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

Thirty-second Annual Report

of the

New Jersey State Department of Agriculture

July 1, 1946—June 30, 1947

Trenton, N. J., June 30, 1947

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Messrs. Lewis and Hess retire from the board on June 30. The new members are Tunis Denise, Freehold, and C. Russell Jacobus, Upper Montclair.

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STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE

W. H. ALLEN, *Secretary*
TRENTON

June 30, 1947.

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-second Annual Report of the New Jersey Department of Agriculture, for the fiscal year ended June 30, 1947.

Respectfully yours,

W. H. Allen

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

Report of the Secretary of Agriculture

W. H. ALLEN

The twelve-month period for which this is written has been marked by supply, demand and price behaviors which have had an important effect on this nation's economy. A great deal of attention has been centered on agriculture because there has developed an increasing public consciousness of the vital influence that peacetime food production has on our whole system of economy.

Our readjustment from abnormal wartime peak production to normal peacetime production has failed to materialize as early as, or in the degree that, was anticipated by many people following the cessation of hostilities. Several sound reasons have been advanced for this situation, each of which has contributed to an economy just about opposite to what might be expected.

First of all, adverse weather conditions, especially in Continental Europe, resulted in decreased yields and in some cases virtual crop failures, thus necessitating a continued heavy flow of food exports from this country on the basis of humanitarianism, if nothing else. Obviously, this had its effect on available supplies of basic foods, principally grains, in this country, and this was reflected through unbalanced relationships between feed-grains and livestock. Coupled with this was a sufficient amount of money to hold demand for many products at a higher level than the supply could meet, thus creating some inflationary tendencies in these prices. This was followed by demands for increased wages in industrial fields and the pattern for settlement was generally at a rate which again increased the cost of finished goods that the farmers and other consumers bought.

Thus it was that in the crop year of 1946, the farm value of New Jersey's production of agricultural products was estimated to be $267,250,000, some $38,000,000 or 17%, more than in the previous year. That this was solely due to higher prices would be erroneous. A considerable variation existed in price relationships between the two annual periods, with some products higher in price and some lower. A heavily contribut-

ing factor in this increased value was greater production of some crops. Vegetables in general, for example, sold at lower average prices, but greater volumes made their farm value 13% above 1945. The same was true of berries, which showed a 60% advance in farm value by virtue of greater yields and production, and also of live poultry. On the other hand, the value of grains and meat animals advanced sharply under supply-and-demand pressure.

The faster rising costs of many commodities the farmer buys compared with many things he sells are a source of much concern in rural areas. This situation has been especially evident in the case of dairy and poultry feeds, as well as seed, fertilizers, and packages. Farm machinery not only falls in this higher cost category, but at the same time is in quite limited supply. Many farmers have long been handicapped by lack of adequate labor-saving equipment with which to do the job they have been called upon in war years and since. The farm labor problem is not as acute as during the war, but here too, many farmers are experiencing the same difficulties that are existent in industry, which, in the end, result in somewhat lowered man-hour production. Until some of these conditions right themselves, agriculture will be a less stable industry than is possible and desirable.

Attention is called, at this point, to a few of the important projects which have been a part of the Department's responsibility. In the program of eradication of tuberculosis among cattle, 255,447 tests were made in the course of the year, of which 949 animals, or 0.37%, were reactors. This rate of reaction was essentially unchanged from that of a year ago. Because of evidence that the rate of incidence of the disease was comparatively high in cattle receipts from Canada, the State Board of Agriculture authorized an embargo, effective November 1, 1946, on all cattle from Canada, except purebreds originating in TB-free herds and areas.

The Department has taken cognizance of the foot-and-mouth disease among cattle in Mexico, knowing that it is not only highly contagious and economically dangerous, but also easily transmissible even into New Jersey. Veterinarians in this State have been alerted so that if the disease appears here immediate steps can be taken to eradicate it or prevent its spread.

One of the problems involved in animal disease control is accentuated by the fact that New Jersey imports large numbers of adult dairy cattle each year. Encouragement to grow more home replacement stock and thus reduce adult imports has been stimulated by a program, that was initiated at the beginning of the fiscal year, of vaccinating calves against brucellosis or Bang's disease. The cost of vaccination was legislatively provided for at state expense. The first year's goal of 10,000 vaccinated calves was surpassed by nearly 40%, and as these calves mature they will have increased resistance to the disease.

A great many tomato growers were the victims of a late blight epidemic that swept the State in the growing season of 1946. Serious losses oc-

curred in the canning crop acreage in extreme cases amounting to practically 100%. Even so, more than 100,000 tons were inspected for grade at canneries. Most of this volume was delivered by the end of August, before the ravages of blight were most serious. Otherwise New Jersey might have gone on to one of the greatest tomato crops on record.

The certification of seed is one of the Department's major projects and a basic one in the development of sound and efficient agriculture. This work has been confined to white potatoes, tomatoes, small grains and hybrid corn. Of the 1946 crop production, a little over 40,000 bushels of white potatoes were certified for seed purposes; 195,094 pounds of tomato seed—enough to plant a million acres—were so certified, as well as some 27,000 bushels of various grains—mostly hybrid corn. The seed of each of these crops not only met a good local demand, but tomato seed was in addition sold and shipped to wherever tomatoes can be grown in the world. The use of certified seed has materially helped our growers in attaining efficient production through higher yields, greater disease-resistant varieties and a better quality product.

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 bureaus that 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

On June 30, 1947, this act had been in effect 30 years. During that period of time, this country had experienced two world wars, the worst economic depression in the history of the world, and, also one of the most prosperous periods in history.

This statute became effective on July 1, 1917, slightly less than three months after the United States entered World War I. Although that war had been going on since August, 1914, and business was in a prosperous condition due to European war orders for food and supplies, nevertheless the necessity of having the protection of legislation of this kind was apparent to the dairymen of this State.

Neither the records on the number of licensed dealers, the value of bonds filed, nor the complaints adjusted during the first ten years this act was in effect are available. The records for the second ten-year period (1927-1937) show that for the licensing year, July 1, 1927-June 30, 1928, 256 licenses were issued and the value of bonds filed for that year totalled $157,000 or an average bond of $613. The licensing year, July 1, 1937-June 30, 1938, shows 310 licensees who filed a total of $1,095,400 in bonds, or an average bond of $3,533. At the close of the thirtieth year (1946-47), 264 licensees filed bonds with a total value of $3,118,600; the average bond was $11,812.

It should be pointed out that the number of dealers licensed each year is not so important for this number will fluctuate according to changes in the industry. However, the value of bonds filed is indicative of the amount of financial protection afforded by this law to the dairymen of New Jersey, and the record shows that during the depression years the Department required larger bonds so that producers might have as much protection as possible against losses due to defaulting dealers.

The fighting in World War II had been over almost a year before the 1946-47 licensing year began, but economic conditions in this country were still in a turmoil. On July 26, 1946, President Truman signed a bill reinstating OPA, which had expired on June 30. However, this did not take effect until August 20, 1946, and as a result it seemed that everyone hurried to increase prices on all commodities before the effective date of the new OPA. Milk and dairy products were included in the long list of

increased prices, and there was a sharp difference of opinion as to whether or not milk should be again placed under the control of the new OPA. A price de-control board was established by the same act that re-instated OPA, and this board was given the authority to decide the question. The de-control board held several hearings in Washington, D. C., at which time the farmer-representatives of New Jersey requested that milk prices in this State be determined by the New Jersey Milk Control Board. Consumer-representatives requested the de-control board to put milk and dairy products under OPA regulation, but it was finally decided that milk prices would not be placed under OPA unless milk increased unreasonably.

The costs of production continued to mount, and the farmers of this State petitioned the director of Milk Control to increase the price of milk to producers. At a hearing before this board in June, 1946, testimony was given to show that it costs New Jersey dairymen from $5.65-$5.80 to produce 100 pounds of milk, yet the basic price of $5.15 per hundredweight continued in effect until December, 1946, when they were given some relief by increasing the price to $5.55 per hundredweight. The price to the public was also increased one cent per quart.

During the months of July to December there were threats of strikes on the part of farmers who felt they could not continue to produce much longer unless the cost of production was met. However, there were no farmer strikes in New Jersey. Some dealers paid more for milk to their farmers so that they themselves could be sure of a sufficient supply for the trade. This soon brought about a serious condition in the industry for dealers were taking farmers away from other dealers and relationships among dealers and farmers were badly strained for some time.

On November 10, 1946, all OPA price controls on food were removed except on sugar and rice. On November 20, the ban on the sale of heavy cream to the public was also removed. Until the latter date, only cream of not more than 19% butterfat could be had by consumers.

During several days in December, the price of butter increased at too rapid a rate to be overlooked with the result that federal authorities made an investigation of the butter market to learn if these sudden increases were in violation of the anti-trust laws. It was found that the largest buyer of this commodity was conducting business in violation of the anti-trust laws. This buyer admitted it was done to bolster the price of milk, for in New York the price for milk paid to producers is based on the price of 92-score butter. The buyer was penalized for violations.

Claims and complaints filed with the Department against licensees totalled approximately $6,156.60. Since the dealers adjusted all complaints in full, there were no losses sustained by the surety companies which underwrite the bonds.

Licenses were issued to 264 dealers, who filed bonds totalling $3,118,600.

NUMBER OF LICENSEES UNDER MILK DEALERS' LAW

July 1, 1946 to June 30, 1947

County		Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic		3	3	$67,000
Bergen		11	11	129,000
Burlington		13	13	172,500
Camden		10	10	100,000
Cape May		2	2	3,000
Cumberland		11	11	129,200
Essex		14	14	252,000
Gloucester		11	11	43,200
Hunterdon		13	13	251,000
Mercer		23	23	178,500
Middlesex		19	19	184,000
Monmouth		20	20	136,500
Morris		29	29	186,500
Ocean		3	3	43,000
Passaic		17	17	257,500
Salem		12	11	56,000
Somerset		17	17	148,000
Sussex		1	1	2,000
Union		13	13	132,200
Warren		12	12	219,500
Out of State		10	10	428,000
Totals:	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
	1942-1943	266	256	1,905,800

PRODUCE DEALERS' LAW

Although the damage by blight to the 1947 tomato crop was negligible, the farmers under contract to supply one large cannery were worried during the period of a threatened strike of factory employees, as the growers were faced with a loss estimated at $5,000,000. Fortunately, the dispute between the plant and its employees was settled before any financial loss was suffered by the growers. Arrangements had already been made with other canneries to take a large portion of the tomatoes so that the threatened loss would have been greatly reduced. Yet, the feeling that a serious loss might have to be sustained any time in the future was reason for alarm among New Jersey tomato growers.

The problems caused by the five-day week on the wholesale markets of New York and Philadelphia continue to bother the growers of fruits and vegetables. During the year the problem was discussed with the hope that these two important markets would again operate on a six-day week, but these efforts were to no avail.

When the President declared World War II ended on December 31, 1946, automatically determined was the date terminating support prices on all agricultural products which the Federal Government had agreed to support for two years after peace was declared.

The support price for potatoes is of vital interest to many of the farmers of this State. Although there was confusion in the minds of some potato growers as to the direct purchase plan of the Government (which may have been one of the reasons for the rapidity with which many growers dug their potatoes), yet the producers did not suffer any loss. For, with OPA restrictions on the amount of grain available to distillers, another market for potatoes was made available because potatoes were substituted for the manufacture of alcohol by this industry.

However, tons of potatoes were allowed to waste in the fields. But the amount of loss in this way will be greatly reduced for the Government has restricted the acreage to be planted with potatoes during the next two years that support prices are effective. Federal support terminates on December 31, 1948, unless new legislation is passed by Congress extending the period.

During this licensing period claims and complaints were filed with the Department totalling approximately $6,361.16. All had been paid by the dealers, except in one instance and that claim was paid by the surety company.

There were 406 licenses issued; total value of bonds filed reached $1,218,000.

NUMBER OF LICENSEES UNDER THE PRODUCE DEALERS' LAW

May 1, 1946 to April 30, 1947

County	Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic	48	48	$144,000
Bergen	1	1	3,000
Burlington	4	4	12,000
Camden	7	7	21,000
Cumberland	51	51	153,000
Essex	47	47	141,000
Gloucester	35	35	105,000
Hudson	4	4	12,000
Mercer	14	14	42,000
Middlesex	8	8	24,000
Monmouth	23	23	69,000
Passaic	15	15	45,000
Salem	10	10	30,000
Somerset	2	2	6,000
Union	2	2	6,000
Warren	7	7	21,000
Out of State	128	128	384,000
Totals: 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
1942-1943	339	339	1,017,000

CATTLE DEALERS' LAW

As a result of laws passed by the 1946 Legislature, numerous changes were made in the regulations governing the interstate and intrastate movement of cattle. It is now mandatory on the part of auction blocks operating in New Jersey to brand with an "S" all cattle weighing over 200 pounds sold for slaughter. The enforcement of this regulation should help considerably in preventing the sale of inferior cattle to unsuspecting dairymen.

A regulation of the Department, effective November 1, 1946, limits the importation of cattle from Canada into this State to cows that are from registered, purebred, tuberculin-tested herds in order that the number of reactors to the T. B. test may be reduced. Some licensees expressed dissatisfaction with this restriction, stating that stock of that kind cost too much, and as the dealers must necessarily pass on these high prices to the farmers, it works a hardship on producers as well.

Two New Jersey licensees were prosecuted by Canadian authorities for exchanging eartags on cattle to be shipped into the United States, and heavy fines were imposed by the Canadian court.

The prices for good dairy cows in Wisconsin continued high and New Jersey dealers who have been purchasing most of their stock in that State for shipment to New Jersey have been experiencing more and more difficulty in obtaining cows.

The price of meat on the retail market was high throughout the year so that many licensees found it more profitable to deal in beef animals than dairy cows.

Only one hearing was scheduled under this act: the case concerned the releasing of cattle from quarantine before permission was authorized by the Department and the exchange of eartags in two cows being held in quarantine. The dealer pleaded guilty to the charges and paid $100 penalty for his violations.

Licenses were issued to 233 dealers, the highest number of licenses ever issued under this statute.

NUMBER OF LICENSEES UNDER THE CATTLE DEALERS' LAW

July 1, 1946 to June 30, 1947

County	Licenses Issued
Bergen	4
Burlington	14
Camden	5
Cape May	4
Cumberland	14
Essex	7
Gloucester	5
Hunterdon	20
Hudson	2
Mercer	10
Middlesex	6
Monmouth	13
Morris	19
Ocean	5
Passaic	9
Salem	21
Somerset	16
Sussex	29
Union	9
Warren	17
Out of State	4
Totals: 1946-1947	233
1945-1946	225
1944-1945	212
1943-1944	216
1942-1943	213

THE NEW JERSEY JUNIOR BREEDERS' FUND

During the fiscal year covered by this report, there were 69 loans made, totaling $7,104.20. Of these, 36 were for purebred dairy animals, totaling $3,930; 30 were for beef cattle, totaling $3,040.20; and three loans were made for fat barrow projects, totaling $134.

Sussex County led in the number of loans made, the total amount loaned in that county being $1,903; Middlesex ranked next, with loans totaling $1,360; Mercer County, $1,049; Somerset County, $938; Hunterdon County, $475; Warren County, $345; Cape May County, $342.20; Burlington County, $300; Monmouth County, $180; Gloucester County, $162; and Salem County, $50.

Cash awards presented during the year to borrowers included $135 at the Flemington Fair and $125 at the Sussex County Farm and Horse Show. In addition, six $25 savings bonds were presented at the Dairy Banquet during Farmers' Week to borrowers who were winners of production certificates and whose records merited a purple seal. Forty-one certificates were awarded for meritorious dairy production records.

Charges against the Emergency Fund during the year were made because of the death of one dairy animal, $50, and one beef animal, $100.

The annual Beef Cattle Show and Sale was held at New Brunswick on November 13, 1946. The State Chamber of Commerce made its usual contribution of $200 for prizes, in addition to the other awards. Junior Breeders' Fund awards totaled $115 to borrowers.

The following tables show the total loans made since the Fund was established in 1921:

TOTAL AMOUNT LOANED TO DATE, BY COUNTIES

County	Amount
Atlantic	$92.00
Bergen	75.00
Burlington	12,375.91
Camden	.....
Cape May	1,677.43
Cumberland	7,971.63
Essex	433.05
Gloucester	3,779.30
Hudson	.....
Hunterdon	11,038.81
Mercer	25,499.96
Middlesex	22,562.26
Monmouth	11,602.45
Morris	5,479.00
Ocean	2,456.00
Passaic	166.25
Salem	24,370.44
Somerset	7,954.40
Sussex	16,420.17
Union	.....
Warren	13,925.58
Total	$167,879.64

Livestock Loans Made Annually Since Establishment of Junior Breeders' 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
Totals	1,219	$107,463.00	292	$20,229.47	277	$15,273.78	471	$21,228.73	14	$375.28	2,273	$164,570.26

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

Fiscal Year	Feed Loans		Crossbred Poultry		Agricultural Production 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
Totals	126	$2,274.24	4	$220.50	25	$672.62	3	$134.00	1	$8.02	159	$3,309.38

* 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 Bureau of Information

FRED W. JACKSON, *Chief*

The past year has witnessed the gradual return of most New Jersey farm operations to a degree of normalcy following the war years. However, in many instances certain wartime restrictions, shortages and practices remain as factors which continue to affect New Jersey farm operations.

During the past fiscal year the activities of the Bureau of Information have been directed toward bringing the services and functions of the State Department of Agriculture to the attention of farmers, farm organizations and the public. The program embraces a wide variety of activities and contracts with a considerable number of individuals, agencies and organizations.

To further the objectives and duties assigned to the Bureau all available facilities and media have been used, particularly the press, farm publications, radio, and exhibits. Other activities have involved cooperation with producer, processor, distributor and consumer groups concerned with New Jersey farm products, particularly in connection with the program of the New Jersey Council.

A special effort has been made to service the New Jersey daily and weekly newspapers with news releases prepared in non-technical terms on timely subjects. Despite a continued shortage of paper and competition with many others seeking recognition, it appears that the editors of many New Jersey publications have been interested in receiving the releases of the Department and have found it possible to publish them consistently. The splendid cooperation of the editors and publishers is acknowledged. Special mention should be made of the interest and cooperation of the press representatives assigned to the State House.

NEWS RELEASES

A total of 184 news releases were issued by the Bureau of Information during the past year compared to 158 during the 1945-1946 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. They included 30 special releases issued as advance or current publicity on Farmers' Week. As in previous years the largest number was devoted to subjects related to the Bureau of Markets. However, a better balance

of subject matter has been obtained through increasing the total number related to the Bureau of Animal Industry activities from only four releases in 1944-1945 and 13 releases in the 1945-1946 period to 22 stories during the past year.

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

	1946-1947	1945-1946	1944-1945
Administration	13	13	8
Bureau of Animal Industry	22	13	4
Bureau of Markets	61	66	49
Bureau of Plant Industry	29	24	24
Bureau of Information	42	26	31
Miscellaneous	17	16	10
Total	184	158	126

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 280 glossy prints were distributed last year in addition to six series of photographs issued in mat form to a selected list of 40 papers.

Special acknowledgment should be made of the splendid cooperation of the staff of *New Jersey Farm and Garden* throughout the entire year. The editor has invited the Secretary of Agriculture to contribute an editorial 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 or 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.

Owing to the special interest of the public in current food prices, particularly labor and employer groups, an effort has been made to interpret in news story form the monthly food price reports and the bimonthly cost of living statistics issued by the Bureau of Plant Industry.

To date the Department of Agriculture has not participated consistently in a regular series of radio programs. However, all New Jersey and nearby radio stations receive the news releases and most of them are used as source or background material. Nine special radio talks were prepared, three broadcasts were made and 18 recordings were made or arranged 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 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 Bureau of Information 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. Little supervision appears to be exercised after the award for a printing job is made and it appears that little is done to check on performance. Consequently, extended delays are experienced beyond the dates specified for delivery. For example, in the case of a circular which contains current lists of bonded dealers in farm products, such delays may mean that the circulars are of little use to many of the farmers for whom they are intended. Substitutions of paper other than that called for in the specifications also occur due, no doubt, to short supplies. It is felt that such substitutions should be made only after consultation and checked to determine whether inferior stock is used.

Circulars published during the past year included:

Circular No. 360—The Canker Stain Disease of Planetrees, with Recommendations for Controlling It in New Jersey.
Circular No. 361—County Boards of Agriculture and State Agricultural Organizations for 1946.
Circular No. 362—The New Jersey Beekeeping Industry in 1944.
Circular No. 363—*Neodiprion sertifer* (Geoff.), a Sawfly Injurious to Pines in New Jersey, and Parasite Work for Its Control.
Circular No. 364—Dealers Licensed Under the Milk Dealers' Licensing and Bonding Act, Produce Dealers' Licensing and Bonding Act and Cattle Dealers' Licensing Act.
Circular No. 365—Facts and Figures—Annual Potato Summary—Crop of 1946.
Circular No. 367—The Treatment of American Foulbrood.
Leaflet— Brucellosis (Bang's Disease Infectious Abortion) Control Program.
Report— Thirtieth Annual Report of the New Jersey State Department of Agriculture—July 1, 1944-June 30, 1945.
Farm Service News—Six issues—July, September, November, 1946; January, March, May, 1947.
Circulars Nos. 351-360—Twenty-five bound copies.

As of June 30, 1947, the following have been edited but still in printers' hands:

Circular No. 366—County Boards of Agriculture and State Agricultural Organizations for 1947.
Report— Thirty-first Annual Report of the New Jersey State Department of Agriculture—July 1, 1945-June 30, 1946.

Other publications prepared, edited and issued prior to or during the 1947 Farmers' Week included:

1947 Farmers' Week Program
Citations for Distinguished Service to New Jersey Agriculture 1947
Chaff—5 issues during Farmers' Week
Vo-ag Program
Highlights of Your Convention
Women's Program for Farmers' Week

Farm Service News was continued with six bi-monthly issues during the past year, serving as the semi-official publication of the Department and reaching about 16,000 individuals on a state-wide mailing list. The March issue was devoted exclusively to the listing of the hatcheries and breeders whose baby chicks and breeding stock had qualified under the Federal-State Poultry Improvement Plan. An effort is being made to check and supplement the mailing list with all available sources. Last year 1,985 names were added from lists furnished by the Bureau of Animal Industry.

FARMERS' WEEK

Farmers' Week continues as one of the principal activities of the Bureau of Information, particularly the preparation of the programs during the preceding three months. The Week continues to grow and is considered to be the high-spot of the year for most of the New Jersey farm commodity groups due largely to the excellent meetings and the high calibre of the speakers.

Other services rendered by the Bureau have included cooperation in the development of a number of promotional programs. Examples are the proposed organization of a New Jersey Dairy Council, a unit of the National Dairy Council. This is a project in which this Bureau has been interested since 1934 and now it appears that such a unit will soon be established in the North Jersey area to carry on an educational program on the use of fresh milk. Aid was extended to the United Milk Producers of New Jersey in the preparation of a series of advertisements to remind consumers of the investment involved in fresh milk production. A somewhat similar program was prepared at the request of the producers furnishing milk to a large Warren County plant.

An outline of a plan for improving member relations was prepared for the Cooperative Marketing Associations in New Jersey, Inc. Several conferences were attended with farm and industrial leaders in Sussex and Warren counties to prepare a promotional plan for that area. A number of conferences were attended with groups representing sweet potato and strawberry growers who are contemplating advertising and promotional programs.

With the revival of most of the local fairs following their closing during the war years, the Bureau of Information 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.

COOPERATION WITH NEW JERSEY COUNCIL

The agricultural activities of the New Jersey Council, a unit of the Department of Economic Development, were serviced again through the Bureau of Information which served in a liaison capacity in reaching the

agricultural commodity groups interested in participating. Approximately $24,000 out of the total New Jersey Council budget of $100,000 was allotted to furthering the sale of agricultural products. As usual, the allotments to the individual commodity groups were dependent upon the furnishing of supplemental funds provided by each of the cooperating organizations. In several cases the funds furnished from private sources exceeded the amount allotted by the New Jersey Council, particularly in the programs planned for cultivated blueberries, apples, peaches and potatoes.

The general conversion to peacetime operations has revived interest in promotional activities. Competition from growers of other States has become stronger as they seek a greater share of the eastern city markets. Consequently, New Jersey producers already are facing intensified competition from farm products of other areas supported by well financed promotional campaigns which overshadow the rather modest programs sponsored by New Jersey and other nearby growers.

The return to normal practices of grading and labeling packages of farm products now makes possible the development of better merchandising programs which can be supported with advertising and promotional activities. As funds have been limited and necessarily must be divided among six or eight commodity groups, it has been necessary to enlist the aid of all agencies which can cooperate in any way in reaching the public. Acknowledgment should be made of the outstanding services rendered by the wholesale and retail food distributors and particularly by the members of the home economics staffs of the electric light and gas companies.

For each dollar expended from the funds of the New Jersey Council and of the farm commodity organizations, eight to ten 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 personnel, posters, booklets and other items provided at no cost to the Bureau. 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.

The advertising projects carried on during the past year included:

Cooperative Marketing Associations in New Jersey, Inc.

This association is made up of the several cooperative produce auction groups operating in New Jersey and the advertising program was revived in the spring of 1946 after a lapse of four years. The advertisements were carried in nine issues of the two principal wholesale produce trade papers, *The Produce News* and *The Packer,* as a means of reminding buyers that the New Jersey produce auctions were opening with offerings for wholesale buyers. During the 1947 season 1,021 different individual buyers from 12 states purchased New Jersey produce at the ten 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 (10 issues)
The Moos (4 issues)

While it is difficult to measure the results of this program, the hatchery operators who contributed through the Jersey Chick Association reported that they experienced little difficulty in moving their full output of baby chicks.

Blueberry Cooperative Association

This association markets cultivated blueberries under the TRU-BLU brand designation. From their own funds this group allotted about $18,000 for advertising and promotional work last year. Supplementing these funds, $1,900 was appropriated by the New Jersey Council principally to meet the expenses of renting 842 poster locations on platforms in the 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 posters was borne by the association which also conducted an intensive newspaper program with a few spot radio announcements. The management reports another successful season although the New Jersey producers are experiencing ever-increasing competition from growers in other areas, particularly Michigan. A considerable volume is 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 present high level of feed prices the need for better home-grown feeds 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 eight issues of *New Jersey Farm and Garden* and seven 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. This campaign cost about $2,800 toward which the association contributed $900. Most of the available certified seed was moved through dealer channels.

Cooperative Inter-Breed Cattle Association of New Jersey

This association is an overhead group made up of the individual cattle breed associations. Because of the large number of purebred herds in the State there is a considerable number of surplus calves and breeding stock available for sale. The association requested aid in a trial program to sell purebred stock and contributed $400 toward a campaign costing about $1,010. Seven small insertions appeared in *New Jersey Farm and Garden, Hoard's Dairyman, Dairymen's League News, Inter-State Milk Producers Review,* and *The Moos*. The advertisements brought a rather small number of returns, about 40 in all, and the program has been discontinued.

New Jersey Peach Industry Committee

The revival and expansion of the New Jersey peach industry, following the introduction of new and improved varieties developed at the New Jersey Agricultural Experiment Station have created some marketing problems which are becoming more acute each year. An advertising and promotional program in cooperation with a state-wide group known as the New Jersey Peach Industry Committee has been carried on during the past seven years.

The major effort is inaugurated in advance of the peach harvest season at a luncheon held in Newark to which are invited representatives of the press, radio, retail and wholesale trade, utilities and state and federal agencies. At the luncheon session held on July 9 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. 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 mention should be made of the splendid cooperation extended by the home economics staffs of the public utilities last year. Meetings and demonstrations were conducted by the 26 home economics workers of the utilities in the principal New Jersey communities during the peach season. Food column editors and radio food commentators also participated.

Approximately $3,000 of New Jersey Council funds were allotted to the peach project, but as has been mentioned the cooperation extended by

other agencies contributed services valued at many times that sum. The growers group contributed about $1,400. Two advertisements were placed in 19 New Jersey dailies. Store posters and price cards were provided as point of sale material. A peach recipe leaflet was prepared for consumer distribution and spot announcements were scheduled on two local radio stations. One utility published a complete leaflet on peach recipes. The crop moved with little difficulty according to reports from growers.

New Jersey Potato Industry Committee

Following a number of conferences with representatives of the New Jersey potato growers, a request for aid was received from that group in the form of some advertisements to appear just prior to and during the 1946 marketing season. These plans called for joint participation in a series of advertisements to appear in produce trade papers during July and August of 1946. 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. Insertions appeared in nine issues involving a total cost of about $3,600 toward which the New Jersey Potato Industry Committee contributed $1,000. The copy stressed the fact that all New Jersey potatoes were officially graded to meet federal standards.

That the farm groups participating in promotional activities consider the programs to be worth while is indicated by a willingness to contribute directly and to build up their own sales and promotional activities.

As mentioned in previous reports, the file of photographs in the Bureau has become quite depleted and an effort has been made to secure a few new photographs each month in addition to those obtained for immediate use.

Through funds made available by the New Jersey Council photographs of special recipes and dishes were made at a New York studio. These include six of peaches, seven of asparagus, six of eggs and five of strawberries. These are for distribution among New Jersey papers during the 1948 crop year.

MISCELLANEOUS SERVICES

During the past year the Bureau of Information serviced a large number of requests for agricultural information referred by other state departments and agencies. These and others received direct involve a considerable amount of research and correspondence. Calls for a very wide variety of services are delegated to the Bureau. 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 suggestions for developing script and locations for making motion pictures for the film, *Jersey Journey;* providing information for a large insurance company, inaugurating a farm loan business in New Jersey; preparation of the program for a

feed dealers convention; aid in arrangements for bringing the annual New Jersey Florists Day-at-College to Trenton; tour of New York and Philadelphia food page editors in Hunterdon and Somerset counties; handling publicity of annual convention of New Jersey Farm Bureau; directing publicity of Governor's Highway Safety Conference; arrangements for program and tour of Committee on Agriculture of New Jersey State Chamber of Commerce; organization and incorporation of Refrigeration Association of New Jersey; and arrangements for New Jersey tour of mid-West farm publications editors.

RECOMMENDATIONS TO EXTEND SERVICES

Most of the projects mentioned in the foregoing report will be continued during the coming year with adjustments to meet changes occurring in farm or market conditions.

There is immediate need for a large portable exhibit to be secured for the Department of Agriculture for use at fairs, provided funds are available. In addition, at least one small portable display unit should be purchased for use at meetings and conventions.

The increasing importance of radio indicates that this form of communication cannot be neglected. Consequently, an effort must be made to secure and utilize more radio time for Department of Agriculture projects, particularly in the field of marketing.

Consumer relations remain a problem demanding more attention. If funds and personnel are available, consideration should be given to the revival of a weekly clip sheet service for food editors.

Members of the staff of the Department of Agriculture should be encouraged to prepare and have published in farm or trade papers more articles on subject matter related to their respective projects.

Lastly, more frequent personal calls on rural editors and others interested in the activities of the Department of Agriculture are desirable. Because of the large turnover in personnel in recent years contacts also should be made and maintained with members of the staffs of the extension service, federal agencies, processors and others concerned with New Jersey agriculture and its products.

Report of the Bureau of Animal Industry

DR. R. A. HENDERSHOTT, *Chief*

First of all, I want to express my thanks to Secretary Allen and the members of the State Board of Agriculture for providing a modern set-up in the Bureau through the appointments of Dr. James W. Crouse to head the new Division of Animal Tuberculosis Control and Dr. Herbert J. Jenne to serve as chief of the new Division of Brucellosis Control. It is difficult now to believe that previously the Bureau even tried to carry on without them. Even under the present arrangement we are at times hard pressed in caring for the work. I am certain we are rendering a more complete service to farmers than was possible previously, and this should pay dividends in disease control in the future.

TUBERCULIN TESTING

During the past year the Bureau has continued its program of subjecting all cattle and goats to an annual test for tuberculosis. We continue to find more reactors throughout the State than we would like to have. Through testing, 398 new herds were declared infected and during the year 468 herds were removed from the list of infected herds.

We have a number of so-called problem herds, that is, herds where reactors are found over a period of years. Various factors are operating in these problem herds and all are being given special attention and study by department representatives in an endeavor to clear up conditions which may be responsible for their being problem herds.

A study of in-shipped cows indicated that animals exposed to or actually infected with tuberculosis were being received from Canada. In our opinion, the federal health requirements on Canadian cattle were and still are such as to provide an opportunity for affected animals to enter the United States. The situation was brought to the attention of the Federal Government whose representatives requested definite evidence that tuberculous cattle were being permitted entrance under existing laws. This evidence was provided by New Jersey, Massachusetts and Rhode Island.

A meeting of federal agents and representatives of the Health of Animals Division of Canada, and officials from the New England States, New York and New Jersey, was held in October, 1946, at St. Albans, Vermont. Presentations were made by New Jersey, Massachusetts and Rhode Island, which were the principal states to feel the necessity and urge the strengthening of inter-country health requirements.

Inquiry was also made into the method of tuberculin-testing herds, accrediting areas and the quarantine of infected herds in the operation of the tuberculosis eradication program of the Dominion of Canada. The Canadian representatives assured us of their desire to send only disease-free cattle to the United States and pointed out that American cattle dealers in collusion with people in Canada were in the main responsible for some of the conditions encountered.

One Canadian official went so far as to suggest that Canadian cattle were imported into the country, their identification tags removed and inserted into the ears of native cattle which, subsequently, New Jersey found tuberculous.

It was expected that the Committee on Tuberculosis would recommend a change in the health regulation of the United States to correct the fault. However, they were of the opinion that the wording of the present requirement was such as to prohibit the introduction of cattle from infected herds having passed one clean test or once-tested assembled lots of cattle.

In the spring of 1946, Massachusetts received a lot of cattle from Canada which admittedly were assembled cattle tested for export and shipped. This shipment occasioned a reopening and a reviewing of the whole situation at a meeting called by the Federal Government in Albany on April 22, 1947. At this meeting, the representatives of the states were asked to submit a proposed change in the U. S. B. A. I. Order 379. The proposed change provided that all cattle coming into the United States from Canada originate in tuberculosis accredited free herds or from herds of comparable health status in modified accredited free areas. It further requested that the Canadian authorities follow the procedure outlined by the 1940 Committee on Tuberculosis of the United States Livestock Sanitary Association, the same as adopted by the United States Bureau of Animal Industry.

The federal representative from Washington who is in charge of the intergovernment movement of livestock promised to take up our recommendations with officials of both countries and advise us of the decision. To date, we have had no reply or decision from Washington. It should be understood that the officials in Washington have been tremendously busy with the foot and mouth situation in Mexico as this too, is their responsibility. We should, however, have the decision before the coming meeting of the United States Livestock Sanitary Association this December.

Those interested in the problem have pledged themselves to continue to push for reform until it is obtained. In the meantime, a regulation of the State Board of Agriculture of New Jersey has limited Canadian in-shipments to those purebreds which originate in tuberculosis-free herds and areas. This ruling actually precipitated the entire intercountry health controversy and, we believe, has materially assisted us in our own tuberculosis eradication problem. The influence of this ruling will be a greater factor in the years ahead.

FOOT AND MOUTH DISEASE

During the year a possible threat to livestock health in the United States was presented by the outbreak of foot and mouth disease in Mexico. In May, 1945, the Mexican Government, in violation of the sanitary agreement between the United States and Mexico, permitted the introduction of a shipment of Brahman bulls from Brazil, a country in which foot and mouth disease was prevalent. A warning was sent to Mexican officials and an embargo placed against the importation of cloven hoof stock from that country.

In July, 1946, a conference was held between Mexican and United States officials in Los Angeles, at which time Mexico agreed to permit the United States Bureau of Animal Industry veterinarians to examine the imported bulls for health. Eighteen of this shipment of bulls had been introduced into Texas and were under quarantine. During the time of the conference it was learned that a second shipment of bulls from Brazil was en route to Mexican ports. The Mexican representatives agreed and promised that the second shipment would not be permitted entry. In September, 1946, as agreed, two federal veterinarians experienced in foot and mouth disease, visited Mexico and examined all bulls of the first shipment and declared them free of foot and mouth disease.

In the fall of 1946, the public demand for meat and the negative report of the two federal veterinarians caused the United States Government to lift the embargo and some 150,000 feeder cattle crossed the border into Texas and eventually were distributed to several western grazing States. All of these feeders originated in the northern Mexican states. Normally, 500,000 feeders are imported each fall.

On December 18, Dr. Camargo reported that foot and mouth disease had been diagnosed in cattle in Mexico. The embargo was re-established immediately and a United States government veterinarian sent to Mexico to confirm Dr. Camargo's diagnosis. It was definitely established that Dr. Camargo was correct in his diagnosis. Authorities also learned that the disease was introduced into Mexico by the landing of the second shipment of Brazilian bulls, the one under discussion at Los Angeles. Complicating the picture was a change in the official life in Mexico and the importations were permitted by those in the outgoing administration.

A meeting of chief livestock regulatory officials was held in Fort Worth on February 12, 1947, which resulted in the presentation of suggestions relative to control. Congress was asked to provide the authority for United States veterinarians to engage in the control of disease outside the limits of the country and to provide the money necessary to carry out an eradication program. When operations got under way, it was found that the disease had invaded ten states and the federal district in Mexico and the resulting quarantined area covered roughly 30,000 square miles of mountainous territory. At present, approximately 400 United States Gov-

ernment employees are working to eradicate this serious virus disease in Mexico. As long as a single case of foot and mouth disease exists in Mexico, this country is in jeopardy.

The veterinary profession in New Jersey has been alerted and should the disease make its appearance here, the Division is ready to move to prevent its spread. Since this virus may be carried upon the person of visitors and because Mexico is only 12 hours by air from New York City, it is entirely possible that this disease could make its way to any point in the United States. We are in touch with the progress of the control of this disease and should it make its appearance anywhere in the United States, would be apprised of the fact.

In view of the area affected, the terrain, weather conditions and the type of people involved in the Mexican outbreak, one can predict a long battle extending over several years before the disease can be eradicated.

NEWCASTLE DISEASE

Newcastle disease, the new virus disease of poultry reported initially in two counties of southern New Jersey, has continued to spread until distribution today is state-wide. Unfortunately, this disease was existent but misdiagnosed in a western State for a period of at least ten years before its disclosure in New Jersey. As history develops, it appears that this disease was present in turkey flocks in a midwestern State as early as five years before it was diagnosed in New Jersey. The latest report indicates that Newcastle disease has been definitely diagnosed in 41 of the 48 States and in Mexico. At present, there seems to be no practical method which could be applied to eradicate this virus disease. The entire poultry world is looking to research to develop a living virus vaccine which will produce lifetime immunity yet be incapable of causing the disease.

Up to the present time, 109 cases of the disease have been positively diagnosed in New Jersey.

BRUCELLOSIS CONTROL

The first year of calf vaccination service to New Jersey dairy farmers met with the industry's approval as evidenced by the fact that 13,381 calves, 55 heifers and 299 adults were vaccinated in 2,268 herds. The vaccination was done in 3,640 lots. It is hoped that this program will continue to expand and that farmers will grow more of their own replacements. Experience has shown that the greatest difficulty in control and eradication of brucellosis is the introduction into the herd and State of such a high percentage of adult replacements. Calf vaccination will serve in a dual capacity to assist in the control of brucella infection, first by reducing the number of adult replacements introduced into the herd and secondly by the raising of animals with increased resistance to the disease.

It is interesting to note that other states are inquiring about New Jersey's program and there is a likelihood that California will shortly inaugurate a similar one. Much interest has been shown, particularly in the use of lyophilized or dried vaccine in New Jersey.

In the administration of this vaccination program, the responsibility of the Division of Animal Industry to notify farmers when their calves are due to be vaccinated as well as to send letters at the end of six months in the event report of vaccination is not received, has proved to be cumbersome from the standpoint of office procedure and somewhat irritating to both farmers and private veterinarians. It would seem that farmers receiving this service should be depended upon to see that their calves are vaccinated at the proper time.

MASTITIS

The Division has continued to offer a diagnostic service to the dairy farmers of the State, obtainable through their local veterinarians. This service has not expanded as rapidly as we would like, due to a number of factors; the major reason is the time required for a busy practitioner to collect milk samples. Those who have made use of this free diagnostic service have expressed appreciation.

Perhaps one deterrent to expansion has been a lack of education, that is, failure to advertise the service and its value. In this connection, perhaps it is advisable to schedule a talk on the 1948 Farmers' Week program by an out-of-state speaker from either New York or Connecticut where a similar service is offered.

ANTHRAX

As in the past, livestock maintained in the former anthrax area were immunized by agents of the Division as a protection against this disease. New Jersey was very fortunate this year in not having a single case of anthrax reported among animals of the State. A total of 1,014 cattle on 54 premises and 43 horses on 20 premises were given protective doses of vaccine.

ENCEPHALOMYELITIS

During the past year, horse owners who valued their animals continued to have their local veterinarian immunize their horses against encephalomyelitis, a disease almost 100% fatal to horses.

Following is a record of the positive cases reported to this office and the number of horses reported vaccinated by private practitioners as a protection against encephalomeyelitis:

County	Horses Affected	Horses Vaccinated
Burlington	..	18
Cape May	..	63
Cumberland	..	21
Gloucester	3	..
Ocean	1	..
State	4	102

Elsewhere in the United States, this malady continued to take its toll. In Dakota and Minnesota, where the milder western strain of virus predominates, many cases and quite a few deaths from this disease have occurred among persons. Several years ago the more virulent eastern strain of virus infection was found almost exclusively east of the Alleghenies. In more recent years, the eastern strain has been found in the southern and midwestern States. Louisiana has reported both eastern and western strain isolations and it is now thought that the eastern strain is present in horses and poultry in Michigan. This is a relatively new addition to the list of diseases communicable from animal to man. It has an interesting history in the making.

Some authorities in New Jersey thought that the reservoir of infection might be some migratory bird. This was investigated with negative results. Then turkeys came under suspicion and in one or two instances immune bodies were recovered. About the same time studies of various animals were conducted in a search for the reservoir. Eventually, chickens were found to be a major source of virus. There is no evidence of disease in the chickens. However, their blood contains neutralizing bodies and living virus capable of infecting horses has been recovered from them. Mosquitoes feeding upon apparently normal, healthy chickens have subsequently served to inoculate susceptible horses. Should the disease in man become as important nation-wide as it was in Minnesota last year, health authorities may look askance at poultry in connection with this disease.

PULLORUM DISEASE

Once a very important disease principally of baby chicks, pullorum continues to give ground as the result of the sustained attack made by New Jersey poultrymen. The program of testing the blood of breeding birds for evidence of pullorum infection continues to expand each year. Poultrymen are showing an interest in the complete eradication of the disease to the point where there is an increased demand for retest of flocks in which reactions occur.

During the fall and winter of 1946-47, the test was applied to 576,789 breeders and resulted in the disclosure of 2,826 reactors, or 0.49% reaction. When one considers that only a few years ago flocks were permitted to remain in the program without retest provided the per cent of reaction was five or less whereas today our test resulted in only 0.49% reaction, great progress has been made.

The X-variant pullorum disease reported as widespread throughout Canada and said to be increasing in the flocks in the Midwest has not been found in New Jersey. Inspectors are constantly on the alert for this strain of pullorum infection.

MEETINGS DEVOTED TO DISEASE CONTROL

During the year several important meetings were attended. In August, as is customary, the director of the Division attended the American Veterinarian Medical Association Meeting and the National Assembly of Chief Livestock Sanitary Officials at Boston. At these meetings discussions were held relative to Newcastle disease and bovine tuberculosis, with particular reference to the Canadian in-ship regulations and interstate health laws. The meeting, as usual, was very instructive as subjects of interest to the livestock industry of New Jersey were discussed.

Following the change in New Jersey tuberculosis health requirements for Canadian cattle, a meeting at St. Albans, Vermont was attended by both Dr. J. W. Crouse and Dr. R. A. Hendershott. These sessions are dealt with in greater detail later in the report.

The yearly meeting of the United States Livestock Sanitary Association and as well the annual meeting of the National Assembly in Chicago, are very important to the veterinary staff. The two meetings in Chicago are usually devoted to the administration of livestock disease control programs employed by various states. Uniform plans and procedures are discussed and perfected at these conferences, then recommended to the United States Bureau of Animal Industry and usually adopted by the federal agency.

The first two days are devoted to a get-together of chief regulatory officials and their assistants which offers an opportunity to learn how plans operate in each state.

Each year, Drs. Crouse, Jenne, and Hendershott assist the Veterinary Medical Association of New Jersey in the preparation of its two meetings and as well look after the selection of speakers for the morning program which the association sponsors during Farmers' Week. They likewise take an active part in the meetings and field days of the various breed associations, the artificial insemination discussions, and the monthly meetings of the New Jersey Dairy Council. In addition, numerous conferences are held with county agents and livestock farmers throughout the State.

PERSONNEL

Some of the key veterinary positions in the Bureau of Animal Industry remain to be filled. Particularly is this true for the positions of veterinary director of the Bureau of Diagnostic Laboratory as well as a veterinary pathologist and veterinary bacteriologist. However, the Department would prefer to have these positions vacant rather than to have them filled with men of only mediocre ability.

At the present time several new schools of veterinary medicine are being established throughout the Nation. For years there have been only ten schools of veterinary medicine on the North American continent. During the past year a school was established in Illinois and now schools are starting in Indiana, Minnesota, Oklahoma, California and Georgia. Thus, six new institutions are in the field competing for instructors among the type of individuals whom the Division requires for laboratory positions. Until their needs are satisfied there is little likelihood of obtaining personnel required. This new field, open to a relatively small group of trained men, has resulted in an increase in the salary being offered to men trained in pathology, bacteriology, and laboratory diagnosis. Besides this increased demand for men of such training, another factor limiting personnel was the war, during which time few, if any, men were trained by the ten existing colleges of veterinary medicine in this line of work.

The critical situation has been recognized by the American Veterinary Medical Association—in fact, by all veterinarians in the United States. Through personal contributions, a fund of $100,000 has been raised by the profession to educate and train men with ability in the field of research and diagnosis in order to fill the demand.

It appears that a year or two must pass before there will be an ample supply from which to make a selection. We are still combing the field and contacting those available with the hope of finding the type of individual required for positions in New Jersey.

In ordinary times, the salary schedules provided by the State were sufficiently attractive to encourage acceptance by men with the proper training. However, at present, with the new schools well supplied with funds to outbid one another for the services of trained individuals, we are outclassed.

This is an unfortunate situation, because it has necessitated a reduction in services which the Division normally is in a position to render. For example, the mastitis diagnostic service, admittedly a good service for dairymen, cannot be pushed at this time because the staff is insufficient to take on additional work along this line. In fact, some of the work in institutional herds has had to suffer because of the lack of personnel.

We have called upon other members of the staff to pinch-hit when absolutely necessary in order to maintain the services that have been rendered.

The members of our laboratory staff have given freely of their time to assist during this difficult period. Their loyalty and their service are appreciated and much credit is due them for the manner, the attitude and understanding which they have exhibited during the recent years. We shall continue to look for the type of individual that is so badly needed with the hope that somewhere, even in the short supply of men, we may be fortunate in obtaining the services of a good diagnostic pathologist.

REPORT OF THE DIVISION OF ANIMAL TUBERCULOSIS CONTROL

The fiscal year July, 1946-June, 1947 began with a rather unsatisfactory over-all picture. Infected herds numbered 395, which, while a reduction from the beginning of the previous year due principally to considerable improvement in the Burlington County area, was still entirely too high from a nation-wide, comparative standpoint. However, it should be understood that in designating infected herds, New Jersey is somewhat more stringent than most other states. A reaction disclosure in a New Jersey herd causes that herd to be reported as infected, quarantined as such pending its passing from one to three clean tests depending upon the previous health status of the herd, and the autopsy findings. In many other states, the reactor must present gross lesions at the time of slaughter in order to warrant designating the herd as infected. That method of classifying reaction–disclosing herds allows a more favorable statistical picture, but is not considered applicable with safety in New Jersey under existing conditions.

During the year, as a result of routine annual tests and repeated retests of infected herds at indicated intervals, the number of infected herds was reduced from 395 at the beginning of the year to 333 at the end of the year. This, seemingly, was but a slight reduction and does not present a true picture of the activities involved in reaching the lower number of herds presently infected. During the year, 398 newly infected herds were disclosed while 460, by reason of their having passed sufficient clean tests, were removed from the infected herd list. It must be further understood that several (in fact, 94), of the newly infected herds returned to a non-infected herd status during the same year in which they were disclosed.

All of the larger counties, excepting Somerset, Morris, Hunterdon and Cumberland, showed a reduction in infected herds for the year; those counties named showed an increase. The increase in these counties and the comparatively high incidence of tuberculosis throughout the State, it is thought, can be attributed to many factors. Importations from other states and Canada unquestionably were one of the causes and made a major contribution, we feel. Then, too, field men, at times, have experienced

difficulty in employing private practitioners to conduct tests, thus causing sections in some territories to fall behind in their date schedule.

Field men continue to do some regular annual testing and retesting of part of the infected herds, but we feel that their efforts in both of these fields could and should be somewhat increased. This may not be a major, reaction-contributing cause but it certainly would present a more satisfactory picture of field testing. The men in the field, it is true, are called upon to perform many varied duties other than tuberculin testing, the extent and time of which depending somewhat upon the territory involved. However, these activities do cut in on the time they could otherwise devote to tuberculosis activities. Then, too, in many instances the cause of reaction-disclosures cannot always be determined, occurring as they do in accredited herds or herds with clean health history without warning or offering any evidence as to the cause of the disclosure.

REACTIONS DURING THE YEAR

Reactions throughout the year were largely what we have learned to expect. However, 19 breaks disclosed during the year accounted for 282 reactions, which contributed materially to the total reactions. These breaks were somewhat state-wide and occurred principally in our more intensive dairy counties as follows:

6 in Burlington County disclosing 50 reactions
1 in Camden County disclosing 23 reactions
5 in Sussex County disclosing 51 reactions
5 in Morris County disclosing 101 reactions
1 in Cumberland County disclosing 6 reactions
1 in Hunterdon County disclosing 11 reactions

It is true that some of these reaction contributions were from chronically infected or troublesome herds while other breaks occurred in accredited herds unheralded and the cause in many instances was not definitely learned.

Early in the fiscal year and in fact for quite a few years in the past, it was thought and almost definitely determined that imports from other states, and especially from Canada, were the principal causes of New Jersey's high reaction percentage. This situation was discussed among members of our Department and contacts were made with regulatory officials of other eastern states and the federal bureau in Washington. All were generally agreed that Canadian imports were a contributing factor to reactions. As a result of these discussions, a date was set for October, 1946, with federal officials for a meeting at St. Albans, Vermont. Regulatory officials from the federal bureau, Canada, most of the New England states and New Jersey were invited to look into the reaction situation in the East and especially importations from Canada, for the part they might be playing in the reaction picture. A one-day meeting was held with officials from the aforementioned states, the Federal Government and Canada.

The proceedings and results are outlined in another section of this report. Members decided that Canadian imports were a major factor. Recommendations were made to the federal representatives in attendance to tighten the regulations governing the importations of cattle from Canada.

For several months prior to this meeting, data was assembled in this office recording the source of herd additions reacting at the time of their first, second and, whenever possible, the third tests after importation into New Jersey. Upon summarizing this data together with field men's reports, the Canadian imports unquestionably were incriminated as a major contributing factor in the reaction picture in New Jersey.

EMBARGO ON CANADIAN GRADE CATTLE

As a result of these findings and the consensus of opinion expressed at the St. Albans meeting, a recommendation was made to the State Board of Agriculture, and approved by that body, placing an embargo on all grade animals coming from Canada. This embargo became effective November 1, 1946. We feel that this embargo, which is still in effect, has helped to keep reactions in the State at a lower level, although we continue to encounter reactions in animals shipped in before the embargo went into effect.

In April, 1947, another meeting of federal representatives and eastern states regulatory officials was held in Albany, New York, to discuss further the Canadian import situation and to suggest changes to be recommended to the federal authorities to bring about stricter, or at least comparable requirements for importations from Canada that exist for interstate movements. Reports of the proceedings and findings of this meeting, too, are set forth in another section of this report.

New Jersey continues to experience a high percentage of N. V. L.'s (no visible lesions) among reactors. This condition, to a degree, is to be expected; it may increase or at least not improve, the closer we approach absolute eradication. But during the year our N. V. L. percentage, we feel, was not in satisfactory proportion to the total reactions or the degree of state-wide freedom from the disease. The situation is difficult to understand and more difficult to solve. It is being experienced by disease control officials of other states with whom this office has been in contact. They, too, are concerned but have failed to find an explanation. These N. V. L.'s presenting characteristic reactions cannot be ignored or passed by. In an attempt to pick out more definitely the lesion cases, we have tried various combinations of tests. None of these attempts has proven entirely satisfactory, although it is believed that there is some improvement at the time of this writing.

We continue to experience an actual shortage of veterinarians and a dearth of applicants for positions. We are in need of one experienced senior veterinarian at this time and could well use the services of two junior veterinarians for special assignments and to receive the necessary training to fill senior vacancies as they occur.

PERSONNEL NEEDS

During the year the Division lost Dr. J. O. Wilson, who was called to military service. Dr. Wilson, after considerable training with more experienced veterinarians, was assigned as veterinarian-in-charge in Burlington County. He got along well with the cattle owners in that section and was doing a good job in scheduling and assigning tests to the local practitioners. We felt the loss of Dr. Wilson at the time but were fortunate in having a trained veterinarian in the person of Dr. Mathew Bonese, who was transferred from South Jersey to Burlington County as veterinarian-in-charge. The new arrangement has been working very satisfactorily.

During the year we employed one new veterinarian, Dr. Ralph A. Wilson, formerly associated with the State Department of Health. Dr. Wilson, having had several years previous experience, was assigned as veterinarian-in-charge of the northern Sussex County area, relieving Dr. Roney of this section.

The price of dairy cows continued high throughout the year. If we can believe the various dealers contacted, cows are scarce and, due to many adverse conditions, are difficult to locate. Grade cows of good quality have been selling in a price range of $275 to $375, depending upon breed, quality and section of the State. While these selling prices do not seem to have changed much compared with the previous year, appraisements for the fiscal year increased from an average of $320.26 to $355.65 for purebreds and from $195.27 to $222.81 for grades.

This increase in appraisals was counterbalanced by the increase in average salvage from $82.96 in the previous year to $98.42 this year for purebreds and from $82.36 to $105.05 for grades.

.During the year, five counties—Passaic, Bergen, Mercer, Sussex, Morris and Warren—qualified and were reaccredited free of tuberculosis for a two-year period. This means that as a result of a test of the entire cattle population of these counties the reactions were less than one-half of one per cent.

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

On June 30, 1947, there were 14,347 herds consisting of 202,034 head of cattle under supervision. This is a decrease of 520 herds and an increase of 685 cattle over the number recorded at the beginning of this fiscal year.

During the year initial tests were conducted on 1,617 herds of 10,334 cattle, resulting in the disclosure of 45 head or 0.44% reaction. The percentage of reaction disclosed on tests of cattle added to herds under supervision was 0.51, or of 5,478 cattle tested, 28 were declared reactors.

A total of 255,447 tuberculin tests were conducted resulting in 949 reactors or 0.37% as compared with 0.38% a year ago. Of the 949 reactors disclosed, 770 were eligible for indemnity; 77 of these were purebred and 693 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
1937-1938	18,185	199,474	253,025	1,428	0.56
1938-1939	17,725	202,001	248,094	1,417	.57
1939-1940	17,364	206,187	260,692	1,090	.42
1940-1941	16,695	208,223	270,991	1,028	.38
1941-1942	16,174	209,027	258,877	871	.34
1942-1943	15,965	212,323	235,221	580	.25
1943-1944	16,212	216,014	244,496	1,030	.42
1944-1945	15,803	208,459	232,087	3,138	1.35
1945-1946	14,867	201,349	256,183	962	.38
1946-1947	14,347	202,034	255,447	949	.37

In 1946, New Jersey imported 26,840 head of dairy cattle, of which number 4,260 were retested as herd additions, disclosing 31 reactors. In 1947, 24,822 head of dairy cattle were imported and only 5,478 were subjected to herd addition tests, resulting in 28 reactors. Importations from Canada for the year have decreased slightly from 6,024 in 1946, to 5,037 in 1947.

The amount of state indemnity paid during this fiscal year for reactors condemned increased from an average of $73.72 for the fiscal year 1945-1946 to $75.53 for 1946-1947. During the year, 24,822 dairy cattle and 4,031 steers, or a totail of 28,853 cattle, were imported, as compared with 30,811 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, 1947:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	77	$10,351.23
Grade animals	693	47,806.38
Registered and grade	770	$58,157.61

Average State Indemnity Paid Per Head:

Registered animal	$134.43
Grade animal	68.98
Registered and grade	75.53

The following summary indicates the amount of salvage received by owners for reactors resulting from the tuberculin test during the year ending June 30, 1947:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	77	$7,578.49
Grade animals	693	72,796.48
Registered and grade	770	$80,374.97

Average Salvage Received Per Head:

Registered animal	$98.42
Grade animal	105.05
Registered and grade	104.38

The following summary indicates the amount of federal indemnity paid for reactors resulting from the tuberculin test during the year ending June 30, 1947:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	76*	$3,649.48
Grade animals	694*	16,884.52
Registered and grade	770	$20,534.00

Average Federal Indemnity Paid Per Head:

Registered animal	$48.02
Grade animal	24.33
Registered and grade	26.67

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)	$159,066.58
Average amount received per head by owners for reactors	206.58

TOTAL STATE INDEMNITY PAID BY COUNTIES

July 1, 1946 to June 30, 1947

County	Indemnity
Atlantic	$62.50
Bergen	34.94
Burlington	8,816.44
Camden	1,401.71
Cape May	.....
Cumberland	1,486.25
Essex	.....
Gloucester	430.49
Hudson	.....
Hunterdon	4,352.12
Mercer	1,676.34
Middlesex	706.72
Monmouth	408.06
Morris	10,482.95
Ocean	312.61
Passaic	150.00
Salem	2,100.18
Somerset	1,023.67
Sussex	20,603.20
Union	.....
Warren	4,109.43
State	$58,157.61

* One reactor indemnified by the State as a registered animal was passed for payment by the federal office as a grade animal.

TOTAL STATE INDEMNITY PAID BY COUNTIES FROM THE BEGINNING OF ACCREDITED HERD WORK IN 1916 TO JUNE 30, 1947

County	Indemnity
Atlantic	$8,953.90
Bergen	36,303.13
Burlington	513,892.11
Camden	19,153.26
Cape May	10,904.64
Cumberland	79,149.99
Essex	40,686.29
Gloucester	65,731.89
Hudson	4,455.78
Hunterdon	363,169.55
Mercer	188,997.54
Middlesex	83,971.84
Monmouth	135,851.74
Morris	155,229.90
Ocean	34,124.08
Passaic	37,003.60
Salem	365,986.16
Somerset	225,356.48
Sussex	1,025,634.28
Union	40,867.91
Warren	386,785.87
State	$3,822,209.94

HERDS AND CATTLE UNDER STATE AND FEDERAL SUPERVISION

TUBERCULIN TESTS MADE AND REACTORS DISCLOSED

County	Herds Under Supervision	Herds Fully Accredited	Number of Cattle Under Supervision June 30, 1947 Reg.	Grades	Total	Number of Tuberculin Tests Made July 1, 1946 to June 30, 1947	Number Reactors Disclosed	Per Cent Infection
Atlantic	206	166	79	632	711	663	1	0.150
Bergen	232	185	162	1,981	2,143	2,331	1	.042
Burlington	1,072	953	1,945	20,275	22,220	29,277	162	.553
Camden	271	232	260	1,341	1,601	1,895	26	1.372
Cape May	148	121	14	569	583	589	...	....
Cumberland	953	799	642	6,086	6,728	9,832	32	.325
Essex	100	89	267	1,083	1,350	1,360	...	....
Gloucester	972	873	774	4,701	5,475	6,926	7	.101
Hudson	9	9	.....	42	42	54	...	....
Hunterdon	1,917	1,756	3,384	27,546	30,930	30,099	62	.205
Mercer	712	611	1,362	7,539	8,901	10,627	27	.254
Middlesex	846	713	1,252	5,916	7,168	10,781	17	.157
Monmouth	1,161	1,033	2,122	6,914	9,036	6,869	10	.145
Morris	843	725	2,538	9,572	12,110	14,661	136	.927
Ocean	265	228	86	1,386	1,472	1,567	5	.319
Passaic	170	136	10	2,040	2,050	2,994	3	.100
Salem	1,197	886	606	16,556	17,162	21,840	34	.155
Somerset	966	805	3,899	8,446	12,345	15,803	12	.075
Sussex	1,066	780	2,883	30,195	33,078	56,231	349	.620
Union	126	112	38	2,342	2,380	2,436	...	....
Warren	1,115	914	1,281	23,268	24,549	28,612	65	.227
State	14,347	12,128	23,604	178,430	202,034	255,447	949	0.371

INFECTED HERD RECORD

County	Number of Infected Herds in New Jersey June 30, 1947	Number of Cattle in Infected Herds June 30, 1947
Atlantic	1	2
Bergen	1	1
Burlington	43	1,760
Camden	...	...
Cape May	...	...
Cumberland	9	130
Essex	1	2
Gloucester	4	70
Hudson	...	...
Hunterdon	29	776
Mercer	16	1,069
Middlesex	9	368
Monmouth	6	201
Morris	21	1,017
Ocean	3	176
Passaic	1	45
Salem	20	868
Somerset	13	717
Sussex	108	5,059
Union	1	2
Warren	47	1,909
State	333	14,172

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

July 1, 1946 to June 30, 1947

	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.
1946															
July	33	..	58	..	..	1	..	3	..	..	192	318	1,238	..	3
August	24	..	104	..	..	3	2	61	..	..	332	272	3,630	1	2
September	37	..	118	..	1	2	15	86	..	1	209	136	2,388	2	26
October	11	..	26	..	..	2	3	35	..	..	140	219	1,047	..	3
November	16	3	82	..	..	2	..	21	..	..	112	213	1,153	2	2
December	10	..	27	..	..	..	..	1	..	..	110	780	847	..	3
1947															
January	7	..	84	..	..	..	..	12	..	..	233	288	2,983	..	10
February	9	2	23	..	1	..	..	14	..	..	116	303	2,845	3	36
March	8	24	138	..	5	3	..	23	..	..	96	520	3,014	19	15
April	13	..	37	..	..	..	..	20	..	..	135	460	2,475	1	27
May	20	1	62	..	..	4	..	40	..	..	173	603	3,558	4	56
June	12	1	44	..	..	1	..	30	..	..	208	66	2,683	1	7
Total	200	31	803	..	7	18	20	346	..	1	2,056	4,178	27,861	33	190
Percentage of Reaction				..	0.87				..	0.29				0.79	0.68
Average per cent					0.84					0.27					0.70

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

July 1, 1946 to June 30, 1947

	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.
1946															
July	3	..	17	..	..	..	..	..	..	..	9	1	232	..	..
August	2	2	9	..	..	..	..	8	..	..	48	32	516	..	5
September	9	..	42	..	..	..	..	3	..	..	23	95	370	..	..
October	..	..	..	..	..	..	..	..	..	..	38	213	387	..	..
November	4	..	53	..	..	1	..	5	..	..	41	29	298	..	..
December	21	..	212	..	..	1	1	13	..	..	76	84	1,658	..	..
1947															
January	12	..	99	..	..	1	..	19	..	..	62	44	750	..	1
February	7	50	27	..	..	..	..	18	..	..	48	41	898	..	2
March	6	1	50	..	..	..	..	75	..	..	80	226	1,094	1	1
April	5	..	39	..	..	..	..	1	..	..	85	68	1,156	..	..
May	3	7	4	..	..	..	..	2	..	..	25	18	1,768	..	4
June	1	..	7	..	..	1	2	21	..	..	88	47	725	..	..
Total	73	60	559	..	..	4	3	165	..	..	623	898	9,852	1	13
Percentage of Reaction				..	..				..	..				0.11	0.13
Average per cent					..					..					0.13

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

July 1, 1946 to June 30, 1947

	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.
1946															
July	110	6	418	..	..	14	..	75	..	1	614	717	5,849	..	6
August	59	7	242	..	1	68	11	530	..	4	528	516	5,809	..	15
September	79	41	669	..	1	30	2	234	..	2	716	1,328	14,333	3	34
October	89	36	568	..	..	47	5	284	..	1	991	1,144	10,823	1	33
November	155	80	869	..	4	41	6	451	..	1	952	1,684	18,635	10	70
December	115	22	761	..	3	56	28	501	..	5	826	2,031	14,224	19	67
1947															
January	124	23	866	..	..	86	4	697	..	2	1,166	1,593	19,285	2	36
February	67	48	451	..	3	25	13	370	..	4	833	2,382	13,190	1	44
March	107	51	1,056	1	13	38	23	571	..	5	1,014	2,072	16,301	5	105
April	132	213	1,001	..	6	36	7	469	..	1	1,641	4,819	25,239	24	77
May	124	59	655	1	1	21	18	370	..	1	1,365	3,186	15,580	2	46
June	183	26	713	..	4	50	10	265	..	..	1,269	1,991	14,115	1	38
Total	1,344	612	8,269	2	36	512	127	4,817	..	27	11,915	23,463	173,383	68	571
Percentage of Reaction				0.33	0.44				..	0.56				0.29	0.33
Average per cent					0.43					0.55					0.32

SUMMARY OF CATTLE TESTED UNDER ACCREDITED HERD PLAN

July 1, 1946 to June 30, 1947

	Registered Animals	Grade Animals	Total
INITIAL TESTS			
Tested	703	9,631	10,334
Reacted	2	43	45
Percentage of reactors 0.44			
HERD ADDITION TESTS			
Tested	150	5,328	5,478
Reacted	...	28	28
Percentage of reactors 0.51			
OTHER TESTS			
Tested	23,463	173,383	196,846
Reacted	68	571	639
Percentage of reactors 0.32			
TOTAL			
Tested			255,447
Reacted			949
Percentage of reactors			0.37
Percentage of reactors based on cattle population			0.47

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

County	July 1946 to June 1947					July 1945 to June 1946				
	Number 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	711	1	.140	663	.150	644	8	1.25	1,110	.72
Bergen	2,143	1	.046	2,331	.042	2,563	...	...	2,614	...
Burlington	22,220	162	.729	29,277	.553	21,131	257	1.28	42,680	.60
Camden	1,601	26	1.623	1,895	1.372	1,694	1	.06	1,886	.05
Cape May	583	...	...	589	...	579	1	.14	646	.15
Cumberland	6,728	32	.475	9,832	.325	6,776	13	.18	10,301	.13
Essex	1,350	...	...	1,360	...	1,578	3	.20	1,528	.20
Gloucester	5,475	7	.127	6,926	.101	5,641	15	.24	6,534	.23
Hudson	42	...	...	54	...	75	...	...	143	...
Hunterdon	30,930	62	.200	30,099	.205	29,909	50	.16	28,147	.18
Mercer	8,901	27	.303	10,627	.254	9,290	26	.26	10,450	.25
Middlesex	7,168	17	.237	10,781	.157	7,060	44	.53	9,647	.46
Monmouth	9,036	11	.121	6,869	.145	9,253	21	.20	9,913	.21
Morris	12,110	136	1.123	14,661	.927	11,729	8	.07	11,929	.07
Ocean	1,472	5	.339	1,567	.319	1,485	8	.52	2,083	.38
Passaic	2,050	3	.146	2,994	.100	2,289	27	1.05	2,519	1.07
Salem	17,162	34	.198	21,840	.155	16,774	70	.40	19,545	.36
Somerset	12,345	12	.097	15,803	.075	12,103	26	.20	13,084	.20
Sussex	33,078	349	1.055	56,231	.620	33,324	278	.83	46,534	.60
Union	2,380	...	...	2,436	...	2,726	4	.14	5,382	.07
Warren	24,545	65	.264	28,612	.227	24,726	102	.42	29,508	.35
State	202,034	949	.469	255,447	.371	201,349	962	.46	256,183	.38

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

County	July 1944 to June 1945					July 1943 to June 1944				
	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	638	...	...	613	...	605	...	...	152	...
Bergen	2,644	5	.19	1,906	.26	2,702	56	2.07	4,630	1.21
Burlington	20,039	2,442	12.19	41,616	5.87	22,790	154	.68	25,025	.62
Camden	1,648	4	.24	1,490	.27	1,731	...	...	1,912	...
Cape May	740	...	...	742	...	743	...	...	12	...
Cumberland	7,413	4	.06	5,244	.08	5,903	30	.51	6,727	.45
Essex	1,520	2	.13	2,542	.09	1,951	47	2.41	2,342	2.01
Gloucester	6,249	31	.50	5,036	.62	6,259	10	.16	6,348	.16
Hudson	102	...	...	...	...	102	...	...	...	...
Hunterdon	31,175	72	.23	28,034	.26	31,614	108	.34	30,884	.35
Mercer	9,942	37	.37	8,455	.44	10,286	21	.20	10,763	.20
Middlesex	8,304	17	.20	9,465	.18	8,469	31	.37	11,930	.26
Monmouth	10,384	46	.44	9,949	.46	10,769	51	.47	11,704	.44
Morris	12,141	77	.63	11,137	.69	12,791	80	.63	12,536	.64
Ocean	1,550	15	.97	1,455	1.03	1,533	25	1.63	1,745	1.43
Passaic	2,560	...	...	1,486	...	2,753	39	1.42	2,661	1.47
Salem	17,653	63	.36	20,104	.31	17,733	58	.33	21,202	.27
Somerset	12,894	39	.30	10,939	.36	13,481	15	.11	14,373	.10
Sussex	33,509	221	.66	43,324	.51	35,167	207	.59	46,000	.45
Union	2,897	1	.03	2,976	.03	3,138	31	.99	6,214	.50
Warren	24,453	62	.25	25,575	.22	25,494	67	.26	27,236	.25
State	208,459	3,138	1.50	232,087	1.35	216,014	1,030	.48	244,496	.42

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

County	July 1942 to June 1943					July 1941 to June 1942				
	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	573	1	.17	583	.17	545	...	...	176	...
Bergen	2,695	...	...	1,083	...	2,681	26	.97	5,068	.51
Burlington	22,833	59	.26	24,995	.24	22,419	104	.46	28,831	.36
Camden	1,728	1	.06	1,912	.05	1,797	1	.06	1,459	.07
Cape May	759	...	...	756	...	793	2	.25	861	.23
Cumberland	7,805	7	.09	7,219	.10	7,394	2	.03	6,868	.03
Essex	2,104	33	1.57	2,971	1.11	2,306	98	4.25	4,302	2.28
Gloucester	5,743	6	.10	6,464	.09	5,630	9	.16	5,940	.15
Hudson	102	...	...	102	...	103	...	...	103	...
Hunterdon	30,487	41	.13	27,524	.15	27,418	38	.14	30,482	.12
Mercer	10,098	13	.13	13,030	.10	10,325	23	.22	10,244	.22
Middlesex	8,072	21	.26	11,364	.18	7,641	41	.54	11,831	.35
Monmouth	10,294	21	.20	10,890	.19	10,148	23	.23	10,974	.21
Morris	12,475	18	.14	13,736	.13	13,142	80	.61	16,063	.50
Ocean	1,526	28	1.83	1,626	1.72	1,496	8	.53	1,977	.40
Passaic	2,612	2	.08	1,737	.12	2,648	12	.45	5,982	.20
Salem	17,822	52	.29	20,702	.25	16,589	54	.33	21,762	.25
Somerset	12,855	57	.44	14,590	.39	12,405	44	.35	13,588	.32
Sussex	34,188	136	.40	40,633	.33	35,729	242	.68	47,783	.51
Union	2,964	...	...	6,281	...	3,564	2	.06	6,913	.03
Warren	24,588	84	.34	27,023	.31	24,254	62	.26	27,670	.22
State	212,323	580	.27	235,221	.25	209,027	871	.42	258,877	.34

IMPORT CATTLE RECEIVED FROM VARIOUS STATES AND RELEASED FOR DAIRY AND BREEDING PURPOSES, 1946-1947

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Canada	757	751	898	1,162	485	76	106	63	113	272	160	194	5,037
Connecticut	11	...	...	...	2	4	1	...	2	13	...	11	44
Delaware	10	2	...	2	...	1	...	4	...	...	...	1	20
Georgia	...	...	...	...	...	...	...	1	...	...	...	...	1
Idaho	145	85	75	74	...	...	...	...	...	...	...	...	379
Illinois	2	...	...	8	3	...	8	4	20	2	7	11	65
Indiana	...	...	...	...	2	...	...	...	...	2	...	...	4
Iowa	4	1	...	...	...	...	...	...	...	4	...	...	9
Maine	2	...	2	...	...	...	...	...	...	...	...	...	4
Maryland	43	24	14	47	38	37	29	30	33	16	89	48	448
Massachusetts	...	3	5	8	4	3	...	9	1	1	...	13	47
Michigan	152	256	353	149	302	125	87	107	151	151	223	260	2,316
Minnesota	28	...	27	57	31	58	71	20	...	...	81	24	397
Mississippi	...	...	...	...	...	33	...	...	...	...	...	20	53
New Hampshire	1	...	...	...	...	...	...	...	...	...	...	2	3
New York	97	108	166	224	189	119	102	46	114	139	93	183	1,580
North Carolina	...	...	...	...	...	1	4	...	...	...	1	10	16
Ohio	103	138	57	152	68	25	38	38	25	25	78	46	793
Pennsylvania	104	98	128	87	105	88	105	49	35	62	48	83	992
Rhode Island	...	...	1	...	...	...	...	...	...	...	...	...	1
Tennessee	...	...	...	...	...	...	...	...	...	...	...	2	2
Vermont	7	38	2	15	34	...	...	...	...	...	...	4	100
Virginia	33	50	28	...	29	20	...	7	26	...	...	33	226
Wisconsin	816	1,171	1,667	1,444	1,282	849	820	591	621	559	781	824	11,425
Wyoming	...	...	22	250	318	40	22	...	...	...	...	...	652
Totals	2,315	2,725	3,445	3,679	2,892	1,479	1,393	969	1,141	1,246	1,561	1,769	24,614
Calves Under Six Months Imported	47	27	34	60	21	2	...	...	...	14	...	3	208
Total dairy and breeding cattle imported	2,362	2,752	3,479	3,739	2,913	1,481	1,393	969	1,141	1,260	1,561	1,772	24,822

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

July, 1946 to June, 1947

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Canada	45	25	33	58	18	..	..	..	..	8	..	..	187
Connecticut	1	..	..	..	..	..	..	..	..	1	..	..	2
Maine	..	..	..	..	..	1	..	..	..	..	..	..	1
Massachusetts	..	..	1	..	..	1	..	..	..	1	..	..	3
New York	..	..	..	1	..	..	..	..	..	3	..	1	5
North Carolina	..	1	..	..	..	..	..	..	..	..	..	..	1
Oregon	..	..	..	..	..	..	..	..	..	..	..	1	1
Pennsylvania	1	..	..	1	..	..	..	..	..	..	..	1	3
Vermont	..	1	..	..	..	..	..	..	..	1	..	..	2
Wisconsin	..	..	..	..	3	..	..	..	..	..	..	..	3
Total	47	27	34	60	21	2	..	..	..	14	..	3	208

FEEDER STEERS IMPORTED AND RELEASED—BY STATE OF ORIGIN

July, 1946 to June, 1947

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Totals
Idaho	149	21	126	194	...	...	...	...	...	...	...	...	490
Illinois	...	35	...	...	...	...	...	...	...	...	...	...	35
Iowa	...	...	...	...	45	...	...	...	...	...	...	...	45
Kansas	...	...	...	...	33	...	...	...	...	...	43	48	124
Lancaster stockyards	391	131	126	339	134	97	36	15	41	176	193	182	1,861
Maryland	...	...	...	...	...	4	5	...	...	...	...	...	9
Minnesota	66	...	...	87	...	190	...	74	63	...	50	...	530
Nebraska	...	...	...	...	32	...	...	...	...	...	45	...	77
Pennsylvania	...	...	...	10	17	...	...	...	...	...	...	...	27
South Dakota	43	...	...	...	...	...	...	...	...	...	...	...	43
Texas	...	...	...	...	...	...	...	...	64	...	...	...	64
Virginia	...	...	...	...	26	10	...	...	...	...	27	...	63
West Virginia	...	...	...	...	20	...	...	...	...	...	...	...	20
Wyoming	...	...	...	73	486	69	15	...	...	...	...	...	643
Total steers imported	649	187	252	703	793	370	56	89	168	176	358	230	4,031
Total dairy and breeding cattle and calves imported	2,362	2,752	3,479	3,739	2,913	1,481	1,393	969	1,141	1,260	1,561	1,772	24,822
Total dairy, breeding and feeding cattle and calves imported	3,011	2,939	3,731	4,442	3,706	1,851	1,449	1,058	1,309	1,436	1,919	2,002	28,853

RECORD OF BLOOD TESTS MADE ON INSHIPPED ANIMALS

July 1, 1946 to June 30, 1947

Origin	Number of Lots Bled	Number of Cattle Bled	Number of Reactors Resulting	Percentage of Reactors Resulting
Canada	378	5,166	86	1.66
Connecticut	12	41	1	2.44
Delaware	8	18	...	...
Idaho	11	505	25	4.95
Illinois	12	52	4	7.69
Indiana	1	2	...	...
Iowa	3	8	...	...
Maryland	66	376	3	.80
Massachusetts	10	23	...	...
Michigan	93	2,394	25	1.04
Minnesota	20	408	2	.49
Mississippi	3	48	...	...
Missouri	1	38	...	...
New York	196	1,461	42	2.87
North Carolina	5	13	...	...
Ohio	52	853	18	2.11
Pennsylvania	133	947	1	.11
Tennessee	1	30	1	3.33
Vermont	7	86	4	4.65
Virginia	20	219	3	1.37
Wisconsin	408	11,429	146	1.28
Wyoming	10	542	17	3.14
Total	1,450	24,659	378	1.53

CATTLE SHIPPED INTO NEW JERSEY DURING THE PAST FIVE YEARS*

1942-1943	1943-1944	1944-1945	1945-1946	1946-1947
29,418	26,129	27,497	30,811	28,853

CATTLE SHIPPED OUT OF THE STATE DURING THE FISCAL YEAR, 1946-1947

Month	Number of Lots From Herds Under Supervision	Number of Animals From Herds Under Supervision
July	26	156
August	19	52
September	46	146
October	49	131
November	19	85
December	35	106
January	21	47
February	25	39
March	34	103
April	37	111
May	54	178
June	22	37
Total	387	1,191

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

SUMMARY OF LIVESTOCK SOLD AT THE JERSEY CITY STOCKYARDS FOR SLAUGHTER AT POINTS THROUGHOUT THE STATE, JULY 1946-JUNE 1947

	Calves	Sheep	Cows	Bulls	Hogs	Steers	Total Livestock
1946							
July	8,107	6,283	672	514	2,508	1,686	19,770
August	5,081	5,266	697	121	589	503	12,257
September	6,833	8,645	374	83	41	663	16,639
October	9,860	16,458	1,682	310	153	3,052	31,515
November	5,095	2,906	949	67	218	969	10,204
December	4,314	2,296	1,158	83	734	741	9,326
1947							
January	4,416	632	1,525	130	765	1,023	8,491
February	3,196	415	1,062	112	801	681	6,267
March	2,708	345	1,582	174	1,014	544	6,367
April	4,101	180	1,290	230	809	441	7,051
May	4,717	3,157	1,384	239	926	526	10,949
June	10,400	9,341	1,092	229	1,037	481	22,580
Total	68,828	55,924	13,467	2,292	9,595	11,310	161,416

LIVESTOCK AUCTION SALES MARKETS

Veterinary supervision of the Harris Sales Company Auction Market, Woodstown, has been continued throughout the year. However, during the months of September and October records were not available because of a fire which destroyed the company records as well as a number of the buildings. The work completed at this market on which records were available, follows:

NUMBER OF CATTLE TUBERCULIN TESTED

Inshipped	1,602
Local	947

NUMBER OF SWINE TREATED

Single	Double	Total
13	2,161	2,174

TOTAL SALES REPORTED AT HARRIS SALES COMPANY AUCTION MARKET

July 1, 1946 to June 30, 1947

Cows	Calves	Sheep	Swine	Horses	Poultry	Steers
3,387	6,872	845	2,929	996	...	1,113

Reactors	Bulls	Lambs	Eggs
137	497	76	3,805½ dozen

DIVISION OF BRUCELLOSIS CONTROL

On July 1, 1946, the beginning of the new fiscal year, the changes in legislation concerning the brucellosis control program in this State became effective. In review, this new legislation provided for two new main features:

1. Repeal of the quarantine on reactors and suspects to the blood test for brucellosis, and
2. Official vaccination of calves at state expense with no blood testing of any animals in the herd.

With the inauguration of this program it was felt that a new Brucellosis Control Division should be organized in order to assist the Chief of the Bureau of Animal Industry in much of the administrative detail which would arise. This was done and Dr. Herbert J. Jenne was appointed as Director of this division.

Due to personnel shortages during the war years, many herds throughout the State were overdue for herd tests. Consequently, a program of rebuilding was organized and in September, Dr. Walter F. Mackey joined the staff to take over the South Jersey territory formerly manned by Dr. Jenne. At the same time, Dr. William Rothe entered the employ of the State and was assigned the arduous task of whipping the Hunterdon-Somerset-Warren County area into shape.

CHANGES IN FIELD STAFF

Dr. Sasmore, a federal veterinarian, was in charge of the Mercer-Middlesex area, but was later replaced by Dr. R. L. Alkire. Dr. George W. Breed, another federal agent, was in charge of the Sussex, Upper Warren, Morris and Passaic area. This left a wide gap in the program for lack of a man in the Monmouth-Burlington-Ocean area, but through excellent practitioner cooperation and the generous aid of the bovine tuberculosis agent in that area, the herds were brought up to date. In January, this vacancy was filled when Dr. J. R. McCoy joined the staff. Shortly after this, Dr. Rothe was recalled to active duty with the Army and the Hunterdon-Somerset area went into another slump. However, in March, we secured the services of Dr. J. H. Morris, who had formerly been a county veterinarian in charge of T. B. and Bang's work in Illinois, and assigned him to the vacancy in that area.

It can readily be appreciated that with this series of changes in personnel plus the handicap of breaking in new men and the matter of clearing up all backlogged work, it has been extremely difficult to expand the blood testing program to any great degree during this first year.

A review of the field territories indicates that a new territory should be created in Sussex and upper Warren counties and that a veterinarian be added to the staff and assigned to that area for brucellosis control work. At the present time, Dr. Breed's territory embraces too large an area for him to do much extension work and it is believed that a staff man living and working in the Sussex County area will be a key factor in getting many of the dairymen in that area of heavy cow population to enter into our program.

During the winter months an educational program was designed to acquaint dairy farmers with the facts of brucellosis control. In conjunction with E. C. Scheidenhelm and W. C. Krueger of the New Jersey Agricultural Extension Service at New Brunswick, a series of county agents' meetings were planned. "The Raising and Housing of Dairy Replacements" was the subject. This Department's portion of the subject covered the health requirements for raising calves and gave us the opportunity to emphasize calfhood vaccination and herd sanitation to groups of dairymen in Somerset, Hunterdon, Burlington, Sussex, Salem, Gloucester and Mercer counties. In addition, at a meeting in Mount Holly and at another in Hackettstown the D. H. I. A. supervisors were addressed and acquainted with the aims and ideals of the program. Since these men are in constant contact with dairymen all over the State, it seemed logical that they would be excellent salesmen for our program.

EXPANSION OF PROGRAM

There were 376 new herds comprising 4,478 cattle, signed up and initially tested during the year under the various blood-testing plans. Although the total number of herds listed under the blood-testing plans at the end of the year was 1,761, comprising 30,548 cattle, as compared to 1,592 herds of 29,069 cattle in 1945-1946, we must take into consideration that many of the herds which had not been tested during the war years were still carried on the records as being under supervision. When adequate field personnel was obtained and the lists examined carefully, the names of those who had sold out, died, or refused retests were removed from the lists. This was particularly true of the Warren County area, and this substantially affected the total numbers of herds and cattle listed as under supervision.

The calfhood vaccination phase of the brucellosis control program has experienced remarkable success during the year. At the outset of the program, on July 1, 1946, the Dairy Council Committee set as a goal 10,000 calves to be vaccinated under the program by the end of the fiscal

year. However, this number was reached in a little more than nine months. Dr. Ryland Croshaw of Columbus was credited with vaccinating the ten thousandth calf on April 26. By June 30, the end of the fiscal year, 13,381 calves had been officially vaccinated under the state plans.

CALFHOOD VACCINATION POPULAR

Early in the year Hunterdon County took the lead in the number of calves being vaccinated, and maintained this lead on through to the end of the year, when they totaled 2,261 calves vaccinated in that county in 12 months. Sussex County was second with 1,920 calves vaccinated, and Burlington County ran a close third with 1,898 calves injected with brucella abortus vaccine during the fiscal year. It is extremely gratifying to see calfhood vaccination so widely accepted by the dairymen of New Jersey, but it is felt that we should be careful not to create an overly optimistic attitude in regard to the control of the disease through the sole use of vaccine.

In all contacts with the dairy interests, we were sure to point out that calfhood vaccination should be used as an aid in conjunction with good herd sanitation in order to obtain effective results.

During the year, a brochure was designed and printed. This folder graphically portrayed a method of deciding on one of the various brucellosis control plans, depending upon existing conditions within the herd. The leaflet is mailed to every herd owner in the State at the time that tuberculosis reaccreditation notices are sent. In addition, it is planned to get the publication into the hands of all field veterinarians, county agents, D. H. I. A. supervisors, 4-H club agents, and secretaries of the various breed associations.

In a recent survey of New York State's brucellosis control program—which is almost identical with ours—it was learned that in spite of a full field force and much extension work it took officials three full years to sufficiently arouse the interest of New York dairymen to come under one of their plans. At the present time, six years after the start of their program, New York State veterinarians are signing up 800 new herds per month—about 400 under their straight calfhood vaccination plan and about 400 under blood testing plans. With this in mind, it is encouraging to note the progress made in New Jersey's program during 1946-1947, despite the serious handicap of personnel shortages during a major portion of that time.

VIOLATION OF RULES UNCOVERED

On the importation front, an interesting case came to light during the year concerning an alleged violation of the brucellosis regulations in regard to the importation of cattle. Morris Greenberg and Son, dealers in cattle at Elmer, New Jersey, were called before Secretary W. H. Allen

on two charges: (1) of removing 16 head of cattle from their barn before the load was officially released from quarantine; (2) of changing ear tags on two cows. The suspicion of a change of ear tags grew out of notice of the fact that the hole through which the tag was inserted on one of the cows was raw and dripping blood at the time that the field veterinarian went to Greenberg's farm to brand and consign to slaughter a brucellosis reactor. Retest of the blood of the two animals in question further indicated the change when the animal which had been positive a few days earlier was then negative and the other cow which had given a negative reaction on the first test was then a reactor in dilutions identical with the first reaction.

Affidavits were obtained from former owners of the cattle in Wisconsin from whom Greenberg had purchased and these statements further strengthened the case. When Morris and Harold Greenberg appeared to answer the charges they waived hearing through their attorney and accepted a $100-penalty as set forth by Secretary Allen.

SUMMARY

During the past year, 68,469 agglutination tests were conducted on the blood of cattle in New Jersey; 60,989 or 89.08% were negative; 3,099 or 4.53% were positive; and 4,381 or 6.4% were suspicious.

Indemnity amounting to $17,814.89 was paid on 203 reactors sent to slaughter, as compared with $16,349.96 paid on 209 reactors condemned in the previous year.

The number of fully accredited Bang's disease-free herds in New Jersey on June 30, 1947, was 943, as compared with 920 on June 30, 1946.

Blood tests were conducted on animals vaccinated as calves. For the fiscal year 3,845 tests have been conducted on such animals. In addition, 1,624 tests were made on goats, 16 tests of horses, 2 tests of swine and 1 test for milk whey titre.

Private practitioners have submitted 1,590 samples from herds not under supervision for the control of brucellosis and 167 tests have been conducted on animals residing out of the State.

Initial tests have been conducted on 376 herds of 4,478 cattle with 515 reactors resulting, or 11.5%.

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

JUNE 30, 1947

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	238	487	186	391	2	3	1	1	3	195	...	...	243	685	187	392	...	...
Bergen	53	108	4	25	6	63	1	49	6	80	...	...	65	251	5	74	2	93
Burlington	23	106	14	87	19	477	9	265	29	924	5	279	71	1,507	28	631	221	9,209
Camden	45	332	31	290	4	74	3	67	2	34	...	...	51	440	34	357	5	100
Cape May	151	558	124	515	1	20	1	20	...	...	...	...	152	578	125	535	...	...
Cumberland	92	423	78	295	62	912	6	109	34	757	2	119	188	2,092	86	523	25	813
Essex	6	19	5	17	1	2	...	...	2	360	...	...	9	381	5	17	1	2
Gloucester	35	357	24	325	9	211	4	91	15	343	...	...	59	911	28	416	34	869
Hudson	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hunterdon	18	49	13	39	30	579	19	516	38	1,621	6	286	86	2,249	38	841	338	10,657
Mercer	51	422	44	409	39	1,292	23	456	22	731	2	93	112	2,445	69	958	102	2,614
Middlesex	22	116	15	105	8	35	2	19	32	3,062	3	113	62	3,213	20	237	55	1,012
Monmouth	38	423	31	398	21	900	14	684	19	681	1	167	78	2,004	46	1,249	81	1,898
Morris	53	558	39	518	34	726	15	438	34	1,981	4	35	121	3,265	58	991	50	1,265
Ocean	3	39	2	38	...	...	...	...	1	68	...	...	4	107	2	38	13	278
Passaic	1	2	1	2	...	...	...	...	1	73	1	73	2	75	2	75	4	126
Salem	18	190	14	147	19	410	9	228	19	534	3	58	56	1,134	26	433	113	3,756
Somerset	77	712	67	693	69	1,327	49	1,136	45	1,548	8	348	191	3,587	124	2,177	149	3,129
Sussex	3	16	1	6	18	368	12	284	55	2,543	10	99	76	2,927	23	389	216	9,414
Union	14	72	10	62	5	45	1	25	6	68	2	8	25	185	13	95	3	9
Warren	11	65	6	34	24	356	17	273	75	2,091	1	8	110	2,512	24	315	239	7,935
State	952	5,054	709	4,396	371	7,800	186	4,661	438	17,694	48	1,686	1,761	30,548	943	10,743	1,651	53,179

The following summary indicates the amount of state indemnity paid for reactors resulting from the test for brucellosis during the year ending June 30, 1947:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	55	$7,801.64
Grade animals	148	10,013.25
Registered and grade animals	203	$17,814.89

Average State Indemnity Paid Per Head:

Registered animal	$141.85
Grade animal	67.66
Registered and grade animals	87.76

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, 1947:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	55	$5,819.24
Grade animals	148	15,964.74
Registered and grade animals	203	$21,783.98

Average Salvage Received Per Head:

Registered animal	$105.80
Grade animals	107.87
Registered and grade animals	107.31

The following summary indicates the amount of federal indemnity paid for reactors resulting from the test for brucellosis during the year ending June 30, 1947:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	55	$2,748.07
Grade animals	148	3,588.99
Registered and grade animals	203	$6,337.06

Average Federal Indemnity Paid Per Head:

Registered animals	$49.96
Grade animals	24.25
Registered and grade animals	31.22

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)	$45,935.93
Average amount received per head by owners for reactors to the test for brucellosis	$226.29

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, 1946 to June 30, 1947

County	*Number of Reactors Appraised*			*Appraised Value*			*Total Amount Paid to Owners (Salvage, State and Federal Indemnity)*			*Average Amount Paid Owners Per Head*		
	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total
tlantic	...	3	3	.....	$475.00	$475.00	.....	$453.60	$453.60	.....	$151.20	$151.20
ergen	...	3	3	.....	435.00	435.00	.....	422.39	422.39	.....	140.80	140.80
urlington	2	10	12	$650.00	2,210.00	2,860.00	$610.30	2,020.94	2,631.24	$305.15	202.09	219.27
amden	1	...	1	250.00	.....	250.00	250.00	.....	250.00	250.00	.....	250.00
ape May	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....
umberland	13	25	38	4,565.00	5,885.00	10,450.00	4,417.71	5,689.79	10,107.50	339.82	227.59	265.99
ssex	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....
loucester	1	9	10	300.00	2,150.00	2,450.00	295.44	1,955.99	2,251.43	295.44	217.33	225.14
udson	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....
unterdon	4	16	20	1,180.00	4,055.00	5,235.00	1,058.43	3,449.04	4,507.47	264.61	215.57	225.37
ercer	11	30	41	4,250.00	6,585.00	10,835.00	3,261.98	5,807.87	9,069.85	296.54	193.60	221.22
iddlesex	1	3	4	325.00	600.00	925.00	310.00	555.00	865.00	310.00	185.00	216.25
onmouth	1	1	2	295.00	150.00	445.00	292.50	150.00	442.50	292.50	150.00	221.25
orris	8	21	29	2,230.00	4,395.00	6,625.00	2,118.18	3,993.64	6,111.82	264.77	190.17	210.75
cean	..	1	1	.....	175.00	175.00	.....	175.00	175.00	.....	175.00	175.00
assaic	2	2	4	580.00	400.00	980.00	575.00	357.35	932.35	287.50	178.68	233.09
alem	6	4	10	1,935.00	760.00	2,695.00	1,788.46	719.20	2,507.66	298.08	179.80	250.77
omerset	4	8	12	1,235.00	1,735.00	2,970.00	1,115.86	1,472.30	2,588.16	278.97	184.04	215.68
ussex	1	6	7	300.00	1,365.00	1,665.00	275.09	1,129.37	1,404.46	275.09	188.23	200.64
nion	..	2	2	.....	360.00	360.00	.....	322.00	322.00	.....	161.00	161.00
Varren	..	4	4	.....	950.00	950.00	.....	893.50	893.50	.....	223.38	223.38
State	55	148	203	$18,095.00	$32,685.00	$50,780.00	$16,368.95	$29,566.98	$45,935.93	$297.62	$199.78	$226.29

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, 1946 to June 30, 1947

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	..	3	3	.....	$188.60	$188.60	.....	$193.34	$193.34	.....	$71.66	$71.66
Bergen	..	3	3	.....	162.58	162.58	.....	181.81	184.81	.....	75.00	75.00
Burlington	2	10	12	$226.55	1,128.32	1,354.87	$283.75	648.43	932.18	$100.00	244.19	344.19
Camden	1	..	1	78.00	.....	78.00	122.00	.....	122.00	50.00	.....	50.00
Cape May	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland	13	25	38	1,913.93	3,256.98	5,170.91	1,854.38	1,808.33	3,662.71	649.40	624.48	1,273.88
Essex	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gloucester	1	9	10	95.44	1,075.85	1,171.29	150.00	655.14	805.14	50.00	225.00	275.00
Hudson	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunterdon	4	16	20	333.43	1,907.82	2,241.25	525.00	1,145.27	1,670.27	200.00	395.95	595.95
Mercer	11	30	41	1,061.98	2,934.52	3,996.50	1,650.00	2,124.61	3,774.61	550.00	748.74	1,298.74
Middlesex	1	3	4	110.00	285.00	395.00	150.00	195.00	345.00	50.00	75.00	125.00
Monmouth	1	1	2	95.00	65.03	160.03	147.50	59.97	207.47	50.00	25.00	75.00
Morris	8	21	29	684.36	2,392.77	3,077.13	1,035.15	1,154.83	2,189.98	398.67	446.04	844.71
Ocean	..	1	1	.....	107.21	107.21	.....	45.20	45.20	.....	22.59	22.59
Passaic	2	2	4	186.24	183.51	369.75	288.76	124.23	412.99	100.00	49.61	149.61
Salem	6	4	10	618.36	377.22	995.58	870.10	245.88	1,115.98	300.00	96.10	396.10
Somerset	4	8	12	340.86	728.40	1,069.26	575.00	554.27	1,129.27	200.00	189.63	389.63
Sussex	1	6	7	75.09	535.43	610.52	150.00	443.94	593.94	50.00	150.00	200.00
Union	..	2	2	.....	142.00	142.00	.....	130.00	130.00	.....	50.00	50.00
Warren	..	4	4	.....	493.50	493.50	.....	300.00	300.00	.....	100.00	100.00
State	55	148	203	$5,819.24	$15,964.74	$21,783.98	$7,801.64	$10,013.25	$17,814.89	$2,748.07	$3,588.99	6,337.06

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, 1947:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	812	$59,774.94
Grade animals	2,297	84,396.31
Registered and grade	3,109	$144,171.25

Average State Indemnity Paid Per Head:

Registered animal	$73.61
Grade animal	36.74
Registered and grade	46.37

The following summary indicates the amount of salvage received by owner for reactors resulting from the test for brucellosis from December 16, 1940 to June 30, 1947:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	812	$55,112.76
Grade animals	2,297	154,495.99
Registered and grade	3,109	$209,608.75

Average Salvage Received Per Head:

Registered animals	$67.87
Grade animals	67.26
Registered and grade	67.42

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, 1947:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	806*	$32,261.30
Grade animals	2,303	46,488.53
Registered and grade	3,109	$78,749.83

Average Federal Indemnity Paid Per Head:

Registered animals	$40.03
Grade animals	20.19
Registered and grade	25.33

The following summary shows the total amount received by owners of condemned animals from December 16, 1940 to June 30, 1947:

Total amount received by owners for reactors (sum of salvage, federal and state indemnity)	$432,529.83
Average amount received per head	$139.12

* 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.

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, 1947

County	*Number of Reactors Appraised*			*Appraised Value*			*Total Amount Paid to Owners (Salvage, State and Federal Indemnity)*			*Average Amount Paid Owners Per Head*		
	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total
Atlantic	1	65	66	$185.00	$7,515.00	$7,700.00	$156.97	$6,800.59	$6,957.56	$156.97	$104.62	$105.42
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	51	83	134	9,905.00	11,995.00	21,900.00	8,495.66	10,602.38	19,098.04	166.58	127.74	142.52
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	34	127	161	7,890.00	18,325.00	26,215.00	7,384.47	17,085.93	24,470.40	217.19	134.53	151.99
Essex	...	15	15	.....	1,400.00	1,400.00	.....	1,305.92	1,305.92	.....	87.06	87.06
Gloucester	13	51	64	2,945.00	7,050.00	9,995.00	2,577.58	6,466.28	9,043.86	198.28	126.79	141.31
Hudson	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunterdon	73	88	161	15,960.00	16,220.00	32,180.00	13,480.37	13,972.87	27,453.24	184.66	158.78	170.52
Mercer	76	267	343	17,670.00	38,800.00	56,470.00	14,676.29	34,444.67	49,120.96	193.11	129.01	143.21
Middlesex	86	593	679	14,245.00	76,870.00	91,115.00	12,788.69	69,886.15	82,674.84	148.71	117.85	121.76
Monmouth	49	71	120	9,680.00	8,975.00	18,655.00	8,589.38	8,133.03	16,722.41	175.29	114.55	139.35
Morris	132	266	398	30,675.00	42,357.00	73,032.00	25,382.98	36,075.62	61,458.60	192.30	135.62	154.42
Ocean	...	3	3	.....	450.00	450.00	.....	410.50	410.50	.....	136.83	136.83
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	47	211	258	10,150.00	25,910.00	36,060.00	9,011.78	23,911.01	32,922.79	191.74	113.32	127.61
Somerset	116	212	328	25,685.00	29,790.00	55,475.00	21,483.35	25,929.85	47,413.20	185.20	122.31	144.55
Sussex	59	24	83	11,460.00	4,155.00	15,615.00	9,761.71	3,473.13	13,234.84	165.45	144.71	159.46
Union	...	8	8	.....	1,005.00	1,005.00	.....	920.15	920.15	.....	115.02	115.02
Warren	60	85	145	11,465.00	12,200.00	23,665.00	10,027.05	10,808.92	20,835.97	167.12	127.16	143.70
State	812	2,297	3,109	$171,735.00	$320,032.00	$491,767.00	$147,149.00	$285,380.83	$432,529.83	$181.22	$124.24	$139.12

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, 1947

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	65	66	$28.95	$3,423.82	$3,452.77	$78.02	$2,096.69	$2,174.71	$50.00	$1,280.08	$1,330.08
Bergen	4	6	10	264.95	382.94	647.89	323.02	249.62	572.64	186.93	118.21	305.14
Burlington	51	83	134	3,150.11	5,401.17	8,551.28	3,416.71	3,404.49	6,821.20	1,928.84	1,796.72	3,725.56
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	34	127	161	3,090.15	9,672.18	12,762.33	2,928.75	4,873.72	7,802.47	1,365.57	2,540.03	3,905.60
Essex	...	15	15	.....	846.86	846.86	.....	276.55	276.55	.....	182.51	182.51
Gloucester	13	51	64	1,179.99	3,717.88	4,897.87	929.90	1,784.10	2,714.00	467.69	964.30	1,431.99
Hudson	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hunterdon	73	88	161	5,083.29	7,464.17	12,547.46	5,539.94	4,383.76	9,923.70	2,857.14	2,124.94	4,982.08
Mercer	76	267	343	5,689.44	19,262.54	24,951.98	5,988.18	9,941.99	15,930.17	2,998.67	5,240.14	8,238.81
Middlesex	86	593	679	5,413.59	39,188.97	44,602.56	4,458.20	18,880.48	23,338.68	2,916.90	11,816.70	14,733.60
Monmouth	49	71	120	3,706.00	4,424.30	8,130.30	3,034.50	2,292.83	5,327.33	1,848.88	1,415.90	3,264.78
Morris	132	266	398	7,994.02	16,951.62	24,945.64	11,569.13	13,112.49	24,681.62	5,819.83	6,011.51	11,831.34
Ocean	...	3	3	.....	225.21	225.21	.....	123.70	123.70	.....	61.59	61.59
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	47	211	258	3,900.12	14,667.18	18,567.30	3,332.83	5,672.43	9,005.26	1,778.83	3,571.40	5,350.23
Somerset	116	212	328	7,578.01	13,419.00	20,997.01	9,110.61	8,138.94	17,249.55	4,794.73	4,371.91	9,166.64
Sussex	59	24	83	3,455.93	1,675.59	5,131.52	4,023.96	1,251.60	5,275.56	2,281.82	545.94	2,827.76
Union	...	8	8	.....	506.14	506.14	.....	270.41	270.41	.....	143.60	143.60
Warren	60	85	145	3,718.35	5,724.26	9,442.61	3,873.24	3,294.01	7,167.25	2,435.46	1,790.65	4,226.11
State	812	2,297	3,109	$55,112.76	$154,495.99	$209,608.75	$59,774.94	$84,396.31	$144,171.25	$32,261.30	$46,488.53	$78,749.83

CALFHOOD VACCINATIONS REPORTED

July 1, 1946 to June 30, 1947

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	..	..	2	3	2	..	..	..	2	16	4	19	2	..
Burlington	20	88	14	61	4	48	34	173	356	1,576	424	1,898	4	48
Camden	4	21	2	13	3	3	2	17	11	31	19	82	3	3
Cape May	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cumberland	18	87	2	9	..	..	7	25	39	130	66	251	..	..
Essex	1	9	9	29	..	..	6	47	1	1	17	86	..	..
Gloucester	7	24	4	22	..	13	11	39	55	154	77	239	..	13
Hudson	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hunterdon	53	193	14	90	5	16	50	222	634	1,756	751	2,261	5	16
Mercer	63	307	3	15	3	..	32	174	163	483	261	979	3	..
Middlesex	7	12	2	58	..	..	30	248	75	189	114	507	..	..
Monmouth	43	202	15	73	22	..	11	59	139	446	208	780	22	..
Morris	39	170	17	57	..	154	49	382	76	205	181	814	..	154
Ocean	..	..	..	..	..	..	..	..	14	37	14	37	..	..
Passaic	3	21	..	..	..	..	..	..	4	11	7	32	..	..
Salem	20	88	4	21	..	..	18	55	163	559	205	723	..	..
Somerset	83	297	24	84	2	18	41	152	214	576	362	1,109	2	18
Sussex	26	80	20	87	7	41	49	392	350	1,361	445	1,920	7	41
Union	5	10	4	3	1	6	4	5	3	4	16	22	1	6
Warren	23	65	10	40	6	..	90	313	346	1,204	469	1,622	6	..
State	415	1,674	146	665	55	299	434	2,303	2,645	8,739	3,640	13,381	55	299

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, 1946 to June 30, 1947

County	*Plan II*		*Plan 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	14	434	9	593	13	749	228	9,422	264	11,198
Camden	2	94	2	45	1	43	5	100	10	282
Cape May	...	...	...	...	...	...	...	...	...	...
Cumberland	17	547	2	56	8	360	25	813	52	1,776
Essex	...	...	1	212	1	406	1	2	3	620
Gloucester	6	269	2	185	5	208	35	872	48	1,534
Hudson	...	...	...	...	...	...	...	...	...	...
Hunterdon	21	997	7	519	23	1,135	355	10,952	406	13,603
Mercer	24	1,454	1	88	15	823	104	2,662	144	5,027
Middlesex	4	36	1	743	12	1,568	58	1,031	75	3,378
Monmouth	17	938	10	430	3	169	83	1,958	113	3,495
Morris	19	581	7	1,043	20	1,294	51	1,295	97	4,213
Ocean	...	...	...	...	...	...	13	278	13	278
Passaic	1	294	...	...	...	...	4	126	5	420
Salem	13	375	3	170	10	408	118	3,943	144	4,896
Somerset	45	1,509	13	693	17	833	150	3,131	225	6,166
Sussex	14	546	12	767	22	1,962	217	9,452	265	12,727
Union	3	59	2	31	3	74	3	9	11	173
Warren	13	328	7	308	47	2,004	246	8,132	313	10,772
State	213	8,461	81	5,989	200	12,036	1,698	54,271	2,192	80,757

* Herds and cattle in which adult vaccination is used.
† Herds and cattle in which calf vaccination is used.

GOATS

Following is a summary of the number of herds and goats 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	2	7	1	5	1	1	1	1
Bergen	31	203	10	128	29	194	11	133
Burlington	12	38	2	7	12	52	2	17
Camden	7	104	3	8	6	115	1	2
Cape May	1	6	...	...	1	6	...	...
Cumberland	4	63	4	63	3	54	1	29
Essex	9	197	6	168	10	107	5	67
Gloucester	7	38	5	31	7	28	5	23
Hudson	...	...	...	...	...	...	...	...
Hunterdon	10	54	3	17	15	59	6	44
Mercer	12	208	2	180	9	199	3	181
Middlesex	12	65	5	36	12	42	3	22
Monmouth	19	86	10	58	23	121	14	75
Morris	58	491	24	325	44	310	17	161
Ocean	1	3	...	...	3	8	...	...
Passaic	18	124	8	94	12	93	5	69
Salem	2	6	1	4	3	6	2	5
Somerset	16	351	5	227	26	351	6	293
Sussex	4	47	1	17	4	45	...	...
Union	4	17	3	9	5	12	2	3
Warren	4	39	3	27	9	45	3	26
State	233	2,147	96	1,404	234	1,848	87	1,151

RECORD OF BLOOD TESTS MADE OF GOATS UNDER SUPERVISION FOR BRUCELLOSIS CONTROL, BY COUNTIES

July 1, 1946 to June 30, 1947

County	Number of Lots Tested	Number of Goats Tested
Atlantic	...	...
Bergen	19	152
Burlington	4	13
Camden	2	96
Cape May	...	...
Cumberland	1	1
Essex	8	184
Gloucester	9	41
Hudson	...	...
Hunterdon	7	33
Mercer	14	255
Middlesex	6	22
Monmouth	17	75
Morris	14	104
Ocean	1	3
Passaic	3	26
Salem	5	13
Somerset	20	513
Sussex	5	46
Union	4	11
Warren	7	36
State	146	1,624

PHYSICAL EXAMINATIONS OF COWS CONDUCTED FOR NEW JERSEY GRADES OF MILK

Under the supervision of the Bureau of Animal Industry, 15,976 physical examinations for health were completed on cows by private veterinary practitioners during the year ending June 30, 1947. Of this number only 24 animals were condemned and 374 removed from production for treatment. The animals were maintained in 554 herds. Eighty-nine of the herds were examined for the first time this year.

Following is a summary of the examinations made during the fiscal year 1946-1947:

Month Made	Number of Herd Examinations	Number of Animals Examined	Number of Animals Condemned	Number of Animals Isolated	Number of Animals Passed
1946					
July	1	18	...	...	18
August	3	64	...	...	64
September	2	48	1	...	47
October	10	181	...	2	179
November	135	3,882	9	86	3,787
December	91	3,239	5	67	3,167
1947					
January	2	61	1	7	53
February	11	238	1	8	229
March	...	...	...	...	...
April	200	6,174	5	167	5,998
May	95	2,454	2	37	2,415
June	4	19	...	...	19
Total	554	16,378	24	374	15,976

POULTRY INSPECTION

Bureau representatives have inspected all car and truck lot shipments arriving in the metropolitan area of New Jersey. All birds deemed unfit for human consumption have been destroyed. During the fiscal year, a total of 8,756,815 birds were inspected, an estimated weight of 35,027,260 pounds. Of this number, 125,478 birds of 509,808 pounds estimated weight, were condemned.

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

Month	Number of Birds Inspected			Approximate Weight in Pounds
	Car Lot Shipments	Truck Lot Shipments	Total	
1946				
July	2,500	798,000	800,500	3,360,500
August	1,800	858,000	859,800	3,470,800
September	.....	891,000	891,000	3,595,000
October	1,909	832,000	833,909	3,403,500
November	11,000	675,000	686,000	2,411,300
December	1,606	549,000	550,606	2,325,900
1947				
January	.....	742,000	742,000	2,990,000
February	.....	512,000	512,000	2,250,000
March	.....	606,000	606,000	2,535,000
April	.....	782,000	782,000	3,230,000
May	.....	831,000	831,000	3,375,000
June	.....	662,000	662,000	2,705,000
Total	18,815	8,738,000	8,756,815	35,652,000

CARLOTS OF POULTRY RELEASED AT RAILROAD TERMINALS

July 1, 1946 to June 30, 1947

State of Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Illinois	..	1	..	..	..	..	..	..	..	..	..	..	1
Iowa	1	..	..	..	..	..	..	..	..	..	..	..	1
Indiana	..	..	..	..	..	2	..	..	..	..	..	..	2
Nebraska	..	..	..	2	3	..	..	..	..	..	..	..	5
South Dakota	..	..	..	..	2	..	..	..	..	..	..	..	2
Tennessee	..	..	..	..	2	..	..	..	..	..	..	..	2
Virginia	..	..	..	..	2	..	..	..	..	..	..	..	2
Total	1	1	..	2	9	2	..	..	..	..	..	..	15

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

July 1, 1946 to June 30, 1947

Connecticut	73	54	46	57	20	23	23	40	20	27	34	30	447
Delaware	101	109	85	77	94	80	126	55	74	83	137	99	1,120
Kentucky	..	4	..	6	10	7	5	..	2	4	..	..	38
Maine	21	33	17	9	..	2	6	5	5	9	21	6	134
Maryland	116	112	49	63	23	32	44	35	48	84	81	75	762
Massachusetts	10	10	17	11	..	16	13	27	11	31	19	19	184
New Hampshire	18	20	19	12	23	9	15	28	15	20	17	23	219
New Jersey	71	102	101	99	89	48	92	64	78	82	90	56	972
New York	91	70	107	130	74	89	66	36	63	87	64	57	934
North Carolina	17	15	27	10	8	17	10	20	23	25	27	18	217
Pennsylvania	72	65	140	116	91	68	96	58	65	81	75	64	991
Rhode Island	13	28	27	17	10	8	15	13	17	20	8	10	186
South Carolina	..	..	..	..	..	..	2	..	..	..	..	..	2
Tennessee	7	4	2	1	12	1	4	11	7	2	1	4	56
Vermont	2	4	20	12	16	25	13	14	13	17	28	10	174
Virginia	57	61	62	55	85	34	68	44	66	74	73	70	749
Total	669	691	719	675	555	459	598	450	507	646	675	541	7,185

POULTRY CONDEMNED AT POULTRY TERMINALS

July 1, 1946 to June 30, 1947

Month	Number of Birds Condemned	Approximate Weight in Pounds
1946		
July	8,212	32,848
August	9,280	37,120
September	14,800	59,200
October	11,842	47,600
November	10,544	48,840
December	9,600	38,400
1947		
January	15,000	60,000
February	10,700	42,800
March	8,200	32,800
April	12,000	48,000
May	8,900	36,600
June	6,400	25,600
Total	125,478	509,808

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

July 1, 1946 to June 30, 1947

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	23,242	139	0.60	336	...	...	23,578	139	.59
Bergen	6,181	69	1.12	581	13	2.24	6,762	82	1.21
Burlington	20,492	229	1.12	3,539	12	.34	24,031	241	1.00
Camden	2,222	...	...	342	...	...	2,564	...	...
Cape May	17,834	45	.25	5,349	1	.02	23,183	46	.20
Cumberland	126,294	337	.27	8,541	...	...	134,835	337	.25
Essex	.....	...	...	1,191	10	.84	1,191	10	.84
Gloucester	17,207	59	.34	3,924	7	.18	21,131	66	.31
Hudson	.....	...	...	.....	...	...	.....	...	...
Hunterdon	38,895	75	.19	24,945	93	.37	63,840	168	.26
Mercer	15,385	64	.42	4,017	6	.15	19,402	70	.36
Middlesex	19,737	39	.20	1,342	13	.97	21,079	52	.25
Monmouth	37,142	88	.24	39,564	309	.78	76,706	397	.52
Morris	1,146	10	.87	3,656	60	1.64	4,802	70	1.46
Ocean	62,684	304	.48	2,237	14	.63	64,921	318	.49
Passaic	7,349	13	.18	3,731	101	2.71	11,080	114	1.03
Salem	38,855	271	.70	50	...	...	38,905	271	.70
Somerset	15,024	64	.43	4,795	157	3.27	19,819	221	1.12
Sussex	7,127	9	.13	2,811	13	.46	9,938	22	.22
Union	.....	...	...	.....	...	...	.....	...	...
Warren	4,759	127	2.67	4,263	75	1.76	9,022	202	2.24
State	461,575	1,942	.42	115,214	884	.77	576,789	2,826	.49

HOGS INOCULATED AS A PROTECTION AGAINST CHOLERA INFECTION, BY COUNTIES

July 1, 1946 to June 30, 1947

(Vaccinations Made by Private Veterinarians)

County	Number of Hogs Given Double Treatment
Atlantic	...
Bergen	...
Burlington	...
Camden	...
Cape May	...
Cumberland	...
Essex	...
Gloucester	...
Hudson	...
Hunterdon	57
Mercer	...
Middlesex	33
Monmouth	...
Morris	25
Ocean	...
Passaic	...
Salem	...
Somerset	...
Sussex	...
Union	65
Warren	...
State	180

WORK DONE IN THE BUREAU LABORATORY

Following is a record of the work completed in the Bureau laboratory for the fiscal year commencing July 1, 1946 and ending June 30, 1947:

BRUCELLOSIS

Samples received	69,813
Insufficient sera	60
Samples broken	23
Tests set	69,730
Tests read	70,178
Positive	2,881
Highly suspicious	744
Slightly suspicious	3,475
Negative	63,003
Hemolyzed	66
Contaminated	9

INSHIPPED ANIMALS

Samples received	24,853
Insufficient sera	8
Samples broken	32
Tests set	24,627
Tests read	24,618
Positive	378
Negative	24,215
Hemolyzed	24
Contaminated	1

VACCINATED ANIMALS

Samples received	6,352
Insufficient sera	4
Tests set	6,348
Tests read	6,314
Positive	1,030
Highly suspicious	255
Slightly suspicious	932
Negative	4,092
Hemolyzed	2

PULLORUM DISEASE

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

MASTITIS

Number animals tested	1,504
Number samples	5,936
Streptococci	1,270
Staphylococci	384
Negative	4,282

MILK WHEY TESTS

Number of animals from which samples were examined	191
Number of samples set	756
Number of samples read	756
Positive	28
Negative	728

BACTERIOLOGICAL, MICROSCOPIC AND POST-MORTEM EXAMINATIONS

Animal	No.	Material	Condition Suspected	Findings
Avian	126	Chicks	Pullorum disease	Confirmed
Avian	201	Chicks	Pullorum disease	Negative
Avian	43	Adult birds	Pullorum disease	Confirmed
Avian	59	Adult birds	Pullorum disease	Negative
Avian	8	Poults	Pullorum disease	Confirmed
Avian	8	Poults	Pullorum disease	Negative
Avian	6	Adult birds	Fowl typhoid	Confirmed
Avian	3	Chicks	Fowl typhoid	Confirmed
Avian	2	Pullets	Cause of death	Bronchitis
Avian	7	Adult birds	Coccidiosis	Confirmed
Avian	8	Chicks	Coccidiosis	Confirmed
Avian	6	Chicks	Coccidiosis	Confirmed
Avian	4	Chicks	Cause of death	Vitamin D deficiency
Avian	2	Adult birds	Cause of death	Leukemia
Avian	2	Pullets	Cause of losses	Roundworms
Avian	1	Adult bird	Unknown	Coryza
Avian	2	Adult birds	Cause of death	Ruptured oviduct
Bovine	11	Feti	Brucella abortus	Negative
Bovine	2	Feti	Brucella abortus	Confirmed
Bovine	7	Uterine discharge	Brucella abortus	Negative
Bovine	1	Uterine discharge	Brucella abortus	Confirmed
Bovine	1	Fluid from hock joint	Brucella abortus	Negative
Bovine	11	Vials stained antigen	Routine testing	Satisfactory
Bovine	4	Uterine discharge	Actinobacillosis	Negative
Bovine	2	Lung tissue	Actinobacillosis	Negative
Bovine	1	Lung	Actinobacillosis	Confirmed
Bovine	1	Specimen from abscess	Actinobacillosis	Confirmed
Bovine	1	Pus specimen	Actinobacillosis	Confirmed
Bovine	1	Right sub-maxillary gland	Actinobacillosis	Confirmed
Bovine	1	Muscle tissue and blood clot	Anthrax	Confirmed
Bovine	2	Ears and blood samples	Anthrax	Negative

Ovine	1	Ear from goat	Anthrax	Negative
Bovine	3	Urine	Corynebacterium renale	Negative
Equine	22	Swabs	Streptococcal infection	Negative
Equine	1	Stomach contents of fetus	Abortive equinus	Negative
Equine	1	Blood sample	Abortive equinus	Confirmed
Equine	1	Blood sample from mare	Streptococcus equi	Negative
Bovine	1	Liver and kidney	Metal poisoning	Lead recovered beyond normal limits
Bovine	1	Intestine	Johne's disease	Confirmed
Bovine	3	Feti	Vibrio fetus	Negative
Equine	2	Urine	Pregnancy	Confirmed
Bovine	1	Mesenteric lymph gland	Tuberculosis	Negative
Bovine	3	Feti	Trichomonads	Negative
Porcine	2	Pigs	Hog cholera	Confirmed
Porcine	1	60-lb. pig	Unknown	Undetermined
Bovine	41	Vaginal swabs	Pathogenic bacteria	Negative
Bovine	3	Calves organs	Cause of death	Undetermined
Bovine	3	Lung tissue	Pathogenic bacteria	Negative
Cervine	1	Lung tissue	Cause of death	Undetermined
Canine	6	Feces	Parasites and ova	Ova ascarid recovered
Canine	1	Feces	Parasites and ova	Coccidia recovered
Canine	1	Feces	Parasites and ova	Whipworms found
Canine	1	Dog hair	Parasites and ova	Negative
Canine	5	Feces	Parasites and ova	Negative

BACTERIOLOGICAL, MICROSCOPIC AND POST-MORTEM EXAMINATIONS—Continued

Animal	No.	Material	Condition Suspected	Findings
Bovine	2	Feces	Parasites and ova	Coccidia present
Bovine	2	Feces	Parasites and ova	Negative
Ovine	1	Feces	Parasites and ova	Lung worms found
Bovine	1	Swabs from bull	Pathogenic bacteria	Negative
Bovine	1	Liver and kidneys	Pathogenic bacteria	Negative
Bovine	1	Pus from abscess	Pathogenic bacteria	Negative
Equine	2	Foals	Pathogenic bacteria	Hemolytic streptococcus recovered
Equine	1	Foal	Pathogenic bacteria	Negative
Bovine	20	Vaginal swabs	Pathogenic bacteria	Staphylococcus, E. Coli, and streptococcus recovered
Bovine	1	Fetus	Pathogenic bacteria	Negative
Bovine	1	Lung lesion	Pathogenic bacteria	Negative
Bovine	1	Organs of calf	Pathogenic bacteria	E. Coli, and staphylococcus recovered
Bovine	2	Organs of calf	Pathogenic bacteria	Negative
Bovine	1	Lung of calf	Pathogenic bacteria	Negative

Report of the Bureau of Markets

WARREN W. OLEY, *Chief*

Because of the fact that Congress had not enacted a new price control law by July 1, 1946, this country started the new fiscal year in what was termed a free market period. During this period, which lasted only about four weeks, considerable confusion developed in the marketing of many commodities, including farm products. Those commodities, which were produced in New Jersey and for which increased prices were obtained, were milk products, eggs, livestock and some grains. Prices for fruits and vegetables were not increased because they had been selling below former OPA price ceilings. Living costs started to climb and fruits and vegetables were practically the only commodities in the food line that did not show substantial increases in price.

On July 20, the new price control bill was signed by President Truman. OPA was far from being popular with New Jersey farmers. What success it achieved in the few months of its existence was due largely to the good judgment of Secretary Clinton P. Anderson and the new three-man Price Control Board. The new law gave the Secretary of Agriculture the power to declare whether or not a farm product was in a surplus state or whether in short supply. If not declared in short supply, a control price could not be imposed. If the commodity were declared in short supply, the Decontrol Board had the power to determine whether or not ceilings could be established. Fortunately for New Jersey farmers, no price controls were re-established on any of the State's most important crops.

RISE OF COMMODITY PRICES

As the year 1946 ended, there were many indications that the peak of price rises in most commodities had passed and that a mild form of recession had set in, but early in 1947 a resumption of commodity prices set in. Some farm products showed spectacular advances. This was true in hogs and most grains, especially wheat. There was an unevenness in agricultural prices which was a source of worry to some branches of farming. Feed prices were advanced sharply while milk prices came down.

During the winter months there was much speculation among New Jersey farmers as to prices that might be received during 1947. In general, farmers expected lower prices for all fruits and vegetables, but felt that prices for milk and poultry products might advance because of the high

cost of feed. The dairymen and poultrymen, however, were worried because they did not expect higher prices to offset the greatly increased costs of production.

In January, 1947, this country expected that business conditions would continue the boom of late 1946 for a few months longer, but that late in the spring a recession would be started. Department of Commerce reports showed that the recession had commenced in some goods such as radios, fountain pens and clothing. This recession was short-lived. At the close of the year 1947 there was a different conception of the situation and business in general seemed concerned whether inflationary forces might not be offsetting previous conditions. The coal mine wage settlement, wage settlements in the auto industry, the rise in several agricultural commodity prices, the development of foreign country demands for American goods and foods, and the good record of retail business created this effect.

POSITION OF FARMERS

Living costs in 1947 are high and food in general is higher, and farmers in general are considered by the consuming public as being very prosperous; but the general statement does not apply to New Jersey farmers. Here, we have experienced a great variation in price returns. Egg and poultry prices are high and milk prices, while not advancing much, are higher; but feed prices have advanced out of proportion to net returns. Prices for fruits and vegetables are much lower. The record of the produce auctions is indicative of this condition. Costs to this group have also gone up; but during the early part of the 1947 season (May, June and July), New Jersey produce auctions sold 2,011,128 packages of produce for $3,911,409.10, or an average of $1.94 per package. During the same period of 1946, 2,108,257 packages sold for $4,900,651.91, or at an average of $2.32 per package. The commodities are comparable and the difference in prices shows a reduction of 38 cents a package, or approximately 14% lower prices in 1947.

The Bureau of Markets has carried out the outlined activities assigned to it and naturally has devoted most of the time of personnel to these programs. In developing the work throughout the State, we have worked very closely with organized groups having a primary interest in these marketing activities. The list of these groups includes the cooperative associations operating city and shipping point markets, poultry and egg, livestock and produce auctions, and other commodity groups. The Bureau has worked closely with the Extension Service of the Agricultural College, the New Jersey Farm Bureau, the State Potato Association, New Jersey Dairymen's Council, New Jersey Milk—Official Grades Association, State Horticultural Society, State Poultry Association, and other groups, all of which realize that through a combination of effort, each in his particular field, more productive results can be accomplished.

A word of commendation should be given to the cooperative marketing associations. These groups, in particular, have given much thought toward improving the quality of New Jersey products offered to the consuming public. They have constantly stressed the need of developing a good reputation through grading and honest packing, and they realize that New Jersey faces more and more a keen competition from producing areas not so advantageously located close to a concentrated population. The endeavors of these organized groups are having effect, and it is felt that considerable progress has been made in more efficient marketing.

The following pages outline the efforts and accomplishments of the Bureau, and of those organizations with which the work is so closely united.

CROPS AND MARKETS INFORMATION SERVICE

The crops and markets information service of the Bureau of Markets is a service performed for the New Jersey producers and growers. It is based on the premise that a well-informed grower has a better opportunity to be a better marketer. The information as it applies to crops is compiled from reports on crop growing conditions in other States, primarily those that actively compete with New Jersey offerings. Drought or flood conditions, prevalence of disease or insect damage, indicated production, method of marketing, changes in the kinds of containers used in major producing sections are all information that has a direct bearing on the possibilities of marketing crops grown in New Jersey.

The market reporting part of the service on price information, as well as demand, volume of receipts, and other features determine the market's ability to take the produce. If a market is overloaded at a particular time, it is possible that a better market could be obtained if only the best produce were sent to market. If the market is bare of that commodity, it is often possible to obtain a good price for even the poor quality offerings. Successful marketing is based on the ability of the producer to obtain cost of production plus a fair markup for his efforts.

It is difficult even with all the information to determine the best marketing practices at a particular time. Many times, growers have developed a set practice over a period of years as to quality that they are going to pack; and unless an actual dollar and cents profit can be shown, it is hard to change these practices. Some groups such as the potato industry, the apple growers and peach growers, the egg producers, and the dairymen have some kind of a guiding agency that attempts to suggest changes in packaging or quality in order to meet more nearly the consumer's needs.

The crops and markets information service is working with these organizations as well as the rest of the Bureau of Markets and cooperating very closely with these phases of New Jersey agriculture. For the most part, other growers that do not have the benefit of these group committees

or associations have to rely on trial and error packing, and get the answers from the observations of the demand and the prices obtained from various qualities and packages in the auction markets. Some of the auction markets through the auction master, as well as the Bureau of Markets, and in some cases the county agents, have tried to improve the marketing of a commodity. There are other ways in which growers can receive information about prices and the demand for commodities. Primarily this is done through radio programs and through the daily newspapers. The Bureau of Markets supplements its direct mail information service by using these channels to disseminate information wherever and whenever possible. More about this will be stated in other parts of this report.

Specifically, this information service publishes and mails to interested growers and producers the *Market Conditions Report,* the *Weekly Market Review,* the *New Jersey Truck Crop News,* the *Auction News,* the *Annual Potato Summary,* and prepares information for talks to growers' groups and answers mailed inquiries for special information. Conferences and meetings are attended by the supervisor of the project when it is felt that some information can be given or obtained from the group. In addition, the supervisor assists the fruit and vegetable marketing project by making occasional inspections on fruits and vegetables grown within the state or received from other areas for sale within the State.

This, in general, comprises the work of this project. The following is a breakdown of the material disseminated during the past year.

MARKET CONDITIONS REPORTS

POTATOES

Thirty-one reports were issued on white potatoes. Information included in these reports were the general rules of Government Support Purchase Programs, where to contact purchase agents, reports on car supply, growing conditions in other states, comparisons of prices in the Philadelphia and New York markets for New Jersey offerings, as well as the comparative prices of western offerings. One report on potatoes was devoted to a comparison of the Brewster bill as it was proposed in 1945 and the suggested support program with allocation of acreages to be used in supporting the 1946 crop. Succeeding reports during the winter gave comparisons of proposed acreage for 1946 planting, prices of seed potatoes on an f. o. b. basis from Maine shipping points; and as the planting season came on in the spring, further information on crop and weather conditions in the states south of New Jersey.

As the allotments of acreage in the various states were released, these were passed on to the growers by way of the *Market Conditions Report.* Information was given on the highlights of the 1947 support program and how it would operate. The balance of the reports contained primarily crop information in competing states and market information, as it was

available weekly. It was pointed out that the New England states were late in planting, and that it was possible that they would also be late in harvesting, and that this would prolong the marketing period for the New Jersey growers.

PEACHES

Five reports were issued on peaches. These reports covered a part of the 1946 crop as to marketing and prices and part of the 1947 crop as to crop prospects and the possible competition from other states. The reason for the coverage of the two particular crops is the fact that the Bureau tries to give information on crop prospects before the season starts; in this case, the fiscal year comes about half-way during the releases on peach conditions. Reports included terminal market information, rail shipments, and comparisons of prices. As later commercial information was available, this also was included.

As the New Jersey peach growers entered their harvesting period, it seemed that there would be considerable overlapping by the southern crop, which would create a period of heavy offering with subsequent lowering of prices. Marketing of the late crop was expected to improve, due to the smaller production in the states competing with New Jersey during the last part of the season.

SWEET POTATOES

Five reports were issued on sweet potatoes, including the usual crop production and market information. New Jersey is topped by above-average yields in most states. However, the marketing season while slow was still returning prices favorable to the growers, although not at the level that was attained during the war years. It was pointed out in the reports that Louisiana is doing a marketing job with premium packs and suitable advertising. It was also pointed out that North Carolina is attempting to improve her sweet potato industry as a whole by importing suitable seed stock from Louisiana. It seems as if there might be a trend to follow Louisiana in marketing practices. For this reason, it was suggested that New Jersey possibly should adopt some similar ideas.

APPLES

Six reports were issued on apples and included comparisons of rail movement for 1945 and 1946 and the production for these years. As the production estimates were revised and became accurate, they were released in later reports. One report was devoted to prices at the Philadelphia and New York markets, pointing out the range in prices based on quality. Poor quality was discounted to such a point that it seemed hardly worthwhile to market this grade of fruit. Good quality was bringing a fairly

good price. It was also pointed out that the poor quality was taking the place in consumers' needs that could have been filled by a package of good quality and generally to the advantage of the consumer. New Jersey producers were in a slightly better position than the growers from some other sections because of their nearness to the ports where the ships to England were loaded. For this reason, New Jersey contributed very heavily to the export deal to Great Britain. Wholesale prices in the terminal markets dropped considerably in December, while the f. o b. market maintained a rather high comparative level. Part of the loss in prices in the terminal market was due to heavy offerings of ungraded apples, which had a tendency to glut the market.

ASPARAGUS

Two reports were issued on asparagus; the first report was based on an estimate of the Bureau of Agricultural Economics on the intended acreage for harvesting. The report showed that there was about 2,000 acres less in production in 1947 than in 1946. Comparisons of the early prices received for California and South Carolina asparagus were given as soon as available in the terminal markets.

ONIONS

One report was issued on onions. In the report, we stated that the acreage in the late summer crop (to be harvested after July 1) had been reduced by about 10,000 acres. This was a heavy reduction and should prevent any overloading of the terminal markets. The lateness of the planting season in the New York and New England sections would also have the effect of prolonging the active marketing season for the New Jersey crop at increased prices.

STRAWBERRIES

Three reports were issued on strawberries. The report included shipping point information from Louisiana and Tennessee, the principal berry producing sections south of New Jersey. Bad weather in some of the other states, as well as New Jersey, resulted in low yield and poor quality. In this marketing season, quality determined prices more so than at any time during the war period. Some of this was due to the fact that during the OPA period strawberries many times were tied in with sales of some other items that were less plentiful or not under control.

LETTUCE

Three reports were issued on lettuce. It was expected that the marketing of the lettuce crop in New Jersey would go well and that good prices would be obtained, which is true of much of the period. However, the

bottom dropped out of the market, and the late sales barely returned the cost of production and marketing; but sales were, in many cases, at about the same level as in 1946. However, they averaged about $1.00 lower per crate for the entire season.

TOMATOES

One report was issued on tomatoes. This report included a comparison of crop prospects in competing states and the early prices of New Jersey tomatoes with those offered from other sections. The early price was very good, but later dropped to a low level. According to the analysis of production, tomato growers this year should have received a fairly good price for their offerings. However, this premise was upset by the change in the proportion of the acreage planted and sent to fresh market and to the canneries. Many of the growers believed that as long as the canneries were attempting to contract such a large acreage the open market would be high. As the season progressed, events proved that the canneries had contracted sufficient acreage and, therefore, were not so anxious to buy on the open market. This threw quite a few tomatoes that normally would be processed into the fresh market channels, which had the effect of depressing the prices.

In all these market conditions summaries, the Bureau has attempted to keep the growers informed as to any regulations, government or otherwise, that would affect the planting or the marketing of the crop. There were less white potato reports issued this year than in former years due to the fact that practically all the crop was harvested by the middle of October with very little in storage; and, therefore, the need for reports on market conditions of white potatoes was not as important as in some other years.

OTHER PUBLISHED REPORTS

WEEKLY MARKET REVIEW

The *Weekly Market Review* was issued every Thursday. This four-page review is a digest of most of the agricultural commodities that affect New Jersey producers. Included in this report were comparisons of the prices of feeds and grains, eggs, poultry, fruits and vegetables—on the day that the report was issued, the same day the week previous, and the same week a year previous. High and low prices on eggs in the New York terminal market and at the country auction markets were given. Also included in chart form were the amount of cold-storage holdings, comparisons in chart form of the prices of fruits and vegetables at the New York and Philadelphia markets, the prices on livestock and poultry and country-dressed meats in the New York market and the auction markets, as well as a brief picture on market trends in each of the commodities included in the Review.

NEW JERSEY TRUCK CROP NEWS

The *New Jersey Truck Crop News* was issued weekly during the harvesting season and included information on the growing conditions of the crops in New Jersey, as well as crop conditions in some of the competing states. The *Truck Crop News* was issued in cooperation with the Bureau of Agricultural Economics of the United States Department of Agriculture and the Trenton office of the Weather Bureau of the United States Department of Commerce. It is mailed under the franking privilege of the USDA at no cost to this Department. The cooperating agencies help to edit the *News,* and the clerical staff of this Department cuts the stencils and does the mimeographing.

AUCTION NEWS

The *Auction News* is issued regularly during the auction market season as a promotional sheet in an effort to interest buyers in purchasing their fruit and vegetable requirements at the auctions. The expenses of mailing, paper and envelopes are borne by the cooperative produce auction markets. Approximately 900 buyers receive this sheet regularly.

ANNUAL POTATO SUMMARY

The *Annual Potato Summary* was prepared during the winter months in a manner similar to the previous years. In an effort to make the summary more valuable, comparisons of the movement of Long Island potatoes as to destinations were given with New Jersey estimates. The weather cooperated with the growers to produce the highest yielding crop on record. When planting had been completed about the middle of April, it was found that many farmers had taken advantage of the good weather, and more acres were in production than had been intended earlier, although still about 3,000 acres less than in 1945. Ample rainfall during the growing season promoted vigorous vine growth and assured sufficient soil moisture to develop tubers of good size. Excellent weather during the digging season helped the growers to harvest the second largest New Jersey crop on record by the middle of October. Some credit for the heavy production must also be given to the phenomenal insect control obtained through the use of DDT. This new material was widely used by potato growers.

The same weather conditions that helped New Jersey aided states producing earlier to harvest good-to-excellent crops. These states do not compete actively with New Jersey in marketing their crops, but heavy production in excess of consumers' immediate needs lengthens their harvest season and shortens New Jersey's marketing period. Three States provide most of the production that is marketed just prior to the New Jersey harvest: California, North Carolina and Virginia. In 1946, California growers planted double the average acreage grown in that state during the

1936-1945 period. California also increased the yield about 2½ times or by about 20,000,000 bushels. North Carolina reduced the acreage in 1946 from the ten-year average by 1,250 acres, but increased the production 1 2/3 times or about 3,000,000 bushels. Virginia planted 5,000 acres less comparing the same periods and produced about 1,500,000 bushels more than in the ten-year average. These three states provided production in excess of the average that was almost equal to the total average production of all the 11 states that comprise the late spring group.

CROP MOVEMENT

A careful analysis of the carlot movement of New Jersey potatoes discloses that only 2,796 cars of the 9,563 cars reported moved into commercial table stock channels. This is a very poor record, particularly when the 1946 crop is reported as being one of the best in quality. Of course, movement was largely restricted due to competition greater than usual from other areas which also had crops much larger than average. As government-purchased stock moved almost entirely by rail, we can safely assume that practically all 7,792 carlot equivalents moved by truck went to commercial table stock outlets, which does improve New Jersey's position in the commercial field. Although we do not have records of destinations by truck, it would seem that New Jersey did a better job of marketing in nearby areas which could be serviced by truck, as compared with markets farther away needing rail transportation. The market was unsettled during most of the deal, with certified dealers quoting prices that reflected support level purchases and uncertified dealers quoting prices below this level. This created a block through which certified dealers were unable to penetrate and get their fair percentage of the business. Market news reports are necessarily compiled daily from the reports of dealers. As most of the dealers were quoting support prices, these prices were published as the going price. However, on a volume basis, during most of the season the price was about 15 cents to 20 cents under the daily price quotations.

GOVERNMENT POTATO PURCHASES

As the United States Government was the largest single purchaser of New Jersey potatoes, some thought should be given to the various purchase programs. The first program was announced on July 17, 1946, and included two types of purchases. One program permitted purchases in bulk based on inspection and the grades determined, with no allowances for tolerances (in other words, similar to the inspections made on asparagus and tomatoes for processing). Payments were made on grade basis, with U. S. No. 1 bringing $1.85 a cwt. (hundredweight), U. S. No. 1, Size B and U. S. No. 2, 1⅞-inch minimum at the rate of $0.80 a cwt.

The other program announced on the same date permitted purchases of graded and sacked potatoes loaded in cars at the rate of $2.10 for U. S. No. 1 grade and $1.05 for U. S. No. 1, Size B.

Another announcement was issued August 7, which permitted purchases of sacked potatoes on the basis of the first announcement, or bulk-inspection basis.

When it became apparent that the Government would not be able to move all the potatoes offered at the time they were offered, the Production and Marketing Administration was authorized to purchase potatoes in temporary field storage on bulk basis, with the provision that the grower would load these potatoes in cars if the Government had an outlet for them later on. Agreements to sell had to be made before August 31, but delivery could be made later. Payment was based on $1.67 a cwt. for U. S. No. 1 grade, and $0.62 for each of the U. S. No. 1, Size B and U. S. No. 2, 1⅞-inch minimum grades, with another two cents allowed in each grade for inspection which the grower was supposed to pay at the time of the service. If and when the grower loaded these potatoes in a car, he would receive an additional 6½ cents a cwt. for sorting and loading on trucks, 7 cents for hauling, and 4½ cents for loading in cars. Altogether 1,543,019 cwt. were purchased in this manner, but they were all loaded and moved to a processor by November 15. This practically wound up the 1946 potato season.

SALES PROMOTION EFFORT

Through the New Jersey Potato Industry Committee, growers made a concerted effort to improve conditions pointed out as detrimental or inadequate for marketing the crop effectively. One aim was to have offerings inspected by the Federal-State Inspection Service and sold to the trade on the basis of the grades found. The purpose was to create better buyer relations and improve the quality of the offerings being shipped. True, the good quality of the tubers as harvested made it easier to put up a better pack, but there was also a realization by the growers that they were selling in a highly competitive market which would require a good grade.

A limited amount of advertising was done in the trade papers. The Potato Industry Committee, the New Jersey Council, and the New Jersey Department of Agriculture cooperated in sales promotion. At least, the advertising brought inquiries, many of which developed into sales.

The results of inspection this year show a definite improvement in the quality of the commercial table stock offerings as compared with the three preceding years of which we have records. Slightly over 92% of these offerings inspected were of U. S. No. 1 quality. The growers' attention to better grading was probably accentuated by the ability of the dealers to move low-grade potatoes as rapidly as they accumulated on a dealer-processor contract early in the deal.

This year, inspections were made on field-run potatoes which were offered to the Government either in bulk rail car loadings or in the field storage in bulk, while awaiting movement to the processors.

The market was generally dull throughout the entire marketing season with the exception of a slight improvement late in September after all the potatoes had been harvested and marketed to the Government. Had there been some potatoes available for marketing at this time, the growers would have received premiums above prices for potatoes marketed during the peak period.

DAILY MARKET REPORTING

Daily market reporting, as such, is not attempted in this project because it would overlap the work done by the Federal Government to a certain extent. However, the Bureau has found that there is a definite need on the part of New Jersey fruit and vegetable growers for accurate prices, particularly on the New York market. For this reason, a telephone price-reporting service during the active marketing season has been carried on successfully. Prices on the New York market of the various New Jersey commodities offered are obtained from cooperative employees in that market and relayed by phone to several points strategically located within the State, where they are made available to growers and local buyers. Much interest has been manifested in the reports by those buying and selling their products on the auction markets, as in many cases the early morning prices determine to a great extent the prices that may be expected during the day. Information of value to the white potato growers also was prepared and delivered by the supervisor over radio station WTTM, Trenton, daily between 12:15 and 12:30 p. m. This information included the f. o. b. quotations, carlot movement, destinations, amount of government purchase, and prices in nearby terminal markets with comparisons of prices of offerings from other sections.

A new service that is expected to start this summer will give information on the truck movement. Tentative plans have been set up to carry on this service from about the first of August until the early part of October, depending upon the length of the active season. As this truck reporting service depends almost entirely on the cooperation of the dealers, it is unknown at this time how successful and accurate this program may be.

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 Bureau of Markets to recognize and identify nearby produced milk of definite quality standards. 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.

ECONOMIC POSITION OF DAIRYMEN

The situation of the New Jersey dairy farmer during the fiscal year ending June 30, 1947, was somewhat better than for the previous fiscal year, but still left much to be desired. The price, except for the months of May and June, 1947, was adequate, but the over-all situation was discouraging to a stabilized market. The feed situation, bad enough to start with, became steadily worse as the year advanced. In the early winter months, the standard 18% protein dairy ration sold for the unheard of high price of $92.75 per ton, and for the entire six-month period, January to June, 1947, the price averaged better than $88 per ton, higher by far than wartime prices. These high prices for feedstuffs, particularly corn and wheat, were caused primarily by the prices paid by the United States Government buying agencies in purchasing grain for rehabilitation of the war-torn countries, and by the removal of grain thereby from the domestic supply.

Two other factors were instrumental in keeping the cost of production of milk to abnormal levels. One of these was the high cost of machinery replacements. Due to strikes in the coal and steel industries, replacements for farm machines are almost impossible to secure, and the price has doubled and in some cases tripled. The other factor is the lack of farm labor and the unreliability of the labor that is available. These two items alone have increased the cost of producing milk to such a point that the favorable margin enjoyed by producers has almost been wiped out.

On the favorable side of the picture, the wet weather and unseasonable rains have provided adequate pasture and an unsurpassed hay crop, which with an abundance of home-grown grains, will partially offset the high cost of concentrates.

Another factor on the favorable side is the continued high consumption of milk and dairy products, particularly ice cream. There was a slight falling off in fluid milk consumption in New Jersey during the year of 2.3% under the four-year average 1942-1946, but this is far less than had been anticipated.

THE PAST YEAR IN REVIEW

In reviewing the different crises in the dairy industry during the past year, it is interesting to note the many and varied problems that confronted the dairy farmer as the year progressed. For instance, July, 1946, was a month of uncertainty as to the control of prices by the OPA. All during the month, this uncertainty continued as to whether or not prices in effect on July 1 would be continued. This uncertainty prevailed through the month of August, but a bright spot appeared in the sky as it became apparent that the decontrol board set up by the Federal Government was inclined to keep prices at their prevailing levels.

The month of September saw a definite end to the OPA, and the New Jersey producers went ahead with their plans for winter production. That they were successful is shown by the fact they showed no fall in winter production of milk during the months of November and December, as they had the previous year.

In October, the increased costs started to take their toll in production and a hearing was held on which was based an increase in price to be effective November 1. One interesting phase of this increase was the fact that the Director of Milk Control finally recognized that a bottle of milk richer in butterfat than the average cost more to produce. The differential of four cents for Grade B milk and six cents for Grade A milk was increased by this order to six cents for Grade B milk and eight cents for Grade A milk.

November brought another problem on the possibility that New Jersey, or at least that part of New Jersey selling to the New York metropolitan area, would be included in the federal milk marketing order No. 27. This would be accomplished by including all milk markets in the northeastern seaboard in a single federal order. This matter would have had serious repercussions, to their detriment. Dairy interests in New Jersey were among the successful opponents of this proposition.

December brought again the threat of a shortage of milk and the Director of Milk Control advanced the price to consumers on December 21 by one cent per quart, with a corresponding price increase to the producers.

In January, came the celebrated exposé of the manipulation of butter prices by the Dairymen's League in order to maintain the price of fluid milk which, under the order, is based on a butterfat formula. This created consumer reaction which made a cut in price in New York City inevitable, but a corresponding price reduction did not reach New Jersey until March. At a hearing held during January, the need for a leveling off of production from spring to fall was very apparent. In fact, New Jersey producers, faced with a cut in the price of milk early in March, made a determined effort to stabilize the price program with a seasonal price schedule, but without avail.

The highlight of the month during February was the formation of a consumer program, sponsored by the New Jersey Milk—Official Grades Association, a cooperating organization, which later met with much success.

In March, there was the inevitable demand from a consumer source for a spring decrease in the price of milk. On March 6, the State Milk Control Director held a hearing at which an unusual picture was presented by producers, dealers and consumers testifying to the fact that there was no reason for a decrease in price at that time. The opposition was not present.

During April, there was quite an increase in the amount of milk available within the State and on April 16, Milk Control Director Foran held

a hearing, at the close of which a further reduction of one cent per quart was announced, effective May 1; this reduction in the face of evidence to show that there had not been any reduction in production costs. On the last day of April, the first of the very successful series of producer-dealer-consumer meetings was held.

During May, production of milk in New Jersey reached its high point, but the cool, wet weather necessitated the barn feeding of cows in many parts of the State, adding to the production costs and a demand that part of the reduction to the farmers be restored. Another successful producer-dealer-consumer meeting was held during the month of May.

In June, the cost of production continued high, and after a hearing held in the early part of the month, the Director of Milk Control issued an order, effective July 1, restoring one cent per quart to the consumer price and passing that amount back to the producer.

This resumé of events during the past fiscal year shows very clearly the problems the dairy farmer has faced. These problems, many of which affect his livelihood, are caused by circumstances over which he has no control, and for which there are no effective remedies.

NEW JERSEY OFFICIAL GRADES

PROJECT EXPANSION

The New Jersey official grades continued to be the principal project of the milk marketing work, and during the last six months of the year the volume of milk handled was increased greatly. Through the applications of several new dealers and the expansion of the volume of the milk handled by the dealers already cooperating, the amount of milk under supervision as at the end of the fiscal year reached the amount of 95,752 quarts daily, or an increase for that six months of 46.8%.

This large increase in the volume of work has taxed the facilities of the project to the limit to afford service to cooperating dealers. Through the loyalty of the inspection staff who work longer hours and for smaller compensation than inspectors receive for corresponding work in other departments, and through the efforts of the office force, the work has been kept up-to-date. There have been times when the work in the rush seasons has lagged far back of current inspections, but by efficient work, by cutting corners wherever possible, and by working overtime, the work at the end of the fiscal year was practically up to current affairs.

DEALER COOPERATION

The use of the New Jersey grades is elective. They are used by 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. These fees vary from 35 cents to 50

cents per thousand quarts produced daily, dependent upon volume. These fees are paid entirely by dealers and involve no fee expense to the producers of graded milk.

There were 31 dealers processing 95,752 quarts of milk daily under the New Jersey official grades at the close of the fiscal year. Of these 31 dealers, 3 sold raw milk only, 22 sold pasteurized milk only, and 6 sold both raw and pasteurized milk. The bulk of the milk was distributed as pasteurized; only a small percentage was sold as raw.

Of these 31 dealers operating under the supervision of the State Department of Agriculture, 16 are purchasing dealers, 9 are producer-dealers, and 6 both produce and purchase milk. The number of producers involved in the production of this milk is 297.

A rigid herd inspection system was introduced when the New Jersey official grades were established, which serves as a model for several other inspection agencies, both within and without the State. During the fiscal year ending June 30, 1947, there were 16,378 cattle examined, the work being supervised by the supervisor of dairy products standardization, and paid for by fees from cooperating dealers.

The accompanying table indicates the physical examination of cattle, by counties, during the fiscal year 1946-1947, and the results of the examinations.

PHYSICAL EXAMINATION OF CATTLE FOR FISCAL YEAR 1946-1947

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	47	47	..	..
Burlington	87	2,133	2,086	46	1
Essex	7	236	231	5	..
Hunterdon	143	4,165	4,080	79	6
Mercer	19	602	579	17	6
Middlesex	2	21	21	..	..
Monmouth	11	254	245	8	1
Morris	62	2,530	2,498	31	1
Salem	38	1,027	976	46	5
Somerset	154	4,256	4,131	117	8
Sussex	15	633	612	21	..
Warren	12	420	417	3	..
Ocean	1	40	39	1	..
Pennsylvania	1	14	14	..	..
Total	554	16,378	15,976	374	28

SUMMARY

Number of herds in which all animals were passed	348	or 62.82%
Number of herds in which animals were excepted	206	or 37.18%
Number of animals passed	15,976	or 97.55%
Number of animals isolated	374	or 2.28%
Number of animals condemned	28	or 0.17%

PHYSICAL EXAMINATION OF EMPLOYEES

Another requirement of the New Jersey official grades of milk is the physical examination twice each year of all employees on farms producing New Jersey Grade A raw milk and of employees of bottling plants handling the New Jersey grades of milk. This involved the physical examination of 404 individuals, and medical certificates containing the history of these examinations are on file in the Bureau of Markets. Each man taking these medical examinations was required to be examined by a physician twice during the year and pronounced by the the examining physician a safe individual to handle milk. When the individual has met these requirements, a card of identification is furnished to that effect. Laboratory examinations of specimens submitted by physicians in connection with these physical examinations were made by the New Jersey Department of Health.

Another important phase of the work of the dairy project is the microscopic analysis of samples of milk in determining causes of defect. The method employed in analyzing samples takes much of the guessing out of the routine work, and while this work is more expensive than ordinary methods of control, the results justify the expense involved. During the year, 1,773 samples were collected for analysis.

PRODUCER-DISTRIBUTOR CONFERENCES

The New Jersey Milk—Official Grades Association, composed of cooperating dealers distributing the New Jersey official grades of milk, has been very active in promoting the sale of these grades of milk. During the winter, the idea of having the producers and distributors of the New Jersey official grades meet with consumers was conceived, and during the fiscal year, three such meetings were held and the results were thought by the association to be well worth the effort and expense involved.

The first meeting was held in the Essex House, Newark, where plans were made for a series of larger meetings. The second meeting was also held in the Essex House where 40-odd representatives of various women's clubs—parent-teachers' associations, American Legion Auxiliary, New Jersey League of Women Voters, and other women's clubs—were present. A complete exposition of the aims behind the New Jersey official grades was given and a detailed explanation of producer and dealer costs was also set forth. The meeting was very well received and it was asked that another meeting be held in Bergen County, which meeting was held in June. There were approximately 60 people present and the same type of program was offered, with even better results than at the first meeting. The New Jersey Milk—Official Grades Association intends to amplify and expand its consumer program with meetings of this sort, plus some radio and some moving picture advertising during the next fiscal year.

Due to the cooperation of a member of the State Board of Health, closer relationship was achieved with the Department of Health through

their recognition of the efficient work being done in the inspection under the New Jersey official grades. Several conferences were held with the milk division of the State Department of Health, and a program worked out whereby violations picked up by that agency were brought to the attention of the Department of Agriculture before disciplinary action was taken. We had several such instances during the year, all of which were adjusted to the satisfaction of the producer, the dealer, and to the State Board of Health. Inasmuch as the member of the State Board of Health who brought about this cooperation is no longer a member of that body, we sincerely hope that this cooperation continues.

LIVESTOCK AUCTION MARKETS

Livestock auction markets in New Jersey, without exception, operated at capacity, and in many cases above capacity, during the year. The rising prices for meat and the continued disparity between the cost of production and the milk price continued to provide merchandise to the auctions beyond the normal supply. In the case of cull cows, this is good policy. In the case of calves, it will affect the milk supply for years to come as there are, admittedly, many calves going over the auction that should be raised as replacements for two years from now.

The Department of Agriculture has been successful in securing figures on the operation of six of the seven livestock auction markets operating within the State. These show that during the fiscal year 127,864 head of stock were sold with a value of $6,486,684.09, which means an increase in volume of 12.7% over the previous year and an increase of 32.9% in gross receipts over the previous year. This reveals a very healthy situation for the seller of livestock but a rather unhealthy situation, as pointed out before, for the replacement of milk cows two years hence.

Market	Number of Head	Value
Flemington	24,875	$1,038,004.13
Hackettstown	35,453	1,714,653.19
Mount Holly	3,121	105,995.82
New Egypt	9,676	678,535.55
Sussex	29,174	1,312,862.88
Woodstown	25,565	1,636,632.52
Total	127,864	$6,486,684.09

SPECIAL SERVICES

During the year, considerable time was spent with the purchasing authorities of the First Army, which includes New Jersey camps, relative to the milk supplied these camps. These conferences were held at Governors Island, the Headquarters of the First Army, and the three camps within the State; *i. e.,* For Dix, Fort Monmouth and Camp Kilmer. Through these meetings, the markets for New Jersey milk in the three camps were maintained during the year.

The supervisor of dairy products standardization served on the production and marketing committee of the New Jersey Dairymen's Council. This committee has been very active in making recommendations to the Director of Milk Control on prices and related matters. Much time has been spent collecting data, preparing briefs and attending meetings of this committee for presentation to the Milk Control Board hearings and the Production and Marketing Committee of the United States Department of Agriculture.

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

The dairy program and dairy banquet during Farmers' Week were directed by the dairy products marketing supervisor. The meetings were very successful and the dairy banquet has outgrown the only quarters available for it in Trenton. The development 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 New Jersey Milk-Official Grades Association met several times during the year, with the supervisor serving as secretary. Much time and effort has been devoted to programs of expansion and publicity as to the activities of the association.

FRUIT AND VEGETABLE MARKETING

During this year as in the past, the Bureau of Markets has worked closely with those interested in the marketing of farm products in the large and secondary terminal markets, shipping point markets and distribution to government agencies. In order to compete favorably with other producing areas, growers and shippers in New Jersey realized that sound marketing practices were necessary and the assistance to this program by the fruit and vegetable division of the Bureau has centered around two main objectives. These are, first, the establishment and development of outlet facilities such as auction markets in New Jersey and terminal markets in large adjacent cities, and in cooperative shipper-buyer relations within the State; and second, to develop a better product packed in recognized standard containers, and meeting grade standards so necessary in modern methods of food distribution.

INSPECTION AND CERTIFICATION

The program within the State which has a direct bearing upon assistance to those concerned with marketing better quality products is the project within the Bureau dealing with inspection and certification of fresh fruits and vegetables, under and in accordance with federal and/or state

standards, to be marketed in the 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 Bureau of Markets is responsible for the proper interpretation and application of grades and standards and supervision of the service. The Agricultural Society employs inspectors, collects fees for services rendered and pays salaries and expenses of the inspectors employed.

Total inspections this fiscal year far exceeded those of any previous year. This increase was due mainly to the great increase in potato inspections, which alone exceeded the total inspections made on all commodities in any previous year and were approximately 90% greater than last year's previous record on potatoes. The volume of potatoes inspected shows a still greater increase. In 1945, 1,868,164 hundredweight were inspected; in 1946, the figure had increased to 4,077,257 hundredweight.

The purpose of shipping point inspection is to furnish 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 increase the demand for New Jersey products.

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

CERTIFYING FRESH PRODUCE

APPLES

The 1946 growing season was very favorable to apple production and resulted in the production of a near normal crop. Quality was generally above average as growers experienced little difficulty in packing most varieties to meet U. S. No. 1 specifications or better. Not only was quality above normal, but apples placed in cold storage kept much better than is experienced most years. Most apples left in storage as late as June 1947, were still suitable for export in that they still met maturity stipulations in the regulations governing the U. S. Standards for Export by not having advanced further than the firm-ripe stage of maturity. Very few lots contained any decay and these to a very small degree; storage scald was negligible.

Export trade was re-opened on apples this year for the first time since it was cut short by our entrance into World War II. Early in the season, most export shipments went to Brazil or to Europe, chiefly to Sweden. Brazil has rigid quarantine laws concerning imports of apples and special

quarantine certificates were necessary in connection with the regular Export Form Certificate covering quality, condition and grade. During the greater part of October, United States-owned vessels were strike bound all along the eastern seaboard and very few apples moved through export channels during that month. Domestic markets were in good shape and prices attractive during the early months of the season, and although early in December the British Food Mission announced a purchase program under which the British Government declared its intentions to purchase apples in the United States, very few dealers or growers found it necessary to avail themselves of this program until late in the month.

Briefly, the program announced by the British Food Mission was one in which the British Government, through designated agencies in this country, agreed to purchase a specified number of bushels of apples within a given period, provided they met with specifications as to variety, size and grade as designated in the announcement. Announced prices varied according to variety, size and grade. The announcement also stipulated that the apples purchased must be inspected and certified on the basis of the U. S. Standards for Apples and must comply with all U. S. Government regulations governing the export of apples.

During the packing season a large percentage of the crop was inspected and packages stamped with New Jersey State lot numbers for identification purposes before storing. Export form certificates were issued on those lot numbers which identified lots meeting the necessary requirements.

There were 326 inspections on apples during the fiscal year. Approximately 111,000 bushels were certified for export and approximately 80,000 bushels were moved to domestic markets.

GREEN CORN

The agreement between the Cooperative Growers' Association 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 this year. This experiment was begun in 1945 and met with such success as to warrant continuation on a larger scale during this season. Corn shipped under the agreement had to be fresh picked.

Growers participating in the program did their part by starting the picking operation shortly after midnight aided by tractors with powerful headlights. Each grower would pick his allotted quota for the day and have it all packed and ready for shipment at some time between 5:00 A. M. and 9:00 A. M. Since prices received by growers were dependent upon quality packed, the Department of Agriculture assisted in the program by assigning experienced inspectors to inspect each lot and certify the quality and grade before it was loaded for shipment.

In order that the movement be not delayed, it was necessary for inspectors to be at farms from 5:00 A. M. to 8:00 A. M., and then report 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 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 were also sold on a grade basis, but were shipped distances outside of the radius included in the "field fresh" program and with no set hour of delivery. The greater part of these shipments moved between 7:00 P. M. and 10:00 P. M., thereby necessitating the inspectors assigned to this work to put in long hours.

The program has proven very satisfactory both seasons to all parties concerned. This is borne out by the increase this season, in which 26,735 packages were inspected as against 12,680 packages, last season. During heavy movement this year it was necessary to assign two inspectors to this program.

WHITE POTATOES

With approximately 3,000 less acres planted to white potatoes in 1946 than in 1945, excellent weather conditions throughout the growing and harvesting seasons combined with good production practices and insect control to help produce the largest crop ever experienced in the history of New Jersey. Quality was high and yields heavy. Digging and marketing were too rapid for the commercial markets to stand up, and early in the marketing season the price dropped below that which was fixed by the U. S. Government to support potato prices for 1946.

On July 17 two purchase announcements were released by the Government. One was the purchase of graded and sacked potatoes loaded in refrigerator cars. This announcement required growers or shippers to load cars with potatoes that were graded to conform to the U. S. Standards for U. S. No. 1; U. S. No. 1, Size B; or U. S. No. 2, 1⅞-inch minimum diameter. It was the growers' responsibility to furnish the government purchasing agency with federal-state inspection certificates showing the grade of each car inspected. Prices paid by the Government were based upon inspection results as reflected by these certificates.

GOVERNMENT PURCHASES

The other announcement was an offer to purchase potatoes loaded in bulk in box cars. Under this program, payment to growers was based upon the percentage of each grade, that is U. S. No. 1; U. S. No. 1, Size B; and U. S. No. 2, 1⅞-inch minimum, contained in the load as determined by inspection. In this inspection there were no tolerances except that loads were not acceptable by the Government when they contained an average of more than 2 per cent soft rot. Individal potatoes in samples taken during the process of loading and from various locations throughout the car were segregated into the proper grade classifications, and the percentage of each grade determined by weight. These percentages were

shown on the federal-state certificate issued on each car. The certificates were delivered to the growers concerned and the growers submitted them to the Production and Marketing Administration purchase representative in their particular area. These certificates were then passed on to the fiscal office where they served as the document upon which was determined the amount to be paid for each car of potatoes.

New Jersey was not alone in the field of over-abundant production of potatoes this year. Other producing areas likewise produced a higher yield per acre than ever before. In the northeast area this heavy production and rapid harvesting soon congested railroad sidings with loaded cars, due to the inability of the Government to find sufficient outlets to move them. Also, during this same period an unprecedented peculiarity existed throughout the wheat-producing belt in that the wheat all the way from the Texas panhandle to Nebraska ripened at about the same time. In order to save this crop, the government placed an embargo on box cars for any use except hauling wheat. Thus the supply of cars for bulk loading was cut off almost immediately after the program was begun. With loading tracks filled with refrigerator cars loaded with sacks of graded potatoes and no box cars available for bulk loads, the whole program bogged down and came to a reluctant halt.

EXTENSION OF TIME LIMIT

Growers were greatly concerned about moving their potatoes because they knew they could not delay digging and shipping if they were to move their crop by September 15, which was the closing date set by the purchase announcement.

Early in August meetings were held in which producers appealed to members of the various governmental agencies responsible for the purchase and movement of the potato crop. On August 5 a new purchase announcement was issued providing for the purchase of potatoes in temporary field storage. Under this program growers dug their potatoes and piled them in their fields according to general instructions relative to length, width and depth of piles. It was necessary for the growers to adhere pretty closely to these instructions in order that correct tabulations could be made by the inspectors who now were not only responsible for the inspection and certification of grades, but were also delegated the responsibility of determining the number of hundredweights contained in each pile of potatoes. This was done by measuring the pile, determining the cubic content in feet and dividing by the number of cubic feet in 100 pounds of potatoes (2.4). Under this program harvesting progressed very rapidly.

At the same time the purchase of potatoes graded and sacked and loaded in refrigerator cars was continued by the PMA, but such purchases were limited to the outlets procured.

INSPECTION RECORDS FOR GOVERNMENT BUYING

One might gather from this report that all of the potatoes produced in New Jersey this year were sold to the government. This is not the case, however, as records show that government purchases amounted to 35% of production. Since it was mandatory that these be inspected, it naturally reflects the tremendous increase of potato inspection work mentioned before in this report. However, an analysis of the potato inspection records shows that 4,633 cars or carlot equivalents were also inspected and shipped under commercial bills of lading. As further explanation for the increase in potato inspections, this season, it was necessary that potatoes placed in field storage be inspected twice. The first inspection was for the purpose of determining the various grades and hundredweights in each pile, which was the basis for determining price to be paid the grower. This inspection was paid for by the grower. The second inspection was a condition inspection requested and paid for by the government when the potatoes were sacked and loaded out of the piles.

Due to the inability of some large New Jersey growers to complete their harvesting by the September 15 deadline, they appealed for and were granted an extension of time. They were granted a three-day extension on the graded and sacked program, and ten days on the field storage program. It was estimated that there remained some 1,500 acres undug in the State after the extension periods closed.

On September 5, another announcement was made that the U. S. Government would further support potatoes in storages by making loans to growers or approved dealers. Applications for loans were acceptable between September 15 and December 15. Applications were to be made to the CCC office within the county in which the potatoes were stored, and it was the responsibility of the officer in charge of that office to determine by examination whether or not the applicant's storage met the specifications of the announcement before the loan could be approved. Upon approval, the county office requested that the stored potatoes be inspected to determine the percentage of acceptable grades and quantity by measurement and computation. The inspection for grades and measurements for quantity were performed by the federal-state inspectors employed by the New Jersey Agricultural Society.

TOTAL NUMBER OF INSPECTIONS

During the fiscal year the total number of inspections on potatoes amounted to 11,333. A breakdown of this figure gives a better demonstration of the whole operation. There were 4,504 cars loaded and shipped during the heavy harvesting season, including cars purchased under the Government program for graded and sacked potatoes. Also, there were at this time 336 cars loaded in bulk, all purchased under the bulk program by the Government and distributed to processors mostly for com-

mercial alcohol manufacture. These cars contained 180,865 cwts. During August and most of September, the storing in field piles was in full swing and 1,400 piles containing 1,633,453 cwts. were inspected and certified. Late in September the government started moving these out in cars, loading 500 sacks to the car. Favorable weather during September, October and November aided materially in handling, and 2,401 cars were loaded and moved to processors. All but approximately 433,000 cwts. were shipped. Of this amount some were lost through deterioration, but most was distributed locally for stock feeding after PMA representatives sprayed the rejected piles with a harmless vegetable dye to prevent resale. Under the loan program, 21 cars were shipped from December 1946, through March 1947. Inspections on truck shipments, warehouse and storage lots other than those already mentioned amounted to 2,672, including nine which were moved under the loan program. These inspections covered 795,361 cwts.

SHIPMENTS ON A GRADE BASIS

Since so much of our inspection work covered potatoes in bulk and field storages upon which percentages of the various grades were certified, it is impossible to present a table that would give an accurate account of a breakdown of the various shipments on a grade basis. However, a tabulation has been made on the basis of the number of sacks shipped under each U. S. Grade and the percentage under each grade as related to total sack movement. These figures may be found on page 27 of the 1946 *Annual Potato Summary,* but for convenience are repeated here: 1,205,208 sacks graded U. S. No. 1, Size A; 479,325 sacks graded U. S. No. 1; 94,623 sacks graded U. S. No. 1, Size B; or 92% of all potatoes inspected in sacks came under one of the above U. S. No. 1 classifications; 79,029 sacks graded U. S. Commercial, Size A; 57,228 sacks graded U. S. Commercial, or 7% of the total sacks inspected came under one of the above U. S. Commercial classifications; and 16,627 sacks were Unclassified, meaning that they failed to meet any grade specification. These amounted to 1% of the total.

The above figures not only indicate that a high quality crop was produced in 1946, but that a much better job of grading and handling was done than any previous year upon which these figures are available.

During the late winter and early spring months those of our Agricultural Society inspectors authorized to make terminal inspections under USDA letters of authorization inspected and certified 87 terminal inspections on incoming cars of white potatoes. Most of these were certified seed which the dealers distributed to New Jersey growers for planting.

SWEET POTATOES

Sweet potatoes compose one of the leading crops produced in New Jersey. Although sweet potatoes move in comparatively heavy volume from September through June, there are relatively few requests for inspections. Inspections this fiscal year totaled 41 and covered approximately 11,900 bushels as compared to about half that many last year.

CANNERY CROPS INSPECTION

ASPARAGUS

Preparations were made in April to handle the grading of the 1947 crop of asparagus for processing. These preparations consisted mainly of getting agreements properly executed which stipulated the policy, procedure and responsibilities of each of the three parties concerned, namely, the New Jersey Department of Agriculture, the New Jersey Agricultural Society and the individual processor. At this time the processors gave the state supervisor of fruit and vegetable marketing an advanced estimate of the number of federal-state inspectors and assistants necessary to meet his needs. This enabled the supervisor to estimate the personnel necessary to handle the grading service and contact the personnel supervisor in Washington, D. C., to furnish him with enough advance information (including definite reporting dates) to insure securing the necessary trained personnel to conduct the grading service.

A force of 24 licensed fruit and vegetable inspectors and nine assistants reported by the last week in April, and were employed by the New Jersey Agricultural Society to carry on the grading of asparagus under the New Jersey Standards for Green Asparagus for Processing or under canner-grower contracts. Their activities were distributed at the 14 receiving stations maintained by seven New Jersey processors engaged in packing asparagus in various forms—consisting mostly of frozen or canned spears, cuts and tips, cut spears, center cuts and soup.

EFFECT OF GROWING SEASON ON GRADES

A combination of cold and wet weather which retarded growth and a delay in reaching price agreement by processors and growers caused a start about two weeks later in the 1947 season than the year previous.

First spears of asparagus to push above ground were met with low temperatures and growth was slowed. While tips that had been slowed in this manner were practically at a standstill, others were pushing up from the roots and in turn were slowed up when they reached the top of the ground. After a couple of weeks of this cycle of pushing up and slowing down, most asparagus fields showed an abundance of spears from one to six inches above ground. The first favorable weather for good growth

came early in May and heavy cutting began in a big way almost overnight. With this sudden burst of growth the warm weather also brought forth the heaviest infestation of asparagus beetles in the history of the industry in New Jersey, according to some of the pioneer growers. Due to the generally unsettled and uncertain marketing situation, most farmers were not prepared to combat the pests and even those that were, were seriously hampered by weather conditions unfavorable to the use of rotonone dust and the kill was so negligible, that it was considered a waste of time, effort and material by those who attempted to control the insects. The result was a considerable period of heavy damage to asparagus throughout the producing areas. The quality was generally poor and grades were low. Processors declared that due to the generally poor quality of asparagus delivered, they were unable to pack any "fancy" grade during the month of May.

In June, weather conditions were good, and early in the month growers were able to successfully combat and destroy the asparagus beetles. Growth was good and quality up to a high level where it remained for the remainder of the season. The effects of the poor quality in May, however, pulled the average grades for the season considerably below the averages for the 1946 season.

Contract prices per pound based on the New Jersey Standards for this season were 8 cents for N. J. No. 1 Large and 6½ cents for N. J. No. 1 Medium. Nothing was paid for N. J. No. 1 Small. Last season the prices per pound were 12 cents for N. J. No. 1 Large; 11 cents for N. J. No. 1 Medium; 5 cents for N. J. No. 1 Small—plus half a cent per pound added to each grade for hauling.

Most asparagus delivered to processors was graded by New Jersey Agricultural Society inspectors on the basis of the New Jersey Standards for Green Asparagus for Canning or Freezing. In 1947, a total of 27,452,920 pounds were graded on this standard with an average of 31% N. J. No. 1 Large, 40% N. J. No. 1 Medium, 2% Small, 7% culls, and 20% butts, as against a total in 1946 of 36,848,345 pounds averaging 35% N. J. No. 1 Large, 39% N. J. No. 1 Medium, 2% N. J. No. 1 Small, 5% culls, and 19% butts.

A considerable tonnage of asparagus was delivered to processors in accordance with canner-grower contracts and the grading work was based on contract stipulations. Under several of these canner-grower contracts the Society inspectors graded a total of 11,734,480 pounds. Contracts varied to some degree in their stipulations, but were similar enough to combine all grading results which were as follows: 81% pay weight, 5% culls, and 14% butts.

The following tables show deliveries and average grades of asparagus for processing for the 1947 season.

ASPARAGUS RESULTS, 1947 SEASON

TABLE I

Week Ending	Loads Inspected	N. J. No. 1 Large (Per Cent)	N. J. No. 1 Medium (Per Cent)	N. J. No. 1 Small (Per Cent)	Culls (Per Cent)	Butts (Per Cent)
May 3	371	25	36	1	17	21
10	1,065	35	36	1	10	18
17	2,298	36	34	1	10	19
24	3,043	35	36	2	7	20
31	2,886	32	40	2	6	20
June 7	2,831	29	41	3	5	22
14	2,851	29	43	2	5	21
21	2,523	26	46	2	5	21
28	1,895	23	48	3	5	21
July 5	612	21	46	2	10	21
Season	20,375	31	40	2	7	20

ASPARAGUS RESULTS, 1947 SEASON

TABLE II

Week Ending	Loads Inspected	Pay Weight (Per Cent)	Culls (Per Cent)	Butts (Per Cent)
May 3	207	72	11	17
10	624	81	6	13
17	1,059	79	8	13
24	1,438	79	5	16
31	1,361	81	5	14
June 7	1,376	82	5	13
14	1,336	84	4	12
21	1,259	85	4	11
28	1,136	83	4	13
July 5	192	77	8	15
Season	9,988	81	5	14

TOMATOES

The 1946 tomato season was responsible for a wide variation of feelings on the part of producers according to the extent of damage to the individual's crop by Late Blight or the entire absence of it. Very few growers escaped entirely from the ravages of this disease, although all were warned in ample time to apply preventive measures for control.

Tomato plants were set in fields about the usual planting time under favorable weather conditions and growth was generally vigorous and rapid. In June and early July, according to field observations, the health condition of plants indicated that prospects were never better for a bumper crop of cannery tomatoes.

BLIGHT DAMAGE

Tomato-growing states to the south of New Jersey experienced a severe infestation of Late Blight which threatened to destroy 50% or more of the crop. As early as mid-July, New Jersey tomato growers were being warned by county agents and canners that blight had been found in South Jersey; and that with weather favorable to the development and spread of blight, there possibly could be serious damage resulting. Measures for control and prevention were advocated by the New Jersey Experiment Station, these being periodic spraying or dusting with solutions or dusts containing copper. It was generally known that the most effective control of the disease was a period of from seven to ten days and nights of continuous hot and dry weather. It being the season when New Jersey usually experiences such weather, farmers generally were inclined to let nature take care of the blight situation. Unfortunately, nature refused to lend a controlling hand to the growers but decided in favor of the blight, and New Jersey experienced one of the coolest and dampest summers on record with consequences that were appalling in some sections. Blight developed and spread rapidly during the latter part of August and early September, and various sources of information estimate that from one-third to one-half of the crop was a total loss. It is known that in some fields no tomatoes were harvested while in others, where control recommendations were practiced, normal crops were harvested.

AVERAGE GRADES FOR SEASON

Although considerable loss in tonnage resulted from blight, the average grades for the season for tomatoes delivered on official U. S. Standards were slightly better than a year ago. Several reasons might be advanced to show why this was true. Bureau figures are based on a weighted average and a careful analysis of week-to-week deliveries, and grades revealed that 75% of the season's total tonnage was delivered by the end of August. The peak delivery week was that of August 19 through 24, in which 31,362 tons were delivered to all processors with average grades of 70% U. S. No. 1, 28% U. S. No. 2 and 2% culls. The effects of Late Blight were being felt in some areas prior to and during this time, but really became serious during the last week in August and increased in spread and intensity of infection as the season advanced into September. Areas in Central and North Jersey and Pennsylvania, particularly heavy soil districts, seemed to be affected worse toward the end of the season than did South Jersey areas where blight was first detected in the New Jersey fields. Through the efforts of the field men employed by canners and by the New Jersey-Pennsylvania Tomato Growers' Association, Inc., growers were urged to leave badly affected tomatoes in the fields and pick only those which were only slightly infected or not infected at all. Growers were cooperative in this respect, thereby keeping the quality at a higher level than

the general condition of fields reflected. The federal-state inspectors employed by the New Jersey Agricultural Society were also very helpful in giving advice to growers as to the best method of picking tomatoes to obtain the highest grades possible.

This season's average grades were 65% U. S. No. 1, 33% U. S. No. 2 and 2% culls as compared to last year's averages of 64% U. S. No. 1, 33% U. S. No. 2 and 3% culls. Tonnage inspected this year was 107,737 tons as compared to 73,549 tons in 1945.

The following table shows the record of receipts and grades by weeks at the canneries using grading service. The last half of the table compares the 1946 season with the ten preceding years:

SUMMARY 1946 CANNERY TOMATO SEASON AND COMPARISONS WITH FORMER YEARS

Week Ending	Total Tons	U. S. No. 1 (Per Cent)	U. S. No. 2 (Per Cent)	Culls (Per Cent)
July 27	131	70	28	2
Aug. 3	649	64	35	1
10	7,029	57	41	2
17	11,951	68	30	2
24	31,362	70	28	2
31	28,945	65	32	3
Sept. 7	14,021	61	36	3
14	6,739	59	38	3
21	4,455	60	37	3
28	1,764	62	35	3
Oct. 4	691	57	37	6
Season, 1946	107,737	65	33	2

Seasons	Total Tons	U. S. No. 1 (Per Cent)	U. S. No. 2 (Per Cent)	Culls (Per Cent)
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
1936	183,027	64	33	3

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 Agricultural Society inspectors were called on to certify carlots or less than carlot shipments on storage lots of such products as fresh asparagus for market, snap beans, beets, cabbage, carrots, celery, corn, cucumbers, eggplant, lettuce, parsnips, onions, peaches, sweet peppers, rutabagas, spinach, squash, turnips, and mixed vegetable lots. In addition to the above products which were certified, many products were inspected by Bureau representatives 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

	37-38	38-39	39-40	40-41	41-42	42-43	43-44	44-45	45-46	46-47
Apples	391	579	672*	611	100	609†	151	408	47	349
Asparagus	..	..	..	..	..	..	..	16	6	44
Beans	3	1	1	..	..	7	2	3	1	..
Beets	..	..	..	..	1	3	6	3	17	..
Cabbage	..	..	..	..	1	1	3	22	14	4
Carrots	..	..	..	..	..	3	16	4	3	2
Celery	..	..	..	..	..	..	..	1	2	6
Corn	..	..	..	..	3	..	..	1	51	82
Cucumbers	..	..	..	..	..	..	6	8	3	1
Eggplant	..	..	..	..	1	..	1	12	3	..
Lemons	..	..	..	..	..	..	..	..	..	1
Lettuce	..	..	..	..	..	1	..	20	2	4
Mixed vegetables	..	..	..	..	..	4	9	77	65	31
Onions	61	9	3	8	1	2	..	3	26	10
Parsnips	..	..	..	..	..	..	..	11	7	..
Peaches	..	..	49	26	1	1	1	3	7	3
Pears	1	2	..	..	..	..	..	..	..	..
Peppers	..	..	..	..	..	..	17	52	50	12
Potatoes	5,180	1,972	397	2,264	1,328	2,941	5,206	2,827	5,994	11,333
Radishes	..	..	..	..	..	..	..	1	..	..
Rhubarb	..	..	..	..	..	..	..	..	2	..
Rutabagas	..	..	..	..	..	..	..	..	2	..
Spinach	..	1	6	3	8	30	1	13	17	..
Squash	..	..	..	..	..	..	..	7	1	..
Sweet potatoes	45	..	62	9	29	19	47	178	20	41
Turnips	..	..	..	..	..	..	1	2	21	15
Totals	5,681	2,564	1,190	2,921	1,473	3,621	5,467	3,672	6,361	11,938

MARKET ACTIVITIES

During the year the Bureau has carried on the same general activities with associations and city officials operating city and shipping point markets. The work with farmer associations is more productive of results because there is a greater interest in market programs where the farmers themselves conduct the markets. New Jersey is unique among all the states in that in this State, farmers own and operate the larger city markets and all of the country or shipping point markets. In many states, markets are owned and operated by the state: in others, cities control the markets. In some states, markets are developed and operated by a market authority set up by state legislature and financed by bond issues underwritten by the state. In those types, control is largely by state authority.

In New Jersey, most markets are organized as cooperative associations. These associations comply with the New Jersey law regulating cooperatives and also meet the requirements of the federal Capper-Volstead Act which is an act defining farmers' cooperative associations. Because of the

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

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

nature of the business conducted, New Jersey's marketing cooperatives have been singularly free from criticism from groups antagonistic to certain provisions in federal laws granting special privileges to cooperatives. This largely has to do with income tax exemptions which are the excuse for attacks against the cooperative movement, although tough competition is probably the actual motive for complaint.

Our heaviest activity has naturally been with these farmer-organized groups, although it has not been limited to these people. Last year we reported the reorganization of the New Jersey State Potato Association and the organization of a Potato Industry Committee of that association. The Industry Committee met together semi-monthly over most of the year and planned for many improvements in the potato marketing field. Through their efforts, modifications were made in the purchase programs of the Federal Government which increased by many thousands of dollars the payments made to New Jersey growers under the price support program. The committee, cooperating with the New Jersey Council and this Department, carried on a publicity campaign aimed at increasing commercial sales for potato shippers. It is felt that much good was accomplished. The Bureau worked closely with the committee and was represented in an advisory capacity at all of its meetings.

SHIPPING POINT AUCTION MARKETS

As in former years, when describing the activities of these markets, the Bureau has used facts covering the harvesting or calender year. Therefore, this report covers the entire marketing season of 1946 and information on the first half of the calendar year of 1947.

The 1946 season, while earlier than normal, was not as advanced as the 1945 spring season. March was warm, but April came in cold and windy. Rainfall for the early spring months was several inches below normal. As a consequence, New Jersey auction markets opened from two to three weeks later than in 1945. Before the markets were far along in the spring season, all OPA controls on commodities sold over them were removed. Normal methods of selling were rapidly renewed and sales were increased so that the season's volume was close to 40% greater than in 1945. The commodities sold on these auctions do not vary much from year to year. In 1945, prices averaged 17.1% over 1944 prices. In 1946, prices for vegetables began to drop and the average for all commodities sold over these auctions was 5.21% below 1945 prices.

The accompanying chart, giving sales volume and prices at the individual produce auctions, emphasizes the greatly increased sales at a few of these markets. Notable ones are Cedarville, Hammonton, Hightstown, Swedesboro, Vineland and Washington. As previously stated, part of this increase was due to the ending of OPA controls, but part was due to increased yields of certain commodities, especially asparagus and lettuce.

SUMMARY OF SALES AT FRUIT AND VEGETABLE AUCTION MARKETS

Market	Season of 1946 Number of Packages Sold	Season of 1946 Value of Sales	Season of 1945 Number of Packages Sold	Season of 1945 Value of Sales
Beverly	285,746	$370,237.19	256,019	$400,895.85
Beverly, consigned and special	301,195	609,920.35	215,965	526,840.25
Cedarville	481,422	1,096,708.33	176,303	415,368.64
Glassboro	414,256	735,612.25	283,716	532,105.42
Hammonton	106,651	366,302.20	21,037	67,129.71
Hightstown	330,203	457,172.69	287,481	337,589.89
Hightstown, special sales	99,241	196,507.30	83,243	211,128.15
Landisville	443,585	736,762.26	434,908	567,165.56
Pedricktown	188,932	480,966.04	145,032	490,532.35
Swedesboro	1,019,552	2,241,496.85	765,069	2,145,447.98
Vineland	771,300	1,304,289.89	595,498	960,881.78
Washington	99,080	41,288.19	2,324	2,378.16
Total—By auction	4,140,727	$7,830,835.89	2,967,387	$5,919,495.34
Total—All sales	4,541,163	$8,637,263.54	3,266,595	$6,657,463.74

Average price per package (by auction), 1946	$1.891
Average price per package (by auction), 1945	$1.995
Per cent of decrease in price per package, all commodities 1946 under 1945	5.21%

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

SALES AT PRODUCE AUCTIONS

A report of the activities of the produce auctions for the first six months of the 1947 calendar year shows that 1,035,297 packages were sold over the auctions as compared with 1,066,080 packages during the corresponding period of 1946. The total selling price of the 1947 period was $2,601,-458.16, or an average of $2.44 a package. In the 1946 spring period, the average price was $2.94, a package. The lower price in 1947 was due largely to a drop in strawberry prices.

The supervisor of fruit and vegetable standardization has continued his work with the cooperative auction associations in the State as in the past. The associations have asked that he attend their directors' meetings and this he has done in most instances. All annual meetings are attended by the supervisor and usually by the bureau chief.

As in the past several years' reports, a table is submitted showing the principal commodities sold at the fruit and vegetable auctions. This chart shows the sales for the year ending December 31, 1946, and comparison with the year 1945. Attention is drawn to the greatly increased volume handled in peaches, raspberries, strawberries, snap beans, lettuce, onions and tomatoes. Other commodities show increases and some decreases, but those mentioned are the ones which were most drastically affected in previous years by government price control.

PRINCIPAL COMMODITIES SOLD AT FRUIT AND VEGETABLE AUCTION MARKETS
VOLUME IN 1946 WITH 1945 COMPARISONS

Commodity	Unit	1946	1945
Apples	Bushels	30,415	21,211
Peaches	Bushels	315,400	144,224
Blackberries	Crates, 24 quarts	5,507	2,228
Blueberries and huckleberries	Crates, 12 pints	13,228	.....
Raspberries	Crates, 12 pints	32,742	6,745
Strawberries	Crates, 24 quarts	52,042	4,220
Asparagus	Crates, dozen bunches	436,100	460,997
Beans, lima	Bushels	42,255	18,038
Beans, snap	Bushels	153,126	77,141
Beets	Dozen bunches	66,390	21,954
Broccoli-rabe	Bushels	73,500	54,030
Cabbage	Bushels	79,801	37,039
Cantaloupes	Bushels	9,708	41,739
Carrots	Dozen bunches	20,733	14,122
Carrots	Bushels	6,102	5,022
Cauliflower	Crates	11,193	3,092
Corn, sweet	Bushels or sacks	131,054	137,662
Cucumbers and pickles	Bushels	178,405	232,279
Dandelion	Bushels	40,671	18,853
Eggplants	Bushels	112,301	90,407
Lettuce	Crates, 2 dozen	149,859	75,126
Okra	Climax baskets, 12 quarts	19,564	12,016
Onions	Sacks, 50 lbs.	102,654	22,315
Parsley	Bushels	21,590	15,369
Peas	Bushels	2,626	2,645
Peppers	Bushels	720,586	535,143
Potatoes, sweet	Bushels	255,585	162,307
Potatoes, white	Sacks, 100 lbs.	49,343	62,713
Radishes	Bushels	15,006	.....
Rape	Crates	32,562	.....
Scallions	Bushels	7,339	7,395
Spinach	Bushels	8,068	10,006
Squash	Bushels	28,744	28,400
Tomatoes	Climax baskets	890,621	143,433
Watermelons		5,644	26,439
Miscellaneous	Packages	143,549	75,140

CITY FARMERS' MARKETS

Practically every farmers' market in New Jersey, whether at shipping point or in cities, has been established with aid of this Bureau. Not only are all wholesale produce markets at country points owned and operated by farmers, but the largest city farmers' markets are also owned and operated by farmer organizations. The markets not owned by farmers are city or municipal markets with one or two exceptions. The outstanding farmer-owned markets are those in Newark, Paterson and Asbury Park. The municipal markets include those at Trenton, Atlantic City and Camden.

Primary contribution to these markets has been the aid given in establishing them. This has included surveys of need, possible sites and planning construction of facilities. Department representatives have aided in some cases in obtaining needed personnel for operation. We have attended and advised at meetings of directors and membership meetings of

farm organizations, and also have worked with farmer groups who sell on the city or municipal markets.

This Bureau has obtained weekly and monthly reports from the management covering sales made and prices received. During the past year these reports were complete from the farmer-owned Newark Market and from the city-owned Atlantic City Market.

Volume at the Newark Market in the 1946-1947 year was considerably larger than reported for 1945-1946. This year, (1946-47), 8,063,777 bunches of vegetables and 1,926,390 packages (mostly bushels) of fruits and vegetables were handled. In the previous year 7,112,169 bunches of vegetables and 1,658,261 packages of fruits and vegetables were sold.

Volume and money returns at Atlantic City also were greater. In the 1946-1947 year, 7,932 farmer loads, consisting of 376,910 bushels of fruits and vegetables, 99,140 dozens of eggs, and 80,300 pounds of poultry, sold for $740,868.30. In the previous year, 7,395 farmer loads, consisting of 335,476 bushels of fruits and vegetables, 64,469 dozens of eggs and 58,500 pounds of poultry, sold for $587,724.03.

The Trenton Farmers' Market was established by the city in the early twenties and has been conducted by the municipality for all of these years in an efficient manner.

The market has served as a selling place for approximately 160 farmers and has been well patronized by consumers. It is a retail farmers' market. Due to congestion in the city and expansion of street needs, it appears that a new market will have to be established to replace the present market. No plans have as yet been made, but it looks as though adequate facilities will not be obtainable within the city limits. The farmers are deeply concerned and are considering the possibility of developing a farmer-owned market outside the city. This Bureau has been consulted, and it is expected that definite plans will be made during the latter half of the calendar year.

MISCELLANEOUS

The auction market associations in New Jersey, representing poultry and egg, livestock, and fruits and vegetables, have been organized into a state-wide association for several years. Each year an annual meeting has been held and meetings of commodity associations embracing the produce groups and the poultry groups have been held monthly during the active season. These groups consider state-wide plans for improvement of cooperative work with their members, and have been very beneficial in the development of sound marketing practices. During the year, the produce section held a meeting at which more than a hundred buyers were entertained and given an opportunity to discuss buyers' problems with the farmers and market managers. The state-wide association again sponsored the Cooperative Interests Dinner held during Farmers' Week at Trenton.

POULTRY PRODUCTS MARKETING

The work of the poultry division in the Bureau can be divided into regulatory and promotional activities. The poultry interests of the State have been developed to a degree that makes it the foremost commodity group in terms of cash value of products sold. Poultrymen have taken to grading chicks, flocks, and poultry and eggs, and by their interest in the development of high-class products have produced commodities with which promotional work can be very effective. The poultry interests of New Jersey have developed a reputation which has gone far in drawing attention to the State as a source for quality foundation stock for commercial egg production, and for the finished product—good eggs.

The poultrymen themselves are determined to continue their good reputation. It was through the activities of the poultrymen of the State that the fresh egg law was passed by the legislature 13 years ago. This law protects consumers from unscrupulous retailers and also has developed a good reputation for nearby produced eggs. The poultrymen have sponsored and greatly developed a breeding standardization program that has been instrumental in building up egg laying capacity of New Jersey poultry flocks, and at the same time greatly improved quality of eggs as determined by shell texture, color and interior quality. The poultrymen working with the Bureau have been pioneers in developing cooperative selling organizations, in developing an inspection program at these markets, and in fostering promotional activities. The following pages not only describe these activities, but indicate the considerable progress that has been made as part of the Bureau's poultry industry program.

POULTRY STANDARDIZATION

Under this title, the Bureau 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 12 years, and the National Turkey Improvement Plan for four years. Contracts for continuing this cooperative program during 1947-1948, between this Bureau and the United States Department of Agriculture have been signed.

As in 1945-1946, 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. Exactly 40.6% of the birds were done by state men, the balance by agents. The Bureau of Markets inspector and one Bureau 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 war 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 28 agents who, after qualifying, were licensed as flock selectors. There were 32 licensed testing agents.

Because of the progress made in New Jersey breeding flocks toward pullorum control, it was decided during the recent season to eliminate the "N. J.-U. S. Pullorum Tested" rating, which was the primary class for cooperation in the program, and permitted up to 5% reactors. The minimum rating is now less than 1% reactors, or the Pullorum-Controlled Class.

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:

N. J.-U. S. Poultry Plan	Number in 1946-47	Number in 1945-46	Per Cent Changes in 1947
Number of flocks cooperating	586	632	— 7.3
Total number of breeders	497,529	451,610	+ 10.2
Number of hatcheries cooperating	93	74	+ 25.7
Hatchery capacity cooperating	6,969,090	5,482,285	+ 27.1
Hatchery capacity in New Jersey	11,467,000	.....	....
Number of birds in pullorum stages only	54,413	83,344	— 34.7
Number of birds in Approved stages only	356,262	270,713	+ 31.6
Number of birds in Certified stages only	73,763	97,553	— 24.4
Number of birds in R. O. P. Trapnest Project	6,071	5,004	+ 21.3
Number of birds qualified as Register of Merit	128	73	+ 75.3
Number of birds qualified for Honor Roll	39	12	+225.0
Number of females in R. O. P. breeding pens	1,547	1,440	+ 7.4
Number of R. O. P. chicks produced	30,053	22,194	+ 35.4
Number of R. O. P. chicks and cockerels sold	4,210	5,535	— 23.9
Number of R. O. P. chicks and cockerels entering New Jersey	12,124	14,407	— 15.8
Number of R. O. P. cockerels leg banded	6,191	7,713	— 19.7
Per cent of birds reacting to the pullorum test	0.45	1.09	— 0.6
Number of flock inspections	112	82	+ 36.6
Number of hatchery inspections	75	62	+ 20.9
Number of R. O. P. inspections	76	56	+ 35.7

The trend in New Jersey seems to be to larger breeding flocks and to no reactors on the last pullorum test. The smaller flocks are being eliminated because of lack of improvement in cleaning up pullorum. 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.

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

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	16	985	....	....	19,618	....	....	....	....	....	20,603
Bergen	7	....	....	....	....	....	....	4,717	296	....	5,013
Burlington	29	6,532	....	....	6,171	2,816	584	1,209	1,642	....	18,954
Camden	4	....	....	....	2,222	....	342	....	....	....	2,564
Cape May	9	5,915	4,046	....	5,686	....	3,418	....	....	....	19,065
Cumberland	181	9,065	7	7,738	112,715	9,998	850	....	222	....	140,595
Essex	1	....	....	....	....	....	....	587	....	....	587
Gloucester	17	9,965	....	2,581	8,341	4,645	....	....	....	....	25,532
Hunterdon	44	....	2,156	....	24,003	1,124	....	7,160	1,803	....	36,246
Mercer	32	....	....	....	8,214	1,576	1,667	725	35	3,144	15,361
Middlesex	15	2,550	....	10,630	3,970	5,195	1,330	372	....	....	24,047
Monmouth	73	....	....	2,879	36,857	8,866	1,055	10,957	1,872	2,495	64,981
Morris	5	352	....	....	1,968	....	....	525	....	....	2,845
Ocean	54	3,587	....	..	44,412	....	....	10,959	....	....	58,958
Passaic	11	1,396	806	.	1,637	2,089	....	1,191	....	....	7,119
Salem	39	1,357	....	....	26,198	2,446	....	....	284	....	30,285
Somerset	23	....	....	....	3,919	2,419	446	2,310	1,678	137	10,909
Sussex	21	1,223	....	....	5,249	1,130	222	907	192	417	9,340
Warren	6	....	....	....	781	....	....	3,725	25	....	4,531
Totals	587	42,927	7,015	23,828	311,961	42,304	9,914	45,344	8,049	6,193	497,535

NUMBER OF BREEDERS, BY COUNTIES AND VARIETIES

County	S. C. White Leghorns	New Hampshires	Rhode Island Reds	Barred Rocks	White Rocks	Jersey Black Giants	White Cornish	White Wyandottes	Black Minorcas	Black Australorps Misc. and Brahmas	Turkeys	Crosses	Totals
Atlantic	17,012	1,346	....	....	154	....	....	....	....	....	....	2,091	20,603
Bergen	2,909	1,364	296	332	....	....	....	....	....	....	112	....	5,013
Burlington	4,832	5,257	688	1,146	805	1,489	....	....	....	....	403	4,334	18,954
Camden	2,222	....	....	....	....	....	....	....	....	....	342	....	2,564
Cape May	8,160	....	10,905	....	....	....	....	....	....	....	....	....	19,065
Cumberland	63,745	9,580	14,887	2,452	5,508	....	350	891	335	429	33	42,385	140,595
Essex	....	....	....	....	....	....	....	....	....	....	587	....	587
Gloucester	17,284	1,443	3,568	49	972	....	....	....	....	....	1,053	1,163	25,532
Hunterdon	14,643	6,744	8,114	2,401	....	....	....	....	....	357	1,800	2,187	36,246
Mercer	849	6,034	655	1,349	....	560	....	....	....	....	980	4,934	15,361
Middlesex	17,659	4,318	931	861	....	....	....	....	....	....	278	....	24,047
Monmouth	51,195	2,008	....	6,150	....	....	....	....	....	....	3,738	1,890	64,981
Morris	1,744	525	264	312	....	....	....	....	....	....	....	....	2,845
Ocean	49,285	2,212	7,461	....	....	....	....	....	....	....	....	....	58,958
Passaic	2,864	3,511	215	....	....	....	....	....	....	....	529	....	7,119
Salem	17,891	688	1,290	590	1,760	....	30	532	....	....	50	7,454	30,285
Somerset	4,967	2,527	1,731	364	151	....	....	....	....	213	137	819	10,909
Sussex	1,970	1,171	3,203	....	....	....	....	....	....	51	1,815	1,130	9,340
Warren	2,758	533	....	....	....	....	....	....	....	....	1,240	....	4,531
Totals	281,989	49,261	54,208	16,006	9,350	2,049	380	1,423	335	1,050	13,097	68,387	497,535

TRAINING TO QUALIFY SELECTING AGENTS

A conference was held in Trenton at which instruction in selection and testing was given to qualified applicants. Instructors from the poultry division of the College of Agriculture cooperated with the Bureau of Markets and the Bureau of Animal Industry. Those who passed a written examination 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.

Federal supervisors were in the State only once last year. On this occasion New Jersey served as host to surrounding states for a regional meeting of the National Plan workers. Mutual advantages resulted from this interstate conference. The supervisor served as New Jersey's delegate to the National Plan conference in St. Louis.

The policy of changing to freshly laundered coveralls and disinfecting rubber boots before entering poultry premises continues to meet with enthusiastic approval. The new bookkeeping system has proved to be a big help with the increased amount of record work being 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 has been devised and will be effective this coming season. The new schedule is being issued in printed form.

The New Jersey Poultry Breeders' Association, started last year, seems to be growing and is serving as a place for exchanging ideas for improvement. One lot of 900 N. J.-U. S. ROP hatching eggs was air-shipped to Palestine during the season.

COOPERATIVE MARKETING

A substantial gain in the cooperative marketing of live poultry and eggs, by comparison with the two preceding years, indicates that in 1946-1947 poultry farmers found it advantageous again to sell through these publicly observed channels. The great decreases in volume from mid-1944 until the end of federal price controls in 1946 were attributed to so-called "black marketing." The value of products sold this year is second only to the 1942-1943 all-time record.

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
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
1937-38	317,292	84,159	3,957,288	3,494,111.61
Totals	5,210,756	905,741	44,248,894	$68,787,059.01

The five auction markets (Flemington, Hightstown, Mount Holly, Vineland and Paterson) sold a total of 16,788,750 dozens of eggs from July 1, 1946, to June 30, 1947, for a total of $9,119,237.35; an annual average of $0.543 per dozen. The previous year, these figures were respectively, 12,535,530 dozens sold, $5,440,725.66 total value, $0.434 average per dozen; and, in the calendar year of 1939, 13,023,330 dozens, $3,263,481.00 total value, $0.25 average. 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 low 1945-1946 volume is not to be considered an index of production, incidentally, because that was a year of price controls and of "black marketing."

In the table "Summary of Egg and Poultry Auction Markets," we show the volume and value of sales at each of the cooperative markets, and the total of all sales for the fiscal year.

SUMMARY OF EGG AND POULTRY AUCTION MARKETS

July 1, 1946 to June 30, 1947

Market	Cases of Eggs	Value of Eggs	Crates of Poultry	Pounds of Poultry	Value of Poultry	Total Value
Flemington	203,039	$3,298,857.30	42,589	2,203,230	$739,257.46	$4,038,114.76
Hackettstown*	.....	.....	884	46,885	14,718.30	14,718.30
Hightstown	83,935	1,373,327.28	14,475	717,761	198,662.49	1,571,989.77
Mount Holly	28,542	458,813.40	12,196	667,308	237,014.25	695,827.65
Paterson	33,844	561,400.45	8,297	471,389	157,715.29	719,115.74
Vineland	210,265	3,426,838.92	.....	.....	.....	3,426,838.92
Totals	559,625	$9,119,237.35	78,441	4,106,573	$1,347,367.79	$10,466,605.14

Average price per case, 1946-47 $16.30
Average price per case, 1945-46 $13.02

Average price per pound, 1946-47 $0.328
Average price per pound, 1945-46 $0.254

* Hackettstown—poultry figures start February 6, 1947.

AVERAGE PRICE PER DOZEN EGGS ON FIVE NEW JERSEY AUCTION MARKETS

Month	1946	For Comparison 1945	1939
July	$0.5245	$0.4549	$0.2647
August	.5697	.4922	.2678
September	.6069	.4784	.2948
October	.6131	.4915	.3029
November	.5653	.5192	.3118
December	.5672	.5184	.2453

	1947	1946	1939
January	.5006	.4420	.2372
February	.4761	.3914	.2260
March	.5353	.3941	.2305
April	.5375	.3952	.2218
May	.5118	.4089	.2146
June	.5781	.4284	.2384

Significantly, New Jersey was the only state in the United States which carried over a larger number of hens and pullets as of January 1, 1947, than on the same date in 1946. The numerical increase was small in New Jersey, only 21,000 (9,634,000 on January 1, 1947, compared with 9,613,000 in 1946); however, none of the other 47 states reported an increase, the trend toward reduction being so pronounced that 37,698,000 fewer hens and pullets were reported nationally. A favorable New Jersey egg-feed ratio during the last four months of 1946 was undoubtedly a factor, and this was importantly influenced by the higher price for eggs commanded by the State's markets. The increased New Jersey, January 1, carryover can be taken as an indication of the individuality of this State's poultry industry and its marketing enterprise, which have been demonstrated many times in the past. It also indicates something of the permanence with which the New Jersey commercial egg production industry has been building while expanding. All signs point to a conclusion that this State's poultrymen intend to make their wartime expansion as permanent as possible, and therefore will need highly developed marketing techniques to achieve this end.

NEW JERSEY EGG AUCTIONS—EGG-FEED RATIO

	July			August			September		
	1946	1945	1939	1946	1945	1939	1946	1945	1939
EGGS									
Total dozens sold	749,040	500,490	891,300	796,410	464,100	900,540	884,730	517,320	855,660
Total price paid	$392,907	$227,673	$235,920	$453,704	$228,459	$241,138	$536,992	$247,488	$252,290
Av. price per dozen	.5245	.4549	.2647	.5697	.4922	.2678	.6069	.4784	.2948
FEED									
Av. 100 lb. scratch	$4.57	$3.25	$1.60	$4.40	$3.35	$1.50	$4.25	$3.15	$1.86
Av. 100 lb. mash	4.66	3.75	2.18	4.86	3.80	2.16	4.60	3.81	2.02
Av. laying ration	4.62	3.50	1.89	4.63	3.58	1.83	4.43	3.48	1.94
RATIOS									
Doz. eggs required to buy 100 lb. feed	8.8	7.7	7.1	8.1	7.1	6.8	7.3	7.3	6.6
No. lb. feed one doz. eggs will buy	11.4	13.0	14.0	12.3	13.7	14.6	13.7	13.7	15.2

	October			November			December		
	1946	1945	1939	1946	1945	1939	1946	1945	1939
EGGS									
Total dozens sold	1,125,030	629,640	995,430	1,336,620	777,900	969,330	1,552,110	889,710	1,135,350
Total price paid	$689,745	$309,482	$301,570	$755,635	$403,887	$302,284	$880,420	$462,715	$274,465
Av. price per dozen	.6131	.4915	.3030	.5652	.5192	.3120	.5672	.5201	.2453
FEED									
Av. 100 lb. scratch	$4.30	$3.29	$1.78	$4.15	$3.24	$1.77	$3.90	$3.28	$1.83
Av. 100 lb. mash	4.55	3.82	2.54	4.70	3.80	2.52	4.65	3.81	2.58
Av. laying ration	4.43	3.56	2.16	4.42	3.52	2.14	4.27	3.54	2.20
RATIOS									
Doz. eggs required to buy 100 lb. feed	7.2	7.2	7.1	7.8	6.8	6.9	7.5	6.8	9.0
No. lb. feed one doz. eggs will buy	13.8	13.8	14.0	12.8	14.8	14.6	13.3	14.7	11.2

NEW JERSEY EGG AUCTIONS—EGG-FEED RATIO—Continued

	January			February			March		
	1947	1946	1939	1947	1946	1939	1947	1946	1939
EGGS									
Total dozens sold	1,655,250	1,147,290	1,099,080	1,648,710	1,516,860	1,085,550	1,779,930	1,824,660	1,372,230
Total price paid	$828,566	$507,065	$260,807	$784,887	$593,768	$245,376	$952,848	$719,152	$316,303
Av. price per dozen	.5006	.4420	.2373	.4761	.3914	.2260	.5353	.3941	.2305
FEED									
Av. 100 lb. scratch	$3.85	$3.32	$1.54	$3.80	$3.36	$1.54	$4.20	$3.38	$1.56
Av. 100 lb. mash	4.40	3.84	2.04	4.30	3.88	2.04	4.55	3.91	2.06
Av. laying ration	4.13	3.58	1.79	4.05	3.62	1.79	4.38	3.64	1.81
RATIOS									
Doz. eggs required to buy 100 lb. feed	8.3	8.1	7.5	8.5	9.2	7.9	8.2	9.2	7.9
No. lb. feed one doz. eggs will buy	12.1	12.3	13.3	11.8	10.8	12.6	12.2	10.8	12.7

	April			May			June		
	1947	1946	1939	1947	1946	1939	1947	1946	1939
EGGS									
Total dozens sold	1,860,000	1,706,130	1,213,620	1,902,150	1,567,830	1,388,070	1,505,760	993,600	1,117,170
Total price paid	$999,551	$677,336	$269,176	$973,599	$641,060	$297,863	$870,607	$425,635	$266,289
Av. price per dozen	.5375	.3952	.2218	.5118	.4089	.2146	.5781	.4284	.2384
FEED									
Av. 100 lb. scratch	$4.45	$3.41	$1.58	$4.35	$3.63	$1.64	$4.60	$3.70	$1.69
Av. 100 lb. mash	4.60	3.99	2.11	4.60	4.25	2.18	4.80	4.46	2.18
Av. laying ration	4.60	3.70	1.84	4.48	3.93	1.91	4.70	4.08	1.94
RATIOS									
Doz. eggs required to buy 100 lb. feed	8.5	9.4	8.3	8.8	9.6	8.9	8.1	9.5	8.1
No. lb. feed one doz. eggs will buy	11.7	10.7	12.1	11.4	10.4	11.2	12.3	10.5	12.3

AUCTION MARKETS' EGG-FEED RATIO

Statistics in the form of monthly egg-feed ratios which provide a yardstick on the economic condition of the New Jersey poultrymen have been compiled for each month since this service was started in 1945. In addition to the various uses made by this department, the ratio is 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. Because actual egg prices are used, our egg-feed ratio is at times at variance with others prepared for this area and for which the quotations of market reporters are the basis. We believe that, for the special purposes to be served in New Jersey, our method has a higher degree of accuracy, hence the results are of greater value.

In the accompanying table "New Jersey Egg Auctions—Egg-Feed Ratio," comparisons are made for the months of the past year, the previous year, and the year 1939 which, after consultation with the Department's statistician and representatives of the markets, was selected as a base year of normal price conditions in the poultry and feed industry, being the year just prior to the start of the World War II.

In understanding an egg-feed ratio, it is helpful to know that producers consider themselves to be in a relatively sound condition when the cash value of eggs is sufficient so that 7.5 dozens will be equivalent in price to 100 pounds of feed. These ratios change within the industry (and, of course, are tremendously variable among individual farmers) according to the quality of feed available in a given year, and other changing factors of production efficiency affecting the entire poultry industry, such as widespread disease epidemics and general shortages of manpower.

There were four months in the autumn of 1946 (September-December, inclusive) when the egg-feed ratio favored the New Jersey egg producer. The other eight months (July and August, 1946, and January through June, 1947) were months of unfavorable ratios, as will be shown in the accompanying tables. In the previous year, there were six months of favorable and six unfavorable ratios.

In the "normal" year, 1939, there were eight favorable ratio months, and four unfavorable.

The same table shows that the monthly average price of eggs at auction in New Jersey dropped below a 50 cents per dozen level in only one month, February, 1947. The average laying ration (50% scratch grain and 50% mash) remained above a $4.00 per 100-pounds level throughout the reported period July, 1946, through June, 1947.

AUCTION MARKET MEMBERSHIP, BY COUNTIES

The total membership in the five cooperative auction markets is 80 less than the previous year. However, the Flemington and Mount Holly markets increased their membership by 79 and 118, respectively, while the Hightstown Auction membership remained practically the same. The reduction in membership at Paterson (138 less) and Vineland (136 less) is difficult to understand. The volume of eggs at these two

markets is steady to increasing, therefore it may be assumed that the small producer is suspending operations.

County	Flemington Auction	Hightstown Auction	Mount Holly Auction	Paterson Auction	Vineland Auction	Total
Atlantic	..	1	14	..	55	70
Bergen	1	..	..	64	..	65
Burlington	1	51	772	..	1	825
Camden	..	..	24	..	8	32
Cape May	..	..	..	..	28	28
Cumberland	..	..	..	..	414	414
Essex	2	..	..	10	..	12
Gloucester	..	..	4	..	86	90
Hunterdon	2,013	..	..	..	..	2,013
Mercer	211	268	1	..	..	480
Middlesex	75	223	..	..	1	299
Monmouth	1	236	3	..	..	240
Morris	64	..	1	41	..	106
Ocean	..	34	7	1	..	42
Passaic	2	..	..	75	..	77
Salem	..	..	..	..	73	73
Somerset	407	3	..	..	..	410
Sussex	9	..	..	64	..	73
Union	26	..	..	4	..	30
Warren	293	..	..	16	..	309
Totals	3,105	816	826	275	666	5,688
1945-1946	3,026	819	708	413	802	5,768
1944-1945	3,154	481	508	433	802	5,378
Difference	+79	—3	+118	—138	—136	—80

STATE CERTIFIED FRESH EGGS

The past year marked the tenth anniversary of this project, and was also the first year in its own building, which has been hailed as the most advanced in design and efficiency of operation in the world. The close supervision and assistance given by this Department was continued. The integrity of the sponsoring organization, New Jersey Poultry and Egg Cooperative Marketing Association, and the quality of the packaged product resulted in a ready market for the 71% increase in volume which was made possible by the improved facilities for inspection and packaging.

Month	Doz. Sold 1946	Doz. Sold 1945	Monthly Av. Purchase Price 1946	Wholesale In Cartons 1946	Average Markup 1946	Earnings Per Dozen 1946
July	115,695	95,646	$0.5170	$0.6018	$0.0848	$0.0137*
Aug.	122,551	91,190	.6083	.7024	.0941	.0016*
Sept.	129,374	88,749	.6634	.7633	.0999	.0065
Oct.	128,471½	101,572	.6877	.7872	.0995	.0073
Nov.	130,595	112,364	.6311	.7286	.0975	.0153
Dec.	190,813½	139,085	.6070	.7013	.0943	.0222
	1947	1946	1947	1947	1947	1947
Jan.	202,189	151,070	.5151	.6033	.0882	.0144
Feb.	190,713½	139,496	.4744	.5652	.0908	.0236
Mar.	230,866	137,844	.5436	.6373	.0937	.0123
Apr.	181,688	162,322	.5526	.6459	.0933	.0087
May	194,548½	165,713	.5221	.6183	.0962	.0129
June	188,435	147,037	.5761	.6713	.0952	.0074
Totals	2,005,940	1,532,088				

* Loss.

This project obtains its eggs from four member auction markets at Flemington, Vineland, Hightstown and Mount Holly. The volume purchased is determined by the volume of the source market. The member markets sold a total of 14% of their total volume through the Certified project in 1946-1947. Of the 73,786 cases (30 dozens) purchased, Flemington supplied 27,724 cases (37.57% of the total purchased); Vineland 29,072 cases (39.4%); Hightstown 13,795 cases (18.695%), and Mount Holly 3,195 cases (4.33%). Purchases from all auctions were valued at $1,260,773.30. The early average price paid to the auctions by "Certified" was $0.5695 per dozen, whereas the average price commanded by all eggs on all auctions was $0.543. The "Certified" purchase price was slightly below the average auction price during three months (July, 1946, February and June, 1947); and ranged from slightly above to nearly 7½ cents per dozen above the monthly average during the autumn.

The State Certified Fresh Egg project is providing a practical set of figures on egg faults, and this information is being carried back to breeders, commercial poultrymen, market personnel, transportation and packaging representatives. The percentage of rejected eggs has been increasing, having been 8.5% in 1944, 10.6% in 1945, and 10.63% in 1946. There is some indication that the increase can be attributed, at least in part, to Newcastle disease, which causes faulty shells and poor interior quality until the birds recover.

Records are now being kept on the numbers of eggs rejected from the Certified package according to the faults causing rejection. Not enough time has elapsed to provide a comprehensive sample on a year around basis. However, the first eight months of the breakdown figures show that breakage and cracks are the major fault (about 5% of all eggs), blood and meat spots account for about 2%, and the remaining 3% are Grade B because of poor interior quality and miscellaneous factors. The wholesale lots purchased are high N. J. Grade A and AA quality, and are assembled from four different marketing areas.

The reject problem is of great economic importance to the producer because his selling price is automatically discounted by wholesalers 10% and upwards, in proportion to the incidence of faults which the buyer anticipates. Our immediate objective has been to obtain accurate figures to use in stating the problem to producers and others concerned in these losses, enlisting their aid in finding remedies.

NEW JERSEY FRESH EGG LAW

The practices followed in carrying out the enforcement of the New Jersey Fresh Egg Law have continued as described in the annual report for last year. However, at that time some phases were new and untried. The handling of warnings by letter, a copy of which goes to the wholesaler, is apparently very satisfactory. Retailers who do not comply are sum-

moned for a hearing, at which it is determined whether a penalty should be imposed. The copy of the warning letter to the wholesaler and visits to wholesale houses are also proving beneficial. Without threat of penalty or special effort, many distributors can and will give the retail store owner eggs suitable for sale as fresh. Where we have shown a distributor that he, too, can violate the law, he has either discontinued using terms indicating freshness, or has obtained eggs that are beyond question.

Unfortunately some of the present features of enforcement were not employed when the law came into being 13 years ago. The present policy is to do an educational job through personal contact. Our senior inspector made 257 contacts with wholesalers during the year, either alone or in company with the inspector for the area. Not one wholesaler has refused to discuss his egg problem constructively.

During the period of federal price control it was mandatory for distributors to identify eggs by grade. Many retailers have continued grade marking on a voluntary basis. In some cases, the intent of the individual or firm was simply to have a marketing program like his competitor, with no thought given to quality, and corrective steps have been required. Personal contact with distributors has aided materially in keeping conscientious marketers in line and free from unfair competition.

The summary of inspections and violations is based on store visits. This is the second year the enforcement work has been recorded in this manner. The former method was to report the number of samples inspected which does not present a true picture of what is being done in this field. Tabulation of inspections on the basis of store visits will show a greater fluctuation in violations found. This is due to the fact that we are at times accumulating evidence to determine whether corrective measures should be directed to the retail outlet or further back in the distribution channels. Such thorough investigation reveals violations at their points of origin, and is helpful to the distributors as well as being of public benefit.

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	795	18	2.26	86	34	39.53	881	52	5.90
Bergen	463	46	9.94	33	11	33.33	496	57	11.50
Burlington	355	8	2.25	80	23	28.75	435	31	7.13
Camden	1,175	69	5.87	164	66	40.24	1,339	135	10.08
Cape May	186	11	5.91	33	6	18.18	219	17	7.78
Cumberland	222	4	1.80	68	3	4.41	290	7	2.41
Essex	2,691	118	4.38	138	52	37.68	2,829	170	6.01
Gloucester	270	7	2.59	37	15	40.54	307	22	7.17
Hudson	1,714	49	2.86	55	12	21.81	1,769	61	3.45
Hunterdon	5	...	.....	...	...	.....	5	...	.....
Mercer	564	19	3.37	34	6	17.64	598	25	4.18
Middlesex	907	40	4.41	43	16	37.21	950	56	5.89
Monmouth	525	16	3.05	50	27	54.00	575	43	7.48
Morris	357	6	1.68	22	3	13.64	379	9	2.37
Ocean	363	8	2.20	45	11	24.44	408	19	4.66
Passaic	724	39	5.38	26	15	57.69	750	54	7.20
Salem	156	1	0.64	11	1	9.09	167	2	1.20
Somerset	142	1	0.70	20	5	25.00	162	6	3.70
Sussex	70	1	1.43	3	...	.....	73	1	1.37
Union	978	46	4.70	45	13	28.89	1,023	59	5.76
Warren	138	2	1.45	5	...	.....	143	2	1.39
Totals	12,800	509		998	319	.....	13,798	828	

	1946-1947	1945-1946
Total stores inspected	13,798	16,251
Total violations	828	585
Average per cent violations	6.00%	3.60%

GRADING AND INSPECTION SERVICE

With one exception, that being the Federated Egg Producers' Co-operative Association, Inc., Toms River, the New Jersey marketing organizations have withdrawn from the federal-state egg inspection system. The auction markets at Flemington, Vineland, Hightstown and Mount Holly, and the State Certified Egg project are now under supervision of the State Department of Agriculture, and the Paterson market is contemplating a return to official New Jersey State grades and inspection.

During the recent four years, the New Jersey grading and inspection work was conducted on the nationally uniform basis required under federal price control regulations. Except for the enforcement of the New Jersey Fresh Egg Law, all such work was conducted under federal grades. Standards of inspection performance were lowered as a result; however, it was demonstrated that uniform grading and inspection has its advantages. New Jersey and neighboring states have much in common even when operating within our respective borders, but more so when our product meets in competition with that from distant states. The Northeast had been talking for a long time about uniform egg grades; however, the incentive never materialized until wartime experiences. The federal grades that had been required during the war and on which all state grades are based originally, were thoroughly studied. Out of many conferences came a proposed revision of the federal standards and grades, acceptable to those who administer grading and inspection work in the states. New specifications for standards for quality of individual shell eggs and new specification for consumer grades for shell eggs became effective December 1, 1946.

About 20% of all New Jersey eggs are first marketed in wholesale grades through farmer cooperatives. These markets approve the policy of uniform wholesale grades but not the existing federal grades. A complete revision was proposed by New Jersey, and was at first opposed by the federal authorities. The cooperation of the Northeastern Poultry Producers' Council was sought and through their contacts it was soon evident that the change proposed here, although sudden, was acceptable in wholesale trading channels. The United States Department of Agriculture has just announced the revision of its wholesale grades for eggs. During the past four years the New Jersey cooperative markets used federal grades, applied by United States licensed graders, under contract with the United States Department of Agriculture. Soon after price controls were removed, the New Jersey markets began to cancel their contracts in order to return to grading work supervised by the New Jersey Department of Agriculture.

The federal-state egg grading program in New Jersey, as in other states, functioned by agreement between the two departments, and those using the service are under contract with the federal agency. Although

the personnel of the federal agency expresses the intent to act as a coordinating agent, orders and instructions originating in Washington contradict the expressed policy. In addition, the inspection and grading division of the United States Department of Agriculture requires certain fees to maintain its part of the service. In New Jersey, the service is performed either by a state employee or by a licensed employee of the egg distributor. The federal service levies a fee on the basis of volume or hours required for inspection in the case of the state employee, or 15% of the licensed grader's salary. Neither of these arrangements has been satisfactory with those receiving federal-state grading. The opinion in New Jersey is that the federal office should operate as a coordinating agency properly financed by appropriation, and should refrain from issuing orders and instructions that have not originated at a national conference with the industry.

SPECIAL POULTRY ACTIVITIES

A program of service to poultry producers, distributors, and consumers entails many special activities beyond those covered by the foregoing narrative and statistical reports on the principal projects. Large numbers of requests for information and assistance are received by mail, phone and office visits from persons and organizations interested in grading and inspection, sources of supply of poultry products, advice on where to obtain disease diagnoses and nutritional and breeding advice, and interpretations of New Jersey regulations. Some of these can be answered with form letters, several of which have been prepared and mimeographed to expedite replies. Often, the requests are such that personal replies and original work are necessary. Requests from persons who wish to engage in poultry products retailing are particularly numerous, and afford us opportunity to guide such beginners into better marketing methods.

Among special activities initiated by the poultry staff or in which the staff participated importantly were the following:

Food page editors' tour of the New Jersey poultry industry—approximately a hundred magazine, newspaper and radio food editors were conducted on a tour of breeding and commercial poultry farms, hatcheries and markets (in cooperation with seven poultry organizations and the Agricultural Extension Service.)

Two producer tours—one of the New York egg and poultry market districts, one of the State Certified Fresh Egg project (250 persons participated).

Egg Grading School—in cooperation with the New Jersey College of Agriculture, Northeastern Poultry Producers' Council, and state and local poultry organizations. (About 75 attended this intensive 3½-day course.)

A series of bi-monthly meetings of the Tri-County Poultry Association (Mercer, Middlesex and Monmouth) to revitalize the marketing

educational program, in cooperation with the Agricultural Extension Service.

The annual State Poultry Dinner, occasion for awarding the "Golden Eggs" for poultry industry service. The 1947 awards were to Dr. W. C. Thompson, poultry department head at Rutgers, and Mr. A. M. Woodward, representing Borden Farm Products of New Jersey.

Radio programs—poultry staff members participated in 14 farm programs, and prepared material and arranged for speakers on many others. A series of three programs on egg quality conservation was made for WNBC, New York. Other programs in which staff members participated were on WOR, WJZ and WHN, New York; WAAT, Newark; and WTTM, Trenton.

Exhibits and displays—egg marketing displays were prepared for the New Jersey Retail Grocers' Association, and the Morristown and Flemington fairs.

Newspapers and magazines—numerous articles on the poultry projects were prepared by staff members for general release by the Bureau of Information, and special articles appeared in *New Jersey Compass, New Jersey Farm and Garden, Poultry Comment, The Poultryman, Poultry Tribune,* and *Turkey World.* One issue of *Farm Service News* was devoted to the poultry improvement program.

Advertising—a schedule of advertising of New Jersey chicks and poults was prepared in cooperation with New Jersey Council and Jersey Chick Association.

Association—staff members assisted in the development of programs of associations identified with the poultry industry, particularly the Turkey Division of Neppco, New Jersey Turkey Growers' Association, and New Jersey Poultry and Egg Cooperative Marketing Association, the secretaryships of which organizations are in this office; the State Poultry Association, New Jersey Poultry Breeders' Association, New Jersey ROP Breeders, National Poultry Producers' Federation, Poultry and Egg National Board and Jersey Chick Association, in addition to various county groups and state-wide general farm organizations.

Acting as a member of the sub-committee for the poultry industry, a staff member prepared recommendations of marketing research needed in New Jersey, for consideration under the Federal Research and Marketing Act of 1946.

At the request of the Production and Marketing Administration, a new proposal for a poultry products parity formula was prepared and discussed at a series of meetings.

The New Jersey Division of the Chicken-of-Tomorrow breeding competition, with 18 breeding flocks cooperating, was completed with Mr. Wilbur F. Rue, Allentown, winning the 1946 contest. The 1947 contest is now in progress.

Report of the Bureau of Plant Industry

HARRY B. WEISS, *Chief*

STATISTICAL AND RELATED WORK

CONSUMER PRICES IN NEW JERSEY

The bulletin on consumer prices in New Jersey has been issued six times during the fiscal year, July 1, 1946, to June 30, 1947, *i. e.,* bi-monthly. The objective is to ascertain the change in price of commodities and services which constitute the necessities of life.

The June, 1947, average price of food, housing, clothing, fuel, light, furniture, housefurnishings and miscellaneous items was 11.3% above the June, 1946, price, and 63% higher than the June, 1939, price. The June, 1947, purchasing value of the New Jersey consumer dollar was 61.3 cents as compared with 100 cents during June, 1939.

During the year, July, 1946, to June, 1947, the average price of food went up 20.1%; clothing, 2.3%; fuel and light, 4.1%; furniture and housefurnishings, 15.9%; miscellaneous items, 10.4%, and housing (rent) remained unchanged.

The June, 1947, average price of food was 99.6% higher than during June, 1939; housing (rent) went up 15.3%; clothing, 72.6%; fuel and light, 24.2%; furniture and housefurnishings, 118.5%, and miscellaneous items, 43.6%.

Approximately 1,300 copies of these bulletins are distributed bi-monthly. The demand is especially strong on the part of manufacturing industries and business enterprises which are using this index of consumer prices as a basis for wage adjustments. Universities, state and municipal government agencies, libraries, labor unions, professional men, farmers, chambers of commerce, federal government agencies, hospitals, and individual persons requested that their names be placed on the mailing list. This information is used widely not only within but also without the State. Demand for these data was especially strong on account of steadily rising prices during the year. Telephone calls, correspondence and personal interviews were frequent.

NEW JERSEY FARM AND RETAIL FOOD PRICES

This bulletin has been issued twelve times during the fiscal year, July 1, 1946, to June 30, 1947, *i. e.*, each month. The purpose is to denote the changes in retail food prices and farm prices.

The average June, 1947, retail price of 83 essential food articles was 20.04% above June, 1946, and 103.1% higher than the August, 1939, price. The June, 1947, purchasing value of the New Jersey food dollar was 49.2 cents as against 100 cents in August, 1939.

During the year, June, 1946-June, 1947, cereals and bakery products advanced in price 20.39%; all meats, 32.93%; canned fish, 41.66%; dairy products, 10.94%; eggs, 32.37%; all fruits and vegetables, 4.32%; beverages and chocolate, 18.08%; fats and oils, 48.5%, and sugar and sweets, 26.07%.

During the period, August, 1939-June, 1947, the retail food prices went up as follows: cereals and bakery products, 83%; all meats, 128.1%; canned fish, 213.5%; dairy products, 61.3%; eggs, 78.7%; all fruits and vegetables, 141.8%; beverages and chocolate, 103.8%; fats and oils, 152.3%, and sugar and sweets, 96.8%.

Average monthly prices received by New Jersey farmers are published in the same bulletin. The June, 1947, average price of 21 commodities sold by New Jersey farmers was the same as during June, 1946, and 119% higher than the June, 1935-1939, price. The June, 1947, average price received by farmers for grains and tame hay was 88% higher than during June, 1935-1939; for vegetables and potatoes, 137% higher; for fruits and berries, 201% higher; for meat animals, 156% higher; for milk, 102% higher, and for chickens and eggs, 108% higher.

Approximately 1,600 copies are distributed monthly. Nearly 300 farmers are on the mailing list.

NEW JERSEY AGRICULTURE IN 1945

A statistical analysis of economic conditions of New Jersey agriculture in 1945 has been prepared and published in mimeographed form. This analysis consists of the following parts: (1) general summary, (2) grain crops, (3) white potatoes, (4) berries for processing, (5) hay, (6) vegetables, (7) dairy industry, (8) poultry industry, (9) rank of New Jersey among other states in the production of certain crops; and (10) New Jersey weather during 1945. Statistics include: (1) summary table on acreage, production and farm value, (2) summary table on average yield per acre, average farm value per acre and average farm value per unit, (3) grain crops, (4) hay, (5) tree fruits, (6) berries and grapes for market, (7) vegetables for market, (8) vegetables and cranberries for processing, (9) livestock and livestock products, and (10) cash receipts from farm marketing and government payments. The annual data on acreage, average yield per acre, total production, average seasonal price per unit

and total farm value as well as on number of livestock, and quantity of livestock products produced are given at least as far back as 1935.

RESULTS OF A SURVEY OF THE PEACH TREE POPULATION IN NEW JERSEY DURING 1946

The work on this project has been completed and the results of the finding will be published as Departmental Circular No. 369. The primary object of this project was to determine the change in the number and varieties of peach trees between 1937 and 1946. The peach industry is expanding.

RESULTS OF A SURVEY OF THE APPLE TREE POPULATION IN NEW JERSEY DURING 1946

The tabulation of the data is completed and an analysis is being made. The apple industry is declining.

MISCELLANEOUS STATISTICAL WORK

The statistical branch is engaged in carrying on numerous projects pertaining to agriculture in New Jersey, and in answering inquiries in regard to the quantitative sides of agriculture.

SEED CERTIFICATION

WHITE POTATO SEED CERTIFICATION

The 1946 certified seed potato crop in New Jersey amounted to 40,136 bushels of which 29,306 bushels were Katahdins, the balance being divided among seven other varieties, the newest being Pawnee which shows some promise as an early variety. The Katahdin variety, now the principal and generally the most reliable variety grown in the State, holds its lead by virtue of general adaptation to a wide range of growing conditions and soil types. The Pawnee variety, named about two years ago, is as early maturing as Cobbler and is supposed to produce a large percentage of U. S. No. 1 tubers having excellent cooking, keeping and shipping qualities. In comparison to Irish Cobblers, the tuber is much smoother, having very shallow eyes. Additional testing of this variety will be necessary to ascertain whether it is a variety that will grow well under New Jersey conditions.

LARGER YIELDS PER ACRE

The total crop is slightly higher than the previous certified seed crop andl represents a much larger yield per acre (197 bushels per acre) since only 204 acres passed certification in 1946 as compared to 295 acres in

1945. Although the yields ranged from 60 bushels to 325 bushels per acre, the highest yield being recorded in the Sebago variety, the average yield per acre of 197 bushels is a reflection of the larger entry of Katahdins which generally gave good yields. The late fall, with no killing frosts until October 22 in central New Jersey and November 14 in southern New Jersey, permitted the making of good yields. Some of the lower yields were a direct result of early infection of the newly emerged plants by late blight *(Phytophthora infestans)*.

Late blight had been epithytotic and serious in tomatoes all through the summer. The weather was cool and rainy or cool with heavy dews often enough to keep this disease sporulating and so it was no surprise to find the disease quite general on the newly emerged plants. When the infection occurred on the stems, the plants never fully recovered and did not produce well. Attempts were made to spray these young plants but growers learned that it is difficult to adjust the spray boom to get good coverage when the plants are so small. Later sprays, applied on time, arrested the disease in most instances. A hot dry period in September also aided in stopping the blight, although diseased tomato fields provided plenty of ready inoculum when the weather again turned favorable to blight.

In some instances, the seed potato fields were adjacent to blighted tomato fields and the density of the blight infections were in direct proportion to the distance away from the tomato field.

CAUSES FOR REJECTION

Of the 40% rejections and withdrawals for the season (original entry list was 342.47 acres), many were due to the difficulty of making a suitable virus disease reading in the presence of distorted plants caused by stem lesions of late blight. Other fields rejected were clear cases of virus disease counts exceeding the tolerance allowed. Bacterial ring rot was found on three farms and caused rejections.

The general practice of including DDT in the spray mixtures not only controlled flea beetles and potato beetles but apparently prevented the build-up of aphis and leaf hoppers. In central New Jersey, the aphis had made a good start early in the season, causing rolling of the leaves in one or two fields and blasting of the growing tip. Later inspections showed the insects to be entirely gone, the result being attributable to the use of DDT.

The seed used to plant the 1946 crop was derived as follows: 39% home grown; 33% from Maine; 13% from Nova Scotia; 10% from New Brunswick; and the balance from Prince Edward Isle, New York, Wisconsin and Colorado.

No evidence of the potato tuber moth was seen this year. Common Scab and Rhizoctonia were present to some degree on almost every lot

grown. The hot dry spell in September, when the tubers were the small walnut size, probably explains this situation.

ACRES ENTERED FOR CERTIFICATION IN 1946

County	Acres	Per Cent
Cumberland	248.5	72.56
Salem	36.465	10.65
Burlington	27.5	8.03
Middlesex	17.0	4.96
Camden	10.0	2.92
Monmouth	3.0	0.88
Total	342.465	100.00

Seed Source:	100-lb. Bags	Per Cent
New Jersey	1,482	38.92
Maine	1,271	33.38
Nova Scotia	506.5	13.30
New Brunswick	382	10.03
Prince Edward Isle	84	2.21
New York	57	1.50
Wisconsin	25	0.66
Total	3,807.5	100.00

PRODUCTION AND DISTRIBUTION OF THE CERTIFIED CROP OF WHITE POTATO SEED OF NEW JERSEY

	1946	1945
Acres of seed certified	204.17	295.5
Total yield (field run) in bushels	40,136	38,146
Average yield per acre in bushels	197	129
Bags of certified seed sold	7,490	7,164
Bags sold within the State	7,490	7,164
Bags sold out of State	....	....
Bags sold untagged*	215	1,436
Total bags of seed sold	7,705	8,600
Bags seed unsold December 31	7,432	4,033
Baskets of seed retained own use	18,612	16,478
Bushels of seed retained own use	11,632	10,305

NOTE: Seed packed and sold in 100-lb. bags.
* Old sacks used tags not allowed.

POTATO ACREAGE ENTERED FOR CERTIFICATION, 1946

County	Growers	Katahdins	Chippewa	Sebago	Irish Cobblers	Red Skins	Sequoia	Green Mts.	Pawnee	Total
Cumberland	18	119.84	66.33	4.50	34.83	11.00	6.00	3.00	3.00	248.50
Salem	3	24.105	11.36	....	....	....	....	....	1.00	36.465
Burlington	2	15.00	....	....	2.50	....	10.00	....	....	27.50
Middlesex	2	17.00	....	....	....	....	....	....	....	17.00
Camden	1	....	....	....	....	5.00	5.00	....	....	10.00
Monmouth	1	3.00	....	....	....	....	....	....	....	3.00
Totals	27	178.945	77.69	4.50	37.33	16.00	21.00	3.00	4.00	342.465

ACREAGE FAILING AND PASSING CERTIFICATION

	Acres	Per Cent
Acreage rejected at first inspection	19.33	5.64
Acreage withdrawn at first inspection	38.50	11.24
Acreage rejected at second inspection	80.465	23.50
Total acreage rejected at end of two inspections	138.295	40.38
Acreage rejected at third tuber inspection	0.00	0.00
Acreage rejected and withdrawn three inspections	138.295	40.38
Acreage passing three inspections (certified)	204.17	59.62

VARIETAL DISTRIBUTION OF REJECTIONS AND WITHDRAWALS

Variety	Acres Entered	Acres Rejected and Withdrawn by Inspections		Acres Certified
		First	Second	
Katahdins	178.945	25.33	12.105	141.51
Chippewa	77.69	7.00	60.36	10.33
Cobblers	37.33	14.50	3.00	19.83
Sequoia	21.00	10.00	5.00	6.00
Red Skins	16.00	1.00	0.00	15.00
Sebago	4.50	0.00	0.00	4.50
Pawnee	4.00	0.00	0.00	4.00
Green Mountains	3.00	0.00	0.00	3.00
Totals	342.465	57.83	80.465	204.17

WHITE POTATO SEED CERTIFICATION INDUSTRY OF NEW JERSEY

Year	Number of Growers	Acres Entered	Percentage Rejection	Varietal Distribution	
1941	59	567.05	19.04	Katahdins	188.10
				Chippewas	168.50
				Cobblers	157.10
				Red Skins	28.00
				Green Mts.	9.75
				Houmas	9.50
				Sebago	4.00
				Sequoia	2.10
1942	54	658.41	15.1	Katahdins	279.00
				Chippewas	247.25
				Cobblers	58.00
				Sebago	25.83
				Red Skins	25.50
				Houmas	13.50
				Sequoia	5.83
				Green Mts.	3.50
1943	59	840.25	53.36	Katahdins	406.83
				Chippewas	165.58
				Sebago	119.92
				Cobblers	48.25
				Red Skins	34.25
				Bliss Triumph	30.25
				Sequoia	20.17
				Houmas	10.50
				Green Mts.	4.50

Year	Number of Growers	Acres Entered	Percentage Rejection	Varietal Distribution	
1944	36	475.50	18.98	Katahdins	246.00
				Chippewas	96.00
				Cobblers	54.50
				Red Skins	36.00
				Sequoia	29.50
				Sebago	7.00
				Green Mts.	4.50
				Houmas	2.00
1945	29	341.0	13.34	Katahdins	178.50
				Chippewas	70.50
				Sequoia	43.00
				Cobblers	20.50
				Red Skins	19.00
				Green Mts.	5.00
				Sebago	4.00
				Mohawks	0.50
1946	27	342.465	40.38	Katahdins	178.94
				Chippewas	77.69
				Cobblers	37.33
				Sequoia	21.00
				Red Skins	16.00
				Sebago	4.50
				Pawnee	4.00
				Green Mountains	3.00

SUMMARY OF WEATHER CONDITIONS

	Bridgeton				Hightstown			
	July	August	September	October	July	August	September	October
Number of days during which rain fell	6	7	8	9	7	11	5	7
Heaviest daily rainfall (in inches)	3.72	3.92	0.85	0.48	2.53	1.53	1.84	0.87
Lightest daily rainfall (in inches)	0.03	0.10	0.02	0.03	0.01	0.02	0.15	0.02
Total rainfall (in inches)	5.26	6.30	2.46	1.40	6.03	3.48	3.11	1.64
Deviation from normal	+0.93	+1.66	—1.04	—1.97	+1.19	—1.16	—0.70	—2.00
Average relative humidity at 7:30 A. M.*	81	84	87	88	79	82	82	82
Normal for month at 7:30 A. M.*	73	76	77	84	78	81	80	82
Per cent of possible sunshine*	71	54	68	68	68	55	65	56
Deviation from normal (per cent)*	+7	—8	+5	+5	+8	—6	0	—1
Highest temperature reached	93	90	91	82	98	89	91	86
Average of high temperatures	85.1	80.5	79.3	71.0	85.3	80.2	79.8	71.0
Normal of the high temperatures	87.5	85.3	79.3	68.8	85.3	82.4	76.9	66.0
Lowest temperature reached†	54.0	52.0	41.0	37.0	48.0	47.0	41.0	33.0
Average of the low temperatures	64.7	62.3	58.3	49.2	61.4	57.8	54.9	46.1
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).

TOMATO SEED CERTIFICATION

The field inspection for tomato seed certification during the summer of 1946 was peculiarly encumbered by the appearance of late blight in epidemic proportions. Fortunately, the organism causing this disease is not seed borne and, therefore, the inspection was influenced by the disease only to the extent of the degree of destruction of the plants. Much of the acreage which passed the inspection was removed from certified seed-saving by seedsmen before the expiration of the season. Even so, the plants bore prolifically. The accompanying tables will provide information of the trend of varietal preference indicating again that the Rutgers variety is maintaining its popularity among the several varieties.

TOMATO SEED CERTIFICATION FOR 1946

ACREAGE CERTIFIED

Name	Marglobe	Rutgers	Stokesdale	Garden State	Pritchard	Baltimore	Valiant	Total
Edgar Hurff Co.	230.0	1,781.0	108.0	....	131.0	25	....	2,275.0
Francis Stokes Co.	237.0	779.0	610.0	....	....	..	121.0	1,747.0
Ritter Seed Co.	456.0	855.00	....	..	....	..	....	1,311.0
Campbell Soup Co.	....	1,069.0	....	150.0	....	..	....	1,219.0
H. J. Heinz Co.	....	111.0	....	....	....	..	....	111.0
Totals	923.0	4,595.0	718.0	150.0	131.0	25	121.0	6,663.0

POUNDS OF SEED CERTIFIED

Name	Marglobe	Rutgers	Stokesdale	Garden State	Pritchard	Baltimore	Valiant	Total
Edgar Hurff Co.	7,843	54,884	5,454	....	5,520	833	....	74,534
Francis Stokes Co.	9,424	27,483	8,747	....	....	...	6,274	51,928
Ritter Seed Co.	13,000	23,500	....	....	....	...	....	36,500
Campbell Soup Co.	....	27,431	....	4,168	....	...	....	31,599
H. J. Heinz Co.	....	533	....	....	....	...	....	533
Totals	30,267	133,831	14,201	4,168	5,520	833	6,274	195,094

Tomato Seed Certification, 1921-1946

Varietal Distribution Certified Tomato Seed Acreages

Year	Bonny Best	J. T. D.	Baltimore	Marglobe	Valiant	Break-O'Day	Stokesdale	Rutgers	Grothens Globe	Pritchard	Glovel	Garden State	Campbell (No. 178)	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

SEED TREATMENT DECLARATIONS

During the fiscal year 1946-1947, 42 seed treatment declaration certificates were issued at various times to six New Jersey seedsmen for validation of shipments to Cuba, Puerto Rico, Mexico and West Indies.

These certificates covered 8,155.25 pounds of tomato seed and 306 pounds of pepper seed.

During this period, one seed inspection declaration certificate was issued to allow shipment of five pounds of Mary Washington asparagus seed into Cuba.

Also during this period, one phytosanitary certificate was issued in order to validate the shipment of vegetable seeds into South America.

GRAIN SEED CERTIFICATION

This project, now 15 years old, has become a permanent part of New Jersey farming. From a small beginning of a few entries and a few hundred bushels of seed produced, the certification of seed has expanded so that most farmers in the State use certified seeds of one crop or another. This has meant a lot to the more progressive growers who wish to grow large yields of grain at the lowest possible cost. Hybrid seed corn has made possible the growing of crops of better than 100 bushels of shelled corn per acre on good land and has helped to raise the general state-wide average yield per acre.

Better crops of wheat and winter barley are likewise possible by the use of certified seeds of these crops. The New Jersey Field Crop Improvement Association, fostering this project which is carried on by the New Jersey Department of Agriculture and the New Jersey Agricultural Experiment Station, has aided materially in the move toward better seeds by providing better and better equipment to clean and grade seed.

This association has purchased the old flour mill at Kingston, New Jersey and installed the latest and best grading machinery. Beside this, they now own a tractor and trailer to haul seed in for cleaning and back to the sales' outlets. Another trailer is equipped with clipping and grading equipment for jobs farther out in the State.

Following is a table showing the summary for the year. The production of New Jersey hybrids is off considerably because of a partial failure the previous year in producing the parent seed. Soybean seed, in good demand, was short because several lots of seed failed to make a suitable germination test.

GRAIN SEED CERTIFICATION—1946

Crop	Number of Growers	Acreage Entered	Acreage Passed	Bushels Scaled
Hybrid Corn:				
New Jersey No. 2	9	72	72	1,655
New Jersey No. 4	7	71.5	71.5	1,517.5
New Jersey No. 5	1	15	15	493
U. S. No. 13	13	165	155	4,119
Ohio C-88	2	45	45	1,587.5
Carmelcross (sweet corn)	4	8.5	3.5	.....
Oats:				
Keystone	1	9	9	284.5
Vicland	8	130.25	101.75	2,569
Soybeans:				
Chief	6	112	24	666
Lincoln	2	25	25	314
Winter Wheat:				
Leap's Prolific	7	90	55	1,188
Thorne	21	461	294	5,727
Winter Barley:				
Nassau	1	12	12	248
Wong	14	200.7	181.2	6,850
Total	96	1,416.95	1,063.95	27,218.5

PLANT CERTIFICATION

BLUEBERRY PLANT CERTIFICATION

In the second year of making inspections for the blueberry "stunt" disease as part of the plan for the production of certified plants, applications were received from 26 growers. The first inspection in the spring covered 362.23 acres, of which 12 were rejected for excessive "stunt" percentages. At the completion of the fall inspection, 350.23 acres were declared eligible as cutting wood sources from which certified stock could be sold. In the spring inspection, 1,413 plants were tagged for removal as stunt-infected and in the fall season, 589 such plants were tagged. This is at the rate of four plants per acre in the spring and 1.7 plants per acre in the fall showing stunt symptoms. All tagged plants were removed.

As a result of damage to plants other than those sprayed with ammate, it became necessary to discontinue using this material to kill infected plants in place. The regulations were changed to provide for spraying with a contact insecticide to kill possible insect vectors before removing the plant by lopping-off branches and grubbing out of root crowns.

In attempting to ascertain the vectors and the nature of how the disease is spread, research at the Cranberry-Blueberry Experiment Station has been pursued. One thing has been learned: that at least one leaf-hopper

(the sharp-nosed leaf-hopper) of more than a dozen leaf-hoppers now collected on blueberries, does transmit the virus.

It is probably too early in point of years of experience with this disease to evaluate properly the effectiveness of what has been done so far. Some fields which showed a fair count and distribution of the disease continue to show a strong count. The newer infections are generally in close proximity to the location of the previously infected and removed plants. Other fields have showed continued improvement and reduction in percentage of diseased plants. By the end of the third inspection season, growers who have been in the program since its beginning should be able to sell as certified stock their whips or scions, rooted cuttings, and nursery plants.

RASPBERRY PLANT CERTIFICATION

Inspections were made for three growers covering 22.5 acres. Five varieties were included in these lots. This service is rendered to accommodate those who wish to ship into States (there are 13) having special requirements as to virus-free plants.

STRAWBERRY PLANT CERTIFICATION

The strawberry fields of 20 growers from which plants were to be sold were inspected for Red Stele disease. The acreage inspected amounted to 63.3 acres. Two small fields planted with plants received from Maryland showed the Red Stele disease was causing damage and loss of bed. Judging from the fact that each year in a few instances the Red Stele disease can be found in fields grown from Maryland and other out-of-state sources it would seem to indicate a need for continuing this project.

NURSERY INSPECTION, 1946-1947

INSECTS FOUND AND FREQUENCY OF OCCURRENCE

Certificates of inspection were issued, beginning September 1, 1946, to 467 nurseries. These certificates were issued only to those nurseries found upon inspection, or reinspection, to be free of dangerously injurious insects and plant diseases. Following are listed the insects found, and the frequency of occurrence.

Insect Pests	Number of Infestations
Juniper Scale	92
Bagworm	55
Rhododendron Lace Bug	44
Oyster Shell Scale	39
European Pine Shoot Moth	25
Pine Leaf Scale	24
Euonymous Scale	19
Boxwood Leaf Miner	17
Juniper Webworm	17
Spruce Gall Aphid	14
Taxus Mealy Bug	10
Red Spider	9
Azalea Lace Bug	7
Holly Leaf Miner	7
Pine Bark Aphid	7
Hawthorne Lace Bug	7
Borers (Miscellaneous in Deciduous Trees)	5
Round-Headed Apple Borer	4
San José Scale	4
Pine Sawflies	3
Peach Borer	2
Tulip Tree Scale	2
Yellow-Necked Apple Worm	2
Birch Leaf Miner	1
Carpenter Worm	1
Elm Scale	1
White Pine Weevil	3
Flat Head Borer	1
Giant Sycamore Aphid	1
Hemispherical Scale	1
Lilac Borer	1
Mottled Willow Borer	1
Oak Lace Bug	1
Orchid Scale	1
Sycamore Lace Bug	1
White Fly	1

A total of 430 infestations in 181 nurseries was found. These infestations were controlled and certificates were issued.

WHITE PINE BLISTER RUST CONTROL-AREA PERMITS

Under the provisions of Quarantine No. 63 of the United States Department of Agriculture, in order 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 542 permits was issued from July 1, 1946, to June 30, 1947.

DEALERS' CERTIFICATES

Dealers' certificates were issued to 67 dealers in nursery stock after they had signed agreements to purchase stock from listed certified nurserymen only.

SPECIAL CERTIFICATES

A total of 231 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 INSPECTIONS UPON REQUEST

Requests are received from residents of the State from time to time requesting information on insect problems. Where necessary, special calls are made. A total of 115 such calls was made.

CANADIAN CERTIFICATES

Fifty-nine special Canadian certificates were issued to persons making shipment of plant material into Canada in accordance with their regulations.

DOMESTIC INSPECTIONS

A total of 247 inspections was made of nursery stock shipped into New Jersey from other states.

FOREIGN INSPECTIONS

Six inspections were made of plant shipments into this State from foreign countries.

BLUEBERRY PLANT INSPECTIONS

During the spring of 1947, the nursery inspectors aided in inspecting blueberry plantings for "stunt" disease. This program, now administered by the supervisor of seed certification, will be carried under this project in the future.

GYPSY MOTH SCOUTING

In the early summer of 1946, gypsy moth assembling cages were again distributed over a wide area in Bergen, Passaic, Sussex and Warren counties. These cages are loaned by the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture, which cooperates with the Department in this project. A total of 1,000 such cages was utilized over an area starting in the township of White on the Delaware River in Warren County, north to High Point in Sussex County, then east along the New York State line to the Hudson River at Alpine. A strip approximately the depth of two townships was trapped along the Delaware River. The strip along the Hudson River

was one township in width. A few traps were placed in the vicinity of Deal Beach where a gypsy moth infestation had been found some years previously. The traps, which have been proven remarkably efficient in revealing the presence of gypsy moth infestation by their ability to attract male moths over long distances, were patrolled and kept in good working order throughout the season of flight. By mid-September all of the traps had been taken up. No gypsy moth was captured.

DISTRIBUTION OF GYPSY MOTH CAGES, SEASON 1946

	Cages
Warren County:	
White and Oxford	65
Hope	65
Knowlton	40
Blairstown	45
Pahaquarry	25
Hardwick	40
Sussex County:	
Stillwater	40
Walpack	40
Hampton	30
Frankford	40
Sandyston	50
Montague	50
Wantage	40
Vernon	25
Passaic County:	
West Milford	65
Ringwood Borough	35
Bergen County:	
Hohokus	50
Ramsey	20
Upper Saddle River	20
Montvale	12
Park Ridge	10
Woodcliff Lake	12
Riverdale and Old Tappan	20
Northvale	4
Norwood	6
Harrington Park	8
Closter	25
Rockleigh	3
Alpine	25
Demarest	10
Cresskill	8
Tenafly	29
Englewood Cliffs	13
Englewood Borough	30
Total	1,000

For several weeks after the assembling cages had been removed, yet before foliage had dropped sufficiently to permit reasonable observation in the forests, the inspectors were utilized in the blueberry "stunt" disease project of this Department. By mid-October the regular gypsy moth

scouting work was begun. This continued until May of 1947. A summary of this work follows.

During June of 1947, the gypsy moth inspectors were assigned to aid in the blueberry "stunt" disease survey work. Some gypsy moth scouting was done, primarily at higher elevations in Warren and Sussex counties, for signs of insect feeding that could be caused by the larvæ. Negative results were reported.

ANNUAL GYPSY MOTH REPORT

	Open Acres Scouted	Woodland Acres Scouted	Infestations Found
Bergen County:			
Alpine	87	143	....
Englewood Borough	611	186	....
Englewood Cliffs	118	527	....
Tenafly	172	568	....
Total	988	1,424	
Morris County:			
Hanover	202	371	....
Jefferson	95	....	....
Randolph	48	701	....
Rockaway	129	....	....
Roxbury	65	....	....
Mendham	....	87	....
Total	539	1,159	
Monmouth County:			
Rumson	472	146	....
Shrewsbury	280	3	....
Total	752	149	
Somerset County:			
Hillsboro	1,287	384	....
Montgomery	497	378	....
Total	1,784	762	
Sussex County:			
Andover	41	....	....
Byram	109	....	....
Hardyston	24	....	....
Green	28	....	....
Sparta	82	....	....
Total	284		
Warren County:			
Allamuchy	22	....	....
Frelinghuysen	30	....	....
Independence	25	....	....
Mansfield	52	....	....
Washington	502	502	....
Total	631	502	
State Total	4,978	3,996	

PROGRAM FOR 1948

The State of New Jersey continues to be free of the gypsy moth. Infestations are present in the bordering states of New York and Pennsylvania, in close proximity to our boundaries with these states. Because of the fact that newer insecticides and equipment are proving very efficient in reducing the infestations threatening this State, it is planned during the coming year to devote more attention to areas where infestations were found and apparently controlled several years ago, with somewhat less attention to the northernmost part of the State. Thus, scouting is planned for the townships of Cranbury, Sayreville, Monroe and Madison in Middlesex County, and for Manalapan in Monmouth County. The fact that moths are still being captured at assembling cages in New York State just a few miles from the Bergen County line necessitates the continuation of intensive scouting in that area. This will be accomplished with a small crew.

There is every reason to believe that the continued scouting program and treatment as soon as infestations are found, and before they become widespread, are well worthwhile, and economically sound. This becomes obvious when it is realized that in Pennsylvania alone, where infestation by this insect is relatively recent, it was necessary during this same fiscal year, to scout about 161,000 acres and to treat a total of more than 87,000 acres with insecticides, by aircraft, blower, or knapsack sprayer.

MISCELLANEOUS ENTOMOLOGICAL ACTIVITIES

EUROPEAN CORN BORER SURVEY

This Department again cooperated with the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture during the fall of 1946 in a survey to determine the abundance of the European corn borer in New Jersey. Sample counts were made in all counties except Hudson.

A list of borers reported per 100 plants by counties for the years 1945 and 1946 follows:

CORN BORER SURVEY

County	Average Number Borers Per 100 Plants 1945	1946
Atlantic	59.4	98.4
Bergen	34.4	241.8
Burlington	407.2	160.0
Camden	141.6	84.6
Cape May	187.2	86.2
Cumberland	104.8	107.6
Essex-Union	83.0	31.7
Gloucester	266.6	178.2
Hunterdon	77.6	71.6
Mercer	129.8	196.0
Middlesex	107.6	163.6
Monmouth	102.7	184.4
Morris	29.2	11.4
Ocean	85.8	71.4
Passaic	26.2	94.2
Salem	314.8	156.0
Somerset	56.7	19.8
Sussex	17.0	8.6
Warren	14.4	23.8
State average 19 (20 counties)	118.2	104.7

A significant increase in borer population occurred in only one county—Bergen. Decreases in Burlington and Salem counties were encouraging. On a state-wide basis, no significant change in population is evident.

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

This South American weevil, first found in this country 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 is a subject of quarantine by the United States Department of Agriculture, and in damage caused to growing crops, it is at least as injurious as the Japanese beetle.

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.

In June, 1947, the Bureau of Entomology and Plant Quarantine assigned an experienced man to New Jersey to help in starting a survey. He and one temporary employee of this Department began by inspecting points where nursery stock had been received in recent years from Georgia nurseries, now known to be infested. Inspections for signs of the presence of this insect were also made in nurseries that had shipped into areas now known to be infested. Spot checks were made in the potato and tomato sections. Special attention was given to the potato packing sheds and

the railroad yards at Hightstown. Trenton's railroad yards, and the railroad yards and dock area of Camden were also surveyed. During the month of June inspections were made in 11 of our counties, and no white-fringed beetle was found.

Plans were made to develop the survey by providing a week of training within the infested area of Georgia for our scout, then allowing him to survey army camps, railroad yards, nurseries, and other likely places, terminating the project in September, 1947.

REVOCATION OF THE DUTCH ELM DISEASE QUARANTINE

Quarantine No. 71 of the United States Department of Agriculture was revoked on March 26, 1947. This was the domestic quarantine on the Dutch elm disease. This action was based on the determination by that agency that this quarantine did not provide practical means for preventing the spread of the disease.

The State Board of Agriculture, at its meeting May 14, 1947, revoked the intrastate Dutch elm disease quarantine of this Department. Within New Jersey itself, there is little likelihood that continuation of the quarantinue would have had any effect on spread of the disease.

On May 6, 1947, the State of California declared an embargo against the movement of elm plants or parts thereof, including, lumber, crates, packing cases, etc., manufactured of elm wood, not free from bark. This embargo affects all of the State of New Jersey. It is anticipated that other states, to which this disease has not yet spread, will take similar action.

NURSERY TEST PLOT

When insect infestations are found in plant growing establishments or as "nuisances" on other grounds, this Department is required by law to provide directions to the grower or owners of the land by pointing out methods which should be taken to abate the condition. Over a period of many years, a few standard insecticides whose properties are well known and proven have been recommended for this purpose.

Within the past few years many new insecticides have appeared. Their use has given remarkable control of pests under some conditions but caused considerable damage under other conditions.

Vast changes are occurring in the formulation of insecticidal materials. In order that this Department might have good information on which to base recommendations for control of the insect pests commonly found in plant growing establishments, it was deemed necessary to establish a nursery test plot.

One acre of ground at the White Horse laboratory was planted in nursery stock in April, 1947. A good sample of representative plants was utilized. It is planned to infest these plants from time to time after they have become established, and to test control with the newer insecticidal materials and equipment, As promising materials are found, each would

be used on a small scale in cooperating nurseries. When the materials are found effective, and safe to plants and man, they will be recommended for large-scale use.

BEE CULTURE

The regular seasonal inspection work was carried on in all counties of this State, excepting Hudson, during 1946. In response to requests from established or prospective apiarists, a scouting program was carried on during the winter months to provide suitable apiary sites. Thus it was possible to locate these newer colonies in areas known to be disease-free.

The regular seasonal inspection was so arranged that some colonies in all parts of the State were checked. Reliable information as to the sources and extent of the various diseases was thus obtained.

Queen-rearing apiaries and apiaries producing package bees for transit were properly inspected and certified. This involves inspection for contagious bee diseases of all apiaries in the vicinity of the certified apiary.

Breeding by continuous selection of both drones and queens has resulted in a noticeable improvement in characteristics, such as, ease of handling, honey production, and pollination ability of the Italians, Caucasians, and Carnolians, which continue to be the most popular races in New Jersey. The high quality of New Jersey stock is evidenced by the demand, which continues to exceed the available supply.

APIARY INSPECTIONS

During the fiscal year 1946-1947, 546 apiaries were inspected, and 6,449 colonies and 825 nuclei were examined for bee diseases. American foulbrood, *Bacillus larvae,* was found in 97 apiaries and 232 colonies were infected with the disease. European foulbrood *Bacillus pluton* was found in eighteen apiaries, 23 colonies being infected with the disease. This disease is most commonly found in southern New Jersey and is controlled by requeening with resistant stock. The number of colonies found in box hives and with crossed combs was largely influenced by excessive swarming and difficulty in purchasing proper bee equipment. Excellent cooperation is maintained with the beekeepers, who are appreciative of the benefit derived from this service in increasing the value of their beekeeping project.

MICROSCOPIC DIAGNOSES

The microscopic diagnoses of dead bee smears help beginners to learn how to detect bee diseases in various stages of development and also help to verify the opinion of experienced apiarists.

During the year, 100 smears of dead bee brood were received by mail and diagnosed microscopically. The organism *B. larvæ* causing American foulbrood was found in 33 smears and the organism *B. pluton* causing European foulbrood was found in 43 smears. Twenty-four of the smears were apparently negative for bee diseases.

APIARY INSPECTIONS, BY COUNTIES

County	Apiaries	Colonies Inspected	Nuclei Inspected	Box Hives	Cross Combed	Apiaries American Foulbrood	Colonies American Foulbrood	Apiaries European Foulbrood	Colonies European Foulbrood	Colonies Burned	Smears: American Foulbrood	Smears: European Foulbrood	Smears: Negative
Atlantic	1	11	...	..	..	..	..	..	..	..	..	..	..
Bergen	72	349	...	..	..	3	11	..	..	..	4	..	.
Burlington	39	859	...	..	15	11	42	7	16	..	15	25	4
Camden	3	30	...	..	2	..	..	..	..	..	2	..	4
Cape May	4	384	...	..	4	7	7	1	1	..	1	7	..
Cumberland	41	580	...	..	9	20	3	6	..	..	2	8	2
Essex	7	34	...	..	..	..	..	..	..	..	..	..	..
Gloucester	...	...	...	..	..	..	..	..	..	..	..	..	1
Hunterdon	66	1,317	825	2	1	14	25	4	6	..	1	3	3
Mercer	43	878	...	..	..	8	36	..	..	..	1	..	..
Middlesex	10	95	...	..	..	2	9	..	..	..	1	..	..
Monmouth	6	52	...	..	..	1	1	..	..	1	1	..	..
Morris	100	441	...	3	..	17	63	..	..	..	2	..	1
Ocean	...	...	...	..	..	..	..	..	..	..	..	..	1
Passaic	31	249	...	..	..	2	6	..	..	..	..	..	..
Salem	...	...	...	..	..	..	..	..	..	..	2	..	7
Somerset	34	263	...	..	..	8	20	..	..	..	..	..	..
Sussex	22	239	...	..	..	1	4	..	..	..	1	..	1
Union	30	301	...	..	..	2	2	..	..	..	..	..	..
Warren	37	367	...	..	..	1	3	..	..	..	..	..	..
Total	546	6,449	825	5	31	97	232	18	23	1	33	43	24

CERTIFICATES ISSUED

The necessary inspections were made and the following certificates issued:

2—Certified honey
6—Queen rearing
31—Transfer certificates

PROGRESS IN DISEASE CONTROL

The most serious disease of bees in New Jersey is American foulbrood. Clean-up measures consist in destroying the infected combs, then sterilizing the hive bodies and other equipment by lye bath or blow torch. These clean-up measures are required so that bees from healthy colonies will not become infected by robbing the dead, diseased or weakened colonies. This is considered the most common means of spreading American foulbrood.

Summarized below are the accomplishments of the bee inspection service during the past 14 years.

SUMMARY OF BEE INSPECTION SERVICE

Fiscal Years	Apiaries Inspected	Colonies Inspected	Apiaries A.fb.	Colonies A.fb.	Apiaries E.fb.	Colonies E.fb.	Percentage Apiaries American foulbrood	Percentage Colonies American foulbrood
1934	390	5,011	117	435	7	10	30.0	8.7
1935	784	6,729	256	795	5	6	32.6	11.8
1936	991	7,638	286	764	3	4	28.8	10.0
1937	1,246	7,678	209	514	4	7	16.8	6.7
1938	608	7,485	151	411	10	17	24.8	5.5
1939	691	8,554	143	411	13	21	20.7	4.8
1940	609	6,839	121	347	8	19	19.8	5.1
1941	639	7,531	108	238	12	23	16.9	3.2
1942	561	6,265	113	275	11	50	20.1	4.4
1943	533	6,705	102	248	5	32	19.1	3.7
1944	564	6,487	100	290	8	31	17.7	4.5
1945	514	6,491	60	195	5	14	11.7	3.0
1946	603	6,047	97	226	8	12	16.1	3.7
1947	546	7,274	97	232	18	23	17.8	3.2

It will be noted that the number of apiaries inspected has not changed significantly. There has not been a significant change in the number of colonies inspected. In the percentage of apiaries inspected and found infected with American foulbrood, there is a downward trend, but it can be expected that 15% or more of the apiaries inspected will have infection with American foulbrood since every effort is directed toward locating and inspecting apiaries which are diseased or which have been exposed to this disease.

In percentage of colonies inspected and found infected with American foulbrood, there has been a downward trend. In the fiscal year ending June 30, 1941, a figure of 3.2% was reached. Little or no variation from that figure has occurred since then. There is little likelihood that any siz-

able reduction in this percentage can occur, so long as the inspector's first concern is the locating and treatment of apiaries and areas where outbreaks of American foulbrood are suspected.

No clear-cut trend can be shown with regard to the occurrence of European foulbrood in the apiaries inspected. This disease, of secondary importance, appears to be confined to the southern half of the State, and climatic conditions appear to play an important part in its increase or decrease in any one year.

It is estimated that there were 33,000 colonies of bees in New Jersey apiaries in 1947. This represents an increase of about 9,000 colonies since 1944. It is considered desirable to inspect at least one-third of the total number of colonies in the State in any one year. If additional personnel is made available to this project during the coming year, this should be accomplished.

INSECT PARASITE INVESTIGATIONS

The cooperative agreement between the New Jersey Department of Agriculture and the Federal Bureau of Entomology and Plant Quarantine was continued through the current fiscal year. This agreement provides for the culture, study, and field distribution of *Beauveria bassiana,* a fungus disease of the adult Japanese beetle.

The major program for the year included: (1) rearing and field distribution of *Macrocentrus ancylivorus,* a parasite of the Oriental fruit moth; (2) rearing and field distribution of *Microplectron fuscipennis,* a parasite of the European pine sawfly; (3) organization, direction, and observation of effect of an aerial spray campaign against the European pine sawfly; (4) distribution and field study of parasites of the European corn borer; (5) culture and field study of *Beauveria bassiana,* a fungus parasite of the adult Japanese beetle.

REARING AND FIELD DISTRIBUTION OF *Macrocentrus ancylivorus*

This program was conducted along the general lines followed for the past several years. The parasite laboratory reared and prepared for field distribution the required number of *Macrocentrus,* which were then distributed in the several experimental orchards. Parasites were liberated during the first brood of Oriental fruit moths in some orchards, and on the second brood of moths in other orchards. Check orchards where no *Macrocentrus* were liberated were also observed for comparison. All field work was conducted by Dr. B. F. Driggers, of the New Jersey Experiment Station.

Field liberations on first brood fruit moths were begun May 27 and concluded June 10, a total of 12,400 *Macrocentrus* being liberated. Liberation of parasites on the second brood of Oriental fruit moths was commenced June 24, and concluded July 8; a total of 35,100 *Macrocentrus*

were liberated in the second brood study areas. The total *Macrocentrus* utilized for the current year was 47,500.

This completes the third year that this cooperative project has been in progress. The general purpose is to establish the relative value of parasite liberations on respectively the first and second brood of Oriental fruit moths. In summarizing the results of the work of the first three seasons, Dr. Driggers states—"It seems reasonable to conclude, from the data obtained over the three-year period, that the liberation of 100 female *Macrocentrus* parasites per acre on first brood fruit moth in peach orchards will result in parasitism equal to or greater than that which results from the liberations of 300 female *Macrocentrus* parasites per acre on second brood."

Notwithstanding the successes which have been almost commonplace in applying DDT and other of the newer insecticides for insect control, the Oriental fruit moth remains a serious pest in the peach industry. This is because natural control of the fruit moth through its parasites is frequently fairly successful; the moth appears rather resistant to the insecticides while the parasites readily succumb; the use of these powerful insecticides is commonly followed by a severe mite infestation in the sprayed orchards. It, therefore, appears that the use of *Macrocentrus* as a control measure for the Oriental fruit moth still has great promise. During the past year three individuals began the commercial production of *Macrocentrus* in New Jersey, and each reported a ready sale for all the parasites they could produce.

The procedure developed and reported last year for the production of host insects and *Macrocentrus* free of *Nosema* disease was followed during the current year, with the result that for the second year we had no disease in our insects. A breeding stock free of disease was offered to any laboratory interested in following this method, and disease-free insects were supplied to one commercial parasite grower at Moorestown, New Jersey, and to the *Macrocentrus* rearing laboratory recently established by the State of Georgia.

Changes in the technique of rearing *Macrocentrus* on the potato tuber moth are still in progress, and now appear to be well adapted for producing the parasites on a mass-production basis. There has been a free exchange of information on new developments among all interested in growing the parasites, which has been of inestimable value.

REARING AND FIELD DISTRIBUTION OF *Microplectron fuscipennis*

The rearing and distribution of the pine sawfly parasite, *Microplectron fuscipennis,* was continued for this year. A total of 2,292,000 parasites were introduced in plantations of red and Scotch pines infested by the sawfly.

The releases of *Microplectron* during the summer of 1946 were as follows:

Date	Number of Parasites	Plantation	County
July 10	450,000	Newark Watershed	Passaic
July 16	372,000	Ingersoll-Rand Company	Warren
July 17	450,000	Newark Watershed	Passaic
July 30	240,000	Ingersoll-Rand Company	Warren
July 30	60,000	Harry Gruner	Warren
August 1	270,000	Stokes State Forest	Sussex
August 6	90,000	Freehold Park	Monmouth
August 7	30,000	Chris Beier	Passaic
August 7	270,000	Stokes State Forest	Sussex
August 12	60,000	Melville Smith	Somerset
Total for season	2,292,000	7 Colonies	

The year's production of parasites was concentrated in a few plantations where the initial introduction of parasites was made while the sawfly infestation was very light. In these cases the build-up of sawfly population appears to have been markedly reduced. At the Ingersoll Rand planting near Phillipsburg, a sawfly infestation was found in 1943. Parasites were introduced in that year and each year since. The sawfly infestation has increased only slightly during the three-year period and most of the trees are in fine condition. This has not been the usual history of sawfly infested plantings in the State.

AIRPLANE SPRAYING FOR CONTROL OF THE PINE SAWFLY *Neodiprion sertifer*

The pine sawfly *Neodiprion sertifer* has been causing increasingly severe and extensive damage to red and Scotch pine in New Jersey for several years. It was first collected near Somerville in 1925, and by 1946, the infested area included the whole northern half of the State. In many of the plantings the needles were completely stripped from the trees for several years in succession, so that the trees were weakened and a few died.

More than 9,000 acres had been planted to red and Scotch pine on the recommendation of the State Department of Conservation. In addition, considerable acreage had been planted with seedlings obtained from other sources.

When repeated heavy damage occurred, property owners appealed to the Department of Agriculture for aid in controlling the pest. Several parasites were introduced, principally *Microplectron fuscipennis*. During the period 1939-1945, liberations of this parasite were made on 157 properties in the State. A total of 12,644,000 *Microplectron* were liberated.

Investigations showed that this parasite attacked the sawfly cocoons and caused a reduction in the population, but the reduction was not sufficient to prevent the annual defoliation of the trees.

Several individuals protected their pines by spraying with knapsack sprayers and hydraulic power sprayers, but this was usually a costly procedure. The pines are planted so close that it is usually necessary to cut lanes through the plantings. Then the application of spray material was usually not uniform or satisfactory because the material had to be drifted on the trees.

Application of insecticides by airplane was developed before and during the war years, and was used successfully against many pests. In the spring of 1946 we attempted to use this method on a small scale but the contractor whose services we obtained did not apply the material until after heavy damage had occurred and the work was poorly done so that no control was obtained.

During the winter of 1946-1947, several conferences were held for the purpose of obtaining additional information concerning airplane application of insecticides. Valuable assistance was obtained from the staff of the Gypsy Moth Control Project at Wilkes-Barre, Pennsylvania and the Division of Forest Insect Investigations, both of the Federal Bureau of Entomology and Plant Quarantine. Both organizations had conducted extensive airplane spraying operations.

As a result an airplane spraying service was made available to owners of pine plantings of 10 or more acres in New Jersey. The cost to the property owner was $2.50 per acre including materials. The material applied was a DDT solution containing one pound of DDT per gallon, applied at the rate of one gallon per acre.

The spraying was done by Lehava Air Services of Philadelphia. The planes employed were biplanes of the Navy N-3-N type. They carried a tank of 80-gallon capacity. A small wind-driven pump forced the solution from the tank to a spray boom located beneath the wing.

The spraying was done during the period April 21-May 9. The results were generally satisfactory; were checked carefully and most of the property owners expressed their satisfaction.

The plantings sprayed as part of this program are listed below:

PINE PLANTINGS SPRAYED BY AIRCRAFT

Property	Township	County	Acreage
Lawrenceville School	Lawrence	Mercer	20
Washington Crossing State Park	Hopewell	Mercer	133
Mercer County Nursery	Ewing	Mercer	10
Dr. J. R. Harman	Ewing	Mercer	18
Franklin Rue	Upper Freehold	Monmouth	15
J. M. Ellis	Middletown	Monmouth	55
C. B. Harding	Shrewsbury	Monmouth	20
Col. Arthur F. Foran	West Amwell	Hunterdon	30
Mrs. Adelaide Hawley	Alexandria	Hunterdon	30
Fred Riehle	Alexandria	Hunterdon	10
Walter G. Pearson	Franklin	Hunterdon	25
Dr. Othmar J. Beyer	Delaware	Hunterdon	50
Mrs. D. W. Allen	Delaware	Hunterdon	18
Plainfield Boy Scout Camp	Lebanon	Hunterdon	30
Reeve Schley, Jr.	Readington	Hunterdon	10
Andrew Lachenmayr	Readington	Hunterdon	16
G. R. Buckwalter	Raritan	Hunterdon	12
Voorhees State Park	Lebanon	Hunterdon	130
New Jersey State Sanitorium	Lebanon	Hunterdon	215
Dr. Leonard Goldwater	Alexandria	Hunterdon	40
Frank Serles	Hillsborough	Somerset	18
R. Stuyvesant Pierrepont	Bedminster	Somerset	15
P. C. Zuhlke	Bedminster	Somerset	40
Robert Cuse	Bernards	Somerset	47
Wright D. Goss, Jr.	Chester	Morris	33
John R. Hardin, Jr.	Chester	Morris	32
Jersey City Watershed	Parsippany-Troy Hills	Morris	40
Hacklebarney State Park	Washington	Morris	14
Charles B. Bradley	Chester	Morris	37
John R. Rogers	Chester	Morris	15
Mrs. Lila Tyng	Chester	Morris	10
Owen Winston	Mendham	Morris	58
Julius Loewith	Chester	Morris	35
Union County Park Commission	New Providence	Union	30
Commonwealth Water Co.	Springfield	Union	30
Charles Marcak	Liberty	Warren	15
D. H. O'Brien	Mansfield	Warren	12
Dr. Percy Hughes	White	Warren	32
Rolfe Shellenberger	White	Warren	15
Rutherford Estate	Allamuchy	Warren	20
Jenny Jump State Forest	Frelinghuysen	Warren	60
R. G. Kimball	Hardwick	Warren	30
Eagle's Nest Farm	Knowlton	Warren	85
Dr. John Hammett	Byram	Sussex	45
Louis P. Rocker	Andover	Sussex	35
Mrs. Maria Clara	Fredon	Sussex	18
Francis V. D. Lloyd	Sandyston	Sussex	30
Dairy Research Farm	Wantage	Sussex	22
Robert V. Armstrong	Frankford	Sussex	15
Newark Water Co.	West Milford	Passaic	150
North Jersey District Water Supply	Ringwood-Wanaque	Passaic	400
F. D. Herbert	West Milford	Passaic	28
Hackensack Water Co.	Oradell	Bergen	189
		Total	2,542

STATUS OF PARASITES OF THE EUROPEAN CORN BORER IN NEW JERSEY

During the fall of 1946, borers were collected from 18 localities in the State, at nearly all of which parasites had been liberated previously.

The tachinid fly *Lydella grisescens* was found causing parasitism at each of the 18 locations, confirming the opinion expressed in last year's report, that this parasite is now generally distributed over the State. The percentage of the borers parasitized by this fly ranged from 12% to 46%.

The braconid wasp *Macrocentrus gifuensis* was reared from material collected at eight of the 18 locations. This parasite had been liberated at all eight of the points where it was collected. Parasitism ranged from 0.4% to 13.7%, the latter rate prevailing in the Colt's Neck area of Monmouth County, where this parasite was liberated in 1939 and 1940.

Horogenes punctorius, an ichneumonid wasp formerly called *Inareolata punctoria,* was found at six locations. Rates of parasitism ranged from 1.3% to 9.8%.

It appears that the two wasps have become established and are spreading slowly and that further liberations should be made to decrease the interval between points from which they must spread.

FIELD WORK WITH *Beauveria bassiana,* A FUNGUS DISEASE OF ADULT JAPANESE BEETLES

This fungus has been distributed at many locations in New Jersey during the past several years.

In order to test its effectiveness after liberation, no new liberations were made during the summer of 1946, but attempts were made to recover the organism at two locations where it had been distributed previously.

Twelve standard Japanese beetle traps were placed at Rock View Golf Course, Montague, Sussex County, where the fungus was distributed in the summer of 1945. The beetles trapped were held under conditions conducive to fungus development. Seven typical cases of *Beauveria* infection developed.

A similar set of 12 traps was placed in the South Mountain Reservation, Millburn Township, Essex County, where the fungus was distributed in 1942. Among the beetles captured in these traps, eight developed typical *Beauveria* symptoms.

It therefore appears that the fungus is able to maintain itself in the field from year to year, but even under the very humid conditions prevailing at Rock View, located in the Delaware River Valley, the percentage of the total beetle population is so small that the organism cannot be considered an important factor in the control of the Japanese beetle.

A moderate quantity of *Beauveria* spores were grown and processed for the Federal Bureau of Entomology and Plant Quarantine. This material was used in an experimental introduction in Vermont. Later, the

area of the experiment was scouted for diseased Japanese beetles, the determinations being made by the White Horse Laboratory. A number of the specimens submitted were found to be typical *Beauveria* infections.

ADULT JAPANESE BEETLE DAMAGE SURVEY, SUMMER 1945

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

The foliage damage was slightly more severe in 1946 than it had been the previous year. Increases were noted in nine of the 20 counties surveyed, the greatest being in Atlantic, Cumberland, and Ocean counties. Damage decreased in seven counties led by Union and Mercer. There were no large areas of heavy general damage and for the second consecutive year the Japanese beetle was not economically important.

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

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

DUTCH ELM DISEASE IN NEW JERSEY FOR THE CALENDAR YEAR 1946

The work of this project was continued throughout this calendar year with four field men assisting the project supervisor. The field men spent almost the entire foliar season on this project whereupon two of them were assigned to other projects, the third resumed his work on the canker stain disease survey and the fourth busied himself with the compilation of data collected during the summer of 1946 and preparing a series of maps used in the field work of this project.

The plan of Dutch elm disease control field work in 1946 followed the pattern of the two previous years; namely, (1) assistance to shade tree commissions and elm tree owners in the resolving of their problem of disease detection and tree removal; (2) the conduct of localized scouting so as to provide an index as to the change in the severity of the Dutch elm disease infection within the State.

ELM TREES THREATENED

Unless a new effective weapon is developed and extensively employed for (1) the control of the bark beetles, and (2) the immunization of therapeutic treatment of elm trees, the prospect for the well being of New Jersey elms is not bright. If the various municipalities and property owners were disposed and financially enabled to follow the recommendations as provided in the Department of Agriculture Circular No. 346, disease would most assuredly be considerably less prevalent. However, because of the unusual considerable expense involved in the pruning or removal of

an elm tree, such operations are usually delayed until the tree has served as a focus of infection for many of the neighboring trees. The alleviation of this condition does not appear promising. Many of the responsible shade tree commissions have a meager allocation of money for the conduct of routine work. The removal of dead elm trees heaps upon their financial structure a burden which they cannot promptly assume and, therefore, infected trees soon become beetle-infested trees and even continue into the innocuous state before removals are made and then primarily because of hazards to life and property. Many dead elm street trees in the northern half of the State have been topped so that the hazardous portions of the dead trees be removed. However, the main trunk of the tree with the stumps of the branches await additional appropriations or a more favorable allocation of labor in the direction of the shade tree commission.

PROBLEM OF TREE REMOVAL

An impasse has been reached in that neither the New Jersey Department of Agriculture nor the Federal Department in New Jersey is equipped with control information which will alleviate the burden of dead tree removal. In many counties of the State, observations indicate that each succeeding year raises the Dutch elm disease toll higher and higher. Shade tree officials are fully aware of the elm tree disaster which they are facing but most of them are helpless to do the requisite amount of work in the face of the meager appropriation which they are receiving.

The Advisory Shade Tree Commission of Englewood, New Jersey, much concerned about the growing disease condition in their municipality, has offered to this Department the participation in a cooperative investigation, probably with DDT, in an attempt to evolve a practical procedure whereby the inroads of the disease may be curbed. Negotiations on this subject were in progress with the Englewood commission during the latter months of 1946.

An examination of the scouting reports submitted to the Trenton office permit the analysis of disease conditions throughout the State. In agreement with the observations of previous years the Dutch elm disease incidence in the counties of Warren, Sussex, Upper Morris and Upper Bergen and Passaic is low. Dr. Walter, formerly with the Federal Laboratory at Morristown, while examining a map of the State of New Jersey on which the disease incidence was plotted, noted the very much reduced severity of disease in the area just de-limited above. He was of the opinion, although unable to support it with field data, that this area is less suitable for bark beetle multiplication than the central portion of the State. The disease is spreading rapidly and killing many trees in Mercer, Hunterdon, Somerset, Middlesex, Union, Essex, Upper Monmouth and Lower Passaic and Bergen counties. As heretofore stated, the delayed removal of the infected trees is undoubtedly responsible for the progressive toll which this disease is exacting.

DDT TRIALS PROMISING

At the annual meeting of the New Jersey Federation of Shade Tree Commissions held at Newark in December, considerable attention was directed to the possibility of applying DDT solutions or emulsions to elm trees for the purpose of: (1) to control the feeding of elm bark beetles and defoliators, and (2) to render innocuous beetle-infested trees by applying to the bark of such trees a heavy coating of a DDT spray.

Available data to sustain such hope is limited but encouraging. Most of the preliminary research work has been done with small trees and with a limited number of DDT formulations. The initiation of intensive research on this subject with actual street trees is contemplated. Such a program will enable the investigators to collect twig samples from trees variously sprayed, subject such twigs to bark beetle feeding cages and then ascertain the efficacy of the applied sprays. It must be borne in mind that the problem of defoliator control and the problem of bark beetle control are distinctive. Defoliator control with DDT will obtain its objective even if the bark beetles survive 24 to 48 hours after contact with this chemical. However, to effectively control bark beetles so that disease initiation must not be accomplished the bark beetles must be incapacitated before they begin crotch feeding. This required rapid effectiveness may be difficult of attainment but nevertheless must become a part of any experimental program established for bark beetle control.

The calendar year of 1947 should witness a considerable intensive and extensive effort among entomologists and plant pathologists who are interested in Dutch elm disease control. By the close of 1946 tangible evidence was evident on all sides that many institutions and organizations will adopt for 1947 an experimental DDT spraying program which should be definitely helpful in the finding of a DDT mixture and method of application which will immobilize the bark beetle before crotch feeding is begun.

No attempt will be made in this report to present statistical data on the number of diseased trees because of the inadequacy of the samples with respect to the elm population of the State. However, the information given above that the disease is not of serious import in the northwestern part of the State but of considerable concern in the central and northeastern part will provide the interested individual and property owners with a picture of the trend of the disease in these respective areas.

For the past several years emphasis has been directed to the necessity of controlling elm defoliators if the elm trees are to maintain a vigor which will enable them to survive. Regretfully it must be reported that 90% of the elm trees in New Jersey received no attention at all for defoliator control. Trees so weakened are ready suspects for Dutch elm disease infection and fatal action. Experimental work conducted in New Jersey and elsewhere quite definitely and convincingly demonstrated that elm trees which have been repeatedly defoliated offer little resistance to the ad-

vance of Dutch elm disease fungus once it is introduced into the tree. The evaluation of a satisfactory DDT spray plus the adoption of a mist blower sprayer may contribute a new impetus to the protection of elm foliage against these leaf-chewing insects.

UTILIZATION OF ELM WOOD

Unrelented efforts have continued in the channel of elm wood utilization. A number of new uses for elm wood have been found but the commercial magnitude of the needs of these industries is such that very few commercial lumbermen would be interested in supplying their needs. A specialized use for elm wood in the industries which use elm wood has not yet materialized.

This Department in cooperation with the Department of Plant Pathology of the Experiment Station, New Brunswick has leased from Princeton Nurseries a one-acre block of five-year-old elm trees for the purpose of investigating chemotherapeutic agents and agents which will kill the trees and render them distasteful to beetles for feeding or egg-laying. A variety of chemicals were used in the silviciding aspect of this project and not one seems to satisfactorily fulfill the demands. However, upon consultation with several industrial chemists, the program for 1947 will be extended to include chloropicrin injections into the trees instead of its application as a soil treatment. This investigation has an important possibility in that trees that are potential beetle material may be given a simple treatment so that their bark beetle breeding potentialities may be reduced to zero.

The utilization of elm wood for charcoal production is receiving renewed interest. The Department of Agricultural Engineering at the Connecticut Department of Agriculture has designed and built charcoal kilns with cinder blocks and cement blocks. Inasmuch as domestic charcoal is in great demand and generously priced the conversion of elm wood into charcoal may lead to a financial return from contaminated trees which will be helpful in relieving the financial burden incident to the removal of such trees. A Morris County engineer is designing and constructing a new type charcoal burner which will accommodate elm logs up to 40 inches in diameter. Such a device will not necessitate the splitting of elm logs to an approximate eight-inch diameter which is required for burning in the kilns designed by the engineers at New Haven.

FEEDING EXPERIMENTS

By virtue of reports and the number of observations on the effect of feeding of trees for Dutch elm disease resistance and possible survival, a group of 20 elm trees in Dukes Park at Somerville were fertilized with a completely soluble fertilizer during the early spring of 1946 in the hope that a refertilization of these devitalized and diseased trees could be effectuated by the application of this available fertilizer. Fourteen of the 20

trees treated showed early spring benefit of the application but by the time the canker worms had satisfied their feeding requirements the stripping was so complete that further observations were of no avail. Feeding experiences must certainly be integrated with defoliator control if acceptable evidence of the benefits of such feeding is to be available for measurement.

The observations of the Orange study plot were again made in the summer and early fall of 1946. This work will probably conclude investigation on this project. Sometime during the early months of 1947 this data will be examined and a comprehensive report prepared.

THE CANKER STAIN DISEASE CONTROL PROJECT IN NEW JERSEY

The canker stain disease of London planes and sycamores has been responsible for the loss of approximately a thousand ornamental street trees in this State. Discovered in New Jersey in 1929, this problem became the subject for research by the Office of Forest Pathology of the United States Department of Agriculture. By 1944, the researches had progressed to the point where definite effective and economical control recommendations could be announced to the plane tree owners as well as others who were concerned with plane trees by virtue of line clearance, etc.

Circular 360 of the New Jersey Department of Agriculture provides a pictorial description of the manner in which the causal organism ramifies through the tree tissue and kills the trees, but more emphatically the manner in which the transfer of the disease organism from tree to tree can be prevented. Further researches have definitely demonstrated that most of the new infections are occasioned by man-made operations such as line clearance, and carving on trees with implements contaminated with the fungus.

Inasmuch as several Camden County municipalities have already lost a considerable number of their trees, this Department inaugurated a canker stain disease control project and assigned one of its inspectors to a survey of disease incidence as well as plane tree population. This project was begun in 1942 but was inactive for a period of two and one-half years during which time the assigned field man was in the service of the United States Army. Since his return in the spring of 1946, this work has been resumed.

The control of the canker stain disease should not be a formidable problem if the few recommendations made in Circular 360 are followed with reasonable diligence. It now appears that line clearance crews quite inadvertently spread the fungus from tree to tree on their contaminated tools. The issuance of instructions to the various utilities in the State of New Jersey and the line clearance crews which attend to their clearance work has resulted in a degree of carefulness which is reflected in a disease spread very much reduced as compared with a period of years, 1935 to 1940.

Shade tree commissions and city and town officials concerned have been very receptive to the recommendations of this Department. Not only have canker stain diseased planes been designated to the town officials but also troubles such as gas injury. Inasmuch as the removal in most of the towns of diseased plane trees represents only a minor problem, most of the trees designated for removal are so handled with little delay. Furthermore, the absence, so far as we know, of an insect in the transmission of the fungus from tree to tree lends hopefulness to the recommended sanitation program. Below appears tabular information for the towns scouted, plane tree population and the tagged diseased trees for the period, with the exception of the interruption indicated above, for 1942 to January, 1947.

CANKER STAIN DISEASE CONTROL—SCOUTING REPORT

Town Scouted	Planetree Population	Diseased Trees Tagged
Camden County:		
Mt. Ephraim	750	12
Haddon Heights	2,500	125
Collingswood	4,000	18
Oaklyn	2,000	3
Audubon	3,600	17
Pennsauken Township	5,000	28
Haddonfield	4,500	21
Gloucester (City)	2,500	122
Merchantville	1,500	3
Woodlynne	1,500	..
Haddon Township	2,200	19
Burlinton County:		
Palmyra	6,000	1
Cinnaminson Township	500	1
Riverton	1,000	..
Total	37,550	370

Realizing that the organism responsible for the canker stain disease is readily spread from a diseased tree to a healthy tree by knife carvings, pruning tools, etc., such trees detected by our scouts are identified by the fastening of a special tag to the trunk of the tree. The owner or custodian of the tree is given full instructions regarding the precautions which should be employed in the removal of the tree and the disposition of the wood.

JAPANESE BEETLE QUARANTINE

(July 1, 1946, to June 30, 1947)

This project, carried cooperatively by this Department and the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture, is concerned, primarily, with the proper inspection and certification of plant products and other quarantined materials, so that this material may be moved interstate without endangering areas not known to be infested with the Japanese beetle. Thus, New Jersey growers are able to market their products throughout the United States in spite of the fact that this insect decided upon New Jersey as the site of its first residence in this country. The requirements for certification follow.

CERTIFICATION OF NURSERY STOCK

Nurserymen and plant growers may obtain certification for their stock in several ways:

1. Freeing the roots of plants from soil. The soil is removed from the roots to the extent that there will not be enough left to harbor the eggs and immature stages of the Japanese beetle. The fibrous roots are examined after the soil is removed to be sure that none of the stages are hiding in them.

2. Growing stock in certified areas. Nursery stock may be grown in areas where the soil has been treated with insecticides to a depth sufficient to eliminate all stages of insect life. As the insect feeds it consumes sufficient poison to cause death. This eliminates the necessity of removing the soil about the roots and subsequent examination of the root system.

3. Fumigation of plants with gaseous insecticides. Nursery stock submitted for certification may be placed in gas tight chambers and exposed to gaseous insecticides. There are 13 such chambers in use at as many nurseries and greenhouses.

4. Treating plants with acqueous solutions of insecticides. Trees and plants may be certified for shipment outside the Japanese beetle regulated area by dipping the soil balls and roots in solutions of insecticides. The insect is killed upon contact with the solution and by the gases given off as the solution penetrates the soil and the root system. The solution may be poured on the surface of the soil around the base of trees and plants, shrubs or on the soil in pots in which plants are growing.

5. Mixing the insecticides as a dust with potting and surface soil. Cuttings may be rooted, plants potted or planted in benches in soil to which has been added the insecticide in powder form.

6. The upper three inches of surface soil in nurseries may be treated with insecticides in powder or dust form. This is used in heeling-in areas and nurseries and is applicable to plots with growing plants. The elimination of the pest is by contact and feeding in the poisoned soil.

Chemicals such as cyanide, methyl bromide, ethylene dibromide, ethylene dichloride, carbon disulphide, chloropicrin, arsenate of lead and DDT are used in accomplishing certification of nursery stock and greenhouse plants in the ways mentioned. Inspectors representing the State and Federal Governments supervise and observe the application of the treatments.

CERTIFICATION OF FARM PRODUCE

Farm produce may be certified in the following manners:

1. Grading and packing operations under inspector observation. The process of machine cleaning and grading of fruits and vegetables is sufficient to eliminate the adult beetles from the pack. Packing and loading operations are performed within screened or other enclosures to prevent re-infestation during the flight of adult beetles. These operations are observed by quarantine inspectors. Some 297 truckloads of potatoes were certified at 160 different farms under the observation of quarantine inspectors.

2. Fumigation of truck and carloads with methyl bromide gas. The fumigation of farm produce loaded in railroad cars and closed motor trucks was accomplished at central points where the necessary equipment was available. The Central Railroad of New Jersey treated their cars at Matawan, Cedarville and Bridgeton. The Pennsylvania Railroad assembled all the cars from the Trenton area at Morrisville, Pennsylvania. The Pennsylvania Railroad treated 1,147 carloads of potatoes while the Central Jersey Railroad treated 196 carloads. The fumigation was performed by railroad employees under the supervision of quarantine inspectors. The railroads made a charge for the service.

Seven truckloads of farm produce were fumigated with methyl bromide, three at White Horse and four at Glassboro. The charge for fumigation was at the rate of one dollar per pound of material used. The State Department of Agriculture furnished the material.

3. Manual examination of farm produce. In many instances certification of farm produce is accomplished by actual handling of the produce or observing it as it passes the inspector on slow moving conveyor belts or over sorting tables.

OTHER QUARANTINE SERVICES

There are eight federal and five state inspectors who render year-round service in connection with the Japanese Beetle quarantine.

During the farm produce season six additional inspectors were required. These temporary inspectors were state-paid and were drawn from among returned veterans; some were teachers and others students whose college training was interrupted by the war.

During the spring of 1947, about 45 acres of nursery stock including blueberries were treated with the war-developed insecticide DDT. It was used in nursery areas, cutting beds and in potting soil. The ease with which it is accomplished has made the use of the material very popular with growers of all kinds of trees and plants.

In rendering quarantine service to nurserymen, greenhouse men and farmers, Japanese beetle inspectors made 5,468 calls at 210 nursery and greenhouse establishments and 160 different farms.

Since the inception of the Japanese Beetle quarantine, some of the methods and means of certifying stock to meet the requirements of the quarantine have become part of what is considered good cultural practice. This includes the chemical control of weeds in potting soil, the elimination of soil-infesting insects in nursery areas, and the control of plant-infesting insects of field and greenhouse when subjected to chamber fumigation.

JAPANESE BEETLE QUARANTINE PROJECT ACTIVITIES

July 1, 1946, to June 30, 1947

SHIPMENTS OF FARM PRODUCE CERTIFIED BY FUMIGATION (METHYL BROMIDE)

Commodity	Railroad Cars	Trucks	Totals
White potatoes	1,343	2	1,345
Corn	...	2	2
Onions	1	...	1
Mixed	...	2	2
Totals	1,344	6	1,350

SHIPMENTS OF FARM PRODUCE CERTIFIED BY MANUAL INSPECTION

Commodity	Railroad Cars	Trucks	Totals
White potatoes	...	295	295
Apples	2	...	2
Totals	2	295	297

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

Commodity	Railroad Cars	Trucks	Totals
White potatoes	117	37	154
Apples	1	...	1
Totals	118	37	155

CUT FLOWERS CERTIFIED, 162 BOXES

TOTAL NUMBER OF PLANTS SHIPPED AND CERTIFICATES ISSUED

Month	Outside Area Certificates Issued	Outside Area Number of Plants	Inside Area Certificates Issued	Inside Area Number of Plants	Totals Certificates Issued	Totals Number of Plants
1946—						
July	1,379	217,447	27	48,375	1,406	265,822
August	774	168,674	11	8,802	785	177,476
September	1,898	201,163	28	17,998	1,926	219,161
October	4,697	787,906	132	108,715	4,829	896,621
November	3,825	365,983	99	179,244	3,924	545,227
December	1,725	238,819	49	59,515	1,774	298,334
1947—						
January	2,320	284,673	33	66,617	2,353	351,290
February	2,742	224,915	66	77,927	2,808	302,842
March	4,778	401,912	103	214,611	4,881	616,523
April 6-19	4,009	263,070	60	174,344	4,069	437,414
April 20-May 3	4,160	174,926	39	58,660	4,199	233,586
May 4-17	3,486	160,639	27	14,087	3,513	174,726
May 18-June 1	3,556	231,101	13	34,413	3,569	265,514
June 2-14	2,168	434,086	13	15,985	2,181	450,071
June 15-28	1,307	242,464	9	8,026	1,316	250,490
Totals	42,824	4,397,778	709	1,087,319	43,533	5,485,097

SUMMARY OF PLANT TREATMENTS

Agent	Plants Treated	Square Feet
DDT (initial)	872,165	1,725,060
DDT (no DDT required)	43,171	752,591
DDT (retreatment)	208,847	153,939
Lead arsenate (no lead required)	14,776	665,975
Lead arsenate (retreated)	1,148	61,070
Methyl bromide	399,017	.....
Ethylene dichloride	139,458	.....
Ethylene dichloride-dibromide	279,434	.....
Totals	3,358,635	1,958,016

POTTING SOIL TREATED

Agent	Cubic Yards
Carbon disulphide	507.14
Heat	5.50
DDT	295.90
Total	808.54

SURFACE SOIL TREATED

Agent	Square Feet
DDT	410,778.5
Carbon disulphide	540.0
Lead arsenate	22,858.0
Total	434,176.5

HEELING-IN AREAS, GREENHOUSES, ETC., TREATED

Agent	Square Feet
DDT (initial treatment)	122,188.25
Arsenate of lead (initial treatment)	4,532.00
Arsenate of lead (no lead required)	58,710.00
Total	185,430.25

NUMBER OF PERSONAL CALLS MADE

Plant material	4,402
Soil	121
Cut flowers	19
Fruits and vegetables	926
Total	5,468

NUMBER OF PLANTS, SHRUBS AND TREES MANUALLY INSPECTED FOR CERTIFICATION, 1,227,127

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

Nurseries	61
Nursery and greenhouses	14
Greenhouses	35
Plant growers	37
Miscellaneous	63
Total	210

MEN EMPLOYED

Month	Farm Produce Federal	Farm Produce State	Nursery and Greenhouses Federal	Nursery and Greenhouses State	Totals Federal	Totals State
1946—						
July	7*	11	..	..	7	11
August	7*	11	..	..	7	11
September	..	..	8	8	8	8
October	..	..	9	6	9	6
November	..	..	9	6	9	6
December	..	..	9	6	9	6
1947—						
January	..	..	9	6	9	6
February	..	..	9	6	9	6
March	..	..	9	6	9	6
April	..	..	9	6	9	6
May	..	..	9	6	9	6
June	..	..	9	8	9	8

NUMBER OF AUTOMOBILES OPERATED EACH MONTH DURING THE YEAR

1946—						
July	8	14	..	..	8	14
August	6	14	..	..	6	14
September	..	..	1	11	1	11
October	..	..	2	11	2	11
November	..	..	3	14	3	14
December	..	..	1	13	1	13
1947—						
January	..	..	1	12	1	12
February	..	..	1	13	1	13
March	..	..	1	14	1	14
April	..	..	2	14	2	14
May	..	..	3	15	3	15
June	..	..	6	14	6	14

* Little nursery work for this period.

Official Proceedings of the Thirty-second Annual State Agricultural Convention

The Thirty-second Annual State Agricultural Convention was held in the Veterans' Room of the War Memorial Building at Trenton on Tuesday, January 21, 1947. The meeting was called to order at 10:00 A. M. by Clement B. Lewis, 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 Secretary of Agriculture Willard H. Allen, as follows:

DELEGATES TO THE STATE AGRICULTURAL CONVENTION

From County Boards of Agriculture

Name	Address	Term	County
Richard C. Lobherr, Sr.	Egg Harbor	2 years	Atlantic
Joseph Sahl, Egg Harbor, alternate for *David Rizzotte	Hammonton	1 year	Atlantic
W. W. Francis	Oradell	2 years	Bergen
Steffen Olsen	Ridgewood, R. D. 1	1 year	Bergen
Kenneth Davis, Burlington, alternate for *Wilmer Bauer	Burlington	2 years	Burlington
John Croshaw, Mount Holly, alternate for *Earl Emmons	Pemberton	1 year	Burlington
Norman A. Tomasello	Hammonton	2 years	Camden
Maurice W. Collins	Merchantville	1 year	Camden
Edward J. Meerwald	South Dennis	2 years	Cape May
Michael B. McPherson	Cape May, R. D.	1 year	Cape May
Joseph G. Hancock	Bridgeton, R. D. 2	2 years	Cumberland
Joseph Moiso	Vineland, R. D. 3	1 year	Cumberland
Herbert Francisco, Essex Fells, alternate for *William A. Crane	West Caldwell	2 years	Essex
Roderick D. MacDougall	Summit	1 year	Essex
Frank Centurione	Swedesboro	2 years	Gloucester
Carlton E. Heritage, Richwood, alternate for *William J. Beckett	Swedesboro	1 year	Gloucester
Charles E. Burd	Pittstown	2 years	Hunterdon
Harold B. Everitt	Flemington, R. D. 1	1 year	Hunterdon
C. Lawrence Dey	Princeton Junction	2 years	Mercer
John W. Tindall	Princeton Junction, R. D.	1 year	Mercer
Henry Von Thun	Monmouth Junction, R. D.	2 years	Middlesex
Alex Dembeck, Jr.	New Brunswick, R. D. 2	1 year	Middlesex
Henry Rapp, Jr.	Farmingdale	2 years	Monmouth

* Absent.

Name	Address	Term	County
Edward Noller	Freehold, R. D. 3	1 year	Monmouth
Robert J. Lecher	Wharton, R. D. 1	2 years	Morris
Francis W. Ruzicka	Chatham	1 year	Morris
Sylvester Mathis	Toms River	2 years	Ocean
Martin Schubkegel	Lakewood, R. D. 3	1 year	Ocean
Leonard VanBreeman	Clifton	2 years	Passaic
Alfred Lowe	Clifton	1 year	Passaic
David F. Grier	Salem, R. D.	2 years	Salem
Asher B. Waddington	Woodstown	1 year	Salem
David W. Amerman	Neshanic	2 years	Somerset
Edward M. Haynes	Skillman	1 year	Somerset
Francis Lockburner	Newton, R. D. 2	2 years	Sussex
Charles Pratschler	Port Jervis, R. D. 1, N. Y.	1 year	Sussex
Wilfred Haines	Union	2 years	Union
Walter M. Ritchie	Rahway	1 year	Union
Azariah M. Frey	Stewartsville	2 years	Warren
Frank L. Pursell	Alpha, R. D.	1 year	Warren

FROM POMONA GRANGES

Name	Address	Term	County
Martin Decker	Hammonton, R. D. 1	1 year	Atlantic
John Van Houten	Wyckoff, R. D.	1 year	Bergen and Passaic
C. Harold Joyce	Medford, R. D.	2 years	Burlington
P. Wendell Beideman	Haddonfield	1 year	Camden
Harry B. MacGauhey	Strathmere	1 year	Cape May
William E. Terhune	Chester	1 year	Central District
Leon Spencer, Millville, R. D., alternate for *Loran Clunn	Cedarville	2 years	Cumberland
Harry Fell	Swedesboro, R. D.	1 year	Gloucester
Theodore H. Dilts	Three Bridges	1 year	Hunterdon
William Duncan	Jamesburg	2 years	Mercer
T. Edward Gibson	Princeton, R. D. 1	2 years	Middlesex and Somerset
Howard P. Story	Freehold, R. D.	2 years	Monmouth
Wilbert Crispin	Woodstown	1 year	Salem
John La Forge	Sussex	1 year	Sussex
*Charles Rush	Phillipsburg, R. D.	1 year	Warren

FROM OTHER ORGANIZATIONS

American Cranberry Growers Association—Theodore H. Budd, Pemberton, 1 year; F. Allison Scammell, Toms River, 1 year.

New Jersey State Horticultural Society—Leslie N. Applegate, Freehold, alternate for *C. Richard Applegate, Freehold, 2 years; Lester Collins, Moorestown, 1 year.

New Jersey State Grange—Franklin C. Nixon, Vincentown, 1 year; H. Milton Flitcraft, Woodstown, 1 year.

New Jersey State Poultry Association—C. T. Darby, Somerville, R. D. 3, 1 year; John W. Bottcher, Mount Holly, alternate for *Louis Schaible, Shiloh, 1 year.

Jersey Chick Association—*Charles Kiefer, Jr., Toms River, 1 year; Henry Reilley, New Brunswick, 1 year.

New Jersey Association of Nurserymen—George C. White, East Rutherford, 2 years; Fred Noble, Little Silver, 1 year.

United Milk Producers of New Jersey—Thomas L. Lawrence, Hamburg, 1 year; Clarence J. Little, Sussex, 1 year.

New Jersey Florists Association—August Bosenberg, New Brunswick, 1 year; C. Russell Jacobus, Upper Montclair, 1 year.

* Absent.

New Jersey Agricultural Experiment Station—James C. Ewart, Cranbury, 1 year.
New Jersey College of Agriculture—William H. Martin, New Brunswick, 1 year.
New Jersey Holstein-Friesian Cooperative Association—Charles V. N. Davis, Somerville, R. D. 1, 1 year.
New Jersey Guernsey Breeders Association—Lloyd B. Wescott, Clinton, 1 year.
New Jersey State Potato Association—Roscoe C. Clayton, Freehold, 1 year.
New Jersey Beekeepers Association—John W. Shorter, West Collingswood, 1 year.
E. B. Voorhees Agricultural Society—James Laws, New Brunswick, R. D. 1, 1 year.
Blueberry Cooperative Association—Edward A. Leach, Pemberton, 1 year.
New Jersey Field Crop Improvement Cooperative Association—George A. Stevens, Eatontown, 1 year.
Cooperative Growers Association—J. Creswell Stuart, Beverly, 1 year.

APPOINTMENT OF COMMITTEES

At the delegates' dinner held on the evening preceding the convention, the following committees were appointed by President Lewis:

NOMINATING COMMITTEE

Thomas L. Lawrence, Chairman	United Milk Producers of New Jersey
P. Wendell Beideman	Camden County Pomona Grange
Charles E. Burd	Hunterdon County Board of Agriculture
C. T. Darby	New Jersey State Poultry Association
W. W. Francis	Bergen County Board of Agriculture
C. Harold Joyce	Burlington County Pomona Grange
Edward J. Meerwald	Cape May County Board of Agriculture
J. Cresswell Stuart	Cooperative Growers Association
John W. Tindall	Mercer County Board of Agriculture

COMMITTEE ON RESOLUTIONS

Francis W. Ruzicka, Chairman	Morris County Board of Agriculture
Martin Decker	Atlantic County Pomona Grange
Roderick D. MacDougall	Essex County Board of Agriculture
Frank L. Pursell	Warren County Board of Agriculture
Henry Reilley	Jersey Chick Association

At the State Agricultural Convention the Committee on Credentials was appointed as follows:

Lester Collins, Chairman	New Jersey State Horticultural Society
P. Wendell Beideman	Camden County Pomona Grange
Roscoe C. Clayton	New Jersey State Potato Association
James C. Ewart	New Jersey Agricultural Experiment Station

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 Tunis Denise, Freehold, and C. Russell Jacobus, Upper Montclair, in nomination for membership on the State Board of Ariculture to succeed Clement B. Lewis, Riverton, and Charles W. M. Hess, Mountain View, whose terms would expire on June 30, 1947. Upon motion made and duly seconded it was voted that the nominations be closed and Messrs. Denise and Jacobus were unanimously selected for recommendation to the Governor for a four-year period beginning July 1, 1947.

CITATIONS

The citations, read by Secretary of Agriculture Willard H. Allen, were as follows:

CITATIONS FOR DISTINGUISHED SERVICE TO AGRICULTURE were awarded to Ralph Decker, of Sussex, and George E. Haines, of Newark.

CITATION OF RALPH DECKER

You have received many well-earned honors from your colleagues in your own field of education. But true zeal for service knows no boundaries and, fortunately, those engaged in agriculture, particularly in Sussex County, have enjoyed a rich share of your fruitful life.

Year after year, you have persevered in your efforts for the betterment of rural living through the strengthening of the churches and farm organizations in your county. Responding to every call, you have inspired many rural leaders, both adults and farm youths, thus passing on to future generations the benefits of your example and counsel.

Your lifetime devotion to the cause of better schools for rural youth has been acknowledged. Your keen interest in the history and lore of your county and your active participation in civic affairs for nearly a half century are well known.

It is fitting that the delegates assembled here today, pause in their proceedings to pay tribute to your achievements by awarding to you this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF GEORGE E. HAINES

Before these assembled delegates representing all of New Jersey's diversified farming interests, the State Board of Agriculture wishes to pay tribute to the many contributions you have made to the betterment of the agriculture of your native State.

You were among the first to recognize the need for more adequate marketing facilities for the fruit and vegetable growers of the upstate counties. That goal was achieved and to your zeal must be credited much of the remarkable success of the Newark Farmers Market which you have served so loyally since its organization as director and now as president.

Yours has been a lifetime of service to others. Successful in your own farm operations you have always found time to encourage and assist your fellow farmers. Ever modest and unassuming, sincere and unselfish, you have devoted your efforts to the welfare of your neighbors, your church and your community.

Our appreciation of your many outstanding contributions is expressed today as we award to you this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

REPORT OF COMMITTEE ON RESOLUTIONS

The following resolutions, presented by Francis W. Ruzicka and reported favorably by the committee, were adopted by the State Agricultural Convention:

Whereas there is substantial and immediate need for marketing research in New Jersey in order that our agricultural industry may progress toward greater efficiency in the sale and utilization of its products; and

Whereas Congress passed the Hope-Flannagan bill now known as the Research and Marketing Service Act of 1946, which provides for the development and new uses for agricultural products, the expansion of present uses, and the improvement of marketing facilities and services; and

Whereas the United States Secretary of Agriculture is authorized to make available from federal funds, amounts he considers appropriate for allotment to state departments of agriculture, state bureaus and departments of markets, state agricultural experiment stations, and other appropriate state agencies, for cooperative projects in marketing services and marketing research, provided these agencies match the federal contribution: Therefore be it

Resolved, That we urge the New Jersey Department of Agriculture to draft a comprehensive program of essential research in marketing which comes within the accepted scope of its activities, and submit such proposal to the United States Secretary of Agriculture for his consideration and action; and be it further

Resolved, That the New Jersey Legislature be apprised of this need and opportunity for agricultural advancement, and that it be petitioned to provide at the appropriate time such moneys as will match the federal allotment to achieve this purpose.

Whereas Rutgers University, the State University of New Jersey, through its College of Agriculture, the Agricultural Experiment Station, and the Extension Service, has fulfilled its obligations to the farmers of the State by research, teaching, and application of new and progressive principles of agriculture; and

Whereas its facilities for this purpose are now inadequate, and with the great numbers of young men and women besieging the University for an opportunity to gain higher education, the limited facilities are taxed far beyond their physical capacity; and

Whereas funds are being requested by the Board of Trustees and the Board of Managers of the Agricultural Experiment Station whereby these woefully insufficient facilities may be expanded to meet the demands made upon them: Therefore be it

Resolved, That this State Agricultural Convention unanimously endorses the request of the State University for these added facilities, including especially its much needed Agricultural Science Building; and be it further

Resolved, That we petition the Governor and the State Legislature to promptly consider and make adequate appropriations for this essential purpose.

Whereas the various farmer cooperative associations established in New Jersey have proved their worth in their respective communities by performing beneficial services to their members, having been highly instrumental in achieving lower production costs through collective purchasing of supplies, and in promoting more uniform grading and superior quality, improved merchandising, both frequently resulting in greater returns; and

Whereas agriculture is facing a difficult period of readjustment wherein united action and effort will aid materially in solving the manifold production and marketing problems of the next decade: Therefore be it

Resolved, That we recommend to all members of such farmer cooperative associations that they give their active and full support to their organizations in order that these may function to the highest degree of efficiency and thus operate for the greatest good of their membership; and be it further

Resolved, That we commend those untold numbers of farmers, past and present, who have given unselfishly of their valuable time to serve on boards of directors so that these organizations might benefit from their collective thinking and wide experience.

Whereas the New Jersey State Poultry Association is embarked on a program to enhance the disease research facilities at the New Jersey Agricultural Experiment Station, to the end that control of Newcastle and other serious poultry maladies may be more rapidly gained; and

Whereas the recent introduction of Newcastle disease into New Jersey poultry flocks has created an emergency condition requiring immediate and drastic action on a state-wide basis in the development and production of proper vaccines for the control of this economically dangerous disease; and

Whereas Dr. F. R. Beaudette of the New Jersey Agricultural Experiment Station has already begun work designed to accomplish this purpose but is seriously handicapped by lack of adequate space, manpower and materials: Therefore be it

Resolved, That this Convention realizes the seriousness of this situation and urges the support of all member organizations in the development of an adequate control program; and be it further

Resolved, That a copy of this resolution be sent to all organizations represented in this Convention.

Resolved, That while we register our approval of the road building program proposed by the Governor and the Highway Commissioner, at the same time we urge that proper consideration be given to the adequate expansion of secondary "farm-to-market roads," without which the flow of our agricultural products will be hampered and our rural way of life impaired; and be it further

Resolved, That funds previously authorized to maintain and improve existing rural roads be limited to that purpose only; and be it further

Resolved, That a copy of this resolution be forwarded to the Governor and to each member of the Legislature to acquaint them with the action of this bi-partisan, state-sponsored Convention of Agriculture body of delegates.

Whereas the New Jersey State Police is entering its second quarter-century of unfailing service to the citizenry of the State, most especially to those in the rural areas; and

Whereas its ideals of protection and safety are achieved by its personnel with laudable success; and

Whereas its superintendent, Colonel Charles H. Schoeffel, has been reappointed as the head of this organization for a second successive term: Therefore be it

Resolved, That this Convention commend the New Jersey State Police for its untiring efforts in pursuing and consummating its ramified duties, and further that we also commend Colonel Schoeffel personally for his sterling leadership and willing cooperation in meeting rural needs; and be it further

Resolved, That a copy of this resolution be sent to the Honorable Alfred E. Driscoll and to Colonel Charles H. Schoeffel.

Whereas other walks of life have made it more attractive for persons having the proper background and personality to become teachers, to forego the training and education necessary to pursue teaching as a profession; and

Whereas the basis and bulwark of our democracy depends upon sound education and educational policies, and upon methods in which education is given to our youth: Therefore be it

Resolved, That we commend Governor Driscoll for his vision and foresight in recognizing this critical situation and launching upon a program of remedial action; and be it further

Resolved, That we urge all boards of education, but particularly in rural areas, to take the drastic steps necessary to provide sufficient inducements to encourage young people to enter the teaching profession; and be it further

Resolved, That copies of this resolution be forwarded to Governor Driscoll, to the Commissioner of Education, and the New Jersey Farm Bureau.

Whereas the farmers of the nation have expanded their operations and successfully met the goals of food production set for them by the Federal Government during World War II; and

Whereas such potential capacity to produce now offers a serious threat of surpluses of foods; and

Whereas New Jersey farmers again face intensive and keen competition from producers in other areas whose well-financed promotional programs are directed toward eastern markets; and

Whereas the advertising programs conducted by the State Department of Agriculture and the New Jersey Council have enabled New Jersey farmers to meet such competition and to win a share of the market: Now, therefore, be it

Resolved by the State Agricultural Convention, That this body commend and endorse the promotional programs of the Department of Agriculture and the New Jersey Council and recommend that the Legislature continue to provide sufficient funds for their continuation.

Resolved, That we, the delegates to this 32nd Agricultural Convention, express to the Honorable Walter E. Edge, as he takes leave of the high office he has so ably administered during the past three years, our appreciation of his sympathetic consideration of the needs of agriculture in New Jersey; and be it further

Resolved, That we extend to his successor, the Honorable Alfred E. Driscoll, our best wishes to him as he assumes his official duties as Governor of this great State, and respectfully solicit his cooperation and support so that we may maintain our agricultural enterprise at its present high degree of efficiency and achievement; and be it especially

Resolved, That an engrossed copy of this resolution signed by the president and secretary of the State Board of Agriculture be prepared and presented to the Honorable Walter E. Edge and the Honorable Alfred E. Driscoll.

Resolved, That we publicly express appreciation to our able Secretary of Agriculture, Willard H. Allen, to the members of the State Board of Agriculture, and to the department heads and workers in the State Department of Agriculture who throughout the year have constantly devoted themselves to their appointed duties, whereby they have made a contribution to the welfare of agriculture in New Jersey; and to all the members of the Farmers' Week General Committee representing the various commodity and state agricultural organizations, who, with the department personnel, have planned and consummated this Farmers' Week and its varied activities.

Whereas during the course of the year a number of notable figures in the agricultural life of the State have been called by death, including Dr. Thomas J. Headlee, William J. Slack, Charles W. Skinner, Edwin V. Bearer, W. Raymond Stone, W. Frank Knowles, and Lauren S. Archibald; and

Whereas these men devoted their energies and talents in their respective fields to the end that others might profit by their lives of service: Therefore be it

Resolved, That this Convention pay its tribute and respect to their memory by observing a moment of silence.