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

Thirty-third Annual Report

of the

New Jersey State Department of Agriculture

July 1, 1947—June 30, 1948

Trenton, N. J., June 30, 1948

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Messrs. Cane and Richards will retire from the board on June 30, 1948. The new members will be Steffen Olsen, Ridgewood, and Milton C. Tice, Deerfield.

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STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE

W. H. ALLEN, *Secretary*
TRENTON

June 30, 1948.

To His Excellency, the Governor, and the 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-third Annual Report of the New Jersey Department of Agriculture, for the fiscal year ended June 30, 1948.

Respectfully yours,

W. H. Allen

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

Report of the Secretary of Agriculture

W. H. ALLEN

The agricultural industry of New Jersey, and of the whole nation too, has faced a year of complex problems, brought about by post-war conditions that have kept the world-wide economic situation unsettled. Many factors, collectively, have made their impact on natural forces. Food needs around the world have been unparalleled in history. Lack of harmony and disagreement in thought among nations have engendered suspicion and distrust, thus seriously impeding efforts to negotiate a sorely needed world peace. Unbalanced world trade, labor unrest, inflation, and in some countries dissatisfaction with government—all these and more are responsible for the abnormal predicament existing in the middle of this twentieth century.

Here in the United States, in spite of some of the greatest crop productions on record, supplies of some commodities have been barely adequate to meet increased home demands and take care of the needs abroad. Vast quantities of food items have been exported under the European Recovery Program, industrial wage levels have been such that in general the American public is consuming more food than ever before, and where shortages have existed, notably in meat, price levels have followed the natural law of supply and demand.

Farmers have been confronted with constantly rising costs of production, and among vegetable growers, at least, returns have not been commensurate with these rising costs. Entering into this latter is just about everything that a farmer buys to run his business—seed, fertilizer, insecticides, tractors and all other types of farm equipment, dairy cows, feeds for livestock and poultry, and containers and labor. Minimum price supports, authorized by Congressional action, have maintained prices for those commodities which, because of surplus production from record yields, might conceivably have receded to financially disastrous levels with subsequent far-reaching effects on whole communities that are largely dependent on farm income for their existence.

Value of Agricultural Products Greater

The value of agricultural products produced in New Jersey during the 1947 season was estimated to be $309,300,000, about $42,000,000 or 16 per cent greater than in the previous year. Some of this increase was due to higher prices and some to greater total production costs of high yields. Among the products whose value was higher than the year before were eggs, milk, grains, potatoes and meat animals. Chief among those whose total farm value was less than in the 1946 season were vegetables, fruits and berries. This latter situation is borne out by the sales records for New Jersey's 11 fruit and vegetable auction markets at shipping points. Collectively, they sold 4,000,000 packages of all commodities during the 1947 season, for an average of $1.55 per package, a decrease of approximately 18 per cent from that of 1946.

The Department of Agriculture has maintained its customary services and even expanded certain phases of its program to meet the needs and changing conditions of the times.

In its continuous program of bovine tuberculosis eradication the Department recorded nearly a quarter million tests during the fiscal year for which this report is made, uncovering 411 reactors. This is a reaction rate of 0.17 per cent, or a ratio of one reactor in every 600 animals tested. This is very favorable in comparison with 1946-47 when the rate of reaction was twice that, or 0.37 per cent. It is the conviction of our veterinary staff that the State Board's embargo against the importation of all Canadian cattle except purebreds has been an important factor in reducing the incidence of bovine tuberculosis in our own herds. Close to $4,000,000 of State monies have been used to indemnify cattle owners here since the beginning of accredited herd work back in 1916. The Department's two prime objectives in the eradication program are to protect this investment in a wholesome milk supply and to maintain our State as an area accredited by the U. S. Government as meeting its requirements for freedom from bovine tuberculosis.

Calfhood Vaccination Popular

Calfhood vaccination against brucellosis, initiated at the beginning of the previous fiscal year, is reaching proportions of real magnitude. With an additional 15,000 calves so treated this year, more than half of the herds in the State now have some vaccinated young stock in them to serve as healthy replacements. Thus, replacement in homegrown stock, in preference to imported cattle, has received an impetus which should be in favor of our New Jersey dairymen.

Certification of grade of fruits and vegetables continues to be an important phase in the industry's effort toward improved, modern merchandising. This is performed under the terms of a three-way agreement between the federal and New Jersey Departments of Agriculture and the

New Jersey Agricultural Society. Most important from a volume standpoint is the work on potatoes, cannery tomatoes and asparagus for processing. Some 14,000 inspections were made on potatoes, about two-thirds of which were government-purchased under the existing price support program. More than 38,000,000 pounds of asparagus were graded for processing at canning and freezing plants, and 204,395 tons of cannery tomatoes were graded at nine local canning plants. In the case of these two commodities, the grade thus established determined the price the grower received for each individual delivery, based on contract prices mutually agreed upon between grower and processor.

The poultry industry, which now ranks as the State's foremost branch of agriculture in the value of its products, has received continued assistance through the Department's standardization program. It is through this work that breed improvement by virtue of careful selection of breeders and flocks has paid dividends in healthier flocks and increased production per bird.

INSECT CONTROL PROGRAM

A carefully planned program of control of insect pests and diseases has been maintained over a period of years. Eradication is often beyond attainment. Rather, reducing the prevalence of any insect population or disease to a point where it is relatively insignificant economically, and preventing re-infestations are the basic goals of such an activity. Such pests as the gipsy moth, golden nematode of the potato, and the white-fringed beetle, attacking a variety of crops, cause serious losses in those areas where they have become established. New Jersey is apparently free of these pests and constant vigilence is exerted to prevent their outbreak, as well as that of others.

The Department has long considered official seed certification to be one of its fundamental activities, for the welfare of the crop production phase of agriculture depends to a considerable degree on the viability and productivity of the seed that is planted. Chief among the seed certification projects is the work on tomatoes and grains. Nearly 300,000 pounds of tomato seed were certified, of which three fourths was Rutgers, a world-famous variety developed and maintained at the New Jersey Agricultural Experiment Station. About 24,000 bushels of grain seed were certified during the fiscal year, consisting of hybrid corn, barley, wheat, oats and soybeans, named in order of volume.

A more detailed account of these activities and the results of many more departmental functions, both regulatory and promotional in character, are to be found in the reports of the divisions which follow. A word of appreciation is in order to the members of the staff for their diligent efforts in carrying out all these activities to their successful conclusion. The fulfillment of these daily tasks has reacted to the benefit not only of farmers, but in a broad sense to consumers and the citizenry of the State as a whole.

LICENSING AND BONDING

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

Milk Dealers' Law

Although the fighting in World War II had been over almost two years when the July 1, 1947-June 30, 1948, licensing year began, the economic conditions in this country as well as throughout the world continued in a turmoil. Living costs continued their upward spiral, which resulted in more demands by labor for increases in wages to meet the steadily increasing cost of living.

The milk industry, being engaged in handling several of the most important food items, was open to severe criticism from the public and continued to receive a great deal of attention and criticism throughout the entire year from the press and radio.

Dairy Industry Problems

The dairymen of the State were faced with increases in the price of feed, wages, machinery and animal replacements, so that it was necessary that they obtain more for their product. The dealers had their problems, such as higher wages, machinery replacements and increases in prices paid to their producers. In order for consumers to be able to procure milk and other dairy products the price of these commodities had to be increased. It should be noted that the price for milk did not increase as rapidly or as much as for some other foods.

Effective July 1, 1947, the price to producers was raised from $4.66 per hundredweight to $5.12 for 3.5% butterfat. This price continued until September 20, on which date the price was increased to $5.60 per hundredweight for 3.5% butterfat; consumer prices were increased 1¾ cents per quart.

This increase to the public brought a flood of protests. Early in October, an organization known as American Housewives Organized, Inc., was formed to fight this increase by a milk boycott. Their boycott did not produce the desired results but did influence the Governor to start a survey of the milk industry. It was this organization's desire that the Milk Control Board of this State be discarded, or, if that was not done, then the authority of the Milk Control Board be curbed to the extent that it could not set retail prices.

Colonel George H. Walton was appointed by the Governor to take charge of the investigation of the milk industry. He held several hearings.

Various methods of arriving at "fair prices" to be paid producers and distributors have been advanced, but up to the close of this fiscal year no method had been adopted. During June another consumer-organization was formed—the Joint Milk Committee of New Jersey, Inc. This organization has also been active in criticizing the present system of setting prices to the public. It is reported that they intend to continue their interest in the problem until lower prices for milk to the consumer prevail.

Claims and complaints filed with the Department against our licensees approximated $22,750.

Licenses were issued to 247 dealers, who filed bonds totaling $3,578,000.

NUMBER OF LICENSEES UNDER THE MILK DEALERS' LAW

July 1, 1947 to June 30, 1948

County		Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic		3	3	$72,000
Bergen		13	13	152,000
Burlington		14	14	171,500
Camden		9	9	110,000
Cape May		2	2	4,000
Cumberland		13	13	116,200
Essex		12	12	366,000
Gloucester		9	9	52,000
Hunterdon		11	11	302,000
Mercer		22	22	221,500
Middlesex		17	17	211,500
Monmouth		19	19	177,500
Morris		24	24	221,000
Ocean		4	4	88,000
Passaic		17	17	323,000
Salem		11	10	84,000
Somerset		14	14	146,000
Sussex		1	1	3,000
Union		11	11	129,800
Warren		10	10	175,000
Out of State		11	11	452,000
Totals:	1947-1948	247	246	$3,578,000
	1946-1947	264	263	3,118,600
	1945-1946	257	251	2,764,700
	1944-1945	244	239	2,519,400
	1943-1944	256	250	2,287,700

PRODUCE DEALERS' LAW

According to reports, dealers in Manhattan were experiencing union "racketeering" in their market similar to that in the Philadelphia area. Before order was restored the federal authorities had entered the controversy.

The trade received severe criticism regarding the high prices paid by consumers for fruits and vegetables in spite of the comparatively low prices paid to the farmers for these commodities. Since nothing practical was done to alleviate the condition, the squabble continued with each side blaming the other for the high prices. An organization from South Jersey

tried an experiment to reduce consumer prices by selling fruits and vegetables direct from farm to the public in the streets of Newark, Bloomfield and Nutley. But, as the volume that could be sold this way was so insignificant to the amount required to satisfy demand, the experiment was considered a failure.

Difficulty With an Insecticide

Before the end of September it was obvious that one of our licensed canners would be unable to meet his debts owing approximately 95 New Jersey tomato growers. As this corporation was indebted to numerous other creditors, the total indebtedness amounted to about a half million dollars.

One reason advanced for the financial straits of this firm was that some of the growers had used benzine-hexachloride on their tomatoes. This substance had caused a sour-flat taste in the tomato juice which made the juice unsalable unless re-processed. As might be expected, re-processing would not only be expensive but would also cut deeply into the margin of profit to the canner on that portion of the year's pack requiring re-processing. Another reason given was that the processing had been done too hurriedly. Regardless of the reason for the poor product, the result was the same, for the business was placed in the hands of a receiver.

During the 1947 growing season, tomato growers received $39 per ton for N. J.-U. S. No. 1's and $28 per ton for N. J.-U. S. No. 2's. At a meeting of growers and one of the largest canners in the State, prices of $36 and $25 per ton, respectively, were offered for the 1948 season. These prices did not satisfy growers who felt that due to increased costs of production the prices prevailing the previous year should be continued. That proposition was not acceptable to the canner. Later attempts during the growing season to obtain an increase in farmer prices were to no avail, even though a week of excessively high temperatures in late August ruined a large portion of the tomato crop due to sun-scald and blight.

Potato growers also used benzine-hexachloride on their fields. Although the potatoes looked all right when the housewife cooked those grown on treated soil, the odor and taste were enough to spoil one's appetite. However, New Jersey potato and tomato growers were not the only farmers to use this insecticide, for the same trouble was reported in several other states.

The 1948 growing season was to be the last year that the Federal Government would support prices under the act providing for such support for two years after World War II was declared ended. However, during the last Congress there was agitation on behalf of the farmers to have the Government support prices on potatoes and other agricultural commodities after 1948.

During the 1947-48 licensing year claims and complaints were filed with the department totalling approximately $47,434.

There were 423 licenses issued; the total value of the bonds filed was $1,269,000.

NUMBER OF LICENSEES UNDER THE PRODUCE DEALERS' LAW

May 1, 1947 to April 30, 1948

County		Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic		49	49	$147,000
Burlington		4	4	12,000
Camden		9	9	27,000
Cumberland		51	51	153,000
Essex		47	47	141,000
Gloucester		38	38	114,000
Hudson		3	3	9,000
Mercer		16	16	48,000
Middlesex		12	12	36,000
Monmouth		24	24	72,000
Passaic		12	12	36,000
Salem		12	12	36,000
Somerset		2	2	6,000
Union		1	1	3,000
Warren		9	9	27,000
Out of State		134	134	402,000
Totals:	1947-1948	423	423	$1,269,000
	1946-1947	406	406	1,218,000
	1945-1946	401	401	1,203,000
	1944-1945	368	368	1,104,000
	1943-1944	351	351	1,053,000

CATTLE DEALERS' LAW

Prices for the various types of cattle continued high throughout the year. Dealers experienced considerable difficulty in locating dairy animals in the several states from which most of our importations are obtained. Several dealers who usually visit Wisconsin for dairy animals stated that it was customary to travel many miles each day in order to purchase a sufficient number of animals to make up a carload. Early in the year it was estimated that there would be a drop of at least 12 per cent in the number of importations.

Some dealers who formerly dealt in cattle purchased farms and have been producing milk. They have reduced their cattle business to a side line, handling mostly beef animals. Some dealers had to give up dealing in dairy cows entirely; they could not sustain the loss of even a few head due to the excessively high prices they were compelled to pay to obtain good stock.

The problem of "bootlegging" cattle into the State was discussed at meetings with the Secretary and members of the Division of Animal Industry, especially in regard to controlling bovine tuberculosis in dairy herds.

The records on the animals handled by our licensees were checked during the winter months. It is obvious that the dealers are complying with

this regulation to a greater extent than in past years, but it will require more frequent check-ups during the year than time has permitted to date to effect a 100% compliance on their part.

It is interesting to note that this was the first year that a license was issued to a dealer residing in Atlantic County, although the act has been in effect for the past 18 years. Atlantic County is not known as a dairy section, and dealers in nearby counties have taken care of the small demand for cattle in that area.

There were fewer complaints against our licensees this year than any previous time, and these were of such a minor nature that they were easily adjusted.

Licenses were issued to 232 dealers.

NUMBER OF LICENSEES UNDER THE CATTLE DEALERS' LAW

July 1, 1947 to June 30, 1948

County		Licenses Issued
Atlantic		1
Bergen		2
Burlington		20
Camden		5
Cape May		3
Cumberland		12
Essex		9
Gloucester		5
Hudson		1
Hunterdon		18
Mercer		9
Middlesex		6
Monmouth		13
Morris		18
Ocean		4
Passaic		9
Salem		22
Somerset		14
Sussex		28
Union		9
Warren		20
Out of State		4
Totals:	1947-1948	232
	1946-1947	233
	1945-1946	225
	1944-1945	212
	1943-1944	216

The New Jersey Junior Breeders' Fund

During the fiscal year ended June 30, 1948, more money was loaned than in any previous year since the Fund was established, the total loans for purebred animals amounting to $13,636.40, and for agricultural loans, $413. Outstanding loans at the end of the fiscal year totaled 177 in the amount of $15,587.52. In addition, there were pending loans awaiting receipt of registration and transfer papers totaling approximately $5,000.

Prizes were awarded to borrowers at the Flemington Fair and the Sussex County Farm and Horse Show in the amounts of $175 and $155 respectively. Cash awards at the Baby Beef Show totaled $145, and in addition $150 worth of savings bonds were presented. Fat barrow exhibits received a total of $30 in cash awards. In addition to these awards by the New Jersey Junior Breeders' Fund, the State Chamber of Commerce presented $200 in prizes at the Baby Beef Show.

Forty-one certificates and three $25 savings bonds were awarded by President Frank C. Pettit at the Dairy Banquet during Farmers Week to 4-H club members for meritorious production records in connection with their dairy projects.

Charges of $183 were made against the Calf Emergency Fund because of the death of two beef animals, and $250 for two dairy animals.

Two changes in the by-laws were made during the fiscal year. The first, effective December 17, 1947, provided a maximum for a dairy animal of $200; maximum for a beef animal, $125; and a maximum to a borrower for two projects running concurrently, $200. The second change was enacted on May 11 and provided that the seller's guarantee of replacement of non-breeding animals be discontinued, with the Fund arranging to cancel the note in such instances.

TOTAL AMOUNT LOANED, BY COUNTIES

County	Loaned 1947-48	Total Loans Since 1921
Atlantic	.....	$92.00
Bergen	.....	75.00
Burlington	$638.00	13,013.91
Camden	.....	.....
Cape May	400.00	2,077.43
Cumberland	150.00	8,121.63
Essex	.....	433.05
Gloucester	190.00	3,969.30
Hudson	.....	.....
Hunterdon	1,350.00	12,388.81
Mercer	915.00	26,414.96
Middlesex	1,948.50	24,510.76
Monmouth	1,483.10	13,085.55
Morris	205.00	5,684.00
Ocean	150.00	2,606.00
Passaic	125.00	291.25
Salem	.....	24,370.44
Somerset	2,224.80	10,179.20
Sussex	3,470.00	19,890.17
Union	.....	.....
Warren	810.00	14,735.58
Total	$14,059.40	$181,939.04

LIVESTOCK LOANS MADE ANNUALLY SINCE ESTABLISHMENT OF FUND

Fiscal Year	Dairy Loans		Beef Cattle		Pig Loans		Poultry Loans		Lamb Loans		Total Livestock Loans	
	Number	*Amount*	*Number*	*Amount*	*Number*	*Amount*	*Number*	*Amount*	*Number*	*Amount*	*Number*	*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
Totals	1,298	$117,218.00	320	$24,075.87	278	$15,318.78	471	$21,228.73	14	$375.28	2,381	$178,216.66

AGRICULTURAL LOANS MADE ANNUALLY SINCE ESTABLISHMENT OF FUND*

Fiscal Year	Feed Loans		Crossbred Poultry		Agricultural Produce Loans		Fat Barrow Loans		Miscellaneous		Total Agricultural Loans	
	Number	*Amount*	*Number*	*Amount*	*Number*	*Amount*	*Number*	*Amount*	*Number*	*Amount*	*Number*	*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
Totals	126	$2,274.24	5	$245.50	25	$672.62	13	$522.00	1	$8.02	170	$3,722.38

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

Report of the Division of Information

FRED W. JACKSON, *Director*

During the past year New Jersey farmers made considerable progress in their efforts to return to more normal operations following the war years. Production and market conditions continued at levels higher than were anticipated in the post-war period.

Adjustments remained a difficult problem, costs of production advanced further from their already high levels, distribution and processing expense took a greater share of the consumer dollar and the public, in general, assumed a more critical attitude toward agriculture. Because of these factors a considerable portion of the program of the Division of Information was devoted to promoting a better understanding of the current problems facing New Jersey farmers.

PUBLIC RELATIONS

A special effort has been made to meet requests to assist organized commodity groups in their public relations and promotional activities. Unlike many American farmers who operate quite distant from their markets and who have a minimum of contact with consumers, the New Jersey farmers live and farm almost face to face with their market outlets and customers. This is especially true because they are engaged in the production of many foods which are marketed fresh and in their natural state. In contrast, the corn, wheat, cotton, or tobacco farmer is several steps removed from the ultimate consumer and so is seldom confronted with the need for cultivating good will.

During a period when food prices are high, any available information about food has definite news value. Consequently, newspaper and radio editors have been alert to the opportunity to collect and publish available information on foods, especially when local and nearby crops, farms, farmers and organizations can be mentioned. While most editors make every effort to be fair in their presentations, there is a natural tendency on the part of some, particularly those in city and suburban areas, to overlook certain of the factors of investment and costs involved in present-day agriculture in New Jersey. Also, when they read about bumper yields and high prices for farm crops in certain areas, some are inclined to conclude that all types of agriculture are prosperous or are favored with regulations or aid. Such a blanket assumption often is most unfair with reference to New Jersey conditions where agriculture is highly diversified

and one type of farming is as distinctly different from another as two business enterprises might be in the field of commerce.

Under such circumstances the Division of Information must give consideration to the need for interpreting to the public through all possible channels the true situation confronting New Jersey farmers. Such activities involve many day-by-day contacts as well as carrying out the more formal program conducted through organized publicity.

PROMOTIONAL WORK

In addition the activities of the Division are directed toward bringing the services and functions of the State Department of Agriculture to the attention of farmers, farm organizations, farm commodity cooperatives, trade groups and the public. Close relations are maintained with officers of all organizations related to agriculture and with concerns dealing with farmers and rural residents.

The program is devoted not only to furthering the objectives and performing the duties delegated to the Division, but also includes many original or special assignments which are related to publicity, information and promotion. These cover a wide field and involve cooperation with other state agencies, trade groups and consumer organizations.

Acknowledgment is made of the splendid cooperation extended to the Division of Information by the press and the radio stations of New Jersey. Editors and reporters frequently call upon the Division for statistics, information and photographs, as well as for leads or suggestions on subjects related to agriculture. These are in addition to material that originates in the Division and is distributed regularly.

Special mention should be made of the outstanding cooperation extended by the press representatives who are assigned to the State House. Releases are furnished to them regularly and timed to meet their convenience. Their consistent use of the releases of the Department of Agriculture is, perhaps, the best indication of their news value, at least in the estimation of the State House correspondents.

NEWS RELEASES

A total of 190 news releases was issued by the Division during the past year, compared to 184 during the 1946-47 period. These were forwarded on a weekly basis to between 180 and 200 publications and radio stations in New Jersey, New York City and Philadelphia, as well as some regional and national publications. They included 41 special releases issued as advance or current publicity on the 1948 Farmers Week. As in previous years the largest number was devoted to subjects related to the Division of Markets.

The following tabulation indicates the origin of the releases issued during the past year with comparisons of previous years, classified according to the divisions of the Department:

	1947-1948	1946-1947	1945-1946	1944-1945
Administration	12	13	13	8
Division of Animal Industry	20	22	13	4
Division of Markets	56	61	66	49
Division of Plant Industry	36	29	24	24
Division of Information	48	42	26	31
Miscellaneous	18	17	16	10
Totals	190	184	158	126

DISTRIBUTION OF PHOTOGRAPHS

In keeping with the trend toward greater use of pictures, an effort has been made to furnish glossy prints and mats of photographs to the press and farm publications. Over 340 glossy prints were distributed last year in addition to several series of photographs and charts issued in mat form to a selected list of 40 papers.

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

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

To date the Department of Agriculture has not participated consistently in a regular series of radio programs. However, all New Jersey and nearby radio stations receive the news releases and most of them are used as source or background material. Seven special radio talks were prepared, five broadcasts were made and 23 recordings were made or arranged for during the past year. The stations having special farm programs have rendered outstanding service, and the program directors also have aided in reaching consumers with frequent and favorable mention of New Jersey farm products.

PUBLICATIONS AND CIRCULARS

All publications and circulars prepared by members of the department staff are edited in the Division and prepared for printing. Last year most of the publications were routine reports. Relations have not been too satisfactory with the concerns who are awarded printing contracts by the State Purchasing Officer. Extended delays beyond the promised delivery dates continue to be a problem.

Publications issued during the year included:

Circular No. 366—County Boards of Agriculture and State Agricultural Organizations for 1947. (Delivered—8/26/47.)

Circular No. 368—Supplement to the National Poultry Improvement Plan and the National Turkey Improvement Plan. (Delivered 11/17/47.)

Circular No. 369—Results of a Survey of the Peach Tree Population in New Jersey During 1946. (Delivered—3/4/48.)

Circular No. 370—Dealers Licensed Under the Milk Dealers' Licensing and Bonding Act, Produce Dealers' Licensing and Bonding Act and Cattle Dealers' Licensing Act. (Delivered 2/5/48.)

Circular No. 371—Facts and Figures—Annual Potato Summary—Crop of 1947. (Delivered—5/20/48.)

Leaflets— Chapter 6 of Title 4 of the Revised Statutes of New Jersey—An Act Concerning Diseases of Bees. (Delivered—2/25/48.)
Brucellosis (Bang's Disease) Control Program. (Reprint.) (Delivered—4/9/48.)

Report— Thirty-first Annual Report of the New Jersey State Department of Agriculture—July 1, 1945-June 30, 1946. (Delivered—10/16/47.)

Farm Service News—Six issues—July, September, November, 1947; January, March, May, 1948.

Folders— New Jersey 4-H Premium Lists.
New Jersey Breeding Flocks and Hatcheries. (Delivered—9/47.)
For Your Drinking Milk Ask for New Jersey Grade A.
For Your Drinking Milk Ask for New Jersey Premium.
For Your Drinking Milk Ask for New Jersey Grade A, Grade B.

Binding— 12 issues of *New Jersey Farm and Garden,* for calendar year 1947.
52 issues of *Farm Service News,* from July, 1938, to May, 1947, Volumes XIII-XXI.
Cost of Living in New Jersey, Consumer Prices in New Jersey, from August, 1943, to June, 1947, Volumes 6-9.
New Jersey Farm and Retail Food Prices, from September, 1943, to August, 1947, Volumes 8-11.

As of June 30, 1948, the following have been edited but jobs have not been completed by printers:

Circular No. 333—Fresh Eggs in New Jersey. (Reprint.)

Circular No. 372—Laws, Rules and Regulations Governing the Shipment of Nursery Stock Out of New Jersey.

Report— Thirty-second Annual Report of the New Jersey State Department of Agriculture—July 1, 1946-June 30, 1947.

Other publications prepared, edited and issued prior to or during the 1948 Farmers Week included:

1948 Farmers Week Program
Citations for Distinguished Service to New Jersey Agriculture, 1948
Highlights of Your Convention
Women's Program—1948 Farmers Week
Flyers—Vocational Agriculture Rally
Chaff—5 issues—one daily during Farmers Week

Three sets of mats were issued as follows:

July 20, 1947—New Board Officers
January 14, 1948—Farmers Week Headliners
January 21, 1948—1947 New Jersey Farm Value of Agricultural Products

"FARM SERVICE NEWS"

Farm Service News was continued with six bi-monthly issues during the past year, serving as the semi-official publication of the Department and reaching about 15,000 individuals on a state-wide mailing list. The March issue was devoted exclusively to the listing of the hatcheries and breeders whose baby chicks and breeding stock had qualified under the Federal-State Poultry Improvement Plan. An effort is being continued to check and supplement the mailing list with all available sources. Several excellent and up-to-date mailing lists have been made available to the Department of Agriculture which should expand the circulation of *Farm Service News.*

FARMERS' WEEK

Advance preparations for Farmers Week beginning in September and continuing up to the opening day constitute one of the principal activities of the Division. Each year the Week continues to grow; it is considered the major event of New Jersey agriculture. Every effort is made to assist participating organizations in building strong and attractive programs. Each year a few new groups join the Week now recognized as one of the best held in the East.

During November, December and January the majority of the time of the staff of the Division is devoted to the arrangements for Farmers' Week. Last January, 37 New Jersey farm organizations participated in 64 sessions during the Week, which was extended through Saturday, making six days of meetings. Developed primarily around the Agricultural Convention, the program includes meetings and conferences of interest to each of the State's farm commodity groups as well as women, farm youth, veterans and those concerned with the programs of federal farm agencies.

FAIR EXHIBITS

New Jersey is witnessing a revival of interest in local fairs following their closing during the war years. The Division has been called upon to set up Department of Agriculture exhibits. These have been devoted to

the current farm products in season. Exhibits were placed at the Trenton, Flemington, Sussex County and Morris County fairs, which were exceptionally well attended.

COOPERATION WITH NEW JERSEY COUNCIL

The agricultural activities of the New Jersey Council, a unit of the Department of Economic Development, were serviced again on a cooperative basis through the Division of Information which acted in a liaison capacity in dealing with the agricultural commodity groups participating. This arrangement, which has been in effect since 1938, has proved to be very satisfactory to the state agencies as well as the farm groups. Unfortunately, the total budget of the New Jersey Council was reduced from $100,000 to $50,000 for the past fiscal year. This reduction made necessary the curtailment of some of the agricultural programs just at the time when a number of the farm groups were considering the expansion of their advertising activities. However, no schedules were completely abandoned.

With such a reduction in funds it was necessary to adjust the program so as to shift emphasis from paid newspaper space to the greater use of reader column space. In general, this involved the preparation of photographs and special releases. Greater cooperation from the trade, utilities and other groups also was sought to substitute temporarily for the advertisements.

COOPERATION OF EXTENSION STAFF

Acknowledgment is made of the very valuable aid extended by the Extension Service of the State College of Agriculture in promoting interest in New Jersey produced fruits, vegetables and poultry products through the releases issued on food and food preparation. Through the county home economics workers who edit food columns in the local papers, it has been possible to secure considerable publicity at little expense. Trial schedules of special recipes and mats were prepared and the response was so good that it appears worth while to expand the service to include 15 or 20 of such special releases next year.

Mention should also be made of the very valuable assistance extended by the home economics staffs of the electric utilities of the State. Meetings, talks and demonstrations sponsored by the utilities on food subjects have been developed around New Jersey products, with emphasis on their seasonal availability. Several of the utilities prepared at their own expense leaflets and photographs on New Jersey products. All included repeated mention of New Jersey products in their own advertisements appearing in both dailies and weeklies.

For each dollar expended from the funds of the New Jersey Council and of the farm commodity organizations, five to six dollars, and in some instances more, have been contributed by the utilities, press and radio when measured in terms of radio time, newspaper space, services of per-

sonnel, posters, booklets and other items provided at no cost to the Division. Such cooperation is typical of the excellent relations which have been developed in the New Jersey program during the past ten years. Consequently, each dollar of public funds expended goes much further than in most other states.

ADVERTISING PROJECTS

Most of the advertising projects carried on during the 1947-1948 fiscal year were continued from the previous year. They included:

Cooperative Marketing Associations in New Jersey, Inc.

This association is made up of the several cooperative produce auction groups operating in New Jersey. Its advertising program was revived in the spring of 1946 after a lapse of four years. The advertisements of the past fiscal year were carried in eight issues of the two principal eastern wholesale produce trade papers, *The Produce News* and *The Packer*. They are designed to remind buyers that the New Jersey produce auctions were opening with offerings for wholesale buyers. During the 1948 season, 1,026 different individual buyers from 12 states purchased New Jersey produce at the nine auction markets. Besides the better returns on the volume actually sold at these markets, the prices established there each day become the basis for many transactions made daily between producers and dealers throughout the State.

Jersey Chick Association

The hatcheries of New Jersey represent a very important market outlet for a considerable number of eggs and also serve to furnish foundation stock for New Jersey poultrymen. The advertising program is designed to promote the sale of New Jersey produced hatching eggs, baby chicks and breeding stock. The annual *Guide to Better Chicks* was issued in the form of a complete classified listing of qualified New Jersey hatcheries. This was circulated throughout New Jersey and nearby states. In addition, small advertisements offering the booklet were placed in the following publications:

New Jersey Farm and Garden (6 issues)
The Poultryman (5 issues)
The Moos (4 issues)

Blueberry Cooperative Association

This association markets cultivated blueberries under the *Tru-Blu* brand designation. From their own funds this group allotted about $16,000 for advertising and promotional work last year. Supplementing these funds, $1,950 was appropriated by the New Jersey Council principally to meet the expenses of renting 842 poster locations on platforms in New

York subway stations, the Hudson and Manhattan tube stations and in the terminals of commuter railroads serving northern New Jersey. The cost of the new posters was again borne by the association which also conducted an intensive newspaper program with a few spot radio announcements. A considerable portion of the New Jersey crop was diverted to South Jersey processing plants.

New Jersey Field Crop Improvement Cooperative Association

This association is engaged in the production and sale of certified field crop seeds which are of special importance to New Jersey dairymen and poultrymen who produce home-grown feeds. Because of the continued high level of feed prices the need for higher production of home-grown feed crops is a very important factor in dairy and poultry farming. The advertisements have been planned primarily to promote the sale of New Jersey State certified hybrid seed corn with some mention of wheat, oats, barley and soy beans.

The advertisements were carried in 12 issues of *New Jersey Farm and Garden* and 10 issues of *The Moos*. In addition, 10,000 copies of a special four-page folder were prepared on New Jersey State certified hybrid seed corn and distributed principally among New Jersey dairymen by direct mail.

New Jersey Peach Industry Committee

The revival and expansion of the New Jersey peach industry, following the introduction of new and improved varieties, has created some marketing problems. An advertising and promotional program in cooperation with the New Jersey Peach Industry Committee has been carried on during the past eight years.

The major effort was inaugurated as usual in advance of the peach harvest season at a luncheon held in Newark to which were invited representatives of the press, radio, retail and wholesale trades, utilities, and state and federal agencies. At the luncheon session a number of these groups agreed to develop their own promotional material and carry on their own advertising programs on New Jersey peaches, in addition to cooperating with the activities of the Department of Agriculture and the New Jersey Council.

The wholesale and retail concerns, including chain and super-market groups, responded by timing their efforts to coincide with the program of the Department. Special acknowledgment should be made of the splendid cooperation extended by the home economics staffs of the public utilities last year. Meetings and demonstrations were conducted in the principal New Jersey communities during the peach season by the 28 home economics workers of the utilities. Food column editors and radio food commentators also participated.

Three advertisements were placed in 18 New Jersey dailies. A peach recipe leaflet was prepared for consumer distribution. In addition, one utility published a complete leaflet on peach recipes.

New Jersey Potato Industry Committee

Following a number of conferences with representatives of the New Jersey potato growers, plans were developed for joint participation in a series of advertisements to appear in the produce trade papers during July and August of 1947. To attract attention to this new project, half-page space was used in *The Packer* and *The Produce News,* the two principal weekly produce trade papers, for nine successive weeks.

New Jersey Apple Institute

This group has developed a promotional program in New Jersey and is affiliated with the New York-New England-New Jersey Apple Institute in regional activities. The pattern of the program was quite similar to that planned for peaches except that it was extended from November to April. A series of mats of special apple recipes was released at six intervals to 40 New Jersey publications. An edition of 25,000 new leaflets was issued in cooperation with the Institute.

New Jersey Turkey Growers Association

A group of members located in Monmouth County and vicinity planned a promotional program for November and December in 1947 and petitioned for assistance in sponsoring a modest advertising schedule. In five insertions in seven papers emphasis was placed on the State certified turkeys identified by the official *Blue Tag* brand.

Other activities associated with the New Jersey Council program included cooperation with the New Jersey sweet potato industry in developing a label and tentative plans for marketing selected New Jersey potatoes; booking the motion picture sound film *Jersey Journey;* tour of South Jersey orchards by Philadelphia food page and radio editors; attendance at conferences on New Jersey Associates, Inc., and the servicing of a wide variety of requests for information on New Jersey Agriculture and food products.

SERVICING REQUESTS FOR INFORMATION

During the past year the Division of Information serviced a large number of requests for agricultural information referred by other state departments and agencies. Many of these, and others received direct by the Division, involve a considerable amount of research and correspondence. In addition a very wide variety of miscellaneous assignments are delegated to the Division. An effort is made to meet all such requests, or they are referred to proper sources of information. Typical examples during the past year were requests from national publications seeking locations, sub-

jects and scenes for making motion and still pictures of New Jersey rural life; providing information for editors of house organs of New Jersey industrial concerns; aid in arrangements for the annual New Jersey Florists Day at Trenton; handling publicity of the annual convention of the New Jersey Farm Bureau; arrangements for the two programs and tours of the Committee on Agriculture of the New Jersey State Chamber of Commerce; arrangements for New Jersey tour of farm publications editors, and securing speakers for meetings of civic and industrial as well as farm organizations.

BETTERING PUBLIC RELATIONS

In reviewing the events of the past fiscal year in terms of the program of the Division of Information, it appears that the farm interests of the State are cooperating closely with the State Department of Agriculture in activities associated with promotion and advertising. In both of these fields, however, much remains to be done in view of the increasing competition growers are facing from other areas. The high standard of living which prevails in New Jersey and its adjacent area attracts a large volume of products from other areas, much of which is better graded and packed and supported by well-financed advertising.

There also appears to be a very definite need for developing a more extensive public relations program to interpret the agricultural viewpoint to the consuming public. Likewise, members of some farm groups are unconcerned about or are not aware of the attitudes and problems of consumers. Consequently, both producers and consumers are in need of a better understanding of their relationships and mutual responsibilities to each other. Every effort should be made to encourage farm groups to recognize the situation, particularly the need for justifying in the minds of the public such measures as government regulation, aid and support for agriculture during a period when consumers are critical of food prices. For the most part, this is a problem for the agricultural organizations and not for a state agency.

Report of the Division of Animal Industry

DR. R. A. HENDERSHOTT, *Director*

In preparing the report of the activities of the Division of Animal Industry for the year ending June 30, 1948, and still being confined to my residence, I wish primarily to express my sincere appreciation to you personally, to the members of the Board of Agriculture and to the members of the department, and particularly to the employees in the Division of Animal Industry, for all the kindness and expressions of good will received during this time. It is my earnest desire now to complete this ordeal and be able to return to my desk. In the meantime, it has been helpful to be able to maintain daily contact by phone and to visit farms when conditions warranted it, all of which would not be possible were it not for the splendid and willing cooperation of members of the Division.

TUBERCULOSIS CONTROL

A review of the past year's activity in the control and eradication of tuberculosis indicates that on this front everything is under control. Tuberculosis is again on the decline, as far as reactions to the tuberculin test are concerned. Another favorable sign—reports of tuberculosis in animals slaughtered at packing houses under federal meat inspection are fewer in number this year.

As predicted when the State Board placed an embargo on grade cows from Canada, the entire tuberculosis picture throughout the State has materially improved. No longer are the reports of field representatives replete with statements that breaks in herds have been traced to Canadian replacements.

We still have some problem herds that need more serious study of all conditions associated with the maintenance and management of the herd in order to ferret out the cause of recurrent infection. There is, in my opinion, a reason for each of the so-called problem herds. The reason can and must be located before lasting improvement can be expected. When the cause is determined, then specific instructions, preferably in writing, should be left with the owner or management and inspections made to see that recommendations are carried out.

The purchase of replacement animals is always a hazardous business as far as disease control is concerned. During the war years, because the Army siphoned off so many of the veterinarians of the nation, tuberculosis

eradication work naturally suffered. The question of retesting herds throughout the United States in conformity with the accepted accredited herd and area program was discussed at the last meeting of the United States Livestock Sanitary Association. The recommendation of the Committee on Tuberculosis was that "with the exception of range and semi-range areas, complete tests of all cattle should be conducted at periods not to exceed six years."

Experience shows that spot testing to maintain area accreditation is not satisfactory. Your committee therefore recommends that "the uniform methods and rules for the establishment and maintenance of tuberculosis-free accredited areas be amended before January 1, 1951, to provide that all cattle in an area shall be tuberculin tested at intervals not to exceed six years before accreditation or reaccreditation after that date, excepting areas in range and semi-range areas."

It will be remembered that because of the dearth of available veterinarians in the Midwest during the war years, permission was granted for the extension of accreditation of six-year modified accredited areas to nine years. We in New Jersey were opposed to such extension and have continuously fought to have the original regulations reestablished. Now that a sound program of tuberculin retests of herds exists in those areas from which we receive so many replacements, our tuberculosis eradication program should continue to improve.

We are still insisting upon a change in the federal regulations governing the introduction of Canadian cattle and intend to work for a regulation which will permit the reopening of Canada to our buyers. Meanwhile, we are awake to the devious means that may be employed to circumvent New Jersey's present ban on grade cattle from Canada. Recently, a shipment of grade animals was dispatched to a nearby state and reconsigned to New Jersey. The shipper was given a choice between immediate slaughter or immediate return to the state from whence they came. All were slaughtered within two weeks of entry. Later, the Division learned that other shippers were eagerly awaiting the disposition of this case, with intent to bring in Canadian grades if the trial shipment succeeded.

BRUCELLOSIS ERADICATION

It is encouraging to note that New Jersey dairymen are taking a greater interest in the control and eradication of this costly disease of cattle and swine. This is all the more important because brucellosis is one of the major diseases transmissible from animal to man.

Brucellosis is a major animal disease in every state of the union except North Carolina, where area testing and elimination of reactors has resulted in the accreditation of this State as free from brucellosis. In addition to North Carolina, some 495 counties throughout the United States have been tested and infection reduced to less than the ½ of 1% which is required for accreditation.

Two counties in New Jersey, Atlantic and Cape May, have been tested on the area basis for a number of years and infection is kept at a very low level. In both of these counties the family-cow herd predominates and neither could be considered comparable to the heavier milk producing counties of the State.

Several townships located in heavy dairy counties, namely, Wantage Township in Sussex County and Lopatcong and Hopatcong townships in Warren County, were tested on an area basis prior to the time when reactors by law could be maintained without quarantine.

During the past year, dairymen in New Jersey's other important dairy counties have submitted their herds to area testing. Still other townships are interested in submitting their herds to test. This is a healthy sign and all effort should be made to provide service to these people. To engage in area testing requires an increase in personnel and appropriation for the employment of veterinary practitioners. More important, it requires the maintainance of sufficient service so that retests of these areas can be kept up-to-date. Since many practices engaged in by farmers not concerned with the eradication of disease endanger the health of neighboring herds, it is important that area testing be encouraged if real progress is to be made. It is hoped that we shall be able to render more service on the area basis.

Nationally, control of brucellosis, like tuberculosis, suffered acutely because of a lack of trained veterinary service. Following the initiation in 1934 of a Federal Government program in which indemnity was paid, real progress in the eradication of this disease was made until the war years. Failure to carry out tests and retests requested by farmers plus the need for milk production in wartime were responsible for some decrease in interest and led to a number of unsound expedient measures. Today we are seeing evidence of a rebirth of interest in the control and eradication of brucellosis. At the United States Livestock Sanitary Association meeting last December a uniform program was developed and later adopted by the Government. During the spring and summer of 1948, group meetings of states were held in which much interest among breeders and veterinarians was reported. It is expected that the meeting of northeastern states will be called this fall.

DR. HUDDLESON'S VACCINE

A new vaccine has been offered again by Dr. I. Forrest Huddleson of Michigan. This new product is made from the so-called mucoid colonies of *Brucella*. The selection and reproduction of this particular fraction of *Brucella* colonization requires technicians who have been specifically trained for this work.

That the production of this particular type of vaccine is extremely variable is evidenced by the report recently received from one New Jersey dealer who maintains a resident purchaser in Michigan. This dealer was

interested in obtaining permission from the Division of Animal Industry to test cattle for shipment to New Jersey and then have the stock vaccinated with the mucoid strain prior to loading in Michigan. We refused permission, suggesting that he purchase negative test cattle with a history of previous vaccination with mucoid vaccine. I cited our previous experience with a new Huddleson so-called avirulent vaccine, which the scientist for ten years advocated and which he finally concluded was of no value. Within ten days of our refusal to permit negative test animals to be vaccinated prior to importation, Dr. Huddleson called in all mucoid vaccine because of some fault in production. Apparently, the vaccine recalled was made from a variant other than the mucoid variant strain.

Provisions have been made for a controlled field experiment with this new strain of vaccine. Five states, namely, Ohio, West Virginia, Virginia, Pennsylvania and Maryland, are now conducting this experiment on a farm in West Virginia. We shall keep in touch with the progress of this experiment. Should the field test prove the variant mucoid strain *Brucella* vaccine to be of value beyond that possessed by strain 19, federal license probably can be obtained so that it can be shipped interstate.

FOOT AND MOUTH DISEASE

During the year close watch has been maintained on the activities of the Joint United States-Mexican Foot and Mouth Control and Eradication Commission. Early in the present fiscal year, the detection, slaughter and burial of infected and exposed cloven-hoofed stock and the cleaning and disinfection of premises constituted the program for eradication of foot and mouth disease in Mexico. Up to September 1947, some progress was made. But the Mexican armed forces, which constituted the control body, withdrew to assist in the Mexican holiday celebrations. It was discovered upon their subsequent tardy return to duty that the infection had spread into new territory.

At this time, the Mexican government decided it could no longer pursue a detection and slaughter program. Other factors entered into the picture to cause the old tried and true method to fail to accomplish its purpose. Some of these factors were: (a) failure on the part of the Mexican officials to carry out their part of the agreement to pay indemnity on small stock; (b) failure to educate the Mexican people as to the necessity for carrying out the slaughter and clean-up program; (c) the apparently impossible situation which developed in slaughtering work oxen and trying to teach the Mexican peon to use mules for replacements; (d) the nature of the topography of the country in which infection exists, and (e) politics.

In November, 1947, at the request of Mexican officials, the slaughter and burial of infected and exposed animals as the sole program of eradication was abandoned by both governments.

MEXICAN QUARANTINE

The present program provides for the establishment of two quarantine lines extending from the Gulf of Mexico to the Pacific Ocean on the north of the infected area and two quarantine lines across Mexico south of the infected area. The territory lying between the two lines north and south of the infected area serves as a buffer zone of varying width in which intensive inspections are being carried on to locate infected stock and premises. Any infected animals found within the buffer zone, or outside of the zone on the supposed infection-free side, are immediately killed and buried or burned; the premises are cleaned and disinfected. These buffer zones are to be enlarged as rapidly as possible through a combination of quarantine, repeated inspection, slaughter of infected and exposed animals, and vaccination of susceptible animals in surrounding herds not infected or exposed. In order to strengthen the quarantine lines, fences are being erected, and in places where needed, new roads are being constructed.

Some difficulty has been encountered in obtaining and applying a satisfactory vaccine. At present, all vaccine is being produced in South America and Europe and shipped to Mexico where it is tested prior to use.

In order to improve the vaccination procedure, provisions have been made to conduct research on an island adjacent to the United States. The place selected is Prudence Island in Naragansett Bay. It is proposed that vaccine will be produced in Mexico made from virus strains isolated from Mexican stock. For the production of vaccine, the Mexican government has agreed to construct some new buildings at a cost of about one million dollars.

At present writing, no foot and mouth infection has been found in Northern Mexico. This means that the infection has not reached a point within about 250 miles of the international boundary.

The border patrol, formerly inadequate for protection, has been augmented from 300 to 600 men. The patrol now operates on a seven-day per week basis and has sufficient men to provide two shifts each day, thus covering the daylight hours. In critical areas sufficient personnel is assigned to provide for continuous supervision. Many veterinary supervisors believe this patrol is still inadequate and must be increased sufficiently to provide around-the-clock service. It is our firm opinion that the erection of a high chain wire fence where terrain and conditions permit would be of great assistance and would release additional men for those critical areas where fencing is impracticable or impossible. There are many factions with selfish interests at stake which would be jeopardized should an adequate fence and tight control be instituted. Here is a very good example of the futility of the admixture of politics, selfish interest and disease control.

It is hoped that the present approach to the problem in Mexico will eventually bring the desired result. There is nothing in history so far to lend a great deal of encouragement. It will be up to research to provide additional tools that may turn the tide.

REVISED AGREEMENT

The revised agreement between the governments of Mexico and the United States provides:

"1. That a maximum effort be made by both countries to hold and strengthen the quarantine lines immediately north and southeast of the present infected areas; including zones formed by the Northern Quarantine line, which extends from just south of Tampico on the Gulf coast to Puerto Vallarta on the Pacific, and the Northern Protective line which extends from coast to coast about fifty miles north of the quarantine line, and similar lines and zones on the south of the infected area from Puerto Mexico to Salina Cruz, Oakaca. All outbreaks occurring in the so-called buffer zones as well as those north of the northern quarantine line and east of the southeast quarantine line will be immediately eradicated by slaughter and burial. The location of the quarantine lines and the depth of the protective clean zones may be modified as found necessary by the Commission.

"2. That the field forces of the Commission will be regrouped and concentrated immediately along the quarantine lines and adjacent clean zones. These clean zones are to be extended and enlarged as rapidly as possible through *strict* quarantine, slaughter, and vaccination.

"3. That the Commission recognizes that the success of the program depends upon the utmost cooperation of the Mexican Army and that the Government of Mexico must increase and strengthen the active participation of army units with all necessary equipment, as recommended by the Commission.

"4. That appropriate designated agencies engage such technically qualified people, including economists as may be necessary for the purpose of carrying on research and study on the effect of the disease and its *eventual eradication* upon the economies of Mexico and the United States.

"5. That the Commission undertake immediately to set up facilities for research and the preparation and testing of foot and mouth disease vaccines and for studies of the immunological characteristics of the disease as it exists in Mexico. The Commission is in agreement that vaccines prepared in laboratories of foreign countries should be tried out experimentally in Mexico with the results of these experiments being made subject of reports and recommendations to the two governments to determine the future scope of the use of vaccines in the campaign.

"6. That the Commission will not pay indemnities for any animals that are not slaughtered and buried as directed by the Commission.

"7. That the Commission undertake the immediate survey and analysis of the factors entering into the holding of the quarantine lines, to determine, among other things, the practicability and extent and location of any fencing that might be necessary.

"8. That the program developed by the Commission be made the basis of new agreement between the Governments of the United States and Mexico. All previous agreements not conflicting with the terms of this agreement shall remain valid and continue in effect.

"Signed by Oscar Flores, Ignacio de la Torre, Jose Figueroa, and Federico Rubio Lozano for Mexico and for the United States by N. E. Dodd, M. S. Shahan, B. T. Simms and Don Stoops."

At the present time, one can only expect that the program now in effect will of necessity greatly extend the time required to attain the goal of eradication. We shall be, indeed, fortunate if the goal posts are in sight within five to ten years.

WHAT ARE WE DOING IN NEW JERSEY?

Just as long as foot and mouth disease virus remains in Mexico, the livestock population of any state is in jeopardy. It becomes our duty to be ever on the alert to detect any case of the disease that might develop. To do this, the practicing veterinarian, the livestock owner and anyone who has the knowledge of or suspects the possible existence of this infection is bound by law to report the condition immediately. The field veterinarians will make an investigation under the direction of this Division, and collect tissues and discharges from cases that warrant it for submission to Washington for examination. During the year, the veterinary profession has been alerted to the situation through letter, personal contact and by the exhibition of technicolor films dealing with vesecular diseases in animals.

At the annual veterinary meeting held in Trenton, on February 6 and 7, 1948, in addition to the showing of the film on vesecular diseases, an excellent paper was delivered by Dr. C. D. Stein. Moreover, at the conference for veterinarians at Philadelphia earlier in the year, Dr. A. R. Miller of the U. S. Bureau of Animal Industry, gave a complete review of the status of foot and mouth disease eradication in Mexico. Dr. W. A. Hagan, Dean of the Cornell Veterinary School, and the Honorable George W. Gillie, United States Representative from Indiana and Chairman of the Congressional Committee to Investigate Foot and Mouth Control in Mexico, were present and assisted in the discussion of this disease. Many New Jersey veterinarians, including most of our staff, were present at the conference in Philadelphia. We have distributed a federal booklet on foot and mouth disease to all veterinarians in the State.

Members of the Division are keeping a watchful eye on animals presented for sale at all of the auction markets within the State to detect any condition in cloven-hoofed animals which might indicate foot and mouth disease.

In December it was my pleasure to address the annual meeting of the Jersey Cattle Cooperative Association of New Jersey on foot and mouth disease. A similar talk was given in February at the annual meeting of the New Jersey Livestock Association held in New Brunswick. The New Jersey Dairymen's Council likewise was addressed on the subject. The agricultural press of the State also has been presenting information on the disease. National farm papers, which have wide reader interest in the State, have published comprehensive articles on the status of the control and eradication of the disease in Mexico.

Each month articles or statements regarding the current situation in Mexico are printed in the *Journal of the American Veterinary Medical Association, The North American Veterinarian,* and *Veterinary Medicine.* Information is likewise printed in *The Jen-Sal* Journal, *Haver Glover Magazine, Lederle Bulletin,* and *Norden News.* A comprehensive and exhaustive report is printed in the Proceedings of the Annual Meeting of the United States Livestock Sanitary Association. The veterinary profession in New Jersey has the opportunity to be extremely well informed at all times with regard to the situation.

The Division veterinarians at our direction have canvassed their respective territories for on-the-spot availability of disinfectants, heavy earth-moving equipment and the names of contractors owning such equipment so that we may be able to move with dispatch should the occasion arise. Even the size of the excavation required to bury animals has been figured in advance for from one animal to 50. Aside from providing for cooperation by the State Police and local law enforcement agents, everything that can be done to be ready in an emergency has been checked. We are prepared but hope that the need to eradicate foot and mouth disease in New Jersey will not occur again.

X DISEASE

During the year an ailment of cattle owned by a South Jersey dairyman whose herd has been under observation and study for some time was finally diagnosed as X disease. This malady is characterized by the development of small ulcers of the nose and mouth, loss of appetite, abortion in some cases and the carrying of calves longer than normal in others. At the onset of the condition affected animals may have diarrhea. In prolonged cases the hair about the upper third of the body, starting usually in the head and neck region, falls out; the skin becomes rough and thickened resembling mange; tears flow freely from the eyes and result in excoriation of the thickened skin. Following calving or abortion, cows fail to come into a normal flow of milk. Calves that are born are weak and unthrifty.

Affected cows conceive with difficulty or not at all, and economically the disease results disastrously for the owner. A study by the School of Veterinary Medicine at Philadelphia definitely established that this condition was not infectious in nature. To date the condition is found only in bovines of both sexes.

In order to confirm the diagnosis of X disease, Dr. Peter Olafson, a pathologist of the College of Veterinary Medicine, Cornell University, was brought to Trenton for consultation. Dr. Olafson visited the farm to examine the affected stock and unhesitatingly stated that it was X disease. Dr. Olafson was the first to report this condition in the United States and has studied a dozen outbreaks of the condition in New York State. In his opinion, X disease is in some manner related to the consumption of excessive minerals. Investigations along this line are being pursued. The work done at Cornell University established the fact that this disease is not of bacterial or virus origin and is not transmissible from animal to animal.

Because of the involved and varying symptoms of this disease and because of the increasing number of cases being found along the eastern seaboard it was thought advisable to discuss the condition at the annual veterinarian meeting in Trenton, February 6-7, 1948. Dr. Peter F. Olafson was present at that meeting and delivered a comprehensive paper on X disease. In the discussion which followed it developed that this or a similar condition has been seen in herds throughout the State by practicing veterinarians.

The condition took such a toll in one herd that the dairyman was forced to discontinue keeping cattle. Recently this man has rented out pastures to several of his neighbors, and the disease again made its appearance on two fields where animals pastured. Assistance has been requested of the New Jersey Agricultural Experiment Station to study the soil and forage on this farm to endeavor to learn what may be present in the soil that might account for the malady. Veterinary practitioners in the State have been requested to notify us of cases of the disease they encounter in their contacts.

To date, X disease has been diagnosed definitely on one farm and tentatively determined to have been present on four additional farms. From the standpoint of statewide distribution, the cases seen in New Jersey have occurred in North, Central and South Jersey.

Because of the growing number of cases reported, the United States Bureau of Animal Industry sponsored a two-day conference on this condition during July, 1948. A complete report of our activity in this connection may be found in the January, 1948, monthly report to the State Board of Agriculture.

INFECTIOUS DISEASES OF HORSES

During the past year a very serious infectous disease of horses appeared among race horses at Rockingham Park in New Hampshire. The history of this outbreak was interesting and somewhat alarming as the disease was found to have started in early spring on a Florida track. By the time the first case was definitely diagnosed in New Hampshire in August, 1947, horses that raced in Florida had been dispersed to tracks across the nation.

Track officials and race horse owners became almost panicky about the situation. Well they might be alarmed, because science has neither a simple means of determining carriers of the virus which causes swamp fever nor an agent which is effective in treating cases. It is known that animals that recover from an attack of swamp fever forever remain carriers of the disease and can be responsible for the transmission of the disease to normal horses. The infective agent is transferred from the carrier or infected horse to susceptible horses by insects that bite or any object that could serve to carry blood from one horse to another.

The symptoms exhibited by horses infected with swamp fever virus may also be shown by animals affected with a number of other infectious and some non-infectious conditions. In September, 1947, the race horse "Top Reward," known to have been ill just before leaving Florida, had been shipped to Kentucky and thence to the race track at Atlantic City where the animal had a relapse and was removed to a farm at Red Bank, New Jersey. This animal was observed by a local veterinarian and judged to be showing symptoms sufficiently suspicious of swamp fever to warrant reporting the condition to this office. Our investigation resulted in the placing of a quarantine on the farm. Through the interest of the track officials at Garden State Park, a horse was given us for inoculation experiment. The trial horse was transfused with blood from the suspect horse and failed to reveal any untoward symptoms. At the result of this inoculation experiment, we pronounced "Top Reward" as not infected with swamp fever. This decision did not satisfy the steward of the New York tracks who had embargoed horses from New Jersey. It was not until "Top Reward" was shown on autopsy to have a chronic pulmonary and heart condition which accounted for the suspicious symptoms, and lack of lesions of swamp fever in the liver and spleen, that the embargo was lifted.

Because of the ease with which horses are moved about from track to track and the serious consequences that could result from the movement of sick, exposed or recovered horses, in this uncontrolled movement, as in the case of swamp fever, the Thoroughbred Protective Association asked the state veterinarians to work out a program of control. Recommendations were made to track officials which would result in the needed control when carried out.

INTERSTATE HEALTH REGULATIONS

The association also was interested in the enforcement of interstate health regulations governing the movement of horses across the state lines. Cooperatively, the National Assembly of Chief Livestock Sanitary Officials and representatives of the Thoroughbred Protective Association developed a complete program which became operative January 1, 1948.

The duties of the Division of Animal Industry in carrying out the State's part of this cooperative agreement are as follows:

1. The printing, issuing and countersigning of health certificates for all horses passing a veterinary examination for health in New Jersey when such animals are sent to race tracks wherever located.
2. The policing of our health requirement for all horses entering this State.
3. The recommendation of disease preventive measures that should be employed on race tracks and race horse farms within the State.

We have met our responsibilities during the spring and early summer of 1948 in all these matters. Through cooperation with race track owners, track veterinarians and horse owners, we believe we are rendering a service which, while not entirely eliminating the possibility of the introduction of a serious infectious disease, will certainly provide an opportunity to limit the spread.

New Jersey's initial endeavor to cooperate in a nationwide control of infectious diseases of horses has been costly in man hours and travel expense and cannot be said to be operating as efficiently as it could. Experience gained this year will enable the Division to improve operations in the coming season.

This problem will probably be one of those high in priority for discussion at the coming meeting of the National Assembly of Chief Livestock Sanitary Officials, in Denver, October 10 and 11, 1948.

During this first year of operation, leniency with violators has been the order of the day. Horse owners and trainers as well as track veterinarians and officials are fairly well schooled in the provisions and operation of the new requirements. It is expected that starting in 1949 more stringent enforcement will begin.

We have taken the position that in each state where racing is permitted, that state treasury is enhanced by millions of dollars. If for no other reason, we who are charged by law with the control, eradication or prevention of infectious diseases of animals would be derelict in our duty not to render any service, irrespective of reasonable cost, that might prevent an outbreak of disease, thereby permitting the track to continue to function.

It is my recommendation that one additional veterinarian be employed in the Division whose major duty it would be to see that the regulation governing the interstate movement of horses be observed; who could represent the Director of the Division and be authorized to countersign health

papers in his name, and who would check upon the observance of sanitary recommendations in the stable and track area. Since racing in New Jersey extends principally from late spring to early fall this agent could, in addition to looking after winter training areas, assist in checking the activity of cattle dealers who are most active during the winter months.

ENCEPHALOMYELITIS

During the past year we have been very fortunate indeed not to have had to report an outbreak of this fatal disease of horses. History indicates that this scourge repeatedly visited the horse population at about seven-year intervals. Since the development and use of egg-propagated virus vaccine, this recurrent cycle with its attendant losses has apparently been broken.

Recent research has disclosed that birds and parasites serve as the reservoir of infective virus, and that weather conditions resulting in an increase in the mosquito population provide the opportunity for epidemics to develop. During recent years, few horses have succumbed to this infection in New Jersey. Increasing losses have been experienced by those engaged in rearing pheasants.

Several years ago, pheasant raisers were advised to experiment with the vaccination of young birds. We assisted in this work on a large plant in South Jersey. During the past year, 500 pheasants were vaccinated against encephalomyelitis, using graduated doses of the product being produced for use in horses. In rendering this service to raisers of pheasants we feel that carriers of infection are materially reduced, thereby limiting the opportunity for a serious outbreak of this disease. We continue to issue a warning each spring to horse owners to have their veterinarians vaccinate stock against this infection.

There are three strains of encephalomyelitis virus known to exist in the United States. One strain, known as the Western, is less fatal and exists principally in the area west of the Allegheny Mountains. This strain has never been isolated from cases in New Jersey. A second strain, found mainly out West, is known as the St. Louis strain. A third strain, renowned for its killing effect and designated as the Eastern strain, is the one found in New Jersey, along the eastern seaboard and in the Gulf states.

Numerous cases of Western strain disease were reported again this year in the eight north central states.

NEWCASTLE DISEASE

Investigations conducted in the Vineland area where the initial cases of Newcastle disease occurred in the spring of 1945 revealed that the death loss from this disease materially increased during the past year. Reports from other poultry areas in the State substantiated the finding in Cumberland County. On every hand poultry farmers expressed the

opinion that poultrymen would be forced out of business if death loss from this disease continued at 1947-48 levels. All were instructed in the status of the experimental work with vaccine.

Killed virus vaccine has been available from the Cutter laboratory for some time. However, everyone having knowledge of virus diseases and the response of animals to killed, as compared with living virus vaccine, has been awaiting the announcement of the approval of an experiment with a living immunizing agent for Newcastle disease.

During the year the Wene Laboratories at Vineland obtained a federal government license for the production, sale and distribution of a killed virus vaccine. This was followed closely by the issuance by the Federal Government of a license to Lederle Laboratories to produce and sell living Newcastle vaccine produced from a strain of virus adapted to duck eggs. About the same time Dr. F. R. Beaudette, of New Brunswick, completed his experiment with a living virus vaccine produced from selected strains of virus on embryonated chicken eggs. Reports indicate that vaccine losses resulting from both the chicken virus and the duck adapted chicken virus run about the same, namely one to two per cent.

Since chicks hatched from eggs produced by vaccinated parents or parents that have recovered from an attack of the disease possess an inherited immunity that lasts from one to four weeks, it is recommended that the living virus vaccination be withheld until the birds are about five week old. The use of living virus vaccine on all birds up to laying stage can be engaged in without much loss. The vaccination of laying birds with live virus can be expected to cause some loss in egg production.

We are happy to report that the poultry industry need suffer no more serious loss from this infectious disease now that potent vaccines are available.

INSHIPPED CATTLE

During the past year there was a reduction of 2,011 in the number of bovines imported into the State. A total of 23,502 cows, 1,112 fewer than in 1947, were brought in for dairy and breeding purposes.

The greatest reduction of imports from an area occurred with respect to cattle from Canada. During 1947 a total of 5,037 cattle came in from this source, whereas only 1,935 entered during 1948. From the standpoint of disease control we feel that the reduction of 3,102 cattle from Canada provided for 3,102 fewer opportunities for tuberculosis to be brought into the State.

The introduction of feeder steers fell off this year by 779 head, as only 3,252 feeders were imported. Dairy calves dropped from 208 in 1947 to 88 in 1948, a decrease of 120 head. Dairy replacement prices skyrocketed to unheard of figures, going as high as $450 for cows that three years ago brought about one-half that amount.

It is hoped that the reduction in the importation of cows occurred more from the fact that vaccinated calves are being grown than because of the high cost of replacements.

IMPORT CATTLE RECEIVED FROM VARIOUS STATES AND RELEASED FOR DAIRY AND BREEDING PURPOSES, 1947-1948

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Canada	37	196	150	51	111	177	109	95	136	236	275	362	1,935
Connecticut	...	6	...	1	3	1	2	34	2	13	1	8	71
Delaware	...	...	3	...	...	50	...	...	...	...	...	...	53
Idaho	132	59	...	24	30	136	38	...	...	...	4	...	423
Illinois	...	...	...	23	...	...	...	...	1	2	...	35	61
Indiana	...	...	...	...	...	...	4	...	...	...	...	...	4
Iowa	...	68	22	34	...	...	1	...	...	...	...	9	134
Kentucky	...	...	...	...	...	...	...	...	...	...	...	1	1
Maryland	87	40	26	27	49	14	19	23	29	30	13	26	383
Massachusetts	4	12	29	2	3	...	8	1	...	...	...	19	78
Michigan	405	245	284	308	218	122	250	104	66	120	141	309	2,572
Minnesota	74	181	66	125	...	17	20	22	13	...	...	36	554
Missouri	...	...	...	11	...	4	...	...	...	...	...	...	15
Mississippi	..	20	...	...	...	...	...	...	...	...	...	...	20
New Hampshire	30	...	...	...	...	...	1	...	...	...	8	...	39
New York	189	196	221	335	234	184	205	164	137	202	200	260	2,527
North Carolina	16	...	...	...	...	1	1	...	...	...	...	...	18
North Dakota	11	...	...	...	...	...	...	...	...	...	...	...	11
Ohio	74	189	151	234	117	99	45	83	85	82	140	83	1,382
Oklahoma	...	...	5	...	...	2	...	...	4	1	5	...	17
Pennsylvania	89	234	208	158	104	180	69	8	13	38	63	80	1,244
Rhode Island	...	...	...	...	...	...	...	...	...	...	2	...	2
Texas	...	...	...	...	...	...	...	...	...	...	66	...	66
Vermont	6	...	...	24	...	...	...	...	...	...	4	6	40
Virginia	64	43	...	103	...	16	4	1	...	18	48	54	351
Wisconsin	911	1,195	1,525	1,433	1,077	515	342	663	424	873	824	1,027	10,809
Wyoming	...	264	261	...	109	25	...	...	...	...	...	33	692
Totals	2,129	2,948	2,951	2,893	2,055	1,543	1,118	1,198	910	1,615	1,794	2,348	23,502
Calves Under Six Months Imported	4	...	3	2	2	...	3	1	1	1	67	4	88
Total dairy and breeding cattle imported	2,133	2,948	2,954	2,895	2,057	1,543	1,121	1,199	911	1,616	1,861	2,352	23,590

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

July, 1947 to June, 1948

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Canada	..	..	..	..	2	..	..	..	..	..	..	..	2
Delaware	..	..	..	2	..	..	..	..	..	1	..	..	3
Florida	..	..	..	..	..	..	1	..	..	..	..	..	1
Indiana	..	..	..	..	..	..	1	..	..	..	..	..	1
Massachusetts	..	..	1	..	..	..	..	..	1	..	..	..	2
Michigan	..	..	..	..	..	..	..	..	..	..	1	..	1
New York	..	..	2	..	..	..	..	..	..	..	..	2	4
Pennsylvania	4	..	..	..	..	..	..	1	..	..	1	1	7
Ohio	..	..	..	..	..	..	1	..	..	..	..	..	1
Texas	..	..	..	..	..	..	..	..	..	..	65	..	65
Virginia	..	..	..	..	..	..	..	..	..	..	..	1	1
Total	4	..	3	2	2	..	3	1	1	1	67	4	88

FEEDER STEERS IMPORTED AND RELEASED—BY STATE OF ORIGIN

July, 1947 to June, 1948

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Totals
Idaho	8	..	..	92	73	27	40	...	...	...	...	...	240
Illinois	..	35	..	..	30	...	...	...	...	...	...	...	65
Kansas	..	..	..	..	..	...	25	...	...	80	48	29	182
Lancaster stockyards	188	47	191	125	77	42	46	...	112	39	234	274	1,375
Maryland	4	..	..	..	..	...	19	...	2	...	...	15	40
Michigan	..	..	65	..	..	...	...	...	...	...	...	10	75
Minnesota	..	..	68	..	..	55	...	179	...	...	35	40	377
Missouri	..	..	..	..	..	...	...	...	...	...	...	33	33
South Dakota	..	..	..	..	..	...	...	...	...	85	...	...	85
Tennessee	..	..	..	..	131	...	...	...	...	...	...	...	131
Texas	..	..	..	..	..	...	...	...	...	...	...	478	478
Vermont	..	..	..	..	..	...	...	...	...	...	...	1	1
Virginia	..	..	..	..	..	10	...	...	...	...	...	...	10
Wyoming	..	134	26	..	..	...	...	...	...	...	...	...	160
Totals	200	216	350	217	311	134	130	179	114	204	317	880	3,252
Total dairy and breeding cattle and calves imported	2,133	2,948	2,954	2,895	2,057	1,543	1,121	1,199	911	1,616	1,861	2,352	23,590
Total dairy, breeding feeder cattle and calves imported	2,333	3,164	3,304	3,112	2,368	1,677	1,251	1,378	1,025	1,820	2,178	3,232	26,842

RECORD OF BLOOD TESTS MADE ON INSHIPPED ANIMALS*

July 1, 1947 to June 30, 1948

Origin	Number of Lots Bled	Number of Cattle Bled	Number of of Reactors	Percentage Resulting
Canada	182	1,917	13	.68
Connecticut	15	62	1	1.61
Delaware	3	49	...	...
Illinois	5	62	...	...
Indiana	1	1	...	...
Iowa	10	154	7	4.54
Kentucky	2	3	...	...
Maryland	71	359	5	1.39
Massachusetts	18	53	3	5.66
Michigan	116	2,728	18	.66
Minnesota	30	612	4	.65
Mississippi	1	20	...	...
Missouri	4	15	...	...
New Hampshire	2	38	...	...
New York	330	2,517	31	1.23
North Carolina	2	17	...	...
North Dakota	2	11	...	...
Ohio	90	1,366	17	1.24
Oklahoma	5	18	...	...
Pennsylvania	161	958	10	1.04
Rhode Island	2	3	...	...
Texas	1	1	...	...
Vermont	10	47	...	...
Virginia	22	354	...	...
Wisconsin	374	10,702	51	.48
Total	1,459	22,067	160	.73

* In addition to the above the following animals were imported and subjected to the tuberculin and brucellosis tests in New Jersey. All were negative to the tuberculin test. Reactors to the brucellosis test were sent to immediate slaughter. The results of the test for brucellosis follow:

Origin	Number of Lots Bled	Number of Cattle Bled	Number of of Reactors	Percentage Resulting
Idaho	12	423	60	14.18
Wyoming	9	693	65	9.39

CATTLE SHIPPED INTO NEW JERSEY DURING THE PAST FIVE YEARS

(Includes dairy, breeding and feeding cattle and calves)

1943-1944	1944-1945	1945-1946	1946-1947	1947-1948
26,129	27,497	30,811	28,853	26,842

SUMMARY OF LIVESTOCK SOLD AT THE JERSEY CITY STOCKYARDS FOR SLAUGHTER AT POINTS THROUGHOUT THE STATE, JULY 1947-JUNE 1948

	Calves	Sheep	Cows	Bulls	Hogs	Steers	Total Livestock
1947							
July	12,345	8,749	821	208	1,062	246	23,431
August	10,880	7,969	947	152	597	235	20,780
September	10,745	4,316	1,408	223	815	638	18,145
October	9,884	4,155	2,282	281	703	839	18,144
November	10,711	4,226	2,263	145	277	683	18,305
December	7,366	4,325	1,782	117	456	426	14,472
1948							
January	10,025	1,469	1,705	152	513	574	14,438
February	6,494	11,301	1,983	171	332	379	20,660
March	4,951	5,831	2,516	258	694	968	15,218
April	3,020	11,789	1,560	265	626	2,396	19,656
May	7,194	2,373	1,232	281	1,219	254	12,553
June	8,976	1,949	805	244	1,608	120	13,702
Total	102,591	68,452	19,304	2,497	8,902	7,758	209,504

MASTITIS DIAGNOSTIC SERVICE

Some few years ago, with the development of sulfa drugs and penicillin as agents for the treatment of certain bacterial infections of the udder, the Division offered a laboratory diagnostic service to the dairy industry. Because of insufficient personnel in our laboratory, plus a lack of time on the part of veterinary practitioners, this service was not pushed. Recently, with the employment of Dr. Benson as veterinary bacteriologist, we have been able to render a better service to those desiring it.

During the past year, a new vehicle for penicillin called penicle was developed by the Wallace Laboratories at Monmouth Junction, New Jersey. We conducted the bacteriological examination prior to and ten days following the treatment of cows with the new product. Remarkable results were obtained—practically 85 per cent of the udders given one treatment with penicillin in penicle were bacteria-free at the examination conducted at the end of ten days. An additional number of cases responded to a second treatment.

To date only two states—New Jersey and Connecticut—are rendering this service to the dairy industry. Many inquiries have been received from other states planning to assist the dairy industry in a similar manner.

Aside from the cost of glassware, a few chemicals and the services of the diagnostician, the cost of this service is borne by the farmers using it. The control of infections of the mammary gland certainly will result in greater production per cow and a milk of improved quality for the consumer. We hope to see this service increase in popularity as we could expand it materially with very little extra cost to the State.

ANTHRAX

This year, in cooperation with the Salem County agricultural agent, 907 cows, 183 calves and 30 horses were given a protective dose of anthrax aggressin by a division representative. The work is done annually in the low area of the State and is voluntary. We have found it to be most efficient as we have not had a positive case of anthrax in that area for a number of years.

PHYSICAL EXAMINATIONS FOR OFFICIAL GRADES PROGRAM

As in the past decade, veterinarians in the State have been employed under supervision of the Division to conduct the physical examinations of cows producing milk under the official grading and marketing program carried on by the Division of Markets.

In view of the fact that an estimated 30 per cent of all milk-producing animals nation-wide are affected with mastitis, the result of the examinations reported here, wherein practically 98 per cent of the animals passed health inspection, is remarkable.

The work for the present year indicates that 18,265 examinations were made on animals maintained in 640 herds under supervision, resulting in 23 animals being condemned and 344 isolated for treatment.

Following is a summary of the examinations made during the year 1947-1948:

Month	Herd Examinations	Animals Examined	Animals Condemned	Isolated Animals	Passed Animals
July	39	1,032	...	6	1,026
August	2	38	...	1	37
September	8	155	3	6	146
October	...	...	...	...	...
November	198	5,317	16	104	5,197
December	84	2,702	3	56	2,643
January	3	105	...	...	105
February	6	254	...	5	249
March	...	...	...	...	...
April	262	7,630	1	151	7,478
May	27	798	...	14	784
June	11	234	...	1	233
Total	640	18,265	23	344	17,898

POULTRY INSPECTION

The shipments of live poultry in carload lots to poultry terminals in New Jersey has declined. During the year only two carloads from Virginia arrived and were inspected by the Division. It is our understanding that poultry now is being shipped direct to New York City in order to meet the local inspection requirements.

Our representative has continued throughout the year to check on all truck lots of poultry consigned to the Newark poultry terminal, and in his daily routine inspected 8,652,000 birds. He ordered all birds not deemed fit for human consumption removed and destroyed.

Following is a summary by months of the number of birds inspected:

Month	Car Lot Shipments	Truck Lot Shipments	Total	Weight in Pounds
1947				
July	.....	796,000	796,000	3,215,000
August	.....	669,000	669,000	2,730,000
September	.....	680,000	680,000	3,020,000
October	.....	873,000	873,000	3,565,000
November	2,000	647,000	649,000	3,231,000
December	.....	936,000	936,000	4,370,000
1948				
January	.....	602,000	602,000	2,540,000
February	.....	560,000	560,000	2,325,000
March	.....	683,000	683,000	2,620,000
April	.....	848,000	848,000	3,420,000
May	.....	646,000	646,000	2,735,000
June	.....	710,000	710,000	2,970,000
Total	2,000	8,650,000	8,652,000	36,741,000

CARLOTS OF POULTRY RELEASED AT RAILROAD TERMINALS

July 1, 1947 to June 30, 1948

State of Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Virginia	..	..	..	..	2	..	..	..	..	..	..	..	2
Total	..	..	..	..	2	..	..	..	..	..	..	..	2

TRUCKLOAD LOTS OF POULTRY FROM VARIOUS STATES RELEASED AT THE NEWARK POULTRY TERMINAL

July 1, 1947 to June 30, 1948

Canada	..	..	..	..	..	..	..	4	5	5	9	5	28
Connecticut	26	25	46	56	50	63	25	23	24	20	24	29	411
Delaware	114	109	96	124	80	160	79	110	97	135	97	120	1,321
Maine	..	4	1	..	22	24	6	15	11	9	32	4	128
Maryland	73	79	107	94	82	141	69	70	122	112	107	104	1,160
Massachusetts	21	14	17	15	23	34	21	23	14	9	16	7	214
New Hampshire	15	10	19	14	17	22	8	5	4	5	5	5	129
New Jersey	91	72	73	105	62	113	84	69	70	79	64	80	962
New York	89	66	52	81	65	91	52	37	35	111	63	83	825
North Carolina	29	17	26	29	18	28	12	12	15	10	14	6	216
Pennsylvania	84	73	60	68	87	59	67	38	61	108	48	75	828
Rhode Island	15	10	12	10	14	10	18	4	3	7	9	5	117
Tennessee	4	3	3	3	9	1	..	..	..	..	..	..	23
Vermont	5	3	11	6	29	10	6	7	6	4	1	..	88
Virginia	78	61	81	108	85	118	61	48	57	70	58	71	896
Total	644	546	604	713	643	874	508	465	524	684	547	594	7,346

POULTRY CONDEMNED AT POULTRY TERMINALS

July 1, 1947 to June 30, 1948

Month	Number of Birds Condemned	Approximate Weight in Pounds
1947		
July	10,400	41,600
August	7,300	29,200
September	10,800	43,200
October	10,500	42,000
November	12,260	63,200
December	12,900	51,600
1948		
January	6,000	24,000
February	5,700	22,800
March	6,200	24,800
April	7,100	24,800
May	6,400	25,600
June	6,000	26,000
Total	101,560	4,188,000

NUMBER OF FOWLS BLOOD-TESTED BY DIVISION REPRESENTATIVES AND APPROVED TESTING AGENTS FOR PULLORUM DISEASE, NUMBER AND PER CENT REACTING, BY COUNTIES

July 1, 1947 to June 30, 1948

County	Number of Fowl Tested in Field	Number Reacting	Per Cent Reacting	Number Fowl Tested in Laboratory	Number Reacting	Per Cent Reacting	Total Fowl Tested	Total Fowl Reacting	Per Cent Reacting
Atlantic	38,591	70	.18	44	8	18.18	38,635	78	.20
Bergen	5,690	21	.37	325	...	...	6,015	21	.35
Burlington	19,746	205	1.04	3,344	6	.18	23,090	211	.91
Camden	.....	...	...	58	...	...	58	...	...
Cape May	9,160	24	.26	8,831	7	.08	17,991	31	.17
Cumberland	198,834	392	.20	10,060	6	.06	208,894	398	.19
Essex	.....	...	...	.....	...	...	.....	...	...
Gloucester	27,783	112	.40	3,773	13	.34	31,556	125	.40
Hudson	.....	...	...	5	...	...	5	...	...
Hunterdon	26,729	15	.06	23,576	90	.38	50,305	105	.21
Mercer	15,007	46	.31	3,641	5	.14	18,648	51	.27
Middlesex	23,014	50	.22	743	...	...	23,757	50	.21
Monmouth	44,784	329	.73	41,281	274	.66	86,065	603	.70
Morris	4,200	9	.21	1,048	17	1.62	5,248	26	.50
Ocean	79,056	411	.52	3,594	33	.92	82,650	444	.54
Passaic	9,512	2	.02	1,478	61	4.13	10,990	63	.57
Salem	44,439	404	.91	110	8	7.27	44,549	412	.92
Somerset	13,336	47	.35	1,741	5	.29	15,077	52	.34
Sussex	3,668	5	.14	990	4	.40	4,658	9	.19
Union	.....	...	...	.....	..	...	.....	...	...
Warren	2,692	10	.37	6,900	192	2.78	9,592	202	2.11
State	566,241	2,152	.38	111,542	729	.65	677,783	2,881	.43

HOGS INOCULATED AS A PROTECTION AGAINST CHOLERA INFECTION, BY COUNTIES

July, 1947 to June, 1948

(Vaccinations Made by Private Veterinarians)

County	Number of Hogs Given Double Treatment
Atlantic	...
Bergen	...
Burlington	...
Camden	...
Cape May	...
Cumberland	...
Essex	...
Gloucester	...
Hudson	...
Hunterdon	...
Mercer	...
Middlesex	340
Monmouth	...
Morris	...
Ocean	...
Passaic	...
Salem	...
Somerset	...
Sussex	...
Union	46
Warren	...
State	386

LIVESTOCK AUCTION MARKETS

A veterinarian working under an authorization from this office has continued throughout the year to supervise the Harris Sales Company Auction Market at Woodstown. All dairy cattle admitted to the sale, unless accompanied by a chart indicating that each has given a negative reaction to a tuberculin test within 30 days of the sale, are tested by the sales veterinarian before they may be removed from the premises. All swine offered for sale, unless covered by a certificate indicating immunization with hog cholera serum or serum and virus, must be so treated before being removed from the sale.

A record of the work done at the sales yards during the year follows:

Number of Cattle Tuberculin Tested		Number of Swine Treated		
Inshipped	Local	Single	Double	Total
1,413	973	11	2,889	2,900

TOTAL SALES REPORTED AT HARRIS SALES COMPANY AUCTION MARKET

July 1, 1947 to June 30, 1948

Cows	Calves	Sheep	Swine	Horses	Steers	Reactors	Bulls
6,805	13,083	841	8,950	1,319	1,086	288	631

Lambs	Eggs
28	1,847 dozen

TUBERCULOSIS ERADICATION

The comparable picture for the beginning and end of the fiscal year 1947-1948, clearly shows quite a favorable improvement in all phases of the tuberculosis situation.

STATUS OF NEW JERSEY HERDS

At the beginning of the year there were 303 infected herds throughout the State—herds in which reactions had been disclosed. As the year drew to a close, there were 165 infected herds, a reduction of 138 during the year. Of course, it is to be understood that practically all of the original 303 infected herds at the beginning of the year were cleared up and returned to a non-infected herd status and that practically all of the 165 designated as infected at the end of the year were newly disclosed during the year.

About 20 of the infected herds at the beginning of the year persisted as such and were included in the total at the end of the year. Infected herds can, without disclosing further reactions, be returned to a non-infected herd status in a minimum of six months time. It is obvious that there is almost a complete change in the infected herds at the beginning of the year and those shown at the end of the year.

Reactions during the year were held to a very satisfactory minimum. A reaction figure for a given period which falls below ½ of 1 per cent is considered satisfactory in any area in the United States. The ultimate goal is to lower this figure to as near absolute eradication as is possible. We cannot expect absolute eradication now or perhaps ever—certainly not in the near future. But it is gratifying to those who have to do with tuberculosis control to be able to lower this reaction figure from year to year.

At the beginning of the year our state-wide reaction percentage was 0.37. During the year this was lowered to 0.17, a reduction of 0.20 per cent. This 0.17 reaction percentage for the year is the lowest reached in New Jersey since the cooperative federal and state eradication and control program was first inaugurated in 1917.

FACTORS IN HEALTH IMPROVEMENT

There are several factors which could have played a contributing part in this marked reduction. Some of them are still in effect but they may soon be partly nullified by conditions which now face the dairy industry. These conditions are the scarcity and exhorbitantly high prices of dairy cows, which in turn create keener activity in the competitive cow buying field, over-anxiousness on the part of dealers to make purchases and acquire cows, and perhaps a tendency to disregard to a degree the required high health standards for their purchases. This does not mean that the State of New Jersey has in any way eased its health requirements for im-

portations, but the high prices and scarcity of qualified dairy cows now being shipped through regular and legitimate channels could prove an excuse and temptation for unscrupulous dealers to bring cows into the State by illegal and cheaper methods. Bootlegging and non-compliance with interstate health requirements are reported from time to time; activity in this field is supposed to be on the increase, carried or in many instances in such a way as to be beyond the ability of our field men to detect.

BAN CANADIAN GRADES

The embargo put upon Canadian grade animals, effective as of November 1, 1946, has had its contributing effect in holding down the number of reactions. This limiting of importations from Canada to purebreds necessarily greatly reduced the number of animals being shipped from that source, made more easy the identification of the animals, and without doubt reduced the number of animals brought into New Jersey from Canada which subsequently would react to the tuberculin test. (During the fiscal year 1946-47 there were 5,037 animals imported from Canada, compared with 1,935 imported during the year 1947-48.)

There is agitation among some dealers for the State to lift or modify this embargo. They offer as a basis for their argument that dairy cows are more available and more reasonable in price in Canada than in the states from which most of our dairy animals are now purchased. This may be partly true, but it is still felt that many of these so-called available and cheaper Canadian cows are now, as in the past, the ones which originate in herds of unknown health status, are moved into tested areas or accredited herds, retagged and subsequently shipped into New Jersey. These are the same animals that caused New Jersey to put an embargo on such grades, the ear tag identity of which could be so easily changed. The latest reports coming from Canada are that due to a shortage of veterinary personnel, they are far behind in their testing. New Jersey dealers report that it is difficult to buy even purebred animals in areas which are up-to-date in testing and accreditation.

Recently, some dealers have attempted to circumvent the New Jersey embargo by shipping grades into other states, having them retested in those states and later shipping the animals into New Jersey. A very recent shipment of this nature, still bearing the Canadian ear tags, was received in New Jersey and the animals were immediately sent to slaughter. This prompt action on our part will no doubt tend to discourage further dealer attempts to import Canadian grades by such circuitous routes.

NEW EXCEPTION TO SHIPPING RULE

On May 28, 1947, a bill was approved authorizing the State Board of Agriculture to designate certain areas thought sufficiently free of tuberculosis to warrant an exception to the requirement heretofore in effect, namely, that animals to be shipped into New Jersey must pass a tuberculin

test within 30 days immediately prior to their importation. This simply means that animals shipped from states so designated will not have to be tuberculin- or blood-tested within 30 days before shipping, but are to comply with all other interstate shipping regulations and be held in quarantine after their arrival in New Jersey and be blood- and tuberculin-tested within ten days at shipper's expense.

The section of states to which this waiver applies is located principally in the Rocky Mountain area. Since one or two shippers were desirous of making purchases in Idaho and Wyoming, these states and these states only were designated as qualifying for such shipments. Idaho was approved by the Board, effective July 17, 1947, and Wyoming on December 17, 1947.

During the year, there were 423 animals imported from Idaho and 692 from Wyoming. Our records show that only one of these reacted to the tuberculin test following importation and this animal did not present microscopic lesions of tuberculosis when slaughtered.

While the Canadian embargo is an important factor in reducing reactions during the year, we feel that the field supervisory personnel of the Division in the discharge of their many and various duties also contributed materially to the satisfactory reaction picture. These various duties do not allow of all their time being spent in conducting tuberculin tests. They are representatives of the Division of Animal Industry of the State Department of Agriculture in their respective territories, and in this capacity are called upon to render any service in fields over which the Division has jurisdiction. These services in many instances are entirely foreign to tuberculosis eradication activities and are performed in addition to tuberculin testing work. Field men have been asked to do as much tuberculin testing as they can personally, especially of the infected and troublesome herds, and to this request we have received a fair response. In addition, they supervise the veterinary practitioners whom they employ. This too, we feel, has been capably done.

PERSONNEL NEEDS

During the year, Dr. L. J. Maher, in charge of the Somerset-Middlesex area resigned, effective as of January 1, 1948, and we were fortunate in being able immediately to replace him with Dr. C. K. Jewell, who is now stationed in Somerville. Dr. Jewell is in charge of the same territory relinquished by Dr. Maher, but being situated in Somerville is much more centrally located, making it possible for him to contact various sections of his territory more readily.

At the present time, we have 12 of our 13 territories manned by senior veterinarians who act as supervisors. Ten of these territories are being supervised by regularly State-employed men, and two by federal men of comparable training and authority. This arrangement and distribution of supervisory personnel, plus the employment of veterinary practitioners, has resulted in fairly up-to-date annual testing of all the cattle in the State. It must be admitted, however, that we are forced to depend largely—in

fact about 80 per cent—upon veterinary practitioners to bring about this objective. The return of Dr. John O. Wilson, a senior veterinarian away on military leave, is expected in October, 1948, and that will help the situation somewhat.

However, it is still felt that we could wisely use one or two veterinary inspectors, working from this office and available for emergency assignments, to assist supervisors in territories where it is found difficult at times to keep work up to date, and at the same time, become trained and qualified to succeed any supervisor in the event that vacancies occur.

At present, these are the only vacancies existing in the Bureau of Tuberculosis Control. While we have had some few applications for positions, the starting salary offered did not seem to appeal. The applicants were seemingly more interested in locations to practice.

HIGHER APPRAISAL

As mentioned before, the asking price for dairy cows continues to be high, ranging from $350 to $450, depending upon the quality of the animal. These figures have been computed by contacting various dealers. The federal average for the State as of June 1 was about $321. This situation brought about higher average appraisals for both purebreds and grades than the average for the previous year. However, this increase in average appraisals was partly offset by the increase in average salvage for both purebreds and grades realized for the year. But in spite of the increase in average salvage for the fiscal year, average state indemnity payments increased slightly over the previous year. Comparative averages for the past two fiscal years follow:

Appraisals	1946-47	1947-48	Increase
Purebreds	$353.89	$391.94	$38.05
Grades	217.88	261.01	43.13
Salvage			
Purebreds	94.51	147.50	52.99
Grades	102.69	134.38	31.69
State Indemnity			
Purebreds	133.35	142.01	8.66
Grades	68.44	70.14	1.70

During the year, Burlington, Camden, Cape May, Cumberland, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Salem, Somerset and Union counties qualified and were reaccredited for a two-year period.

SUMMARY OF TB SITUATION

The over-all tuberculosis situation throughout the State as the fiscal year ends is not too bad. In fact, it is better than expected. The final picture, we feel, will be somewhat difficult to maintain. It is true that during the year we encountered unexpected breaks in accredited herds and

discouraging disclosures in troublesome herds, but by conscientious study and indicated follow-up testing many of these recalcitrant herds have been returned to an improved, if not satisfactory, health status. However, we who are engaged in tuberculosis control work have learned at all times to be prepared for the unexpected. One lives in hope that the unexpected will not happen, but if it does, that it will not prove too disastrous.

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

On June 30, 1948, there were 13,478 herds consisting of 201,238 head of cattle under supervision. This is a decrease of 869 herds and 796 cattle in the number recorded at the beginning of this fiscal year.

During the year initial tests were conducted on 1,250 herds of 7,670 cattle, resulting in the disclosure of eight, or a 0.10 per cent reaction. The percentage of reaction disclosed on tests of cattle added to herds under supervision was 1.76 per cent—that is, of 4,087 cattle tested, 72 were declared reactors.

A total of 248,997 tuberculin tests were conducted, resulting in 411 reactors or 0.17 per cent, as compared with 0.37 per cent a year ago. Of the 411 reactors disclosed, 368 were eligible for indemnity; 31 of these were purebred and 337 were grade animals.

TREND OF TUBERCULIN TEST RESULTS DURING THE PAST TEN YEARS

Year	Number of Herds Under Supervision	Number of Animals Under Supervision	Number of Tests Conducted	Number of Reactors Resulting	Per Cent Reaction
1938-1939	17,725	202,001	248,094	1,417	0.57
1939-1940	17,364	206,187	260,692	1,090	0.42
1940-1941	16,695	208,223	270,991	1,028	0.38
1941-1942	16,174	209,027	258,877	871	0.34
1942-1943	15,965	212,323	235,221	580	0.25
1943-1944	16,212	216,014	244,496	1,030	0.42
1944-1945	15,803	208,459	232,087	3,138	1.35
1945-1946	14,867	201,349	256,183	962	0.38
1946-1947	14,347	202,034	255,447	949	0.37
1947-1948	13,478	201,238	248,997	411	0.17

In 1947, New Jersey imported 24,822 head of dairy cattle, of which 5,478 were retested as herd additions, disclosing 28 reactors. In 1948, 23,590 head of dairy cattle were imported and only 4,087 were subjected to herd addition tests, resulting in 72 reactors. Importations from Canada for the year decreased from 5,037 in 1947, to 1,935 in 1948.

INDEMNITY PAYMENTS

The amount of state indemnity paid during this fiscal year for reactors condemned increased from an average of $75.53 for the 1946-1947 fiscal year to $76.21 for the 1947-1948 period. During the year 23,590 dairy cattle and 3,252 steers, or a total of 26,842 cattle, were imported, as compared with 28,853 during the previous year.

The following summary indicates the amount of state indemnity paid for reactors resulting from the tuberculin test during the year ending June 30, 1948:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	31	$4,402.42
Grade animals	337	23,643.04
Registered and grade	368	$28,045.46

Average state indemnity paid per head:

Registered animal	$142.01
Grade animal	70.16
Registered and grade	76.21

The following summary indicates the amount of salvage received by owners for reactors resulting from the tuberculin test during the year ending June 30, 1948:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	31	$4,572.40
Grade animals	337	45,314.10
Registered and grade	368	$49,886.50

Average salvage received per head:

Registered animal	$147.50
Grade animal	134.46
Registered and grade	135.56

The following summary indicates the amount of federal indemnity paid for reactors resulting from the tuberculin test during the year ending June 30, 1948:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	31	$1,531.76
Grade animals	337	8,146.55
Registered and grade	368	$9,678.41

Average federal indemnity paid per head:

Registered animal	$49.41
Grade animal	24.17
Registered and grade	26.30

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

Total amount received by owners for reactors (sum of salvage, federal and state indemnity)	$87,610.37
Average amount received per head by owners for reactors	238.07

TOTAL STATE INDEMNITY PAID BY COUNTIES

July 1, 1947 to June 30, 1948

County	Indemnity
Atlantic	$150.00
Bergen	.....
Burlington	4,613.60
Camden	150.00
Cape May	50.00
Cumberland	999.65
Essex	.....
Gloucester	33.15
Hudson	.....
Hunterdon	3,245.27
Mercer	1,473.93
Middlesex	375.00
Monmouth	681.24
Morris	1,058.14
Ocean	.....
Passaic	75.00
Salem	4,596.19
Somerset	491.59
Sussex	7,985.75
Union	.....
Warren	2,066.95
State	$28,045.46

TOTAL STATE INDEMNITY PAID BY COUNTIES FROM THE BEGINNING OF ACCREDITED HERD WORK IN 1916 TO JUNE 30, 1948

County	Indemnity
Atlantic	$9,103.90
Bergen	36,303.13
Burlington	518,505.71
Camden	19,303.26
Cape May	10,954.64
Cumberland	80,149.64
Essex	40,686.29
Gloucester	65,765.04
Hudson	4,455.78
Hunterdon	366,414.82
Mercer	190,471.47
Middlesex	84,346.84
Monmouth	136,532.98
Morris	156,288.04
Ocean	34,124.08
Passaic	37,078.60
Salem	370,582.35
Somerset	225,848.07
Sussex	1,033,620.03
Union	40,867.91
Warren	388,852.82
State	$3,850,255.40

Herds and Cattle Under State and Federal Supervision
Tuberculin Tests Made and Reactors Disclosed

County	Herds Under Supervision June 30, 1948	Herds Fully Accredited June 30, 1948	Number of Cattle Under Supervision June 30, 1948 Reg.	Grades	Total	Number of Tuberculin Tests Made July 1, 1947 to June 30, 1948	Number Reactors Disclosed	Per Cent Infection
Atlantic	179	147	66	608	674	717	2	0.28
Bergen	195	186	235	1,887	2,122	2,504	1	.04
Burlington	1,021	918	2,238	20,864	23,102	27,596	62	.22
Camden	257	218	343	1,363	1,706	2,079	2	.10
Cape May	150	128	35	523	558	484	1	.21
Cumberland	906	830	371	5,987	6,358	7,607	12	.16
Essex	81	76	210	923	1,133	1,057	...	...
Gloucester	923	870	732	4,974	5,706	5,597	1	.02
Hudson	9	9	...	42	42	...	...	...
Hunterdon	1,817	1,774	3,654	27,016	30,670	30,461	47	.15
Mercer	638	536	1,355	7,436	8,791	10,555	20	.19
Middlesex	755	655	1,163	5,682	6,845	9,970	7	.07
Monmouth	1,040	925	2,311	5,857	8,168	9,496	5	.05
Morris	854	740	2,461	9,961	12,422	14,471	18	.12
Ocean	241	225	25	1,289	1,314	1,653	3	.18
Passaic	177	142	33	1,822	1,855	2,761	1	.04
Salem	1,153	909	761	16,101	16,862	22,029	67	.30
Somerset	857	769	4,202	8,195	12,397	13,449	9	.07
Sussex	1,056	832	3,110	30,825	33,935	55,145	118	.21
Union	112	101	26	2,101	2,127	2,697	...	...
Warren	1,057	943	694	23,757	24,451	28,669	35	.12
State	13,478	11,933	24,025	177,213	201,238	248,997	411	0.17

INFECTED HERD RECORD

County	Number of Infected Herds in New Jersey June 30, 1948	Number of Cattle in Infected Herds June 30, 1948
Atlantic	...	...
Bergen	1	195
Burlington	23	1,042
Camden	1	38
Cape May	...	...
Cumberland	3	64
Essex	...	...
Gloucester	1	31
Hudson	...	...
Hunterdon	20	673
Mercer	20	770
Middlesex	5	370
Monmouth	2	38
Morris	4	411
Ocean	...	...
Passaic	1	57
Salem	20	871
Somerset	8	429
Sussex	36	1,722
Union	...	...
Warren	20	662
State	165	7,373

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

July 1, 1947 to June 30, 1948

	INITIAL TESTS					HERD ADDITION TESTS					OTHER TESTS				
		Tested		Reactors			Tested		Reactors			Tested		Reactors	
	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.
1947															
July	17	..	22	..	..	1	..	1	..	..	134	86	1,435	1	4
August	9	..	17	..	..	1	..	1	..	..	45	65	822	..	..
September	3	..	11	..	..	..	..	1	..	..	95	161	932	2	8
October	5	1	6	..	..	..	..	..	..	..	131	277	2,148	..	5
November	23	..	44	..	..	..	..	9	..	2	118	523	1,369	..	..
December	6	..	7	..	..	3	..	17	..	1	85	82	1,676	..	6
1948															
January	16	..	33	..	..	6	4	90	..	1	169	1,024	2,961	..	11
February	8	1	65	..	..	1	..	3	..	..	214	1,984	3,524	1	18
March	15	27	192	..	..	2	1	9	..	2	197	472	3,899	..	3
April	29	12	91	..	..	..	..	2	..	1	255	444	5,534	..	6
May	29	51	204	..	..	..	..	1	..	..	246	1,393	2,476	..	4
June	22	19	64	..	..	..	..	1	..	..	202	447	2,579	..	3
Total	182	111	756	..	..	17	5	135	..	7	1,891	6,958	29,355	4	68
Percentage of Reaction				..	..				..	5.19				0.06	0.23
Average per cent					..					5.00					0.20

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

July 1, 1947 to June 30, 1948

	INITIAL TESTS					HERD ADDITION TESTS					OTHER TESTS				
		Tested		Reactors			Tested		Reactors			Tested		Reactors	
	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr
1947															
July	6	..	10	..	..	..	..	5	..	..	69	25	313	..	..
August	8	1	8	..	..	..	..	..	..	..	2	...	5	..	..
September	5	38	28	..	..	2	..	3	..	..	84	56	1,136	..	..
October	..	..	..	..	..	..	..	..	..	..	105	41	1,323	..	1
November	8	1	10	..	..	1	2	3	..	1	77	170	966	..	..
December	8	3	48	..	..	..	..	15	..	..	37	3	1,042	..	..
1948															
January	17	..	36	..	..	..	..	..	..	..	10	...	393	..	..
February	6	8	37	..	..	..	..	..	..	..	84	45	2,219	..	..
March	3	17	4	..	..	1	..	3	..	..	105	467	1,503	..	..
April	14	2	62	..	..	..	..	..	..	..	88	336	1,325	..	5
May	1	..	2	..	..	1	..	3	..	..	63	60	1,180	..	2
June	6	..	10	..	..	..	..	..	..	..	19	1	370	..	..
Total	82	70	255	..	..	5	2	32	..	1	743	1,204	11,775	..	8
Percentage of Reaction				..	..				..	3.13				..	0.07
Average per cent					..					2.94					0.06

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

July 1, 1947 to June 30, 1948

	INITIAL TESTS					HERD ADDITION TESTS					OTHER TESTS				
		Tested		Reactors			Tested		Reactors			Tested		Reactors	
	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.	Lots	Reg.	Gr.	Reg.	Gr.
1947															
July	37	..	98	..	..	32	20	116	..	1	525	489	4,229	1	5
August	57	42	159	..	1	34	9	255	..	2	448	1,034	7,492	4	17
September	60	11	211	..	..	13	1	101	..	1	764	1,244	11,387	..	12
October	77	9	737	..	1	25	9	219	..	1	1,196	1,462	17,899	3	10
November	137	68	767	..	..	59	11	451	..	28	1,061	2,412	16,201	4	7
December	82	17	708	..	1	35	24	485	1	3	1,146	2,030	19,043	1	39
1948															
January	75	17	688	..	3	37	5	523	..	3	1,147	1,745	17,558	1	43
February	51	87	523	..	1	50	4	352	1	7	939	1,952	15,129	1	41
March	79	87	649	..	..	58	7	404	1	5	1,136	3,178	17,964	..	24
April	121	77	640	..	..	61	28	248	..	4	1,145	5,175	15,679	..	21
May	109	15	532	..	1	67	44	272	..	3	1,294	2,373	14,953	..	15
June	101	23	313	..	..	83	7	318	..	3	841	783	6,537	..	2
Total	986	453	6,025	..	8	554	169	3,744	3	61	11,642	23,877	164,071	15	236
Percentage of Reaction				..	0.13				1.78	1.63				0.06	0.14
Average per cent					**0.12**					1.64					0.13

SUMMARY OF CATTLE TESTED UNDER ACCREDITED HERD PLAN

July 1, 1947 to June 30, 1948

	Registered Animals	Grade Animals	Total
INITIAL TESTS			
Tested	634	7,036	7,670
Reacted	...	8	8
Percentage of reactors	0.10		
HERD ADDITION TESTS			
Tested	176	3,911	4,087
Reacted	3	69	72
Percentage of reactors	1.76		
OTHER TESTS			
Tested	32,039	205,201	237,240
Reacted	19	312	331
Percentage of reactors	0.14		
TOTAL			
Tested			248,997
Reacted			411
Percentage of reactors			0.17
Percentage of reactors based on cattle population			0.20

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

County	July 1947 to June 1948					July 1946 to June 1947				
	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Tests Made	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Tests Made
Atlantic	674	2	0.30	717	0.28	711	1	0.14	663	0.15
Bergen	2,122	1	.05	2,504	.04	2,143	1	.05	2,331	.04
Burlington	23,102	62	.27	27,596	.22	22,220	162	.73	29,277	.55
Camden	1,706	2	.12	2,079	.10	1,601	26	1.62	1,895	1.37
Cape May	558	1	.18	484	.21	583	...	...	589	...
Cumberland	6,358	12	.19	7,607	.16	6,728	32	.48	9,832	.33
Essex	1,133	...	...	1,057	...	1,350	...	...	1,360	...
Gloucester	5,706	1	.02	5,597	.02	5,475	7	.13	6,926	.10
Hudson	42	...	...	...	...	42	...	...	54	...
Hunterdon	30,670	47	.15	30,461	.15	30,930	62	.20	30,099	.21
Mercer	8,791	20	.23	10,555	.19	8,901	27	.30	10,627	.25
Middlesex	6,845	7	.10	9,970	.07	7,168	17	.24	10,781	.16
Monmouth	8,168	5	.06	9,496	.05	9,036	10	.12	6,869	.15
Morris	12,422	18	.14	14,471	.12	12,110	136	1.12	14,661	.93
Ocean	1,314	3	.23	1,653	.18	1,472	5	.34	1,567	.32
Passaic	1,855	1	.05	2,761	.04	2,050	3	.15	2,994	.10
Salem	16,862	67	.40	22,029	.30	17,162	34	.20	21,840	.16
Somerset	12,397	9	.07	13,449	.07	12,345	12	.10	15,803	.08
Sussex	33,935	118	.35	55,145	.21	33,078	349	1.06	56,231	.62
Union	2,127	...	...	2,697	...	2,380	...	...	2,436	...
Warren	24,451	35	.14	28,669	.12	24,549	65	.26	28,612	.23
State	201,238	411	0.20	248,997	0.17	202,034	949	0.47	255,447	0.37

SIX-YEAR SUMMARY BY COUNTIES SHOWING PERCENTAGE OF INFECTION FOUND ANNUALLY BASED ON TESTS MADE AND ON THE CATTLE POPULATION—*(Continued)*

County	July 1945 to June 1946					July 1944 to June 1945				
	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Tests Made	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Tests Made
Atlantic	644	8	1.25	1,110	0.72	638	...	...	613	...
Bergen	2,563	...	...	2,614	...	2,644	5	0.19	1,906	0.26
Burlington	21,131	257	1.28	42,680	.60	20,039	2,442	12.19	41,616	5.87
Camden	1,694	1	.06	1,886	.05	1,648	4	.24	1,490	.27
Cape May	579	1	.14	646	.15	740	...	...	742	...
Cumberland	6,776	13	.18	10,301	.13	7,413	4	.06	5,244	.08
Essex	1,578	3	.20	1,528	.20	1,520	2	.13	2,542	.09
Gloucester	5,641	15	.24	6,534	.23	6,249	31	.50	5,035	.62
Hudson	75	...	...	143	...	102	...	...	...	...
Hunterdon	29,909	50	.16	28,147	.18	31,175	72	.23	28,034	.26
Mercer	9,290	26	.26	10,450	.25	9,942	37	.37	8,455	.44
Middlesex	7,060	44	.53	9,647	.46	8,304	17	.20	9,465	.18
Monmouth	9,253	21	.20	9,913	.21	10,384	46	.44	9,949	.46
Morris	11,729	8	.07	11,929	.07	12,141	77	.63	11,137	.69
Ocean	1,485	8	.52	2,083	.38	1,550	15	.97	1,455	1.03
Passaic	2,289	27	1.05	2,519	1.07	2,560	...	...	1,486	...
Salem	16,774	70	.40	19,545	.36	17,653	63	.36	20,104	.31
Somerset	12,103	26	.20	13,084	.20	12,898	39	.30	10,939	.36
Sussex	33,324	278	.83	46,534	.60	33,509	221	.66	43,324	.51
Union	2,726	4	.14	5,382	.07	2,897	1	.03	2,976	.03
Warren	24,726	102	.42	29,508	.35	24,453	62	.25	25,575	.22
State	201,349	962	0.46	256,183	0.38	208,459	3,138	1.50	232,087	1.35

SIX-YEAR SUMMARY BY COUNTIES SHOWING PERCENTAGE OF INFECTION FOUND ANNUALLY BASED ON TESTS MADE AND ON THE CATTLE POPULATION—*(Continued)*

County	July 1943 to June 1944					July 1942 to June 1943				
	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Tests Made	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Tests Made
Atlantic	605	...	...	152	...	573	1	0.17	583	0.17
Bergen	2,702	56	2.07	4,630	1.21	2,695	...	...	1,083	...
Burlington	22,790	154	.68	25,025	.62	22,833	59	.26	24,995	.24
Camden	1,731	...	...	1,912	...	1,728	1	.06	1,912	.05
Cape May	743	...	...	112	...	759	...	...	756	...
Cumberland	5,903	30	.51	6,727	.45	7,805	7	.09	7,219	.10
Essex	1,951	47	2.41	2,342	2.01	2,104	33	1.57	2,971	1.11
Gloucester	6,259	10	.16	6,348	.16	5,743	6	.10	6,464	.09
Hudson	102	...	...	...	...	102	...	...	102	...
Hunterdon	31,614	108	.34	30,884	.35	30,487	41	.13	27,524	.15
Mercer	10,286	21	.20	10,763	.20	10,098	13	.13	13,030	.10
Middlesex	8,469	31	.37	11,930	.26	8,072	21	.26	11,364	.18
Monmouth	10,769	51	.47	11,704	.44	10,294	21	.20	10,890	.19
Morris	12,791	80	.63	12,536	.64	12,475	18	.14	13,736	.13
Ocean	1,533	25	1.63	1,745	1.43	1,526	28	1.83	1,626	1.72
Passaic	2,753	39	1.42	2,661	1.47	2,612	2	.08	1,737	.12
Salem	17,733	58	.33	21,202	.27	17,822	52	.29	20,702	.25
Somerset	13,481	15	.11	14,373	.10	12,855	57	.44	14,590	.39
Sussex	35,167	207	.59	46,000	.45	34,188	136	.40	40,633	.33
Union	3,138	31	.99	6,214	.50	2,964	...	...	6,281	...
Warren	25,494	67	.26	27,236	.25	24,588	84	.34	27,023	.31
State	216,014	1,030	0.48	244,496	0.42	212,323	580	0.27	235,221	0.25

BRUCELLOSIS CONTROL

EXPANSION OF PROGRAM

At the beginning of this fiscal year the brucellosis control and eradication program had been operating for one year under the new law which provided for several changes effective July 1, 1946. The beginning of the year showed that a larger number of calves had been officially vaccinated during the previous year than had been estimated at the outset of the program.

The blood testing phase of the work had shown a small gain in the number of herds and animals under supervision as compared to the former year. This small gain was in part attributed to the fact that during that year, many personnel changes were necessary in the various territories and we were going through a combination phase of breaking in new men and of attempting to catch up on our overdue herds. It was impossible during that period to put much effort toward expanding the blood testing portion of the program.

In the fall of this year it was suggested that an exhibit be designed and constructed to portray the benefits of brucellosis control, and that it be erected at the various fairs throughout the State. This was done and the exhibit was well received at the Woodstown Fair, Cumberland County Fair, Flemington Fair and the Trenton Fair. During the time that it was on exhibition, a field veterinarian was assigned to the booth to distribute literature and to answer any questions which might be asked concerning the program. Later in the year it was requested that this same exhibit be displayed during the annual meeting of the Artificial Breeding Cooperative Association No. 1 at Clinton.

ANALYSIS OF INDIVIDUAL HERD PROBLEMS

It was decided at the outset of this fiscal year to lay more emphasis on individual herd problems during the year. Since a series of meetings had been held during the last fiscal year throughout the State with the dairymen of each of the major dairy counties, it was thought that continuance of such a program during this winter would be repetitious. Therefore, fewer meetings were held with dairy groups and more attention given to individual herd cases. In one herd in northern New Jersey which is accredited free of brucellosis considerable trouble was being experienced in the form of continued abortions. An aborted fetus was brought into the laboratory and from it was isolated a pure strain of vibrio fetus, an organism which can cause abortions in cattle. The remainder of the herd was bled, and with an antigen obtained from Dr. Wayne N. Plasteridge at Storrs, Connecticut, an agglutination test for vibrionic abortion was conducted. Of the 78 animals tested, two showed partial agglutination at 1-200. Recommendations were made to remove these animals from the herd, and to date no further trouble has been experienced.

It is felt that vibrionic abortion plays a major role in many of the cases in which we have herds which are brucellosis-free but which are still experiencing trouble with abortions. It is believed that if the day ever arrives when we have reduced the incidence of brucellosis to the level to which tuberculosis has been eradicated, we will have to take into serious consideration the possibility of eliminating vibrionic abortion next.

During the year some herds were removed from the accredited list due to the fact that infection was disclosed in them. In almost every instance herd owners were operating under Plan I and were not vaccinating calves, with the result that the introduction of infection spread rapidly throughout the susceptible animals. In one case a group of 13 bred heifers belonging to a Plan I accredited herd were put out to summer pasture on a premise with an unknown history. Shortly after their arrival there several animals reacted and subsequently aborted. Within a short time 12 of the 13 heifers were infected and had to be consigned to slaughter, inasmuch as they could never return to the accredited unit. In all probability, if these heifers had had some resistance through the injection of strain No. 19 vaccine, the proportion of the break would not have been so severe; or, if the dairyman had investigated the history and condition of the premises prior to putting his animals there, the break might not have occurred.

In another herd in South Jersey, which had been operating under Plan I and was non-vaccinated, a break occurred of such severity that it became necessary to adult-vaccinate the entire herd. In this herd a problem was encountered when we came to a group of seven uninfected bred heifers which were away on summer pasture, but which would be returning to the main infected herd in the fall. Rather than allow these negative susceptible individuals to enter the herd unprotected, we administered 0.01 c.c. of vaccine to each heifer. These animals returned to the herd and to date six of the seven have remained negative despite continued exposure on the infected premises.

The work on the benefits of adult vaccination has continued in the Greystone Park herd, where animals have been vaccinated subcutaneously, intradermally and intracaudally in an effort to determine the benefits and disadvantages of each method of administration. To date, the information being assembled has not revealed enough data to allow a detailed report.

PERSONNEL CHANGES

During the year, Dr. F. B. Duke was added to the field staff and tentative plans were made to assign him to the Sussex County area in an effort to relieve Dr. G. M. Breed of some of his work load. However, at that time Dr. J. R. McCoy, who was supervising the Hunterdon County area, resigned to take employment on a research project, and Dr. Duke was brought down to fill the vacancy created by this resignation. Therefore, we still have need for another veterinarian for the Sussex County area and for one in the Central Jersey area, and it is hoped that the

availability of veterinarians will increase so that we are able to obtain these men during the coming year.

AREA TESTING RENEWED

At the beginning of the winter it was decided to renew a series of township-wide area tests in several counties throughout the State. In conjunction with Dr. E. C. Scheidenhelm of the New Jersey Agricultural Extension Service and Dr. J. R. Porteus of the Federal Bureau of Animal Industry, the matter was discussed and a plan of action formulated. Plumstead Township in Ocean County was selected as the first objective and County Agent Hartman was presented with the idea. His reaction was favorable, and he in turn organized a meeting with the dairy planning committee of the Ocean County Board of Agriculture. This group was in favor of the project and the county agent was delegated to contact personally each large dairyman in the township. This was done with excellent results and during February a staff of state and federal field veterinarians moved into Plumstead Township and tested every herd in the township in one day.

Of the 678 animals tested in Plumstead Township there were disclosed 116 positives (17.11 per cent); another 63 were suspicious (9.29 per cent). The remaining 73 per cent of the animals were negative. Of the herds tested, 42.86 per cent contained neither reactors nor suspects while 57.14 per cent contained infected animals. However, the clean herds represented only 11.95 per cent of the cattle population tested while 88.05 per cent of the animals were in infected herds. This, of course, denotes that the clean herds were principally the smaller herds. As a result of the reception given this first township test, County Agent Hartman became enthused to the point of wanting to area-test the entire county. This was impossible at the time, since township tests in other counties had already been planned and because of the limited number of personnel available for testing. We felt that it was important that we proceed slowly on the township area tests so that the work load in any one area would not become too heavy and result in a neglect of the retesting of the township by field veterinarians.

Shortly after the Plumstead Township area test was completed, the same procedure was put into effect in Cumberland County, and 70 per cent of the herds in Stowe Creek Township in that county were tested, with a reaction rate of 12.73 per cent. Of the herds tested 67.16 per cent were clean, and these herds contained 30.65 per cent of the animals included in the test; while 32.84 per cent of the herds were infected and contained 69.35 per cent of the animals tested. Several weeks later a large number of the herds in Clinton Township in Hunterdon County were tested, with a reaction rate of 8.48 per cent. Of the herds tested 30.56 per cent were uninfected while 69.44 per cent of the herds contained infected animals. The clean herds were made up of 16.63 per cent of the animals in the test

while the infected herds contained 83.37 per cent of the animals. Since this activity took the work well into March, it was decided to discontinue area testing for the balance of the year, due to the approach of summer pasture season. Later in the year, however, two small townships in Ocean County, namely Dover and Jackson, comprised principally of one-cow herds, were completely area-tested by Drs. Morris and Bonese in conjunction with the animal tuberculin test. These townships were composed principally of family cow herds in which no reactors were disclosed.

At the time that preliminary plans were drawn for the area test work there was a little skepticism on the part of some of the leading dairymen of those areas as to what they would be getting themselves into by entering into the test. It was at this point that our new law which allows the Department to test a herd without quarantining reactors or suspects gave us the means to promise a program which would not penalize the dairymen in any way. We believe that were it not for the existence of that portion of the law, area testing in these townships would have been extremely difficult, if not impossible. To date, the executive committees of the respective county boards of agriculture have voted unanimously their approval of such a program and have asked further that they be given the opportunity to select another township for an area test, whenever the Bureau of Brucellosis Control feels that it can do the work.

ENCOURAGING RESULTS FROM VACCINATION

The calfhood vaccination portion of the brucellosis control program took a step forward during the fiscal year. Nearly 15,000 calves were officially vaccinated by veterinarians in the State of New Jersey, to give a total of about 28,000 for the two years of the program. It is most encouraging to note that at the end of this fiscal year calves were being vaccinated in herds which contained more than 50 per cent of the cattle population of the State. Even if the program were to expand no further in the number of new herds enrolled in the vaccination program, this would mean that as the animals in these herds are gradually replaced over the next five- or six-year period, vaccinates will enter these herds and in due time we can expect to have at least 50 per cent of the cattle population of New Jersey officially calfhood-vaccinated against brucellosis. In addition, that section of the law which is to go into effect on July 1, 1955, and which will provide for the entrance into New Jersey of only officially calfhood-vaccinated animals, if not from accredited herds, will allow those dairymen not raising replacements but buying dealer replacements to add vaccinated animals to their herds.

During the year several minor problems were encountered in the vaccination program, the most important of which was getting practitioners to vaccinate calves on time. Quite a few dairymen complained that they called their veterinarian to have calves vaccinated but that the veterinarian delayed the visit until the calves were beyond the legal eight-month age

limit for vaccination. A second problem arose when some practitioners complained that they were not receiving a sufficient supply of vaccine. According to bureau records, they had sufficient stock supply on hand but neglected to turn in reports and thereby get replacement vaccine. The withholding of vaccine until reports are received is the only effective means that we have of receiving reports on animals vaccinated.

HUDDLESON EXPERIMENT

During the year a meeting was attended at Richmond, Virginia, at which Dr. I. Forrest Huddleson and several state officials were present in an effort to evaluate Dr. Huddleson's new mucoid vaccine. At the present time the vaccine is not licensed for interstate shipment, inasmuch as no controlled experiments have ever been set up to prove its value as an immunizing agent. The advantage of this vaccine is that, unlike strain 19, it causes a very slight and transient blood titre when injected into animals of any age. As a result of this meeting, Mr. R. J. Funkhouser, a wealthy industrialist of West Virginia, was contacted and he agreed to provide a 169-acre farm together with $20,000 for the purpose of setting up a controlled experiment on this vaccine. The experiment has been organized and is soon to get under way. New Jersey will be in close contact with this group throughout this experiment and will stand ready to take advantage of any benefits to our brucellosis control and eradication program that might be derived from the results.

During the winter of the fiscal year, Dr. Asa Winter, newly appointed assistant to Dr. A. K. Kuttler of the United States Bureau of Animal Industry, who is in charge of tuberculosis and brucellosis control for the nation, visited New Jersey to review the State's program. The Department was commended on the type of program it has. It was pointed out that in order to completely eradicate this disease, the nation needs to have a program such as ours which will attack the problem from two standpoints: (1) the elimination of infection in mature animals through a blood testing plan; and, (2) the immunization of calves with strain 19 vaccine which will impart resistance to those animals destined for entry into our herds as replacements.

It is encouraging to note that New Jersey dairymen are taking advantage of both of these phases of the program, as evidenced by the calfhood vaccination figures previously quoted, and by the fact that we now have under one of our blood testing plans a total of 2,030 herds consisting of 45,153 cattle.

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

June 30, 1948

County	*Plan I* Under Supervision Herds	*Plan I* Under Supervision Cattle	*Plan I* Fully Accredited Herds	*Plan I* Fully Accredited Cattle	*Plan II* Under Supervision Herds	*Plan II* Under Supervision Cattle	*Plan II* Fully Accredited Herds	*Plan II* Fully Accredited Cattle	*Plan III* Under Supervision Herds	*Plan III* Under Supervision Cattle	*Plan III* Fully Accredited Herds	*Plan III* Fully Accredited Cattle	*Total Herds and Cattle Under Blood Testing Plans* Under Supervision Herds	*Total Herds and Cattle Under Blood Testing Plans* Under Supervision Cattle	*Total Herds and Cattle Under Blood Testing Plans* Fully Accredited Herds	*Total Herds and Cattle Under Blood Testing Plans* Fully Accredited Cattle	*Plan IV* Herds	*Plan IV* Cattle
Atlantic	187	550	149	414	3	5	2	2	4	180	...	...	194	735	151	416	...	...
Bergen	42	90	29	62	7	116	4	110	5	90	1	2	54	296	34	174	2	93
Burlington	20	89	15	82	24	743	11	428	36	1,656	5	387	80	2,488	31	897	298	11,592
Camden	34	315	25	289	12	152	7	121	2	48	...	...	48	515	32	410	6	77
Cape May	145	582	120	555	1	20	1	20	...	...	...	...	146	602	121	575	...	...
Cumberland	100	307	74	253	94	1,016	28	459	42	1,426	1	118	236	2,749	103	830	40	1,016
Essex	18	37	3	13	2	10	...	...	2	591	...	...	22	638	3	13	2	25
Gloucester	33	332	21	316	20	152	7	98	25	879	1	6	78	1,363	29	420	47	1,033
Hudson	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hunterdon	22	98	12	90	86	2,459	23	966	87	3,014	7	355	195	5,571	42	1,411	514	13,119
Mercer	36	252	33	230	42	1,987	28	1,114	22	1,118	3	213	100	3,357	64	1,557	134	3,176
Middlesex	19	39	15	31	13	74	5	41	32	3,283	4	148	64	3,396	24	220	82	1,190
Monmouth	28	413	24	395	34	1,209	21	964	19	991	3	254	81	2,613	48	1,613	111	2,204
Morris	41	390	28	363	37	1,058	22	808	43	3,495	3	42	121	4,943	53	1,213	73	1,611
Ocean	16	69	1	37	114	296	1	1	25	793	...	...	155	1,158	2	38	10	72
Passaic	1	1	1	1	1	1	...	...	1	79	1	79	3	81	2	80	6	138
Salem	16	136	13	124	24	584	12	347	25	866	1	20	65	1,586	26	491	158	4,995
Somerset	61	674	57	669	77	2,300	62	2,015	38	1,827	6	387	176	4,801	125	3,071	216	3,768
Sussex	3	9	2	7	20	598	14	553	78	4,026	9	365	101	4,633	25	925	339	13,201
Union	6	47	6	47	3	52	3	52	5	21	2	9	14	120	11	108	6	43
Warren	7	37	5	34	19	395	16	351	71	3,076	1	27	97	3,508	22	412	338	10,436
State	835	4,467	633	4,012	633	13,227	267	8,450	562	27,459	48	2,412	2,030	45,153	948	14,874	2,382	67,789

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

July 1, 1947 to June 30, 1948

County	*Number of Reactors Appraised* Reg.	Gr.	Total	*Appraised Value* Reg.	Gr.	Total	*Total Amount Paid to Owners (Salvage, State and Federal Indemnity)* Reg.	Gr.	Total	*Average Amount Paid Owners Per Head* Reg.	Gr.	Total
Atlantic	..	2	2	.....	$500.00	$500.00	.....	$497.67	$497.67	.....	$248.84	$248.84
Bergen	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Burlington	3	7	10	$1,100.00	1,710.00	2,810.00	$1,020.89	1,591.47	2,612.36	$340.30	227.35	261.24
Camden	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape May	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland	13	23	36	4,610.00	5,825.00	10,435.00	4,563.65	5,712.89	10,276.54	351.05	248.39	285.46
Essex	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gloucester	..	10	10	.....	2,295.00	2,295.00	.....	2,217.03	2,217.03	.....	221.70	221.70
Hudson	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunterdon	27	18	45	9,635.00	5,065.00	14,700.00	7,867.78	4,418.84	12,286.62	291.40	245.49	273.04
Mercer	6	38	44	2,155.00	10,755.00	12,910.00	1,882.30	10,237.04	12,119.34	313.72	269.40	275.44
Middlesex	..	4	4	.....	990.00	990.00	.....	895.40	895.40	.....	223.85	223.85
Monmouth	2	2	4	700.00	500.00	1,200.00	650.00	495.00	1,145.00	325.00	247.50	286.25
Morris	10	5	15	3,630.00	1,340.00	4,970.00	3,257.95	1,135.30	4,393.25	325.80	227.06	292.88
Ocean	..	2	2	.....	470.00	470.00	.....	470.00	470.00	.....	235.00	235.00
Passaic	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salem	7	5	12	2,675.00	1,125.00	3,800.00	2,652.15	1,094.70	3,746.85	378.88	218.94	312.24
Somerset	10	7	17	3,640.00	1,790.00	5,430.00	3,108.13	1,285.00	4,393.13	310.81	183.57	258.42
Sussex	2	1	3	710.00	280.00	990.00	663.18	280.00	943.18	331.59	280.00	314.39
Union	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warren	..	2	2	.....	450.00	450.00	.....	434.25	434.25	.....	217.13	217.13
State	80	126	206	$28,855.00	$33,095.00	$61,950.00	$25,666.03	$30,764.59	$56,430.62	$320.83	$244.16	$273.94

RECORD BY COUNTIES OF THE NUMBER OF REACTORS TO THE TEST FOR BRUCELLOSIS APPRAISED, THE AMOUNT OF SALVAGE RECEIVED AND THE STATE AND FEDERAL INDEMNITY PAID

July 1, 1947 to June 30, 1948

County	*Number of Reactors Appraised*			*Amount of Salvage Received*			*Amount of State Indemnity Paid*			*Amount of Federal Indemnity Paid*		
	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total
Atlantic	..	2	2	.....	$299.19	$299.19	.....	$148.48	$148.48	.....	$50.00	$50.00
Bergen	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Burlington	3	7	10	$447.30	928.13	1,375.43	$423.59	488.34	911.93	$150.00	175.00	325.00
Camden	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape May	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland	13	23	36	2,005.32	3,445.21	5,450.53	1,908.33	1,692.68	3,601.01	650.00	575.00	1,225.00
Essex	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gloucester	..	10	10	.....	1,217.03	1,217.03	.....	750.00	750.00	.....	250.00	250.00
Hudson	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunterdon	27	18	45	2,604.78	2,830.53	5,435.31	3,921.34	1,180.33	5,101.67	1,341.66	407.98	1,749.64
Mercer	6	38	44	682.30	6,556.79	7,239.09	900.00	2,736.09	3,636.09	300.00	944.16	1,244.16
Middlesex	..	4	4	.....	515.40	515.40	.....	280.00	280.00	.....	100.00	100.00
Monmouth	2	2	4	250.00	295.00	545.00	300.00	150.00	450.00	100.00	50.00	150.00
Morris	10	5	15	1,300.15	635.30	1,935.45	1,457.80	375.00	1,832.80	500.00	125.00	625.00
Ocean	..	2	2	.....	270.00	270.00	.....	150.00	150.00	.....	50.00	50.00
Passaic	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salem	7	5	12	1,282.06	694.70	1,976.76	1,020.09	291.68	1,311.77	350.00	108.32	458.32
Somerset	10	7	17	1,158.13	585.00	1,743.13	1,450.00	525.00	1,975.00	500.00	175.00	675.00
Sussex	2	1	3	263.18	187.50	450.68	300.00	67.50	367.50	100.00	25.00	125.00
Union	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warren	..	2	2	.....	234.25	234.25	.....	150.00	150.00	.....	50.00	50.00
State	80	126	206	$9,993.22	$18,694.03	$28,687.25	$11,681.15	$8,985.10	$20,666.25	$3,991.66	$3,085.46	$7,077.12

SUMMARY OF INDEMNITY PAYMENTS

The following summary indicates the amount of state indemnity paid for reactors resulting from the test for brucellosis during the year ending June 30, 1948:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	80	$11,681.15
Grade animals	126	8,985.10
Registered and grade animals	206	$20,666.25

Average state indemnity paid per head:

Registered animal	$146.01
Grade animal	71.31
Registered and grade animals	100.32

The following summary indicates the amount of salvage received by owners for reactors resulting from the test for brucellosis during the year ending June 30, 1948:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	80	$9,993.22
Grade animals	126	18,694.03
Registered and grade animals	206	$28,687.25

Average salvage received per head:

Registered animal	$124.92
Grade animal	148.37
Registered and grade animals	139.26

The following summary indicates the amount of federal indemnity paid for reactors resulting from the test for brucellosis during the year ending June 30, 1948:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	80	$3,991.66
Grade animals	126	3,085.46
Registered and grade animals	206	$7,077.12

Average federal indemnity paid per head:

Registered animal	$49.90
Grade animal	24.49
Registered and grade animals	34.35

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

Total amount received by owners for reactors (sum of salvage, federal and state indemnity)	$56,430.62
Average amount received per head by owners for reactors to the test for brucellosis	$273.94

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

December 16, 1940 to June 30, 1948

County	*Number of Reactors Appraised* Reg.	Gr.	Total	*Appraised Value* Reg.	Gr.	Total	*Total Amount Paid to Owners (Salvage, State and Federal Indemnity)* Reg.	Gr.	Total	*Average Amount Paid Owners per Head* Reg.	Gr.	Total
Atlantic	1	67	68	$185.00	$8,015.00	$8,200.00	$156.97	$7,298.26	$7,455.23	$156.97	$108.93	$109.64
Bergen	4	6	10	880.00	785.00	1,665.00	774.90	750.77	1,525.67	193.73	125.13	152.57
Burlington	54	90	144	11,005.00	13,705.00	24,710.00	9,516.55	12,193.85	21,710.40	176.23	135.49	150.77
Camden	5	12	17	1,480.00	1,635.00	3,115.00	1,200.00	1,475.22	2,675.22	240.00	122.94	157.37
Cape May	..	62	62	.....	7,080.00	7,080.00	.....	6,417.19	6,417.19	.....	103.50	103.50
Cumberland	47	150	197	12,500.00	24,150.00	36,650.00	11,948.12	22,798.82	34,746.94	254.22	151.99	176.38
Essex	..	15	15	.....	1,400.00	1,400.00	.....	1,305.92	1,305.92	.....	87.06	87.06
Gloucester	13	61	74	2,945.00	9,345.00	12,290.00	2,577.58	8,683.31	11,260.89	198.28	142.35	152.17
Hudson	..	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunterdon	100	106	206	25,595.00	21,285.00	46,880.00	21,348.15	18,391.71	39,739.86	213.48	173.51	192.91
Mercer	82	305	387	19,825.00	49,555.00	69,380.00	16,558.59	44,681.71	61,240.30	201.93	146.50	158.24
Middlesex	86	597	683	14,245.00	77,860.00	92,105.00	12,788.69	70,781.55	83,570.24	148.71	118.56	122.36
Monmouth	51	73	124	10,380.00	9,475.00	19,855.00	9,239.38	8,628.03	17,867.41	181.16	118.19	144.09
Morris	142	271	413	34,305.00	43,697.00	78,002.00	28,640.93	37,210.92	65,851.85	201.70	137.31	159.45
Ocean	...	5	5	.....	920.00	920.00	.....	880.50	880.50	.....	176.10	176.10
Passaic	6	48	54	1,460.00	7,515.00	8,975.00	1,357.82	6,510.65	7,868.47	226.30	135.64	145.71
Salem	54	216	270	12,825.00	27,035.00	39,860.00	11,663.93	25,005.71	36,669.64	216.00	115.77	135.81
Somerset	126	219	345	29,325.00	31,580.00	60,905.00	24,591.48	27,214.85	51,806.33	195.17	124.27	150.16
Sussex	61	25	86	12,170.00	4,435.00	16,605.00	10,424.89	3,753.13	14,178.02	170.90	150.13	164.86
Union	...	8	8	.....	1,005.00	1,005.00	.....	920.15	920.15	.....	115.02	115.02
Warren	60	87	147	11,465.00	12,650.00	24,115.00	10,027.05	11,243.17	21,270.22	167.12	129.23	144.70
State	892	2,423	3,315	$200,590.00	$353,127.00	$553,717.00	$172,815.03	$316,145.42	$488,960.45	$193.74	$130.48	$147.50

RECORD BY COUNTIES OF THE NUMBER OF REACTORS TO THE TEST FOR BRUCELLOSIS APPRAISED, THE AMOUNT OF SALVAGE RECEIVED AND THE STATE AND FEDERAL INDEMNITY PAID

December 16, 1940 to June 30, 1948

County	*Number of Reactors Appraised*			*Amount of Salvage Received*			*Amount of State Indemnity Paid*			*Amount of Federal Indemnity Paid*		
	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total
Atlantic	1	67	68	$28.95	$3,723.01	$3,751.96	$78.02	$2,245.17	$2,323.19	$50.00	$1,330.08	$1,380.08
Bergen	4	6	10	264.95	382.94	647.89	323.02	249.62	572.64	186.93	118.21	305.14
Burlington	54	90	144	3,597.41	6,329.30	9,926.71	3,840.30	3,892.83	7,733.13	2,078.84	1,971.72	4,050.56
Camden	5	12	17	348.00	775.75	1,123.75	602.00	424.31	1,026.31	250.00	275.16	525.16
Cape May	...	62	62	.....	3,389.61	3,389.61	.....	1,845.17	1,845.17	.....	1,182.41	1,182.41
Cumberland	47	150	197	5,095.47	13,117.39	18,212.86	4,837.08	6,566.40	11,403.48	2,015.57	3,115.03	5,130.60
Essex	...	15	15	.....	846.86	846.86	.....	276.55	276.55	.....	182.51	182.51
Gloucester	13	61	74	1,179.99	4,934.91	6,114.90	929.90	2,534.10	3,464.00	467.69	1,214.30	1,681.99
Hudson	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunterdon	100	106	206	7,688.07	10,294.70	17,982.77	9,461.28	5,564.09	15,025.37	4,198.80	2,532.92	6,731.72
Mercer	82	305	387	6,371.74	25,819.33	32,191.07	6,888.18	12,678.08	19,566.26	3,298.67	6,184.30	9,482.97
Middlesex	86	597	683	5,413.59	39,704.37	45,117.96	4,458.20	19,160.48	23,618.68	2,916.90	11,916.70	14,833.60
Monmouth	51	73	124	3,956.00	4,719.30	8,675.30	3,334.50	2,442.83	5,777.33	1,948.88	1,465.90	3,414.78
Morris	142	271	413	9,294.17	17,586.92	26,881.09	13,026.93	13,487.49	26,514.42	6,319.83	6,136.51	12,456.34
Ocean	...	5	5	.....	495.21	495.21	.....	273.70	273.70	.....	111.59	111.59
Passaic	6	48	54	511.86	3,376.80	3,888.66	565.95	2,079.02	2,644.97	280.01	1,054.83	1,334.84
Salem	54	216	270	5,182.18	15,361.88	20,544.06	4,352.92	5,964.11	10,317.03	2,128.83	3,679.72	5,808.55
Somerset	126	219	345	8,736.14	14,004.00	22,740.14	10,560.61	8,663.94	19,224.55	5,294.73	4,546.91	9,841.64
Sussex	61	25	86	3,719.11	1,863.09	5,582.20	4,323.96	1,319.10	5,643.06	2,381.82	570.94	2,952.76
Union	...	8	8	.....	506.14	506.14	.....	270.41	270.41	.....	143.60	143.60
Warren	60	87	147	3,718.35	5,958.51	9,676.86	3,873.24	3,444.01	7,317.25	2,435.46	1,840.65	4,276.11
State	892	2,423	3,315	$65,105.98	$173,190.02	$238,296.00	$71,456.09	$93,381.41	$164,837.50	$36,252.96	$49,573.99	$85,826.95

The following summary indicates the amount of state indemnity paid for reactors resulting from the test for brucellosis from December 16, 1940, to June 30, 1948:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	892	$71,456.09
Grade animals	2,423	93,381.41
Registered and grade	3,315	$164,837.50

Average state indemnity paid per head:

Registered animal	$80.11
Grade animal	38.54
Registered and grade	$49.72

The following summary indicates the amount of salvage received by owners for reactors resulting from the test for brucellosis from December 16, 1940, to June 30, 1948:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	892	$65,105.98
Grade animals	2,423	173,190.02
Registered and grade	3,315	$238,296.00

Average salvage received per head:

Registered animal	$72.99
Grade animal	71.48
Registered and grade	$71.88

The following summary indicates the amount of federal indemnity paid for reactors resulting from the test for brucellosis from December 16, 1940, to June 30, 1948:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	886*	$36,252.96
Grade animals	2,429	49,573.99
Registered and grade	3,315	$85,826.95

Average federal indemnity paid per head:

Registered animal	$40.92
Grade animal	20.41
Registered and grade	$25.89

The following summary shows the total amount received by owners of condemned animals from December 16, 1940, to June 30, 1948:

Total amount received by owners for reactors (sum of salvage, federal and state indemnity)	$488,960.45
Average amount received per head	$147.50

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

CALFHOOD VACCINATIONS REPORTED

July 1, 1947 to June 30, 1948

County	*Plan II*		*Plan III-A*				*Plan III-B*		*Plan IV*		Totals			
	Lots	Calves	Lots	Calves	Heifers	Adults	Lots	Calves	Lots	Calves	Lots	Calves	Heifers	Adults
Atlantic	...	...	...	...	...	...	...	...	..	..	..	..	..	..
Bergen	...	...	3	10	...	...	...	...	2	8	5	18	..	..
Burlington	35	137	21	81	5	1	36	150	376	1,614	468	1,982	5	1
Camden	11	49	6	14	...	9	3	13	7	12	27	88	..	9
Cape May	...	...	...	...	...	...	...	...	..	..	..	..	..	..
Cumberland	30	117	6	18	2	7	16	50	57	196	109	381	2	7
Essex	...	...	13	43	1	...	9	53	2	3	24	99	1	..
Gloucester	14	49	7	37	...	...	12	50	58	168	91	304	..	..
Hudson	...	...	...	...	...	...	...	...	..	..	..	..	..	..
Hunterdon	63	214	35	141	3	28	45	184	779	2,193	922	2,732	3	28
Mercer	74	324	5	24	7	6	32	143	149	414	260	905	7	6
Middlesex	5	14	4	92	2	9	25	205	63	145	97	456	2	9
Monmouth	67	272	18	108	19	2	12	76	128	372	225	828	19	2
Morris	33	153	35	227	4	49	43	277	81	233	192	890	4	49
Ocean	2	7	1	2	...	...	15	42	16	42	34	93	..	..
Passaic	...	...	...	...	...	...	...	...	8	24	8	24	..	..
Salem	31	101	8	24	...	24	21	64	195	646	255	835	..	24
Somerset	107	373	34	107	3	8	42	167	241	599	424	1,246	3	8
Sussex	22	78	40	141	13	147	58	374	453	1,611	573	2,204	13	147
Union	3	8	5	9	...	...	2	6	5	11	15	34	..	..
Warren	19	72	13	36	8	25	72	302	373	1,284	477	1,694	8	25
State	516	1,968	254	1,114	67	315	443	2,156	2,993	9,575	4,206	14,813	67	315

RECORD OF THE NUMBER OF HERDS AND ANIMALS IN THE HERDS UNDER THE VARIOUS BRUCELLOSIS CONTROL PLANS WHICH INCORPORATE THE USE OF CALFHOOD VACCINATION

July 1, 1947 to June 30, 1948

County	*Plan II*		*Plans III-A*		*Plan III-B*		*Plan IV*		*Total*	
	Herds	Cattle	Herds	Cattle	Herds	Cattle	Herds	Cattle	Herds	Cattle
Atlantic	...	...	...	...	...	...	...	...	...	...
Bergen	...	...	2	106	...	...	2	93	4	199
Burlington	17	470	10	539	20	1,017	298	11,592	345	13,618
Camden	5	136	3	75	1	43	6	77	15	331
Cape May	...	...	...	...	...	...	...	...	...	...
Cumberland	25	623	3	150	12	509	43	1,040	83	2,322
Essex	1	3	1	212	1	406	2	25	5	646
Gloucester	9	106	2	185	10	463	48	1,034	69	1,788
Hudson	...	...	...	...	...	...	...	...	...	...
Hunterdon	50	1,917	14	888	52	1,726	513	13,018	629	17,549
Mercer	32	1,853	3	157	14	812	135	3,162	184	5,984
Middlesex	4	46	1	743	15	1,721	83	1,223	103	3,733
Monmouth	27	1,086	14	542	5	228	111	2,204	157	4,060
Morris	17	513	11	1,155	26	1,560	74	1,618	128	4,846
Ocean	9	37	1	35	13	474	9	65	32	611
Passaic	...	...	...	...	...	...	6	138	6	138
Salem	15	354	3	168	16	632	158	4,978	192	6,132
Somerset	56	1,661	13	607	20	933	219	3,961	308	7,162
Sussex	15	578	22	1,098	26	2,209	339	13,201	402	17,086
Union	1	41	...	...	4	80	7	73	12	194
Warren	16	416	9	387	46	1,997	337	10,372	408	13,172
State	299	9,840	112	7,047	281	14,810	2,390	67,874	3,082	99,571

GOATS

Following is a summary of the number of herds and animals under supervision and those fully accredited as free of both tuberculosis and brucellosis, by counties:

County	TUBERCULOSIS				BRUCELLOSIS			
	Under Supervision		*Fully Accredited*		*Under Supervision*		*Fully Accredited*	
	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals
Atlantic	4	25	1	4	3	17	1	1
Bergen	15	95	10	82	30	193	12	135
Burlington	7	32	2	4	14	55	3	29
Camden	3	4	...	...	6	115	1	2
Cape May	1	6	...	...	1	6	...	...
Cumberland	7	42	4	39	4	56	1	29
Essex	3	62	1	32	11	229	6	194
Gloucester	16	47	7	31	10	34	6	26
Hudson	...	...	...	...	...	...	...	...
Hunterdon	16	76	5	31	16	58	6	35
Mercer	7	201	3	193	10	239	6	228
Middlesex	12	58	5	42	14	30	2	4
Monmouth	17	109	8	53	23	121	14	75
Morris	29	243	21	224	46	349	26	290
Ocean	2	3	...	...	4	11	...	...
Passaic	14	113	5	69	16	141	7	99
Salem	3	11	1	4	4	13	2	5
Somerset	13	363	7	93	25	311	10	265
Sussex	3	51	2	49	4	52	1	17
Union	1	8	...	...	5	15	1	1
Warren	3	62	3	62	9	47	3	38
State	176	1,611	85	1,012	255	2,092	108	1,473

RECORD OF BLOOD TESTS MADE OF GOATS UNDER SUPERVISION FOR BRUCELLOSIS CONTROL

July 1, 1947 to June 30, 1948

County	Number of Lots Tested	Number of Goats Tested
Atlantic	4	35
Bergen	3	10
Burlington	3	15
Camden	...	...
Cape May	...	...
Cumberland	2	26
Essex	4	47
Gloucester	8	29
Hudson	...	...
Hunterdon	12	50
Mercer	10	347
Middlesex	11	45
Monmouth	8	74
Morris	28	219
Ocean	1	3
Passaic	12	122
Salem	2	5
Somerset	30	594
Sussex	2	32
Union	2	4
Warren	5	64
State	147	1,721

REPORT OF DIVISION LABORATORY WORK

During the latter part of the fiscal year, we were able to secure the services of Dr. J. H. Benson as veterinary bacteriologist. A recent graduate of the University of Pennsylvania, Dr. Benson has had considerable experience in laboratory work in connection with the dairy industry. He was not entirely new to our laboratory as he was employed to assist us during the summer of 1947. Dr. Benson is a welcome addition to the staff and will be given every opportunity to benefit the Department and the livestock interests of the State. It is expected that with a trained bacteriologist on the job we may be able to render better assistance to the livestock industry through expanded diagnostic service which can be undertaken under his supervision.

An even greater service could be rendered the owners of livestock in New Jersey were it not for the inaccessible location of the laboratory. It is obviously impossible either to hold sick livestock for ample ante mortem study or to conduct post mortem examination on animals of any size at our present location.

Following is a report of the examinations conducted in the laboratory for the year ending June 30, 1948. It will be noted that there has been a material increase in all services rendered during 1947-1948 as compared with the previous year except in the instance of retests of imported stock which shows a decrease of 1,671 in the number of tests conducted.

INSHIPPED ANIMALS

	1947-1948	1946-1947
Samples received	23,182	24,853
Samples broken	15	32
Insufficient sera	1	8
Tests set	23,166	24,627
Tests read	23,166	24,618
Positive	285	378
Negative	22,875	24,215
Hemolyzed	6	24
Contaminated	....	1

REGULAR TESTS FOR BRUCELLOSIS

Samples received	81,908	69,813
Samples broken	34	23
Insufficient sera	22	60
Tests set	81,852	69,730
Tests read	80,986	70,178
Positive	2,728	2,881
Highly suspicious	955	744
Slightly suspicious	3,967	3,475
Negative	73,277	63,003
Hemolyzed	59	66
Contaminated	....	9

BRUCELLOSIS TESTS OF VACCINATED ANIMALS

Samples received	8,374	6,352
Samples broken	11	....
Insufficient sera	4	4
Tests set	8,359	6,348
Tests read	8,355	6,341
Positive	551	1,030
Highly suspicious	373	255
Slightly suspicious	1,170	932
Negative	6,261	4,092
Hemolyzed	....	2

PULLORUM TESTS

Samples received	111,536	112,661
Insufficient sera	....	27
Tests set	111,536	108,575
Tests read	111,536	112,634
Positive	729	792
Slightly suspicious	....	57
Negative	110,807	111,785

MASTITIS

Number animals tested	6,038	1,504
Number samples	23,877	5,936
Streptococci	3,458	1,270
Staphylococci	508	384
Negative	19,890	4,282
Other organisms	5	....
Unsatisfactory	16	....

MILK WHEY TITRES

Number of animals	24	191
Samples set	83	756
Samples read	83	756
Positive	10	28
Negative	73	728

BACTERIOLOGICAL, MICROSCOPIC AND POST-MORTEM EXAMINATIONS

Animal	No.	Material	Condition Suspected	Findings
Avian	10	Chicks	Pullorum disease	Confirmed
Avian	6	Chicks	Pullorum disease	Negative
Avian	102	Adult birds	Pullorum disease	Negative
Avian	23	Adult birds	Pullorum disease	Confirmed
Avian	6	Cockerels	Pullorum disease	Negative
Avian	15	Turkeys	Pullorum disease	Negative
Avian	3	Turkeys	Pullorum disease	Confirmed
Avian	1	Pheasant	Pullorum disease	Negative
Avian	2	Ducks	Pullorum disease	Negative
Avian	1	Pullet	Pullorum disease	Negative
Avian	2	Pullets	Pullorum disease	Confirmed
Avian	2	Hens	Unknown	Fowl typhoid
Avian	1	Bird	Unknown	Internal hemorrhage
Avian	2	Poults	Unknown	Coccidiosis
Avian	6	Birds	Unknown	Coccidiosis
Avian	2	Game fowl chicks	Unknown	Coccidiosis
Avian	2	Hens	Unknown	Ruptured oviduct
Avian	23	Birds	Unknown	Fowl hencosis
Avian	1	Capon	Unknown	Fowl hencosis
Avian	1	Bird	Unknown	Fowl paralysis
Avian	21	Chicks	Unknown	Undetermined
Avian	7	Birds	Unknown	Undetermined
Avian	7	Poults	Unknown	Undetermined
Avian	1	Duck	Unknown	Fowl cholera
Avian	2	Hens	Unknown	Fowl cholera
Avian	1	Chick	Unknown	Gizzard erosion
Avian	2	Birds	Unknown	Gizzard erosion
Avian	2	Birds	Unknown	Infectious bronchitis
Avian	2	Hens	Unknown	Cecal worms
Avian	6	Cockerels	Unknown	Chemical symptoms suspicious of Newcastle disease
Avian	2	Chicks	Unknown	Slipped tendons
Avian	4	Birds	Unknown	Vitamin D deficiency
Avian	1	Hen	Unknown	Distention of heart

BACTERIOLOGICAL, MICROSCOPIC AND POST-MORTEM EXAMINATIONS—Continued

Animal	No.	Material	Condition Suspected	Findings
Bovine	9	Feti	Brucella abortus	Negative
Bovine	4	Feti	Brucella abortus	Confirmed
Bovine	3	Uterine discharge	Brucella abortus	Negative
Bovine	1	Stomach contents of fetus	Brucella abortus	Negative
Bovine	4	Feti	Trichomonads	Negative
Bovine	3	Uterine discharge	Trichomonads	Negative
Bovine	9	Vaginal swabs	Trichomonads	Negative
Ovine	1	Goat	Unknown	Death due to congestion of lung
Bovine	1	Fetus	Unknown	Negative
Ovine	1	Goat	Unknown	Undetermined
Bovine	1	Fetus	Unknown	Vibrio fetus recovered from stomach contents
Bovine	1	Ear and muscle tissue	Unknown	Undetermined
Bovine	1	Uterine discharge	Unknown	Corynebacterium renale recovered
Bovine	2	Rabbits	Unknown	Cocidiosis
Porcine	4	Pigs	Unknown	Undetermined
Equine	2	Foals	Unknown	Undetermined
Equine	1	Fetus	Unknown	Abortino-equinus recovered
Rodent	1	Rabbit ear	Unknown	Ear mange
Bovine	1	Section of spleen, lung, liver and glands	Unknown	Corynebacterium pyogenes recovered
Porcine	1	Pig	Unknown	Cultures negative, gross appearance of pectoral form of hog cholera
Bovine	1	Exudate from sub-maxillary region	Unknown	Undetermined
Bovine	1	Swab from sheath of bull	Unknown	E. Coli recovered
Bovine	1	Lung	Unknown	Staphylocci albus recovered
Feline	1	Swab from throat of cat	Unknown	Hemophilus parainfluenzae recovered
Bovine	1	Lung	Unknown	Undetermined
Bovine	1	Uterine discharge	Unknown	Undetermined
Bovine	1	Pus from abscess	Unknown	Corynebacterium pyogenes recovered
Bovine	1	Spleen	Unknown	Undetermined
Canine	1	Dog	Unknown	Shock with some albuminous degeneration

Bovine	1	Ear	Anthrax	Negative
Porcine	1	Ear, spleen and tail	Anthrax	Negative
Bovine	1	Section of glands and intestines	Tuberculosis	Negative
Ovine	1	Lymph gland from goat	Tuberculosis	Acid-fast bacilli were demonstrated
	3	Vials stained antigen	Routine testing	Satisfactory
Bovine	5	Blood samples	Vibrio fetus	Negative
Bovine	1	Section of intestines, lung, liver	Hemolytic septicemio	Bipolar organisms identified
Bovine	1	Section of liver, lung and kidney	Hemolytic septicemio	No hemorrhagic organisms recovered
Canine	1	Puppy	Leptospirosis	Negative
Bovine	1	Urine	Corynebacterium renale	Negative
Bovine	1	Blood sample	Anaplasmosis	Negative
Porcine	1	Front quarter of hog	Erysipelas	Negative
Bovine	1	Abscess from cow	Actinobacillus	Negative
Equine	18	Vaginal swabs	Streptococcial infection	Negative
Equine	5	Vaginal swabs	Streptococcial infection	Confirmed
Equine	4	Vaginal swabs	Streptococcial infection	Staphylococci recovered
Equine	2	Urines	Pregnancy	Negative
Bovine	1	Milk sample	Pathogenic bacteria	Staphylococci albus recovered
Bovine	1	Fetus	Pathogenic bacteria	Negative
Bovine	2	Vaginal swabs from cow	Pathogenic bacteria	Negative
Bovine	1	Swab with saliva	Pathogenic bacteria	Non-hemolytic streptococci recovered
Bovine	1	Skin pustule	Pathogenic bacteria	Staphylococci albus recovered, negative for fungus
Bovine	1	Caseous matter from mouth	Pathogenic bacteria	Staphylococci albus recovered

Report of the Division of Markets

WARREN W. OLEY, *Director*

The past year is the first complete year in several during which the marketing of farm crops has been free of government maximum price regulation. Minimum price regulations or supports, however, still affect the marketing of some commodities important in New Jersey. Probably the greatest effect of these minimum price regulations has been seen in marketing of potatoes, milk and eggs, although in the case of eggs the application of the support program has been in distant states. Minimum price supports have been continued on all basic and Steagall amendment commodities throughout the year, and although commercial market prices on many of these commodities have been above the support level, the existence of the protective floor price has affected acreage planted.

The need to assist war-ravaged countries by supplying food items has been largely instrumental in holding prices of the basic commodities above the support level. The high prices of certain of these basic commodities, notably grains, has been the most important factor in increasing cost of production prices of animal products, which in turn has made the operation of higher support prices necessary. The wartime program was enacted by Congress with the provision that it should end at a time two years after the declaration of the end of hostilities. This termination date was to be December 31, 1948. All through the recent session of Congress there has been consideration of a long-range agricultural policy to insure to the American people an adequate supply of food in years to come. This would require, among other things, a support program of some kind.

PRESENT PRICE SUPPORT PLAN

A price support bill was enacted in the final hours before the adjournment of Congress. With the wartime program due to expire December 31, 1948, the House was pressing for a simple renewal of this program, which promises price support at 90 per cent of parity. The Senate preferred a so-called permanent program, setting up flexible supports with loans between 60 per cent and 90 per cent of parity at the discretion of the Secretary of Agriculture. The Senate bill also provided for desirable changes in the basic program, including revisions in the formula for the calculation of parity prices. The decision was to accept the House measure for 18 months after the program in operation expired, or until December 31, 1949, on the "war" crops, and until June 30, 1950, on the "basic" crops produced in 1949, and to put the long-range Senate program into

effect beginning with crops produced in 1950. As that date is some time off, it is quite likely that the program will be worked over with greater care before that time.

Early in September, 1947, a fear developed over the nation that there would be a general shortage of food products during the 1947-1948 winter months. At that time shipments of grain to Europe were very high and the country was experiencing a serious reduction in the corn crop. The general shortage did not develop, although there were some reductions in many items. However, evidence has shown that the people of this country are consuming considerably more food per capita than before the war, although because of expanded purchasing power in general, the people would like to consume even more. High prices have developed in many food items and this condition has aided in holding down consumption of certain items, notably meats. Of the items produced in volume by New Jersey farmers, the prices have not been exorbitant and have not risen as fast as the dollar income of most of our people has risen.

ACTIVITIES OF THE DIVISION OF MARKETS

The Division of Markets as in the past has carried out the program of outlined projects assigned to it by the department administration. Personnel assigned to these lines of work have devoted most of their time to these particular programs. In a project with titles and duties as broad in scope as those under which we operate, many other services develop. These are in all cases related to the primary objective of the programs of work, and range from correspondence to personal aid in marketing a particular crop. In developing the work throughout the State we cooperate very closely with all groups having a primary interest in matters affecting marketing activities. In general, these include other state departments, cooperative associations operating city and shipping point markets, agricultural purchasing associations, poultry and egg, livestock and produce auctions, and commodity groups who may or may not do direct selling or marketing work. We have worked closely with the Extension Service of the College of Agriculture, the New Jersey Agricultural Experiment Station, the New Jersey Farm Bureau, the Grange, Farmers' Union, the State Potato Association, State Poultry Association, New Jersey Poultry Breeders Association, New Jersey Dairymen's Council, New Jersey Milk—Official Grades Association, State Horticultural Society, the New Jersey branch of the United States Department of Agriculture Council, and other groups. New Jersey is well organized and all of these groups or associations recognize the value of combining their efforts in the interest of a more effective agricultural program for the State. More and more they are becoming conscious of the value of developing a better reputation for New Jersey products, thereby extending the marketing area.

The following pages give in detail the objectives and accomplishments of all sections of the Division, and of those organizations with which our programs are developed.

BUREAU OF MARKET REPORTING AND COOPERATIVES

ORGANIZATION OF THE BUREAU

Market Reporting and Cooperatives has now been operated as a bureau for one year, and in its organization assumed all the previous responsibilities of the Crops and Markets Information Service of the former Bureau of Markets. In addition, this Bureau was set up to take over certain responsibilities in behalf of cooperative agricultural organizations in the State. Projects under the first part of the duties of the Bureau include the dissemination of information to growers on conditions of crops in competing areas as well as market trends in the agricultural field. The project also calls for the dissemination of information to buyers and processors at points in and out of the State, with the thought that such information would increase interest on the part of these buyers and processors in obtaining their requirements in New Jersey.

To accomplish these aims, the Bureau of Market Reporting and Cooperatives issues reports on a weekly basis, by telephone service on a daily basis, and through seasonal daily radio programs originating in Trenton. The three mediums are used for specific purposes.

DAILY PRICE REPORTING

Daily information on prices and market conditions in the New York terminal markets is disseminated by telephone, as speed is the necessary factor in getting this information to our interested agricultural population. The information is more complete than that obtained on the early radio broadcasts inasmuch as it covers the late as well as the early sales; and many times the late sales indicate a market trend much more clearly than the early sales. The information is received from our cooperative employees in New York and relayed to points within the State where it is available to those who care to call to get the information. The calls must be made early in the morning to be of benefit.

CROP AND PRICE INFORMATION BY RADIO

We have been extremely fortunate in having radio station WTTM, Trenton, extend us facilities between 12:15 and 12:30 P. M. for broadcasting information on the white potato and sweet potato crop during the active harvesting season. Most of our growers are at home at that time, and can get the information over their radio. The information included is that of the carlot movement and truck movement when available, also any revision of an immediate nature in government support programs that would be beneficial to the grower. We have also had our cooperative employee in the Philadelphia market make available information on the early market sales of New Jersey produce in that market. This information is sent by teletype direct to the station to be used on that broadcast.

DAILY POTATO TRUCK MOVEMENT REPORTING

A special report is compiled daily on the truck movement of the white potato crop from the middle of July until the end of the season. Information is obtained from the dealers in the Central Jersey section as to the number of trucks loaded in the preceding 24-hour period and the states to which they were shipped. The information is particularly of interest as a means of combating certain opinions that the trade might get from the carlot movements as shown by the United States Department of Agriculture reports. The carlot movement has been largely government purchased stock. The trade has taken most of its supplies by truck. Since the truck movement does not show up in the daily carlot report, it leads some receivers to think that possibly New Jersey is selling potatoes to no one else but the Government. As far as we know, this State is the only one that makes an effort to get the truck movement as to destinations by states and volume. This information becomes increasingly valuable as the truck assumes a more important position in the distribution of fruits and vegetables. Most of our dealers in the terminal markets were able years ago to judge the extent of supplies that would be in the terminal markets by the knowledge obtained from the carlot reports, since most of the movement was by rail. Now the whole picture is disrupted by the heavy use of trucks which may cause a heavy glut one night and a scarcity the next.

REPORTS MAILED WEEKLY

One of the important weekly reports is the *Weekly Market Review,* a four-page publication which includes prices and short pertinent paragraphs on feed and grains, hay and straw, poultry and eggs, livestock, and fruits and vegetables. The feed and grain prices are obtained on a Philadelphia basis at the wholesale market. Hay and straw prices in Philadelphia and New York in wholesale amounts are quoted. Poultry and egg prices at the cooperative auctions and the New York terminal market are included, as are the livestock prices. Fruit and vegetable prices on the New York and Philadelphia markets are quoted in chart form for easy comparison of prices. A summary of the principal items of the various divisions of agricultural marketing is given on one page of the *Review.* This includes the current price, the price the preceding week, and the price the corresponding week of the preceding year.

Auction News is a promotional sheet appearing from April through October. It emphasizes current offerings of fruits and vegetables in New Jersey in general, and the principal auction markets at which these commodities can be obtained. The expenses of this publication, such as postage, paper and materials, are paid by the cooperative auction markets on a prorated basis. The material is written by the chief of the Bureau and the clerical work is contributed by the Department. On the reverse side of the sheet we issue a statistical summary on volume and the high and

low daily average prices of the various commodities sold. We also include a comparison of the total volume of the business both in packages and money for the current and two previous years.

Truck Crop News is issued during the active harvesting season cooperatively by the Weather Bureau of the United States Department of Commerce, the Bureau of Agricultural Economics of the United States Department of Agriculture, and the Division of Markets through this Bureau. The Weather Bureau supplies information on rainfall and its effect on total moisture in the State. The Bureau of Agricultural Economics and the Bureau of Market Reporting and Cooperatives contribute information on crop growth, time of harvest, quality and other items. The clerical work, such as mimeographing, stencil cutting and addressing a portion of the subscribers' list, is done by the Department. The *Truck Crop News* is mailed under the franking privilege of the Bureau of Agricultural Economics at no expense to the State.

The weekly mailed reports also include *Market Conditions Reports.* These reports are mailed to selected lists; tomato reports are sent primarily to tomato growers, apple reports to apple growers, etc. The *Market Conditions Reports* contain information on one commodity only in each report. Types of information included in the reports are supply, demand, information on competitive crop areas, price trends, anticipated competition, and extent of supplies during the marketing period; information on government regulations when necessary, on support programs when a factor in marketing, and on transportation if a factor in the orderly movement.

In making the report on activities of the Bureau covering the period of a fiscal year, which begins and ends in the middle of a farm crop year, we usually find that the 12-month period will include parts of two crop years. The entire harvest of some important crops may be carried out within one fiscal year, yet a combined report covering these crops will take in parts of two years. A good example would be New Jersey's two most important crops for processing, namely, asparagus and tomatoes. For the purpose of this report, we would be considering the asparagus crop of 1948, but the tomato crop of 1947. The harvest of some other crop may cover parts of two calendar years, but one fiscal year. In this report, especially under the sub-heading "Market Conditions Reports," special care has been taken to make clear the period of time under consideration.

MARKET CONDITIONS REPORTS

TOMATOES FOR MARKET

Two reports on tomatoes for market were released. The first report was issued just prior to the marketing of the New Jersey crop in 1947. From the competitive angle, North Carolina had only about 300 acres for fresh market and was not a factor in the over-all supply even though North Carolina was about three weeks late in harvesting. Virginia had about a 200-acre increase over the previous year, which was estimated at about 1,300 acres. This, however, was much less than the 2,400-acre average for the ten-year period from 1936 to 1945. Growth in Virginia was rather uneven, due to the long dry spell during planting time, and early growth was hampered. Maryland had about 6,500 acres, which was about the same as the year before and for the ten-year period. A slight increase in production, however, was expected to create a little more competition for New Jersey tomatoes. There was some frost damage reported and some acreage had to be replanted.

New Jersey had a varied growth in the tomato crop. Many of the early plantings were damaged by frost, and early cool weather retarded growth. Conditions were such that much of the production came at one time; and due to the heavy offerings of canneries, some tomatoes from this type of acreage found their way into the fresh market. As a result, the market was glutted and prices were low.

The 1948 season, which was covered in a report around the first of May, promises to be rather unsettled. This is due to the fact that some growers who ordinarily contract with canneries have been dissatisfied with the price offered and did not contract this year. Some of these growers, however, are intending to plant tomato acreage with the thought of offering the production on the open market. The amount of this open market acreage and its production, together with the volume from contracted acreage, determines the prices on the fresh market. Growers are not necessarily committed to fresh market or cannery if they are planting acres that are not contracted. If the production is low and the amount of acreage that is contracted is not sufficient for the canneries to operate efficiently, they will naturally buy heavily on the open market, which will increase the open market price. On the other hand, if the open market crop is large and the contracted acreage is sufficient to meet the cannery needs, then the fresh market price will be low due to the heavy offerings. This was the condition during August and September in 1947. Some growers have reported that the quality of the plants received in the spring of 1948 was not as good as has been received in former years.

SWEET POTATOES

Twelve reports were issued on sweet potatoes covering the 1947 harvested crop. The sweet potato industry in the United States had a production of about 6,000,000 bushels less than average, which is placed at about 64,000,000 bushels.

New Jersey's 1947 crop was estimated at 2,500,000 bushels, which was above the average of slightly better than 2,000,000 bushels. Marketing of the New Jersey crop was difficult due to the fact that increased production in nearby states such as Maryland, Delaware, Virginia, and North Carolina was rather high. Louisiana had a below-average crop of around 7,000,000 bushels as compared to an average of about 8,250,000 bushels. Favorable growing conditions in the East changed the geographic location of the heavy production and made for increased competition in the nearby terminal markets where New Jersey ordinarily enjoys a preference.

As the harvest season progressed the growers decided to improve their marketing through the use of a grade label. The Division of Markets helped in designing the label and drawing up the requirements for the quality that could be marketed under the label. The grade to be used was the U. S. Extra No. 1 grade, which is better than the usually quoted grade of U. S. No. 1. Size qualifications were included which would permit a medium and fancy size designation. The fancy designation had a size requirement from 2 inches to 3½ inches in diameter and 3½ inches to 8 inches in length. The medium designation was from 1½ inches to 2½ inches in diameter and from 3 inches to 8 inches in length. Two colors were used in the label; one a yellow representing the Jersey Yellow, which is the predominate New Jersey variety, and the other an orange color representing the Jersey Orange, with the name of the variety included on the label. One additional requirement for the U. S. Extra No. 1 grade was included which limited the amount of scurf to 15 per cent on the individual tuber. Inspection is compulsory for those who wish to use the label and the growers were informed as to the manner of obtaining inspection through the Division of Markets. The Vineland Cooperative Produce Auction Association, Inc., and the Farmers' Union, both in Vineland, and one large producer at Hammonton used the label to a limited extent. Packing under the label is permissible. Growers were cautioned against putting on the grade label before stock was inspected because the label would have to be removed if requirements were not met. Generally, however, the quality this year was such that too many potatoes would have to be thrown out of the average pack in order to meet the requirements of the grade. For this reason, very few lots were packed under the label. Growers are planning to use this label for the 1948 crop.

The Vineland Cooperative Produce Auction Market installed a grading machine that would also wash and wax the sweet potatoes. The retailers who obtained their supplies from this market were impressed by the keep-

ing qualities that the waxing process offered. For the most part, the general range of sales was from $2.00 to about $2.75. Later in the season, smaller amounts were sold at slightly higher prices, with a top figure of about $4.50 for some exceptionally good quality Jersey Orange type potatoes.

At the time this report is being written there seems to have been a greater acreage of the Jersey Orange variety planted this year. This is a moist type potato. Because of its attractive appearance and color, it will offer good competition to the southern yam type, which has been taking an increasing amount of the market in the Northeast.

WHITE POTATOES

Thirty-seven reports were issued on white potatoes. Information is mostly on the crop movement in New Jersey as well as competing areas, estimated production and government regulations on support programs and allied information. This report is well received by potato growers and shippers, and is considered the most valuable source of information for the white potato industry. Considerable detail on the white potato season may be found later in this report under "Summary of the New Jersey Potato Season—1947"; it is therefore not continued under this heading.

ASPARAGUS

Three reports were issued on asparagus. Part of the report was devoted to the U. S. Department of Agriculture predictions of yields and production, particularly in the early states. The cool weather in May and early June reduced the quality of much of the crop, and also reduced the total production in New Jersey.

STRAWBERRIES

Four reports were issued on strawberries, with information on production, terminal market information, prices and shipping dates from competing areas. The season was fairly successful in 1948, but heavy rains reduced the keeping qualities of some of the berries harvested. Buyers were reluctant to pay the high prices for strawberries that might prove a loss on their hands. For this reason prices fluctuated daily, with a fairly high season-average price.

ONIONS

One report was issued on onions, and this covered production and possible competition from other states. The yield in New Jersey was fairly heavy in 1948, but the market remained good through practically all the harvest period. On a total estimate of 3,100 acres, the growers are expected to produce a total of 899,000 sacks of 50 pounds each of onions, most of which have been raised and marketed as the year ends.

PEACHES

Eight reports were issued on peaches during the fiscal year. Six of these covered the 1948 crop and two were issued as part of the series on the 1947 crop. The two reports on the 1947 crop were issued just prior to the marketing season, and compared production estimates in the different states and also gave a brief review of the marketing agreement in Georgia. The 1947 season had a late maturing date, which made heavy marketings from most of the southern states come at the same time. The 1948 crop did not have this condition; the movement from southern states was normal, with rather light offerings most of the time. The southern shipping season will be about over when New Jersey starts to harvest this year, and there should be a good market for New Jersey peaches. Rain and other production factors have caused some damage to the peach crop, as well as cut the expected crop volume. While the prices are rather high at the date of this report, many of the growers will not be assured of profits because of the light set and high production cost.

APPLES

Five reports were issued on apples. The reports were chiefly on the movement of apples and production as to states and varieties, and also a brief review of the estimated world production as a guide to export possibilities. On January 1, 1948, apple holdings in the United States were above the January 1, 1947 holdings by about 2,500,000 bushels. The fact that the holdings of New Jersey apples were light was overshadowed by heavy production in other sections, which had a tendency to undersell the New Jersey offerings. Many of the growers held their apples beyond the period they should have because they expected high prices to continue. However, there was a slump following the beginning of the calendar year and the Government was asked to come in and purchase apples to support the market. Buying was limited, however, and was confined to the small sizes which normally go into export channels, and actually did not help the domestic market too much.

SUMMARY OF THE NEW JERSEY POTATO SEASON—1947

Planting of the commercial early potato crop was completed in the central part of the State around the end of April, or about ten days later than usual. At that time some of the early-planted acreage in South Jersey was breaking ground. Frosts on May 9 and 10 cut back those plants above the ground, but the number affected was not too great and the crop on the whole was not damaged. During May adequate moisture and warm weather promoted rapid growth. Excessive rains later in the season hampered cultivation and drowned out potatoes in some low spots. However, with adequate insect control, favorable temperatures and sufficient moisture the growers harvested a crop of record average yield.

Growers generally elected to delay their harvest due to poor early demand, and to increase tonnage since the vines were in excellent condition all through July. However, a few trucks were loaded the first week in July, and some rail cars were reported the last week in July. Heavy harvesting began the first week in August, with Cobblers freely offered and Katahdins as yet only in light supply. Labor for picking and grading was plentiful, although some growers were worried about the supply before the harvest began. In order to give workers arriving early a chance to earn money to defray current expenses until the heavy harvest began, some growers harvested a small acreage. The delayed harvest is probably responsible for the large percentage of Size A stock in the 1948 crop. Of all the sacked potatoes inspected, 87 per cent were size A as compared to 66 per cent and 62 per cent of the inspected stock in the preceding two years.

As in 1946, the U. S. Department of Agriculture was the largest single purchaser of the New Jersey crop. The inspection records show that of the 11,966 cars shipped by rail, 9,403 were purchased by the Government on the support program. Of the amount purchased, 4,920 carlots, or more than half, went to Philadelphia to be loaded on ships for export to South America. The balance of the government purchases went for livestock feed, school lunch programs, starch diversion, institution feeding and alcohol manufacture.

The commercial outlets by rail were rather restricted. Part of the reason probably was the need for a tremendous supply of refrigerator cars for the export deal. This curtailed the amount available for commercial movement. The railroads themselves must accept part of the blame for the restricted use of the rails for commercial business. They did not offer sufficient service in transit so that condition of the stock would be at least equal to competitive iced arrivals from western areas. Some receivers specified truck shipments for their deliveries because of the time element.

An analysis of the destinations of New Jersey and Long Island potatoes was given in the summary. Distribution is a very important factor in the movement of any crop, and potatoes are no exception. For instance, some towns in North Carolina were reported to have no potatoes when they were in surplus quantities here. Part of this faulty distribution may be due to insufficient transportation facilities. This applies to truck as well as rail shipments.

In arriving at totals for the rail movement, we have used the reports of the carriers sent to the U. S. Department of Agriculture. Truck movement is based on reports from 25 dealers. Variance between volume as shown in total movement and total production includes amounts sold by growers direct to truckers or through farmers' markets, commission houses in terminal markets, direct to consumers at the farm or roadside stand or delivered by growers' trucks, and amounts retained on the farm for home use, stock feed or seed.

Using the figures based on our sources of information, an analysis of the rail movement and truck movement this year shows a total of 18,945 carlots moved by both rail and truck. This compares with 17,161 carlots moved the same way in 1946. On the surface these figures seem to contradict the production figures of the two years when more potatoes were produced in 1946. It must be remembered, however, that in 1946 a very large part of the crop moved in bulk to distilleries and were loaded in some instances over 100,000 pounds to the car, as compared to the export deal which predominated this year and in which most of the loadings did not exceed 30,000 pounds. In the federal government figures on rail shipments, each car is just one car, regardless of the weight of the potatoes in it.

Truck shipments, on the other hand, are figured as so many sacks to the minimum carlot equivalent, depending on the time of the year. The truck movement was less in 1947, amounting to only about 7,000 carlots as compared to 7,792 carlots in 1946. All the dealers reported that trucks were not plentiful at any time during the 1947 season and that they could have shipped more potatoes commercially had trucks been available. Truckers were also more particular as to the markets to which they hauled the potatoes, and this was also a factor affecting distribution.

The growers in 1947 were eligible for price support on their crop if they had planted within the goal allotted them, and if they had paid the service fee of one cent a hundredweight on the expected production from that acreage. Some growers failed to pay the service fee either through design or through procrastination in meeting the deadline for payment. These growers as well as those who planted over their allotment were ineligible for support. Some of these growers as well as some who were eligible for support sold at least part of their crop below the support level. In the case of ineligible growers sales were made through uncertified dealers, while in the case of eligible growers many lots were sold as a good grade of commercials. Some growers, following a customary procedure, consigned their offerings to commission men on the nearby terminal markets. The government support program operated more smoothly than any year it has been in existence. This was primarily due to the fact that the export deal provided outlets sufficiently large to take care of most of the daily surpluses.

According to the figures available from the Federal-State Inspection Service, the quality of the crop was even superior to the high quality crop in 1946. The inspection on sacked and graded stock shows a total of 92.9 per cent grading U. S. No. 1 quality, as compared to 92.1 per cent in the 1946 crop.

WORK WITH COOPERATIVES

In the reorganization of the Division of Markets certain work with cooperatives has been assigned to this Bureau. Much of this work has previously been done by the director in the development and supervision of agricultural cooperatives. The Bureau is not yet set up to handle the many details involved, and the division director will continue to give such aid to groups of farmers as is possible. The request for such aid, however, is much larger than in former years, and the amount of time that can be devoted to cooperatives by the director is limited.

The bureau chief is devoting more of his time to cooperative problems. He assisted during the year in organizing the Council of Farmer Cooperatives which, as now constituted, acts as an operating committee of the New Jersey Farm Bureau. The Bureau of Market Reporting and Cooperatives aided by holding meetings of representatives of cooperatives during the winter and spring months when many important problems of cooperatives were discussed.

The cooperative project has been set up within the Bureau of Market Reporting and Cooperatives to give assistance to cooperatives in developing efficient methods that could be utilized by them, and to safeguard the members' interest in the individual cooperative organization. There are approximately 146 cooperative agricultural organizations in New Jersey, including marketing, selling, or service cooperatives. There is no control in the State over these organizations except that they are required by law to submit a copy of their by-laws to the Secretary of Agriculture, and to submit annually a financial statement covering the year's business and their condition at the time of the report. To safeguard further the interest of the producer-member in the cooperative, a request has been made for a supervisor with a knowledge of cooperative law and accounting to analyze the financial statements and make further check on those that were not too promising. This need has been discussed at meetings of cooperatives and has had the support of the committee on cooperatives, acting as a Cooperative Council. The contemplated service is a definite need in the cooperative movement. It will be a protection to farmers desiring to use cooperatives and a deterrent to unscrupulous persons desiring to use cooperatives fraudulently or unethically.

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 our 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 milk of definite quality standards produced nearby. Other activities include cooperation

with the Milk Control Board, 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.

MILK INDUSTRY PROBLEMS

During all of the year just passed there has been much consumer resistance to the price of milk. Much of this resistance has been based on the charge that milk prices have risen to unreasonably high levels, or beyond the purchasing ability of the consumer. A study of per capita wages in the Northeast leads one to believe that the cause for complaint is not the ability to buy. The cost of milk production, based on feed prices, labor and equipment, gives ample reason why milk should be priced as it is or has been during the year, and for that matter could reasonably be priced still higher. Milk prices have of necessity risen, but the cost of milk to the consumer has not risen as rapidly or as high as the combined cost of all foods. Milk prices have been controlled. In New Jersey prices to be paid the producer and minimum prices to be charged by distributors have been set by the Milk Control Board. Control in New Jersey is in the hands of a state agency. This makes the New Jersey industry subject to criticism and attack.

Milk control has operated in the State for many years, and up to this past year has been relatively free from attack. But under the plans for reorganization of the State Government an especially favorable opportunity has been developed for those who do not like regulation, or who welcome an opportunity to voice their objection to prices set by a control board. Possibly, mistakes in judgment or in method of operation have been made, but this Division has no basis for criticism.

During the year the producer, while receiving high prices for milk in relation to prices of former years, has had very high production costs. Feed costs, and particularly concentrates, were very high. Part of the price was undoubtedly due to the federal buying program. Feed prices reached $115 a ton at one time, with an average price of better than $100 per ton during most of the winter. They have increased to 284.6 per cent of 1940 prices, and feed represents, according to various opinions, from 60 to 70 per cent of the total cost of producing 100 pounds of milk.

The price of feed has directly affected the price of meat. Much land in the West that probably should have been left in range has been plowed and planted to wheat. At the same time range animals have been slaughtered before being properly conditioned because of the high price of grain, principally corn. The demand on the part of the consumer for meat has been abnormally high. Federal figures give the per capita consumption at about 12 per cent above prewar. These combined reasons have forced the price of meat upward, with the natural result that many dairy animals were sold which still had some milk productive value, to the detriment of the milk supply. This, of course, raised the price of replacements from

the normal average of $250 during the past several years to a high price of $350 to $450 for animals of the same quality.

PRODUCTION STUDIES

Other factors made the production costs of milk very high. The cost of labor had no ceiling, was unobtainable in a number of cases, and labor was very often inefficient when it was obtainable. Replacements for machinery, particularly where rubber was involved, such as teat cup liners for milking machines, were particularly exorbitant. Steel parts were out of sight. In fact, the price of milk did not keep pace with average production costs.

The United Milk Producers of New Jersey about a year ago instituted a system of audited reports of the cost of producing milk on an average of 60 farms within the State—all members of the association. These actual costs for the first six months of the year 1948 were as follows:

Month	Average Cost of Producing 100 lbs. of Milk 3.5% Butterfat	Minimum Price N. J. Milk Control Orders 3.5% Butterfat
January, 1948	$6.51	$5.60
February	6.65	5.60
March	6.19	5.60
April	6.26	5.60
May	5.65	5.60
June	5.98	5.60

It will be seen at a glance why the producers of milk in New Jersey thought, and think today, that they are receiving an inadequate price for milk and that a more flexible system, blending the wholesale price for milk with the cost of production, would be preferable.

The milk distributors also have their problems. There is one peculiar situation: the price for which the milk is purchased is fixed, and distributors must pay this price. The minimum price for which they must sell was also fixed and became the competitive price. The difference is "spread," and on this the distributors must operate. In many cases during the year this has been inadequate. The distributor has been caught in a squeeze between union labor contracts and rising material costs. Milk control orders for many years have been geared on a ratio (for dealers) of 12,000 to 15,000 daily retail sales. Over this ratio the distributor can make some money; under this ratio loss is inevitable. The large majority of distributors in New Jersey are right at or below this ratio. Consequently, the distributors in the State feel that there should be some modification in the pricing of milk so that their spread would take into consideration the factual costs of milk distribution.

The consumer has the usual plaint that the cost of milk is exorbitant. Consumer organizations claim to have figures showing that about 20 per cent of the milk sold in New Jersey goes to the high-income groups whose incomes, including union wages, are above $5,000 per year, while

80 per cent of the milk is sold to low-income groups, with salaries less than $5,000 per year. This latter group is particularly hard hit by the high cost of living, and where there are several children in the family, the cost of milk is undoubtedly a major item. Yet, many other items of basic foods have exceeded the increase in the price of milk. These consumer groups have been insistent on the elimination of the retail pricing of milk, their premise being that open competition will bring a competitive decline in the selling price of milk. Their position is that the milk control regulations be eliminated or modified to bring about this result.

While these conditions prevail in New Jersey, the over-all national milk picture does not look promising. The United States Department of Agriculture reports that national milk production in the first quarter of 1948 was at an annual rate of 115 billion pounds, compared with 121 billion pounds for 1947. The New York Federal Market Administrator reports that receipts of milk from the New York milkshed (always indicative of conditions in New Jersey) were lower from 5.3 to 9.1 per cent during January-May, 1948, than during corresponding months last year. These lower receipts are due, according to the Administrator's office, to "feeding lighter on grain because of higher costs and inadequate returns," and competition "for dairy cattle for meat purposes."

There are many problems of the milk industry that indicate the need of a research bureau for investigation and study on a long-time plan for the reorganization of the milk industry which would benefit equally the producer, distributor and consumer. If price regulation is to continue it undoubtedly should be based on such research, for the good of the entire industry and as a protection to the consuming public. New Jersey's antiquated producer-subdealer system of distribution needs to be revised, and consumer relations are in their infancy. Such a research bureau set up by an impartial agency would obviate or correct many of the problems confronting the industry today.

NEW JERSEY OFFICIAL GRADES

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

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

At the close of the fiscal year there were 30 dealers processing 100,102 quarts of milk daily under the New Jersey official grades. Much of the

milk has changed in classification; some of that formerly sold as New Jersey Grade A Pasteurized is now sold as New Jersey Grade B Pasteurized. Of these 30 dealers, two sold raw milk only, 23 sold pasteurized milk only, and five sold both raw and pasteurized milk. A small percentage of milk was sold as raw.

Among the 30 dealers operating under the supervision of the Department of Agriculture are 19 purchasing dealers, six producer-dealers and five who both produce and purchase milk. The number of producers involved in the production of this milk is 329.

When the New Jersey official grades were established, a rigid herd inspection system was introduced. At the present time this feature serves as a model for several other inspection agencies, both within New Jersey and in other states. During the year ending June 30, 1948, there were 18,307 cows examined in accordance with the grade regulations.

The accompanying table is concerned with the physical examinations of cows, by counties, during the fiscal year 1947-1948, and the results of those examinations.

PHYSICAL EXAMINATION OF CATTLE

County	Number of Herd Examinations	Number of Animal Examinations	Number of Animals Passed	Number of Animals Isolated	Number of Animals Condemned
Bergen	2	50	50	..	..
Burlington	69	1,780	1,745	35	..
Essex	6	242	237	5	..
Hunterdon	134	3,691	3,619	67	5
Mercer	32	925	890	31	4
Middlesex	1	21	21	..	..
Monmouth	17	485	463	17	5
Morris	89	3,417	3,387	30	..
Salem	35	968	949	16	3
Somerset	233	5,799	5,672	121	6
Sussex	15	631	613	18	..
Warren	6	259	251	8	..
Pennsylvania	2	39	39	..	..
Total	641	18,307	17,936	348	23

SUMMARY

Number of herds in which all animals were passed	441 or 68.8%
Number of herds in which animals were excepted	200 or 31.2%
Number of animals passed	17,936 or 98.0%
Number of animals isolated	348 or 1.9%
Number of animals condemned	23 or 0.1%

OTHER GRADE REQUIREMENTS

Another requirement of the New Jersey official grades for milk is the physical examination twice each year of all employees on farms producing New Jersey Grade A Raw milk and of employees in bottling plants handling the New Jersey grades of milk. Last year this involved the examination of 419 individuals; medical certificates containing the history of these examinations are on file in the Department of Agriculture. Each

man taking the medical check-up was required to be examined by a physician twice during the year and pronounced by him to be a safe individual to handle milk. When the employee met these requirements a card of identification was furnished. Laboratory analyses of specimens submitted by physicians in connection with these physical examinations were made by the New Jersey Department of Health.

The importance of microscopic analysis of samples of milk in determining causes of defect is amply demonstrated by the methods used in policing the New Jersey official grades. While this work is more complete, and incidentally more expensive, than ordinary methods of control, the results justify the extra effort. During the 17 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 2,592 samples were collected for analysis.

OFFICIAL GRADES' CONSUMER PROGRAM

The New Jersey Milk—Official Grades Association inaugurated in the spring of 1947 a consumer relations program which has been under the direction of the supervisor of dairy products standardization. The program has been highly successful. Contacts have been made with a number of consumer organizations and meetings arranged with their membership and other groups, such as chambers of commerce, service clubs, newspapermen and editors, and women's clubs.

The meetings were planned simply as a means to get problems of production and distribution of milk before the consuming public. The method of doing this consisted of a series of dinner meetings held at strategic points in the State, with a panel discussion of the problems which the consumer raised from the floor. The panel endeavored to have complete coverage: producers, distributors, health officers, a representative of labor, a milk industry statistician, and any other interest that could be represented. At the six large meetings conducted during the fiscal year no pertinent question was presented which was not answered factually and fully. This method was singularly effective as no facts were withheld and many myths exploded. A quotation from the *Community Press* of Glen Rock concerning one of these meetings would seem to sum up the results of all of them:

> "That the directors of American Housewives Organized, Incorporated, succeeded wholly in the second aim of their program, 'To promote good will and fair practices between consumers and industry,' through the medium of the panel discussion of dairy industry problems, held Tuesday evening at the Swiss Chalet in Rochelle Park, is a matter of question. That the dinner conference was interesting, informative and entered into without undue bias on the part of either the consumer or milk industry representatives there is no doubt."

Because of the many demands on the time of the supervisor of dairy products standardization, the cooperating New Jersey Milk—Official Grades Association employed and financed a consumer representative. She assisted in many of the details of the larger meetings and made hundreds of individual contacts during the year.

So successful was the program that as the fiscal year closed, negotiations were under way for its continuance and enlargement, with the United Milk Producers of New Jersey and the Milk Dealers Association of Northern New Jersey participating to form a three-association program, still under the supervision of the supervisor of dairy products standardization.

LIVESTOCK AUCTION MARKETS

The fiscal year just closed has been a banner year for the livestock auction markets in New Jersey. All livestock auction markets, without exception, operated at capacity and some of them above capacity, necessitating the enlargement of existing facilities. Extraordinary demand for meat at any price, and the disparity between the cost of production and milk price, continued to provide merchandise to the auctions beyond the normal supply.

During the fiscal year 146,233 head of stock were sold with a gross value of $8,948,195.69, which shows an increase in volume of 14.4 per cent over the previous year and an increase of 37.9 per cent in gross receipts over the previous year, as follows:

Market	Number of Head	Value
Flemington	27,110	$1,361,086.45
Hackettstown	41,926	2,488,368.43
Mount Holly	3,519	152,475.53
New Egypt	11,499	982,657.85
Sussex	30,442	1,671,294.01
Woodstown	31,737	2,292,313.42
Totals	146,233	$8,948,195.69

The livestock auction markets are now big business. The three cooperative and five private auctions have accomplished their objective on their own initiative and with their own resources. The war and its aftermath have been responsible for the "boom" in this method of disposing of farm animals, including cull stock. Fortunately, the business has been in responsible hands. This assured the producer an exceptional market at a small cost, because all the markets are in good financial shape. The time has come, however, when some sort of supervision other than the nominal sponsorship now exercised by the Department of Agriculture should be available to continue the present favorable situation. Problems to be considered are the financial structures of the various markets, the responsibility of the markets to their patrons, and of the buyers to the markets, and most of all a uniform system of accounting for the various

markets so that some concrete idea can be obtained as to the efficiency of the different operations.

SPECIAL SERVICES

The New Jersey Milk—Official Grades Association met several times during the year. The supervisor of dairy products standardization served as secretary of that organization. Much time has been devoted to programs of expansion and publicity in behalf of the association. The supervisor also served as a representative of the New Jersey Junior Breeders Fund, Inc., on a committee with members of the State Agricultural College and Extension Service, to determine the awards for meritorious records presented by the trustees of the Fund during Farmers Week.

The supervisor of dairy products standardization was in charge of the dairy program and dairy banquet during Farmers Week in January. The meetings were very successful and the dairy banquet has outgrown the only large quarters available in Trenton. The culmination and execution of this program has entailed a large amount of work, taking the time of the supervisor and increasing the burden on his office staff.

The supervisor of dairy products standardization was also requested to serve on the legislative committee of the New Jersey Dairymen's Council. This committee has been very active, holding 16 meetings during the year. Much time and effort has been spent in collecting data, preparing memoranda and analyzing dairy conditions in the different states, particularly Connecticut, in order that New Jersey's milk situation is not overlooked in the Legislature.

BUREAU OF FRUIT AND VEGETABLE SERVICE

This year, as in past years, the Division of Markets has worked closely with those of our people interested in the marketing of fresh farm products in the large and secondary terminal markets, shipping point markets and distribution to government agencies. Growers and shippers in New Jersey realize more and more each year that sound marketing practices are necessary in order to compete favorably with other producing areas. The Bureau of Fruit and Vegetable Service renders assistance to this program which is centered around two main objectives: first, the establishment and development of outlet facilities, such as auction markets in New Jersey and terminal markets in large adjacent cities, and of cooperative shipper-buyer relations within the State; and secondly, the development of a better product packed in standard containers, meeting grade standards so necessary in modern food distribution.

The State program which renders direct assistance to those concerned with marketing better quality products is the Division of Markets project which deals with inspection and certification of fresh fruits and vegetables, under and in accordance with federal and/or state standards, to be marketed in fresh form or used for processing. This work is carried on

under a three-way agreement between the United States Department of Agriculture, the New Jersey Agricultural Society and the New Jersey Department of Agriculture. In this agreement the Division of Markets is responsible for the proper interpretation and application of grades and standards and the supervision of the inspection service. The Agricultural Society employs inspectors, collects fees for services rendered, and pays salaries and expenses of inspectors employed. Under this arrangement the work has been carried progressively forward, with each fiscal year showing an increase in services rendered and work performed. Total inspections this fiscal year exceeded those of any previous year by several thousand, exclusive of products such as asparagus and tomatoes for processing which were not quite up to the record years for volume.

Government price support and purchase of white potatoes is primarily responsible for the tremendous volume of increase in commodity inspections.

PURPOSE OF INSPECTION

The purpose of shipping point inspection is that it furnishes the applicant information as to size, quality and/or condition and grade of a given product. This is vitally important to the marketing of such product in that it enables the applicant, grower or shipper to trade on the basis of the result of the inspection. This is in line with our program of assistance through improvement of pack and quality to meet competition from other producing areas and to increase the demand for New Jersey products.

In the grading of cannery crops which are contracted on the basis of established grades, producers are paid in direct proportion to quality delivered. Processors are better able to pack a product the quality of which is relatively consistent with cost.

CERTIFYING FRESH PRODUCE

APPLES

The dry and unseasonal warm weather which prevailed during the greater part of the month of September, 1947, was detrimental to apple growers in New Jersey in that it caused apples to mature very rapidly, without the benefit of cool or cold nights to add color to the fruit. The ripening, which was hastened by the warm weather, was too rapid for fruit growers to keep up with harvesting. Quite a large percentage of the fruit dropped to the ground. The packing season was shortened considerably by these conditions and just about all fruit was packed by the end of October.

A considerable portion of the apples inspected during the harvesting season and shortly afterward was exported. Exporting began in a small way in August when two lots of summer apples containing 995 Northwestern boxes were exported to Brazil. This was followed in September

by three carloads and 18 trucklots. Most apples which were exported early in the season went to Brazil. This country has rigid quarantine restrictions concerning import apples; in addition to regular export form certificates certifying quality, condition and grade, our inspectors were required to issue special quarantine certificates showing that the fruit was free of those insects and/or diseases which are barred by law from entry into Brazil. In October most apples were placed in cold storages after packing. Those that our men inspected were lot numbered and certified.

GOVERNMENT PURCHASES

With apple storages still bulging with an oversupply of fruit in most of the producing areas after the first of the year 1948, and prices below a level at which profitable trading could be done, an appeal was made to the United States Department of Agriculture to help relieve the situation by a government purchase program. On February 13, 1948, the U. S. Department of Agriculture issued an announcement that it would consider the purchase of fresh apples in the principal producing areas in the United States. The announcement stipulated that vendors must submit offers in the form of bids stating quantity, varieties, sizes, prices, etc., which had to be mutually agreeable between federal agency and vendors before contracts would be made and "Notices to Deliver" issued by it. Under the terms of the announcement vendors were required to furnish federal-state inspection certificates certifying grade and condition. Acceptable grades were Combination U. S. No. 1 and Utility or better, as set forth in the U. S. Standards for Fresh Apples. It was further specified that apples had to be certified as meeting U. S. Standards for Export. In addition to certifying grade, conformation to export standards, etc., our inspectors had to certify to the number of packages in each shipment and further state that the apples were loaded in their presence.

As is generally the case with government purchase programs, this one had to struggle through a maze of red tape which caused considerable delay in getting the program under way. The Jersey Fruit Cooperative Association, Inc., of Riverton acted as vendor for New Jersey growers interested in disposing of their apples under the program, and submitted bids to the U. S. Department of Agriculture. They first received an allocation of 66 carlots or carlot equivalents; however, due to the delay in getting the program started, the time limit for acceptance was extended from April 15 to April 30, and the allotment for New Jersey was increased to about 80 cars or carlot equivalents.

New Jersey growers were helped to some extent by the program, but not as much as they had hoped, because under the program the acceptable apples were restricted to sizes from 2 to 2½ inches. The whole purpose of the program was to remove from trade channels the smaller sized apples together with some of the lower quality packs, the natural assumption being that this would strengthen the commercial market for larger sizes of good quality.

During the fiscal year 1947-1948 a total of 213 certificates of inspection were issued on apples. These included 41 carlots and 172 truck and storage lots. The certificates on truck and storage lots covered 106,541 bushel boxes or baskets.

GREEN CORN

The agreement between the Cooperative Growers Association, Inc., at Beverly and several large chain store organizations to deliver green corn, field-fresh, each day to stores located in cities within convenient truck-hauling distances was renewed with more vigor and enthusiasm this year than in past seasons. This type of marketing green corn was begun in 1945 as an experiment. It has proven to be a boon to the green corn industry in New Jersey and particularly Burlington County, and its success is attested to by the fact that each season the volume has greatly increased over the previous one.

Corn shipped under this program is as near field-fresh as it is humanly possible to have it. Growers participating in the program start picking operations each morning shortly after midnight, using tractors with powerful headlights for illumination. Each grower picks his allotted quota for the day and has it packed and ready for shipment at some time between 5:00 A. M. and 9:00 A. M.

Prices to growers are dependent upon quality packed, which brings us to the assistance rendered to the program by the Bureau of Fruit and Vegetable Service. Experienced inspectors working under the supervision of the Bureau are assigned to inspect and certify each grower's lot for quality, condition and grade before shipment. In order to prevent delay in shipments, the inspectors were out early, usually arriving at farms from 5:00 A. M. to 8:00 A. M. and then going on to the Beverly market where they completed the work on small lots brought in for assembling into large truck shipments. The last of each morning's shipments was rolling to market by 9:00 A. M.

This, however, did not complete the inspector's day. Many lots were sold by the market to receivers other than those participating in the "field-fresh" program. Some of these lots also were sold on a grade basis but were shipped distances outside of the radius covered by the "field-fresh" program and with no set hours of delivery. The greater part of these shipments were moved between 7:00 P. M. and 10:00 P. M., with some starting as late as 11:00 P. M. This necessitated inspectors assigned to the work to put in long hours.

Proof of the increasing popularity of this program and its success may be measured somewhat by a comparison of the volume shipped under certification for the three seasons it has been operating. In 1945 there were 12,680 packages; in 1946, 26,735 packages, and this season 34,316 packages. Two inspectors were required to handle the work during the peak of the shipping period.

WHITE POTATOES

Planting of white potatoes in Central Jersey in the spring of 1947 was completed about ten days later than usual. Early plantings in South Jersey were damaged to some extent by late frosts, but as a whole the crop was unaffected. The weather in May was very favorable to growth, and although excessive rains later in the season hampered cultivation and drowned out potatoes planted in low spots, good production practices coupled with a proper spray program for insect control resulted in the harvest of a record average yield.

With demand poor and fields in excellent condition, growers generally elected to delay harvest. This resulted in a later-than-normal start in the movement of the 1947 crop, but was also responsible in a large measure for the high yield, since it afforded an opportunity for potatoes to increase in size. This is proven by the fact that our inspection records show that 87 per cent of all inspected lots were Size A, which means that 60 per cent or more of the potatoes in each shipment were 2¼ inches or larger in diameter.

Prior to July 21 only a few truck shipments were made, and with prices for commercial sales above Government support, very few requests were received for inspection. Harvesting in heavy volume got under way late in July and continued throughout August and September.

The government support purchase announcement was released July 18. Digging and marketing were too rapid for the commercial markets to take once the deal got under way, and early in the marketing season the price dropped below that which was fixed as 90 per cent of parity by the Federal Government to support potato prices for 1947.

The purchase announcement stated in part that "Potatoes may be purchased under this announcement only when fully graded and meet all requirements of U. S. Standards for graded potatoes of U. S. No. 1 grade; U. S. No. 1 grade, Size B; or U. S. No. 2, 1⅞-inch minimum diameter."

Vendors were required to furnish the Production and Marketing Administration with official federal-state shipping point inspection certificates which not only certified the quality, condition and grade, but also the numerical count of loads in sacks or certified weight as shown on weight slips furnished by certified weighers for bulk loads.

A new market of great importance to our New Jersey potato industry was opened during the month of August. Through the Export-Import Bank, negotiations were made to ship potatoes to Argentina. A severe winter in Argentina combined with a crop failure during their summer season was responsible for this market. Potatoes were purchased by a representative of the Export-Import Bank and shipped to ports of export along the eastern seaboard—mainly New York, Philadelphia and Miami, where they were loaded on boats for final destination. Prices paid to growers for potatoes exported under this arrangement were the same as the government support price. The importance of this market to the

potato industry in New Jersey cannot be over-emphasized; our records show that of the 9,403 carlots of potatoes that were purchased at support prices, 4,920 were exported to Argentina.

The part played in this program by the Bureau of Fruit and Vegetable Service was that of administering the inspection and certification of all potatoes purchased under support prices and, by request, those for shipment in commercial trade channels. There were periods, especially in early September, when the volume of shipments was greater than the force could handle. On some occasions it was physically impossible to handle applications on the day received, and it was necessary to carry them over to the following day, when they would receive first consideration. Every attempt was made to secure experienced personnel to handle the work properly and promptly, but heavy demand on personnel by other states, particularly New York and Pennsylvania, which were also at the peak of summer work, drained all available sources in the East.

Our records show that during the fiscal year we made 14,066 inspections on potatoes as compared to last year's total of 11,333 inspections.

SWEET PEPPERS

Worth mentioning in this report is a contract between one of the larger shippers in South Jersey and a mid-western processor to supply sweet peppers. Under the terms of the contract the peppers were to be mixed red and green or turning. No specified quality was set forth except that the peppers were to be sound and useable upon arrival.

In order to protect himself the shipper requested the services of one of our New Jersey Agricultural Society inspectors to certify the quality, condition and grade on all shipments. A man was assigned to the grower on August 20 when he started shipments, and between this date and the end of the first week in October, 68 carlots were inspectod and certified. Two carlots were loaded in bulk and the other 66 contained 52,123 bushel baskets.

SWEET POTATOES

Sweet potatoes are one of the leading crops produced in New Jersey. Shippers of this commodity enjoyed a reputation for packing good quality prior to the war years. During the war and the year immediately following, good demand and scarcity which made marketing easy, caused a general let-down in quality packed by sweet potato shippers. Last season they found that high quality packs from competing areas were making it hard to find ready markets for New Jersey "sweets."

Realizing that something would have to be done if this industry were to be preserved, the State Horticultural Society organized a Sweet Potato Industry Committee, with the purpose of improving the quality and pack of New Jersey sweet potatoes. Assistance was given by representatives of the Rutgers University College of Agriculture and the Division of

Markets. After several meetings of the committee and advisors it was decided to use the U. S. Extra No. 1 grade as the basis for quality, with special requirements relative to size and amount of scurf permitted, thus making the quality a super U. S. Extra No. 1 pack.

A label was designed with the assistance of this Department. A large supply was printed. The labels showed variety, size and grade, and were to be used only on packages in lots which had been inspected and certified as meeting the grade specifications as well as the restrictions adopted by the committee.

A demonstration of grading was held at the Vineland Cooperative Produce Auction Association, Inc., where members of the committee and other growers as well as representatives of the College of Agriculture were present. At this meeting the chief of the Bureau of Fruit and Vegetable Service instructed the federal-state inspectors as to their duties under the program and acquainted them with the special provisions in connection with the U. S. standards.

Later there were visits to several shippers' storages in the Swedesboro area and test samples run by the chief of the bureau to determine the practicability of shippers attempting to pack under the label. Outside of a few lots the tests revealed that most stock in storages was of a quality below which it seemed practical to attempt to pack under the label, and it was generally decided by all concerned that perhaps the next year's crop would be better in quality and the program for labeling should be postponed. As the year ended plans were made to continue the work with the 1948 crop.

CANNERY CROPS INSPECTION

ASPARAGUS

The 1948 season for asparagus for processing saw a very material change in contracts between processors and growers as compared to the past several seasons. Early contacts with processors for the purpose of making preparations to handle the grading of the 1948 crop revealed that there was a general movement on the part of processors to change the specifications in their contracts with growers. This change did not affect the quality specifications of the New Jersey standards for Green Asparagus for Canning or Freezing, but rather the size specifications which had been used, except for specified length, since 1940.

As specified in the New Jersey standards, asparagus spears were classified as small, medium and large from the standpoint of diameter. Measured at a point 5 inches from the tip, spears from ¼-inch to less than ⅜-inch diameter were classified as Small; ⅜-inch to less than ⅝-inch as Medium; and ⅝-inch and larger as Large. As written, the standard also states that "Unless otherwise specified" each spear shall be not over 7 inches in length. However, for the past several years the length had been

specified as 9 inches, including a tolerance of not more than one-half inch of the spear length for white. Various prices were paid for the different sizes.

The 1948 contracts specified one price for spears of New Jersey No. 1 quality, 7 inches in length and ⅜ inch and larger in diameter, measured at the butt. Both contracts kept the minimum specification of 4½ inches of green color measured from the tip.

Growers in general were not averse to accepting the size specifications in the 1948 contracts, but thought they should get more per pound for a shorter spear than was being offered by canners. Processors contacted in March who were considering operating under this contract were offering 8 cents per pound for asparagus meeting the contract specifications.

Meetings were held by the membership of the New Jersey Cooperative Asparagus Growers Association, Inc., and the directors of the organization were authorized to act as bargaining agents for the members. They were requested to ask 10 cents per pound. Several meetings between directors and processors failed to bring about a satisfactory agreement on price. As a result, only a few contracts were signed prior to April 23. To further confuse the issue, one of the largest packing plants in South Jersey was closed by labor troubles, and the management was unable to make any definite commitments relative to whether it would or would not be a factor during the season in the processing of asparagus.

Anticipating a settlement in price by the middle of April, several processors had requested that a skeleton force of New Jersey Agricultural Society inspectors be on hand to handle any deliveries that might be made during the week beginning April 19.

On Friday, April 23, one of the largest processors of asparagus in New Jersey met with the directors of the Association and offered 8½ cents per pound. The directors thereupon notified the Association members that they were at liberty to accept or reject the price. The directors let it be known that while this price was not what they wanted, it was the best offer obtainable and members were no longer requested to wait for further negotiations.

The widespread uncertainty of marketing facilities faced by asparagus growers prior to the harvesting season created a lack of interest never experienced heretofore. Many growers did not fertilize or cultivate their fields before the end of April. Despite this wide-scale lack of normal preparation for the annual crop, quality and size compared favorably with other years throughout the season.

The records reveal that New Jersey growers received a slightly higher price per pound this season under the new contract than last season under the old. Most asparagus delivered this season was graded by inspectors on the basis of New Jersey No. 1 quality, 7-inch spears, ⅜-inch and larger measured at butt, with 4½-inch minimum green. There were 38,479,400 pounds delivered under the contract calling for grading. Seventy-four per cent of this amount conformed to contract and grade specifications, for

which growers received 8½ cents per pound. Seven per cent of this amount was off-quality or undersize, and 19 per cent was classified as Butts, or that part of the spear length in excess of 7 inches. Growers received no payment for off-quality, undersize or Butts.

Under last year's contract which was based on the New Jersey Standards, except for specified length, our men graded 27,452,920 pounds which averaged 31 per cent N. J. No. 1 Large; 40 per cent N. J. No. 1 Medium; 2 per cent N. J. No. 1 Small; 7 per cent Culls, and 20 per cent Butts. Growers were paid 8 cents per pound for the Large and 6½ cents per pound for the Medium. Nothing was paid for the remainder.

A comparison of figures will show that in 1947 growers received an average of 5.08 cents per pound for total weight delivered, and in 1948 an average of 6.29 cents per pound.

While most asparagus was delivered and graded as outlined above, there were 2,911,920 pounds graded in accordance with canner-grower contract specifications. Contracts varied to some degree in stipulations but were similar enough to combine all grading results which were as follows: 86 per cent Pay Weight, 2 per cent Contract Culls, and 12 per cent Butts. This may be compared with a larger number of similar contracts during the 1947 season under which the inspectors graded 11,734,480 pounds with the following results: 81 per cent Pay Weight, 5 per cent Contract Culls, and 14 per cent Butts.

The following tables show deliveries and average grades of asparagus for processing for the 1948 season:

ASPARAGUS RESULTS, 1948 SEASON

TABLE I

Week Ending	Loads Inspected	Total Pounds	Percentage		
			N. J. No. 1 Large & Medium	N. J. No. 2, N. J. No. 1 Small & Butts	Butts
April 24	549	489,080	73	4	23
May 1	2,378	2,659,320	74	6	20
8	2,879	3,686,800	74	7	19
15	3,518	5,095,720	71	7	22
22	3,531	4,067,040	76	6	18
29	3,743	4,496,400	75	6	19
June 5	3,541	4,210,920	76	5	19
12	3,733	4,167,280	77	6	17
19	3,206	3,428,440	76	6	18
26	3,530	3,815,280	75	8	17
July 3	2,193	2,216,280	68	12	20
10	184	146,840	71	12	17
Season	32,985	38,479,400	74	7	19

ASPARAGUS RESULTS, 1948 SEASON

TABLE II

Week Ending	Loads Inspected	Total Pounds	Pay Weight	Percent	
				Contract Culls	Butts
April 24	211	112,000	86	1	13
May 1	239	169,360	84	2	14
8	266	179,800	86	3	11
15	406	306,720	88	2	10
22	273	205,880	91	0.3	8.7
29	344	248,520	90	1	9
June 5	405	359,720	87	1	12
12	477	447,400	86	1	13
19	403	354,880	85	1	14
26	405	395,000	84	3	13
July 3	211	132,640	80	5	15
Season	3,640	2,911,920	86	2	12

TOMATOES

The cannery tomato season of 1947 may briefly be summarized by saying it was one of the heaviest crop years on record. A total of 204,395 tons was graded for the nine New Jersey processors in accordance with the U. S. Standards for Totatoes for the Manufacture of Strained Tomato Products. The grading work was done by federal-state inspectors employed by the New Jersey Agricultural Society.

A late, cool spring delayed early planting or delayed growth of plants which were set in the fields early. Some fields of early plantings were wiped out completely by frosts and had to be reset as many as two or three times.

Normally, first deliveries to processors in South Jersey begin by the middle of July, but this year deliveries were of little consequence until after the middle of August. Beginning about August 20 in extreme South Jersey, deliveries reached a peak which was followed a day or two later in the Camden and Burlington County areas. From this time on for a period of three weeks, deliveries were far greater than processors were able to handle.

Processors strived vainly to handle the overwhelming volume, even to the extent of operating their plants 20 hours a day. They worked two ten-hour shifts and used two hours between shifts to wash down their processing equipment.

Long lines of trucks could be seen near all canneries and some operators were as far as three days behind in processing deliveries. One of the State's largest processors diverted cars which were loaded at receiving points in Pennsylvania, to their Chicago plant. This same processor also loaded cars in Camden with local deliveries in excess of his processing capacity, for shipment to Chicago.

Heavy deliveries of tomatoes for processing which began the latter part of August reached their highest peak during the first week in September. Normally peak deliveries last about ten days or two weeks, but this season

the period covered 21 days without any apparent change. Primarily this was due to favorable weather conditions in general, but particularly in extreme South Jersey counties where harvesting conditions were perfect and growers were able to pick their entire production without loss from adverse weather conditions.

The first half of September had above-normal temperatures accompanied by high humidity. Rainfall was scattered in the producing areas, and while the average was below normal, some areas received too much and tomato fields showed heavy infection of Anthracnose spots as a result. Quality of tomatoes from these areas dropped quite perceptibly early in September and declined rapidly after the middle of the month. Some growers in Burlington County experienced considerable loss in fields which were too poor to harvest and deliver. This loss was the direct result of periodic over-abundant rain which caused the tomato fruits to crack and decay and aided in the spread of Anthracnose infection.

There were what one might call two distinct tomato seasons in New Jersey this year. One was in extreme South Jersey counties where there was practically no rainfall during the latter part of the growing and all of the harvesting season. Both production and quality were above average. The other was in the heavy producing counties of Camden and Burlington and extending into Atlantic County in the east and Mercer County in the north. In this area there was too much rain for good production and high quality.

It is safe to assume that this would have been the best year, both from the standpoint of high quality and high yield, ever experienced by tomato growers in New Jersey if weather throughout the entire producing areas had been the same as in extreme South Jersey.

This season's average grades were 62 per cent U. S. No. 1, 35 per cent U. S. No. 2 and 3 per cent Culls as compared to last year's averages of 65 per cent U. S. No. 1, 33 per cent U. S. No. 2 and 2 per cent Culls. Tonnage inspected this year was 204,395 tons as compared to 107,737 tons in 1946.

The following table shows the record of receipts and average grades at the canneries using grading service in 1947, together with the receipts and average grades for the ten preceding years:

SUMMARY 1947 CANNERY TOMATO SEASON AND COMPARISONS WITH FORMER YEARS

Seasons	Total Tons	U. S. No. 1 (Per Cent)	U. S. No. 2 (Per Cent)	Culls (Per Cent)
1947	204,395	62	35	3
1946	107,737	65	33	2
1945	73,549	64	33	3
1944	112,801	68	31	1
1943	149,786	66	32	2
1942	179,363	55	42	3
1941	220,655	63	35	2
1940	162,813	55	41	4
1939	176,576	65	32	3
1938	108,096	53	43	4
1937	113,380	53	43	4

OTHER VEGETABLES

In addition to the inspection of our main products either for fresh market or processing as described in detail in this report, the inspectors were called on to certify carlots or less than carlot shipments or storage lots of such products as fresh asparagus for market, cabbage, carrots, cauliflower, celery, cucumbers, lettuce, onions, radishes, spinach, fresh tomatoes, turnips, mixed vegetables and mixed fruit and vegetable lots. In addition to the above products which were certified, many products were inspected by our men assigned to auction markets upon which no certificates were issued.

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

TEN-YEAR RECORD OF SHIPPING POINT INSPECTIONS BY PRODUCTS

	38-39	39-40	40-41	41-42	42-43	43-44	44-45	45-46	46-47	47-48
Apples	579	672*	611	100	609†	151	408	47	349	213
Asparagus	..	..	..	..	..	..	16	6	44	3
Beans	1	1	..	..	7	2	3	1	..	..
Beets	..	..	..	1	3	6	3	17	..	..
Cabbage	..	..	..	1	1	3	22	14	4	13
Carrots	..	..	..	..	3	16	4	3	2	5
Cauliflower	..	..	..	..	..	..	..	..	..	1
Celery	..	..	..	..	..	..	1	2	6	11
Corn	..	..	..	3	..	..	1	51	82	100
Cucumbers	..	..	..	..	..	6	8	3	1	2
Eggplant	..	..	..	1	..	1	12	3	..	..
Lemons	..	..	..	..	..	..	..	..	1	1
Lettuce	..	..	..	..	1	..	20	2	4	1
Onions	9	3	8	1	2	..	3	26	10	38
Parsnips	..	..	..	..	..	..	11	7	..	..
Peaches	..	49	26	1	1	1	3	7	3	..
Pears	2	..	..	..	..	..	..	..	..	..
Peppers	..	..	..	..	..	17	52	50	12	78
Potatoes	1,972	397	2,264	1,328	2,941	5,206	2,827	5,994	11,333	14,066
Radishes	..	..	..	..	..	..	1	..	..	1
Rhubarb	..	..	..	..	..	..	..	2	..	..
Rutabagas	..	..	..	..	..	..	..	2	..	..
Spinach	1	6	3	8	30	1	13	17	..	1
Squash	..	..	..	..	..	..	7	1	..	..
Sweet potatoes	..	62	9	29	19	47	178	20	41	5
Tomatoes	..	..	..	..	..	..	..	..	..	6
Turnips	..	..	..	..	..	1	2	21	15	2
Mixed fruits and vegetables	..	..	..	..	..	..	..	..	..	357
Mixed vegetables	..	..	..	..	4	9	77	65	31	210
Totals	2,564	1,190	2,921	1,473	3,621	5,467	3,672	6,361	11,938	15,114

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

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

MARKET ACTIVITIES

The State of New Jersey is recognized as a leader for her well balanced fruit and vegetable market program. In the heavily congested areas there are well developed farmers' markets. These are located in the metropolitan northeast section, along the shore, and in the larger inland cities such as Trenton, Camden, Perth Amboy and New Brunswick. In these cities farmers offer their products direct to the wholesale and retail trade. In the important producing areas there are what is known as shipping point markets, to which growers haul their products and at which points the wholesale buyers make purchases for shipment to consuming sections in New Jersey and to other states. In addition to these there are private wholesale dealers located at shipping points whose business is the buying or otherwise handling of commodities for the distributive trade. Most of the specialty product dealings, such as with potatoes, apples or sweet potatoes, are handled through these private dealers. The general run of vegetables and most fruits is handled through cooperative associations, owned and operated by farmers. By far the majority of these sell by the auction method.

New Jersey is unique in that the larger city markets and all of the shipping point markets with the exception of the special commodity markets are owned by agricultural cooperative associations. This Division works chiefly with these cooperative associations because, being farmer-owned and operated, they are more desirous of working with state agencies whose business is the development of better methods of sale and distribution. We do, however, give considerable assistance to privately owned marketing agencies and to public-owned city farmers' markets.

In addition to direct aid to markets and marketing organizations, we have worked closely with commodity associations which in general do no marketing work but which are organized to assist and advise groups of farmers through the combined thinking of their members. In the fruit and vegetable field the most important of these are the New Jersey State Potato Association, with which we work principally through the New Jersey Potato Industry Committee; the New Jersey State Horticultural Society and its industry committees covering sweet potatoes and small fruits; the New Jersey-Pennsylvania Cooperative Tomato Growers Association and the New Jersey Cooperative Asparagus Growers Association.

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

SHIPPING POINT AUCTION MARKETS

As in former years, when describing the activities of these markets, we have used facts covering the harvesting or calendar year. Therefore, this report covers the entire marketing season of 1947, and information on the first half of 1948, or until June 30.

In general, the marketing season for the calendar year of 1947 was delayed due to cold weather. March was below normal in temperature and rainfall. April opened with a warm, rainy spell. Temperatures for the first half of the month were far above normal and rainfall during the first week was heavy. More than twice the normal rain fell in May, while June was normal; in fact, excessive rains fell until September when the State suffered from severe dry weather. Quality of vegetables offered on these markets was not up to usual, and volume for the season was down. Weather had a lot to do with the lower prices received in 1947 as compared with 1946. Prices averaged 17.82 per cent below the average for 1946.

A report of the activities of the produce auctions for the first six months of the 1948 calendar year shows that 1,209,911 packages were sold as compared with 1,066,080 packages during the corresponding period of 1947. The average price per package was $2.92 as compared with $2.44 a package during the 1947 period.

The accompanying summary gives the sales volume and prices at the individual markets which were, with few exceptions, below those of the preceding year.

SUMMARY OF SALES AT FRUIT AND VEGETABLE AUCTION MARKETS

Market	Season of 1947		Season of 1946	
	Number of Packages Sold	Value of Sales	Number of Packages Sold	Value of Sales
Bargaintown	16,448	$30,672.95	.....	.....
Beverly	302,710	275,732.26	285,746	$370,237.19
Beverly, Consigned and special	333,853	417,318.26	301,195	609,920.35
Cedarville	609,794	1,078,465.34	481,422	1,096,708.33
Glassboro	377,973	493,140.94	414,256	735,612.25
Hammonton	132,171	328,679.24	106,651	366,302.20
Hightstown	350,279	411,492.19	330,203	457,172.69
Hightstown, Special sales	99,468	234,629.12	99,241	196,507.30
Landisville	315,112	395,504.74	443,585	736,762.26
Landisville, Consigned and special	114,101	186,799.30	.....	.....
Pedricktown	196,8[illegible]	397,379.95	188,932	480,966.04
Swedesboro	956,462	1,783,368.00	1,019,552	2,241,496.85
Vineland	655,957	889,439.43	771,300	1,304,289.89
Washington	48,375	71,411.93	99,080	41,288.19
Total—by auction	3,962,097	$6,155,286.97	4,140,727	$7,830,835.89
Total—all sales	4,509,569	$6,994,033.65	4,541,163	$8,637,263.54

Average price per package (by auction), 1947	$1.554
Average price per package (by auction), 1946	$1.891
Per cent of decrease in price per package, all commodities 1947 under 1946	17.82%

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

Thus it can be observed that volume was raised this year by close to 15 per cent, and prices per package received by farmers were approximately 20 per cent higher. Inasmuch as vegetable prices were about the only food prices in 1947 that were well below the 1946 levels, the increases in prices for the vegetable growers of the State this past spring were more in line with other farm prices and production costs, and seem justified.

The supervisor of fruit and vegetable standardization has charge of much of the Division's cooperative work with shipping point auction associations. He has devoted most of his time to their activities, assisting managers where necessary, attending directors meetings, and aiding in the development of new and improved programs of marketing work. He has also aided individuals in the improvement of selling practices, particularly in better packing methods and in the choice of package. At the annual member meetings of these associations, the supervisor and usually the division director have taken part in the programs.

As in the past several years' reports, we submit a table showing the principal commodities sold at the fruit and vegetable auctions. This summary shows the sales for the year ending December 31, 1947, and a comparison with the year 1946:

PRINCIPAL COMMODITIES SOLD AT FRUIT AND VEGETABLE AUCTION MARKETS
VOLUME IN 1947 WITH 1946 COMPARISONS

Commodity	Unit	1947	1946
Apples	Bushels	26,210	30,415
Peaches	Bushels	251,649	315,400
Blackberries	Crates, 24 quarts	12,793	5,507
Blueberries and huckleberries	Crates, 12 pints	13,724	13,228
Raspberries	Crates, 12 pints	42,593	32,742
Strawberries	Crates, 24 quarts	35,705	52,042
Asparagus	Crates, doz. bunches	506,770	436,100
Beans, lima	Bushels	75,327	42,255
Beans, snap	Bushels	109,273	153,126
Beets	Dozen bunches	46,831	66,390
Broccoli-rabe	Bushels	34,059	73,500
Cabbage	Bushels	177,295	79,801
Cantaloupes	Bushels	17,977	9,708
Carrots	Dozen bunches	8,495	20,733
Carrots	Bushels	3,682	6,102
Cauliflower	Crates	7,284	11,193
Corn, sweet	Bushels or sacks	122,715	131,054
Cucumbers and pickles	Bushels	211,945	178,405
Dandelion	Bushels	39,359	40,671
Eggplants	Bushels	93,648	112,301
Lettuce	Crates, 2 dozen	98,297	149,859
Okra	Climax baskets, 12 qts.	24,198	19,564
Onions	Sacks, 50 lbs.	122,972	102,654
Parsley	Bushels	23,172	21,590
Peas	Bushels	221	2,626
Peppers	Bushels	662,043	720,586
Potatoes, sweet	Bushels	116,856	255,585
Potatoes, white	Sacks, 100 lbs.	61,950	49,343
Radishes	Bushels	17,086	15,006
Rape	Crates	19,962	32,562

Commodity	Unit	1947	1946
Scallions	Bushels	4,122	7,339
Spinach	Bushels	19,224	8,068
Squash	Bushels	26,260	28,744
Tomatoes	Climax baskets	715,465	890,621
Watermelons		19,712	5,644
Miscellaneous	Packages	107,114	143,549

CITY FARMERS' MARKETS

The Division has worked with all agencies having to do with farmers' markets located in cities and to which farmers have brought the products of their farms for sale. Some of these are markets at which the products are sold direct to consumers, but most of them are of the wholesale type where farmers sell in a volume to jobbers or to retailers for resale. The largest markets in the State are farmer-owned and operated. Of the municipally owned, only two remain—at Atlantic City and Camden. The Trenton market, which for close to 25 years was city-owned and operated, was closed at the end of the 1947 season. The farmers who sold at that market have established their own market just beyond the city limits.

Knowing that the City of Trenton intended to discontinue the market located at the foot of Warren Street, the farmers came to the Division of Markets during the summer of 1947 and asked for advice. This office a number of years ago had aided these farmers in developing an association which had as its principal objectives advertising the products to be offered for sale and united action for the betterment of market conditions through negotiations with the city commission. The association had been incorporated as a cooperative.

The director of the division worked closely with the Mercer County agricultural agent. Many meetings were held during the fall and winter months. The outcome was the determination of the farmers to build and own a market of their own. A tract of 28 acres of land was eventually chosen for a site. The Division obtained the aid of the Market Facilities Branch of the federal Department of Agriculture in developing plans for market lay-out and buildings. About $45,000 was raised by subscription among the association members and an additional $30,000 was borrowed from the Bank for Cooperatives. With this money, the Association bought the land and paid the city of Trenton $1,500 for the old steel sheds. Then members re-erected them together with a new shed on ground that had been drained, graded and partly covered with crushed stones. Conditions during May and June 1948 were stormy and wet so work was greatly delayed. However, the market opened as a retail farmers' market just as the fiscal year closed. The market is located on Spruce Street just off the Princeton highway; it is well situated from the viewpoint of approach by farmers, and is close to a dense consumer population. It is a short distance over the city line in Lawrence Township.

In the development of the new Trenton market we have aided in the establishment of a market as we have in the past. Much time is required in planning for a new market. After such markets are established, our principal contribution is advisory, at directors' meetings and to the market managers. During the year we have worked in this way with other markets in the State. We have, as in past years, obtained weekly reports from the Newark and Atlantic City market managers.

The volume of sales at the Atlantic City market was considerably above that for the 1946-1947 season, but returns were slightly lower. This year 7,795 farmer-loads, consisting of 425,515 bushels of fruits and vegetables, 147,930 dozens of eggs and 96,000 pounds of poultry, sold for $720,011.75. In the 1946-1947 season, there were 376,910 bushels of fruits and vegetables, 99,140 dozens of eggs and 80,300 pounds of poultry, which sold for $740,868.30.

The volume at the Newark farmers market dropped during the past year. In the 1947-1948 year, 6,642,950 bunches of vegetables and 1,735,764 packages (mostly bushels) of fruits and vegetables were sold. In the 1946-1947 season 8,063,777 bunches of vegetables and 1,926,390 packages were sold. The Newark association has paid off its mortgage and after 18 years of operation is clear of debt. The farmer-management is efficient and serves both farmer and buyers in a creditable manner.

MISCELLANEOUS SERVICES

The state association representing auction market groups continued to hold its annual meeting and monthly meetings by sections. The state organization has developed a valuable system of cooperation among associations. This has resulted in general improvement in selling techniques and in accounting. It has also been of great value to buyers by helping them obtain needed supplies available only at another member market. The fruit and vegetable section again held a producer-dealer meeting at which the buyers were entertained and afforded an opportunity to express their ideas for market improvement. The state-wide association again sponsored the Cooperative Interests Dinner held during Farmers Week at Trenton.

BUREAU OF POULTRY SERVICE

POULTRY PRODUCTS MARKETING

The work of the poultry bureau can be divided into regulatory work and promotional. The year was the 25th anniversary of the establishment of the poultry standardization program in New Jersey. It was also the 14th year of the regulatory program concerned with the New Jersey Fresh Egg Law, and the 16th year since the establishment of the first successful egg and poultry auction market, forerunner of the system of cooperative markets handling poultry products under our inspection supervision.

That section of the report entitled "Poultry Standardization" is devoted to the poultry breeding improvement work of the Bureau. This work is under a supervisor assisted by one full-time inspector. As noted in the narrative part of the report, the work of these staff members is multiplied many times by the certified flock selectors responsible to our Department, and by the large number of hatcheries and breeding flock owners who are participants in the New Jersey-U. S. Poultry and Turkey Improvement Plans.

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

In carrying out the major projects assigned to the Bureau of Poultry Service, members of the staff perform services somewhat beyond the regulatory functions which are specified. Efforts are made to be of real service to the poultry industry, marketing agencies and the consuming public. Staff members serve in an advisory capacity to various agricultural, marketing and business organizations on problems related to breeding, marketing, quality improvement, and promotional activities.

In several instances, some of our reported special activities overlap the provinces of other government agencies. There may be some question as to whether these should be part of a published report. These cooperative activities were undertaken because the problems involved were closely related to our program, and our participation has been with full agreement by the other agencies involved; in fact, with their enthusiastic approval of our assistance.

It is our belief that the past year has been one of great and competent efforts and of accomplishment by the Bureau toward the objectives of a secure and prosperous poultry industry and its allies in distribution, and more and better poultry products for the people of New Jersey. The bureau chief and his staff are to be commended for their achievements.

POULTRY STANDARDIZATION

Under this title, the Division of Markets carries on the poultry breed improvement program, coordinated with the program of the United States Department of Agriculture and with other states. The National Poultry Improvement Plan has been in operation in New Jersey 13 years, and the National Turkey Improvement Plan for 5 years. Contracts for continuing this cooperative program during 1948-1949, between this Division and the United States Department of Agriculture, have been signed.

As in 1946-1947, there was an increase in applications for poultry standardization service. A few applications were withdrawn because our crews were not able to do the work when the flock owners desired. Of

the birds, 41.1 per cent were done by state men, the balance by agents. The Bureau of Poultry Service inspector and one Division of Animal Industry man, who was able to spend some time in the field, provided a better check and more assistance for field agents than during the past years.

Under the program as revised a few years ago, the use of privately-employed flock selecting agents and pullorum testing agents was continued. The supervisor of poultry standardization supervised the work of 39 agents who, after qualifying, were licensed as flock selectors. There were 36 licensed testing agents.

New Jersey is steadily progressing in the control of pullorum disease. With the exception of two turkey flocks, all cooperators were able to have their flocks well under the minimum pullorum rating of less than one per cent tolerance. The various stages used this season were:

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

EXTENT OF PROGRAM

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

POULTRY TABLE 1

N. J.-U. S. POULTRY IMPROVEMENT PLAN

	1947-48	1946-47	Per Cent Changes in 1948
Flocks cooperating	589	586	+ 0.5
Total breeders	558,737	497,529	+ 12.3
Hatcheries cooperating	86	93	— 7.5
Hatchery capacity cooperating	7,838,730	6,969,090	+ 12.5
Hatchery capacity in New Jersey	11,429,000	11,467,000	— 0.3
Birds in pullorum stages only	38,009	54,413	— 30.1
Birds in Approved stages only	413,036	356,262	+ 15.9
Birds in Certified stages only	107,692	73,763	+ 45.9
Birds in R. O. P. Trapnest Project	5,092	6,071	— 16.1
Birds qualified as Register of Merit	205	128	+ 60.2
Birds qualified for Honor Roll	97	39	+148.7
Females in R. O. P. breeding pens	1,665	1,547	+ 7.6
R. O. P. chicks produced	39,842	30,053	+ 32.5
R. O. P. chicks and cockerels sold	2,472	4,210	— 41.2
R. O. P. chicks and cockerels entering New Jersey	5,056	12,124	— 58.2
R. O. P. cockerels leg banded	8,455	6,191	+ 36.5
Percentage of birds reacting to the pullorum test	0.37	0.45	— 17.8
Flock inspections	184	112	+ 64.3
Hatchery inspections	95	75	+ 26.6
R. O. P. inspections	64	76	— 15.7

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

Poultry Table 2

Classification and Distribution of Birds Under Supervision in the Poultry Standardization Program

NUMBER OF BIRDS

County	No. of Flocks	N. J.-U. S. Certified			N. J.-U. S. Approved			N. J.-U. S.			Totals
		Pul. Controlled	Pul. Passed	Pul. Clean	Pul. Controlled	Pul. Passed	Pul. Clean	Pul. Controlled	Pul. Passed	Pul. Clean	
Atlantic	20	20,636	....	....	10,509	....	....	....	....	....	31,145
Bergen	5	....	1,088	....	....	325	....	1,930	....	....	3,343
Burlington	21	6,166	....	1,141	2,511	594	1,070	2,556	297	....	14,335
Camden	1	....	....	....	....	....	58	....	....	....	58
Cape May	9	3,667	1,224	....	5,796	4,804	3,906	....	....	....	19,397
Cumberland	160	13,603	....	11,347	135,631	4,860	12,937	92	....	277	178,747
Gloucester	19	....	....	13,729	14,662	....	326	88	....	....	28,805
Hunterdon	56	2,452	....	....	40,942	784	....	1,507	....	....	45,685
Mercer	27	514	111	....	8,983	....	5,523	699	....	....	15,830
Middlesex	14	....	383	7,551	4,681	210	786	514	....	7,357	21,482
Monmouth	68	2,951	....	....	52,878	100	3,092	11,186	1,283	1,203	72,693
Morris	4	....	899	....	2,795	....	....	1,061	....	....	4,755
Ocean	66	7,922	....	2,229	55,787	....	....	1,415	....	....	67,353
Passaic	14	....	5,137	....	934	1,259	....	2,005	....	....	9,335
Salem	72	1,711	....	....	20,568	263	1,385	....	....	....	23,927
Somerset	24	....	....	3,231	6,599	1,553	3,203	80	....	246	14,912
Sussex	8	....	....	....	2,722	....	....	803	919	459	4,903
Warren	1	....	....	....	....	....	....	2,032	....	....	2,032
Totals	589	59,622	8,842	39,228	365,998	14,752	32,286	25,968	2,499	9,542	558,737

POULTRY TABLE 3

NUMBER OF BREEDERS, BY COUNTIES AND VARIETIES

County	S. C. White Leghorns	New Hamp-shires	Rhode Island Reds	Barred Rocks	White Rocks	Jersey Black Giants	White Wyan-dottes	Others BM-WC-LB-BL, Bantams, etc.	Crosses	Turkeys	Totals
Atlantic	26,320	....	457	....	844	....	....	86	3,438	....	31,145
Bergen	2,206	473	....	....	....	....	....	....	339	325	3,343
Burlington	3,051	4,040	2,948	704	297	1,166	....	....	1,535	594	14,335
Camden	....	....	....	....	....	....	....	....	....	58	58
Cape May	9,823	....	7,205	1,256	....	....	....	....	1,113	....	19,397
Cumberland	99,269	10,787	11,619	3,443	2,588	....	390	770	49,742	139	178,747
Gloucester	20,190	2,823	2,466	....	322	....	....	343	1,578	1,083	28,805
Hunterdon	20,567	1,881	7,064	7,341	....	....	....	576	7,813	443	45,685
Mercer	5,066	3,898	514	2,100	....	215	....	....	3,602	435	15,830
Middlesex	19,997	....	892	....	....	....	....	....	....	593	21,482
Monmouth	63,094	1,868	930	1,060	....	309	....	....	3,676	1,756	72,693
Morris	2,891	....	803	....	....	....	....	....	1,061	....	4,755
Ocean	65,321	138	1,060	....	....	....	....	....	834	....	67,353
Passaic	3,382	3,451	312	....	860	....	....	181	947	202	9,335
Salem	4,215	1,059	2,503	1,326	2,923	....	259	....	11,642	....	23,927
Somerset	5,186	948	3,339	2,038	....	....	....	246	3,019	136	14,912
Sussex	313	1,701	2,097	....	....	....	....	24	312	456	4,903
Warren	2,032	....	....	....	....	....	....	....	....	....	2,032
Totals	352,923	33,067	44,209	19,268	7,834	1,690	649	2,226	90,651	6,220	558,737

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

The Seventh 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. Nineteen persons took the examinations, of whom 14 qualified and were given field tests. The instruction program has emphasized breed improvement together with pullorum disease control. Selecting agents operate only in the Approved and Certified breeding stages. Testing agents operate only in the Pullorum-Controlled stage; however, there is developing a strong demand to recognize their work under strict supervision in qualifying flocks for the Pullorum-Passed classification.

Federal supervisors were in the State only once last year. Because of insufficient help a breeder from the State of Washington offered to assist in the coordination work and was sent to New Jersey. The supervisor served as aid to New Jersey's delegate to the National Plans Conference in Cleveland in 1947 and in St. Louis in 1948.

The sanitation policy requiring the Department's agents to change to freshly laundered coveralls and to disinfect rubber boots before entering poultry premises continues to meet with the approval of cooperating poultrymen and hatcherymen. The new bookkeeping system has proved to be a big help with the increased amount of record work now handled.

For some time it has been felt our charges for services rendered should be studied and revised. As a result, a new schedule of charges was devised, effective this past season. The new charges have worked well with the exception of the "Maximum Charge," which has been revised and will be used in the future.

The Bureau of Poultry Service continued to cooperate in the growing 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 European countries during the past season, the Bureau cooperating with breeders in the necessary certification and also in expediting transportation.

COOPERATIVE MARKETING

The greatest annual volume of egg sales and highest total value of eggs in history were recorded during the past year by the farmers' cooperative auction markets at Flemington, Hightstown, Mount Holly and Vineland, all of which are under state inspection supervision; and at Paterson and Hackettstown, which operate on their own grades.

A total of 720,273 cases of eggs and 4,709,002 pounds of poultry was sold by these markets. Egg sales volume was 28.7 per cent greater than the previous year. Poultry sales volume was 14.7 per cent more than last year.

The total value of eggs handled by these markets was $13,036,501.64, which was 42.9 per cent greater than the previous year. The total value of poultry was $1,471,341.89, which is 9.2 per cent greater. Average price per 30-dozen case of eggs was $18.10, which is 11.0 per cent higher than in 1946-1947. Live poultry averaged $0.312 cents per pound, 4.8 per cent below the previous year.

The six auction markets (Flemington, Hightstown, Mount Holly, Vineland, Paterson and Hackettstown) sold a total of 21,608,190 dozens of eggs from July 1, 1947, to June 30, 1948, for a total of $13,036,501.64, an annual average of $0.603 per dozen. The previous year these figures were, respectively, 16,788,750 dozens sold, $9,119,237.35 total value, and $0.543 average price per dozen. It should be noted that these are for all eggs of all grades, sold at public auction, and that the prices and volumes are real and carefully checked.

The statistical evidence of continuing growth of cooperative marketing does not tell fully the story of the growth of service rendered by the associations to the producers, to the trade and indirectly to consumers. For many years the cooperative markets have been seeking to improve their distributive function. They have developed a program for quality identification of wholesale packages, meanwhile reducing the number of handlings and length of time between farmer and retailer, with consequent savings in both quality and costs. In recent years there has been developing a trend toward retail packaging of eggs and quality identification for consumer use. A relatively small volume of retail package eggs is now being put up by the cooperative associations; however, an increasing number of independent purchasers of wholesale lots at these markets now convert practically all eggs to consumer grades. The dependability and efficiency of the markets and of the inspection service of the Department are importantly related to this desirable trend.

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

POULTRY TABLE 4

SUMMARY OF EGG AND POULTRY AUCTION MARKETS

July 1, 1947 to June 30, 1948

Market	Cases of Eggs	Value of Eggs	Crates of Poultry	Pounds of Poultry	Value of Poultry	Total Value
Flemington	236,364	$4,307,409.62	47,821	2,425,631	$767,540.41	$5,074,950.03
Hackettstown	.....	.....	5,072	264,256	85,734.24	85,734.24
Hightstown	102,474	1,861,222.74	16,619	821,858	222,620.58	2,083,843.32
Mount Holly	36,144	634,606.38	13,186	708,477	242,628.27	877,234.65
Paterson	47,476	858,673.07	8,747	488,780	152,818.39	1,011,491.46
Vineland	297,815	5,374,589.83	.....	.....	.....	5,374,589.83
Total	720,273	$13,036,501.64	91,445	4,709,002	$1,471,341.89	$14,507,843.53
Average price per case, 1947-48		$18.10		Average price per pound, 1947-48		$0.312
Average price per case, 1946-47		$16.30		Average price per pound, 1946-47		$0.328

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

POULTRY TABLE 5

AVERAGE PRICE PER DOZEN EGGS ON FIVE NEW JERSEY AUCTION MARKETS

Month	1947	For Comparison 1946	1939
July	$0.6283	$0.5245	$0.2647
August	.6448	.5697	.2678
September	.6672	.6069	.2948
October	.6638	.6131	.3029
November	.6519	.5653	.3118
December	.6652	.5672	.2453
	1948	1947	1939
January	.6144	.5006	.2372
February	.5575	.4761	.2260
March	.5231	.5353	.2305
April	.5365	.5375	.2218
May	.5488	.5118	.2146
June	.6279	.5781	.2384

The total membership in five cooperative auction markets (Hackettstown, which is principally a livestock market, is not included in this membership report) is 272 more than the previous year (Table 6, "Auction Market Membership, by Counties"). The Flemington, Mount Holly, Paterson and Vineland markets increased their memberships by 82, 8, 65 and 65, respectively. The Hightstown Auction lost 48 members by comparison with the previous year. The total volume of eggs marketed increased 28.7 per cent while total memberships in these marketing associations increased only 5 per cent, which would seem to indicate that many of the new members are commercial egg producers with large production capacity.

POULTRY TABLE 6

AUCTION MARKET MEMBERSHIP, BY COUNTIES

County	Flemington Auction	Hightstown Auction	Mount Holly Auction	Paterson Auction	Vineland Auction	Total
Atlantic	..	1	14	..	69	84
Bergen	1	..	..	69	..	70
Burlington	1	29	772	..	1	803
Camden	..	..	24	..	9	33
Cape May	..	..	..	..	35	35
Cumberland	..	..	..	..	517	517
Essex	2	..	..	10	..	12
Gloucester	..	..	4	..	108	112
Hunterdon	2,039	..	..	..	..	2,039
Mercer	217	266	1	..	..	484
Middlesex	75	221	..	..	1	297
Monmouth	1	229	3	..	..	233
Morris	70	..	1	51	..	122
Ocean	..	19	7	1	..	27
Passaic	2	..	..	95	..	97
Salem	..	..	8	..	91	99
Somerset	417	3	..	..	..	420
Sussex	9	..	..	94	..	103
Union	26	..	..	4	..	30
Warren	327	..	..	16	..	343
Totals	3,187	768	834	340	831	5,960
1946-1947	3,105	816	826	275	666	5,688
1945-1946	3,026	819	708	413	802	5,768
Difference	+82	—48	+8	+65	+65	+272

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

POULTRY TABLE 7

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

Year	Number Cases of Eggs	Number Crates of Poultry	Pounds of Poultry	Total Combined Value Eggs and Poultry
1947-1948	720,273	91,445	4,709,002	$14,507,843.53
1946-47	559,625	78,441	4,106,573	10,466,605.14
1945-46	417,851	49,066	2,571,721	6,092,989.74
1944-45	512,667	42,644	2,132,829	7,399,916.56
1943-44	668,597	62,667	3,136,619	8,824,088.21
1942-43	707,019	106,846	5,182,047	10,532,636.03
1941-42	632,570	135,620	6,533,789	8,008,928.58
1940-41	532,249	122,679	5,854,246	5,429,696.92
1939-40	478,541	115,224	5,582,135	4,480,972.53
1938-39	384,345	108,395	5,191,647	4,057,113.69
Total	5,613,737	913,027	45,000,608	$79,800,790.93

AUCTION MARKETS' EGG-FEED RATIO

A measure of the economic condition of the New Jersey poultrymen is provided by the monthly egg-feed ratios which have been compiled for each month since this service was started in 1945. Various uses are made by this Department and the ratio is also published in *New Jersey Farm and Garden* magazine. Actual prices paid for eggs at the five auction markets are compared with the average prices of poultry feed to compute the ratio.

Poultry feed prices, which were in relatively favorable ratio to egg prices during the 1947 summer, started to rise rapidly in September, and feeding costs remained at an unusually high level for the ensuing nine months. During much of this period the number of layers on New Jersey farms were high, and eggs were in sufficiently large supply to maintain relatively moderate prices. There resulted an unfavorable egg-feed ratio which discouraged our poultrymen from raising their capacity of replacement pullets. As the Department's fiscal year ends it appears that eggs will be in short supply and high in price during the summer, fall and winter, and that full recovery will not be attained until the fall of 1949. In June 1948, feed prices started going down because of the promise of large harvests. Undoubtedly the egg-feed radio during the remainder of 1948 will encourage expansion of flocks next spring, and probably lead to abundant production, if not market surpluses, by the spring of 1950.

Producers consider themselves to be in a relatively sound condition when the case value of eggs is sufficient so that 7.5 dozens will be equivalent in price to 100 pounds of feed. There were no months during the reported year, July 1947-June 1948, when the egg-feed ratio favored the New Jersey egg producer. There were four favorable months the previous year, and six favorable months in 1945-1946. In the "normal" year, 1939, there were eight favorable ratio months and four unfavorable.

The accompanying "New Jersey Egg Auctions Egg-Feed Ratio" (Table 8) shows that the monthly average price of eggs at auctions in New Jersey was at its lowest point of $0.5231 cents per dozen in March 1948; and was above the 60-cent mark for eight months of the year, the high point of $0.6672 being reached in September 1947. The average laying ration (50 per cent scratch grain and 50 per cent mash) was priced above $5.00 per 100 pounds throughout the reported period except July 1947, when it was $4.90. Feed costs were at their highest in January 1948, the average poultry ration costing $5.70 per 100 pounds.

POULTRY TABLE 8

NEW JERSEY EGG AUCTIONS—EGG-FEED RATIO

		July			August			September		
		1947	1946	1939	1947	1946	1939	1947	1946	1939
EGGS										
Total dozens sold		1,422,330	749,040	891,300	1,323,360	796,410	900,540	1,560,120	884,730	855,660
Total price paid	dollars	893,662	392,907	235,920	853,406	453,704	241,138	1,040,894	536,992	252,290
Av. price per dozen	dollars	.6283	.5245	.2647	.6448	.5697	.2678	.6672	.6069	.2948
FEED										
Av. 100 lb. scratch	dollars	4.80	4.57	1.60	4.90	4.40	1.50	5.20	4.25	1.86
Av. 100 lb. mash	dollars	5.00	4.66	2.18	5.10	4.86	2.16	5.30	4.60	2.02
Av. laying ration	dollars	4.90	4.62	1.89	5.00	4.63	1.83	5.25	4.42½	1.94
RATIOS										
Doz. eggs required to buy 100 lb. feed		7.8	8.8	7.1	7.7	8.1	6.8	7.9	7.3	6.6
No. lb. feed one doz. eggs will buy		12.8	11.4	14.0	12.8	12.3	14.6	12.7	13.7	15.2

		October			November			December		
		1947	1946	1939	1947	1946	1939	1947	1946	1939
EGGS										
Total dozens sold		1,724,340	1,125,030	995,430	1,608,960	1,336,620	969,330	1,785,900	1,552,110	1,135,350
Total price paid	dollars	1,144,605	689,745	301,570	1,049,038	755,635	302,284	1,187,922	880,420	278,465
Av. price per dozen	dollars	.6638	.6131	.3029	.6519	.5653	.3118	.6652	.5672	.2453
FEED										
Av. 100 lb. scratch	dollars	5.25	4.30	1.78	5.30	4.15	1.77	5.50	3.90	1.83
Av. 100 lb. mash	dollars	5.40	4.55	2.54	5.40	4.70	2.52	5.60	4.65	2.58
Av. laying ration	dollars	5.33	4.43	2.16	5.35	4.42	2.14	5.55	4.27	2.20
RATIOS										
Doz. eggs required to buy 100 lb. feed		8.0	7.2	7.1	8.2	7.8	6.9	8.3	7.5	9.0
No. lb. feed one doz. eggs will buy		12.5	13.8	14.0	12.2	12.8	14.6	11.99	13.3	11.2

POULTRY TABLE 8—Continued

NEW JERSEY EGG AUCTIONS—EGG-FEED RATIO

		January			February			March		
		1948	1947	1939	1948	1947	1939	1948	1947	1939
EGGS										
Total dozens sold		1,739,910	1,655,250	1,099,080	1,746,210	1,648,710	1,085,550	2,404,590	1,779,930	1,372,230
Total price paid	dollars	1,068,987	828,566	260,807	973,616	784,887	245,376	1,257,863	952,848	316,303
Av. price per dozen	dollars	.6144	.5006	.2373	.5575	.4761	.2260	.5231	.5353	.2305
FEED										
Av. 100 lb. scratch	dollars	5.60	3.85	1.54	5.30	3.80	1.54	5.30	4.20	1.56
Av. 100 lb. mash	dollars	5.80	4.40	2.04	5.60	4.30	2.04	5.50	4.55	2.06
Av. laying ration	dollars	5.70	4.13	1.79	5.45	4.05	1.79	5.40	4.38	1.81
RATIOS										
Doz. eggs required to buy 100 lb. feed		9.3	8.3	7.5	9.8	8.5	7.9	10.3	8.2	7.9
No. lb. feed one doz. eggs will buy		10.8	12.1	13.3	10.2	11.8	12.6	9.7	12.2	12.7

		April			May			June		
		1948	1947	1939	1948	1947	1939	1948	1947	1939
EGGS										
Total dozens sold		2,456,700	1,860,000	1,213,620	2,024,190	1,902,150	1,388,070	1,811,580	1,505,760	1,117,170
Total price paid	dollars	1,317,960	999,551	269,176	1,110,940	973,599	297,863	1,137,553	870,607	266,289
Av. price per dozen	dollars	.5365	.5375	.2218	.5488	.5118	.2146	.6279	.5781	.2384
FEED										
Av. 100 lb. scratch	dollars	5.30	4.45	1.58	5.20	4.35	1.64	5.20	4.60	1.69
Av. 100 lb. mash	dollars	5.50	4.75	2.11	5.50	4.60	2.18	5.40	4.80	2.18
Av. laying ration	dollars	5.40	4.60	1.84	5.35	4.48	1.91	5.30	4.70	1.94
RATIOS										
Doz. eggs required to buy 100 lb. feed		10.1	8.5	8.3	9.7	8.8	8.9	8.4	8.1	8.1
No. lb. feed one doz. eggs will buy		9.9	11.7	12.1	10.3	11.4	11.2	11.8	12.3	12.3

STATE CERTIFIED FRESH EGGS

The supervision of inspection and assistance given by this Department since the inception of this project 11 years ago was continued. The New Jersey Poultry and Egg Cooperative Marketing Association maintained the high quality standards of its packaged eggs, resulting in a continuing market for the product. However, the sales volume was 7 per cent smaller than the previous year, probably because of consumer resistance to the 13.8 per cent higher average annual price of eggs. Table 9, "Summary of Certified Egg Project," reports the highlights of this marketing program.

POULTRY TABLE 9

SUMMARY OF CERTIFIED EGG PROJECT

Month	Doz. Sold 1947	Doz. Sold 1946	Monthly Av. Purchase Price 1947	Selling Price Wholesale In Cartons 1947	Average Markup 1947	Earnings or Loss Per Dozen 1947
July	169,278	115,695	$0.6577	$0.7575	$0.1002	—$0.0088
Aug.	154,153	122,551	.7126	.8077	.0951	— .0205
Sept	141,284	129,374	.7625	.8551	.0926	— .0218
Oct.	149,950	128,471½	.7345	.8358	.1013	+ .0006
Nov.	137,969	130,595	.7009	.8049	.1040	+ .0154
Dec.	165,117	190,813½	.6916	.8001	.1085	+ .0240
	1948	1947	1948	1948	1948	1948
Jan.	159,704	202,189	.6172	.7402	.1230	+ .0423
Feb.	145,174	190,713½	.5709	.6729	.1020	+ .0187
Mar.	191,792	230,866	.5344	.6336	.0992	+ .0197
Apr.	153,882	181,688	.5454	.6478	.1024	+ .0172
May	140,259	194,548½	.5521	.6633	.1112	+ .0164
June	151,286	188,435	.6233	.7301	.1068	— .0010
Total	1,859,848	2,005,940				

Eggs for this project are obtained from four member auction markets—Flemington, Vineland, Hightstown and Mount Holly. The volume purchased is determined by the volume of the source market. The member markets sold 10.3 per cent of their total volume through the Certified project in 1946-1947, compared with 14 per cent the previous year. Of the 69,004 cases (2,070,120 dozens) purchased, Flemington supplied 26,486 cases (38.38 per cent of the total purchased); Vineland 28,244 cases (40.93 per cent); Hightstown 11,247 cases (16.29 per cent); and Mount Holly 3,027 cases (4.39 per cent). Purchases from all auctions during the past year were valued at $1,303,529.80, compared with the previous year's $1,260,773.30. The yearly average price paid to the auctions by "Certified" was $0.629 per dozen, whereas the average price commanded by all eggs on all auctions was $0.603. The "Certified" purchase price was slightly below the average auction price only one month (June 1948); and ranged from slightly above to nearly 10 cents per dozen above the monthly average during the autumn, indicating the competitive condition of the egg market during the past year.

NEW JERSEY FRESH EGG LAW

The enforcement of the New Jersey Fresh Egg Law has continued without any major changes from the procedure followed during the previous year. The handling of warnings by letter and personal contact with distributors is proving satisfactory.

The trend toward consumer packaging and grade identification is in the best public interest, and deserves encouragement by this Department. However, in this developing field of marketing many errors result from personnel problems. The errors occur in large marketing organizations more so than with the independent operators. Personnel has become highly specialized, with egg room managers, floor ladies or candler supervisors, the candlers, and salesmen, each knowing enough about a particular job to fill it, but apparently not interested beyond that point. It is interesting to note here that the recent Marketing School registration included some of this personnel, but not nearly enough.

Managers of egg rooms should have a better understanding of their company program and know whether it conforms with law enforcement, and perhaps they should discard some of their outdated personal whims. Candler supervisors should really recognize egg qualities and be able to assist the candlers in segregating the various qualities. Perhaps more important than realized is the egg salesman who often thinks first of making a sale and commission, but seldom of the perishability of his product. In many cases it is within his field of influence to help his client do a better merchandising job which will in the end mean greater sales.

The 336 contacts with wholesalers or jobbers were required in order that the management of those firms might become aware of these faults within their organizations. Our inspections reveal the faults in the product; and, if they conflict with the provisions of the law, there is a violation. The advantage in making personal contacts is simply that we can stop the errors more quickly. Our senior inspector has been very successful in making these contacts with the person in authority at any firm. There are times when it is necessary for him to obtain conclusive evidence in order to obtain the required cooperation of distributors, and this reflects unfavorably in the number of violations found. There are times when these violations appear to be minor, but if left unheeded they would develop into problems more serious and more difficult to correct. Therefore, with continuous inspection we can detect what is occurring within a firm's operations insofar as it concerns the Fresh Egg Law. If it is evident that they are drifting away from or below the minimum quality for fresh eggs, these technical or minor violations cease to be within the bounds of reasonable human error, and we can in practically all cases cause corrective measures to be taken without resorting to penalty action.

Of the 846 violations reported (Table 10), 390 were serious enough to warrant the issuing of warnings. The others remain as violations but they are either of a technical nature or, because of the small volume involved, have been satisfactorily handled by the inspector at the time of inspection.

POULTRY TABLE 10

NUMBER OF STORES INSPECTED AND PER CENT VIOLATIONS, BY COUNTIES

County	Independent Stores			Chain Stores			All Stores		
	Stores Inspected	Number of Violations	Per Cent Violations	Stores Inspected	Number of Violations	Per Cent Violations	Stores Inspected	Number of Violations	Per Cent Violations
Atlantic	711	3	0.42	106	15	14.15	817	18	2.20
Bergen	308	41	13.31	39	15	38.46	347	56	16.13
Burlington	329	2	0.61	68	7	10.29	397	9	2.26
Camden	1,114	21	1.89	185	35	18.91	1,299	56	4.31
Cape May	182	8	4.40	30	3	10.00	212	11	5.19
Cumberland	205	...	....	59	31	52.54	264	31	11.74
Essex	1,963	167	8.51	149	45	30.20	2,112	212	10.03
Gloucester	225	2	0.89	49	3	6.12	274	5	1.82
Hudson	1,142	149	13.04	85	31	36.47	1,227	180	14.66
Hunterdon	78	4	5.13	12	4	33.33	90	8	8.89
Mercer	13	...	....	7	2	28.57	20	2	10.00
Middlesex	319	9	2.82	25	2	8.00	344	11	3.19
Monmouth	511	16	3.13	77	18	23.37	588	34	5.78
Morris	526	32	6.08	63	10	15.87	589	42	7.13
Ocean	217	7	3.23	39	6	15.38	256	13	5.08
Passaic	232	29	12.50	33	12	36.36	265	41	15.47
Salem	138	4	2.90	21	4	19.04	159	8	5.03
Somerset	220	20	6.41	30	5	16.66	250	25	10.00
Sussex	138	8	5.80	8	1	12.50	146	9	6.16
Union	971	44	5.01	111	22	19.81	1,082	66	6.10
Warren	137	6	4.38	10	2	20.00	147	8	5.44
Out-of-State	4	1	25.00	...	...	....	4	1	25.00
Total	9,683	573		1,206	273		10,889	846	

	1947-1948	1946-1947
Total stores inspected	10,889	13,798
Total violations	846	828
Average per cent violations	7.77%	6.00%

GRADING AND INSPECTION SERVICE

The official New Jersey Standards for Individual Eggs and the New Jersey Grades for eggs were revised during the year and made comparable to the Federal Standards for Individual Eggs and Specifications for Consumer Grades for eggs, respectively. Official New Jersey Wholesale Grades for eggs were promulgated and these are for all practical purposes nearly the same as the Federal wholesale grades.

The new standards have been incorporated into Circular 333 (Revised), "Marketing Fresh Eggs in New Jersey," an edition of 5,000 copies having been authorized. In this circular, interpretations of the chemical changes as well as the physical changes occurring within an egg as quality is lost, have been prepared from new information recently made available by scientific research. A new set of full-color reproductions of the candled appearance and the broken-out appearance of eggs of various qualities is also included. In addition, the specifications for quality and regulations of the State Board of Agriculture have been mimeographed, and a large number of copies has been distributed to inform producers and the trade.

The manager at the New Jersey State Hospital made a request to discuss the possibility of obtaining eggs direct from one of the auction markets. After learning the needs of the institution and the kind of egg wanted it was evident that they could never obtain satisfactory supplies from a low bidder. A discussion of prices disclosed that the auction markets afforded an opportunity to obtain eggs economically if the State purchasing agent would become familiar with the range of sizes, weights and colors. The hospital manager decided to try the Flemington Auction as a source of supply because that market renders a candling service. It has since been learned that the institution is getting what they want at an economical figure.

The New Jersey Federated Egg Producers Cooperative Association at Toms River is the only cooperative in the State operating on federal grades under the federal-state grading program. Early in the year the group began to supply a large chain store in Washington, D. C., with U. S. Grade AA cartoned eggs at the rate of about 200 cases a week. It was doubtful if this could be done and still maintain that quality at the point of sale. The cooperative was advised not to attempt the program unless every precaution was taken to conserve quality. The eggs were transported in insulated refrigerated trucks and held under similar conditions at the retail outlets. USDA officials in Washington became interested and made inspections at that point which disclosed satisfactory conformity with the grade designated. In the course of time these eggs began to set the pace for egg quality in that city and caused the general quality of eggs to improve.

Newcastle disease was widespread during the year, and its effect on egg quality created many problems for our inspectors applying official

grades at the cooperatives. Many poultrymen, who had been producing Grade AA or Grade A eggs at the time their flocks stopped laying due to the disease, found that when laying resumed the quality had dropped to Grade B, with some individual eggs even lower in quality. The loss of production and quality hurt poultrymen financially. The inspectors encountered difficulties explaining the degrading effects of the disease to poultrymen, and were required to be extraordinarily alert in maintaining the application of grades as accurately as possible. Assistance was requested at various times by inspectors who met these problems.

"BLUE-TAG" TURKEYS

The New Jersey Turkey Growers Cooperative Association, Inc., launched the Blue Tag grading and promotional program during the past marketing season. This Department cooperated with the association in regulating the use of the tag. Although this marketing program is the property of the association, and confined to the membership, it is necessary for a participating member first to register with the Department of Agriculture and receive an official number that has to be stamped on each tag used. Only turkeys of A-quality or better are eligible for this program.

There were 21 participating growers, representing approximately 10,000 turkeys, identified in this manner. Inspections were made at each farm during the heaviest killing days prior to Thanksgiving and again before Christmas. The growers did an excellent job and were very conscientious in their selection of qualifying birds.

SPECIAL POULTRY ACTIVITIES

The highly successful series of meetings started last year in cooperation with the Extension Service at the Tri-County Cooperative Auction Market Association, Inc., Hightstown, co-sponsored by the Tri-County Poultry Association, was continued on a bi-monthly basis. All subjects pertaining to marketing of eggs and poultry, including grading, packing and quality conservation, were handled by the staff of the poultry bureau. Active demonstrations with incidental lectures are emphasized at these meetings, which attract large audiences of poultrymen from Middlesex, Monmouth and Mercer counties.

Similar demonstrational meetings were staged at the Flemington market, and in cooperation with the poultry associations of Bergen, Sussex, Camden and Burlington counties. Bureau staff members also participated in the poultry meetings of 1948 Farmers Week, which included sessions of the State Poultry Association, New Jersey Poultry and Egg Cooperative Association, New Jersey Turkey Growers Cooperative Association, and New Jersey Poultry Breeders Association. Special cooperation was given in preparation for and conducting meeting programs of Jersey Chick Association, Northeastern Poultry Producers Council, and Eastern Federation of Poultry Cooperatives.

"CHICKEN OF TOMORROW" CONTEST

The national "Chicken-of-Tomorrow" breeding competition again was handled in New Jersey by the Bureau staff. For the second year, the White Cornish-White Rock cross produced by Wilbur F. Rue, Allentown, was the state contest winner. At the age of 14 weeks, these birds averaged four pounds and six ounces each, and were of excellent conformation and color, and free of pin feathers. With other selected entries, these birds were shipped to the Northeastern Regional Contest in Connecticut, and won the right to participate in the national contest, to be judged in July, 1948. Members of the staff assisted in wing-banding chicks and making other preparations for the national contest, which assembled hatching eggs from all competing regions at Georgetown, Delaware, where the broilers are to be raised.

Further evidence has been accumulated by this Department in its continuing survey of "reject eggs," that the original quality of New Jersey eggs is not improving. During the past year, we assembled data which show that 10.71 per cent of eggs delivered from four markets in the State were not satisfactory for an A-quality retail package. In 1944 there were 8.5 per cent rejects, 10.6 per cent in 1945, and 10.63 per cent in 1946. These percentages compare favorably with those of Connecticut and Pennsylvania, the only other states which are cooperating with our study.

The information has been called to the attention of marketing associations, breeders and groups of producers, in the belief that the high incidence of faulty eggs can be reduced through better nutrition, breeder selection, and management practices. The cooperation of these various agencies has been enlisted. The poultry department of the College of Agriculture, Rutgers University, the State University of New Jersey, has assumed the research part of the problem, which is not within our province. Using our marketing studies as clues, the college poultry authorities have written a research project, and are following up production practices, transportation, and handling at markets. Because cracks represent approximately one-half of the reject problem, the college studies are emphasizing this fault. They have already determined that almost all cracks originate at the farm, or before the eggs reach the auction market. Many cracks are found in the nest, some occur between nest and egg room, probably as a result of type of carrier or method of handling, and some occur during cleaning and grading for size. We have also found that the incidence of cracked eggs in New Jersey is about twice as high as in Connecticut. Comparing practices, we learned that Connecticut eggs for major candling-packaging projects are delivered nest-run, whereas New Jersey markets require producers to clean and grade for size. These extra handlings, usually mechanical, may contribute to the problem of cracked eggs.

EGG WASHING STUDIES

Because of our Department's interest in egg cleanliness as a marketing factor, and because the cleaning of eggs is a production problem, and as such is a responsibility of the college, we have jointly undertaken tests of cleaning techniques. During the past winter, it became known that many poultrymen were washing their eggs, a cleaning process contrary to all marketing traditions. However, new washing techniques, based upon the use of detergent materials ("soapless soaps") and hot solutions, had been devised under practical farm conditions. Because hot detergent solution washing is so simple and time-saving, and because the external appearance of soiled and dirty eggs is greatly improved, the method became popular immediately.

Within a few months a large volume of eggs was being washed, and several distributors of detergent materials arose to capitalize upon the method. There was scientific evidence to confirm the superiority of hot solution washing of eggs at temperatures beyond the 140° F. required for bactericidal action. The theory advanced also pointed to the fact that, during brief immersion in such a hot solution, slight expansion takes place, forcing dirt and embedded bacteria out of shell pores. Old washing methods, employing water at low temperatures, did not destroy putrefactive bacteria and, it was contended, actually spread the bacteria among the eggs to be introduced through the pores and cause spoilage.

The college recommendations that temperature of solution and time of immersion be carefully watched were followed by many producers, but apparently many did not pay attention to these important factors. Partially cooked eggs were discovered in marketed lots from producers who used too hot a solution and long immersion. Quality was also adversely affected as a result of cool solutions, lacking bactericidal action. This Department's representatives participated in numerous conferences, demonstration meetings and informational work, cooperating with the college poultry staff in an effort to head off serious trouble and damage to New Jersey's high-quality egg reputation. At the close of the year, cooperating with the college, we were undertaking a series of tests involving eggs cleaned with various detergents and in a variety of temperatures. The eggs are to be held for two weeks, with periodic quality inspections, the object being to find clues leading to more comprehensive tests.

Whether related to the widespread development of egg washing, or whether some unknown factor may be responsible, an unusually high incidence of rotten eggs has been troublesome in our markets. Opponents of egg washing have been quick to lay the blame there. Various other theories have been advanced, including the hot and humid weather recently experienced, the re-use of egg cases which are obviously more dirty and in poorer condition than the normal second-use case (extremely high egg case prices have induced this situation), neglect of quality conservation measures because of lack of manpower, and even nutrition has been

blamed. A new theory, not immediately acceptable to the industry, but with some confirmation in pathological evidence, is that originally spoiled or rotten eggs may be increasing. The epidemic of Newcastle disease may again be responsible here, as it seems to have been a cause of originally B-quality whites and faulty shells. Over-stimulation of the reproductive organs, either as a result of natural outbreaks of the disease or from live virus vaccination, is known to cause eversion of the oviduct. Localized infections of putrefactive bacteria could be possible in the damaged areas, according to this pathological theory, and bacterially infected yolks could be ovulated, thence to be incorporated into the complete egg. There seems to be no other way of explaining reports that originally spoiled or rotten eggs have been found in the nest, in baskets in egg rooms within only a few hours of collection, and in market channels within only a few days after production. We are endeavoring to learn through the cooperating market organizations whether conditions of handling and environment of the eggs may be the causative factor, but have also urged some practical research into the disease-damage possibility. This has recently been initiated at the Experiment Station.

ILLICIT EGG BREAKERS

The Bureau staff took a leading part in efforts to discourage the sale of incubator eggs to breakers who, it is believed by health authorities, may have diverted such eggs to bakers, mayonnaise manufacturers and other users of frozen eggs. The high price of eggs resulted in new activity in this field which is in violation of health laws. At conferences with health officials, we were advised that they were unable to enforce their regulations because of lack of sufficient manpower and because of the devious methods and deceptions practiced by the illicit egg breakers. Apparently, the low penalty provided by law is not a deterrent. An offer of cooperation in helping to break up the business at the source—the hatchery industry—was welcomed by the health authorities. A series of three meetings with hatcherymen in various regions of the State was held, and the situation was frankly discussed. Some hatcherymen have for several years been denaturing or destroying such eggs. Some are disposing of all incubator refuse to reputable representatives of tanneries. Others who had been selling such eggs to persons whose actual utilization of the material is unknown, although they claim to be using the eggs for dog food, bird food and special processes not related to human consumption, readily agreed to make other arrangements immediately. A list of license numbers of vehicles driven by persons offering to buy incubaor eggs has been prepared from reports supplied by the cooperating hatcherymen. At the close of the fiscal year we have cause to believe that very few, if any, New Jersey hatcherymen are selling incubator eggs to persons who might convert these to human food. The difficult situation has been solved by open discussion of an extremely delicate subject, and through a voluntary boycott of the suspected operators by our hatchery industry after evidence, largely circumstantial, was presented by the Bureau.

General Publicity

The large number of marketing and regulatory problems encountered has permitted little time for special consumer work along promotional lines. In view of the fact that poultry products are being consumed at continuing high record levels, there was little actual need for promotion. Routine efforts were maintained, including the preparation of information for newspaper release, material prepared for several consumer programs on the radio, a New Jersey turkey feature for *New Jersey Compass* (magazine), conferences with food page editors, and numerous direct contacts with consumers who requested assistance. Various small groups of consumers and retailers were escorted on informal tours of the poultry industry. Special egg displays emphasizing consumer interests were placed at the Flemington and Morris County fairs and at the food show of New Jersey Retail Grocers Association, and were attended by staff members.

Special attention also has been given to a number of assignments in farm radio programs, both in preparing information for other speakers and in actually voicing the broadcasts. These services were given to radio stations WNBC, WJZ, WCBS, WOR and WHN, New York City; WNJR and WAAT, Newark; WTTM, Trenton, and WCTC, New Brunswick.

Training Programs

Preliminary training in egg grading was given to a number of groups of 4-H Club members and vocational agriculture students, who later participated in the Farmers Week contests. The 1948 state winners were Edward Ossowski of Cranbury in the 4-H division, and Samuel Krouse of Bound Brook in the Vo-Ag class.

The New Jersey Department of Agriculture and the College of Agriculture were host this year to two egg marketing schools held under the auspices of the Northeastern Poultry Producers Council. At the school in September, 1947, there were 145 students, and 185 took the course in June, 1948, both being record enrollments. The bureau staff again served as lecturers and laboratory instructors, along with representatives of the sponsoring organization, and educational and regulatory workers from a number of eastern states. The geographic location and accessibility of New Jersey make it ideal for this school, which teaches egg candling, regulatory inspection and marketing work. About a fourth of the students at each school were New Jersey residents, giving this State an unusually large group of workers trained in egg quality. This should be of genuine advantage in the further development of the handling and cartoning program. Many of the graduates are employees of farmers' marketing organizations, chain stores and dairy companies.

Staff members continued to serve in various secretaryships which have become traditional in this Bureau. These services are given to New Jersey Turkey Growers Cooperative Association, New Jersey Record of Performance Association, New Jersey Poultry and Egg Cooperative Marketing Association, and Neppco Turkey Division. The annual 4-H Club Poultry Show was judged by a staff member.

A schedule for advertising New Jersey chicks and turkey poults was prepared in cooperation with New Jersey Council and Jersey Chick Association. Assistance was given the latter in preparing its "Guide to Better Chicks," which is a directory of New Jersey hatcheries, and also contains production and marketing advice. Three pages were devoted to our program.

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

GOLDEN EGG AWARDS

The "Golden Egg Awards for Distinguished Service to the New Jersey Poultry Industry," initiated by the Bureau, were presented during appropriate ceremonies to Leon Todd, Trenton, executive director of Northeastern Poultry Producers Council, an industry service organization; and to Elmer Reynolds, Philadelphia, vice-president of the Great Atlantic and Pacific Tea Company, in recognition of that company's outstanding work in the merchandising of high quality eggs.

Report of the Division of Plant Industry

HARRY B. WEISS, *Director*

The work of this Division has continued more or less substantially as in previous years. Some new activities have been added and accounts of these are duly noted. The State continues to be free of the gipsy moth, the golden nematode of potato and the white-fringed beetle.

NURSERY INSPECTION, 1947-1948

Certificates of inspection were issued for the year starting September 1, 1947, to 495 nurseries found free of dangerously injurious insects and plant diseases. Infestations of the following pests were found and clean-up measures were required, prior to the issuance of the certificates. A total of 392 infestations was found in 132 nurseries.

INSECT INFESTATION

Insect Pests	Number of Infestations
Juniper Scale	67
Rhododendron Lace Bug	54
Oyster Shell Scale	39
European Pine Shoot Moth	36
Taxus Mealy Bug	30
Bagworm	29
Spruce Gall Aphid	24
Azalea Lace Bug	16
Pine Leaf Scale	14
Euonymus Scale	13
Boxwood Leaf Miner	11
Juniper Webworm	11
Holly Leaf Miner	7
Boxwood Psyllid	4
Cecropia Larvae	3
Black Vine Weevil	2
Borers (Miscellaneous)	2
Downy Aphis	2
Willow Galls	2
Oriental Peach Moth	2
Pine Sawfly	2
Sitka Spruce Gall Aphid	2
Sycamore Lace Bug	2
Red Spider	2
Yellow Spotted Willow Sawfly	2
Aphis	1
Bronze Birch Borer	1
Chrysanthemum Lace Bug	1
Dogwood Cambium Borer	1
Fire Blight	1
Fungus Disease (unclassified)	1
Golden Oak Scale	1
Hawk Moth Larvae	1
Lilac Borer	1
Round Headed Borer	1
Thrip	1
Tulip Scale	1
White Fly	1
White Pine Weevil	1

WHITE PINE BLISTER RUST CONTROL-AREA PERMITS

Under the provisions of Quarantine No. 63 of the United States Department of Agriculture designed to prevent the spread of white pine blister rust in New Jersey, currant and gooseberry plants (*Ribes sp.* and *Grossularia sp.*) from out-of-state consignors may be shipped into this State only after "control-area" permits have been issued.

A total of 385 permits was issued from July 1, 1947, to June 30, 1948.

DEALERS' CERTIFICATES

Dealers certificates were issued to 68 dealers in nursery stock after they had signed agreements to purchase stock from listed certified nurserymen only.

SPECIAL CERTIFICATES

A total of 272 special certificates was issued during the fiscal year. Nurserymen shipping plant materials to a state or foreign country having requirements other than a copy of the certificate of inspection, and individuals other than nurserymen shipping to points out of the State received this special service. This certificate attests to the inspection of the stock, and freedom from insects and diseases, just previous to shipment.

SPECIAL (REQUEST) INSPECTIONS

Requests are received from time to time from residents of the State for information on insect problems. Where necessary, special calls are made. A total of 99 such calls was made.

CANADIAN CERTIFICATES

In order that residents of this State might ship plant material to Canada, it was necessary to conduct 45 inspections for issuance of the certificates required by that country.

DOMESTIC INSPECTIONS

Three hundred ninety-three bundles of nursery stock entering this State from other states were inspected. It was necessary to reject four fruit trees from a shipment of 50 trees because of crown gall, and out of a shipment consisting of 295 lilacs, 12 were condemned because of lilac borer. This material was grown in the states of New York and Illinois, respectively.

FOREIGN INSPECTIONS

Seven inspections were made of plant shipments into New Jersey from foreign countries.

RED STELE INSPECTIONS

The strawberry fields of 23 growers were inspected and certified as free from Red Stele disease. The total area of these fields was 70 acres.

DORMANT SEASON INSPECTIONS

During the fall and winter months, the stock growing in 116 nurseries was inspected for scale and other insects. Only one infestation was noted, consisting of juniper webworm on juniper.

RASPBERRY PLANT CERTIFICATION

Inspections were made for four growers covering 28.35 acres. Six varieties were included in these lots. It was necessary to reject three acres of the Sunrise variety belonging to a grower in Camden County because of Yellow Mosaic. This service is rendered to accommodate those who wish to ship into states (there are 13) having special requirements as to virus-free plants.

GIPSY MOTH SCOUTING

During July, 1947, a total of 748 assembling cages was distributed in Bergen, Camden, Monmouth, Morris, Sussex and Warren counties. These cages, loaned by the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture, are baited with a sex attractrant and are used to lure and capture the male moths. The capture of such moths indicates the presence of an infestation within one-half mile of the trap. The trapping supplements the scouting and provides a further check on the visual scouting. Little visual scouting had been done in recent years in the areas selected for the trapping survey. A regular patrol of the traps was maintained throughout the flight season, each trap being inspected at ten-day intervals until mid-September. No gipsy moth was taken.

DISTRIBUTION OF GIPSY MOTH CAGES, SEASON 1947

County	Number of Cages
Bergen	129
Camden	20
Monmouth	35
Morris	233
Sussex	211
Warren	120
Total	748

At the conclusion of the trapping season the personnel of this project were assigned to the blueberry stunt disease project. This work continued into late fall, at which time visual scouting for gipsy moth was renewed.

During the winter of 1947-48, regular field scouting was conducted in nine counties. Since it was believed there was no immediate danger of introduction of the insect from the New York or Pennsylvania infestations, the scouting was extended southward from the area where intensive scouting has been in progress for a number of years, into Middlesex and Monmouth counties. The winter was most unfavorable for woodland scouting, with many back roads remaining impassable for a long period. It was necessary to confine the work to open country with travel on main roads from late December until mid-February, at which time warm weather and rains reduced the snow sufficiently to allow woodland scouting to proceed as planned. With the help of one scout who was loaned from the Dutch elm disease project and two men from the nursery inspection project it was possible ultimately to cover 3,925 acres of woodland and 15,477 acres of open country. No gipsy moth infestation was located.

ANNUAL SCOUTING REPORT

	Woodland	Open Area	Infestations Located
Bergen County			
Englewood Cliffs	323	1,413	....
Richfield	418	160	....
North Bergen	0	1,738	....
West New York	76	733	....
Morris County			
Hanover	....	884	....
Denville	32	190	....
Monmouth County			
Rumson	....	602	....
Somerset County			
Hillsboro	46	602	....
Sussex County			
Sparta	....	508	....
Essex County			
Montclair	....	689	....
Upper Montclair	120	170	....
Cedar Grove	216	....	....
Middlesex County			
Cranbury	102	197	....
Sayreville	645	3,870	....
Monroe	742	1,272	....
Warren County			
Harmony	968	1,916	....
Hudson County			
Guttenberg	91	283	....
North Bergen	146	250	....
Total	3,925	15,477	

PROGRAM FOR 1949

Field scouting was discontinued in mid-May, and the scouts were again released to the blueberry stunt disease project, until such time as it would again be necessary to distribute assembling cages.

It is planned to conduct scouting in Holmdel, Matawan, Middletown and Raritan Townships in Monmouth County during the next scouting season. This work will also continue in Bergen County from Englewood Cliffs north to the New York State line through Alpine. This scouting area will extend one mile inland from the Hudson River. Scouting is also planned for Warren and Sussex counties on the Delaware River, north from the township of Harmony in Warren County.

JAPANESE BEETLE QUARANTINE

This project is a cooperative one between the New Jersey Department of Agriculture and the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture. It is concerned with the enforcement of quarantine measures, in accordance with which plant products and other quarantined materials originating in this State are allowed movement into non-regulated areas after proper protective measures have been taken. There follows a summary of the year's work.

SHIPMENTS OF FARM PRODUCE CERTIFIED BY DDT TREATMENTS

	RR Cars		Trucks		Totals	
	First Treatment	Second Treatment	First Treatment	Second Treatment	First Treatment	Second Treatment
White potatoes	2,997	791	474	438	3,471	1,229

This is the first year DDT treatments were approved for certification of white potatoes shipped in refrigerator railroad cars, and closed trucks. Two dosages of DDT are required, one before loading and one after loading. A total of 2,997 railroad cars was given the initial treatment of DDT before being distributed to potato shipping points. The second treatment of DDT was given to only 791 cars consigned out of the Japanese beetle area.

Closed trucks were likewise given two treatments of DDT, the initial one before loading, either at the farm or on the premises of the potato dealer, and the second at the farm after loading, or the station set up for this purpose at Bordentown. A nominal charge of $1.00 per truck was made by the State for the two treatments of DDT. This charge was for the insecticide and carbon dioxide used as well as the equipment involved.

SHIPMENTS OF FARM PRODUCE CERTIFIED BY METHYL BROMIDE FUMIGATION

Commodity	Railroad Cars	Trucks	Totals
White potatoes	26	4	30
Blueberries	4	..	4
Cabbage	..	1	1
Carrots	..	1	1
Corn	..	15	15
Lima beans	..	4	4
Mixed loads	..	46	46
Onions	11	12	23
Peaches	14	1	15
Peppers	..	5	5
Tomatoes	..	6	6
Total	55	95	150

The use of methyl bromide fumigation for certification was severely reduced during the year. This material has been superseded by DDT wherever possible because both the time element and cost overwhelmingly favor DDT. However, since DDT is approved for potatoes only, all other produce shipped was certified by either manual inspection or methyl bromide fumigation. A charge of $1.00 per pound was made for methyl bromide; the average total charge was $3.00 per truck, depending upon the number of cubic feet and the temperature in the truck.

SHIPMENTS OF FARM PRODUCE CERTIFIED BY MANUAL INSPECTION

Commodity	Railroad Cars	Trucks	Totals
White potatoes	..	176	176
Apples	2	..	2
Cucumbers	..	2	2
Mixed	..	4	4
Onions	..	2	2
Total	2	184	186

Because more convenient and quicker means of certification are now available, the method of certifying farm produce by manual inspection has declined during the past year. It is likely that the manual inspection method of certification will soon be dropped.

SHIPMENTS OF FARM PRODUCE UNDER "P" PERMITS

Commodity	Trucks
White potatoes	5
Mixed	1
Onions	2
Total	8

"P" permits are issued to cover shipments of produce originating in an infested area, and destined for an isolated infested area. This permit is issued to allow the carrier to pass through the non-infested area to the isolated infested area. Such shipments are not certified for absence of

Japanese beetle, but rather on the basis of safeguards to prevent infestation en route.

FARM PRODUCE SHIPPED UNDER CERTIFICATE WITHOUT INSPECTION OR FUMIGATION (INTERIM BETWEEN END OF FUMIGATION PERIOD AND LIFTING OF FARM PRODUCE QUARANTINE)

Commodity	Railroad Cars	Trucks	Totals
White potatoes	113	40	153
Mixed	..	2	2
Peppers	8	..	8
Total	121	42	163

SUMMARY OF FARM PRODUCE CERTIFIED FOR SHIPMENT

Commodity	Railroad Cars	Trucks	Totals
White potatoes	930	663	1,593
Apples	2	..	2
Blueberries	4	..	4
Cabbage	..	1	1
Carrots	..	1	1
Corn	..	15	15
Cucumbers	..	2	2
Lima beans	..	4	4
Mixed loads	..	53	53
Onions	11	16	27
Peaches	14	1	15
Peppers	8	5	13
Tomatoes	..	6	6
Total	969	767	1,736

There has been a significant decrease in the movement of certified farm produce by railroad car. The decrease has been from 2,118 cars during the 1945-1946 season to 1,464 cars during the 1946-1947 season, and to 969 cars during the present season. For the same three-year period the number of trucks certified has increased from 182 to 338, and to 767 during the present season.

This trend is attributed to the greater availability of trucks following war years' shortage, quicker delivery, less handling, and smaller carrier charges of trucks. It can be expected that truck transportation will continue to gain over railroad transportation of farm produce.

CUT FLOWERS CERTIFIED FOR SHIPMENT

	Boxes
July 1 to 12, 1947	35
July 13 to 26, 1947	28
July 27 to August 9, 1947	34
August 10 to 23, 1947	72
August 24 to September 6, 1947	80
September 7 to 20, 1947	64
September 21 to October 4, 1947	49
June 13 to 26, 1948	33
Total	395

This certification consists of hand or visual inspection of commercially packed flowers. Floral pieces are exempt from regulations, due to the type of handling they receive.

SOIL AND LEAF MOLD CERTIFIED FOR SHIPMENT

	Outside Quar. Area	Inside Quar. Area
September 7 to 20, 1947	15 pkgs. soil	
October 19 to November 1, 1947	13 " "	
November 2 to 15, 1947	22 " "	
November 16 to 29, 1947	38 " "	
November 30 to December 13, 1947	101 " "	
December 14 to 27, 1947	50 " "	
December 28, 1947 to January 10, 1948	69 " "	
January 11 to 24, 1948	47 " "	
January 25 to February 17, 1948	114 " "	
February 18 to 21, 1948	66 " "	
February 22 to March 6, 1948	68 " "	
March 7 to 20, 1948	47 " "	
March 21 to April 3, 1948	49 " "	
April 4 to 17, 1948	66 " "	15 bags leaf mold
April 18 to May 1, 1948	47 " "	
May 2 to 15, 1948	35 " "	
May 16 to 29, 1948	35 " "	
May 30 to June 12, 1948	27 " "	
	3 bu. leaf mold	
June 13 to 26, 1948	13 pkgs. soil	
Totals	922 pkgs. soil 3 bu. leaf mold	15 bags leaf mold

The shipment of packaged and certified soil is a recent development in the plant business in New Jersey. This soil is treated to eradicate the Japanese beetle, packed in small packages and shipped, usually by parcel post, to various parts of the country. Soil prepared in this manner is welcomed by city dwellers who lack this item for their house plants.

TOTAL NUMBER OF PLANTS SHIPPED AND CERTIFICATES ISSUED

Date	Outside Area		Inside Area		Total	
	Certificates Issued	Number Plants Shipped	Certificates Issued	Number Plants Shipped	Certificates Issued	Number Plants Shipped
7- 1 to 7-12	745	444,176	6	17,300	751	461,476
7-13 to 7-26	1,280	52,413	3	10,000	1,283	62,413
7-27 to 8- 9	914	76,406	10	12,600	924	89,006
8-10 to 8-23	579	34,222	...	....	579	34,222
8-24 to 9- 6	511	44,413	5	3,470	516	47,883
9- 7 to 9-20	667	31,899	4	3,161	671	35,060
9-21 to 10- 4	1,155	94,497	18	62,810	1,173	157,307
10- 5 to 10-18	1,699	258,538	25	59,515	1,724	318,053
10-19 to 11- 1	2,436	342,579	25	32,173	2,461	374,752
11- 2 to 11-15	2,385	217,790	17	15,018	2,402	232,808
11-16 to 11-29	1,515	244,093	16	17,217	1,531	261,310
11-30 to 12-13	1,298	91,004	22	168,826	1,320	259,830
12-14 to 12-27	744	142,479	15	49,472	759	191,951
12-28 to 1-10	1,090	93,364	9	11,725	1,099	105,089
1-11 to 1-24	932	127,361	6	2,952	938	130,313
1-25 to 2- 7	805	195,282	16	11,395	821	206,677
2- 8 to 2-21	1,465	164,011	37	39,253	1,502	203,264
2-22 to 3- 6	1,878	226,051	32	72,522	1,910	298,573
3- 7 to 3-20	2,084	196,128	57	65,753	2,141	261,881
3-21 to 4- 3	2,841	265,835	72	192,977	2,913	458,812
4- 4 to 4-17	3,705	199,679	63	88,972	3,768	288,651
4-18 to 5- 1	3,723	193,999	51	45,788	3,774	239,787
5- 2 to 5-15	4,195	145,562	38	21,077	4,233	166,639
5-16 to 5-29	3,329	240,071	11	3,609	3,340	243,680
5-30 to 6-12	2,009	307,295	9	292,695	2,018	599,990
6-13 to 6-26	2,883	169,472	16	42,900	2,899	212,372
Total	46,867	4,598,619	583	1,343,180	47,450	5,941,799

The total number of plants shipped under Japanese beetle certification this year was 456,702 in excess of last year, and 1,288,377 in excess of the year ending June 30, 1946.

SUMMARY OF PLANT TREATMENTS

Agent	Plants Treated After Digging	1948 Inventory of Plants in Treated Nursery Plots	Number of Square Feet of Treated Nursery Plots
DDT (figures include all treatments made in 1948, plus treatments made in 1947 and 1946 that are still in force)	.....	3,090,639	5,853,306
Lead arsenate (retreatment)	.....	1,760	44,655
Lead arsenate (no lead required) ...	.....	5,608	255,860
Methyl bromide	427,087	.....	.....
Ethylene dichloride	162,471	.....	.....
Ethylene dichloride-dibromide	224,697	.....	.....
Totals	814,255	3,098,007	6,153,821

Due to the development of new materials in the past few years, significant changes have taken place in plant treatments. Methyl bromide chamber fumigations of plants after digging, and lead arsenate soil treat-

ments of plants before digging, have been the most popular methods heretofore employed. There has been a decrease in the number of plants certified by methyl bromide fumigations, with increases in ethylene dichloride treatment of plants, shrubs and evergreens in soil balls and pots, and ethylene dichloride-dibromide treatments of bare root plants, shrubs and trees.

Lead arsenate is being superseded by DDT, largely because the latter material is cheaper and there is less labor required for the treatment. It also has been found that DDT applied in proper amounts is less injurious than lead arsenate to plant life in general.

POTTING SOIL TREATED

Agent	Cubic Yards
Carbon disulphide	593.387
Heat	14.93
DDT	342.422
Total	950.739

The methods of treatment of potting soil remain unchanged with the exception of the use of DDT, which is comparatively new. This treatment is considerably less expensive than the carbon disulphide method, and the usual precautions for storage are eliminated. With carbon disulphide there is always the possibility of re-infestation, which is not true of soil treated with DDT.

SURFACE SOIL TREATED

	Greenhouses, Sq. Ft.	Frames, Sq. Ft.	Sheds, etc., No. Plants	Heeling-in Area, Sq. Ft.	Sq. Ft.	Number Plants
DDT*	196,167	180,251	1,080,802	....	376,418	1,080,802
Lead arsenate (re-treatment)	11,784	3,054	.....	3,505	18,343	.....
Lead arsenate (no lead required)	20,768	2,470	.....	3,498	26,736	.....
Ethylene dichloride-dibromide	.....	.....	.....	....	606	.....
Total	228,719	185,775	1,080,802	7,003	422,103	1,080,802

* Figures include all treatments to date.

Ethylene dichloride-dibromide as a surface treatment has been used during the past year for small areas. This material is easy to mix, and eliminates the fire hazard which makes the use of carbon disulphide dangerous.

NUMBER OF PERSONAL CALLS MADE

Plant material	4,008
Soil	187
Cut flowers	68
Fruits and vegetables	897
Total	5,160

NUMBER OF PLANTS, SHRUBS AND TREES MANUALLY INSPECTED FOR CERTIFICATION, 1,991,919

NUMBER OF ESTABLISHMENTS DEALING IN NURSERY AND ORNAMENTAL STOCK, ETC., 178

MEN EMPLOYED

Month	Farm Produce		Nursery and Greenhouse		Totals	
	Federal	State	Federal	State	Federal	State
1947—						
July	6*	11*	1	1	7	12
August	7*	11*	1	1	8	12
September	..	..	10	5	10	5
October	..	..	7	4	7	4
November	..	..	7	4	7	4
December	..	..	7	4	7	4
1948—						
January	..	..	5	4	5	4
February	..	..	5	4	5	4
March	..	..	5	4	5	4
April	..	..	5	4	5	4
May	..	..	5	4	5	4
June	..	..	5	4	5	4

NUMBER OF AUTOMOBILES OPERATED EACH MONTH DURING THE YEAR

Month	Farm Produce		Nursery and Greenhouse		Totals	
	Federal	State	Federal	State	Federal	State
1947—						
July	4	13	..	3	4	16
August	4	13	..	3	4	16
September	..	..	..	14	..	14
October	..	..	..	14	..	14
November	..	..	..	13	..	13
December	..	..	..	12	..	12
1948—						
January	..	..	..	13	..	13
February	..	..	..	12	..	12
March	..	..	..	13	..	13
April	..	..	..	13	..	13
May	..	..	..	14	..	14
June	..	..	..	13	..	13

* Small amount of nursery work for these months.

BEE CULTURE

The regular seasonal apiary inspection work was accomplished during the 1947-1948 fiscal year. Inspections were made in all counties, except Atlantic and Hudson.

It is estimated that a 20 per cent loss of colonies occurred in New Jersey during the 1947-1948 winter. Over most of the State there was an unbroken period of low temperatures, lasting about 57 days, during which time the bees were unable to break cluster for cleansing flights. Weak colonies and diseased colonies succumbed early in this period. Much of the American foulbrood discovered during the spring of 1948 was readily traced to dead, infected, robbed out colonies. This continues to be the most common means of spread of American foulbrood.

All queen-rearing apiaries and all apiaries producing "package bees" for transit were properly inspected and certified. In the inspection of such apiaries it is also necessary to ascertain that all apiaries in the vicinity are free from contagious bee diseases.

The Italian, Caucasian and Carnolian, in that order, are still the most popular races of bees in New Jersey.

In an effort to inspect annually a greater percentage of the total apiaries in the State, an additional inspector was placed in this work in May, 1948. It is felt that a program which would permit the annual inspection of at least one-third of the apiaries in the State would be most desirable and most efficient in controlling the various bee diseases.

A service which is most difficult to evaluate is that rendered by the supervisor of bee culture in his daily contact with beekeepers. By these contacts and by attendance at the many meetings of beekeepers throughout the State, he is able to keep constantly before them his recommendations for improvement in stock, beekeeping methods and queen-rearing procedures.

SUMMARY OF APIARY INSPECTIONS

During the year ending June 30, 1948, a total of 660 apiaries was visited. Examinations for bee diseases were made of 6,170 colonies and 928 nuclei. American foulbrood (*Bacillus larvae*) was found in 265 colonies within 84 apiaries.

European foulbrood (*B. pluton*) was found in 58 colonies within 20 apiaries. Some progress has been made in the control of this disease by requeening infected colonies with queens from disease-resistant stock. European foulbrood is still confined to the southern part of the State. It appears to be aggravated by certain soil and climatic conditions, but these relationships are not yet well known.

Poor beekeeper management is responsible for the cross-combed and box-hived colonies reported. Excellent cooperation has been received from the beekeepers in correcting these conditions when they have been shown that proper housing results in better income from their bees.

It was necessary for the inspector to cause the burning of ten infected colonies in three apiaries, when the owners failed to take necessary clean-up measures.

Beekeepers are encouraged to mail to the Department samples of brood which have died for unknown reasons. Smears are examined microscopically to determine the responsible pathogen. In this manner, 47 cases of American foulbrood and 79 cases of European foulbrood were recorded from a total of 186 samples submitted.

On December 17, 1947, the State Board of Agriculture repealed the standards and regulations established April 4, 1933, for the grade of honey known as "New Jersey Certified Honey." This action was taken in view of the failure of the beekeepers generally to make use of the certification program.

RESULTS OF APIARY INSPECTIONS, BY COUNTIES

County	Apiaries	Colonies	Nuclei	Box Hives	Cross Combed	Apiaries A.fb.	Colonies A.fb.	Apiaries E.fb.	Colonies E.fb.	Colonies Burned	Microscopic Determinations A.fb.	E.fb.	Neg.	Total
Bergen	85	382	..	..	4	5	8	..	..	..	3	..	2	5
Burlington	36	491	..	1	..	12	29	11	32	..	16	37	22	75
Camden	11	53	..	..	..	2	8	..	..	..	6	5	3	14
Cape May	6	16	83	..	3	1	1	..	..	..	..	..	..	..
Cumberland	23	397	..	..	1	7	12	3	8	..	5	18	7	30
Essex	12	49	..	..	..	1	10	..	..	..	..	..	1	1
Gloucester	8	128	..	5	..	2	4	1	8	..	3	8	2	13
Hunterdon	62	1,271	645	2	2	9	26	5	10	..	4	11	11	26
Mercer	25	234	200	..	2	..	..	..	..	..	..	..	..	..
Middlesex	4	21	..	..	..	1	1	..	..	..	..	..	..	..
Monmouth	24	141	..	..	10	8	17	..	..	..	..	..	2	2
Morris	76	572	..	5	8	8	39	..	..	6	1	..	1	2
Ocean	6	38	..	..	..	2	6	..	..	..	2	..	..	2
Passaic	45	195	..	..	1	1	4	..	..	..	1	..	1	2
Salem	4	80	..	..	..	3	10	..	..	..	1	..	..	1
Somerset	50	475	..	..	..	6	34	..	..	3	1	..	..	1
Sussex	43	509	..	..	24	3	8	..	..	..	..	..	..	..
Union	6	26	..	..	..	1	2	..	..	..	3	..	5	8
Warren	134	1,092	..	..	3	12	46	..	..	..	1	..	3	4
Total	660	6,170	928	13	58	84	265	20	58	10	47	79	60	186

MISCELLANEOUS ENTOMOLOGICAL ACTIVITIES

GOLDEN NEMATODE (*Heterodera rostochiensis*) OF POTATOES

This serious pest of potatoes, first discovered in Germany in 1881, then reported from Scotland in 1913, and from England and Ireland shortly thereafter, is now established in the vicinity of Hicksville, Long Island. The nematode has been recovered from more than 5,000 acres of potato land in Nassau and Suffolk counties. Heavily infested land yields meager crops of potatoes, and the performance of this pest indicates that in time such land can be cropped profitably only at intervals of five years or more. There is no practical method of eradicating the nematode from the land at present. The State of New York and the Federal Government are operating a project aimed at taking infested land out of potato and tomato (the only other known host) production, with compensation to the farmer for such removal. In cases where the crop has been planted prior to the finding of the organism, the marketing is limited to safe outlets, with adequate safeguards for movement. These restrictions are provided for in the quarantine which has been imposed upon the general area. Research is also being conducted into nemacidal materials, and breeding for resistant stock.

Although this Department is fully aware of the threat posed by this nematode to the very important potato industry, quarantine or embargo measures have been considered impracticable. Full enforcement of such measures would be extremely expensive and would probably be no more effective than those measures now vigorously enforced by the State of New York and the U. S. Department of Agriculture. There is also the likelihood that land in this State might already be infested, since the nematode was undiscovered on Long Island for at least 15 years prior to its determination in 1944.

In September, 1947, permission was asked of this Department for the movement of 500 railroad cars of potatoes, from land recently discovered infested, through New Jersey to the Publicker Distilleries in Philadelphia. The movement was allowed under strict regulation. The investigation by this Division revealed that the potatoes were loaded at Hicksville, Long Island, into cars which were then boarded up to prevent spillage. The cars arrived at Publicker property in good order. After removal of the potatoes the cars were thoroughly disinfected before being moved from the yard.

During December the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture submitted to this Department a report of a survey conducted by their personnel to determine whether or not potatoes grown in the regulated area on Long Island had been moving into New Jersey. Retail outlets in Jersey City and Hoboken were well covered. There was no indication that such movement had occurred.

FEATURES OF NEW YORK QUARANTINE

It is estimated that potatoes will be harvested in 1948 from about 500 acres of infested land on Long Island. Under the provisions of the New York State quarantine these potatoes will be washed under supervision, packaged in paper bags and labelled for consumption in New York city, Yonkers or Mount Vernon, New York. Their movement to market will be adequately safeguarded. The quarantine, revised for the 1948 season, permits potatoes grown on uninfested portions of infested farms to be washed under supervision, packaged in paper bags, then marketed without further restriction. Washing under supervision is the only requirement for vegetable root crops grown on infested fields. The movement of topsoil, ornamental plants, nursery stock and bulbs, farm equipment and used bags is adequately restricted.

During the growing season of 1948 the Bureau of Entomology and Plant Quarantine will conduct a survey of potato growing areas in the East and as far west as the Red River valley to determine whether or not the golden nematode is present at other points. At its meeting in May, 1948, the State Board of Agriculture, recognizing the importance of this pest, agreed to extend all possible assistance to this project.

BLUEBERRY STUNT DISEASE

The results of the inspection and certification of blueberry plants for freedom from "stunt" disease is here reported for the calendar year 1947. This program begun in 1945, involves a spring and a fall inspection of plants to be certified. Its purpose is to make available to blueberry growers stunt-free stock for planting. Stunt is a virus disease considered the most serious pest of blueberry plants in New Jersey. The withholding of diseased plants, cutting wood and rooted cuttings from the trade can be expected to slow down the spread of the disease, and perhaps confine it. The effort is worthy, at least until such time as adequate control measures can be devised. Research into the causes and control of the disease is being carried on at the Cranberry and Blueberry Research Laboratory of the New Jersey Agricultural Experiment Station at Pemberton, and results thus far have been encouraging. Educational work is also conducted by the Experiment Station personnel. A good working knowledge of the disease, its recognition and effect will result in the removal and destruction of many infected plants, and therefore a reduction in intensity of the disease where now established. The efforts of this Department are thus concentrated in making available a source of disease-free plants and plant parts for propagation.

The following data summarize the results of the program since its inception.

Year	Growers in Program	Acres Inspected	Stunted Bushes Found*	Stunted Bushes Per Acre Certified*
1945	14	155.25	698	4.5
1946	26	350.23	2,002	5.7
1947	23	338.88	813	2.4

* Includes both spring and fall inspections.

At the start of the program any planting containing more than two per cent of stunted bushes was rejected for certification. Immediate removal and destruction of infected plants is required. This tolerance is gradually being reduced. Fields will be rejected which show more than one per cent infection next year.

Stunt is detected on a plant by means of leaf symptoms and growth habit. Although the data for 1947 indicate a reduction in incidence of the disease, the exceptional summer growing season must be considered. It is believed that there was a masking of virus symptoms because of the strong vegetative growth which occurred.

STATUS OF THE EUROPEAN CORN BORER

During the fall of 1947 corn fields were sampled in 20 counties of the State to determine populations of the European Corn Borer. This survey has been made annually in the same general localities for a number of years. The counts for 1947 and 1946 are given below:

County	Average Number of Borers* per 100 Plants 1946	1947
Atlantic	98.4	53.4
Bergen	241.8	115.4
Burlington	160.0	59.2
Camden	84.6	82.6
Cape May	86.2	47.0
Cumberland	107.6	30.0
Essex-Union	31.7	55.2
Gloucester	178.2	72.4
Hunterdon	71.6	17.2
Mercer	196.0	35.5
Middlesex	163.6	158.6
Monmouth	184.4	34.6
Morris	11.4	28.4
Ocean	71.4	65.0
Passaic	94.2	146.8
Salem	156.0	51.0
Somerset	19.8	33.7
Sussex	8.6	23.6
Warren	23.8	19.0
Average	104.7	59.4

* These figures indicate that there has been a significant decrease in the over-all European Corn Borer population in New Jersey during the year 1947. Although this is encouraging, it must be realized that great variations, upward as well as downward, may be caused by climatic factors. Many parasites of this insect have been released in this State and it is hoped that, within a few years, it can be stated with certainty that they are playing a real part in reducing the numbers of this important agricultural pest.

SCOUTING FOR THE WHITE-FRINGED BEETLE (*Graphognathus sp.*)

This South American weevil, first found in the United States in the vicinity of eastern Alabama and western Florida in 1936, is now known to occur as far north as Georgia and North Carolina. This insect causes extensive damage to a variety of growing crops and is the subject of a quarantine placed by the United States Department of Agriculture.

In view of the heavy traffic into and through New Jersey during the war years, and because of the heavy normal flow of traffic bearing farm products from the southern states, it is believed that New Jersey has been exposed to infestation by this insect. It was therefore decided to employ one man during the summer of 1947 to scout locations which have been most seriously exposed to determine whether or not the insect was present.

The Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture assisted by providing a one-week period of training within the infested area for our scout, and by assigning an experienced man to this Department for a two-week period to aid in starting the survey.

The survey was started in mid-June with the inspection of locations where nursery stock had been received from southern nurseries, now known to be infested. Inspections were also made in nurseries that had shipped into areas now known to be infested. Spot checks were made in the potato and tomato growing sections. Potato packing sheds and railroad yards at Hightstown were surveyed. Railroad yards at Trenton and Camden and the dock area of Camden were inspected. Cultivated fields and small gardens in Mercer and Monmouth counties were scouted. A thorough search of the Fort Dix and Camp Kilmer areas was accomplished. A good sample of the nurseries was inspected with the help of the regular nursery inspectors, who were thus familiarized with the scouting technique. The survey was completed early in September with an intensive scouting of locations along U. S. highway No. 130 from Pennsville to Bordentown. No white-fringed beetle was found.

SURVEY FOR POTATO ROT NEMATODE (*Ditylenchus destructor*)

In July, 1947, the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture announced the results of a survey accomplished cooperatively with this Division to determine the status of the potato rot nematode. The survey covered six counties and 97 sites in New Jersey. Specimens of nematodes were taken from 40 sites, and all were examined. No potato rot nematode was found. Negative findings were also reported from the following states, where similar surveys were made: Connecticut, Delaware, Maine, Maryland, Michigan, New Hampshire, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Virginia and Wisconsin.

A WEEVIL (*Pseudocneorrhinus setosus Roelfs*) FROM SOUTH ORANGE

Specimens of this weevil, native to Japan, were received from a resident of South Orange in September, 1947. On investigation the adult was found feeding on the foliage of privet, rhododendron, mimosa, Japanese barberry, and several other ornamentals. Although this is the first record of its occurrence in this State, it has been taken from New York City, and was reported from Connecticut in 1923. Scouting revealed that the insect is established, occurring in an area composed of the eastern two-thirds of South Orange, a small area in the southeastern tip of West Orange, a narrow strip across the southern edge of Orange, the western edge of the City of Newark, and the northeastern tip of Maplewood. The weevil appears to be capable of considerable damage to the foliage of many plants, yet cannot be considered of economic importance.

NURSERY TEST PLOT

The one-acre nursery established at White Horse in the spring of 1947 has been maintained during the past year. The plants have become well established, generally, although some loss was suffered through transplanting and because of the severe winter.

Infestations of juniper scale, euonymus scale, bagworm, European pine shoot moth, and pine sawflies have been seeded on the nursery stock. Tests to determine the efficiency of some of the newer insecticides in controlling these pests will be run.

DUTCH ELM DISEASE IN NEW JERSEY FOR THE CALENDAR YEAR 1947

DDT USED FOR BARK BEETLES

The calendar year 1947 ushered into the Dutch elm disease program a new era characterized by the employment of DDT for the control of the elm bark beetles so that their damaging and infectious feeding in elm twigs could be circumvented. Prior to the appearance of this insecticide the control of these bark beetles was accomplished haphazardly through the medium of sanitation which involved the detection and destruction of bark beetle breeding elm wood. The fallibility of this sanitation program became evident to everyone intimately associated with the appraisal of its value. Consequently the arrival of a contact insecticide for bark beetle control infused a new hope into concerned elm tree owners and custodians.

Considerable exploratory work with DDT as a control of scolytid beetles was conducted in 1946. The year 1947 was deemed the opportune time to extend this preliminary information into field trials. Accordingly, the subject of the use of DDT for elm bark beetle control was introduced at the mid-winter meeting of the New Jersey Federation of Shade Tree

Commissions held in Newark, New Jersey. Practically the entire afternoon of one of the sessions was devoted to this topic. Insecticide manufacturers, commercial arborists and shade tree commissioners were eager to obtain all the available information on this subject so that it could be applied to their respective programs, even though a full assurance of success could not be guaranteed.

The February, 1947, issue of *The Shade Tree* presented the New Jersey Department of Agriculture 1947 Dutch elm disease control recommendations. These recommendations, although carrying a general tenor of hope, attempted to rationalize the probabilities of success. Coincidental with the researches with DDT, researches on the development of mist blower sprayers were in progress. By the winter of 1947 three mist-blower type sprayers appeared on the market.

ENGLEWOOD TREES SPRAYED

The Advisory Shade Tree Commission of the City of Englewood displayed considerable consternation during 1945 and 1946 at the trend of Dutch elm disease in that municipality. Many of their fine specimen trees were stricken and killed. This enthusiastic and aggressive commission made overtures to the New Jersey Department of Agriculture for the inauguration of a plan whereby experimentation could be conducted jointly with the street elm trees in Englewood to ascertain the usefulness of the various DDT formulations for bark beetle control. Accordingly, the City of Englewood, desiring to have all the elm trees in the town sprayed, agreed to spray all the privately owned elm trees if the New Jersey Department of Agriculture would spray the street trees, approximately 1,000 in number. This prospective agreement was consummated.

Preliminary plans for the Englewood spraying operation included the application of DDT at the rate of one pound per average size tree. However, the interference of ill-advised counsel regarding the toxicity of DDT to birds resulted in the reduction of this dosage to approximately one-fourth pound per tree. Two different types of machines were used, the Lawrence Mist Blower Sprayer and the Accurate Insect Control Unit, each spraying approximately 50 per cent of the street trees. The trees assigned to each of these sprayers were further subdivided so that half of the trees were sprayed with a 12 per cent solution and the other half with a 12 per cent emulsion. The spraying of the street trees was conducted on May 5, 6, 7 and 13. Many interruptions, several caused by mechanical failure of the equipment and many because of adverse wind conditions, were encountered. Generally speaking, however, the applications were made in a thorough manner and considerable hopefulness pervaded the immediate appraisal of success.

Twig collections of the uppermost parts of the sprayed trees for chemical and biological analyses were made one month after the spray application. Disappointingly, each one of the collected samples did not

carry enough DDT to curb bark beetle crotch feeding and it was further assumed that either

1. The dosage of DDT per tree was inadequate, or
2. The employed solvents were too volatile to permit the proper carriage of insecticide from the sprayer nozzle to the top of the tree.

The examination of these results indicated that we had opened the door to a new horizon of required investigations if DDT formulations were to be successfully used for elm bark beetle control. A detailed comprehensive report of this cooperative experiment was published separately.

SCOUTING CONTINUED

The Dutch elm disease scouting for symptomatic trees was conducted during the months of June, July and August in accordance with a pattern used in previous years. Four men spent full time during the summer scouting period. The scouting had a three-fold objective:

1. Providing assistance to shade tree officials and commissions in their efforts to check the spread of Dutch elm disease.
2. Local scouting to assist municipalities prepared to remove trees when detected and
3. Assembling data on the general incidence of Dutch elm disease symptomatic trees throughout the northern half of the State.

No detailed tabular report of scouting was maintained. However, the conditions prevailing in New Jersey during 1947 were quite comparable to those existing in 1946, namely, that Dutch elm disease incidence in the northwestern portions of the State is not serious. The remaining portion of the upper half of New Jersey apparently provides ecological circumstances for beetle multiplication as well as infection of the trees. The scouting was again complicated by the premature defoliation of many elms by either canker worms, elm leaf beetles or both. This Department has emphasized repeatedly that unless elm tree owners and custodians are willing and prepared to protect such trees against the devitalizing feeding of the defoliators they should not develop an artificial enthusiasm for Dutch elm disease control. With the advent of the mist blower sprayers, the hurdle of indifference or reluctance on the part of tree owners for spraying for defoliators may be substantially minimized.

SPRAYING EXPERIMENTS

This project proceeded into the fall months of the year with a full understanding that an accelerated program of spraying research must be instituted if reliable and trustworthy control information is to be available in 1948. Accordingly, this Department entered into an agreement with

the East Orange Field Unit of the Federal Division of Forest Insects for the continuation of spraying experimentation. We negotiated for the loan of a Lawrence Mist Blower Sprayer for the last quarter of the year.

The questions of nozzle aperture, nozzle direction in the air stream, types of nozzles, emulsions versus solutions and many others had to be faced. To ascertain the effectiveness of this mist blower sprayer under various conditions, an outdoor horizontal installation was established at White Horse by placing glass slides as well as elm twigs on standards ranging at 25 intervals from 25 to 200 feet away from the sprayer nozzle. Wind interference with the operation of this experiment recommended the transfer of this work to the indoors—the drill shed of the National Guard Armory at Morristown, New Jersey. Tests with various types of solutions and emulsions were conducted over a three-week period and considerable useful information was gleaned on the subject of the mechanics of the operation of a mist blower sprayer.

Logically the next step was to take the more promising results and apply them to outdoor subjects. This was done first by placing in a large tree in Jockey Hollow Park, Morristown, a pulley and rope which permitted the elevation of glass slides to various heights above the ground. Elm twigs attached to rings, and glass slides were elevated to various levels above the ground and then sprayed from the fixed position of the machine. The high volatility of some of the spray mixtures mitigated against the carriage to the upper (70 feet) level. By November 15, by virtue of the indoor and the outdoor single tree work, enough data had been amassed to justify a large scale non-foliar period application of DDT to elm trees. Thirty-six average-size elms at Branch Brook Park in Newark were sprayed with a DDT dosage per tree ranging from two to seven and one-half pounds. Twig samples collected immediately after spraying as well as one month thereafter showed in practically all cases a deposition adequate to control elm bark beetle feeding.

The control of elm bark beetles to circumvent crotch feeding must be of a prompt nature otherwise the feeding will be completed before incapacitation occurs. In most of the twig samples collected from the Branch Brook Park sprayed trees, bark beetles placed on them to feed were incapacitated before they had begun this operation.

1947 A PIVOTAL YEAR

The year 1947 in retrospect will establish itself as a pivotal year during which the transition of emphasis from sanitation work to spraying for elm bark beetle control work took place. However, the embarkation on a program of spraying for bark beetle control disclosed a complexity of factors which must successfully be unraveled if this program is to meet the needs for a Dutch elm disease control weapon. Researches throughout the Dutch elm disease infected area of the United States have taken on a new impetus far beyond the casual academic research which has been conducted to date. A critical examination of emulsions and solutions from many

standpoints, plus an examination of aerodynamical features which apply during the operation of a mist blower sprayer, must be investigated so that the maximum efficiency of these new spray units may be realized. The advance of the Dutch elm disease into the New England States, particularly Massachusetts, has engendered a revival of interest in the researches on this project which should result in a more aggressive approach to solution of the technical problems.

CANKER STAIN DISEASE CONTROL

PLANE TREES THREATENED

The fiscal year 1948 represents the second full year since wartime interruption of state-wide canker stain disease control work. Two men devoted approximately 15 man-months to this work.

The tabular report which follows indicates the magnitude of the work done. This project operated on a general scouting basis only for a short time prior to the war, but since that time 172,805 plane trees have been inspected. Approximately 1,800 trees have been tagged for removal.

As previously reported, the principal disease area is in Camden and contiguous counties. A lack of knowledge of the number of commercial arborists operating in this territory handicaps this project in that we may be missing a channel of disease dissemination which should be stopped. More specifically, additional information indicates that tree pruning operations are continuing to be responsible for the transmission of the disease from diseased to healthy trees, and in some cases in widely separated areas. An attempt will be made to establish a list of all commercial arborists and then communicate to them the recommendations of this Department regarding safeguards to be respected while pruning plane trees.

Many of the municipalities in which this work is being conducted displayed admirable interest and cooperation. Five hundred and ninety-eight of the known infected trees have been removed. Most of these, as might well be supposed, are in urban centers. Unfortunately, some of the located diseased trees are in abandoned real estate projects or on properties where the owners manifest little or no concern in the welfare of the trees.

NEW INFECTIONS FOUND

During this year two locations of infection, distant from the central area in Camden County, were detected. In the scouting of Asbury Park one diseased tree was found. The city officials arranged for its prompt removal and burning. Eleven diseased trees were found in Pohatcong Township adjacent to the town of Phillipsburg in Warren County. The owner of these trees is not concerned about their health and does not intend to remove the tagged trees on the assumption that the remaining plane trees in this plantation do not justify such an expense. Scouting in the environs of this block of diseased trees did not reveal any further infections.

A more serious situation was found in River View Beach Park in Pennsville, where 38 diseased trees of an estimated population of 300 were found. This problem is not easily solved because the fungus has progressed to the basal portions of the tree trunks and the exposed roots. It is quite conceivable that the park visitors could readily carry the fungus on their shoes from a diseased tree root to others not so affected. Our field man is devoting special attention to this case in the hope that the remaining healthy trees may be spared for the beauty and shade of the park.

The control of the canker stain disease, as is common with other diseases and insect problems, is handicapped by the sharp increase of the cost of administration of remedial action. The property owner told of the advisability of the removal of a tree on his property will be enthusiastic until he receives an estimate of the cost involved, usually ranging from $50 to $150. The application of sanitation measures for the protection of the non-infected trees certainly should spare many property owners from the startling expense of tree removal.

PROGRESSIVE REPORT—CANKER STAIN DISEASE CONTROL

Counties Scouted	Total Trees Scouted	Tagged Trees, July 1, 1948			Trees Tagged Fiscal Year 1947-48	Total Tagged and Standing July 1, 1948
		Total	Removed	Standing		
Atlantic	7,100	...	...	...	...	...
Burlington	32,550	49	37	12	25	37
Cape May	9,400	...	...	...	...	...
Camden	84,150	818	556	262	584	846
Cumberland	4,250	...	...	...	...	...
Gloucester	5,850	5	5	...	2	2
Hunterdon	10	...	...	...	...	...
Mercer	3,405	...	...	...	...	...
Middlesex	930	...	...	...	...	...
Monmouth	15,700	...	...	...	1	1
Ocean	1,000	...	...	...	...	...
Salem	5,100	...	...	...	38	38
Somerset	610	...	...	...	...	...
Union	500	...	...	...	...	...
Warren	2,250	...	...	...	11	11
Totals	172,805	872	598	274	661	935

INSECT PARASITE INVESTIGATIONS

REARING AND FIELD DISTRIBUTION OF *Macrocentrus ancylivorus*

Work with this parasite of the Oriental fruit moth was conducted on a somewhat different basis from that in the past. This project was first undertaken to determine the relative effects of parasite releases on respectively the first and second broods of fruit moths. At the conclusion of the 1947 season, Dr. B. F. Driggers, of the New Jersey Agricultural Experiment Station, announced that he was satisfied that parasite releases on the first brood of moths were practicable. He therefore had no further interest in this particular control method. However, Professor A. J. Farley thought that in certain areas of the State the peach growers were

not sufficiently familiar with the use of *Macrocentrus,* and that something in the nature of demonstration releases in these areas would be desirable. Accordingly, the work was undertaken along these lines, with Dr. Driggers handling the field releases and observations on the parasite.

Because the decision outlined above was made at a rather late date, no parasites were available for the first brood releases; the number released on second brood fruit moths was 28,355. Releases were begun on June 21 and completed on July 9, 1948.

The present attitude toward the future of biological control of the Oriental fruit moth through the use of *Macrocentrus ancylivorus* is far from crystallized. The mass liberation technique developed by H. W. Allen and his federal co-workers had been used for more than ten years, and during this period reductions in fruit infestations have ranged from 50 per cent to 80 per cent as compared with control orchards. Prior to the use of DDT, no method of chemical control was satisfactory. Some workers have reported excellent Oriental fruit moth control using DDT. Others, however, have found the control erratic for no apparent reason, giving good control in some orchards and no significant control in others. There is danger of exceeding the provisional tolerance for DDT residue on the fruit at the time of harvest, and this may become a matter of importance in so perishable a crop provided the use of DDT becomes general. In addition, DDT in some manner releases the mite population from natural control, and the attendant increase in red spider infestations creates a secondary problem not encountered when using parasites as a fruit moth control. Benzene hexachloride has been incorporated in the DDT spray formulation to control the mites, but this has resulted in an increase of brown rot in the peaches. There is the further possibility of developing an off-flavor in the harvested fruit.

At the present time *Macrocentrus* is being reared by commercial insectaries in New Jersey, but the production of parasites is far below the demand, so that for the average grower no source of parasites exists.

FOLIAR ANALYSIS OF NEW JERSEY ELMS

In the past, many attempts have been made to revitalize or maintain the vigor of elm trees having a high aesthetic value, through feeding with commercial fertilizers. There are indications in literature that vigorous, well-nourished trees are more resistant to insect and disease attack than are trees in a poor state of nutrition. These fertilizing attempts have frequently failed to elicit the desired response. It seems probable that failure results from a faulty conception of the nutritional requirements of the trees. In order to determine the fundamental reasons for lack of response, it was decided to begin an investigation of the proper fertilization of elm trees.

In recent years it has been accepted that much more rapid progress can be made in investigating the nutritional requirements of all types of vegetation through chemical analysis of the assimilating leaves, rather than through empirical trial and error, or through soil analysis.

This concept is based on the fact that the essential transformations of inorganic chemical nutrients to organic compounds occur in the leaves, under the influence of sunlight. Therefore, the inventory of the chemical elements present in the active leaf tissue is the true index of activity as limited by the essential elements of plant growth. Each species of plant, at any given time, requires an optimum quantity and balance of the essential elements of nutrition in order to make optimum growth. This simple view is, however, complicated by the fact that plants can, and frequently do, absorb much more of certain elements than is required for optimum growth. The latter assimilation is known as "luxury consumption," and must be considered when attempting to interpret the results of chemical foliage analysis.

Once the essential elements and the limiting ratios they bear to one another are determined, it becames possible to determine the direction in which fertilization applications should be made in order to maintain or restore this relationship. For example, a tree suffering from an inadequate supply of potassium will not be benefited by an application of nitrates; it is more likely to be severely damaged because the stimulation of succulent growth can only aggravate the potassium deficiency. The quantity of potassium required must be determined by direct experiment, because the complex action of the soil with any added potassium will govern the quantity available to the tree. But at least the direction in which curative measures must lie has been determined.

COLORIMETRIC ANALYSIS

The chemical procedures developed for foliar analysis are varied, but those based upon colorimetric analysis have gained widespread usage because they are accurate, rapid, and require a minimum of costly apparatus. The procedures used in this laboratory's work are standard colorimetric procedures, taken as largely as possible from the procedures of the Association of Official Agricultural Chemists. The color comparisons are made in an electrophotometer.

Samples of elm leaves were collected during early September, 1947, and prepared for subsequent analysis. The trees sampled represented trees of exceptionally good appearance, those of average appearance, and those of poor appearance. The prepared samples were analyzed during the winter for nine elements of significance in plant nutrition.

The following table gives the percentage of the dry weight of the leaves represented by each of the elements for which analyses were completed:

Element	Lowest Percentage	Median Percentage	Highest Percentage
Nitrogen	0.93	1.45	1.71
Phosphorus	0.132	0.206	0.484
Potassium	0.61	0.94	1.47
Calcium	1.00	1.45	2.18
Magnesium	0.180	0.292	0.515
Iron	0.032	0.053	0.076
Copper	0.0015	0.011	0.035
Aluminum	0.020	0.033	0.060
Manganese	0.0010	0.0076	0.022

It is evident that, with respect to the minor elements, a wide range exists between various trees. So far, it has been impossible to draw definite conclusions based on these differences, and therefore it would appear that, with one exception, the lowest percentage encountered represents an adequate supply of the element in question. This one exception is the major nutritional element, potassium. In all cases where the potassium content of the dry leaf was below one per cent, the leaves were much smaller than average, and twig terminal growth was slight, resulting in a peculiarly rosetted appearance of the foliage.

The work reported this year should be regarded as a preliminary step only. Analysis should be made for the remaining elements, namely, zinc and boron. Further studies of normal variation should be made and field tests designed to rectify any suspected deficiencies should be undertaken.

PARASITES OF THE EUROPEAN CORN BORER

Since 1935, the United States Department of Agriculture has been liberating parasites of the European corn borer in New Jersey. At least nine species have been released of which four are known to have become established.

The New Jersey Department of Agriculture has, since 1944, been conducting a fall survey to determine the distribution and abundance of the various introduced parasites. The borers have been collected by state personnel and incubated for parasite emergence at the Federal Corn Borer Laboratory at Moorestown, New Jersey.

In the surveys conducted in 1944, 1945 and 1946, the collections were made in the vicinity of release points. As the parasites became established and began to spread it became evident that such collections were not providing a true picture of the distribution of the parasites, so this method of sampling was revised for the 1947 survey.

In this most recent survey, maps were employed which had been ruled in blocks ten miles square. There are 94 such 100-square-mile blocks in the State. In the 1947 survey, borers were abundant enough that samples could be collected in 86 of the 94 blocks. The status of the various parasites was found to be as follows:

Lydella grisescens, a parasitic fly, was liberated at seven different locations in New Jersey from 1935 to 1945. It was found in 82 of the 86 samples. The percentage of the total borer population parasitized by this fly varied from 0.0 to 46.2 per cent. It is generally distributed over the State.

Macrocentrus gifuensis, a braconid wasp, available in fairly large numbers, was released at 29 locations. In the 1947 survey it was recovered from 23 of the 86 samples. No *Macrocentrus* was found in any sample collected south of a line running diagonally across the state from Toms River to Hightstown to Flemington to Phillipsburg. Several releases have been made south of this line and the parasite has been recovered near several of these in previous years, but for some reason it was not found in

this section this year. In the samples from which the wasp was recovered, the parasitism ranged from 2.1 to 27.5 per cent.

A third parasite, *Chelonus annulipes,* was released at seven places between 1937 and 1944. It was recovered at Jamesburg in 1944, but has not been found since, and is assumed to have died out.

CONTROL OF THE PINE SAWFLY *Neodiprion sertifer*

Experience with the parasite *Microplectron fuscipennis* during the period 1941-1947 led to the conclusion that it cannot be expected to control *Neodiprion sertifer,* especially in areas where the host has attained a high population level before the parasite is released. Because of the discouraging results, the rearing of this parasite was curtailed and only one release was made this year. This consisted of 573,000 wasps liberated in the plantings of the Newark watershed in Passaic County. Since the initiation of parasite releases in New Jersey, a total of 15,009,000 *Microplectron fuscipennis* have been liberated.

During the spring of 1947, a program of airplane spraying was conducted for the control of the sawfly. A total of 2,542 acres on 53 properties was sprayed with DDT solution, using one pound DDT per gallon per acre.

Because of the satisfactory results obtained in 1947, much interest was expressed in having pine plantings again sprayed with DDT by airplane in the spring of 1948. However, the control obtained last year seemed good enough to justify a letter to the property owners advising them that it would not be necessary to spray plantings this year which had been satisfactorily covered last year. Several owners preferred holding the infestation at a low level and requested that their plantings be sprayed again. There were also a few properties which had not sprayed last year which needed spraying this year. The list of properties involved in this season's program follows:

AIRPLANE SPRAYING

Property	Township	County	Acreage
Ingersoll Rand Company	Harmony	Warren	600
Dr. Percy Hughes	White	Warren	25
Rolfe Shellenberger	White	Warren	15
Andrew Lachenmayer	Readington	Hunterdon	12
Fred Riehle	Alexandria	Hunterdon	10
Lawrenceville School	Lawrence	Mercer	20
Union County Parks	New Providence	Union	30
Robert Cuse	Bernards	Somerset	47
Owen Winston	Mendham	Morris	36
John R. Hardin, Jr.	Chester	Morris	32
Wright D. Goss, Jr.	Chester	Morris	33
Charles B. Bradley	Chester	Morris	30
John R. Rogers	Chester	Morris	15
W. O. Langile	Chester	Morris	5
Mrs. Lila Tyng	Chester	Morris	10
G. R. Buckwalter	Raritan	Hunterdon	12
Frank Serles	Hillsborough	Somerset	18
R. S. Pierrepont	Bedminster	Somerset	15
Gladstone-Peapack Watershed	Chester	Morris	70
Commonwealth Water Company	Springfield	Union	30
		Total	1,065

The plane and material were similar to those used last year. The work was again performed by Lehava Air Services of Philadelphia.

The material applied was a solution of DDT containing one pound actual DDT per gallon, prepared by the Shell Oil Company. The dosage was one gallon per acre.

This year more of the details were handled by the personnel of the airplane spraying concern. They obtained the insecticide, transported it to the airports, and loaded the planes.

Maps and photographs were provided by the Department, whose personnel supervised the work and made examinations of the sprayed plantings to determine the effectiveness of the work.

SURVEY FOR PINE PLANTINGS FOR *Neodiprion sertifer* INFESTATION

During June an extensive survey of the plantings of red and Scotch pine in the State was conducted. The plantings which were examined included all those which had been sprayed by plane in 1947 or 1948 or both. A number of plantings which have not been sprayed were also included. The acreage of unsprayed plantings totaled 1,725 acres. The results may be summarized as follows:

1. In most of the plantings which have never been sprayed the sawfly infestation is heavy and the defoliation is quite severe.
2. In plantings sprayed by plane in 1947 but not in 1948 the degree of infestation varies depending on the distribution of unsprayed pines in the vicinity of the sprayed plot. Isolated blocks sprayed last year show no or very light infestation this year. Blocks located near large numbers of unsprayed pines may show moderately heavy infestation.
3. Plantings sprayed in both 1947 and 1948, or in 1948 alone, are practically free of infestation. Spraying in 1948 of blocks sprayed in 1947 was not recommended by the Department, but several property owners were unwilling to risk reinfestation and had their pines resprayed.

The spraying performed this year was again a very satisfactory job. Adequate coverage was obtained and little time was lost in locating the plantings from the air. No damage to evergreens or deciduous trees has been observed or reported during either of the two years the work was conducted and no serious complaints concerning damage to fish, birds, or other wild life have been received. The work was publicized in advance and to our knowledge no complaints concerning low flying were received by the State Department of Aviation.

ADULT JAPANESE BEETLE DAMAGE SURVEY SUMMER 1947

The annual survey of the damage to foliage of food plants caused by the feeding of adult Japanese beetles was conducted during August and early September.

Using a scoring system which has been employed since 1940, the degree of damage is scored at 637 different spots in the State. At most points the same trees or groups of trees are examined each year.

During 1947 the damage appeared slightly more severe than in 1946. The increases were all slight, the more noticeable ones occurring in Salem, Camden, Atlantic, Gloucester and Union Counties.

The usual small areas of outstanding heavy damage were not found in 1947. The entire area of Salem and Cumberland Counties constitutes a section in which the damage stands out as the heaviest in the State, but the damage in that area is still insignificant compared with that which occurred in the same section when the Japanese beetle infestation was at its peak.

The following index figures indicate the relative trend of the beetle population for the entire State during the past eight years.

	1940	1941	1942	1943	1944	1945	1946	1947
Abundance Index	3.8	3.6	4.2	4.2	4.2	3.6	3.8	3.9

ATTEMPTS TO DETERMINE PROGRESS OF VARIOUS PARASITES PREVIOUSLY LIBERATED

During the year attempts were made to recover several parasites which had been released in New Jersey several years ago.

Soil samples were examined from four of the plots which had been treated in 1940 and 1941 with nematodes for the control of the Japanese beetle. Unfortunately, the plots selected had a very low host population and no nematode-infected grubs were found. A more intensive survey should be conducted in the fall after the new generation of grubs is available.

Several cocoon collections were made in pine plantings infested with *Neodiprion sertifer,* where the parasite *Microplectron fuscipennis* and other parasites had been liberated in 1939 and later by our Department and the Federal Division of Forest Insects of the United States Department of Agriculture at New Haven, Connecticut. Collections were purposely made in some plantings which had been sprayed with DDT, in an attempt to determine its effect on the parasite situation. Collections of pine shoots infested with pine shoot moth were also made in cooperation with personnel of the Federal Division of Forest Insect Investigations to determine the success of a number of species of parasites liberated against this pest in 1939 and later. At the time of compilation of this report the results on the above work were not available.

FOREST PEST OBSERVERS

In several cases in the past, serious diseases or insect pests of forest trees have become established in a locality and the infestations have grown to a considerable size before they were recognized. In order to avoid such a situation in New Jersey, persons interested in forest trees are being asked to report any extensive or unusual damage which they observe, so that it can be investigated and identified promptly.

Persons being asked to cooperate in this work include the personnel of state parks and forests, watersheds, industrial concerns with large forest holdings, estates involving large acreages, and camps with year-round resident caretakers.

Several persons in each county will be asked to cooperate so that it should be possible, in case a new infestation does occur, to determine promptly its existence and organize combative measures.

TOMATO SEED CERTIFICATION

MORE SEED ACREAGE

This inspection year was characterized by an increase of approved acreage from 6,663 in 1946 to 8,198 in 1947. From a varietal standpoint the principal changes from 1946 to 1947 were reduction of Stokesdale from 718 to 67 acres; the increase of Rutgers from 4,595 to 6,279; the increase of Garden State acreage from 150 to 746; and the introduction of a new variety, Ontario, with 24 acres. This total acreage yielded 293,557 pounds of seed.

With occasional per diem assistance the field inspection work was handled in the earlier years entirely by two men who were obliged to work practically full time during the month of August. However, with the addition of approximately 1,500 acres the need of extra help was inevitable. Very fortunately the services of three trained and experienced men resident in Gloucester County, plus the assistance of two departmental inspectors, permitted the inspection of this tremendous acreage to proceed in a very timely fashion. The inspection work in the future will be organized on a plan whereby each of the seedsmen will be given adequate inspection service so that the fields may be examined at the time of the first picking, thereby enabling the seedsmen to utilize most of the crop for seed purposes. In the past, because of delays in making these inspections, some of the fields were inspected after one and sometimes two of the pickings had already been removed.

CHANGE IN REGULATIONS

In February, 1948, the certified tomato seedsmen were called into conference to consider the advisability of amending the tomato seed certification regulations so as to permit only New Jersey seedsmen to attach

seals to containers of New Jersey certified tomato seed. Heretofore, at the request of out-of-state dealers, New Jersey tags and seals were sent to out-of-state destinations for resealing operations. Although this work was under the direct supervision of an official of the Department of Agriculture of the state in which this repackaging and resealing was done, the plan was not particularly acceptable. Three of the four major seedsmen favored the regulations being amended; the fourth requested that they be continued as in previous years. After a thorough weighing of the premises for and against the change this Department issued a memorandum announcing the change of regulations whereby the use of seals will be restricted to New Jersey seedsmen. The tabular information of the 1947 inspection year follows:

NEW JERSEY DEPARTMENT OF AGRICULTURE
TOMATO SEED CERTIFICATION FOR 1947
ACREAGE CERTIFIED

Seedsman	Marglobe	Rutgers	Stokesdale	Garden State	Pritchard	Baltimore	Ontario	Total
Edgar Hurff Co.	258	2,126	66	....	155	28	....	2,633
Campbell Soup Co.	....	1,758	....	746	....	....	24	2,528
Ritter Seed Co.	405	1,070	....	....	....	....	....	1,475
Francis Stokes Co.	236	1,156	1	....	....	....	....	1.393
H. J. Heinz Co.	....	116	....	....	....	....	....	116
Abbott & Cobb	....	53	....	....	....	....	....	53
Total	899	6,279	67	746	155	28	24	8,198

NEW JERSEY DEPARTMENT OF AGRICULTURE
TOMATO SEED CERTIFICATION FOR 1947
POUNDS OF SEED CERTIFIED

Seedsman	Marglobe	Rutgers	Stokesdale	Garden State	Pritchard	Baltimore	Ontario	Total
Edgar Hurff Co.	14,095	65,184	3,599	....	5,720	2,250	....	90,848
Campbell Soup Co.	....	45,460	....	16,508	....	....	449	62,417
Ritter Seed Co.	17,550	48,000	....	....	....	....	....	65,550
Francis Stokes Co.	18,155	54,028	30	....	....	....	....	72,213
H. J. Heinz Co.	....	441	....	....	....	....	....	441
Abbott & Cobb	....	2,088	....	....	....	....	....	2,088
Totals	49,800	215,201	3,629	16,508	5,720	2,250	449	293,557

NEW JERSEY DEPARTMENT OF AGRICULTURE

TOMATO SEED CERTIFICATION 1921-1947

VARIETAL DISTRIBUTION CERTIFIED TOMATO SEED ACREAGES

Year	Bonny Best	J. T. D.	Baltimore	Marglobe	Valiant	Break-O'Day	Stokesdale	Rutgers	Grothens Globe	Grothens Pritchard	Glovel	Garden State	Campbell (No. 178)	Ontario	Total
1921	84	...	44	...	...	...	...	...	...	...	...	...	...	...	132
1922	87	...	112	...	...	...	...	...	...	...	...	...	...	...	199
1923	103	...	113	...	...	...	...	...	...	...	...	...	...	...	216
1924	117	...	210	...	...	...	...	...	...	...	...	...	...	...	327
1925	344	...	238	...	...	...	...	...	...	...	...	...	...	...	582
1926	274	...	171	...	...	...	...	...	...	...	...	...	...	...	445
1927	207	110	121	431	...	...	...	...	...	...	...	...	...	...	869
1928	208	55	150	329	...	...	...	...	...	...	...	...	...	...	742
1929	133	123	87	360	...	...	...	...	...	...	...	...	...	...	703
1930	363	162	250	620	...	18	...	...	...	...	...	...	...	...	1,413
1931	219	292	106	689	...	127	...	...	...	...	...	...	...	...	1,433
1932	34	61	18	562	...	...	...	...	...	...	...	...	...	...	675
1933	12	...	15	543	...	...	...	...	...	99	...	...	...	...	669
1934	28	155	91	2,046	...	2	...	...	...	182	...	...	...	...	2,504
1935	5	247	61	1,520	...	8	...	730	...	192	...	...	...	...	2,763
1936	5	109	40	1,576	1	21	...	1,001	...	208	...	...	...	...	2,960
1937	94	100	...	1,365	17	...	67	936	24	136	7	...	...	...	2,746
1938	10	48	...	1,113	2	5	2	755	...	146	...	...	...	..	2,081
1939	18	...	...	1,658	...	3	...	1,331	...	84	...	...	...	...	3,094
1940	13	...	...	1,182	1	5	493	1,847	...	39	...	...	...	...	3,580
1941	33	...	...	1,246	33	...	380	2,547	...	48	...	...	...	...	4,287
1942	10	...	...	1,006	1	...	363	3,355	...	116	...	...	...	...	4,851
1943	35	...	...	1,143	1	...	188	3,865	...	155	...	116	1	...	5,504
1944	...	...	75	1,163	...	...	164	5,095	...	105	...	155	13	...	6,770
1945	...	...	...	647.5	...	...	375	3,294.5	...	84.5	...	199	47	...	4,647.5
1946	...	...	25	923	121	...	718	4,595	...	131	...	150	...	...	6,663
1947	...	...	28	899	...	...	67	6,279	...	155	...	746	...	24	8,198

SEED TREATMENT DECLARATIONS

During the fiscal year 1947-1948, 57 seed treatment declaration certificates and one seed inspection declaration certificate were issued at various times to four New Jersey seedsmen for validation of shipments to Argentina, Cuba, Puerto Rico, Mexico and Southern Rhodesia. These certificates covered 15,116 pounds of tomato seed and 870 pounds of pepper seed.

Also during this period, 14 phytosanitary certificates were issued in order to validate the shipment of vegetable seeds to South America.

WHITE POTATO SEED CERTIFICATION

GENERAL COMMENTS

The 1947 certified seed potato season started with a small reduction of acreage. A total of 316 acres from seven counties was entered for 1947 as compared with 343.37 acres from six counties entered for 1946. Yields per acre were reduced mainly by adverse climatic conditions and not by disease or insect infestations. As usual, the Katahdin acreage was the largest and continued to be the best adapted to climatic and soil conditions in New Jersey. Common scab and growth cracks of the potato tubers were generally common in all areas producing potato seed.

Again this year the Pawnee variety proved to grow and produce a very good grade of potato. The Pawnee, an early variety, has very desirable eating and cooking qualities as compared to the Irish Cobbler. It is an excellent shipper and possesses very shallow eyes. At the present time we are experiencing difficulties in producing large quantities of high quality Pawnee seed. The entire acreage of Jersey Redskins was rejected, due to a severe infestation of rugose mosaic. This was very unfortunate as consumer demand continues for this variety.

Weather conditions in New Jersey were very unfavorable for the production of potato seed. During the growing season there was very little rainfall, dwarfing the plants and reducing the size of the tubers. Growers with irrigation systems were able to overcome the moisture deficiency and were able to produce satisfactory yields. An unexpected frost on September 30 caused considerable damage to all fields in the State and completely stopped growth in fields that were located north of Trenton. The production of late seed potatoes is sometimes made hazardous by conditions of drought that might prevail in August, and the possibility of an early frost.

Field rejections of potato seed due to virus diseases were kept at a minimum. This probably was due mainly to the planting of high quality seed and the following of recommended spray programs. Bacterial ring rot was discovered, causing the rejection of several fields. The lack of rainfall during August and then the sufficient supply of water in September, in most instances, caused growth cracks in the tubers. The growth

cracks were eliminated on the picking table as well as possible, although tubers with growth cracks are in no way inferior as seed pieces. The common potato scab was abundant throughout the State and had to be eliminated before certification.

Although the seed potato acreage is declining yearly, the demand in New Jersey for New Jersey certified seed potatoes continues. The lack of good efficient storage buildings to carry the seed from the time of harvest to the time of spring planting handicaps the growth of this industry. Field tests made throughout the State have proved that New Jersey certified seed potatoes rate very favorably with seed from other sources.

A REVIEW OF THE INSPECTION AND CERTIFICATION WORK OF NEW JERSEY
LATE CROP WHITE POTATO SEED IN 1947
ACRES ENTERED FOR CERTIFICATION

County	Acres	Per Cent
Cumberland	193.00	61.08
Salem	64.00	20.25
Burlington	17.00	5.39
Middlesex	14.00	4.43
Camden	10.00	3.16
Mercer	10.00	3.16
Monmouth	8.00	2.53
Total	316.00	100.00

SEED SOURCE

	100-lb. Bags	Per Cent
New Jersey	1,261.00	34.54
Maine	842.00	23.06
Nova Scotia	657.50	18.01
North Dakota	437.00	11.97
Prince Edward Isle	173.00	4.74
New Brunswick	149.00	4.08
Minnesota	69.00	1.89
Wisconsin	34.50	.94
New York	28.00	.77
Total	3,651.00	100.00

PRODUCTION AND DISTRIBUTION
CERTIFIED CROP OF WHITE POTATO SEED OF NEW JERSEY

	1947	1946
Acres of seed certified	263	204.17
Total yield (field run) in bushels	29,689	40,136
Average yield per acre in bushels	113	197
Bags of certified seed sold	4,532	7,490
Bags sold within New Jersey	4,532	7,490
Bags sold outside of New Jersey	....	....

POTATO ACREAGE ENTERED FOR CERTIFICATION, 1947

County	Growers	Katahdin	Chippewa	Mohawk	Irish Cobbler	Red Skin	Pontiac	Green Mountain	Pawnee	Total
Cumberland	12	96.50	45.50	....	10.50	15.00	....	2.00	23.50	193.00
Salem	3	19.50	5.00	....	38.00	....	....	....	1.50	64.00
Burlington	2	9.67	....	.25	5.33	....	....	....	1.75	17.00
Middlesex	1	7.00	....	....	7.00	....	....	....	....	14.00
Camden	1	....	....	....	....	10.00	....	....	....	10.00
Mercer	1	5.00	....	....	5.00	....	....	....	....	10.00
Monmouth	1	7.00	....	....	....	....	1.00	....	....	8.00
Total	21	144.67	50.50	.25	65.83	25.00	1.00	2.00	26.75	316.00

ACREAGE FAILING AND PASSING CERTIFICATION

	Acres	Per Cent
Acreage rejected at first inspection	31.50	9.97
Acreage withdrawn at first inspection	5.00	.16
Acreage rejected at second inspection	5.50	.17
Total acreage rejected at end of two inspections	42.00	13.29
Acreage rejected at third tuber inspection	11.00	3.48
Acreage rejected and withdrawn three inspections	53.00	16.77
Acreage passing three inspections (certified)	263.00	83.23

VARIETAL DISTRIBUTION OF REJECTIONS AND WITHDRAWALS

Variety	Acres Entered	Acres Rejected and Withdrawn by Inspections (First)	(Second)	(Third)	Acres Certified
Katahdin	144.67	....	....	....	144.67
Cobbler	65.83	5.00	2.00	....	58.83
Chippewa	50.50	10.00	....	....	40.50
Pawnee	26.75	....	....	11.00	15.75
Red Skin	25.00	21.50	3.50	....	....
Green Mountain	2.00	....	....	....	2.00
Pontiac	1.00	....	....	....	1.00
Mohawk	.25	....	....	....	.25
Total	316.00	36.50	5.50	11.00	263.00

WHITE POTATO SEED CERTIFICATION INDUSTRY OF NEW JERSEY

Year	Number of Growers	Acres Entered	Percentage Rejection	Varietal Distribution	
1942	54	658.41	15.10	Katahdin	279.00
				Chippewa	247.25
				Cobbler	58.00
				Sebago	25.83
				Red Skin	25.50
				Houma	13.50
				Sequoia	5.83
				Green Mountain	3.50
1943	59	840.25	53.36	Katahdin	406.83
				Chippewa	165.58
				Sebago	119.92
				Cobbler	48.25
				Red Skin	34.25
				Bliss Triumph	30.25
				Sequoia	20.17
				Houma	10.50
				Green Mountain	4.50
1944	36	475.50	18.98	Katahdin	246.00
				Chippewa	96.00
				Cobbler	54.50
				Red Skin	36.00
				Sequoia	29.50
				Sebago	7.00
				Green Mountain	4.50
				Houma	2.00
1945	29	341.00	13.34	Katahdin	178.50
				Chippewa	70.50
				Sequoia	43.00
				Cobbler	20.50
				Red Skin	19.00
				Green Mountain	5.00
				Sebago	4.00
				Mohawk	.50
1946	27	342.465	40.38	Katahdin	178.945
				Chippewa	77.69
				Cobbler	37.33
				Sequoia	21.00
				Red Skin	16.00
				Sebago	4.50
				Pawnee	4.00
				Green Mountain	3.00
1947	21	316.00	16.77	Katahdin	144.67
				Cobbler	65.83
				Chippewa	50.50
				Pawnee	26.75
				Red Skin	25.00
				Green Mountain	2.00
				Pontiac	1.00
				Mohawk	.25

SUMMARY OF WEATHER CONDITIONS

	Bridgeton				Hightstown			
	July	August	September	October	July	August	September	October
Number of days during which rain fell	10	7	11	5	12	10	7	5
Heaviest daily rainfall (in inches)	0.48	0.79	0.52	0.64	1.32	2.11	0.87	1.07
Lightest daily rainfall (in inches)	0.02	0.02	0.02	0.03	0.03	0.06	0.02	0.09
Total rainfall (in inches)	1.48	1.43	2.62	1.10	4.53	5.24	1.94	2.31
Deviation from normal	—2.85	—3.21	—0.88	—2.27	—0.31	+0.60	—1.87	—1.33
Average relative humidity at 7:30 A. M.*	86	67	89	88	80	87	84	85
Normal for month at 7:30 A. M.*	81	63	84	84	77	80	80	79
Per cent of possible sunshine*	56	51	58	70	62	59	57	65
Deviation from normal (per cent)*	—8	—11	—5	+7	—5	—6	—8	+4
Highest temperature reached	94	96	92	84	93	95	91	85
Average of high temperatures	75.3	87.8	78.5	73.2	85	85.1	77.5	74
Normal of the high temperatures	87.5	85.3	79.3	68.8	85.3	82.4	76.9	66
Lowest temperature reached†	56	58	36	32	52	48	31	28
Average of the low temperatures	65.8	66.9	59.9	51.6	62.7	63.1	55.6	46.5
Normal for low temperatures	66.2	64.8	57.8	46.9	63.8	62.1	55.4	44.8

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

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

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

GRAIN CERTIFICATION

The basic necessity of efficient and profitable crop production is the use of good high quality seed of adapted, high yielding varieties. This fact has been practiced by progressive farmers for a number of years and is the basis of seed certification.

Before seed certification was adopted in New Jersey it was difficult for the farmer to obtain high quality seed of improved varieties because of the limited facilities of the New Jersey Agricultural Experiment Station. The seed increases that were being made on the farm without seed standards soon lost their genetic identity and superior characteristics which justified the new variety. Thus the farmer who desired high quality seed of known origin and purity recognized the need for a supervised seed program for his own protection against crop failure. In 1934 the New Jersey Field Crop Improvement Association was organized by 26 farmers interested in growing better seed. This resulted in the establishment of seed certification, a program designed to increase seed in large quantities to provide New Jersey farmers with the superior characteristics of the improved strains.

Wong Barley was tested several years ago and proved to be an excellent producer and well adapted to the soils and climatic conditions of New Jersey. Wong Barley seemed to be the answer to the grain farmers, providing a method could be established to control the loose smut to which this variety is so susceptible. A bad infection of smut would easily decrease crop yield by one-third. Knowing that hot water treatment of seed is the only satisfactory method to control loose smut, a program was established by the New Jersey Field Crop Improvement Association and enforced by the New Jersey Department of Agriculture to maintain foundation fields of seed that had been hot water-treated. Now through the certification program, Wong Barley may be planted with no danger from loose smut.

The seed certification program is designed to help the farmer improve his crop yield in every way possible. Certified seed over a period of years has built confidence among New Jersey farmers for its superior quality and unsurpassed performance.

GRAIN SEED CERTIFICATION—1947

Crop	Number of Growers	Acreage Entered	Acreage Passed	Bushels Sealed
Hybrid Corn				
N. J. No. 2	9	95	95	2,870
N. J. No. 4	7	48.5	48.5	1,589
U. S. No. 13	9	151.5	151.5	4,035
Ohio K-24	1	18	18	214
Ohio C-88	2	....	....	465
Ohio C-12	1	1.5	1.5	....
Lincoln (sweet corn)	1	2.0	2.0	....
Carmelcross C-13 x P39 (sweet corn)	1	2.0	2.0	....
A30 x A47 (single cross)	1	5.0	5.0	....
A47 x B42 (single cross)	2	6.5	6.5	....
A64 x B42 (single cross)	1	.5	.5	....
A30 x A12 (single cross)	1	3.0	3.0	....
Winter Wheat				
Thorne	16	338.5	214.5	4,107
Leap's Prolific	4	55	47	1,081
Winter Barley				
Wong	19	278.7	191.7	6,994
Oats				
Keystone	1	8.5	8.5	177
Ajax	5	68.5	68.5	664
Clinton	2	25	25	771.5
Vicland	7	67.2	....	....
Soybeans				
Lincoln	7	135	85	644
Chief	3	45	37	326
Earlyana	1	5	5	....
Total	101	1,359.9	1,015.7	23,937.5

STATISTICAL AND RELATED WORK

CONSUMER PRICES IN NEW JERSEY

For the tenth consecutive year the statistical service has prepared, published and mailed the bi-monthly bulletin "Consumer Prices in New Jersey." The data on prices of food, housing, clothing, fuel, light, furniture, housefurnishings and miscellaneous necessities of life were included in these bulletins in order to measure the change in prices from one period of time to another.

About 1,400 copies are distributed every second month. They go to government agencies, management of industrial and commercial enterprises, labor organizations, professional associations, libraries and individuals within and without the State. Many of these institutions and organizations are using the New Jersey index of consumer prices as a basis for wage and salary adjustment. It is our policy to mail the bulletins only to those concerns and persons who make written request for them.

Consumer prices continued their upward movement during the fiscal year. The June, 1948, average price paid by New Jersey consumers for all goods and services was 11.2 per cent higher than the June, 1947, price, and 81.3 per cent above the June, 1939, price. The June, 1948, purchasing value of the New Jersey consumer dollar was 55.2 cents as compared with 61.3 cents in June, 1947, and 100 cents during June, 1939.

NEW JERSEY RETAIL FOOD PRICES

The monthly data on retail prices of 103 essential food articles in New Jersey were gathered and published in the monthly bulletin "New Jersey Farm and Retail Food Prices." Approximately 1,700 copies were mailed monthly to those organizations, institutions and individuals who were interested in food price behavior. This bulletin is in its twelfth year.

Retail food prices exhibited unusually strong upward trends during the fiscal year. The June, 1948, average retail price of food articles was 13.39 per cent higher than the June, 1947, price, and 130.3 per cent above the August, 1939, price. The June, 1948, purchasing value of the New Jersey food dollar was 43.4 cents as against 49.2 cents in June, 1947, and 100 cents in August, 1939.

AVERAGE PRICES RECEIVED BY NEW JERSEY FARMERS

Monthly records of average prices received by New Jersey farmers are gathered, and the indexes are tabulated and printed in "New Jersey Farm and Retail Food Prices." The June, 1948, average price received by New Jersey farmers for grains, hay, asparagus, beets, cabbage, carrots, lettuce, spinach, snap beans, potatoes, apples, strawberries, hogs, veal calves, milk, eggs and chickens was 12.4 per cent higher than the price received during June, 1947, and 144 per cent above the June, 1935-1939, average price.

RESULTS OF A SURVEY OF THE PEACH TREE POPULATION IN NEW JERSEY DURING 1946

A departmental circular, No. 369, entitled "Results of a Survey of the Peach Tree Population in New Jersey during 1946," was printed and distributed to peach growers, agricultural experiment stations, the trade, and others.

The survey was made during winter and spring of 1946. The main objective was to determine the current size of the peach industry, to ascertain the change in number of trees of different varieties, to find out production, etc.

RESULTS OF A SURVEY OF THE APPLE TREE POPULATION IN NEW JERSEY DURING 1946

A manuscript on this subject was completed and will be published as a department circular.

ANALYSIS OF NEW JERSEY AGRICULTURE BASED ON DATA OF 1945 UNITED STATES CENSUS

All phases of New Jersey agriculture as they are presented in the 1945 United States census are being analyzed from the historical, economical and statistical points of view. The work on this project is in its final stage.

NEW JERSEY RETAIL FOOD PRICES, 1913-1947

The average New Jersey retail prices of 103 food articles were gathered under one cover. These prices go as far back as available and are on a monthly and annual basis.

MISCELLANEOUS WORK

The statistical service was also occupied in furnishing types of various agricultural information upon request, such as: (1) production, average price per unit received by farmers and farm value of all agricultural commodities during 1946 and 1947; (2) testifying at milk hearing, giving information on the cost of production of milk, consumer's ability to pay for milk, etc., and (3) furnishing agricultural statistics to the trade.

Official Proceedings of the Thirty-third Annual State Agricultural Convention

The Thirty-third Annual State Agricultural Convention was held in the Assembly Chamber of the State Capitol at Trenton on Tuesday, January 27, 1948. The meeting was called to order at 10:00 A. M. by Charles H. Cane, president of the State Board of Agriculture. The invocation was offered by Rev. Paul W. Kapp, former chaplain of the New Jersey State Grange.

The roll of delegates was called by W. H. Allen, Secretary of Agriculture, as follows:

DELEGATES OF THE STATE AGRICULTURAL CONVENTION

FROM COUNTY BOARDS OF AGRICULTURE

Name	Address	Term	County
Joseph Sahl	Egg Harbor	2 years	Atlantic
Richard C. Lobherr, Sr.	Egg Harbor	1 year	Atlantic
Gerard Grootendorst	Oakland	2 years	Bergen
William W. Francis	Oradell	1 year	Bergen
Clement B. Lewis	Riverton	2 years	Burlington
Barclay H. Allen, Mount Holly, alternate for *Wilmer Bauer	Burlington	1 year	Burlington
Samuel C. DeCou	Merchantville	2 years	Camden
Maurice W. Collins, Merchantville, alternate for *Norman A. Tomasello	Hammonton	1 year	Camden
Allen McClain	Green Creek	2 years	Cape May
Edward J. Meerwald	South Dennis	1 year	Cape May
Frank Scheckenbach, Bridgeton, R. D. 2. alternate for *Loren W. Elwell	Bridgeton, R. D. 3	2 years	Cumberland
Joseph G. Hancock	Bridgeton, R. D. 2	1 year	Cumberland
Charles J. Wohkittel	Caldwell, R. D.	2 years	Essex
William A. Crane	West Caldwell	1 year	Essex
Lee Womack, Glassboro, R. D. 1, alternate for *Carleton E. Heritage	Richwood	2 years	Gloucester
Frank Centurione	Swedesboro	1 year	Gloucester
Harold B. Everitt	Flemington, R. D. 1	2 years	Hunterdon
Charles E. Burd	Pittstown	1 year	Hunterdon
John W. Tindall	Princeton Junction, R. D.	2 years	Mercer
C. Lawrence Dey	Princeton Junction	1 year	Mercer
George R. Parker, Jr.	Monmouth Junction, R. D. 1.	2 years	Middlesex
Henry Von Thun	Monmouth Junction, R. D. 1.	1 year	Middlesex
Roscoe C. Clayton	Freehold, R. D. 3	2 years	Monmouth

* Absent.

Name	Address	Term	County
Henry Rapp, Jr.	Farmingdale	1 year	Monmouth
James P. Vreeland, Jr., Towaco, alternate for *Harold Farrand	Boonton, R. D.	2 years	Morris
Robert J. Lecher	Wharton, R. D. 1	1 year	Morris
Martin Schubkegel, Sr.	Lakewood, R. D. 3	2 years	Ocean
Sylvester Mathis	Toms River	1 year	Ocean
Edward Anthony	Clifton	2 years	Passaic
Leonard Van Breeman	Clifton	1 year	Passaic
*Josiah Summerill	Pennsgrove	2 years	Salem
David F. Grier	Salem, R. D.	1 year	Salem
Edward M. Haynes	Skillman	2 years	Somerset
*David W. Amerman	Neshanic	1 year	Somerset
Orrin C. Peckham	Sussex, R. D. 2	2 years	Sussex
Francis Lockburner	Newton, R. D. 2	1 year	Sussex
Edward Schaffernoth	Plainfield, R. D. 1	2 years	Union
Wilfred Haines	Union	1 year	Union
Gilbert Hartung	Phillipsburg, R. D. 2	2 years	Warren
Harry Frome, Blairstown, alternate for *Azariah M. Frey	Stewartsville	1 year	Warren

FROM POMONA GRANGES

Martin Decker	Hammonton, R. D. 1	1 year	Atlantic
(No delegate)			Bergen and Passaic
C. Harold Joyce	Medford, R. D.	1 year	Burlington
Samuel J. McCulley	Berlin	1 year	Camden
*C. Newton Schellinger	Green Creek	2 years	Cape May
William E. Terhune	Chester	1 year	Central District
Robert Wheaton, Bridgeton, R. D. 2, alternate for *Loran Clunn	Cedarville	1 year	Cumberland
J. Willard Gardiner	Mullica Hill	1 year	Gloucester
John T. Hudnett	Flemington	2 years	Hunterdon
William S. Duncan	Jamesburg	1 year	Mercer
T. Edward Gibson	Princeton, R. D. 1	1 year	Middlesex and Somerset
Howard P. Story	Freehold, R. D. 3	1 year	Monmouth
L. Dewey Elwell	Salem, R. D.	1 year	Salem
John La Forge, Sussex, R. D., alternate for *Raymond V. Ayers	Sussex, R. D.	1 year	Sussex
Alfred Baylor	Columbia, R. D.	1 year	Warren

FROM OTHER ORGANIZATIONS

American Cranberry Growers Association—Theodore H. Budd, Jr., Pemberton, alternate for *Theodore H. Budd, Sr., Pemberton, 1 year; Isaiah Haines, Whitesbog, 1 year.

Jersey Chick Association—Nello Melini, Vineland, alternate for *Herman C. Demme, Sewell, 1 year; *Henry J. Reilley ,New Brunswick, 1 year.

New Jersey Association of Nurserymen—Kurt Meyer, Hackettstown, 2 years; *George C. White, East Rutherford, 1 year.

New Jersey Florists Association—August N. Bosenberg, New Brunswick, 1 year; Leon F. Clark, Trenton, alternate for *George C. White, East Rutherford, 1 year.

New Jersey State Grange—H. Milton Flitcraft, Woodstown, 1 year; Franklin C. Nixon, Vincentown, 1 year.

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* Absent.

New Jersey State Horticultural Society—William B. Duryee, Allentown, alternate for *Lester Collins, Moorestown, 2 years; Ernest S. Race, Sr., Belvidere, alternate for *C. Richard Applegate, Freehold, 1 year.
New Jersey State Poultry Association—C. T. Darby, Somerville, R. D. 3, 1 year; *Louis D. Schaible, Shiloh, 1 year.
United Milk Producers of New Jersey—Thomas L. Lawrence, Hamburg, 1 year; Clarence J. Little, Sussex, 1 year.
Blueberry Cooperative Association—Edwin A. Leach, Pemberton, 1 year.
Cooperative Growers Association, Inc.—Raymond J. Anderson, Bridgeboro, 1 year.
E. B. Voorhees Agricultural Society—H. Gordon Bailey, Route 1, New Brunswick, 1 year.
Holstein-Friesian Cooperative Association of New Jersey—Alvin String, Harrisonville, 1 year.
New Jersey Agricultural Experiment Station—James C. Ewart, Cranbury, 1 year.
New Jersey Beekeepers Association—*Elmer G. Carr, Pennington, 1 year.
New Jersey College of Agriculture—Dr. William H. Martin, New Brunswick, 1 year.
New Jersey Field Crop Improvement Cooperative Association—George A. Stevens, Eatontown, 1 year.
New Jersey Guernsey Breeders Association—Lloyd B. Wescott, Clinton, 1 year.
New Jersey State Potato Association—Henry W. Bibus, Jr., Wrightstown, R. D. 1, 1 year.

APPOINTMENT OF COMMITTEES

At the delegates' dinner held on the evening preceding the Convention, the following committees were appointed by President Cane:

NOMINATING COMMITTEE

Barclay H. Allen, Chairman .....Burlington County Board of Agriculture
Lloyd B. Wescott, Associate Chairman .....New Jersey Guernsey Breeders Association
Henry W. Bibus, Jr. .....New Jersey State Potato Association
August N. Bosenberg .....New Jersey Florists Association
Harry Frome .....Warren County Board of Agriculture
J. Willard Gardiner .....Gloucester County Pomona Grange
Wilfred C. Haines .....Union County Board of Agriculture
Clarence J. Little .....United Milk Producers of New Jersey
Richard C. Lobherr, Sr. .....Atlantic County Board of Agriculture
Henry Rapp, Jr. .....Monmouth County Board of Agriculture
Henry J. Reilley .....Jersey Chick Association

RESOLUTIONS COMMITTEE

Ernest S. Race, Chairman .....New Jersey State Horticultural Society
Martin Decker .....Atlantic County Pomona Grange
William W. Francis .....Bergen County Board of Agriculture
Franklin C. Nixon .....New Jersey State Grange
John W. Tindall .....Mercer County Board of Agriculture

At the State Agricultural Convention the following committees were appointed:

COMMITTEE ON CREDENTIALS

Edward M. Haynes, Chairman .....Somerset County Board of Agriculture
Raymond J. Anderson .....Cooperative Growers' Association, Inc.
Roscoe C. Clayton .....Monmouth County Board of Agriculture
Harold B. Everitt .....Hunterdon County Board of Agriculture
C. Harold Joyce .....Burlington County Pomona Grange

* Absent.

COMMITTEE TO WAIT ON THE GOVERNOR

William B. Duryee, Chairman .....New Jersey State Horticultural Society
Thomas L. Lawrence .....United Milk Producers of New Jersey
Clement B. Lewis .....Burlington County Board of Agriculture
Sylvester Mathis .....Ocean County Board of Agriculture

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 Steffen Olsen, of Ridgewood, and Milton C. Tice, of Deerfield, in nomination for membership on the State Board of Agriculture to succeed Charles H. Cane, Rosemont, and Leslie Richards, Sewell, whose terms expire June 30, 1948. Upon motion made and duly seconded, it was voted that the nominations be closed and Messrs. Olsen and Tice were unanimously selected for recommendation to the Governor for a four-year period beginning July 1, 1948.

CITATIONS

Citations for distinguished service to agriculture were awarded to Charles D. and Joseph Barton, of Marlton, and Lambertus C. Bobbink, of East Rutherford. A posthumous citation to Theodore H. Dilts was presented to Mrs. Dilts, of Three Bridges.

The citations, read by Secretary of Agriculture Willard H. Allen, were as follows:

CITATION OF BARTON BROTHERS

Before these assembled delegates representing all of New Jersey's diversified farming interests, the State Board of Agriculture desires to pay tribute to each of you—Charles D. Barton and Joseph Barton—as individuals, and to you jointly in your remarkable partnership—Barton Brothers—a lifetime association, which has commanded the respect and admiration of your fellow farmers.

Together, you have lived up to the tradition of your forebears as true husbandmen of your heritage of the soil, always maintaining production at high levels but ever conscious of the obligation to improve and conserve the fertility of the homestead acres.

At the turn of the century you demonstrated faith in the future of the Garden State by pioneering in the revival of the peach industry, then threatened with extinction. Your confidence inspired others and your sustained efforts, year after year, have aided substantially in restoring the New Jersey peach to its former prominence.

Your farm operations have been truly typical of the diversified agriculture of our State embracing a variety of both fruits and vegetables. You have been equally successful in the production and marketing of truck crops demonstrating repeatedly that hazards, surpluses and other contingencies can be anticipated and surmounted by ingenuity and proficiency. Seeking new outlets, you have been prompt to utilize all facilities available, particularly those offering distribution for a greater volume.

Throughout your careers you always have found time to aid in building stronger farm organizations, local and state-wide. You have never failed to contribute wise counsel and to command loyal support in the high offices you have filled so well, particularly in the Grange, Farm Bureau and New Jersey State Horticultural Society.

Although the presentation of a dual award is unique and without precedent, the State Board of Agriculture takes special pride in honoring your lifetime association in an extensive and successful farm enterprise—commends both of you for your particular achievements as individuals, and, in the presence of these delegates—awards to each of you a CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF LAMBERTUS C. BOBBINK

In New Jersey, the high rank attained by those engaged in ornamental horticulture is a source of great pride to these delegates who represent all branches of our agriculture. The development and production of plants and flowers is today one of our most important industries.

We are proud to honor you as an ardent pioneer who has contributed so much to the prestige of your adopted State. To your vision and perseverance are credited the establishment and success of many new enterprises devoted to the propagation of improved roses in both volume and variety.

Through you we have been permitted to share in the rich heritage of your native Holland. While your own achievements have been noteworthy, perhaps of even greater significance have been your many contributions to the continuous enjoyment and satisfaction beyond measure which thousands of American home gardeners derive from their plants and flowers. They are grateful that their lives have been made richer and happier as a result of your lifetime of praiseworthy zeal.

In commemoration of the 50th anniversary of the founding of your own renowned concern, the New Jersey State Board of Agriculture desires publicly to commend you and so confers upon you this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF THEODORE H. DILTS

(Awarded Posthumously)

Saddened at the passing of one of New Jersey's outstanding rural citizens, the State Board of Agriculture takes pride in honoring the memory of the late Theodore H. Dilts.

Always modest and self-effacing, he sought no offices yet filled many with notable distinction. He was known best as a true and loyal gentleman, a fearless defender of the high ideals and principles for which he stood. Fair and considerate of his colleagues, whether or not he differed with their views, he invariably insisted that recognition be accorded first to others.

With foresight and vision, he early embraced the cause of cooperative effort, thereby contributing to the betterment of rural living through the development and strengthening of farm organizations, particularly those associated with New Jersey's dairy and poultry industries.

Successful in his own farm enterprise, he never failed to find time to devote to his church and community. He responded to every call without thought of reward. To further the interests of agriculture, his voice has frequently been heard in this Assembly Chamber where he conscientiously served many years as a delegate to this Convention and for a term as a member of the Legislature.

The State Board of Agriculture desires publicly to express its sorrow in the loss of a respected colleague and pays tribute to his memory with this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

REPORT OF COMMITTEE ON RESOLUTIONS

The following resolutions, presented by Ernest S. Race and reported favorably by the committee, were adopted by the State Agricultural Convention:

Whereas the wealth and prosperity of this nation are basically dependent upon the production of its land; and

Whereas, the conservation of our soil is imperative if this nation is to avoid permanent and irreparable loss of one of its finest and most valuable natural resources; Therefore be it

Resolved, That we commend the Soil Conservation Service for its progressive and far-reaching programs; and be it

Resolved further, That we call upon the Congress to provide adequate funds to maintain and further expand these essential activities in New Jersey and elsewhere through the nation; and be it

Resolved further, That we urge the farmers of this State to utilize to the fullest the facilities and recommended practices of the Soil Conservation Service; and be it

Resolved further, That copies of this resolution be forwarded to the Soil Conservation Service and to the New Jersey Senators and Representatives in the Congress.

Whereas the education of our youth and the maintenance of a sound and adequate educational system in this State is of paramount importance to preserve one of the greatest assets of our democratic way of life; and

Whereas it is the responsibility primarily of State Government, in setting forth the pattern for educational standards, to aid school districts in meeting the financial obligations incurred in the training and education of our future citizens; and

Whereas rural districts for the most part are more in need of financial assistance in order that the boys and girls of those areas may have opportunities in training and education equal to those of urban centers; Therefore be it

Resolved, That we commend Governor Driscoll for his constant and sympathetic attention to the place of education in the welfare of New Jersey's people; and be it

Resolved further, That we urge Governor Driscoll and the State School Aid Commission to recognize and promote a true equalization of state aid funds in the rural areas of the State; and be it

Resolved further, That copies of this resolution be sent to Governor Driscoll, the State School Aid Commission, and the Commissioner of Education.

Whereas there exists a serious accumulated deficit in buildings required for the proper discharge of the public responsibilities and services of the State Department of Institutions and Agencies, the State Board of Education, and Rutgers University, the State University of New Jersey; and

Whereas this shortage of physical facilities at these state agencies has resulted in a serious deterioration in the care and maintenance of mental patients and other wards of the State, a curtailment in the training of teachers urgently needed by New Jersey public schools, and a denial and restriction of educational opportunity to New Jersey boys and girls seeking university education; and

Whereas current state revenues are insufficient to meet the cost of new construction required for these state agencies; Therefore be it

Resolved, That this Convention records its approval of the proposal, as advanced by the New Jersey Committee for Adequate Welfare and Educational Buildings, that the State of New Jersey issue $75,000,000 in bonds to finance the construction and equipment of new buildings for the State Department of Institutions and Agencies, the State Board of Education, and Rutgers University, the State University of New Jersey; and be it further

Resolved, That copies of this resolution be delivered to Governor Alfred E. Driscoll and to members of the State Legislature.

Whereas foot and mouth disease has for some time been rampant among cattle in Mexico; and

Whereas the Federal Government of the United States has been engaged in cooperative efforts with the Mexican authorities to control this disease and prevent its spread; and

Whereas it is within the realm of possibility that this disease can be introduced into herds in various parts of the United States and result in serious consequences wherever it may be found; Therefore be it

Resolved, That we urge the Federal Government through the United States Department of Agriculture to adopt at once a program of preparedness against financial losses among farmers by drawing up the necessary legislation to assure a fair indemnification to farmers whose herds would be immediately destroyed in order to stamp out the disease; and be it further

Resolved, That the Secretary of Agriculture of the United States and each New Jersey member in the Congress be apprised of this petition through copies of this resolution sent to each.

Resolved, That we again urge the State Highway Commission to incorporate in its extensive road-building program, plans for improvement and expansion of our vital secondary "farm-to-market" roads, the execution of which plans should be coordinated with, and carried out concurrently with, primary highway maintenance and new construction; and be it

Resolved further, That copies of this resolution be sent to Governor Driscoll and the State Highway Commission.

Whereas New Jersey producers again are facing intensive competition in nearby metropolitan markets from products shipped from other areas; and

Whereas these competing products are supported by extensive advertising and promotional programs sponsored by producers, by trade organizations and by public funds; and

Whereas many New Jersey farmers have benefited from the programs for promoting the sale and distribution of New Jersey farm products, sponsored by the New Jersey Council of the Department of Economic Development in cooperation with the State Department of Agriculture; and

Whereas These programs are needed especially at present because of the high production levels attained on American farms; Therefore be it

Resolved, That the delegates attending this official 1948 Convention representing the principal agricultural organizations in New Jersey, do hereby commend the program of the New Jersey Council and respectfully recommend to the Governor and to the Legislature that the activities of the New Jersey Council be continued with adequate funds.

Whereas electrical power and service are essential today to the efficient operation of nearly all New Jersey farms; and

Whereas electrical service is now available to all rural communities and to most farms and farm homes in the State; and

Whereas the Farm Electrification Council of New Jersey has been organized to promote the more efficient use of electricity on the farm and in the farm home; Therefore be it

Resolved, That the delegates attending this 33rd Agricultural Convention do hereby endorse the program of the Farm Electrification Council of New Jersey and urge all farm and commodity groups to extent their fullest cooperation to the Council.

Resolved, That we, the delegates to this 33rd Agricultural Convention, express to our Governor, the Honorable Alfred E. Driscoll, our deep appreciation of his manifest interest in the needs of agriculture in New Jersey, and that we petition him for his continued earnest cooperation and support, to the end that this great industry in the Garden State may be maintained at the high standard of production and efficiency that has been achieved; and be it further

Resolved, That a copy of this expression be forwarded to the Honorable Alfred E. Driscoll.

Whereas since the Agricultural Convention of 1947 several well-known and outstanding men in the agricultural life of this State have departed from our midst, including especially Maurice A. Blake and Theodore S. Dilts; and

Whereas these men gave unselfishly of their time and talents in their respective fields so that we, and countless others to follow, might build on the solid foundations they laid; Therefore be it

Resolved, That this Convention pay its tribute and respect to their memory by observing a moment of silence.

Resolved, That we express thus publicly and formally our appreciation to Willard H. Allen, our efficient Secretary of Agriculture, and to all the members of the Department of Agriculture staff who have willingly and capably demonstrated their allegiance to their respective duties throughout the year, thereby contributing to the advancement of agriculture in New Jersey, and to all those comprising the General Committee for Farmers Week, including representatives of the various commodity and agricultural groups, whose plans for this Farmers Week have been brought to successful fruition.

Resolved, That this delegate body of the 33rd Agricultural Convention convey to the Honorable Clinton P. Anderson, United States Secretary of Agriculture, its gratification to him for giving so freely of his time to meet here and present at first hand, from his broad knowledge of today's world needs, those problems which confront this nation, the complete dependency of a hungry world upon American production, and the role of the American farmer in helping to alleviate the suffering in foreign lands; and be it

Resolved further, That this delegate body pledge its support of sound national policies which are directed toward the aid of those peoples who are striving to attain economic and social peace; and be it

Resolved further, That a copy of this resolution be sent to the Honorable Clinton P. Anderson.

Whereas the New Jersey State Police has continued in unstinted measure its valuable and unfailing service, especially to rural residents of this state; Therefore be it

Resolved, That this Convention commend its leader, Colonel Charles H. Schoeffel, and all the members of his organization, for their high standards of conduct, their devotion to duty, and their willingness to cooperate in every way in meeting rural needs; and be it further

Resolved, That a copy of this resolution be addressed to Colonel Schoeffel.