F-24 made the 30-day notice effective to the subdealer, as well as the dealer.

APPEALS

There were no appeals taken by the industry to any orders or regulations issued during the fiscal year 1950-51.

LICENSING AND INVESTIGATIONS

The applications of about 13,000 stores and 2,200 dealers for renewal are received during a 60-day period. Although this increases the work of the staff considerably, with their fine cooperation, all applications were received and processed and licenses issued by July 1, without overtime work on the part of the staff.

From May 1, 1951 to June 30, 1951, for the fiscal year, 1951-52, 2,142 renewal licenses for dealers, processors, producer-dealers and manufacturers were processed and issued. In comparison, for the license year 1950-51, a total of 2,130 licenses was issued. For the license year 1945-46, five years ago, 2,346 licenses were issued.

For the fiscal year 1951-52, 13,008 store licenses were issued compared with 13,416 licenses the previous fiscal year. During the period covered by this report, an additional 1,631 licenses issued during the year were picked up by this office as delinquent or operating without a license. In many cases there was a change of ownership, leaving the new owner operating without a license unless he had complied at the time the transfer of ownership was made.

During this licensing period, 908 creamery inspection licenses, 214 permits to purchase milk on butterfat basis, 411 milk testers' licenses and 283 weighers' and samplers' certificates were issued. The revenue received from licenses during this period was \$105,272.50.

Field investigators covered a distance of 96,093 miles during this fiscal year. There were 273 written assignments, 1,163 verbal and telephone assignments and 750 investigations made on apparent violations picked up in the field.

One investigator has been temporarily assigned to the auditing division and one to handle the clerical work on the posting of prices as required by regulation of this Office. To file and compare the posting of prices by dealers each month requires the full-time service of one man.

During the past year, one man was engaged to fill a vacancy in the creamery inspection service. This has made possible the speeding up of butterfat work on farms and at receiving plants. During the past year, 368

calls were made, 2,529 samples were checked in duplicate from 286 plants, 73 farmers were visited and 139 samples checked in duplicate from these farms. Also, 24 farms were visited for the purpose of calibrating holding tanks now used on these farms. A total of 4,437 pieces of glassware for testing milk was received, calibrated and re-shipped. Forty-six new applicants were examined for licenses for testing milk and cream.

The clerical work handled by the creamery inspection unit is done by the men themselves and some time was spent on office detail.

There were 605 informal hearings held, as a result of which 598 penalties totaling \$5,011 were assessed. Seven adjustments were made without assessment of penalties. Many of these informal hearings on violations were the result of delinquency in posting prices as required by regulation. These violations occurred mostly among the subdealer type of licensee and were mostly due to negligence rather than direct willful violation of the regulation. Since these hearings were held, the compliance with the price posting regulation has improved.

PRODUCER RELATIONS

Considerable unrest prevails among producers, especially the leaders of the various producer groups. Concern over the threat of losing their markets or of a lower price has disturbed them and became a constant issue during the past year. However, the tables in this report show that New Jersey producers selling to New Jersey dealers have had a favorable market as compared with producers in other areas selling under Federal orders. Prices to New Jersey producers have exceeded those received in all other markets in the surrounding milkshed.

Production has been maintained at about the same level as the previous year. The even or level production witnessed in the previous year has been maintained during the year. Producers have changed their breeding and replacement schedules so as to maintain fall production at higher levels.

During 1950, the low point of production was reported on July 19. As the records of this Office show, the low point of production normally would be between October 15 and November 15. This leveling of production so as to give dealers a more uniform supply in the fall months has had a tendency to discourage dealers from making contracts with out-of-State sources to meet their needs for milk during the fall months. If this leveling of production can be maintained in the years ahead, it should prove beneficial to the producers.

Purchase agreements between dealers and producers have been practically on the same basis as in previous years, and it is the belief of this Office that where there is an agreement between producer and dealer on the plan of purchase, the producer is in a position to regulate his herd better for a more even annual production and this proves beneficial to both the producer and the dealer.

Table 1 indicates the advantage of prices received by New Jersey pro-

dudcers over producers shipping to the New York and Philadelphia Federal Market Order pools.

TABLE I
 VARIATION BETWEEN BLEND PRICES
 NEW JERSEY, NEW YORK AND PHILADELPHIA
 July 1950 To June 1951
 3.5 per cent milk @ 61—70 mile zone

	N.J.	N.Y.	New Jersey over New York		Phila.	N.J. over Phila.		Phila. over N.Y.	
1950									
July	4.46	3.92	.54	.25*	.79	4.21	.25	.29	.25*
August	4.90	4.38	.52		.77	4.26	.64	.12	.13
September	5.15	4.75	.40		.65	4.91	.24	.16	.41
October	5.43	4.98	.45		.70	4.91	.52	.07	.18
November	5.61	5.44	.17		.42	4.98	.63	.46	.21
December	5.57	5.26	.31		.56	5.00	.57	.26	.01
1951									
January	5.55	5.20	.35		.60	4.69	.86	.51	.26
February	5.48	5.13	.35		.60	4.66	.82	.47	.22
March	5.38	4.72	.66		.91	4.59	.79	.13	.12
April	5.31	4.49	.82		1.07	4.67	.64	.18	.43
May	5.15	4.28	.87		1.12	4.51	.64	.23	.48
June	5.23	4.23	1.00		1.25	4.51	.72	.28	.53
AVERAGE	5.268	4.731	.536		.787	4.658	.610	.073	.178
Location Differential		.25							
		4.481			.787				

* New York Location Differential
 Numbers in italic are minus.

Table 2, Table 3 and Table 4 indicate the trend of milk production in North Jersey and South Jersey as producing areas and in North and South Jersey combined. Indications are that production in 1951 will be close to that of 1950. The decrease in production during 1950-51 from 1949-50 was only 2.77 per cent.

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TABLE 2

PRODUCTION OF MILK IN POUNDS AS REPORTED BY DEALERS AND
PRODUCER-DEALERS IN NEW JERSEY
July 1, 1950 To June 30, 1951

	North Jersey	South Jersey	N. J. Total
1950			
July	62,507,836	22,664,339	85,172,175
August	63,288,500	23,949,226	87,237,731
September	60,796,430	22,331,915	83,128,345
October	62,835,700	22,703,685	85,539,385
November	59,541,105	21,522,228	81,063,333
December	61,513,016	21,776,456	83,289,472
1951			
January	63,779,317	22,483,462	86,262,779
February	58,598,950	21,179,315	79,778,265
March	67,894,096	24,670,504	92,564,600
April	68,029,087	25,096,949	93,126,036
May	76,907,362	28,808,946	105,716,308
June	70,047,961	25,164,016	95,211,977
Yearly Total	775,739,365	282,351,041	1,058,090,406
Monthly Average	64,644,947	23,529,253	88,174,200
1949-50 Yearly Total	804,347,424	283,902,069	1,088,249,493
Per cent Decrease 1950-51			
From 1949-50	3.56	.55	2.77

TABLE 3

MILK PURCHASED FROM NORTH JERSEY PRODUCERS
PERCENTAGE OF MILK IN EACH CLASS: TOTAL QUANTITY OF MILK,
AMOUNT PAID AND AVERAGE PRICE PAID
July 1, 1950 To June 30, 1951

1950	No. of Prod.	Per Cent Cl. I	Per Cent Cl. II	Per Cent Cl. IIA	Total Quantity Purchased Pounds	Total Amount Paid	Average Price Per Cwt.
July	3,073	80.19	18.56	1.25	54,797,722	\$2,549,823.91	\$4.65
August	3,089	85.74	13.49	.77	55,350,813	2,812,101.03	5.08
September	3,074	87.15	12.21	.64	53,227,100	2,838,695.53	5.33
October	3,065	86.31	13.29	.40	54,942,997	3,103,652.94	5.65
November	3,054	90.25	9.04	.71	51,834,322	3,021,816.49	5.83
December	3,047	87.91	11.51	.58	53,557,747	3,083,574.88	5.76
1951							
January	3,040	87.18	12.60	.22	55,839,252	3,216,915.22	5.76
February	3,046	86.08	13.32	.60	51,364,012	2,910,003.06	5.67
March	3,006	80.48	18.54	.98	60,078,462	3,303,512.41	5.50
April	3,005	78.09	20.96	.95	60,310,547	3,269,606.90	5.42
May	2,970	73.38	24.72	1.90	69,077,876	3,650,941.85	5.29
June	2,986	74.56	24.08	1.36	62,108,306	3,295,103.06	5.31
Totals	.....	.....	.....	.....	682,489,156	\$37,055,747.28	.....
Average 1950-51	3,037.9	83.11	16.03	.86	56,874,096	\$3,087,978.94	\$5.44
Average 1949-50	3,129.5	Total 1949-50			709,395,039	\$34,347,912.12	\$4.84
Per Cent Increase or Decrease 1949-50 to 1950-51	2.93				3.79	7.88	11.24

Numbers in italic are minus

STATE DEPARTMENT OF AGRICULTURE

TABLE 4

MILK PURCHASED FROM SOUTH JERSEY PRODUCERS
 PERCENTAGE OF MILK IN EACH CLASS: TOTAL QUANTITY OF MILK
 AMOUNT PAID AND AVERAGE PRICE PAID
 July 1, 1950 To June 30, 1951

	No. of Prod.	Per Cent Cl. I	Per Cent Cl. II	Per Cent Cl. IIA	Total Quantity Purchased Pounds	Total Amount Paid	Average Price Per Cwt.
1950							
July	1,328	94.62	3.38	2.00	20,903,110	\$1,031,443.18	\$4.93
August	1,319	93.91	4.14	1.95	22,159,762	1,163,226.32	5.25
September	1,325	94.99	3.92	1.09	20,608,629	1,158,545.07	5.62
October	1,343	94.41	4.46	1.13	20,961,600	1,247,410.78	5.95
November	1,315	95.28	3.89	.83	19,795,617	1,203,864.64	6.08
December	1,314	95.52	3.73	.75	19,986,632	1,217,453.10	6.09
1951							
January	1,310	95.04	4.07	.89	20,714,095	1,252,592.63	6.05
February	1,315	93.93	4.86	1.21	19,538,031	1,169,205.79	5.98
March	1,305	91.84	5.78	2.38	22,860,434	1,347,710.43	5.90
April	1,309	88.86	7.84	3.30	23,285,710	1,348,915.58	5.79
May	1,293	81.51	11.25	7.24	26,881,391	1,490,775.08	5.55
June	1,296	89.76	7.86	2.38	23,402,373	1,352,409.82	5.78
Totals	.....	.....	.....	.....	261,097,384	\$14,983,552.42	.....
Average 1950-51	1,314.3	92.47	5.43	2.10	21,758,115	\$1,248,629.37	\$5.75
Average 1949-50	1,357.5	Total 1949-50			262,800,343	\$13,770,119.00	\$5.24
Per Cent Increase or Decrease 1949-50 to 1950-51	3.18				.65	8.81	9.73

Numbers in italic are minus.

Table 5 shows the decrease in the number of producers from 1949-50 to 1950-51. Compared with previous years, these figures indicate a continuing decrease in the Class I utilization of milk available for the market. The Class I utilization enjoyed by New Jersey producers selling to State dealers is approximately 20 to 30 per cent higher than in surrounding markets. Also, the utilization of Class I in New Jersey is on a more uniform percentage than in markets where producers are delivering to Federal Order pools. For example, the average Class I utilization in New Jersey for June 1951 was approximately 78.72 per cent and the Class I-A utilization of milk approved for Federal Order No. 27 was 33.66 per cent.

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TABLE 5

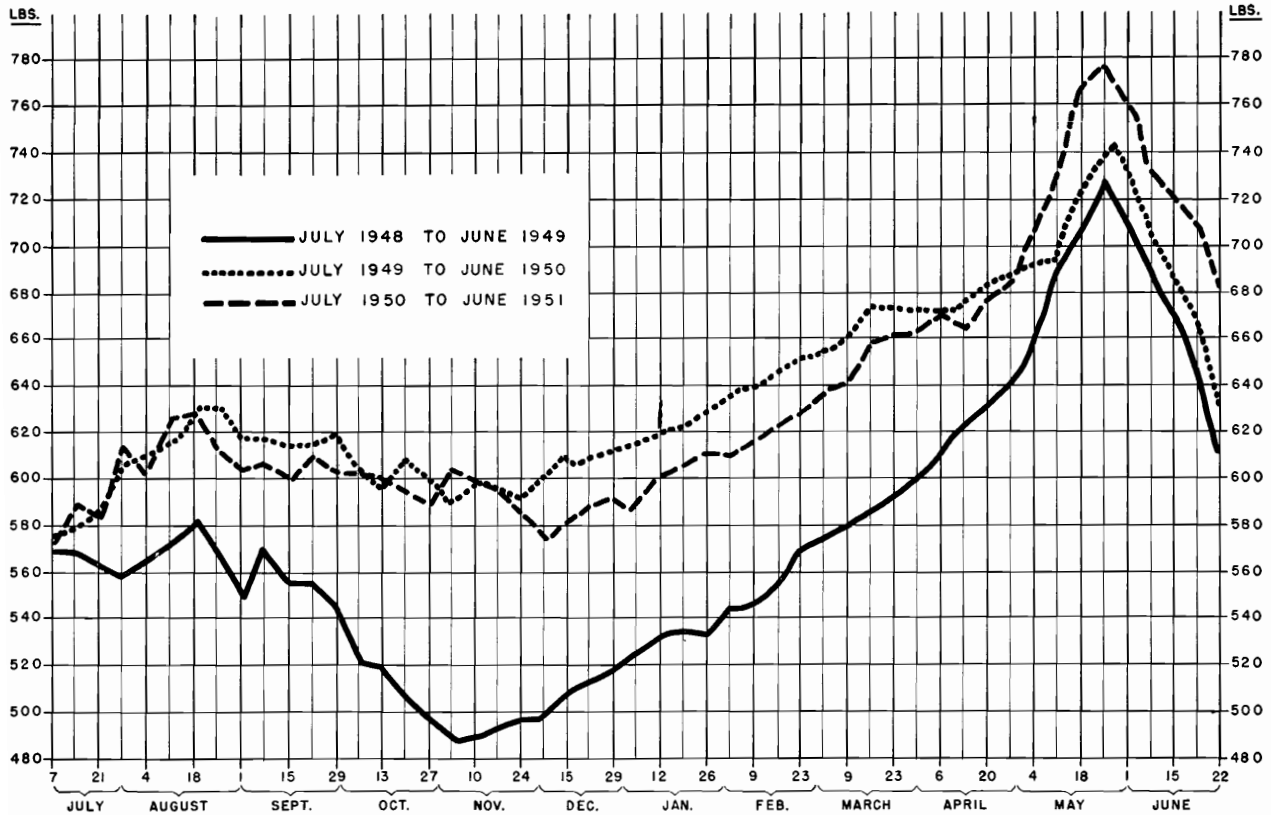
MILK PURCHASED FROM NEW JERSEY PRODUCERS (North and South combined)
 PERCENTAGE OF MILK IN EACH CLASS: TOTAL QUANTITY OF MILK
 AMOUNT PAID AND AVERAGE PRICE PAID
 July 1, 1950 To June 30, 1951

	No. of Prod.	Per Cent Cl. I	Per Cent Cl. II	Per Cent Cl. IIA	Total Quantity Purchased Pounds	Total Amount Paid	Average Price Per Cwt.
1950							
July	4,401	84.17	14.37	1.46	75,700,832	\$3,581,267.09	\$4.73
August	4,408	88.08	10.81	1.11	77,510,575	3,975,327.35	5.13
September	4,399	89.34	9.89	.77	73,835,729	3,997,240.60	5.41
October	4,408	88.54	10.86	.60	75,904,597	4,351,063.72	5.73
November	4,369	91.64	7.62	.74	71,629,939	4,225,681.13	5.90
December	4,361	89.98	9.40	.62	73,544,379	4,301,027.98	5.85
1951							
January	4,350	89.31	10.29	.40	76,553,347	4,469,507.85	5.84
February	4,361	88.24	10.99	.71	70,902,043	4,079,208.85	5.75
March	4,311	83.61	15.02	1.37	82,938,896	4,651,222.84	5.61
April	4,314	81.09	17.31	1.60	83,596,257	4,618,522.48	5.52
May	4,263	75.66	20.94	3.40	95,959,267	5,141,716.93	5.36
June	4,282	78.72	19.64	1.64	85,510,679	4,647,602.88	5.44
Totals	.....	.....	.....	.....	943,586,540	\$52,039,389.70	.....
Average 1950-51	4,352.25	85.70	13.10	1.20	78,632,212	\$ 4,336,615.81	\$5.52
Average 1949-50	4,487	Total 1949-50			972,195,382	\$48,118,031.12	\$4.95
Per Cent Increase or Decrease 1949-50 to 1950-51	3.00				2.94	8.15	11.52

Numbers in italic are minus.

The following graph shows the production of milk per dairy per day in the State. The dotted line shows the amount of milk produced each day during 1949-50, as compared with the production by the same producers for the fiscal year 1950-51 and 1948-49.

AVERAGE PRODUCTION OF MILK PER DAIRY PER DAY IN NEW JERSEY



DEALER RELATIONS

Every effort has been made to keep in touch with all dealers in order to maintain a stabilized retail market. There have been no so-called price wars during this past year. A total of 140 conferences was held during the year in all sections of the State to keep the industry advised at all times on marketing conditions and to prevent any breakdown of prices to levels below the cost of operation.

Feeling among dealers is divided as to whether or not resale prices on milk should be fixed. In the opinion of many dealers and also of the Office, the price cannot be fixed on the resale of milk and milk products until means can be found to set a price on milk supplies coming into the State comparable to that fixed on New Jersey-produced milk. The elimination of resale prices has benefited the dealer, not the consumer. Price posting on a monthly basis by all licensees effects a more uniform price to the consumer than when prices were fixed but were not maintained. The prices posted by dealers to consumers show a larger spread to the dealer than when the minimum resale prices were fixed.

Table 6 shows the small increase in per capita consumption of milk and cream, as indicated by sales of licensed dealers.

TABLE 6

SALES OF MILK AND CREAM* IN NEW JERSEY (Quarts)

1950 - 51

	MILK			CREAM*		
	No. Jersey	So. Jersey	N. J. Total	No. Jersey	So. Jersey	N. J. Total
1950						
July	44,276,516	13,741,728	58,018,244	8,644,952	2,155,037	10,799,989
August	44,868,178	13,853,466	58,721,644	8,528,533	2,123,744	10,652,277
September	43,716,667	12,269,142	55,985,809	7,735,109	1,612,108	9,347,217
October	44,879,038	11,706,025	56,585,063	8,041,298	1,276,281	9,317,579
November	43,445,117	11,305,540	54,750,657	7,651,999	1,134,190	8,786,189
December	43,932,814	11,238,353	55,171,167	8,485,365	1,278,913	9,764,278
1951						
January	44,319,310	11,445,743	55,765,053	7,877,365	1,138,142	9,015,507
February	40,125,680	10,475,121	50,600,801	7,604,564	1,123,925	8,728,489
March	45,036,417	11,952,428	56,988,845	8,956,004	1,401,275	10,357,279
April	43,712,547	11,517,067	55,229,614	8,571,575	1,332,178	9,903,753
May	45,763,141	12,162,881	57,926,022	10,437,035	1,658,761	12,095,796
June	44,689,862	12,319,894	57,009,756	11,724,135	1,799,748	13,523,883
Totals	528,765,287	143,987,388	672,752,675	104,257,934	18,034,302	122,292,236
Average	44,063,774	11,998,949	56,062,723	8,688,161	1,502,860	10,191,021
Totals						
1949-50	519,605,016	140,799,217	660,404,233	96,767,217	17,954,671	114,721,883
Per cent Increase 1950-51 over						
1949-50	1.76	2.26	1.87	7.74	.44	6.60

* Cream equals Fluid Milk Equivalent.

Table 7 shows the amount of milk produced in New Jersey which is exported, and the amount of milk imported for use in New Jersey.

TABLE 7

SCHEDULE OF NEW JERSEY PRODUCTION EXPORTED AND
IMPORTS OF MILK FOR NEW JERSEY USE (Pounds)

	New Jersey Producers Milk Exported			Milk Imported for Use in New Jersey		
	No. Jersey	So. Jersey	N. J. Total	No. Jersey	So. Jersey	N. J. Total
1950						
July	14,888,027	975,553	15,863,580	80,102,189	14,134,483	94,236,672
August	13,454,135	949,117	14,403,252	73,860,501	13,100,271	86,960,772
September	13,945,091	801,225	14,746,316	71,410,687	8,824,795	80,235,482
October	15,236,640	796,505	16,033,145	75,381,212	6,969,628	82,350,840
November	14,600,017	890,978	15,490,995	73,140,685	6,465,027	79,605,712
December	15,061,089	938,912	16,000,001	74,671,600	6,467,157	81,138,757
1951						
January	17,297,034	996,912	18,293,946	72,800,638	5,742,190	78,542,828
February	16,046,543	1,072,386	17,118,929	68,555,011	5,535,846	73,908,857
March	19,941,297	1,374,501	21,315,798	76,144,563	6,021,268	82,165,831
April	22,511,731	1,449,685	23,961,416	79,271,911	4,949,472	84,221,383
May	27,493,952	2,408,094	29,902,046	84,676,300	5,155,960	89,832,260
June	23,234,563	1,410,125	24,644,688	83,103,430	8,048,692	91,152,122
Totals	213,710,119	14,063,993	227,774,112	913,118,727	91,232,789	1,004,351,516
Average	7,809,177	1,171,999	18,981,176	76,093,227	7,602,732	83,695,959
Total						
1949-50	227,443,396	13,550,039	240,993,437	683,022,884	63,148,755	746,171,639
Per cent Increase or Decrease over 1949-50	<i>6.04</i>	3.79	5.49	33.69	44.47	34.60

* Numbers in italic are minus.

Table 8 shows the totals of cream, expressed in pounds of fluid milk equivalent, imported for sale in New Jersey during the year.

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TABLE 8

CREAM IMPORTED FOR USE IN NEW JERSEY
IN FLUID MILK EQUIVALENT POUNDS
July 1, 1950 To June 30, 1951

	No. Jersey	So. Jersey	N. J.Total
1950			
July	19,203,830	4,037,896	23,241,726
August	18,315,580	3,515,785	21,831,365
September	14,445,252	2,729,432	17,174,684
October	16,025,480	2,018,736	18,044,216
November	15,589,762	1,787,283	17,377,045
December	16,707,248	1,616,733	18,323,981
1951			
January	15,120,869	1,534,618	16,655,487
February	15,709,292	1,684,815	17,394,107
March	16,867,157	2,201,851	19,069,008
April	18,860,240	1,687,594	20,547,834
May	20,765,854	2,407,810	23,173,664
June	21,435,818	3,171,774	24,607,592
Totals	209,046,382	28,394,327	237,440,709
Average	17,420,532	2,366,194	19,786,726
1949-50 Total	166,926,968	24,590,754	191,517,722
Per cent Increase 1950-51 over 1949-50	25.23	15.47	23.98

CONSUMER RELATIONS

The consumer relations section has been almost entirely under the jurisdiction of Mrs. Agnes J. Gifford. Mrs. Gifford attended meetings of many organizations at their request, and attempted to explain the functions and purpose of milk control, and to answer questions regarding price changes or other regulations and orders issued by this Office.

Consumers have been invited to attend each public hearing and to present their viewpoints.

Official Proceedings of the Thirty-Sixth Annual State Agricultural Convention

The thirty-sixth annual State Agricultural Convention was held in the Assembly Chamber of the State Capitol in Trenton on Tuesday, January 30, 1951. The meeting was called to order at 10:00 a.m. by Tunis Denise, vice president of the State Board of Agriculture. The invocation was offered by the Rev. Paul W. Kapp, former chaplain of the New Jersey State Grange.

The roll of delegates was called by W. H. Allen, Secretary of Agriculture, as follows:

DELEGATES OF THE STATE AGRICULTURAL CONVENTION

From County Boards of Agriculture

Name	Address	Term	County
Richard C. Lobherr, Sr.	Egg Harbor	2 years	Atlantic
Joseph Sahl	Egg Harbor	1 year	Atlantic
William W. Francis	Oradell	1 year	Bergen
George Trautwein, Closter, alternate for			
*Gerard Grootendorst	Oakland	1 year	Bergen
Barclay H. Allen	Mount Holly	2 years	Burlington
Clement B. Lewis	Riverton	1 year	Burlington
*James M. Wilson	Sicklerville	2 years	Camden
Samuel De Cou	Merchantville	1 year	Camden
Leslie Rea	Cape May, R.D.	2 years	Cape May
Lawrence Bohm	Woodbine, R.D.	1 year	Cape May
David Tepper	Bridgeton, R.D. 2	2 years	Cumberland
Elmer Gandy	Bridgeton, R.D. 2	1 year	Cumberland
Roy Blair	Nutley	2 years	Essex
Charles W. Wokkittel	Caldwell, R.D.	1 year	Essex
Alvin W. String	Harrisonville	2 years	Gloucester
Carleton E. Heritage	Richwood	1 year	Gloucester
Charles Burd	Pittstown, R.D.	2 years	Hunterdon
Harold B. Everitt	Flemington, R.D.	1 year	Hunterdon
John D. Fausett	Hopewell, R.D.	2 years	Mercer
Donald Woodward	Pennington	1 year	Mercer
James B. Stuart	Jamesburg	2 years	Middlesex
George R. Parker, Jr.	Monmouth Junction, R.D. 1	1 year	Middlesex
Walter W. Lott	Freehold, R.D. 3	2 years	Monmouth
Roscoe C. Clayton	Freehold, R.D. 3	1 year	Monmouth
James P. Vreeland, Jr.	Towaco	2 years	Morris
William O'Dowd, Jr.	Long Valley, R.D.	1 year	Morris
Raymond Cook	Lakewood, R.D. 3	2 years	Ocean
Martin Schubkegel, Sr.	Lakewood, R.D. 3	1 year	Ocean
*Leonard H. Van Breemen	Clifton, R.D. 1	2 years	Passaic
Edward Anthony	Clifton, R.D. 1	1 year	Passaic
Albert F. Buzby	Woodstown	2 years	Salem
Preston R. Ware	Salem, R.D. 3	1 year	Salem
David W. Amerman	Neshanic	2 years	Somerset
Charles V. N. Davis	Somerville, R.D. 1	1 year	Somerset
John H. Merrill	Newton, R.D. 2	2 years	Sussex
Harold Haskins	Branchville, R.D.	1 year	Sussex
Edward C. Schaffernoth	Plainfield, R.D. 1	2 years	Union
Walter M. Ritchie	Rahway	1 year	Union
Azariah Frey	Stewartsville	2 years	Warren
Alfred Baylor	Columbia, R.D.	1 year	Warren

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From Pomona Granges

Name	Address	Term	County
Martin Decker	Hammonton, R.D. 1	1 year	Atlantic
C. Harold Joyce.....	Medford	1 year	Burlington
P. Wendell Beideman	Haddonfield	1 year	Camden
Allan McClain	Green Creek	1 year	Cape May
*William Terhune	Flanders	1 year	Central District
Leon Spencer	Millville, R.D. 3	2 years.....	Cumberland
Leslie Richards	Sewell, R.D.	1 year	Gloucester
John Hudnett	Flemington	1 year	Hunterdon
Charles Ewart	Yardville, R.D. 1	1 year	Mercer
Harry W. Kline.....	New Brunswick, R.D. 3.....	2 years.....	Middlesex and Somerset
Howard P. Story.....	Freehold, R.D. 3.....	2 years.....	Monmouth
Thomas Curley	Salem, R.D. 1.....	1 year	Salem
John La Forge.....	Sussex	1 year	Sussex
Preston Cole	Stewartville	1 year	Warren

From Other Organizations

- American Cranberry Growers Association—Isaiah Haines, New Lisbon, 1 year; F. Allison Scammell, Toms River, 1 year.
- Jersey Chick Association—Martin Schubkegel, Jr., Lakewood, R.D., 1 year; Richard Ells, Vineland, 1 year.
- New Jersey Association of Nurserymen—Paul Hoverman, Paramus, 1 year; *Fred J. Noble, Keyport, R.D., 1 year.
- New Jersey Florists Association—August Bosenberg, New Brunswick, 2 years; George C. White, East Rutherford, 2 years.
- New Jersey State Grange—Franklin C. Nixon, Vincentown, 1 year; Alvah Haver, Lebanon, 1 year.
- New Jersey State Horticultural Society—Clarence H. Steelman, Princeton, R.D. 3, 2 years; Lester Collins, Moorestown, 1 year.
- New Jersey State Poultry Association—James C. Weisel, Rosemont, 1 year; Henry Hartel, New Brunswick, 1 year.
- United Milk Producers of New Jersey—Calvin Danberry, Ringoes, alternate for *Thomas L. Lawrence, Hamburg, 1 year; Benjamin Hart, Pennington, R.D. 1, 1 year.
- Blueberry Cooperative Association—Harold B. Scammell, Toms River, 1 year.
- Cooperative Growers Association, Inc.—Raymond J. Anderson, Bridgeboro, 1 year.
- E. B. Voorhees Agricultural Society—William M. Nulton, Jr., New Brunswick, R.D. 3, 1 year.
- New Jersey Holstein Friesian Cooperative Association, Inc.—Charles Kirby, Mullica Hill, 1 year.
- New Jersey Agricultural Experiment Station—Alfred H. Lowe, Clifton, 1 year.
- New Jersey Beekeepers Association—Henry E. Neidengard, Clifton, 1 year.
- New Jersey College of Agriculture—Dr. William H. Martin, New Brunswick, 1 year.
- New Jersey Field Crop Improvement Cooperative Association—H. Edward Hancock, Burlington, R.D. 2, 1 year.
- New Jersey Guernsey Breeders Association—Lloyd B. Wescott, Clinton, 1 year.
- New Jersey State Potato Association—*Frank M. Smith, Allentown, 1 year.
- New Jersey Aberdeen-Angus Breeders Association—Robert C. Brooks, Moorestown, 1 year.

* Absent

STATE DEPARTMENT OF AGRICULTURE

APPOINTMENT OF COMMITTEES

At the delegates' dinner held on the evening preceding the Convention, the following committees were appointed by Vice President Denise:

NOMINATING COMMITTEE FOR MEMBERS OF THE STATE BOARD OF AGRICULTURE

Leslie Richards, Chairman.....	Gloucester County Pomona Grange
David W. Amerman.....	Somerset County Board of Agriculture
Albert F. Buzby.....	Salem County Board of Agriculture
Benjamin Hart	United Milk Producers of New Jersey
C. Harold Joyce.....	Burlington County Pomona Grange
Clement B. Lewis.....	Burlington County Board of Agriculture
Richard C. Lohherr, Sr.....	Atlantic County Board of Agriculture
Alfred H. Lowe.....	New Jersey Agricultural Experiment Station
John H. Merrill.....	Sussex County Board of Agriculture
Martin Schubkegel, Jr.....	Jersey Chick Association
David Tepper	Cumberland County Board of Agriculture
Charles W. Wohkittel.....	Essex County Board of Agriculture

NOMINATING COMMITTEE FOR MEMBER OF FISH AND GAME COUNCIL

James C. Weisel, Chairman.....	New Jersey State Poultry Association
Alfred Baylor	Warren County Board of Agriculture
Roy Blair	Essex County Board of Agriculture
William W. Francis.....	Bergen County Board of Agriculture
Harold Haskins	Sussex County Board of Agriculture
James P. Vreeland, Jr.....	Morris County Board of Agriculture

COMMITTEE ON RESOLUTIONS

Martin Decker, Chairman.....	Atlantic County Pomona Grange
Robert C. Brooks.....	New Jersey Aberdeen-Angus Breeders Assn.
Samuel De Cou.....	Camden County Board of Agriculture
William M. Nulton, Jr.....	E. B. Voorhees Agricultural Society
James B. Stuart.....	Middlesex County Board of Agriculture

At the State Agricultural Convention the following committees were appointed:

COMMITTEE ON CREDENTIALS

Franklin C. Nixon, Chairman.....	New Jersey State Grange
Lawrence Bohm	Cape May County Board of Agriculture
John D. Fausett.....	Mercer County Board of Agriculture
Azariah Frey	Warren County Board of Agriculture

COMMITTEE TO WAIT ON THE GOVERNOR

Lester Collins, Chairman.....	New Jersey State Horticultural Society
Harold B. Scammell.....	Blueberry Cooperative Association
Lloyd B. Wescott.....	New Jersey Guernsey Breeders Association

REPORT OF COMMITTEE ON CREDENTIALS

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

ELECTION OF MEMBERS OF THE STATE BOARD OF AGRICULTURE

The chairman of the nominating committee placed the names of Carlton Heritage of Richwood and Walter M. Ritchie of Rahway in nomination for membership on the State Board of Agriculture to succeed C. Russell

Jacobus, Upper Montclair, and Tunis Denise, Freehold, whose terms would expire on June 30, 1951. Upon motion made and duly seconded it was voted that the nominations be closed and Messrs. Heritage and Ritchie were unanimously selected for recommendation to the Governor for a four-year term beginning July 1, 1951.

ELECTION OF A MEMBER OF THE FISH AND GAME COUNCIL

The chairman of the nominating committee for membership on the Fish and Game Council of the Department of Conservation and Economic Development placed in nomination the name of Roderick W. MacDougall, of Essex County, for a four-year term, to succeed himself as the representative for the northern New Jersey counties. There being no further nominations, the nominations were closed. Mr. MacDougall was unanimously elected for recommendation to the Governor for the four-year term beginning April 1, 1951.

CITATIONS

Citations for distinguished service to agriculture were awarded to Frank App of Bridgeton, Howard B. Hancock of Bridgeton R. D., Louis M. Hardin of Sussex and William J. Lauderdale of Lambertville.

The citations, read by Secretary of Agriculture Willard H. Allen, were as follows:

CITATION OF FRANK APP

Your numerous contributions to the betterment of New Jersey agriculture have been significant and constructive, embracing a broad field of endeavor and extending over a period of nearly four decades.

New Jersey knew you first as a talented teacher and agronomist, training many of those who now are rural leaders and successful farmers.

The New Jersey Farm Bureau today is a monument to your early recognition of the need for a State-wide organization to represent agriculture. You built the solid foundations and contributed the far-sighted leadership which launched the Farm Bureau and some of our most successful marketing cooperatives.

In more recent years you have directed your talents to soil husbandry in order to correct the serious deficiencies existing on thousands of South Jersey acres. From your diligent research have come sound and specific recommendations to which are credited higher fertility and more abundant yields.

Your successful home farm operations demonstrate the practices you commend to others. You also have responded to the calls of those beyond the borders of your adopted State, seeking counsel on regional problems concerning farmers of the Northeast.

In recognition of your outstanding career, the members of the State Board of Agriculture award to you this well-earned CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF HOWARD B. HANCOCK

New Jersey is proud of you as one of the outstanding sons of her soil. Through your lifetime of devoted service to your fellow farmers,

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you have upheld the rich traditions of your family, your community and historic Cumberland County.

Year after year, you have demonstrated the true principles of your faith as a Friend, ever modest and self-effacing, but striving always to advance the welfare of others, particularly our rural people.

The earnest zeal and unbounded enthusiasm displayed during your 24 years of service as Worthy State Overseer and Lecturer have inspired the officers and members of every New Jersey Grange. Their greater achievements have been your only reward for thousands of hours of weary travel. Fearless, you have never shirked a task nor lacked the courage to challenge an issue or to support to the utmost a deserving cause.

Your keen interest in building strong farm organizations is well known, especially your pioneer efforts to win recognition for the Agricultural Extension Service when but few appreciated its potential role in modern agriculture. As a founder of the New Jersey Farm Bureau, you exhibited rare vision and resolution.

The State Board of Agriculture commends you for your notable performance and, as an expression of appreciation, is proud to award to you in the presence of these delegates this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF LOUIS M. HARDIN

Yours has been a remarkable career, actually a lifetime of sacrifice and service devoted to your fellow farmers. Descendant of one of our pre-Revolution farm families and endowed with the rich heritage of the land you have tilled so successfully for nearly 60 years, you have won wide esteem and become recognized as the ever-diligent champion of the dairy farmer.

It is fitting that we honor you, a true pioneer in the field of cooperative effort, imbued with a constant faith in your farmer colleagues. Patiently, you have persevered in your purpose to unite milk producers in a sound marketing program, a worthy goal now rapidly approaching reality.

You have been honored with many high posts in the Dairymen's League Cooperative Association. Today your remarkable record includes 32 years as director and 20 consecutive terms as vice president. Long hours of wearisome travel and endless conferences have been your lot, yet your zeal for service has remained undiminished and continues to inspire those who acknowledge your rare qualities of leadership.

Mindful that these are but a few of your noteworthy contributions, the members of the State Board of Agriculture wish to commend you for your industry, and so award to you this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF WILLIAM J. LAUDERDALE

New Jersey is proud of your record both as a farm leader and a citizen. Successful in your own farm operations, you have responded to numerous calls to assume important responsibilities concerned with both agricultural and civic affairs.

To your sound judgment and loyal support must be credited much of the progress and the high rank attained by your home county of Hunterdon. You were one of the first there to advocate the establishment of the Agricultural Extension Service, an example of your courage and vision which today must bring you great satisfaction.

You are acknowledged to be one of our outstanding leaders in the dairy

industry, filling important offices with distinction, and making substantial contributions toward the stabilization of that industry. You are best known as the spokesman of the New Jersey dairymen in the councils of the Interstate Milk Producers Association, ever alert to their needs and welfare.

You also have been a member of the board of directors of the eminently successful auction market at Flemington, which for two decades has accounted for increased returns to thousands of producers and has become the model for similar markets benefiting many more thousands of poultrymen throughout the East.

These are but a few of your noteworthy services as a true rural citizen. The State Board of Agriculture takes pride in commending you, and confers upon you this CITATION FOR DISTINGUISHED SERVICE TO AGRICULTURE.

REPORT OF COMMITTEE ON RESOLUTIONS

The following resolutions, presented by Martin Decker and reported favorably by the committee, were adopted by the State Agricultural Convention

WHEREAS, in the wisdom of Providence there has been taken from us one of our co-workers and friends, John W. H. Thornborrow, who was a frequent delegate to these conventions, and who served faithfully and tirelessly for four years as a member of the State Board of Agriculture from 1940 to 1944, distinguishing the last year of his term as president of that body, and giving freely of his time and talent to many agricultural, civic and fraternal organizations in improving community living; and

WHEREAS, the untimely passing of William C. Skelley has removed from this circle a willing teacher, able administrator, wise counsellor, strong leader, liberal benefactor, and above all, a genuine friend to many, a man who gave unselfishly to others that life and living for them might be happier; therefore be it

Resolved, That this convention of agricultural delegates pause here for a moment of respectful silence to the memory of those associates and others who are no longer among us; and be it further

Resolved, That the action of this body and its genuine sympathy be expressed to the bereaved families by forwarding copies of this resolution to them.

Resolved, That we, the delegates here assembled in the 36th annual Agricultural Convention, publicly and gratefully acknowledge to our Governor, the Honorable Alfred E. Driscoll, our sincere appreciation for his genuine interest in the welfare of our agricultural industry which forms so important a segment of the economy of New Jersey, and that we solicit his continued support as an aid to having the Garden State fulfill its obligations in the crisis ahead.

Resolved, That this Convention express to C. Russell Jacobus, president of our State Board of Agriculture, our deep regret that illness prevented his attendance here and serving as presiding officer of this session; and be it further

Resolved, That we express in this form our sincere wishes for his speedy recovery, and that a copy of this expression be forwarded to him.

Resolved, That the official delegates to the Agricultural Convention of 1951 commend our peerless Secretary of Agriculture, Willard H. Allen—affectionately known to all as Bill—and all those representatives of organizations on the General Committee for Farmers Week who have promoted once more an annual event which has become known far and wide for its excellent programs and opportunities for accomplishment; and be it further

Resolved, That we recognize with warm appreciation the efforts of our Secretary of Agriculture and the Department staff who, under his able leadership, have faithfully carried out their appointed tasks throughout the year, not infrequently going beyond the line of duty in order to assist an individual or organization, and thus further promote the welfare of agriculture here in New Jersey; and be it further

Resolved, That we express our appreciation to Bill Allen, his Farmers Week Committee and his Department staff by according him and them a rising vote of thanks.

WHEREAS, the United States is facing its most critical national emergency in history, which calls for every citizen to rise to its defense in any and all ways in which our Government calls; and

WHEREAS, New Jersey is a highly developed and concentrated producing area for industry, agriculture, and the tools of war, thus needing strong fortification against aggression or subversive activities; therefore be it

Resolved, That we, the delegates to this Convention, urge the organizations which we here represent, to participate to the full in helping to develop a strong civil defense program throughout our respective communities, taking a lead in recruiting volunteers for all such services as may be designated by those in authority, and carrying out such duties as we find ourselves able; and be it further

Resolved, That we assure Col. Leonard H. Dreyfuss, State Administrator of Civil Defense, of the wholehearted and unanimous cooperation he may confidently depend upon from the agricultural organizations and their members and rural people throughout the State.

WHEREAS, a shortage of farm labor already confronting farmers will become more crucial and acute as our growing and harvesting season approaches, because of meeting the ever-growing needs of our armed services and the lure of industrial wages attracting many others from the farm, or potential farm workers, therefore be it

Resolved, That this Convention urge any and all public agencies and private organizations concerned with recruiting and placing farm labor to review, and if necessary revise, their plans of activity and service so that our farm labor needs may be met as fully as possible in order to utilize the full production of our land.

WHEREAS, it has been proposed that legislation be enacted providing for the registration of all firearms in the State as a means of deterring crime, and

WHEREAS, there is now on the statutes a law governing the carrying of concealed weapons, and

WHEREAS, it is our sincere opinion that the mere registration of all firearms would in no way serve to deter crime; therefore be it

Resolved, That this Convention go on record as being unalterably opposed to the enactment of such legislation; and be it further

Resolved, That copies of this resolution be forwarded to each member of the Senate and Assembly of the State of New Jersey.

WHEREAS, this year of 1951 finds us praying for peace, yet impelled to mobilize all our forces of manpower and production against the possibility of another World War; and

WHEREAS, without an abundant supply of food, all the efforts our freedom loving nation and people to preserve their democratic way of life would collapse literally overnight; and

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WHEREAS, our national Government is once more urging and dependent upon the agricultural industry of the nation to engage in an all-out food production program as a bulwark against the gross dangers of inadequate food supplies; therefore be it

Resolved, That we here pledge ourselves as loyal Americans to meet this challenge to our liberty with increased production from our farms, recognizing and accepting the burdens and sacrifices which we know are bound to fall upon us, and calling upon all other phases of our national economy to join us in unselfish devotion to this call to **duty**.