

STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE

W. H. ALLEN, *Secretary*



Twenty-ninth Annual Report
of the
New Jersey
State Department of Agriculture

July 1, 1943—June 30, 1944

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Trenton, N. J., June 30, 1944

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STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE

W. H. ALLEN, Secretary
Trenton

June 30, 1944.

*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 Twenty-ninth Annual Report of the New Jersey
Department of Agriculture, for the fiscal year ended June 30, 1944.

Respectfully yours,

W. H. Allen

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

July 1, 1943—June 30, 1944

Report of the Secretary of Agriculture

W. H. ALLEN

Another year of total war has brought to agriculture, as it has to all business and life, a mounting complexity of problems which have made just that much more difficult the task of attaining the greatest production of food this nation has ever been called upon to produce. It is with a distinct sense of pride that the American farmer can point to the accomplishments made in meeting his duty on the home front.

New Jersey agriculture has contributed in no small fashion to the nation's food basket. Acreage of all crops in 1943 was increased even beyond the high acreage of the previous year. However, unfavorable weather factors resulted in a production of most crops considerably below that which would have resulted under normal conditions. At the conclusion of the period for which this fiscal report is written, farmers have again launched a high-acreage program for the 1944 crop season in an endeavor to meet the goals established on an area basis by the federal authorities. This is particularly true in the case of grains and hay, to which about 8 per cent larger acreage is devoted in 1944, and in the case of truck crops for both fresh market and canning or freezing, of which there is a 3 per cent greater acreage.

Agriculture in this State experienced an all-time high in gross value of its products for the 1943 crop year, the estimated value amounting to \$214,150,000. This is a huge sum to be recorded on the credit side of the ledger; it was earned only after long hours of hard toil—harder and longer than farmers as a whole have ever known, and under greater handicaps, hardships and sacrifices. But the gross value is only one side of the story. The debit column on the agricultural ledger shows increased costs of production from the seed for crops or the purchase price of poultry and livestock, on through all the phases of production up to the harvesting and marketing end. The balance sheet shows no war-inflated profits; indeed, lesser net incomes than in previous years have not been unusual.

Of all the difficulties confronting the farmer in his wartime production of food, shortage of labor ranks as the number one problem. The adverse conditions prevailing a year ago in the labor market remain about the same, or even magnified. War industries within and adjacent to New Jersey have offered wages against which the farmer could not compete. Obviously such rates of payment have helped to deplete farm manpower, along with the demands which Selective Service has made in carrying out its job of staffing the nation's fighting forces. Various governmental agencies have directed their efforts to develop a sufficient supply of farm labor to meet at least the essential needs of agriculture. It has been estimated that more than 75,000 workers are required at peak harvest time. Many of these have been brought in from other states where harvesting has been completed. An appreciable number have been Jamaicans; even some few war prisoners have been used as agricultural labor.

A substantial contribution to the labor needs in planting and harvesting has been made by school youths in the State. Under the direction of the State Commission for Student Service and its county units, cooperating with schools and school officials and with the Agricultural Extension Service, some thousands of boys and girls were employed for limited periods while schools were in session and frequently during entire summer vacations as well. This employment took place virtually in all sections of the State, but largely in the areas of intensive vegetable production. Without their help, say many farmers, some crops would have remained unharvested—certainly a regrettable condition at a time when every pound of food is needed here and abroad.

Shortages of materials, especially machinery and equipment, packages, gasoline and tires, and difficulties in transportation, have complicated the farm production picture. It has been necessary in many instances to do without, or do with less, or to operate under makeshift arrangements—all of which have reduced the efficiency and resulted in far more trying circumstances in preventing loss of perishable agricultural products.

Maximum price regulations applied to a growing list of perishable agricultural commodities have worked a hardship on producers in many instances. These regulations and their price ceilings were developed in conformity with the "hold the line" order, but failed to provide sufficient recognition for advancing costs of production over which there was less control, or none at all. Economically unfavorable was the theory of establishing a ceiling intended to be a reasonable average, but which failed to take into account that under normal conditions the average seasonal return for a crop often includes a short period of relatively high prices at the beginning of the marketing period, which serves to compensate for the much lower prices usually contingent with peak marketings. Price ceilings eliminated these early high returns but did nothing to prevent the sag.

Congressional revisions of the price control structure promise some improvement for the 1944 crop year, but with it have been added some subsidy features which, in the minds of most New Jersey farmers, are not

the intelligent approach to the solution of such formidable problems. The Department has given considerable attention to price control as it applies specifically to the fruit and vegetable industry in New Jersey, and its efforts have not been without some degree of success. Acquainting federal officials with our New Jersey conditions, where relatively higher prices over competitive goods have been the rule, and providing accurate data on these prices, have helped in gaining reasonable recognition and attention to our problems. A more detailed statement covering price control during the period of this report will be found in the section dealing with marketing.

The year has been a difficult one for our cooperative marketing organizations. Volume of sales at the twelve produce auctions was lower than in the previous year, partly due to lowered production because of adverse weather conditions previously mentioned, and partly to "off-the-market" sales brought about by price ceiling regulations on some of the commodities normally handled. Gross values, however, were higher because of the advance in prices for some products.

The five auction markets handling eggs and live poultry were affected more adversely, both as to volume and gross business. Again, "off-the-market" selling contributed to this condition, and stringent federal regulations, whereby a mark-up to cover handling charges was not allowed, even caused one large market to discontinue its sales of live poultry. Egg sales as a whole declined 5 per cent over those of a year ago, and live poultry sales dropped off about 40 per cent.

Cooperative markets, assisted by the Department in their organization as they began to develop as long as sixteen years ago, and guided in their quality standardization programs ever since, are looked upon as the backbone of a strong postwar advancement in agriculture in the State. Their main immediate concern is to weather current conditions which have affected their business, and to maintain a service for their membership which now includes 14,000 producers. Lack of recognition of quality and grade under price ceiling regulations, and supplanting of the high bid principle of auction sales by a specified ceiling price, has definitely affected the business of these organizations. When goods are once more sold on a free market with prices governed only by supply and demand, the auctions will regain their prominence as an efficient marketing system and will provide a service to their farmer-members, to buyers, and indirectly to consumers, as no other method can do.

This report would not be complete without mention of the added duties occasioned by wartime conditions which the staff of the Department has been called upon to accept and perform as public servants. That this has been done is best testified by reference to the detailed reports which follow.

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

This report covers the third year during which this nation has been engaged in World War II. It was only natural to expect that the milk industry would be affected, and as the war progressed, trends that appeared soon after September 3, 1939 (the date war broke out in Europe), became more and more pronounced as time went on.

Although the office of OPA was set up on the theory that a bureau of the Federal Government could control prices so that the cost of living would not soar to an unlimited degree as was the case in 1917-18 and for several years following the armistice of November 11, 1918, today we find that the cost of living has increased. However, the price of milk to the consumer has not been increased since the Milk Control Board raised the price of milk a little more than $\frac{1}{2}$ cent in February, 1942. The OPA froze the price of this commodity as of March, 1942, and has not permitted any increase since that date.

Since March, 1942, we have witnessed an increase in feed costs to farmers, increase in wages paid farm help, increase in the maintenance of farm machinery, and shortage of farm labor, thus making the cost of production rise considerably.

Some of this increase in production costs was offset by a 23-cent increase to producers by dealers in August 1943, and Federal Government subsidies of 55 cents to 80 cents per hundredweight. The majority of farmers have expressed the opinion that they would much prefer to receive a fair price from their dealers rather than subsidies. With the vast increase in the purchasing power of the public due to high wages paid by industry and a greatly increased number of wage earners, it would seem logical that the dealers be allowed to increase the price of milk to consumers to cover all additional costs connected with the operation of such an important and necessary industry.

COURT DECISIONS

Several important court decisions were handed down by the higher courts of this State during the licensing year July 1, 1943, to June 30, 1944, on questions in connection with the milk business: namely, January 5, 1944, the New Jersey Supreme Court upheld the order of the Director of the Milk Control Board requiring dealers to pay producers 23 cents more per hundredweight; on March 23, 1944, the Court of Errors and Appeals

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upheld the decision of the New Jersey Supreme Court handed down by that court on January 5, 1944.

On April 13, 1944, the Court of Errors and Appeals upheld the decision of the New Jersey Supreme Court awarding the State Department of Agriculture the full amount of the bond plus interest and costs in the case of the *Department vs. Elmer Kleppinger*, T/as Farmers Exchange Company. The Court declined to declare that the signing of the indemnity agreement by some of the farmers to the surety company was against public policy. As a result of the decision of the Court of Errors and Appeals in the Elmer Kleppinger case, the Department paid the 39 claims filed with us against this dealer.

On March 9, 1944, Judge A. Dayton Oliphant of the Mercer County Circuit Court decided that an agricultural cooperative association organized pursuant to the provisions of Chapter 13, Title 4 is a producer and therefore protected by bonds filed under the Milk Dealers' Licensing and Bonding Act. This is the first decision in New Jersey covering that status of a cooperative association. The surety company which was liable for a loss of \$5,000.00 (the full amount of the Reck Dairy Company's bond) appealed this decision to the Court of Errors and Appeals. The appeal was heard by the higher court on May 17 and 18, 1944.

COMPLAINTS SETTLED

The four complaints filed with the State Department of Agriculture, which amounted to \$449.92, were paid in full by the dealer.

According to departmental records, this is the first year in a period of 20 years that the State Department of Agriculture was not required to use funds obtained from the bonding companies to liquidate dealers' debts to producers.

Failure on the part of several dealers to obtain their licenses on time resulted in ten dealers paying penalties amounting to \$300.00.

Licenses were issued to 256 dealers who filed bonds totaling \$2,287,700.

GOVERNORS' CONFERENCE

The governors of eleven northeastern states appointed delegates to meet with the Governor of Pennsylvania to promulgate recommendations whereby a program governing the dairy industry for 1944 could be set up by the Federal Government. This was an effort to see that during that period an adequate supply of dairy feeds would be made available, farm laborers would continue to be classified as essential to the war effort, and an immediate increase authorized in prices paid to farmers based on supply and demand and costs of production already established by official studies in several states.

NUMBER OF LICENSEES UNDER MILK DEALERS' LAW

July 1, 1943 to June 30, 1944

County	Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic	2	2	\$55,000.00
Bergen	7	7	73,100.00
Burlington	15	15	155,500.00
Camden	6	6	45,500.00
Cape May	2	2	1,500.00
Cumberland	16	16	89,200.00
Essex	16	16	186,100.00
Gloucester	15	15	45,800.00
Hudson	1	1	4,000.00
Hunterdon	11	11	225,000.00
Mercer	26	26	171,700.00
Middlesex	17	17	115,000.00
Monmouth	23	23	131,200.00
Morris	29	25	101,400.00
Ocean	1	1	3,000.00
Passaic	14	14	139,500.00
Salem	10	8	26,500.00
Somerset	14	14	96,000.00
Sussex	3	3	33,000.00
Union	9	9	74,700.00
Warren	11	11	120,000.00
Out-of-State	8	8	395,000.00
Totals : 1943-44	256	250	\$2,287,700.00
1942-43	266	256	1,905,800.00
1941-42	280	268	1,744,500.00
1940-41	285	271	1,507,400.00
1939-40	298	276	\$1,254,200.00

PRODUCE DEALERS' LAW

Licenses were issued to 351 dealers who filed bonds totaling \$1,053,000. This is an increase of 12 licenses compared with the number last year. The value of the bonds filed is greater than at any time during the past 11 years.

No claims were filed against any licensee. It was necessary in only two instances to penalize persons operating without a license.

NUMBER OF LICENSEES UNDER PRODUCE DEALERS' LAW

May 1, 1943 to April 30, 1944

County	Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic	36	36	\$108,000.00
Burlington	5	5	15,000.00
Camden	6	6	18,000.00
Cumberland	45	45	135,000.00
Essex	41	41	123,000.00
Gloucester	34	34	102,000.00
Hudson	3	3	9,000.00
Mercer	8	8	24,000.00
Middlesex	5	5	15,000.00
Monmouth	20	20	60,000.00
Passaic	14	14	42,000.00
Salem	7	7	21,000.00
Somerset	1	1	3,000.00
Union	1	1	3,000.00
Warren	6	6	18,000.00
Out-of-State	119	119	357,000.00
Totals: 1943-44	351	351	\$1,053,000.00
1942-43	339	339	1,017,000.00
1941-42	335	335	1,005,000.00
1940-41	332	332	996,000.00
1939-40	314	314	\$942,000.00

CATTLE DEALERS' LAW

High prices for beef together with interest on the part of many of the farmers of the Garden State in raising steers continued well into 1943-44. The number of such animals imported into New Jersey increased considerably. Persons who had been engaged for years in the slaughtering business and small butchers encouraged the importation of steers so that they might supply their wholesale and retail trade adequately instead of relying on local sources which were unable to meet their requirements.

The demand for good dairy cows was strong all during the year, but cows continued to be scarce and prices high.

In August, the State Board of Agriculture approved several regulations concerning the importation of all animals, including poultry. Copies of these orders were sent to licensees immediately. Upon approval of these measures, the State Board of Agriculture rescinded all previous rules governing the importation of livestock into New Jersey.

Records covering the purchase, sale, and exchange of cattle for the past several years must be kept by all licensees. These accounts are checked each year by a representative of the Department to see that such information is recorded properly by every dealer. This regulation is important in the control of the various diseases affecting cattle. We have found that the required data is tabulated satisfactorily by dealers.

Although the usual number of complaints against our dealers was received, all complaints that are covered by the act were settled promptly, making it unnecessary for us to hold hearings or impose penalties for violations of this statute.

As a result of the increased interest in this type of cattle business, more licenses were issued this year than during any previous year since 1931, when the act became effective. Licenses were issued to 216 dealers.

NUMBER OF LICENSEES UNDER CATTLE DEALERS' LAW

July 1, 1943 to June 30, 1944

County	Licenses Issued
Bergen	6
Burlington	14
Camden	5
Cape May	6
Cumberland	15
Essex	8
Gloucester	4
Hudson	2
Hunterdon	23
Mercer	8
Middlesex	3
Monmouth	12
Morris	16
Ocean	5
Passaic	8
Salem	21
Somerset	13
Sussex	21
Union	8
Warren	17
Out-of-State	1
Total:	<div> <div>1943-44</div> <div>216</div> </div> <div> <div>1942-43</div> <div>213</div> </div> <div> <div>1941-42</div> <div>207</div> </div> <div> <div>1940-41</div> <div>205</div> </div> <div> <div>1939-40</div> <div>207</div> </div>

THE NEW JERSEY JUNIOR BREEDERS FUND

Fewer loans were made during the fiscal year ending June 30, 1944, than for several years previously. Only 57 loans totaling \$4,635.02, were made. These loans were distributed as follows: 21 dairy loans, \$2,055.00; 32 beef cattle loans, \$2,348.77; 2 pig loans, \$95.00; 1 poultry loan, \$36.25; 1 agricultural loan, \$100.00. At the close of the year there were 82 loans

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outstanding, totaling \$6,465.71. There were only 4 loans made to vocational agricultural students during the year.

For the second successive year the calf emergency account more than carried itself, only one animal having died during the year. That credit, together with interest earned and fewer losses, made it possible to close the year with a net profit of \$383.71, bringing the total of undivided profits to \$939.32. The reserve for bad debts remained at a total of \$375 more than the amount of delinquent accounts, so that a transfer to this reserve at the close of the year was not necessary.

In recognition of the value of the New Jersey Junior Breeders Fund in the advancement of 4-H Club work, the County Club Agents' Association of New Jersey tendered a testimonial dinner to Hon. Joseph S. Frelinghuysen, originator of the Fund, on May 25, 1944. A handsomely bound and inscribed memory book showing records of outstanding successes was presented to Senator Frelinghuysen.

The Fund awarded 38 certificates for meritorious production records of dairy animals at the dairy banquet held during Farmers' Week. Thirteen of the winners, who were selected by the club agents, on the basis of merit, were guests of the Fund at the banquet.

The total amount loaned in each county since the Fund was established is shown in the following table.

AMOUNT LOANED BY COUNTIES TO DATE

County	Amount
Atlantic	.....
Bergen	\$75.00
Burlington	12,075.91
Camden	.....
Cape May	1,138.75
Cumberland	7,726.23
Essex	335.95
Gloucester	3,617.30
Hudson	.....
Hunterdon	9,938.81
Mercer	24,017.16
Middlesex	18,782.51
Monmouth	11,422.45
Morris	5,479.00
Ocean	2,456.00
Passaic	166.25
Salem	23,461.96
Somerset	6,561.40
Sussex	13,612.93
Union	.....
Warren	12,910.58
Total	<u>\$153,778.19</u>

THE BABY BEEF SHOW AND SALE

The 5th Annual 4-H Baby Beef Show and Sale was held on December 10, at New Brunswick.

Top honors went to 14-year old Francis Dye, of Cranbury, for his 1028-pound Aberdeen Angus grand champion which also brought the highest price per pound ever paid in this State for a 4-H steer on the hoof. Purchased and raised by Dye at a cost of approximately \$140, the animal was sold to the Waldorf-Astoria for \$616.80. In addition to his show earnings, Dye received the beef calf presented to the top winner by the Atlantic and Pacific Tea Company, largest buyer at the sale.

The show included 55 entries of Aberdeen Angus and Hereford steers which added 46,952 pounds of prime beef to the nation's food supply. The animals sold at an average of 26.5 cents per pound.

The reserve champion, a 1036-pound Aberdeen Angus, was owned and entered by William E. Thompson, Jr., 16 years old of Colts Neck. Twenty-five dollar War Bonds were awarded by the Department to Warren Sigle, Jamesburg, for the highest scoring 4-H baby beef project in the State, and to Velva Myers, of Augusta, for the best baby beef feed cost record and story.

LIVESTOCK LOANS MADE ANNUALLY SINCE ESTABLISHMENT OF JUNIOR BREEDERS FUND

Fiscal Year	No.	Dairy Loans Amount	No.	Beef Cattle Amount	No.	Pig Loans Amount	No.	Chicken Loans Amount	No.	Turkey Loans Amount	No.	Total Livestock Loans Amount
1920-21	30	\$2,815.00	...	.....	...	.....	...	.....	...	.....	30	\$2,815.00
1921-22	92	7,985.00	...	.....	16	\$1,074.98	16	\$824.25	...	.....	124	9,884.23
1922-23	81	6,365.00	...	.....	21	1,267.25	13	636.25	...	.....	115	8,268.50
1923-24	96	8,670.00	...	.....	10	409.50	14	932.00	...	.....	120	10,011.50
1924-25	81	7,065.00	...	.....	26	1,320.00	17	1,183.50	...	.....	124	9,568.50
1925-26	71	6,639.50	...	.....	25	1,684.30	32	1,563.10	...	.....	128	9,886.90
1926-27	83	7,444.00	...	.....	19	1,240.00	28	1,112.50	...	.....	130	9,796.50
1927-28	54	4,644.00	...	.....	10	620.00	31	890.70	...	.....	95	6,154.70
1928-29	55	4,960.00	...	.....	13	805.00	15	680.65	...	.....	83	6,445.65
1929-30	37	3,317.50	...	.....	15	876.00	17	692.20	...	.....	69	4,885.70
1930-31	38	3,467.50	...	.....	12	769.00	7	308.00	...	.....	57	4,544.50
1931-32	38	2,875.00	...	.....	8	415.00	9	394.00	...	.....	55	3,684.00
1932-33	24	1,820.00	...	.....	10	426.75	8	323.00	...	.....	42	2,569.75
1933-34	30	2,310.00	...	.....	9	295.00	24	940.43	...	.....	63	3,545.43
1934-35	46	4,169.00	...	.....	3	110.00	23	1,174.49	...	.....	72	5,453.49
1935-36	26	2,050.00	...	.....	5	297.00	18	797.85	...	.....	49	3,144.85
1936-37	32	2,905.00	...	.....	14	941.00	21	894.40	...	.....	67	4,740.40
1937-38	43	4,366.00	...	.....	8	492.50	29	1,614.82	2	\$30.00	82	6,503.32
1938-39	45	3,740.00	21	\$1,050.00	28	1,377.00	27	1,243.14	5	156.10	126	7,566.24
1939-40	36	3,680.00	35	2,012.20	9	303.00	44	2,012.92	5	201.00	129	8,209.12
1940-41	34	2,503.50	40	2,309.10	3	110.00	32	1,265.90	2	55.20	111	6,243.70
1941-42	40	3,127.00	43	2,754.48	10	295.50	21	735.38	3	153.50	117	7,065.86
1942-43	24	2,095.00	39	2,654.85	1	50.00	6	280.45	1	96.75	71	5,177.05
1943-44	21	2,055.00	32	2,348.77	2	95.00	1	36.25	...	.....	56	4,535.02
Total	1,157	\$101,068.00	210	\$13,129.40	277	\$15,273.78	453	\$20,536.18	18	\$692.55	2,115	\$150,699.91

AGRICULTURAL LOANS MADE ANNUALLY SINCE ESTABLISHMENT OF JUNIOR BREEDERS FUND*

	Feed Loans		Cross-bred Poultry Loans		Agricultural Production Loans		Miscellaneous Loans		Total Agricultural Loans	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1934-35	3	\$38.38	..	.....	..	.....	..	.....	3	\$38.38
1935-36	..	.....	..	.....	..	.....	..	.....	..	.....
1936-37	6	63.70	..	.....	..	.....	..	.....	6	63.70
1937-38	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
Total	124	\$2,225.14	3	\$172.50	25	\$672.62	1	\$8.02	153	\$3,078.28

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

Report of the Bureau of Information

FRED W. JACKSON, *Chief*

The past 12 months constitute the first full year's period in which the Bureau of Information has functioned as a separate unit. Authorized in November 1942, as a result of the need for expanding the publicity services, the Bureau of Information has served in general to bring to the attention of farmers and to interpret to them the services and regulatory functions of the Department of Agriculture.

The media used have included the press, the radio, agricultural and farm magazines, exhibits, appearances before producer and consumer groups, and direct contacts with officials of farm organizations and distributing concerns.

Acknowledgment should be made of the splendid cooperation extended to the personnel of this office and to the Department of Agriculture by the daily and weekly newspapers of the State and, particularly, to the representatives of the press serving at the State House. Despite the war emergency and the consequent shortage of news print, releases issued by the Department of Agriculture have been used consistently although often in somewhat more abbreviated form.

During the 12 months period, a total of 132 releases and stories were issued to the press, some of which included mat releases, and all went to approximately 200 newspapers of New Jersey, New York City and Philadelphia. In addition 91 special articles were prepared for publication and broadcasting purposes, besides a considerable amount of editorial assistance extended to writers preparing special articles on New Jersey agriculture for radio talks, addresses, and leaflets.

Six issues of *Farm Service News* were prepared during the year on a bi-monthly basis and forwarded to a mailing list of approximately 16,000 persons. Many of the articles appearing in *Farm Service News* were reprinted in newspapers of the State, thus affording wider circulation.

The following printed publications were issued during the fiscal year ending June 30, 1944, through the Bureau of Information where all copy was edited, printing specifications prepared, engravings secured, and final proof read and corrected:

Circular No. 343—Costs of Distributing Milk in New Jersey.

Circular No. 345—Dealers Licensed Under the Milk Dealers' Licensing and Bonding Act, Produce Dealers' Licensing and Bonding Act, Cattle Dealers' Licensing Act.

Circular No. 346—Recommended Disposition of Cut Elm Wood As an Aid in the Control of the Dutch Elm Disease in New Jersey.

Circular No. 347—County Boards of Agriculture and State Agricultural Organizations for 1944.

Circular No. 348—The Asiatic Beetles in New Jersey.

Circular No. 349—Information on the Japanese Beetle.

Circular No. 350—Spraying for the Control of the Japanese Beetle on Ornamentals and Non-Commercial Fruit Holdings.

*Circular No. 351—Average Prices Received and Prices Paid by New Jersey Farmers, 1910-1943.

Six issues of bi-monthly publication, *Farm Service News*.

Program—1944 Agricultural Week.

Booklet—Citations for Distinguished Service for 1944.

Four issues of *Farm Week Chaff*.

Certificates—Food Production Awards for 1944.

Revised Statutes on Fresh Egg Law.

Poster—Handling Southern Tomato Plants after Removal from Cars.

* Edited and prepared for publication but not issued during fiscal year.

STATE OF NEW JERSEY 1943 FOOD PRODUCTION AWARDS

In accordance with Chapter 213, Laws of 1943, a New Jersey food production award program was outlined and directed from the office of the Bureau of Information. The objective was to stimulate food production in 1943 to levels exceeding those of 1942. Awards were made to organized groups, such as cooperatives, granges, auction markets, and agricultural associations. A total of 72 certificates, issued in the name of either Governor Edison or Governor Edge, were presented to the organizations which qualified.

FARMERS' WEEK

One of the principal activities of the Bureau of Information is the supervision of many of the details, particularly programs, publicity, and general arrangements, for Farmers' Week which was held in Trenton on January 24-27, 1944. A total of 25 meetings were scheduled in addition to the official convention attended by authorized delegates representing the commodity and livestock organizations. Acknowledgment should be made of the splendid cooperation extended by members of the extension staff of the College of Agriculture and the officers of the farm organizations participating. Due to the war situation, hotel and auditorium accommodations were somewhat curtailed, but most groups reported excellent attendance and good meetings.

COOPERATION WITH NEW JERSEY COUNCIL

The cooperative arrangement under which a representative of the Bureau of Information serves in an advisory capacity to the New Jersey Council was continued during the past year. The allotment of Council funds made available for promoting agricultural products was disbursed through this office and provided for participation in and contributions to the advertising programs sponsored by the Blueberry Cooperative Association, New Jersey Peach Industry Committee, Jersey Fruit Cooperative Association, New Jersey Poultry and Egg Cooperative Marketing Association, New Jersey Field Crop Improvement Association, Jersey Chick Association, New Jersey Holstein-Friesian Association, and Cooperative Marketing Associations in New Jersey, Inc.

Report of the Bureau of Markets

WARREN W. OLEY, *Chief*

The world has been in turmoil for several years. Much of the troubles and difficulties have been the result of war. The unrest and upheavels of the twenties all over the world were the aftermath of one great conflict, and the prelude to depressions and social unrest which undoubtedly helped to bring on the present war. We, in this country, are in the third year of actual war. This war, like the first world war, has profoundly affected our agriculture.

When Germany invaded Poland, many of our people who remembered the food conditions of 1917-1919, began hoarding some items of food. History usually repeats itself, and this Department showed figures to support our contention that shortages or high prices would not be with us for some months, or possibly years to come. The facts proved we were right. For two years after the invasion of Poland, we saw little effect on food prices, or prices of other household needs. It was not until the summer of 1941 that the effect of industrial activity on increased agricultural production costs began to be apparent. The Lend-Lease Act and the Emergency Price Control Act were the most important steps taken by Congress to offset the rapid strides being taken by inflation. People then realized that we in this country might soon know the fear of short supplies of all consumer goods.

While there is no doubt in any of our minds that there is a great shortage of many needed household supplies, we have to a very great extent recovered from any fears of serious food shortages. In fact, today we begin to worry that the pendulum may be swinging too far, and we may soon face an oversupply of most food commodities. No country probably has been better supplied with all needed food products. All records of food production were broken in 1942, and in 1943 the farmers of this country provided bumper crops, exceeded only by those of 1942. Some crops harvested in the fall of 1943 broke all records. Corn is one notable example.

But while we have been blessed with sufficient food, we still have been faced by more government regulation than ever before. There is no doubt that the policy of the Administration is to meet, if possible, the demand of the labor organizations that the cost of living index be rolled back to the September 15, 1942, level. For that purpose, Chester Bowles, general manager of the Office of Price Administration, announced a new program of price control, involving lower retail prices in September, 1943. This program has been the official barrier to all endeavors of this office and

others in attempting to have ceiling prices for commodities marked for such control placed at a level that would reflect the greatly increased costs of production and marketing.

The attempt to roll back prices could not be successful without some sort of an incentive to protect agriculture. As a result, a subsidy program was proposed by War Food Administrator Marvin Jones. His idea was to guarantee support prices to farmers and to back them up through government purchase at levels which in some cases could be higher than ceiling prices to consumers. The Government's loss on such purchases at re-sale would be the subsidy. Other methods of subsidy proposed and made effective during the year were in the form of payments to farmers for feed purchases made, and transportation subsidies by which shippers have been reimbursed for part of rail charges at delivery point.

Subsidy payments are basically inflationary, and have, in general, been objectional to the farmers. Farmers know of the greatly increased purchasing power of the most of our people, and feel that the consumers should pay the increased costs of production while they have the money, rather than foist the costs incurred by such methods through taxes on all the people, including farmers, in the years to come.

OPA, as set up by Congress, was to expire at the end of June, 1944. This war agency has made many enemies for the Administration. Many of its acts and regulations have been most distasteful to people of the country. And still it is a war agency, designed during war to protect the country as a whole. Basically, the agency is needed during wartime. Many complaints have been the result of how it has been administered. Congress had the power to let it die, but realizing the need of control and probably fearful of some other kind of control if it did not give a longer life, did, in the closing days of June, pass a bill extending it for another 12 months.

The new bill carries some commendatory provisions. It prohibits subsidies or purchases for sale at a loss unless Congress appropriates funds for specific subsidies or purchases. It provides that growers of annual or seasonal crops must be given at least 15 days' notice of the maximum prices proposed prior to the normal planting season in each major producing area before such ceilings can be established or lowered. This is in answer to a common complaint of New Jersey growers, as well as growers from all parts of the country, that prices were set after the crops were planted, and very often after part of the crop was harvested. It permits certain recourse through courts formerly barred by OPA. One great concession to farmers is the assurance that adequate prices will be guaranteed for any basic agricultural commodity or for any agricultural commodity for which increased production has been officially requested. The new law makes it unlawful to establish or maintain any ceiling for any agricultural commodity, or any commodity processed or manufactured from any agricultural commodity which will reflect to the producers of such commodity a price below certain applicable prices set up in the pricing section. New

Jersey growers have complained of the method of depressing prices known as community pricing. This new section of the law can be used to combat community flat-pricing activities that tend to reflect below-parity prices to growers. The old triple damage clause is eliminated if the defendant can prove the violation was neither willful nor deliberate. There have been triple damage cases in New Jersey.

Much of the time and effort of bureau representatives have been spent during the year in interpreting OPA orders, and in working with War Food Administration representatives and OPA agents in developing orders that will more adequately protect New Jersey producers. The new law, which will govern OPA in the coming year, will be of considerable aid in this type of work.

New Jersey is well organized on a cooperative basis. Much has been written in past annual reports of the value of our work with cooperatives. These cooperatives have operated under wartime regulations. They have obeyed the law, although in many instances they have been greatly harmed through black market practices of individuals, both producers and buyers. They have taken many steps to protect their interests and the interests of the membership. They have cooperated with the Government in encouraging increased production, and have loaned their facilities for wartime activities. Credit certainly should be given to New Jersey cooperative associations for the work that they have done and are doing in preserving democracy at home. Set up on a democratic basis, they have afforded to thousands of farmers in New Jersey an opportunity to work together for the common good. In the post-war period, our cooperatives may contribute greatly by providing a proven and workable pattern that may help solve many of the agricultural problems certain to arise.

The Bureau of Markets has worked closely with the cooperative associations as well as with agricultural agencies in the State, and with the Federal Government.

CROPS AND MARKETS INFORMATION SERVICE

The work of the crops and markets information service is that of supplying pertinent agricultural information, including both crop and market conditions and other closely allied information throughout the year, to the growers and shippers in New Jersey. As these activities are on a seasonal basis, many of these crop years overlap our fiscal year, and this will have to be remembered in analyzing the report.

At the start of the fiscal year, July 1, 1943, the supervisor of this service was required to have a United States Department of Agriculture license to inspect fruits and vegetables grown within the state. This was done in an effort to provide an added service to the agricultural population.

On a crops and markets information service basis, very little change was made in the set-up in comparison to former years. Among the various

activities that were continued were the weekly reports, "Market Conditions," the "Weekly Market Review" and, in season, the "Auction News," the "New Jersey Truck Crop News," and the daily price reporting by telephone from the New York market.

During the winter months, a summary of the New Jersey potato crop of 1943 was compiled and sent to those who had requested it. In addition to these duties, a number of written requests and telephone calls for information were received. An added service, primarily confined to the "Market Conditions" reports and the "Weekly Market Review," was analyses of government regulations as they applied to the phases of agriculture. In addition, the supervisor was called upon to make inspections of fruits and vegetables during the year. This comprises the work carried on by the supervisor of the crops and markets information service.

WEEKLY MARKET SUMMARIES

"Market Conditions" reports are made on different crops grown in New Jersey. The object is to provide growers and shippers with information on conditions of crops in competitive states, the amount of acreage, selling prices on nearby markets, and other information that would be of value to growers and shippers in the marketing of their particular crop. The crops covered throughout the year included white and sweet potatoes, apples, strawberries, onions, peaches, asparagus and tomatoes. "Market Conditions" reports were issued throughout the year on storage crops such as white potatoes, apples and sweet potatoes, and on other short-season crops such as strawberries, asparagus and lettuce, just before and continuing during harvesting.

Fifty white potato reports were issued throughout the season. These covered the 1943 crop from the active marketing season through the less-active storage season during the winter months, and included new potato crops starting with Florida. A wide variation in condition existed during the marketing of this crop, controlled only by the ceiling and support prices. The season was generally successful in New Jersey, although a small portion of the crop was held in storage too late in the spring. During the active marketing season, the price began at about the ceiling which was \$2.85 a hundredweight, and gradually decreased to a support level, at which time the Federal Government stepped into the picture and bought 438 cars at support price. This price was \$2.15 a hundredweight. The government purchases with the exception of Size B's, terminated about September 1, with the market in fairly good shape from then on. In fact, demand improved to the point where quotations were made at about the ceiling level. Some of the growers stored a part of the crop with expectations of getting the high price that prevailed during the scarcity in the spring of 1943. However, with the exceptional large crops in the late states such as Maine, New York, and North Dakota, the market was

depressed through most of the winter months, and there was no chance to market New Jersey storage stocks at a price equal to the ceiling price of the previous September. During the spring months, the Government again stepped in with a support program and purchased under two programs. The first one was for good merchantable stock in sacks and loaded in cars, whereby the growers were guaranteed the price of \$2.50 by the Commodity Credit Corporation, and the dealers sold at whatever quotations they could get. This plan did not work satisfactorily and was revoked when the Federal Government finally declared that it was illegal to resell below the support price. The ruling was made that they could be dumped, but could not be given away or sold at a discount.

The other program that was widely used by our own growers was carried on through the Agricultural Adjustment Administration. The growers would load bulk in gondola cars and received payment on the basis of the percentage of No. 1's and No. 2's and culls that were in the load. These percentages were determined in a way similar to our tomato-grading program at the canneries. Payment was made directly to the grower by the Commodity Credit Corporation on the basis of the reports received from the inspectors and the AAA representative. The last of these cars was moved in June.

The potato crop in the southern states during the spring of 1944 deteriorated from the expected good quality, near-bumper crop, to one of poor quality and very low yields. This was due primarily to blight and too much moisture during the growing and planting time. As the 1944 crop in New Jersey neared its harvest period, the outlook appeared very favorable for marketing. Most of the states south of New Jersey had harvested very light yields, and it was expected that there would be very little overlapping from these states with our harvesting.

Seven reports were issued on sweet potatoes. The sweet potato crop for the nation as a whole was fairly large, but in New Jersey, it was quite light, and some sections reported the poorest yield on record. The price of sweet potatoes was frozen by the OPA at a marketing period favorable to our growers. This was for a period late in December, and thus controlled the price received by the growers throughout the balance of the marketing year. The top price in the New York market was about \$5.50 a bushel. The crop moved to markets in an orderly manner with the market generally kept well supplied. Prices were sustained at the various levels frozen by the OPA. These prices varied in accordance with prevailing prices by individual shippers during the period at which the freeze order was executed.

Sixteen reports on apples were issued by this office. Part of the information on apples was interpretations of the OPA Maximum Price Order as it applied to various types of sales. Various Office of Defense Transportation regulations were explained and broadcast as they appeared. Prices to growers for any good quality pack were generally at the ceiling.

As wasty packages were discounted heavily during parts of the season, we advised growers to recondition their packs, which entailed only a slight cost in comparison to the added amount that they could get for their package. Ceiling prices were quoted monthly as they changed.

Eleven reports were issued on peaches. Part of these were definitely crop reports or crop condition reports which we obtained from various competitive sections. This information was valuable, due to the extreme shortage of peaches last summer. The poor conditions in competing states benefited our own growers. The crop in New Jersey was of fairly good quality and commanded a high price on the markets. However, due to the high prices, some growers did little grading, including everything in their pack, and from a commercial standpoint in a fair crop year, the package would have hardly been worth anything—but, due to the scarcity, the market accepted. Crop prospects for the 1944 season are entirely different. Many sections are reported to have a 100 per cent crop, while most sections have a large crop. Prices in the markets during the last weeks of June dropped as the volume increased. Growers will have to grade more carefully this year in order to sell at fair prices.

Five reports were issued on onions. The marketing conditions for onions were similar to those for peaches. During our season last year, onions were very scarce, and continued to be so throughout the year. Due to OPA restrictions, many sacks of onions by-passed regular trade channels and were sold to so-called “black market” operators. The crop was also used as a leader to aid in selling other more plentiful commodities. In this way, the operator was able to realize more money on a combined sale. This past year, crop production for the spring and summer states increased about 39 per cent. This increase led to an over-supply in some sections of the country, with price discounting practiced in order to move the crop. Practically all dealers were well supplied. The Texas area received government support on part of their crop. First New Jersey onions were selling on the market at the ceiling price of \$2.35 a 50-lb. sack.

Four reports were issued on strawberries. The first report was devoted almost entirely to crop conditions in various sections and prices in the early shipping sections, which at that time were Florida and Louisiana. One report issued was devoted almost entirely to ceiling prices as they went into effect on April 27. The balance of the reports gave crop and market conditions, primarily. Extremely light production this spring made strawberries one of the scarce items, and OPA restrictions as to price curtailed sales through our auctions, which normally market a very large proportion of the berries grown within the State.

Three reports were issued on asparagus. The first contained information on acreage planted in various states, and market conditions in New York and Philadelphia. Subsequent issues gave shipping point information and the volume of movement from various producing sections competing with New Jersey. Asparagus cutting in New Jersey had a late start,

due to the cool wet spring, and the quality of the first offerings was not very good. However, this improved as the season advanced and very good prices were returned to the growers. Some acreage was abandoned during the cutting season because efficient labor was not available. This condition applied to both market and cannery asparagus.

One report was issued on lettuce and covered crop conditions and market conditions at the time of issue.

Crops and market conditions have been influenced noticeably by OPA ceilings. Markets, occasionally, have had to change old customs entirely. There seemed to be a continuous struggle on the part of various handlers to get what they seemed to think was their fair share of the handling charge. Growers, in many cases, seemed to think that they should have a larger percentage for growing the crop, and of course, consumers generally thought they were paying too much in the retail stores, which has led to a more compact grouping of each step in marketing. In general, the growers have been represented by their cooperatives. Wholesaler groups have been formed, and retailer groups have also found their way into the picture. These groups, through their representatives, have descended on Washington in order to influence OPA into their way of thinking. This has led to revision of some orders that were considered cut and dried, and has practically forced the Bureau of Markets to keep up with these regulations in order to inform the growers and shippers as they become applicable. Knowledge of the existing OPA orders is definitely an aid to good marketing. In several cases, these OPA price ceilings affected the plantings of various crops. For instance, snap bean acreage was considerably reduced until an additional allowance was made on the ceiling which influenced growers to plant more.

WEEKLY SUMMARIES PUBLISHED

Another of the weekly summaries is the "Weekly Market Review." The "Weekly Market Review" is published every Thursday and is a digest of prevailing prices for New Jersey production in the eastern markets. Along with prevailing prices are quoted those of the preceding week and of the corresponding week in the preceding year. This gives some index as to the rise and fall in prices on a weekly basis. There are several factors that enter into the pricing of commodities. Sometimes it is the heavy offerings or the scarcity. Sometimes it is the quality, whether good or bad, and of course, consumer interest has a lot to do with the price that can be asked. In other instances, it is the scarcity or abundance of some other commodity that may influence the price. For example, last spring, the extreme scarcity of white potatoes probably caused increased demand for sweet potatoes, and the price rose on sweets accordingly, with one sale noted at \$9.75 a bushel, f. o. b. Swedesboro.

The summary of the week included weather conditions and up-to-the-minute remarks on the feed and grain situation, butter and eggs, poultry, and fruits and vegetables. Basic feed and grain costs were given, also hay and straw prices at New York and Philadelphia. Feed and grain quotations have been very hard to obtain. In many cases, it has been controlled in legitimate channels only by ceiling prices; and these prices, for the most part, are determined by the point of origin which gives some variation in the legitimate asking price. As the Bureau of Markets was unable to get very many prices in the spring of the year, we resorted to estimated prices covering the commodities that we had been quoting or substitutions for these various commodities. These estimates were obtained from various feed and grain companies in Pennsylvania and New Jersey.

During the fall of 1943, egg prices were confined mostly to OPA ceiling prices, and as a service to New Jersey egg producers, we have carried OPA ceiling prices with their effective dates for some time. This has led to quite an increase in our mailing list, and it reached such proportions that it was deemed advisable to revise it. After the revision, about half on the mailing list dropped out, but since then, many of the former readers have written to request the service again. As we came into a period of overproduction, prices broke away from the ceiling, and we again quoted prices on the auction market and the New York spot quotations. During the last weeks of the year, production again dropped off and the prices advanced toward the ceiling. Top quality large eggs were at the ceiling as the year closed. Another phase of egg marketing is that of consumer purchases from the producer, and purchases by retail stores from the producer. These are also controlled by OPA regulations and we have listed these prices weekly as they apply for each type of sale.

Comparison of prices of fruits and vegetables on the New York and Philadelphia markets has been changed to a chart form for better analysis. Livestock and meat quotations were carried on practically the same as in former years, except that we had to list OPA ceiling prices for country-dressed calves and also the ceiling prices on different classes of poultry, both live and dressed, and the effective dates in the New York market.

The "Auction News" was continued during the 1943 marketing season and began again this spring with the sale of early greens. As the auction markets have opened, they have been included in the "Auction News" and some space devoted to their openings. The "Auction News" is the advertising sheet of the auctions in the State. The markets assume the expense of paper, postage and envelopes, while the Bureau of Markets prepares the material. The "News" is sent to the buyers to interest them in purchasing New Jersey-grown produce at New Jersey markets. As the "News" is an advertising medium, the style of writing was changed and more emphasis placed on attracting purchasers by using "trade lingo." The statistical summary of the previous week's business has not been changed, and is still very similar to that used in the publication in previous years. At the re-

quest of the managers of the markets, OPA ceilings which apply at the markets have been included. The auction masters asked for this service, due to conflicting opinions of buyers and growers as to amounts that could be legally paid for purchases at the auctions. Uncertainty as to legal paying prices was used occasionally by some buyers to depress bids of other buyers. Favorable comments by both buyers and auction masters have attested to the value of this additional service which we intend to continue, making revisions necessary to insure current data.

The "New Jersey Truck Crop News" was issued during the growing season of 1943 and was resumed in April of 1944. This has been issued weekly in cooperation with the Bureau of Agricultural Economics of the United States Department of Agriculture, and gives information on the crop conditions within the State of New Jersey. This spring, additional information was included in the form of a weather and rainfall report in cooperation with the Weather Bureau of the United States Department of Commerce. Due to a cooperative agreement with the Federal Government, the publication is mailed under frank with no expense to the State for postage.

ANNUAL POTATO SUMMARY

As in former years, the crops and markets information service has prepared an annual report covering many phases of the production and marketing of the potato crop for those interested in the potato industry. The "Summary" includes a general review of the season in New Jersey; statistical material covering shipments by rail and truck, by weeks; information on the yield and movement by competing states, by years; the primary destinations of New Jersey grown potatoes by states, including receiving cities; charts showing the distribution to states over a 10 year period; shipping point information by days, showing the demand; the movement and prevailing prices; a study of grades made by shippers; and other pertinent material.

Work on this summary was completed in the winter and copies mailed in March to shippers, transportation companies, county agricultural agents, research institutions, growers, and others.

From this report, it is interesting to note that in this past year, 9,196 carloads moved by rail, with 5,207 carlot equivalents sent to destination by truck. Five years ago, less than 1,800 carloads moved by rail as compared with around 7,000 carlot equivalents by truck. An additional item was added this past year. As inspection by the Federal-State Inspection Service was made on a large proportion of the crop, it was believed that some facts on the quality of the shipments by weeks would have some importance in the demand and price. We made a study of the inspection certificates issued in 1943 and broke them down by weeks in chart form, showing the number of sacks inspected and the percentage of each U. S. grade. From

this inspection break-down, we find that more than 60 per cent was of U. S. No. 1 quality, with a little better than 30 per cent grading commercial, and about 7 per cent unclassified. We included a break-down of purchases on the support program by days in order to give some idea of the total shipments that the market could stand during a given period.

DAILY MARKET REPORTING

Daily market reporting was continued throughout the summer and fall of 1943, and resumed about the middle of May. This service entails some expense to the Department for telephone service, but is very well received by those interested and seems to be a worthwhile expenditure. A call is made to New York about 9:15 in the morning, at which time the range of prices as prevailed on the morning's market in New York can be obtained. These prices are, in turn, telephoned to redistribution points within the State, where local growers and shippers can get the information. This early morning information is a good index to volume arriving on the market, the demand, production, and prices; it has a great amount of influence on the marketing during the day.

In addition to the regular reports as listed above, we receive requests by mail and telephone for special information on market prices, sources of supplies, and other needed facts which were supplied to the extent of our ability.

Since the qualifications of the supervisor for this project were made to include that of a fruit and vegetable inspector, a report of inspections made by him is given in the report of this project. Shipping point inspections by the supervisor were made at the request of New Jersey growers and shippers, and included such commodities as beets, carrots, spinach, white potatoes, sweet potatoes, and apples. Eighty such inspections were made, 22 of which were carlot inspections, 38 in less than carlot amounts, and total fees collected for the Department amounted to \$492.66. Federal inspections, which were made on incoming carloads shipped from other states, included mostly certified seed and one shipment of tomato plants. In addition, one storage lot inspection, covering 19,000 bushels of apples, was made; total fees for this service amounted to \$334.

DAIRY PRODUCTS MARKETING

The objective of this project is to aid in the development of a practical milk marketing program for New Jersey. 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 milk of definite quality standards produced nearby. Other activities include cooperation with the Milk Control Board, New Jersey Dairymen's Council, Junior Breeders' Fund, and other agencies,

and the operation of a surplus milk exchange whereby milk, now listed as surplus, can be placed with dealers needing it and markets be found for producers with no outlets.

At the close of the fiscal year in June 1944, New Jersey's dairy industry faces one of the most precarious trends it has been confronted with in the past 25 years. This situation is due to federal regulation which fails to recognize the problems of the northeastern dairyman; but rather, imposes on him regulations not carefully thought out, and a price structure intended to hold down living costs, but not taking into consideration increased production costs. The result has been that production of milk is falling off rapidly; the average milk dealer is in financial straits; and the consumer fails to get an adequate supply of milk and dairy products.

Perhaps the most outstanding example of this condition is the decided downward trend in the amount of milk produced within the boundaries of the Garden State. During only one month of the past fiscal year, May, 1944, did the production of New Jersey farms exceed that of the corresponding month of the preceding year, and the increase for that month was only 0.7 per cent. The decrease in production during the fiscal year amounted to 3.25 per cent of the previous fiscal year; and as the year ends, all indications point to a much larger decrease, unless conditions change quickly for the better.

To illustrate this trend of decrease in production, attention is drawn to the fact that during the four-year period, 1940-1944 (July 1), New Jersey produced on an average of 74 per cent of all milk and cream sold in the state. For the first six months of 1944, only 67 per cent was produced within the Garden State, or a decrease of 7 per cent. This deficiency was made up by the importation of out-of-the-state milk. During the same periods of comparison, the number of New Jersey producers decreased 6.25 per cent, which was partially offset by increased production of herds, the increase being 4.5 per cent on a herd basis, and not enough to make up for the number of farmers going out of business.

There are a number of factors responsible for this steady decline in production. One, of course, is price. There has been no change in the price paid producers since January, 1942. Since that time, there has been a tremendous increase in the costs of producing milk. Again, to cite one example, the average price of concentrate feeds has increased (during this particular period) from \$2.24 per hundredweight to \$3.01 per hundredweight; or, in June, 1942, it took 31.7 quarts of milk to purchase a hundredweight of feed, while in June, 1944, it took 35.4 quarts of milk to purchase a hundredweight of feed. Recognizing this particular cost increase, the War Food Administration placed a feed subsidy in effect, which has ranged from 40 to 55 cents per hundredweight; but this did not meet the increased cost of concentrates to the farmer by at least 22 cents per hundredweight. At the same time, many other factors enter into the increased production costs, particularly labor, as will hay, equipment, insur-

ance, etc., for which no subsidy is available. Production probably will continue to decline, and at a more rapid rate, unless relief is provided without delay.

Another factor resulting from these "frozen" milk prices is the failure to recognize the mounting costs of the distributor, due to increase in costs of all materials, but particularly labor. The spread between what has been paid the producer and what the milk sells for has for many years been regarded as ample in New Jersey. During the past several years, due to increased cost of bottles, machinery, caps, and especially labor, this favorable spread has been gradually decreasing. It is estimated that during the past fiscal year, the dealer's spread has decreased about three-quarters of a cent. This means financial instability to the smaller dealer, and is an unsound economic condition. This situation is bound to reflect back to the consumer, for whom the "frozen" prices were designed.

The most pressing problem of the industry continues to be the need of a *united* industry. This can only be obtained by proper leadership that will recognize needs and formulate a long-time plan to coordinate these needs to bring equal benefits to the producer, the distributor and the consumer. Equally desirable is a coordination of the supervisory forces of the State and municipalities so that effort along these lines will not be wasted, and regulations will be standardized to enable the producer and distributor to cut the cost entailed in an effort to meet differing production requirements.

NEW JERSEY OFFICIAL GRADES

The New Jersey official grades continue to be the principal project of the milk marketing work. There are three grades: "New Jersey Grade A Raw," "New Jersey Grade A Pasteurized" also known as "Premium," and "New Jersey Grade B Pasteurized."

Use of the New Jersey grades is permissive or 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. Fees vary from 35 to 50 cents per 1,000 quarts produced daily, dependent upon volume. Payment is made entirely by dealers and involves no fee expense to the producers of graded milk.

At the close of the fiscal year there were 37 dealers processing 76,844 quarts of milk daily under the New Jersey official grades. Of these 37 dealers, 10 sold raw milk only, 14 sold pasteurized milk only, and 13 dealers sold both raw and pasteurized milk. The volume of milk distributed was 86 per cent pasteurized and 14 per cent raw. This indicates a steady trend towards the pasteurization of the milk supply.

Among the 37 dealers operating under the supervision of the Department of Agriculture, 19 are purchasing dealers, 15 producer-dealers, and 3

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both produce and purchase milk. Two hundred and fifty-six producers are involved in the production of this milk.

When the New Jersey official grades were established, a rigid herd inspection system was introduced and, at the present time, serves as a model for several other inspection agencies, both within New Jersey and in other states. During the fiscal year ending June 30, 1944, this involved the inspection of 16,296 cattle, in accordance with the grade regulations.

The accompanying table is concerned with the physical examination of cattle, by counties, during the fiscal year 1943-1944, and the results of those examinations.

PHYSICAL EXAMINATION OF CATTLE, FISCAL YEAR 1943-1944—BY COUNTIES

County	Number of Herds Examined	Number of Animals Examined	Number of Animals Passed	Number of Animals Isolated	Number of Animals Condemned
Bergen	4	114	111	3	..
Burlington	109	2,423	2,349	43	31
Cumberland	48	995	971	17	7
Essex	5	274	256	18	..
Gloucester	2	19	19	..	..
Hunterdon	119	3,941	3,842	83	16
Mercer	12	306	299	7	..
Middlesex	12	17	17	..	..
Monmouth	16	427	420	4	3
Morris	73	2,892	2,832	59	1
Ocean	2	24	24	..	..
Salem	57	1,569	1,496	63	10
Somerset	84	2,732	2,665	57	10
Sussex	10	426	410	12	4
Warren	4	137	137	..	..
Total	547	16,296	15,848	366	82

SUMMARY

Number of herds examined	547
Number of herds in which all animals were passed	345—63.1%
Number of herds in which animals were excepted	202—36.9%
Number of animals examined	16,296
Number of animals passed	15,848—97.3%
Number of animals isolated	366— 2.2%
Number of animals condemned	82— 0.5%

Another requirement of the New Jersey official grades for milk is the physical examination twice each year of all employees on farms producing New Jersey Grade A Raw Milk, and of employees in bottling plants handling the New Jersey grades for milk. This involved the examination of 444 individuals, and medical certificates containing the history of these examinations are now on file in the Department of Agriculture. Each man taking the medical examinations was required to be examined by a physician twice during the year and pronounced by the examining physician a safe individual to handle milk. When the individual worker had met these requirements, a card of identification was furnished to that effect. Labora-

tory examinations of specimens submitted by physicians in connection with these physical examinations were made by the New Jersey Department of Health.

The importance of microscopic analysis of samples of milk in determining causes of defect is amply demonstrated by the result of the methods used in policing the New Jersey official grades. While this work is more complete, and incidentally more expensive than ordinary methods of control, the results justify the extra effort. During the 13 years of close microscopic supervision of the New Jersey official grades for milk, not one case of infectious disease has been traceable to this milk supply. During the year, 1,811 samples were collected for analysis.

The field work of the New Jersey official grades is self-supporting. Fees are based on a sliding scale according to the amount of milk processed by the distributor. The income to the Bureau of Markets from fees averaged \$30.24 daily, and the total income collected for the fiscal year was \$11,036.

In order that a comparison of the volume of work accomplished by this project can be made, a summary of progress is reported. In order to conserve space, key years are presented as a barometer.

	1931-32	1937-38	1940-41	1943-44
Number of cooperating dealers	30	62	53	37
Number of producers	102	184	380	256
Daily production of milk	24,709	55,848	96,420	76,844
Number of cows examined semi-annually	2,864	5,582	9,467	8,148
Number of employees examined semi-annually	259	525	503	222
Samples collected for analysis	401	1,816	2,481	1,811
Average daily fee	\$12.35	\$22.91	\$34.65	\$30.24

ADVERTISING PROGRAM

The advertising program, carried on in cooperation with the New Jersey Council and New Jersey Official Grade Milk Dealers' Association, was discontinued during the year, due to the shortage of milk supplies and resulting increased demand. We have, however, continued to receive deductions made by the cooperating dealers, and at the present time, the reserve fund amounts to \$3,036.41. The New Jersey Official Grade Milk Dealers' Association thought this fund should be continued so that at the close of the war there will be sufficient money accumulated to resume this program, which has been beneficial in the past.

HACKETTSTOWN LIVESTOCK AUCTION MARKET

The supervisor of dairy products standardization continued his close association with the Livestock Cooperative Auction Market Association of North Jersey, Inc., better known as the Hackettstown Auction Market.

This market, during the fiscal year ending June 30, 1944, did a gross business of \$738,135.92. This was a sharp reduction from the total of

\$1,117,429.80, the last fiscal year. However, this was due to the fact that prices were sharply reduced, principally because the OPA regulations interfered with the normal course of business. There were 30,617 head sold compared with 29,383 head sold the previous fiscal year. The market is in a sound financial position, and upon return to normal times, will undoubtedly return to the farmers much better prices for their livestock.

During the year, arrangements were made with other livestock auctions to report their sales to the Bureau of Markets for purposes of comparison. This arrangement started January 1. Not all of the auctions have reported since that time, however.

A compilation of the business done by these auctions for the period during which reports were made to the Bureau of Markets is as follows:

Market	Number of Head	Value
Flemington	17,937	\$407,991.98
Hackettstown	30,617	738,135.92
New Egypt	5,684	160,531.35
Sussex	2,672	56,262.02
Woodstown	18,131	621,066.86

Figures for Flemington and New Egypt are from January 1 only.

Figures for Hackettstown are for the complete fiscal year.

Figures for Sussex are for January, February, and June.

Figures for Woodstown are from February 8 to end of year.

The auction method of selling surplus farm animals through organized channels was initiated in 1935. Only two of the ten auctions now operating have followed the example of the fruit and vegetable, and the poultry and egg associations, and organized as cooperatives. Five are private livestock auctions, and three operate as community sales. All of these markets serve our farmers, and are supported by thousands of dairymen and general farmers, and livestock producers. Early in the year, the supervisor of dairy products standardization made a study of the services rendered by these organizations and prepared a circular (Number 340) entitled "Livestock Auction Markets in New Jersey." This circular contains information on all of the existing auction type livestock markets and rounds out our printed material on the auction method of selling the farm products of New Jersey.

NEW JERSEY DAIRYMEN'S COUNCIL

Cooperation with the New Jersey Dairymen's Council was continued, and members of the staff of the Bureau of Markets attended the meetings and took part in discussions.

FRUIT AND VEGETABLE MARKETING

As in past years, the Bureau of Markets has worked closely with those citizens interested in shipping point markets and in terminal and secondary markets. More and more, our producers and shippers have realized the

need of sound marketing practices to meet the greatly increased competition from other areas. The work of this division of the bureau, therefore, has centered around two main objectives: first, the establishment and development of adequate outlet facilities such as auction markets in producing areas, city farmers' markets in New Jersey, and terminal markets in large adjacent cities, and in cooperative shipper-buyer relations within New Jersey; secondly, to develop a better product packed in recognized standard packages, and meeting grades standards so necessary in modern methods of food distribution.

The marketing program in New Jersey, as in all other states, has been greatly affected by wartime governmental agency orders. The War Food Administration has issued many orders governing actual distribution programs. Under these, many commodities could be sold only in certain ways. Some crops of certain quality had to be held for processing. Some had to be offered to government purchasers. The Office of Defense Transportation has regulated methods of shipment, methods of loading, and quantity of refrigeration permitted. The War Production Board has limited the kinds and sizes of packages, and the amounts of new packages allocated to certain crops. This agency has barred the use of new wooden packages for five of our vegetables, some of which could be used most advantageously for those specific crops. And the Office of Price Administration, with the advice of the War Food Administration, has set ceiling prices on many of our fruits and vegetables. Beginning in the fall of 1943, OPA orders placed ceiling prices on some commodities without regard to the quality or grade of the commodity in the container. Thus, the normal law of supply and demand was frustrated when prices were at the ceiling point, and producers or packers of quality packs were discouraged. Government purchases, whether for the Army, Lend-Lease shipments or price support, were made on a grade basis.

Growers were at a loss to know just what they were permitted to do with their crops. They realized that ceiling prices based on a 1942 country average would be disastrous in face of increased costs. In December, 1943, groups of these growers petitioned the Department for aid, and as a result the secretary of this Department requested the chief of the bureau and the administrative assistant to the secretary to arrange for frequent trips to Washington to represent New Jersey in an informal way wherever possible. Sixteen trips were made in the last half of the year. Contacts were made in various branches of the agencies mentioned, and often information supplied at the request of the agencies, which, it is believed, did much to protect the interests of New Jersey farmers from ill-advised or impractical rules. It is felt that the contacts made will be of considerable help to New Jersey in future activities of these government war agencies. Following each trip, letters were prepared and mailed to key individuals in the State. These letters were designed to present information needed in order that growers and shippers could have advance information on Federal government orders.

As to programs within the State, the most striking advance this year was the increase in inspection and certification of fresh products under official grade standards. The increase could be attributed largely to the special war measures governing the marketing of fresh fruits and vegetables.

Continued war restrictions on truck transportation facilities brought an increased movement in rail transportation. This was especially true for the potato crop. Potato ceilings were one exception to the general rule of disregarding grades. The need of grade designation in order to obtain top prices for potatoes brought a greatly increased demand for help from growers and shippers. Government purchases of all fruits and vegetables also were made on a grade basis. Help was again requested by those filling government orders. The nature of this help was mainly the inspection and certification by licensed inspectors under the standards promulgated for the various commodities. More inspection and certification was used in commercial channels as a protection in filling orders from markets at a distance.

INSPECTION WORK

The purpose of the Bureau of Markets in maintaining an inspection service is the inspection and certification, upon application, of the quality and/or condition and grade of all fresh fruits and vegetables that may be shipped to markets throughout the United States and Canada for commercial consumer trade, or sold to the United States Government for use by our armed forces and those of our allies, or for Lend-Lease shipments, or delivered to processors for canning, freezing, or dehydrating. This is in line with our program of assistance through improvement of pack and quality to meet competition and build up a demand for New Jersey products.

Although it was difficult to secure all the properly trained and experienced inspectors required to maintain an efficient and competent inspection service, we were able to secure enough of these men to handle the work and train inexperienced help even though it meant longer hours and more work for those secured. Many of our experienced men are in the armed forces.

CERTIFYING FRESH PRODUCE

APPLES

Apple inspections were below normal for the 1943-1944 fiscal year. Several reasons may be advanced as causes for this reduction.

A light setting followed by a dry growing season, and poorer-than-normal quality, due to insect damage and poor color, was the picture facing apple growers at the beginning of the harvesting season. At this time, which was September, 1943, the Office of Price Administration had not set the ceiling price on apples, but was in the process of doing so. The ceiling was set during the month of October and was based purely on container weight, with no differential for variety, size, or grade.

Since price ceilings were based on weight per container, there was no incentive for growers to sort and pack their apples for grade or even size them in accordance with what had formally been good commercial practice. Regulations of this nature by United States Government agencies only served to break down, in one season, the policy followed by the Bureau of Markets for many years, which was to assist growers in putting up a quality pack.

In spite of the price ceiling based on weight alone, a few individual growers requested that we inspect and certify their apples at their packing houses, which was done, and such apples were stored under New Jersey State lot numbers.

A total of 151 inspections were made on apples during the year, which included 78 lcl (less than carload lot) shipments and storage lots.

WHITE POTATOES

After a slow start in July of 1943, the potato season got under way in August and lasted throughout the entire year. Good harvesting weather made it possible for growers to get their potatoes harvested without any delays and, with few exceptions, harvesting was over by the end of September. While most of the bumper crop was marketed during the digging season, a good portion was stored for later shipments. Quality throughout the potato growing areas of New Jersey was generally good, the main defects being damage by wire worm, scab, and sunburn.

There were several programs used in the marketing of our potatoes during the year, and while prices were sometimes disappointing to growers, these programs served the purpose of aiding the growers in disposing of one of the largest crops ever produced.

During the harvesting season, many cars were purchased by the Food Distribution Administration of War Food Administration for the main purpose of supporting prices. These cars were variously distributed. Some were shipped directly to army and navy bases, others were shipped to processors to be processed for later distribution under Lend-Lease, while still others were sent to federal and state institutions. The Government also bought nearly 300 cars of selected seed, which was shipped to foreign countries.

Near the end of our regular shipping season, which is about the middle of October, potato dealers in New Jersey and neighboring states were called upon by producers in the State of Maine to help save one of the largest potato crops ever produced in that state. Unexpected early frosts and freezing temperatures caught producers in Maine with a large portion of their potatoes still in the ground; and with storages already bulging and handling facilities inadequate, they faced the possibility of losing a large percentage of their potato crop. Various methods for handling these potatoes were worked out, and producers in Maine harvested and loaded them

in bulk, mostly in box cars, for shipment to dealers in New Jersey and neighboring states as far south as Virginia. Some of these cars were sold outright to dealers, some were to be graded, sacked and stored for the original shipper, and others were bought by the United States Government and consigned to dealers for grading and storing. Almost all of the cars arriving in New Jersey contained some decay, which was the result of exposure to freezing damage in the fields, and representatives of the Bureau were requested to inspect and certify the condition of most of these cars upon arrival in various New Jersey destination points. It was necessary to use shipping point licensees to assist in this work even though the certifications were made on a terminal market Federal Condition Certificate.

Throughout the winter and early spring months, many applications were made by dealers for inspection of car arrivals of certified seed potatoes and table stock. Most of these requests were made because of stock showing freezing damage or decay following freezing.

In March of 1944, an appeal was made to the United States Government to purchase surplus potatoes held in storages. Two programs were instituted and both were handled by the Commodity Credit Corporation. The support price of \$2.50 per hundredweight was guaranteed for stock meeting U. S. No. 1 grade or better in 100-pound burlap sacks loaded in cars. These were moved into consumer markets for table stock. The other program was the purchase of off-grade or poor quality and small size potatoes. The grower was paid according to the per cent of U. S. No. 1, U. S. No. 2, and U. S. No. 1 Size B he had in his lot. Department inspectors determined these percentages by grading samples from the various growers' lots. The potatoes were loaded in bulk in gondola or open-top cars for shipment to dehydrating plants to be used for the manufacture of industrial alcohol. Prices for these potatoes were based on the government support price for the grades stated minus the estimated cost for grading, sacking, and handling.

All arrangements for the handling of potatoes under these two programs were made through the various county AAA boards, but payment to growers or shippers was the responsibility of the CCC.

Loading and inspection under these two programs continued into the month of June, at which time the last of the 1943 potato crop was moved.

A total of 5,206 shipping point inspection certificates were issued on the 1943 potato crop, and 242 terminal certificates were issued on potatoes shipped into New Jersey.

SWEET POTATOES

Even though this is one of New Jersey's most important crops and is produced and sold in volume, there is very small demand for inspections on sweet potatoes. This fact speaks well for the growers and shippers of this commodity.

Competitive sweet potato growing states have used such care in the packing and marketing of this crop that it is only good judgment and self-preservation that directs New Jersey growers and shippers to follow the same policy. This kind of competition makes for better quality and lessens the need for inspection. The purpose of inspection is to insure the receiver or buyer that he is getting a quality pack which is as good or better than the minimum requirements stipulated in the U. S. Standards for sweet potatoes. When such requirements are not in packing, shippers feel that the quality is up to or better than the U. S. Grade requirements, and therefore, do not consider it necessary to have inspection.

In the past year, our men made 47 inspections on sweet potatoes sent to military training bases. All purchases by government agencies must be covered by a certificate of inspection.

OTHER VEGETABLES

In addition to the inspection of such products as apples, white potatoes, and sweet potatoes, our inspectors were called upon to certify carlots or lcl (less than carload lot) shipments of snap beans, beets, cabbage, carrots, cucumbers, eggplant, peaches, sweet peppers, spinach, turnips, and shipments of mixed vegetables. Most of these products were inspected for shipment to military training centers.

Many products, in addition to those given above, were inspected at auction markets upon which no certificates were issued.

The following table shows the ten-year record of shipping point inspections by products. It is interesting to note the large increase in the 1943-1944 year over former years.

TEN-YEAR RECORD OF SHIPPING POINT INSPECTIONS BY PRODUCTS

	34-35	35-36	36-37	37-38	38-39	39-40	40-41	41-42	42-43	43-44
Apples	94	333	160	391	579	672*	611	100	609†	151
Beans	91	17	43	3	1	1	..	..	7	2
Beets	..	..	..	..	..	..	..	1	3	6
Cabbage	..	1	..	..	..	..	..	1	1	3
Carrots	..	..	..	..	..	..	..	..	3	16
Corn	..	..	..	..	..	..	..	3	..	..
Cucumbers	..	1	..	..	..	..	..	..	..	6
Eggplant	..	..	..	..	..	..	..	1	..	1
Lettuce	..	..	..	..	..	..	..	..	1	..
Lima beans	1	..	3	..	..	..	..	..	..	..
Mixed vegetables	..	..	..	..	..	..	..	..	4	9
Onions	36	55	42	61	9	3	8	1	2	..
Peaches	..	..	1	..	..	49	26	1	1	1
Pears	..	16	..	1	2	..	..	..	..	..
Peas	2	2	..	..	..	..	..	..	..	..
Peppers	3	..	..	..	..	..	..	..	..	17
Potatoes	40	121	323	5,180	1,972	397	2,264	1,328	2,941	5,206
Spinach	..	..	..	..	1	6	3	8	30	1
Strawberries	1	1	1	..	..	..	..	..	..	..
Sweet potatoes	..	..	..	45	..	62	9	29	19	47
Turnips	..	..	..	..	..	..	..	..	..	1
Total	268	547	573	5,681	2,564	1,190	2,921	1,473	3,621	5,467

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

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

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CANNERY CROPS INSPECTION

ASPARAGUS

General weather conditions early in April, 1944, indicated an early harvesting season. Anticipating their needs in advance, several New Jersey canners requested the Bureau to be prepared to supply inspectors at the processing plants by April 17. We, therefore, requested a limited number of inspectors to report to New Jersey by that date. After a week of warm sunshine, the weather turned cold and rainy, and harvest was put back until April 26. The inspectors on hand were authorized by the processors, and were kept on the payroll in order that we be prepared for quick weather changes. The weather settled at last and harvest commenced.

First deliveries of asparagus showed a general purplish tinge, which is a result of cold weather, but does not affect grade because in the process of blanching the purple color turns dark green. After a slow start in the latter part of April, weather conditions became favorable to rapid growth and deliveries reached their peak the first week in May.

Except for certain localities, there was very little damage from beetles. The main defects affecting grade throughout the asparagus-growing areas were spreading and seeded tips caused by rapid growth in hot weather. The general over-all quality for the season was good, but the percentage of large size was less than in 1943.

Average grades for the 1944 season were 28 per cent, N. J. No. 1 Large; 42 per cent, N. J. No. 1 Medium; 3 per cent, N. J. No. 1 Small; 6 per cent, culls; and 21 per cent, butts; as compared to the 1943 averages of 30 per cent, N. J. No. 1 Large; 39 per cent, N. J. No. 1 Medium; 2 per cent, N. J. No. 1 Small; 7 per cent, culls; and 22 per cent, butts.

The increase in prices of one-half cent per pound on all sizes of the N. J. No. 1 grade by processors for the 1944 crop, and the close similarity of grades for the two seasons gave growers an increase of approximately one-half cent per pound for their 1944 deliveries.

The figures showing average grades apply to contracts based on the New Jersey standards for asparagus for canning or freezing. Under these contracts, a total of 36,693,760 pounds were delivered to processors based on an average weight of 40 pounds per field box.

There were other contracts between canners and growers not based on the New Jersey standards. Under these other contracts, a total of 4,854,665 pounds were delivered. Our inspectors graded the asparagus delivered under these contracts according to the stipulations agreed to by canner and grower. A flat price per pound was paid to growers for asparagus meeting contract stipulations.

There were 22 regular licensed inspectors and 10 assistants assigned to the 17 receiving stations, representing 11 processors. This represents a decrease of 1 inspector, with an increase of 1 receiving station and 2 proc-

essors over the 1943 season. All canners and receiving stations continued to receive asparagus through the month of June, but only 4 continued through the week ending July 8.

The following table shows results of the cannery asparagus grades for the 1944 season.

ASPARAGUS RESULTS, 1944 SEASON

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
April 29	329	32	46	2	4	16
May 6	3,394	30	43	3	6	18
13	4,184	32	39	3	6	20
20	4,211	30	39	3	6	22
27	4,008	29	42	3	4	22
June 3	4,273	27	42	4	5	22
10	3,591	26	43	4	5	22
17	3,834	24	46	3	6	21
24	3,574	22	47	3	8	20
July 1	2,595	22	48	4	7	19
8	185	21	40	3	17	19
Season	34,178	28	42	3	6	21

TOMATOES

The 1943 cannery tomato inspection work started at one cannery on July 19, which was early for cannery tomatoes. The following week several more canneries started to receive tomatoes, and by the first week in August all canners were processing.

First deliveries were above average quality except in localities where there was too much rainfall, which caused tomatoes in those localities to crack open around the stems, permitting the development of hard black mold. Occasional loads showed light to moderate anthracnose infection. In August, tomato deliveries were heavy and quality was good. Good ripening and harvesting weather throughout the season resulted in the best quality and highest yields ever experienced by tomato growers in New Jersey. Increased prices by processors to growers along with high grades made 1943 the most profitable year for tomato growers.

Approximately 30 to 35 inspectors were assigned to tomato grading work during the season. This was a smaller number than usually needed, but because of good quality throughout the season, they were able to handle the work. There were 6 canners using our grading service. Four of these continued receiving under grade throughout the month of September, with 3 continuing through October 9, and one into the next week.

Average cannery tomato grades for the 1943 season for New Jersey were: 66 per cent, U. S. No. 1; 32 per cent, U. S. No. 2; and 2 per cent, culls; as compared to the 1942 averages of 55 per cent, U. S. No. 1; 42 per cent, U. S. No. 2; and 3 per cent, culls. The 1943 averages were the highest since the beginning of cannery tomato grading in New Jersey under federal grades.

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The following table shows the record of receipts and grades by weeks at the canneries using State inspection. The last half of the table compares the 1943 season with the ten preceding years.

SUMMARY 1943 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	24	83	52	44	4
	31	2,341	65	34	1
August	7	5,370	69	30	1
	14	16,012	65	33	2
	21	37,672	69	29	2
	28	25,644	67	31	2
Sept.	4	22,696	66	32	2
	11	21,104	65	32	3
	18	10,298	61	36	3
	25	4,885	61	36	3
October	2	2,670	57	39	4
	9	860	53	43	4
	16	151	37	56	7
Season 1943		149,786	66	32	2

Seasons	Total Tons	U. S. No. 1 Per Cent	U. S. No. 2 Per Cent	Culls Per Cent
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
1935	120,524	62	35	3
1934	91,060	58	39	3
1933	62,979	52	44	4

MARKET ACTIVITIES

As in past years, the Bureau has cooperated closely with all of the public marketing organizations selling fruits and vegetables. These are chiefly the city farmers' market organizations and the shipping point or country market developments. The Bureau has been of some assistance to private marketing agencies. As the war has extended into another year, the limitations on truck use have been more evident. Whereas, five years ago 85 per cent of our potato crop handled by dealers moved to destination by truck, this year more than 60 per cent moved by rail. The ration has not applied to the general vegetable movement. This is because most vegetables are sold in nearby sections within a 200-mile distance from the production area. The limitation on gasoline, tires, and truck usage has encouraged buyers to go to those places where farmers have assembled their produce rather than to travel from farm to farm.

Scarcity of commodities together with ceiling prices on some commodities have caused buyers to seek out these supplies on the farms. When at the farm, the buyer desiring to take out a full load, or, as was the case many times, to make it worth while to the farmer, purchased other commodities at a good price. As an example, strawberries were scarce in the spring of 1944. The ceiling was \$7.80 a crate of 24 quarts. Very few berries were taken to the country auctions as buyers came to the farms for them. The farmer may also have had crates of lettuce or cabbage for sale. These vegetables were also under a ceiling price, but were abundant and selling far below ceiling. The farmer oftentimes sold his berries to a buyer only after the buyer agreed to purchase a specified number of crates of the vegetables at a price which may have been larger than the supply would warrant. The buyer could afford to do this within reason, as he was allowed a fairly good mark-up on all of these commodities, and may have had an outlet for the lower priced vegetables in a favored price market.

SHIPPING POINT AUCTION MARKETS

As a result of the sales of a few commodities on the farms, as mentioned in the preceding paragraph, the sales' figures at the auctions show a reduction in total volume. One other factor has reduced sales at these markets. Because of the war need for certain crops, some land previously planted to vegetables sold at the auctions was turned over to the growing of specifically needed crops. One fine example of this has been the request for and subsequent increase of several thousand acres of white potatoes. Sales in total volume in the markets show a decrease, but it is interesting to note that in a few cases farmers have turned over to their auction association certain sums of money, which were in lieu of commissions, and which would have been received by the association if the sale had been made through the auction. Farmers realize the need of preserving the outlet afforded by their own cooperative association.

While volume of sales in 1943 was somewhat lower than in 1942, prices were much higher. Average sales price of all fruits and vegetables sold over the cooperative auctions in 1942 was \$1.109 per package. Average price in the 1943 season was \$1.91. The higher price in 1943 is explained in a measure by the high prices of peaches, eggplant, snap beans for a short period, and a few other vegetables. Prices for the first half of 1944 were slightly under those of the corresponding period of 1943.

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SUMMARY OF SALES AT FRUIT AND VEGETABLE AUCTION MARKETS

Market	Season of 1943		Season of 1942	
	Number of Packages Sold	Value of Sales	Number of Packages Sold	Value of Sales
Beverly	194,795	\$254,582.66	260,968	\$205,504.95
Cedarville	261,396	565,963.03	397,380	568,102.75
Glassboro	418,772	926,932.60	489,434	479,254.68
Hammonton	131,880	507,211.95	75,867	165,121.92
Hightstown*	407,376	528,285.90	470,133	437,296.52
Landisville	442,604	850,051.44	432,120	499,264.20
Newfield	.....	.....	12,898	15,837.37
Pedricktown	129,395	311,809.46	160,571	244,188.32
Rosenhayn	5,660	40,522.15	7,789	26,687.15
Swedesboro	941,112	1,754,015.17	1,179,308	1,322,251.41
Vineland	437,915	733,717.64	465,699	419,928.32
Washington	46,815	54,752.81	.....	.....
Totals	3,417,720	\$6,527,844.81	3,952,167	\$4,383,437.59
Average price per package, 1943				\$1.910
Average price per package, 1942				\$1.109
Per cent of increase in price per package, all commodities 1943 over 1942				72.2%

* Figures for Hightstown are auction sales only and do not include sales made by the manager, which amounted to 30,526 packages selling for \$71,325.80 in 1943, and 35,417 packages selling for \$50,096.71 in 1942.

A partial report of the activities of produce auction markets for the 1944 season, up to July 1, shows that the volume was slightly higher than in the first six months of 1943, but that prices were lower. The corresponding figures are as follows:

1st Six Months	Packages Sold	Value of Sales
1944	791,451	\$1,950,183.39
1943	733,457	1,967,393.41

Sales on the auctions have been complicated when prices for certain commodities have been up to the ceiling permitted by OPA. Where many sales were made on farms, the result has been insufficient supplies even at ceiling prices to satisfy buyers' needs. Some markets have divided produce by growers' lots among old buyers. New buyers were not permitted to receive supplies of scarce articles. In other cases, the supply was divided among all buyers, all paying the ceiling price. In another case, lots were drawn by buyers to see which one would obtain a load. These methods were not satisfactory, and as a result, buyers went away dissatisfied, often not to return.

As in the last two years' reports, we submit a table showing the principal commodities sold at the fruit and vegetable auction markets during 1943 and the comparison with the season of 1942.

PRINCIPAL COMMODITIES SOLD AT FRUIT AND VEGETABLE AUCTION
MARKETS, COMPARISON OF VOLUME IN 1943 WITH 1942

Commodity	Unit	1943	1942
Apples	Bushels	45,166	72,718
Asparagus	Crates, dozen bunches	321,775	473,432
Beans, snap	Bushels	185,737	191,942
Beans, lima	Bushels	36,577	90,536
Beets	Dozen bunches	25,910	36,158
Blackberries	Crates, 24 quarts	4,502	9,059
Broccoli	Bushels	37,653	45,821
Cabbage	Bushels	37,116	27,164
Cantaloupes	Bushels	57,965	45,425
Carrots	Dozen bunches	8,908	24,962
Carrots	Bushels	4,428	4,389
Cauliflower	Crates	5,690	8,915
Corn, sweet	Bushels or sacks	85,821	68,478
Cucumbers and pickles	Bushels	172,377	209,791
Dandelion	Bushels	35,405	40,200
Eggplants	Bushels	109,030	109,243
Lettuce	Crates, 2 dozen	59,340	47,655
Okra	Climax baskets, 12 quarts	3,435	9,762
Onions	Sacks, 50 lbs.	1,107	89,675
Parsley	Bushels	6,558	15,045
Peaches	Bushels	268,251	165,806
Peas	Bushels	5,508	3,196
Peppers	Bushels	504,658	664,974
Potatoes, white	Sacks, 100 lbs.	131,414	143,003
Potatoes, sweet	Bushels	222,322	253,998
Raspberries	Crates, 12 pints	45,753	100,176
Scallions	Bushels	3,898	3,155
Spinach	Bushels	8,095	3,031
Squash	Bushels	18,001	9,199
Strawberries	Crates, 24 quarts	45,254	64,919
Tomatoes	Climax baskets	654,708	688,900
Watermelons		39,390	13,925
Miscellaneous	Packages	128,656	292,054

In the management of affairs other than actual sales of fruits and vegetables, the auction associations have attempted to serve their members during wartime through the purchase of supplies. Packages have been a problem. The War Production Board limited the volume of material allotted to manufacturers of new containers for food. In some cases, the volume of packages for specific commodities was reduced from 20 to 50 per cent of 1942 production. In the case of five vegetables, no new wood was permitted, and growers and shippers were required to ship in used packages, or in bags. The vegetables were cabbage, sweet corn, onions, turnips, and white potatoes. As a result of the restriction, several of the associations tried to estimate the need of their members, and stock-piled both new and used containers. In some cases, the associations rebuilt containers as needed. Many thousands of dollars were invested in advance by the associations as a service to members.

The associations, in many cases, during the year revised their by-laws to meet the changing needs of income tax regulations and cooperative law. The Bureau was helpful in this work. Representatives of the Bureau of Markets conferred with auditors and lawyers, and sat in as members of special by-laws committees.

Some of the associations conducted used-equipment sales during the winter months. These sales were a means of making available many pieces of extra equipment to farmers. Much of the material was badly worn and needed parts and repairs. At the same time the sales afforded farmers an opportunity to dispose of excess tools, thereby obtaining space for better storage of materials kept on the farm. Large supplies of salvage material were also obtained from the farms and turned over to scrap drive committees. One association conducted several farm and cattle sales, and also sold supplies of hay and grain for members. This association managed the financing of the complete transaction.

CITY FARMERS' MARKETS

New Jersey farmers have developed many valuable farmers' markets at consumer points. The largest of these are farmer-owned and operated. Three of these also own the dealers' stores surrounding the market, and rent the necessary space to jobbers or commission houses. The Bureau has cooperated closely with most of these city farmers' markets. For the purpose of obtaining valuable information used in determining the flow of farm products to the consumer markets, the Bureau has continued to obtain statistics weekly from the largest farmer-owned markets in the State located at Newark and Paterson, and from the largest city-owned and operated farmers' market operated at Atlantic City.

The Atlantic City Market during the year sold 260,030 bushels of fruits and vegetables, 108,455 dozens of eggs, and 63,415 pounds of poultry. Gross sales reached \$492,417.28. The volume was only about two-thirds the sales during the preceding year. Part of the reduction was due to the great reduction in civilian population at this shore resort during the summer and fall of 1943. Total value of sales was only 5 per cent below the 1942-1943 year.

Sales on the Newark Farmers' Market were nearly as large this year as last year. There were 10,966,530 bunches of vegetables sold in comparison with 10,652,029 in 1942-1943. The reduction came in packaged fruits and vegetables; this year 2,248,761 packages were handled compared with 2,403,168 last year. Packages consist of any container, and range in capacity from 16-quart to barrel size. The package having largest volume of any is the bushel basket.

The records in the bureau offices of the sales on the Paterson Farmers' Market are not complete. No statement was given in last year's report relative to volume at Paterson. During the 1942-1943 fiscal year, a total

of 3,613,072 bunches of vegetables and 929,717 packages of fruits and vegetables were sold on this market. Our records cover only seven months of the 1943-1944 year. This period starts with July 1, 1943, and extends through December 31. No records were available from January 1 to May 31, but June sales are available. In these seven months the market handled 2,827,040 bunches of vegetables and 693,439 packages of fruits and vegetables. Even allowing for a fairly active month of May, the sales at this market, as at Newark, fell below the 1942-1943 record. The commodities in greatest volume at the Paterson Market were bunched vegetables such as beets, radishes, parsley, green onions, leek, and leafy greens, and baskets or crates of tomatoes, lettuce, cabbage, spinach, and peppers. Moderate volumes of other fruits and vegetables were sold daily.

MISCELLANEOUS

Eight meetings of the Cooperative Marketing Associations in New Jersey, Inc. were held during the year. This association has been very successful in aiding the 16 member-cooperatives by planning jointly operating programs carried out throughout New Jersey. The State association supported in part the trips of departmental representatives to Washington in connection with fruit and vegetable war agency programs. The monthly meetings of the association were a practical place for reports on these trips. The reports enabled market representatives to prepare to meet the government requirements affecting sale of New Jersey fruits and vegetables.

The State association also sponsored a greater use of used packages in order to offset the shortage in new containers. Member associations purchased, and in some cases repaired such packages, in great volume, and resold such packages as needed to their farmer members during the harvest and shipping season.

The Bureau again cooperated closely with the Northeastern Potato and Vegetable Council. The bureau chief attended nearly all the monthly meetings of the Council held in New York, and carried back to New Jersey marketing groups information gained from these meetings. The Council had considerable success in expressing to federal agencies the needs and point of view of vegetable farmers of the northeastern states.

POULTRY PRODUCTS MARKETING

The marketing program in poultry and eggs was continued during the year in line with former programs. Regulations of war agencies have caused some deviations from planned projects, but generally speaking, the work of the Bureau has been carried along in accordance with the requirements of the Department. The supervisor of poultry products marketing had additional responsibilities placed upon him by the secretary of the State Department of Agriculture, so that some of his work was carried by others in the Bureau. Even with this additional burden, he directed the work in

his division and carried out the promotional programs in poultry and egg marketing as planned. The supervisor of poultry products standardization and the supervisor of poultry standardization carried out their duties in a very commendable manner.

POULTRY PROMOTION WORK

The poultry products marketing program states, in part, that the Bureau of Markets shall endeavor to "build up a reputation and to develop a practical and economical marketing method for New Jersey eggs and poultry." It is toward these objectives that the supervisor particularly directed his activities. In many instances, the marketing and promotional work is closely related to the enforcement of egg and poultry grades and the fresh egg law, and to the poultry standardization program. The chief inspectors in charge of these programs and other personnel have cooperated in these interlocking activities.

As an indication of the size of the New Jersey poultry industry and particularly its wartime development, preliminary estimates prepared by the departmental statistician reveal that nearly one out of every four dollars of the value of farm products in New Jersey in 1943 was represented in the poultry industry—eggs, replacement stock, and poultry meat. The value of eggs was placed at \$32,936,310, which was 26 per cent greater than in the previous year. New Jersey baby chicks and poultry produced for meat were valued at \$16,571,000 in 1943. These were the all-time high values of poultry history.

The great increase in farm values of the products of the poultry industry may be attributed largely to increased production, because the national price-fixing policy to prevent inflation did not permit any large increase in unit values. Encouraged by favorable returns of the previous war year, poultrymen throughout the nation expanded their production in anticipation of continued strong demand. As events in poultry products marketing proved during the first six months of 1944, the expansion was of such proportions that it boomeranged upon the industry. The over-supply of eggs resulted in prices so low that some elements of the industry did not survive, while the optimism of others was so curbed that the hatching season was curtailed and general retrenchment occurred. At the same time, in the latter months of the egg market debacle, the distress marketings of poultry meat caused a discouraging slump in prices in that field. Laying flocks were rigidly culled and some flocks were completely liquidated because of the unfavorable feed-egg ratio and the unavailability of feeds, which were short in supply nationally.

These marketing developments presented many serious problems to those concerned with both production and distribution. The services of this Bureau were requested in a number of emergency matters, in addition to the routine program of work. Demands for relief were presented to the

Governor's office by many hard-pressed poultrymen and several organizations. The feed shortage, acute in some commercial poultry areas of New Jersey, was a national problem, and there was little that could be done at the state level. The egg surplus also was national in scope, and a federal agency was obligated by law to support the price of eggs at a minimum of 27 cents per dozen. That support price was too low to help the New Jersey situation, and practically no eggs from New Jersey were purchased under the federal program.

By purchasing eggs in competitive areas, thus relieving the flood into the New Jersey market, undoubtedly the federal support program indirectly benefited the New Jersey poultry industry. The New Jersey State Department of Agriculture was advised by the Governor's office to take measures within our province and at the state level to help the situation.

ADVERTISING CAMPAIGNS

This Bureau prepared a paid advertising campaign directed toward the consumer, and enlisted the editorial support of food page editors, radio, and commercial agencies concerned with the welfare of agriculture. Costs of this campaign were shared by the Flemington Auction Market Cooperative Association, Inc., Vineland and South Jersey Cooperative Egg Auction and Poultry Association, Inc., Tri-County Cooperative Auction Market Association, Inc., Burlington County Cooperative Poultry Auction Association, Inc., and the North Jersey Cooperative Egg Auction Association, Inc., in cooperation with the State Poultry Publicity Fund and the New Jersey Council. Reports of the conferences, advertising, and publicity have been prepared and presented to interested agencies.

The shortage of storage space led to a survey by the Federal Government, in which this Bureau cooperated, to locate suitable provisional storage for eggs. Only a small volume of the space found in New Jersey was actually used.

By contrast with the late winter and spring surplus, there had been a critical shortage of eggs during the fall and early winter months of 1943. That earlier famine of eggs had resulted in a serious setback in New Jersey's development of an orderly system of marketing. The cooperative markets operate publicly, and comply with the price ceilings and other regulations. Not so, however, with many of the farm-to-farm dealers who drained the public markets' normal supply of eggs at allegedly high prices which violated the federal regulations. When the national supply of eggs increased to the point that it exceeded the demand which happened during the closing weeks of 1943, these dealers abandoned the producers, who promptly turned to their cooperative associations with their eggs. Although the associations rescued these uncooperative members from their distressing situation, the unexpectedly large volume of eggs created a physical problem because of the manpower shortage, as well as an economic problem through a further lowering of price for even the most loyal members.

The members who sold through the association throughout the year raised the issue of requiring all members to sign marketing agreements, guaranteeing to supply to the markets a definite percentage of their market eggs throughout the year. Such agreements were already in effect at Vineland, which requires members to deliver at least 50 per cent of all market eggs produced; and at Toms River, where the New Jersey Federated Egg Producers Cooperative Association requires 100 per cent. The Flemington cooperative, after long consideration of the matter, determined that a marketing agreement was essential to protect its loyal patrons and to insure a steady supply of eggs for the regular buyers, and will henceforth require the delivery of 75 per cent of market eggs produced on the member's farm. Cooperation was given by the Bureau of Markets in the preparation of this agreement and the resolution of the directors concerning its necessity.

The New Jersey Poultry and Egg Cooperative Marketing Association, Inc. had a very successful year. Originally envisioned as a successful marketing venture if it could distribute 500 cases of State Certified Fresh Eggs per week, this project increased during the year to nearly double that size. The gradual development of the market, based upon the reputation for quality which these cartoned eggs have been building up for the past five years, was given impetus by the wartime demand for eggs, a substitute for rationed red meats. The growth of the project found the market handicapped for working space in its original quarters at Flemington. Expansion in the form of a new home for the assembly, candling, cartoning, and distribution was under consideration as the fiscal year ended.

The financial affairs of this association, which sells its cartoned eggs under the "Certified Eggs" trademark, showed encouraging improvement. Operating at a serious loss for more than two years, it had occasionally been suggested that the project close, perhaps to be reconsidered at the end of the war. The merits of the program which uses State Certified Eggs as a vehicle for promoting and advertising the quality products of New Jersey poultry farms received a heartening encouragement when the member cooperatives at Flemington, Vineland, Hightstown and Mount Holly agreed to continue to underwrite the losses even when the future looked particularly dark under OPA control of prices. The faith of the officers and directors, and the judgment of the management committee were confirmed when, in January, 1944, the heavy indebtedness incurred in recent years was overcome. Subsequent earnings have resulted in a comfortable although modest surplus as the fiscal year closed.

The New Jersey Food Production Award for 1943 was a project of the Administrative Bureau, and probably will be separately reported in its entirety. However, the poultry division of the Bureau of Markets cooperated closely with this project, particularly in the awards to poultry associations. Six poultry awards were conferred in recognition of their outstanding contributions to the war effort upon the New Jersey State Poultry Association, the Jersey Chick Association, and the cooperatives at Flemington, Vineland, Hightstown, and Mount Holly.

Cooperation was again given to the Jersey Chick Association in the preparation of its guide book for buyers, and also in its advertising of Jersey baby chicks through the farm press. An all-state poultry dinner was staged this year during Farm Week, and this bureau participated in the preparation of the program for the two-day meeting of the New Jersey State Poultry Association. Cooperation was given this association in various other meetings and activities. A special issue of the Farm Service News featured the New Jersey—U. S. Poultry Improvement Plan, and was prepared in cooperation with the Bureau of Information.

POULTRY STANDARDIZATION

As in 1942-1943, there has been an increase in the applications for service in developing high class breeding flocks in New Jersey. In earlier years, this project has been carried without extra personnel by assigning to the supervisor the services of inspectors from other projects of the division for the period during which field inspections had to be made. This year, however, it was necessary to employ temporary help, who were paid from the fees collected, in order to carry on the work.

Again the bureau coordinated its program with that of the Federal Department and with other states by uniting in the National Poultry Improvement Plan. This is the ninth year the national plan has been in operation in New Jersey. Contracts between the Department and the federal agency have been signed for continuance of the work in the 1944-1945 season.

The program continues to improve in its effectiveness. Under the program as revised a few years ago, the use of privately employed flock selecting agents and testing agents was continued. There were 17 agents, who, after qualifying, were licensed as flock selectors, and 24 licensed as testing agents. The work of the supervisor of poultry standardization was partly confined to supervising the work of these agents. More of his time should be devoted to such supervisory work, but with the volume of state-selected and tested birds as it is, much actual field work has been handled by him.

Following the program of past years, a conference was held in Trenton at which instruction was given to applicants qualifying as selectors and testers. At this conference, instructors from the poultry division of the College of Agriculture cooperated with representatives of the Bureau of Markets and the Bureau of Animal Industry. At the close of the conference a written examination was given and those passing were given further field tests.

This year is the twenty-second during which a poultry improvement program has been conducted by the Bureau. As previously stated, our program for the last nine years has been coordinated with that of other states in the development of the national plan. The program has included

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breed improvement together with pullorum-disease control. The several classes are as follows:

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

New Jersey hatcheries under supervision did approximately the same amount of business as in 1942. The smaller hatcheries closed about June 1. The larger ones continued at a reduced rate the balance of the year. There has been considerable more demand for Record of Performance cockerel chicks than were produced in New Jersey.

Twice during the year our work in New Jersey was checked by federal supervisors. These men not only observed our work, but suggested improvements in the service.

The following table gives a condensed picture of the poultry standardization program as carried on in New Jersey during the past two years. It is interesting to note the increases that have taken place in the services rendered.

N. J.-U. S.	1943-44	1942-43	Per Cent Changes in 1944
Number of flocks cooperating	681	611	+11.45
Total number of breeders	369,793	328,198	+12.67
Number of hatcheries cooperating	47	42	+11.9
Hatchery capacity cooperating	4,385,230	3,413,312	+28.47
Number of birds in pullorum stages only	51,546	68,236	-24.45
Number of birds in Approved stages only	244,520	180,733	+35.29
Number of birds in Certified stages only	73,727	74,779	-1.40
Number of birds in R. O. P. Trapnest Project	2,710	2,171	+24.36
Number of birds qualified as Register of Merit	15	15	...
Number of females in R. O. P. breeding pens	820	870	-5.74
Number of R. O. P. chicks produced	17,475	17,659	-.99
Number of R. O. P. chicks and cockerels sold	1,663	3,371	-49.33
Per cent of birds reacting to the pullorum test	1.566	1.04	+ .53
Number of flock inspections	91	37	+40.65
Number of hatchery inspections	67	64	+4.68
Number of R. O. P. inspections	13	20	-35.00
Number of farm visits	133	104	+27.88

Two tables are included which give (1) the classification and distribution of birds under supervision, and (2) the number of birds handled by breeds and by counties in which the work was carried out.

AUCTION MARKETS

The poultry and egg auction markets, as well as other types of cooperatives in New Jersey, have experienced conditions during the past year that were, in some instances, most difficult to cope with. Early in 1943, the Office of Price Administration issued a regulation controlling the price of eggs in channels other than wholesale. In the latter part of the same year, wholesale prices were controlled through an amendment, and to date 26

amendments have been issued in an effort to correct the glaring mistakes in the original order. The price control order affecting the sale of poultry is about two months older than the egg order. Since the original issue, 32 amendments have been made.

It is granted that price control is essential to combat inflation and mistakes are made in such efforts. There is, however, a distinct trend toward lowering the standards of the grades on which prices are fixed. Such a course may prevent visible monetary inflation, but it is definitely promoting grade inflation. The ultimate purchaser does not spend more money, generally, for a given commodity, but that money does not buy the quality it originally did. If the "hold the line" order is adhered to, then the price and the grade of the commodity under control must be representative of that which was in force at the time the order was issued. Anything else is simply manipulation of quality under a maximum price.

The manner in which price control has been applied to eggs has had a disrupting effect on quality programs. There is no incentive for poultrymen, in general, to care for their eggs properly and thereby receive a premium for their efforts. There are some, though, who take pride in their product and are continuing to follow a quality program. Six months out of the past year, the price received for eggs was at ceiling. Under these conditions, our New Jersey Grade A and New Jersey Fancy eggs were sold at the same price because the grade on which prices were fixed was such as to allow our New Jersey Grade A to meet the minimum requirements of that grade. When eggs were below ceiling prices, supply and demand did not permit a marked difference between our two top State grades. It has also been the habit of most of our producers to grade carefully for size and thereby receive a premium for heavier weights, but this has been curtailed as there is no price established for 30 dozen cases of eggs weighing over 50 pounds net.

As long as we have price control, it can be expected that grades will experience a leveling-off process. The incentives to draw sharper lines between qualities will be eliminated. This is particularly true of top grades where the "cream of the crop" is blended with the average. Apparently, we are going through a test period, during which much will be learned about grading practices and the effect they have on the consumer. It would be unwise, however, to form definite conclusions on such a matter during a period of emergency. The economic conditions of the consumer are abnormal at present so that when we return to more normal conditions we are likely to see again a demand for sharper segregation of qualities in our products and premiums again paid as a reward for producing the "cream."

If this occurs, the cooperative markets will have a more important place in the marketing of eggs and poultry. They will have to re-educate a lot of their members, and it will not be done overnight. This is one of the reasons why the poultry industry has resisted the methods adopted by the

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

County	NUMBER OF BIRDS														Total
	No. of Flocks	Pul. Tested	N. J.-U. S. Certified Pul. Controlled	Pul. Passed	Pul. Clean	Pul. Tested	N. J.-U. S. Approved Pul. Controlled	Pul. Passed	Pul. Clean	Pul. Tested	N. J.-U. S. Pul. Controlled	Pul. Passed	Pul. Clean		
Atlantic	26	...	10,257	...	...	616	17,726	...	...	...	...	...	...	28,599
Bergen	9	...	...	...	...	...	2,249	...	...	...	1,411	...	...	3,660
Burlington	16	1,609	3,824	...	...	2,478	2,964	319	...	...	...	...	...	11,194
Camden	5	...	1,271	...	...	...	1,419	...	...	...	...	...	...	2,690
Capē May	21	...	8,350	...	...	969	10,133	...	...	...	...	...	...	19,452
Cumberland	152	1,891	19,684	...	...	5,793	51,030	...	...	...	...	...	...	78,398
Gloucester	15	771	3,336	...	6,766	2,057	2,033	...	...	...	...	...	...	14,963
Hunterdon	30	...	...	...	...	1,298	12,024	...	...	3,740	129	...	90	17,281
Mercer	52	1,911	...	...	...	2,865	14,992	167	1,164	88	375	...	...	21,562
Middlesex	11	1,285	2,168	...	...	489	3,512	...	...	1,486	699	...	...	9,639
Monmouth	49	236	2,394	...	...	1,255	21,711	975	...	1,490	6,619	396	...	35,076
Morris	14	...	...	...	...	...	3,829	...	...	538	...	...	...	4,367
Ocean	57	1,139	2,927	...	...	2,619	7,430	...	...	4,712	27,523	...	...	46,350
Passaic	4	...	...	...	...	...	2,052	...	...	...	810	...	...	2,862
Salem	89	282	2,947	...	...	2,910	30,721	...	...	...	...	...	...	36,860
Somerset	8	...	...	...	...	...	1,416	...	...	...	608	...	...	2,024
Sussex	6	...	...	...	...	...	3,523	...	331	...	...	...	832	4,686
Warren	2	...	...	...	...	...	1,199	...	...	...	...	...	...	1,199
Out-of-state	115	425	254	...	...	5,620	22,632	...	...	...	...	...	...	28,931
Total	681	9,549	57,412	...	6,766	28,969	212,595	1,461	1,495	12,054	38,174	396	922	369,793	

* NUMBER OF BREEDERS, BY COUNTIES AND VARIETIES

County	S. C. White Leghorns	Rhode Island Reds	Barred Rocks	White Rocks	New Hamp- shires	Jersey Black Giants	White Wyan- dottes	Black Mi- norcas	Brahmas	Anconas	Turkeys	Cross-bred WLxBM, WLxNH, BRxNH, BRxJBG, NHxBR, RIRxBR, WWxWR, LBxWR, WRxWW
Atlantic	17,913	838	444	...	6,475	...	...	...	...	...	...	2,025
Bergen	2,026	31	64	...	1,107	...	...	...	...	...	...	432
Burlington	4,161	...	...	236	4,913	1,147	...	...	...	...	...	726
Camden	...	...	...	2,690	...	...	...	...	...	...	...	...
Cape May	9,732	6,383	436	...	3,472	...	...	165	...	...	...	...
Cumberland	38,712	5,249	2,393	2,440	13,161	...	67	450	666	...	...	14,202
Gloucester	9,937	3,009	...	553	859	...	270	...	...	...	...	437
Hunterdon	10,377	1,676	61	...	4,626	...	...	...	...	36	114	393
Mercer	2,705	517	3,920	...	6,329	631	...	...	...	...	88	3,788
Middlesex	5,817	...	1,285	210	2,165	...	...	...	...	...	26	...
Monmouth	23,391	548	2,692	...	3,319	...	...	...	...	...	...	6,320
Morris	1,748	456	812	160	1,112	...	...	...	52	...	...	72
Ocean	45,129	1,145	...	...	...	...	...	...	...	...	...	...
Passaic	1,786	...	350	...	726	...	...	...	...	...	...	...
Salem	14,908	657	111	4,913	2,289	...	...	123	...	...	...	12,221
Somerset	690	538	57	...	635	98	...	...	...	...	7	...
Sussex	3,864	...	...	...	703	...	...	...	...	...	117	...
Warren	816	...	...	...	383	...	...	...	...	...	...	...
†Out-of-state	1,907	1,106	12,087	1,984	4,467	...	...	219	...	...	...	8,146
Total	195,619	22,153	24,712	13,186	56,741	1,876	337	957	718	36	352	48,762

* Formerly, the totals on this chart were for the number of birds handled. This year, the number of birds rejected, the number of reactors, and flocks dropped are not included.

† Banded by flock selecting agents, supervised by New Jersey Department of Agriculture.

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controlling agencies of the Federal Government. They feel that the position of the cooperative in the marketing field has been and still is ignored, and that efforts have been made to eliminate their existence. This becomes quite evident as the year closes in that the Office of Price Administration questions the right of the cooperative to take a mark-up for services rendered independent of the maximum price allowed the producer.

There has been an increase in membership in the auction cooperatives during the year. The following table shows the entire membership, by counties, for all five of the cooperative auctions.

AUCTION MARKET MEMBERSHIP, BY COUNTIES

County	Flemington Auction	Hightstown Auction	Mount Holly Auction	Paterson Auction	Vineland Auction	Total
Atlantic	...	...	15	...	178	193
Bergen	2	...	...	106	...	108
Burlington	4	55	601	...	1	661
Camden	2	...	16	...	11	29
Cape May	...	...	...	...	27	27
Cumberland	...	...	...	...	448	448
Essex	5	...	...	24	...	29
Gloucester	...	...	8	...	98	106
Hudson	1	...	...	1	...	2
Hunterdon	2,245	...	...	1	...	2,246
Mercer	234	341	...	...	...	575
Middlesex	56	242	...	...	...	298
Monmouth	8	250	1	...	...	259
Morris	67	...	...	129	...	196
Ocean	1	44	13	1	1	60
Passaic	3	...	...	125	...	128
Salem	...	...	...	...	94	94
Somerset	425	7	1	1	1	435
Sussex	13	...	...	159	...	172
Union	26	...	...	8	...	34
Warren	315	...	...	66	...	381
Total	3,407	939	655	621	859	6,481
1942-43	3,383	915	559	473	967	6,297
Difference	+24	+24	+96	+148	-108	+184

Although there was an increase in membership in the associations, it did not reflect a continued increase in the volume of business transacted. The table headed "Progress in Poultry and Egg Auction Sales," illustrates the extent of the decrease. Poultry sales made an extremely sharp drop as the result of black markets and the disrupting effect of government regulations. Black markets in eggs developed rapidly in the summer-fall period of 1943; but, because of the perishable nature of the product and the sudden increase in production during the winter, such markets were short-lived.

STATE DEPARTMENT OF AGRICULTURE

PROGRESS IN POULTRY AND EGG AUCTION SALES

Year	Number Cases of Eggs	Number Crates of Poultry	Pounds of Poultry	Total Combined Value
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
1936-37	288,865	81,358	3,877,124	3,253,303.74
1935-36	225,722	59,438	2,815,167	2,598,942.69
1934-35	177,908	47,845	2,307,996	2,022,357.29
Total	4,413,108	924,231	44,438,058	\$52,702,151.29

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.

STATE GRADES AT AUCTION MARKETS

The New Jersey wholesale grades for eggs are still in effect at the auctions. The work of our inspectors at these markets has been checked regularly and found to be satisfactory. They encountered difficult moments during the period of heavy production due to labor shortage and unusually increased volume.

There was to have been a revised egg order issued by the Office of Price Administration on May 27. So far, it has not appeared and it is not expected now until late in 1944. During the past year, the cooperatives have used the official New Jersey grades for eggs. In selling such graded eggs in accordance with wholesale price regulations, these grades were translated into federal grade terms. In doing this, under the requirements of the price control order, the general run of New Jersey Grade A eggs met the minimum requirements of No. 2 U. S. Specials and, therefore, the price established for U. S. Specials was applied to both New Jersey Fancy and New Jersey Grade A alike.

When the revised egg order is issued, it will require that all eggs sold as U. S. Specials must be certified as such by the United States Department of Agriculture. It will compel those who sell eggs of U. S. Special quality to apply for and comply with the federal egg grading and inspection program, which involves greater cost and record-keeping than is now necessary under the New Jersey inspection service.

The use of New Jersey egg grades is permissive, and when they are used to identify the quality of a lot of eggs, then those eggs must meet the requirements of the grade indicated; otherwise, there is a violation. There is no reason why the federal grades for eggs cannot be handled in the same

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manner. It puts the burden of proof upon the enforcement agency and if there is an error committed, the seller must pay the penalty. If this plan is followed, the official New Jersey Fancy Grade for Eggs, the standards of which are higher than those of the United States grades for "Specials," should be acceptable to the Office of Price Administration as meeting the requirements of the grade U. S. Special. It remains to be seen if this can be brought about.

SUMMARY OF EGG AND POULTRY AUCTION MARKETS

JULY, 1943 TO JUNE, 1944

Market	Cases of Eggs	Value of Eggs	Crates of Poultry	Pounds of Poultry	Value of Poultry	Total Value
Flemington	214,676	\$2,533,371.36	31,878	1,566,353	\$446,921.70	\$2,980,293.06
Hightstown	104,268	1,232,386.13	8,892	464,561	108,452.08	1,340,838.21
Mount Holly	33,604	383,408.70	8,391	435,436	116,160.71	499,569.41
Paterson	53,518	595,098.30	5,951	315,649	74,806.93	669,905.23
Vineland	262,531	3,244,366.82	7,555	354,620	89,115.48	3,333,482.30
Total	668,597	\$7,988,631.31	62,667	3,136,619	\$835,456.90	\$8,824,088.21
Average price per case, 1943-44		\$11.95	Average price per pound, 1943-44		\$0.266	
Average price per case, 1942-43		13.05	Average price per pound, 1942-43		0.252	

COOPERATIVE MARKETS SUMMARY

The Vineland Poultry Auction was required to discontinue poultry sales. The OPA regulations would not allow a mark-up for services rendered by the market, and rather than make an issue over the small volume handled, it was decided to close that part of the market on March 1.

Black market activities created much concern at the cooperatives. The volume of eggs dropped to a dangerously low point during the previous summer and fall period, and the auction method of marketing remained suspended. As the flush period of production approached, many members who had withdrawn their supplies from the cooperatives desired to return. This action caused undue hardship on several markets because many buyers had been lost when the volume was so low, and a sudden increase in volume taxed the ability of the markets to move the supplies.

As our fiscal year closed, the Flemington Auction Market Cooperative Association, Inc. drew up a marketing agreement which must be signed by each member before he can sell his eggs through the market, beginning with the new fiscal year of the market. Many members who withheld their eggs from the market last summer and fall were among the first to sign, and the membership, in general, is responding very well to the new requirement.

NEW JERSEY FRESH EGG LAW

Ten years of enforcement of the New Jersey Fresh Egg Law have been completed. During that time we have gained the respect and confidence of the retailer. Although our inspectors adhered strictly to the enforcement of the law, they did, when asked, inform the retailer about the ceiling price as established by the OPA so that a violation of price ceilings would be avoided. Many retailers depended upon our inspectors for this information from time to time.

The tendency to up-grade became so general, particularly during the summer-fall period, that our inspectors were required to visit jobbing houses. It was decided that jobbers be given a chance to correct their ways through a friendly visit, and if they persisted in the practice of up-grading, then we would resort to actual inspection and penalty action. Jobbers were aware of this move and quickly stopped the practice.

The work of our inspectors was checked in order to maintain uniformity of procedure from time to time during the year. One of our inspectors resigned in the middle of the year to take a better-paying position. We were fortunate in securing a man for replacement through the Civil Service Commission, who is experienced in egg production and who responded to our training in a very satisfactory manner.

A new report form was developed and will be put into effect January 1, 1945. The present supply will be exhausted about that time, and a slight delay will prevent a paper wastage. The new report will reduce the amount of writing required of an inspector and at the same time will permit a clearer description of the sample inspected.

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NUMBER OF SAMPLES INSPECTED AND PERCENTAGE OF VIOLATIONS, BY COUNTIES

County	Independent Stores		Chain Stores		All Stores	
	Number Samples Inspected	Per Cent Violations	Number Samples Inspected	Per Cent Violations	Number Samples Inspected	Per Cent Violations
Atlantic	1,442	2.01	269	1.67	1,711	4.32
Bergen	1,307	6.35	341	9.09	1,720	6.63
Burlington	307	1.63	286	8.04	593	4.72
Camden	1,684	1.66	849	1.07	2,533	4.70
Cape May	107	5.61	30	4.33	137	13.90
Cumberland	278	5.76	209	2.39	487	4.31
Essex	4,306	3.95	690	6.96	4,996	4.36
Gloucester	233	3.00	218	11.93	451	7.32
Hudson	3,126	2.46	410	6.59	3,536	2.94
Hunterdon	10	...	9	...	19	...
Mercer	1,009	5.05	152	11.84	1,161	5.86
Middlesex	160	1.88	34	14.71	194	4.12
Monmouth	196	5.61	79	27.85	275	12.00
Morris	321	0.93	82	9.76	403	2.73
Ocean	260	3.46	50	32.00	310	8.06
Passaic	1,521	2.83	202	25.74	1,723	5.51
Somerset	78	...	20	1.00	98	2.04
Sussex	15	...	...	...	15	...
Union	1,395	1.79	283	3.53	1,678	2.09
Warren	11	...	2	...	13	...
Average		3.19	Average	1.05	Average	4.38
			1943-1944	1942-1943	Per Cent Change	
Total inspections made			21,981	24,693	-12.00	
Total violations			1,007	878	+14.69	
Average per cent violations			4.38	3.55	+ 0.83	

MISCELLANEOUS

In addition to the reports of organized projects, the poultry division has been called upon for many miscellaneous services about which some mention should be made.

Considerable time was given to interpretations, price regulations, and compiling price information as a guide to our poultry associations, individual poultrymen, and dealers. The OPA regulations were subject to many changes during the year. The Bureau representatives were requested to keep informed of these changes, and to prepare advisory material for those financially affected. In this work, we conferred frequently with local and regional OPA officials so that there would be no difference of opinion from any agency. This work was appreciated by our producers and others who benefited. The service was approved by enforcement officers of the OPA.

Services were rendered to the New Jersey Turkey Growers' Cooperative Association in line with activities of former years. In addition, representatives of the Bureau of Markets took an active part in meetings of

the turkey growers of the northeast and enabled New Jersey growers to benefit through cooperation with producers from the other states in the area.

The egg grading and packing contest was held again this year as part of Agricultural Week activities. Some changes were made from the previous year. Students participated in a series of elimination contests early in January, and two winners from each of the three regions of the State journeyed to Trenton for the finals. The vocational agricultural students and the 4-H boys competed separately. In general, the contest was practical and met with the approval of the vocational teachers and 4-H Club leaders. As is usually the case, some faults were uncovered which, when corrected, will make the contest more interesting in another year. Cash awards in War Saving Stamps were presented to the winners of each group and proportioned according to their standing in the finals. The New Jersey State Poultry Association invited the boys who participated in the final contest to be their guests at the association's annual dinner. These contests are arranged and conducted under the supervision of bureau personnel.

Report of the Bureau of Plant Industry

HARRY B. WEISS, *Chief*

NEW JERSEY FARM STATISTICS

SUMMARY OF 1943 NEW JERSEY CROP YEAR*

The acreage of all crops harvested in 1943 was greater than in 1942, and due to the unfavorable weather, production was smaller. The 1943 farm value of all crops considerably exceeded the 1942 farm value.

The acreage of all vegetables went up, while production went down as compared with 1942. Farm value reached a new peak.

Tree fruits yielded one of the smallest crops in years. Farm value was much greater than in 1942.

The acreage of all hay went up as compared with 1942. Production increased correspondingly.

The 1943 acreage of grain crops took a downward trend compared to the 1942 acreage. Production was low.

The acreage of cranberries and strawberries went down in 1943 as compared with 1942. Production also declined.

The production of milk declined. The economic condition of dairy farmers called for considerable improvement. This phase is discussed in this report.

The production of eggs and poultry meat increased. The second half of 1943 and the first six months of 1944 witnessed an economic depression of the poultry industry. This matter is also discussed in this report.

ACREAGE

The total 1943 acreage of major crops reached the impressive figure of 800,000 acres, or about 13,000 acres more than in 1942, and 22,000 acres above the ten-year average acreage. White potatoes registered a considerable increase, being 71,000 acres in 1943 against 56,000 acres in 1942 and against 52,100 acres for the ten-year, 1932-1941, average acreage. The acreage of all hay also went up to 260,000 acres, or 16,000 acres more than in 1942, and 20,000 acres above the ten-year, 1932-1941 average

* Many crops, such as broccoli, radishes, dandelions, parsley, scallions, rhubarb, escarole, parsnips, cultivated and wild blueberries, raspberries, blackberries, cherries, buckwheat, etc., are not included in this report, because their records are not being taken. In estimating gross, cash, or net income, the value of these crops should be taken into consideration.

acreage. Vegetables for market, white potatoes excluded, also showed an upward trend. Their 1943 acreage was 123,300 acres, as compared with 119,600 acres in 1942 and 119,680 acres, the average ten-year, 1932-1941 acreage. Compared with 1942 the acreages of the following commodities increased as follows: asparagus, 2,200 acres more in 1943 than in 1942; snap beans for market, 1,500 acres more; beets for market, 400 acres more; cabbage, 1,000 acres more; carrots, 400 acres more; green peas for market, 200 acres more; peppers, 400 acres more; spinach, 200 acres more; and tomatoes for market, 500 acres more. Some vegetables declined in acreage. The Lima bean acreage for 1943 was 200 acres smaller than in 1942; cantaloupes, 600 acres below the 1942 acreage; cauliflower, 100 acres less; celery, 100 acres less; sweet corn, 1,000 acres less; lettuce, 200 acres less; onions, 800 acres less, and watermelons, 100 acres less. Acreages of cucumbers, eggplants, and sweet potatoes remained unchanged.

ACREAGE OF VEGETABLES FOR PROCESSING

On the other hand, the acreage of vegetables for processing dropped from 54,100 acres in 1942 to 44,700 acres in 1943. The ten-year, 1932-1941 average acreage of vegetables for processing stood at 39,700 acres, or 5,000 acres less than the 1943 acreage. Every major crop grown for processing went down in acreage in 1943 as compared with 1942. Lima beans declined from 15,000 acres in 1942 to 10,800 acres in 1943, and the acreage of tomatoes decreased from 38,600 acres in 1942 to 33,000 acres in 1943. The acreage of beets rose from 500 acres in 1942 to 900 acres in 1943. The 1943 acreage of vegetables for market and canning, white potatoes included, reached 239,000 acres, or 9,300 acres more than in 1942, and 27,520 acres above the ten-year, 1932-1941, average acreage. The 1943 acreage of grain crops stood at 289,000 acres compared with 301,000 acres in 1942, and compared with 314,000 acres in the ten-year average acreage, 1932-1941. The acreage of field corn went down from 186,000 acres in 1942 to 179,000 acres in 1943. Acreage of wheat decreased from 48,000 acres in 1942 to 46,000 acres in 1943. Rye declined from 15,000 acres in 1942 to 13,000 acres in 1943. Barley followed the same trend, being 9,000 acres in 1942 against 7,000 acres in 1943. The acreage of oats rose from 43,000 acres in 1942 to 44,000 acres in 1943. The 1943 acreage of cranberries and strawberries was 12,700 acres against 13,100 acres in 1942, and 12,880 acres in the ten-year, 1932-1941, average acreage. The acreage of cranberries remained the same, while the acreage of strawberries declined 400 acres. It is assumed that the acreages of apples, peaches, pears, and grapes did not change materially.

PRODUCTION

Approximately 48,962,000 bushels or crates of all these commodities and 412,000 tons of all hay were harvested in 1943, against 54,484,000 bushels or crates and 387,000 tons of hay in 1942, and 48,813,000 bushels or crates and 365,000 tons of hay, the average ten-year, 1932-1941, production. Although the 1943 acreage was greater than the 1942 acreage, production in 1943 lagged considerably on account of unfavorable dry weather, especially during the middle and end of the season.

Despite the larger acreage harvested, the 1943 production of vegetables for market and processing, white potatoes included, was approximately 1,000,000 bushels or crates shorter than in 1942. The 1943 production amounted to about 36,985,000 bushels or crates, as compared with 37,982,000 in 1942, and compared with 33,652,000, the ten-year, 1932-1941, average annual production. The 1943 average yield per acre of all vegetables was 155 bushels or crates against 165 in 1942 and against 159, the ten-year, 1932-1941 average annual yield per acre. An especially severe decline took place in regard to vegetables for market. The 1943 average yield per acre of vegetables for market, white potatoes excluded, stood at the low figure of 140 bushels or crates, as compared with 163 in 1942 and with 154, the ten-year, 1932-1941, average yield per acre. The total 1943 production of these crops was 17,292,000 bushels or crates, or approximately 2,188,000 bushels or crates less than in 1942, and 1,105,000 units below the ten-year, 1932-1941, average production. Vegetables for processing, on the other hand, yielded more per acre in 1943 than in 1942, or the long-term average. The 1943 average yield per acre was 185 bushels, against 155 bushels in 1942, and 161 bushels, the ten-year, 1932-1941 average yield per acre. Although the 1943 acreage of processing crops was 9,400 acres smaller than the 1942 acreage, and 5,000 acres above the average ten-year acreage, the 1943 production amounted to 8,262,000 bushels, or only 105,000 bushels less than in 1942, and 1,857,000 bushels above the average ten-year, 1932-1941 production.

The 1943 acreage of white potatoes was 15,000 acres above the 1942 acreage and 18,900 acres in excess of the ten-year average acreage. Despite the marked increase in acreage, production did not go up correspondingly. The 1943 average yield per acre stood at only 161 bushels, or 20 bushels less than in 1942, and 9 bushels below the ten-year, 1932-1941 average yield per acre. The 1943 total production was 11,431,000 bushels against 10,136,000 bushels in 1942, and 8,850,000 bushels, the average ten-year, 1932-1941, production.

COMMERCIAL APPLES, PEACHES, AND PEARS

The production of commercial apples, peaches and pears, due to the unfavorable weather and abundance of insects and diseases, was one of the shortest in history. Only 2,994,000 bushels of them were harvested in 1943,

or 1,544,000 bushels less than in 1942, and 1,279,000 bushels below the long-term average annual production. The 1943 commercial apple crop was 2,028,000 bushels against 3,239,000 bushels in 1942, and 3,214,000 bushels, the eight-year, 1934-1941, average annual production. Peaches yielded approximately 918,000 bushels in 1943, or 310,000 bushels less than in 1942, and 79,000 bushels below the average ten-year, 1932-1941, annual production. Production of pears was insignificant and in 1943 amounted to 48,000 bushels as compared with 71,000 bushels in 1942, and with 62,000 bushels, the ten-year, 1932-1941, average annual production. Production of cranberries, strawberries, and grapes also lagged considerably. The 1943 production of these crops was about 487,000 bushels against 628,000 bushels in 1942, and against 645,000 bushels, the ten-year average, 1932-1941, annual production. The 1943 production of cranberries was 186,000 bushels against 285,000 bushels both in 1942, and in the ten-year average annual production. Strawberries yielded in 1943 approximately 215,000 crates, or 11,000 crates less than in 1942 and 27,000 crates below the average ten-year production. The yield per acre of strawberries in 1943 was 3 crates more than in 1942, but a decline in acreage (400 acres less) reduced the total production. Grapes yielded only 2,100 tons in 1943, or 500 tons less than in 1942, and 580 tons below the ten-year, 1932-1941 average production.

The total hay acreage in 1943 was 260,000 acres, or 16,000 acres more than in 1942, and 20,000 acres above the ten-year, 1932-1941 average acreage. The 1943 average yield of hay per acre remained practically the same as the 1942 yield, being 1.58 tons against 1.59 tons in 1942, and 1.52 tons, the ten-year, 1932-1941, average yield per acre. So with the larger acreage and about the same yield per acre as in 1942, the 1943 production amounted to 412,000 tons, or 25,000 tons more than in 1942, and 47,000 tons above the ten-year average annual production.

GRAIN CROPS

The acreage of grain crops is gradually declining; in 1943, it was 289,000 acres against 301,000 acres in 1942, and 314,000 acres, the average ten-year, 1932-1941, annual acreage. The 1943 average yield per acre of all grain crops stood at the low figure of 29.4 bushels, as compared with 37.7 bushels in 1942, and 32.6 bushels, the ten-year, 1932-1941, average annual yield per acre. All corn in 1943 yielded only 34 bushels per acre against 45 bushels in 1942, and against 38 bushels, the ten-year 1932-1941 average annual yield per acre. The yield of wheat was 20 bushels per acre, or 3.5 bushels less than in 1942, and 2 bushels below the ten-year average. Oats also went down, producing only 25 bushels per acre in 1943 against 30 bushels in 1942, and 29.9 bushels, the ten-year average yield per acre. The yield per acre of rye and barley also was below the average. The total production of all grain crops in 1943 amounted to 8,496,000 bushels, or 2,840,000 bushels less than in 1942, and 1,747,000 bushels below the aver-

age ten-year, 1932-1941, production. The 1943 production of all corn was 6,086,000 bushels, or 2,284,000 bushels below the 1942 production, and 1,147,000 bushels less than the average ten-year, 1932-1941, production. The 1943 production of wheat was about 208,000 bushels below the 1942 production; oats, 190,000 bushels less; rye, 70,000 bushels less; and barley, 88,000 bushels less.

FARM PRICE AND VALUE

The total 1943 farm value of grain crops, hay, fruits, berries, and all vegetables reached the record high figure of \$91,864,000 as compared with \$66,586,000 in 1942, and \$41,145,000, the ten-year, 1932-1941, average annual farm value. In other words, the 1943 farm value of these crops was approximately 38 per cent above the 1942 farm value, and 123 per cent more than the ten-year, 1932-1941, average annual farm value. The 1943 average farm value of vegetables for market and processing, white potatoes included, amounted to \$1.58 per bushel or crate, as compared with \$1.08 in 1942 and \$0.68, the ten-year, 1932-1941, average annual price per unit, an increase of 46 per cent over the 1942 and 132 per cent above the ten-year, 1932-1941, average. Farm value per acre of these vegetables in 1943 reached the figure of \$243.73 against \$178.71 in 1942, and \$107.92, the ten-year, 1932-1941, average. Total 1943 farm value amounted to \$58,252,000, or \$17,203,000 more than in 1942, and \$35,428,000 above the average ten-year, 1932-1941, farm value.

The 1943 average farm value of vegetables for market, white potatoes excluded, was \$1.98 per bushel or crate against \$1.22 in 1942, and \$0.75, the ten-year, 1932-1941, average. The average farm value per acre of these vegetables in 1943 reached \$277.09 as compared with \$198.70 in 1942, and \$115.84, the ten-year, 1932-1941, average. The total 1943 farm value was \$34,165,000 against \$23,764,000 in 1942, and \$13,864,000, the ten-year, 1932-1941, average.

The 1943 average farm value per bushel of vegetables for processing was \$0.90 against \$0.73 in 1942, and \$0.48, the ten-year, 1932-1941, average. The average farm value of these vegetables in 1943 amounted to about \$165.50, as compared with \$113.40 in 1942, and \$77.02, the ten-year, 1932-1941, average. The total 1943 farm value of vegetables for processing was \$7,398,000 against \$6,135,000 in 1942, and \$3,057,000, the ten-year, 1932-1941, average.

The 1943 average farm value of white potatoes per bushel was \$1.46 as compared with \$1.10 in 1942, and \$0.67, the ten-year, 1932-1941, average. The 1943 average farm value per acre registered a rise of \$235.06 against \$199.11 in 1942, and \$113.30, the ten-year, 1932-1941, average.

The 1943 average farm price per bushel of apples, peaches, and pears combined was \$3.01 against \$1.26 in 1942, and \$0.98, the long-term average. Total 1943 farm value of these fruits was \$9,017,000 as compared with \$5,697,000 in 1942, and \$4,174,000, the long-term average.

Berries and grapes, due to short production, did not register a marked advance in total farm value, although the price per unit went up considerably. The total 1943 farm value of cranberries, strawberries, and grapes was \$2,662,000, as compared with \$2,264,000, in 1942, and \$1,579,000, the ten-year, 1932-1941, average.

The 1943 average farm value of all hay per ton reached \$25.58 compared with \$18.22 in 1942 and \$14.62, the ten-year average, 1932-1941. The average 1943 farm value per acre was \$40.54 compared with \$28.90 in 1942, and \$22.23, the ten-year, 1932-1941, average. Total 1943 farm value of all hay reached \$10,541,000, against \$7,051,000 in 1942, and \$5,336,000, the ten-year, 1932-1941, average.

The 1943 average farm price of all grains per bushel was \$1.34 as compared with \$0.93 in 1942 and \$0.71, the ten-year, 1932-1941, average. The average 1943 farm value per acre of all grains stood at \$39.42, against \$34.97 in 1942, and \$23.03, the ten-year, 1932-1941, average. The total 1943 farm value of all grain crops reached \$11,392,000 compared to \$10,525,000 in 1942, and \$7,232,000, the ten-year, 1932-1941, average.

PRELIMINARY ESTIMATE OF 1943 GROSS FARM VALUE OF NEW JERSEY CROPS AND LIVESTOCK AS COMPARED WITH 1942

	1943	1942
Milk	\$39,859,750	\$37,438,000
Cows, calves, bulls, steers, and heifers	5,650,000	4,062,000
Eggs	32,936,310	26,035,000
All poultry (chickens, turkeys, geese, etc.) and baby chicks	16,571,000	10,980,000
Hogs	3,500,000	3,000,000
*Vegetables, white potatoes excluded	47,563,000	33,000,000
White potatoes	16,689,000	11,150,000
Nursery, greenhouse products	15,000,000	12,000,000
*Grains	12,000,000	10,600,000
Hay	10,541,000	7,250,000
*Tree fruits	9,500,000	6,500,000
*Berries	5,000,000	4,200,000
Seeds, honey, lumber, etc.	1,000,000	1,000,000
Total	\$215,810,060	\$167,215,000

* Including minor crops not reported in the New Jersey Crop Report.

ECONOMIC CONDITION OF NEW JERSEY DAIRY FARMERS
DURING THE SUMMER OF 1943

It is paradoxical to find in the midst of the present national prosperity one very important branch of New Jersey agriculture living through a period of economic depression equal to that in 1932 or 1933. That branch is the dairy industry.

After a severe shock during 1930-1933, the dairy industry has been gradually recuperating. In 1941 it reached a level where the cost and return were relatively well balanced. But in the middle of 1942, this bal-

ance was disrupted, and in August of this year the dairy industry found itself in about the same unsatisfactory condition as in August, 1932.

In August of 1932, New Jersey farmers received on the average approximately \$1.50 per 100 pounds of milk. In August, 1943, the average farm price of milk was about \$3.74 per 100 pounds. Consequently the farm price of milk rose from \$1.50 to \$3.74, increasing about 149 per cent.

Now, let us examine what has happened to the cost of production of milk on New Jersey farms during the same period of time. The August, 1932 index number of cost of production of milk stood at 65 on a 1923-1927 base, while the August, 1943 index soared to 150 on the same base. The increase in cost of production is about 131 per cent. So, we see the farm price of milk has advanced 149 per cent while the cost of production of milk went up 131 per cent. In other words, the economic condition of New Jersey dairy farmers improved in August, 1943, by about 13 per cent as compared with the darkest year in the history of dairying in New Jersey.

We may say without exaggeration that the relationship between the cost of production of milk and the farm price of milk in New Jersey during August, 1943, was almost the same as in August, 1932 when the industry was collapsing—when milk strikes were a daily occurrence, when many farmers destroyed or dumped their milk into the gutter, and when picketing to prevent delivery of milk to distributors and consumers was common. The New Jersey lawmakers at that time saved the industry by empowering an agency of the State Government to regulate it.

The records of the New Jersey Department of Agriculture show that the average cost of production of milk in New Jersey during the summer of 1943 was about \$4.72 per 100 pounds, while the average price received by farmers was about \$3.74 per 100 pounds. The loss is great. It amounts to about \$0.98 on every 100 pounds.

The disparity between the cost and return grew wider and wider during the twelve-month period from August, 1942 to August, 1943. In August, 1943 the cost of production of milk was 30 per cent higher than during August, 1942, while the farm price of milk went up only 8.7 per cent. Following are comparisons in average prices paid by New Jersey farmers for the three most important items entering into the cost of production during August, 1942 and August, 1943:

- (1) *Hired farm hands, by the month with board—
August, 1942—\$52.25; August, 1943—\$71.00; Increase, 35.9 per cent.
- (2) †Feed concentrates—
August, 1942—\$45.00 a ton; August, 1943—\$54.40 a ton; Increase, 19.8 per cent.
- (3) *Milk cows—
August, 1942—\$165.00 a head; August, 1943—\$220.00 a head; Increase, 33.3 per cent.

* As reported by the United States Department of Agriculture.

† As reported by the New Jersey Agricultural Experiment Station.

The average price received by New Jersey farmers for 100 pounds of milk during August, 1942 was \$3.44 and in August, 1943—\$3.74, an increase of 8.7 per cent. Of course, farming is not only a business, but a mode of living. When farmers sustain financial losses they do not quit immediately unless they are forced to do so. They carry on by making necessary readjustments with the hope that a better time will come and partially compensate them for their losses. However, when the purchasing power of the population is the highest in history, when business is prospering as never before, to force farmers to take losses at the present time is to weaken the industry and to harm the national economy. Moreover, these farmers are producing one of the most essential food commodities without which babies could not grow into childhood, children into adolescence, nor very many adults retain their health.

Consumers of the State are paying exactly the same price now for milk as they were paying during March, 1942, or 18 months ago. Since March, 1942, however, the retail prices of all other food commodities went up considerably. Let us take at random from the records of the Department the figures on retail price changes between March, 1942 and August, 1943 for the most important commodities:

COMPARISON BETWEEN THE AVERAGE RETAIL PRICE OF CERTAIN FOOD ARTICLES IN NEW JERSEY DURING MARCH, 1942, AND AUGUST, 1943

Commodity	Unit	Average Retail Price March, 1942 (cents)	Average Retail Price August, 1943 (cents)	Per cent of Increase August, 1943, over March, 1942 (per cent)
Milk, fresh	quart	16.99	16.99	no change
Wheat flour	pound	4.60	6.15	+33.7
Bread, white	pound	8.22	9.49	+15.5
Plate beef	pound	13.56	21.43	+58.0
Pork chops	pound	37.95	41.37	+ 9.0
Roasting chickens	pound	33.03	53.42	+61.7
Butter	pound	39.74	50.09	+26.0
Milk, evaporated	15 to 16-oz. can	7.96	10.29	+29.3
Apples	pound	6.06	10.33	+70.5
Potatoes, white	pound	3.20	4.02	+25.6
Lard, pure	pound	15.09	19.01	+26.0

White potatoes, apples, chickens, and butter are abundant during August and relatively scarce during March. Therefore, the change shown here for these commodities is not representative as compared with March. Probably in March 1944 the per cent of increase may be considerably higher than stated here.

Some consequences of the unhealthy economic situation of New Jersey dairy farmers are already apparent. The survey recently completed by our Department shows that the number of milk cows on New Jersey farms has begun to decline. During March-June, 1943, there were approximately 1,800 milk cows less than during the corresponding months last year. The decline is about 1.19 per cent. Among other factors, it is caused by (1)

the price for milk received by dairymen which is lower than the cost of production; (2) scarcity of experienced farm labor; and (3) difficulty in obtaining high protein feed.

For the last ten years, the number of milk cows had been on the upswing. This is the first time in a decade that the upward trend in the number of cows has been broken and a relatively small downward trend registered. If the unfavorable economic situation of dairy farmers persists, the elimination of cows may become more serious in the near future. This is happening at a time when every quart of milk counts. The decline in number of cows especially manifests itself among the large herds having 50 cows or more and small herds from 2 to 14 cows.

When the number of milk cows goes down and the cows remaining on farms cannot be properly cared for due to the inability of dairymen to hire experienced labor on account of its high cost, one result follows, namely, curtailment of production of milk. The records of the New Jersey Milk Control Board illustrate this point very well. The decline in production of milk on commercial farms began in June, 1942, and continued with the exception of two months up to July, 1943, the latest available record. This decline is probably continuing, because nothing has happened since July to remedy the situation. During the first seven months of 1943, i.e., from January to July, inclusive, the commercial herds of New Jersey have reported production amounting to 561,561,574 pounds of milk as compared with 583,837,530 pounds during the corresponding seven months of 1942. The decline is approximately 22,321,000 pounds or 10,382,000 quarts, or about 4 per cent. This loss of wealth could be easily avoided if dairymen were to receive, not a profit, but only the cost of production.

The eight years, from 1934 to 1942, during which the industry has been expanding, heartened us. We began to dream of the State's dairy industry counting not 150,000 milk cows, the present number, but 200,000 milk cows. We were moving toward that goal, slowly, but surely. The setback which is starting now may develop to such a degree that instead of growth of the industry, we may have its retardation.

PRODUCTION OF MILK BY COMMERCIAL HERDS AND SALES OF MILK IN NEW JERSEY

Production of milk by commercial herds in New Jersey showed a continuous upward trend from 1934 to the middle of 1942. During that time, the dairy industry was recouperating steadily from the shock received in 1930-1933. The healing process manifested itself in the gradual stabilization of the enterprise at a sound economic level. As a corollary to the stabilization, the industry expanded and production increased. This healthy trend began to crumble in the middle of 1942, when, due to regulations, the balance of the industry was disrupted because the cost of the production of milk was allowed to soar while the farm price of milk remained at a

frozen level. As a consequence, the farmers were forced to sell moderately good cows for slaughter and in this way the production of milk began to decline. The 1943 production by commercial herds was not only less than in 1942 but below the 1941 production.

The sale of milk in New Jersey remained at the same level from 1936 to 1940 inclusive. It has grown since 1941, however, and in August, 1943, for example, it amounted to about 113,840,000 pounds, as compared with 101,820,000 pounds during August, 1942, 95,700,000 pounds during August 1941, and 88,880,000 pounds in August, 1940.

According to the latest figures of the United States Bureau of the Census, the population of New Jersey declined by about 100,000 persons in 1943, as compared with 1940, which means that the present number of consumers is smaller than in 1940, yet the present consumption of milk, as illustrated by the month of August, exceeds the 1940 consumption by 24,960,000 pounds, or about 28 per cent. One of the primary reasons for this sharp rise in consumption is that milk is very cheap. As a matter of fact, it is the cheapest commodity on the market. The situation is paradoxical. Dairy farmers are losing money trying to feed the consumers, while the consumers are saving money on milk, or to put it bluntly, the dairy farmers are involuntarily subsidizing the consumers. This condition cannot last indefinitely. Eventually the consumers will suffer, because milk, due to its shortage, will be rationed and instead of 2 to 3 quarts daily, consumers may get only one-half that amount at a considerably higher price than they are paying now.

PRODUCTION OF MILK BY COMMERCIAL HERDS IN NEW JERSEY

(Source: New Jersey Milk Control Board)

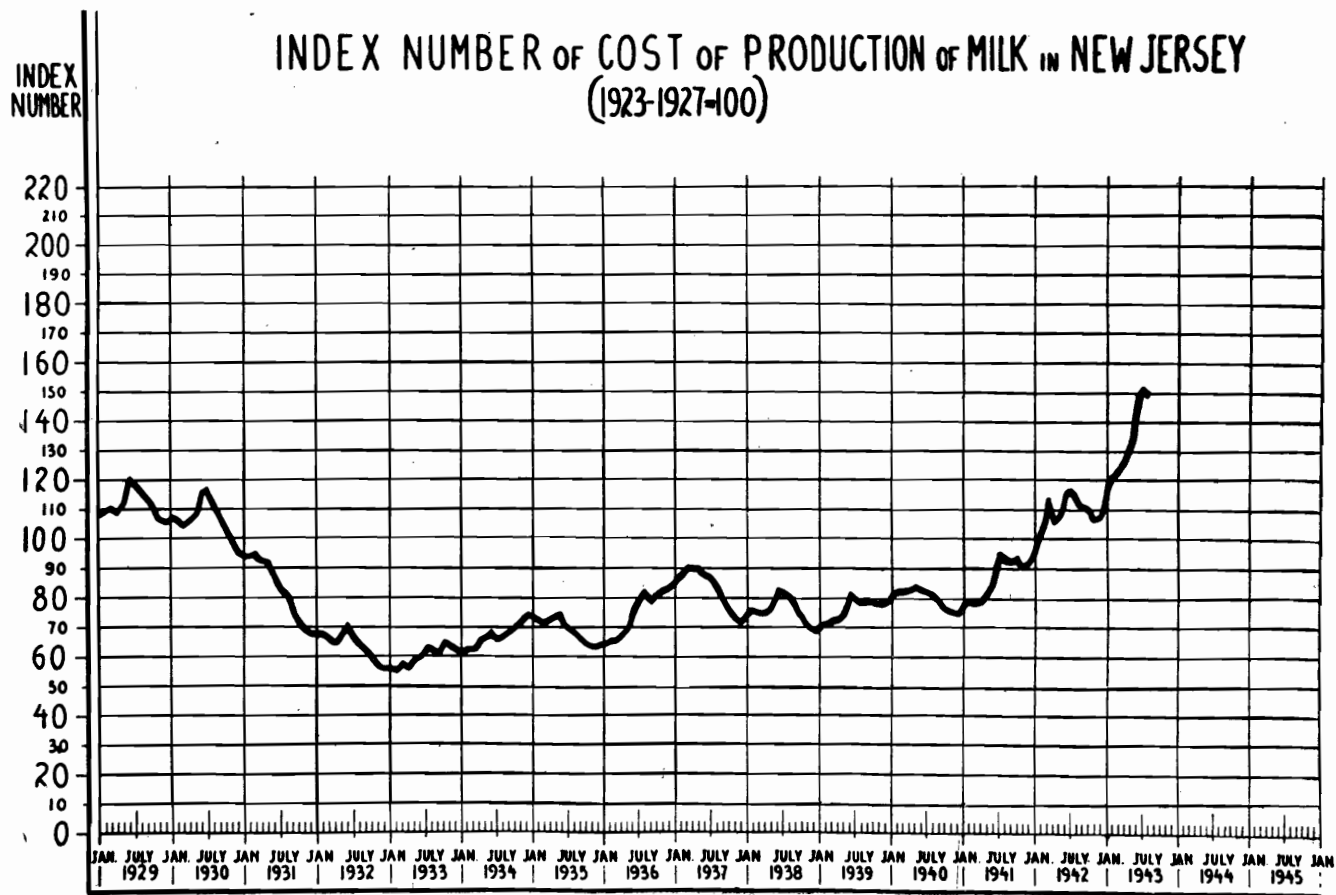
Month	1936 (lbs.) (000)	1937 (lbs.) (000)	1938 (lbs.) (000)	1939 (lbs.) (000)	1940 (lbs.) (000)	1941 (lbs.) (000)	1942 (lbs.) (000)	1943 (lbs.) (000)	1944 (lbs.) (000)
January	63,048	65,515	69,415	72,683	76,345	77,197	80,915	75,686	72,406
February	59,527	60,119	63,967	66,127	72,807	71,372	75,317	70,933	69,990
March	66,144	67,550	72,078	75,392	79,785	80,271	85,916	81,194	78,126
April	66,161	67,528	73,183	73,647	78,189	81,667	85,224	80,163	78,941
May	74,957	75,493	81,955	81,894	84,884	90,643	91,735	88,445	89,075
June	72,964	70,408	77,433	76,892	80,900	85,796	83,154	84,994	.....
July	70,635	67,222	74,009	74,429	77,348	83,849	81,577	80,102	.....
August	66,910	66,730	74,555	75,333	77,681	83,633	81,230	78,458	.....
September	64,990	64,840	71,196	74,411	75,543	77,421	77,570	72,593	.....
October	63,797	64,009	69,210	72,360	76,285	76,073	75,137	69,226	.....
November	59,722	60,970	66,925	69,932	71,652	73,565	70,170	65,737	.....
December	62,945	65,124	70,024	74,833	75,582	78,561	73,531	70,547	.....
Yearly total	791,801	795,508	864,171	887,933	927,000	960,047	961,477	918,137
Average									
Monthly	65,983	66,292	72,014	73,994	77,250	80,004	80,123	76,511

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SALES OF MILK TO CONSUMERS IN NEW JERSEY AS REPORTED BY NEW JERSEY
MILK CONTROL BOARD

Month	1936 (lbs.) (000)	1937 (lbs.) (000)	1938 (lbs.) (000)	1939 (lbs.) (000)	1940 (lbs.) (000)	1941 (lbs.) (000)	1942 (lbs.) (000)	1943 (lbs.) (000)	1944 (lbs.) (000)
January	77,100	77,360	78,910	79,680	79,790	83,480	90,560	97,930	105,246
February	72,000	71,040	69,040	72,860	76,430	76,710	81,720	91,610	100,835
March	78,800	78,910	80,560	81,700	81,510	85,740	91,220	103,180	108,711
April	76,860	78,280	78,540	77,830	80,000	85,510	90,020	101,570	104,667
May	81,960	83,530	80,840	83,680	83,610	89,610	94,940	105,800	111,957
June	80,950	83,590	80,220	84,090	83,360	88,950	94,490	108,790	.....
July	88,860	90,060	85,870	88,690	88,690	94,400	101,570	113,430	.....
August	86,920	89,720	89,230	90,150	88,880	95,700	101,820	113,840	.....
September	79,510	83,080	80,860	82,430	84,320	91,270	98,320	105,939	.....
October	80,350	81,940	79,360	83,330	85,200	92,210	99,270	106,218	.....
November	77,190	78,670	78,260	79,740	81,740	86,900	94,690	103,489	.....
December	78,750	79,180	80,000	81,890	83,460	89,500	96,640	104,909	.....
Yearly									
Average	79,890	81,270	80,130	82,170	83,080	88,320	94,600	104,725	.....



INDEX NUMBER OF COST OF PRODUCTION OF MILK IN NEW JERSEY

The index number is constructed in such a way that only corresponding months of different years are comparable; i.e., August of 1943 is comparable with August of any other year; July with July, March with March, etc.

The five-year period, 1923-1927, is taken as a base, or is considered as equal to 100. All other months are compared with it and their difference from it is given as an index number. If, for example, the index number of cost of production of milk during August, 1943 stood at 150, it means that the cost of production during that month was 50 per cent above the cost of production in August, 1923-1927. To find the increase or decrease in cost of production of milk between the same months during different years, it is necessary to take, for example, the June, 1943 index (149) as a base and divide it by the index of another June, for example, June, 1940 figures. The result is the increase or decrease.

Our index number of the cost of production of milk consists of (1) price of concentrate feed; (2) price of hay; (3) price of hired farm labor; (4) price of cows; and (5) farm taxes. It therefore covers at least 65 per cent of the total cost. The remaining 35 per cent of the cost, as a rule, follows the trend of the major items included in 65 per cent of the cost.

The cost index reached its lowest level during the end of 1932 and beginning of 1933, when it stood at about 56-59 per cent of 1923-1927. It began its slow upward movement in April, 1933, which continued up to the middle of 1937. For three years, 1938-1940, the cost was very well stabilized, and stood in the proximity of 80 per cent of 1923-1927 cost. In 1941, the cost initiated a vigorous upward trend which still persists. For example, in August, 1943 the cost index stood at 150 per cent of 1923-1927, or about 30 per cent more than during August, 1942, 60 per cent above August, 1941, and 134 per cent higher than August, 1933.

COST OF PRODUCTION OF MILK IN NEW JERSEY

General Index Number of Prices of Feedstuffs, Hay, Labor, Taxes and Milk Cows in New Jersey

(1923-1927 = 100)

Month	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943
January	93.6	107.5	106.4	100.1	94.1	100.1	108.4	107.6	94.5	69.1	56.9	62.3	74.9	64.9	86.6	76.5	71.9	82.3	79.5	99.7	119.5
February	93.4	108.9	103.9	98.3	97.9	104.6	109.9	106.9	94.9	68.1	56.6	63.2	73.7	66.1	88.7	76.7	72.3	83.0	79.8	104.2	122.7
March	93.9	108.6	101.3	99.9	99.3	106.5	110.5	105.2	95.7	67.1	58.3	63.1	72.8	66.3	91.1	75.8	73.5	83.6	79.7	113.7	124.8
April	95.6	106.5	98.3	99.7	102.6	104.8	108.7	107.2	92.7	65.6	56.9	66.2	73.9	68.8	90.9	76.1	74.0	84.0	80.6	106.3	129.0
May	92.6	103.7	104.0	98.0	104.3	109.2	112.3	108.8	92.4	68.0	59.7	67.0	74.8	70.1	91.4	78.3	76.9	85.0	83.5	108.6	134.9
June	90.8	95.6	105.1	100.8	109.6	115.1	120.5	116.5	89.0	71.6	60.4	69.2	75.2	76.5	88.2	83.4	82.3	84.0	90.0	116.1	149.0
July	97.0	98.1	103.8	100.7	108.6	118.8	118.7	117.2	83.7	67.2	63.9	67.3	70.4	80.5	87.8	82.6	81.0	83.3	96.0	117.2	151.9
August	97.4	102.4	102.2	98.7	101.7	117.5	117.1	111.4	82.6	65.5	63.8	67.9	69.4	82.7	85.04	81.3	79.1	82.3	93.6	115.4	150.0
September	99.2	101.7	103.3	98.5	99.7	111.3	113.9	109.3	78.5	63.6	62.0	69.5	67.1	80.2	80.9	77.3	80.1	79.1	93.5	111.6	....
October	106.6	102.1	98.3	99.1	96.0	107.0	112.1	103.6	73.0	61.3	65.6	71.0	65.5	82.1	76.7	74.4	79.6	76.9	94.3	110.9	....
November	110.3	103.2	97.5	97.5	93.7	101.3	106.8	100.3	71.1	58.3	64.9	73.5	64.4	83.6	73.7	71.1	79.1	76.1	91.9	106.7	....
December	109.4	106.2	95.2	98.5	93.5	101.2	105.7	96.3	68.8	56.8	63.6	75.3	64.5	84.4	72.5	69.8	79.4	75.9	93.1	109.2	....

NUMBER OF COWS, HEIFERS, CALVES, STEERS, AND BULLS DURING
MARCH-JUNE, 1943 AND MARCH-JUNE, 1942 IN NEW JERSEY

DESCRIPTION OF METHOD

There are many conflicting reports and guesses about the number of cattle in 1943, particularly about the number of milk cows in New Jersey. The Federal Crop Reporting Service insists that the number of cows is continuing to increase, while the records of New Jersey Milk Control Board have shown for at least a year a decline in the production of milk, which, in turn, may mean a decrease in the number of milk cows. Many dairymen, judging by their own herds, believe that the milk cow population is manifesting a downward trend; other dairymen think that the number is in the stage of stabilization and some of them are of the opinion that there is a slight increase. To know definitely what is going on in regard to the milk cow population is very important at the present time because production of milk depends on the number of cows. The national policy in regard to dairy products depends on the number of cows. If the number of cows is increasing, one regulative policy in regard to consumption may be used; if the number is decreasing, a different policy may be pursued; and finally, if the number is stabilized, still another regulative plan may be developed.

Facilities for enumeration of all of the cattle in the State are not available. Consequently, in order to ascertain the trend in the number of cattle, a sampling method was used. This Department has in the files of the Bureau of Animal Industry accurate and reliable figures on the number of various livestock in the State. The problem of a statistician is to devise a proper method of their utilization. It was decided to examine all records—about 16,000 of them—and pick from these records the data on the number of various cattle inspected by veterinarians during March-June, 1942, and March-June, 1943. For example, if a herd was inspected on March 15, 1942, and a number of various cattle was recorded as of that date, the same herd in very many cases was inspected a year later on or about March 15, 1943, and the number of various cattle in a herd was again recorded. In this way we possess the data on the number of livestock in a herd at about the same date in 1942 and 1943. From these figures it is possible to arrive at the change in the cattle population during the year. When the 1943 inspection of a herd was not made, a post card was sent to each owner of the herd in question asking how many cows, heifers, bulls, steers, and calves he had in 1943 on exactly the same date and month as in 1942. His 1942 record was already available from the files of the Bureau of Animal Industry.

CATTLE SURVEY AND ITS RESULTS

The records of 2,698 herds inspected during March-June, 1942 and March-June, 1943 were gathered. This constitutes approximately 17 per cent of all herds in the state. The number of cattle surveyed represents about one-fifth of the total cattle population of the state. The summary of findings follows.

Item	1942	1943	Per cent 1943 of 1942
Number of herds	2,698	2,698	± 0
Number of cows	31,699	31,321	98.81
Number of heifers	9,349	9,632	103.03
Number of calves	821	1,080	131.55
Number of steers	74	271	366.22
Number of bulls	1,815	1,884	103.80
Total	43,758	44,188	100.98

The total number of livestock in 2,698 herds was 43,758 head in 1942 and 44,188 in 1943, registering an increase in 1943 of 430 head, or 0.98 per cent, or slightly less than one per cent. The increase is due to the larger number of heifers, calves, steers and bulls in March-June, 1943 than during the corresponding months of 1942. The number of heifers went up during March-June, 1943, to 9,632 as compared with 9,349 during the same months in 1942. The increase is 283 head, or 3.03 per cent. There were 1,080 calves in 1943 against 821 in 1942, or an increase equal to 259 head, or 31.55 per cent. The number of calves went up from 74 in 1942 to 271 in 1943; the increase is equal to 197 head, or 266.22 per cent. Bulls increased from 1,815 in 1942 to 1,884 in 1943; the increase is 69 head, or 3.8 per cent.

This survey covers March-June, i.e., the spring months, when dairymen, especially in 1943, kept a larger number than usual of young livestock such as calves and steers. The farmers fattened them a little and in a few months sold the stock at a reasonably good price. So it is assumed that in August or September, 1943, the number of calves and steers had returned to about the 1942 level. From that we can deduct that the present cattle population of New Jersey is slightly smaller than a year ago.

The milk cow population has declined from 31,699 head during March-June, 1942 to 31,321 head during the corresponding months in 1943. The decline is 378 head, or 1.19 per cent. When the 1943 number of cows and heifers is added and compared with the number of cows and heifers in 1942, the survey shows a decline of 95 head, or 0.23 per cent—i.e., the number of actual and potential producers of milk went down in 1943 as compared with 1942. It indicates a definite downward trend in the number of milk-producing animals during March-June, 1943 as compared with March-June, 1942. From 1930 to about the middle of 1942 the number of milk cows was on the upswing. This is the first time in twelve years that the upward trend has been broken and a downward trend registered. Evidently some

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new factors entered into the situation which are retarding the normal expansion of the industry. Among these factors it is possible to list three with certainty: (1) prices received by dairymen which are lower than the cost of production; (2) scarcity of experienced farm labor; (3) difficulty in obtaining high protein feed, etc.

The cow population surveyed represents about one-fifth or 20 per cent of the total cow population of New Jersey.

UNECONOMIC UNITS

Uneconomic units in the dairy industry are units having a small number of milk cows, usually not exceeding 15. They are called uneconomic because the cost of production of milk is considerably higher than the return. Herds having one or two milk cows are not in the commercial class. They almost always serve the purpose of family feeding and are considered family herds.

In the following table, herds are classified on the basis of the number of milk cows in each herd.

Herds Having	Number of Cows		1943 increase or decrease over 1942	Number of Herds		1943 increase or decrease over 1942
	1942	1943		1942	1943	
1 cow	810	848	+ 38	810	848	+ 38
2-4 cows	1,632	1,638	+ 6	675	658	- 17
5-9 cows	1,291	1,162	-129	186	175	- 11
10-14 cows	2,667	2,422	-245	222	202	- 20
15-24 cows	7,205	7,408	+203	380	390	+ 10
25-49 cows	8,956	9,534	+578	274	284	+ 10
50-74 cows	3,336	3,130	-206	57	53	- 4
75-99 cows	1,513	1,100	-413	18	13	- 5
100-199 cows	2,064	2,332	+268	14	18	+ 4
200 cows and over	2,225	1,747	-478	3	3	± 0
Total	31,699	31,321	-378	2,639	2,644	+ 5

The uneconomic units having from 2 to 14 cows show a definite decline in March-June, 1943, as compared with the corresponding months of 1942. There were 48 herds less in 1943 than in 1942, and 368 cows disappeared from that class in 1943 as compared with 1942. The decline in the number of cows is about 6.5 per cent and in number of herds, 4.4 per cent. What has happened to these 48 herds? One of three things could happen in each individual case; namely, (1) a farmer may completely give up dairying; (2) he may sell his cows and leave only one or two cows for home use; or (3) he may buy additional cows and in this way shift himself into the higher bracket of 15 to 50 cows.

The one-cow herds, or family herds, have increased from 810 in 1942 to 848 in 1943. The class from 1 to 14 cows constitutes about 19.4 per cent—roughly one-fifth of the total cow population of the State.

ECONOMIC UNITS

The economic herds are those whose size allows economic management and return. They constitute a class of 15 cows or more.

HERDS HAVING 15 TO 49 COWS

There was an upward trend in the number of cows and herds in the class of herds having from 15 to 49 cows. The total number of cows in this class during March-June, 1943 was 16,942 against 16,161 at the same time in 1942. The increase is 781 cows, or about 5 per cent. The number of herds went up from 554 in 1942 to 574 in 1943, or an increase of 20 herds, or 3.6 per cent. This class is the most advantageous economically to a farmer with moderate means. It is not too small to be unprofitable and not too big to be beyond his means to support it efficiently. In other words, it is a sound economic unit fitting precisely the circumstances of a man with moderate means, and for that reason the number of cows and herds in that class is at least stabilized or has an upward tendency no matter to what extent unforeseen outside forces may tend to disrupt the normal flow of business. It is the backbone of the industry.

This class is most numerous and comprises more than one-half, or 54.1 per cent, of the total cow population of the State.

HERDS HAVING 50 COWS OR MORE

This class on the whole shows a very definite downward trend in number of cows. There were 8,309 cows in this class during March-June, 1943, as compared with 9,138 during the same months in 1942. The decline amounts to 829 cows, or 9.1 per cent. The number of herds did not decline as much as the number of cows; there were 87 herds in 1943 against 92 in 1942. This change means that the large herds are becoming slightly smaller. Probably the shortage of experienced labor is forcing the owners to reduce the size of their herds. Of course, there may be other causes inherent in the management of each herd. Slightly more than one-fourth, or 26.5 per cent of the total state cow population, belongs to this class.

CONCLUSION

There is no doubt that the long upward trend in the number of milk cows has been arrested since the middle of 1942. At the present time, we witness a slight downward movement in the number of cows, which, if the unfavorable economic situation persists, may become more serious in the near future. The number of milk cows is declining because dairymen find it unprofitable to keep as many cows as they kept in recent years. The price that farmers get for milk is far below the cost of production. The farm price for milk is frozen by OPA, but the price of the majority of

cardinal items entering into the cost of production is not frozen and those prices are moving upward.

The "Milk Limitation" program which is being inaugurated by the Federal Government's agencies is in reality rationing, because the supply is becoming smaller. This unnecessary curtailment in production and consumption could be avoided if the federal agencies would not interfere in a detrimental way with the industry. The results of their regulations are unfortunate and destructive. A simple axiom—cost should be at least on a par with gross return—was overlooked by those who are in charge of the regulation of the industry.

SUMMARY

1. The actual records of 2,698 herds, or 17 per cent of all herds in the State, were used in this survey. These herds had about 20 per cent of the total cattle population of New Jersey.

2. During March-June 1943, the dairymen surveyed had 430 cattle more than during the same months in 1942, i.e., the 1943 figure was 44,188 head against 43,758 head in 1942.

3. An increase took place in regard to the number of heifers, calves, steers, and bulls. The number of milk cows in 2,698 herds had declined 378 head—from 31,699 head during March-June, 1942, to 31,321 during the same months in 1943.

4. The number of milk cows and heifers combined in these 2,698 herds dropped 95 head in 1943 as compared with 1942.

5. A decline in the number of cows and herds was registered at both extremes, i.e., in small herds up to 15 cows and in large herds from 50 cows and more.

6. An increase in the number of cows and herds took place in the class of herds ranging from 15 to 49 cows.

7. For about 12 years the dairy industry had been expanding but from the middle of 1942 it began to decline. The decline was small at the beginning, but it may reach serious proportions in the near future, unless federal agencies see to it that the dairymen get at least the cost of production. During the summer, 1943, the cost of production of milk was far in excess of the price received by dairymen.

Similar studies have been completed for the September-December, 1943, and September-December, 1942 periods.

ECONOMIC CONDITION OF NEW JERSEY POULTRY INDUSTRY DURING 1937-1943

AVERAGE COST OF PRODUCTION OF EGGS AND CHICKENS AND AVERAGE FARM PRICE OF EGGS AND CHICKENS

The average cost of production of eggs and chickens in this study is based on the retail price of mash and scratch combined, and the price of hired farm labor. The price of chicken feed and the price of hired farm labor constitute about 75 per cent of the total cost of production; namely, chicken feed, 55 per cent; and labor, 20 per cent.

The three-year period, 1937-1939, is considered as a normal time because the retail price of chicken feed, the price of hired farm labor, and the farm price of eggs and chickens were not extremely high or extremely low. In other words, variations in price from month to month were ordinary and regular. All months are compared with the corresponding months of the three-year average, 1937-1939, and the results are expressed in terms of percentages of the three-year average. The percentages are called index numbers. Comparisons are month to month; for example, January, 1943 is compared with January, 1937-1939, or any other January; February, 1942, is compared with February 1937-1939, or any other February; July, 1941 is compared with July, 1937-1939, or any other July, etc. For example, the statement that the January, 1943 index number of cost of production stood at 157 indicates that the cost of production during that month was 57 per cent higher than in January, 1937-1939. For instance, if it is necessary to compare the January, 1943 index number of cost of production with that of January, 1942, the January, 1943 index number is divided by the January, 1942 index and the result shows comparison: $157 \div 141 = 111.3$, or the cost of production in January, 1943 was 11.3 per cent more than the January, 1942 cost of production.

DEPRESSION AND PROSPERITY

When we speak of depression or prosperity, we compare the period under discussion with the corresponding time of 1937-1939. It is assumed that the relationship between the cost of production and the farm price of eggs, chickens or both combined, during the three-year period, 1937-1939, was normal, and that farmers' monetary return entirely covered the cost of production. When the index number of the cost of production is higher than the farm price of eggs, chickens or both combined for the corresponding period during any period under consideration, we conclude that a depression prevailed, because the cost of production went up at a steeper rate from 1937-1939 average than the farm price of eggs, chickens, or both combined. When, on the other hand, the average farm price of eggs, chickens or both combined was higher than the cost of production, we decide that the period is prosperous, because the farm price of eggs, chickens or both combined went up at a steeper rate from the 1937-1939 average than the cost of production.

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The black areas on the statistical charts presented in the following pages represent the period of depression. The white areas, lying between the lines of cost of production and average farm price, are areas of prosperity.

The periods of depression were of long duration and the losses heavy, while the periods of prosperity lasted a short time, and the gain was small.

NEW JERSEY INDEX NUMBER OF COST OF PRODUCTION OF EGGS AND CHICKENS

(Retail Price of Chicken Feed and the Price of Hired Farm Labor are Combined)

1937-1939=100, Month to month

Month	1937	1938	1939	1940	1941	1942	1943
January	117	96	88	112	108	141	157
February	116	95	88	110	107	143	159
March	116	94	89	110	107	144	162
April	119	92	89	108	108	140	163
May	119	91	91	107	109	140	161
June	118	90	93	105	111	139	164
July	117	89	96	103	118	139	165
August	114	91	96	107	124	144	173
September	108	86	106	102	124	141	171
October	105	86	109	105	130	145	187
November	101	88	112	109	133	150	194
December	98	88	114	110	136	151	194

AVERAGE WAGES PAID TO HIRED FARM LABOR IN NEW JERSEY BY MONTH WITH BOARD FROM 1937 TO 1943

Month	1937	1938	1939	1940	1941	1942	1943
January	\$27.00	\$30.25	\$30.00	\$30.75	\$33.50	\$47.75	\$58.75
April	29.00	32.50	32.00	32.50	36.25	50.25	64.31
July	33.75	33.50	32.50	34.40	41.40	52.25	70.00
October	33.00	32.00	33.50	34.00	45.00	55.90	85.00

COMPARISON BETWEEN THE AVERAGE FARM PRICE OF EGGS AND THE AVERAGE COST OF PRODUCTION OF EGGS IN NEW JERSEY

During the seven-year interval, 1937-1939, there were four distinct periods of depression and three periods of prosperity. Depression lasted 49 months and prosperity. 35 months. The first period of depression lasted from January to September, 1937; the second period was very prolonged and it existed from June, 1939 to April, 1941; the third period also was of quite long duration, and its span extended from September, 1941 to November, 1942; the fourth period began in September, 1943 and is now in full swing.

The first period of prosperity had its start in October, 1937 and continued until May, 1939; the second period lasted only four months, from May to August, 1941, and the third period occurred from December, 1942 to August, 1943.

Of immediate importance are the two most recent periods, one of prosperity and one of depression. After 15 months of depression, the period

of prosperity began in December, 1942. It lasted until September, 1943. The prosperity was moderate, and the greatest difference between the cost of production and the farm price of eggs was 12 per cent during June, 1943, i.e., during that month the average farm price of eggs exceeded the cost of production by 12 per cent.

In September, 1943, a period of depression began, which, as time goes on, becomes worse. In September, 1943 the cost of production exceeded the farm price of eggs by 14 per cent; in October, 1943, by 26 per cent; in November, 1943, by 35 per cent; and in December, 1943, by 41 per cent. There are indications that during January and February, 1944, the condition became worse than it was in December, 1943. In December, 1943, for example, the average farm price of eggs, in order to have been on a par with the cost of production, should have been 41 per cent higher than it actually was. The actual price at that time stood at 47 cents a dozen; the proper price should have been at least $141 \times \$0.47 = \0.6627 . The loss to the farmers during December was unusually heavy.

AVERAGE RETAIL PRICE OF POULTRY MASH AND SCRATCH COMBINED
PER 100-POUND BAG IN NEW JERSEY FROM 1937 TO 1943

Month	1937	1938	1939	1940	1941	1942	1943
January	\$2.49	\$1.84	\$1.62	\$2.25	\$2.09	\$2.64	\$2.78
February	2.48	1.83	1.62	2.22	2.06	2.68	2.84
March	2.46	1.79	1.65	2.18	2.04	2.67	2.91
April	2.59	1.76	1.69	2.19	2.11	2.66	2.96
May	2.60	1.74	1.76	2.20	2.15	2.67	2.93
June	2.54	1.69	1.78	2.09	2.18	2.62	2.97
July	2.43	1.69	1.89	2.06	2.32	2.66	2.98
August	2.25	1.66	1.83	2.06	2.36	2.66	3.05
September	2.17	1.61	2.16	2.02	2.45	2.68	3.10
October	2.08	1.60	2.16	2.06	2.47	2.66	3.14
November	1.88	1.56	2.14	2.07	2.45	2.65	3.16
December	1.82	1.58	2.20	2.09	2.54	2.70	3.20

AVERAGE RETAIL PRICE OF POULTRY MASH AND SCRATCH COMBINED

Per Cent of 1937-1939, Month to Month

Month	1937	1938	1939	1940	1941	1942	1943
	Per Cent of 1937-1939						
January	126	93	82	114	106	133	140
February	125	92	82	112	104	135	143
March	125	91	84	111	104	136	148
April	129	88	84	109	105	132	147
May	128	86	87	108	106	132	144
June	127	85	89	105	109	131	149
July	122	85	95	103	116	133	149
August	118	87	96	108	124	139	160
September	110	81	109	102	124	135	157
October	107	82	111	106	127	136	161
November	101	84	115	111	132	142	170
December	97	84	118	112	136	144	171

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AVERAGE WAGES PAID TO HIRED FARM LABOR IN NEW JERSEY BY MONTH WITH BOARD

Month	Per Cent of 1937-1939, Month to Month						
	1937	1938	1939	1940	1941	1942	1943
	Per Cent of 1937-1939						
January	92.8	104.0	103.2	105.7	115.2	164.2	202.0
April	93.0	104.3	102.7	104.3	116.3	161.2	206.3
July	101.5	100.8	97.7	103.5	124.5	157.1	210.5
October	100.5	97.5	102.0	103.6	137.1	170.3	258.9

AVERAGE NEW JERSEY FARM PRICE OF EGGS PER DOZEN

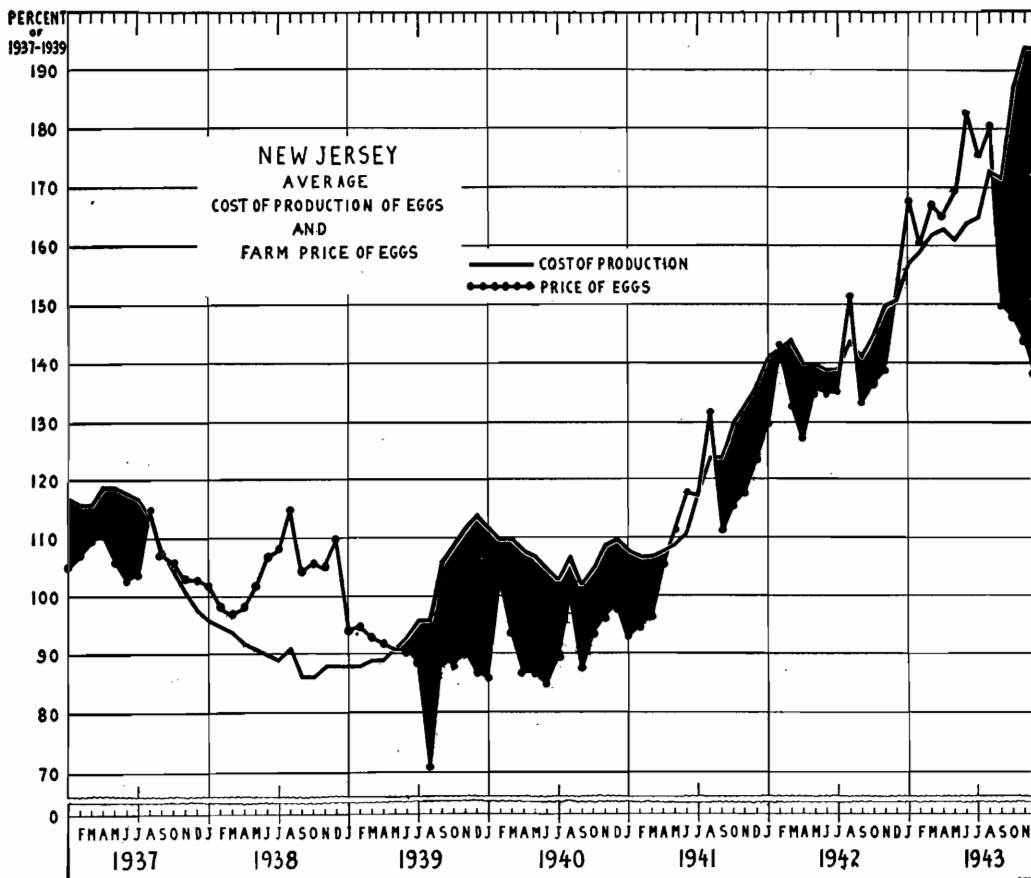
Per Cent of 1937-1939, Month to Month

1937-1939 = 100

Month	1937	1938	1939	1940	1941	1942	1943
	Per Cent of 1937-1939						
January	105	102	94	86	93	131	168
February	107	98	95	104	95	143	160
March	110	97	93	94	97	133	167
April	111	98	92	87	106	127	165
May	106	102	91	87	112	136	169
June	103	107	91	85	118	135	183
July	104	108	89	90	117	135	175
August	115	115	71	101	132	152	181
September	107	104	90	87	111	133	150
October	106	106	88	94	116	137	148
November	103	105	91	97	118	139	144
December	103	110	87	99	124	153	138

AVERAGE NEW JERSEY FARM PRICE OF EGGS PER DOZEN FROM 1937 TO 1943

Month	1937	1938	1939	1940	1941	1942	1943
January	\$0.312	\$0.302	\$0.278	\$0.255	\$0.275	\$0.389	\$0.50
February	.273	.252	.243	.266	.243	.366	.41
March	.263	.233	.222	.225	.233	.317	.40
April	.273	.240	.226	.213	.260	.313	.407
May	.256	.247	.219	.210	.270	.327	.407
June	.265	.274	.233	.218	.303	.347	.470
July	.303	.313	.258	.262	.340	.393	.510
August	.330	.329	.203	.289	.379	.437	.520
September	.385	.373	.323	.313	.399	.480	.540
October	.395	.392	.326	.349	.430	.510	.550
November	.388	.394	.342	.365	.443	.520	.540
December	.350	.375	.295	.335	.423	.520	.470



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During the seven-year period, 1937-1943, economic depression prevailed for 60 months, and prosperity for 24 months. The periods of depression were: first, from January to August, 1937; second, from July, 1939 to May, 1943; and third, from August to December, 1943.

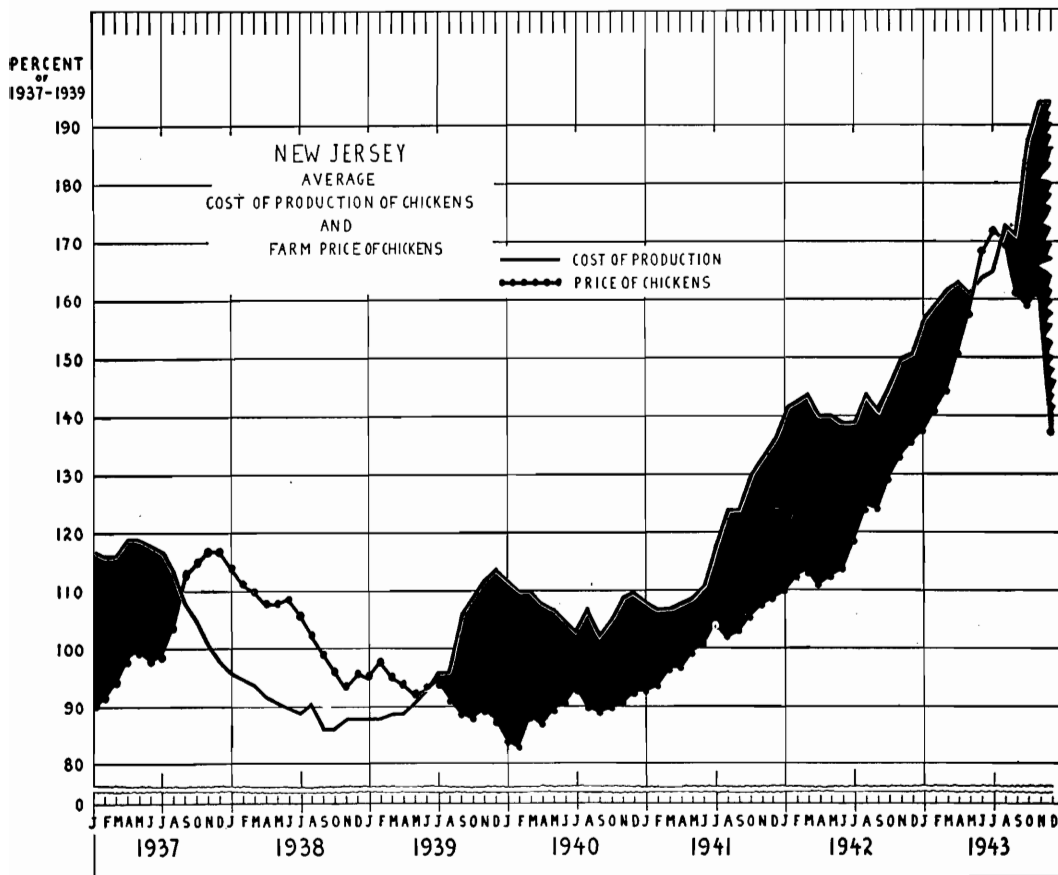
Two periods of prosperity were registered: the first, from September, 1937 to June, 1939; and the second, lasting only two months, during June and July, 1943. This prosperity was of a mild nature and its highest point occurred in June, 1938, when the farm price of chickens exceeded the cost of production by 21 per cent.

After 47 months of continuous depression, the industry, under the impact of a universal increase in prices, showed a general tendency toward recuperation, which lasted exactly two months, June and July, 1943. This upward surge was not sufficiently strong and soon was overcome. In August, 1943, the new period of depression set in and is still continuing with increasing intensity. In August, 1943, the cost of production exceeded the farm price of chickens by 1.8 per cent; in September, 1943, by 6.2 per cent; in October, by 17.6 per cent; in November, 1943, by 19.8 per cent; in December, 1943, by 41.6 per cent. In other words, the price of chickens during December, 1943, in order to have been on a par with the cost of production, should have been 41.6 per cent higher than it actually was. The actual price at that time was 28 cents a pound. The proper price should have been $141.6 \times \$.28 = \$.396$. So great a loss is certainly worthy of notice.

NEW JERSEY AVERAGE FARM PRICE OF CHICKENS

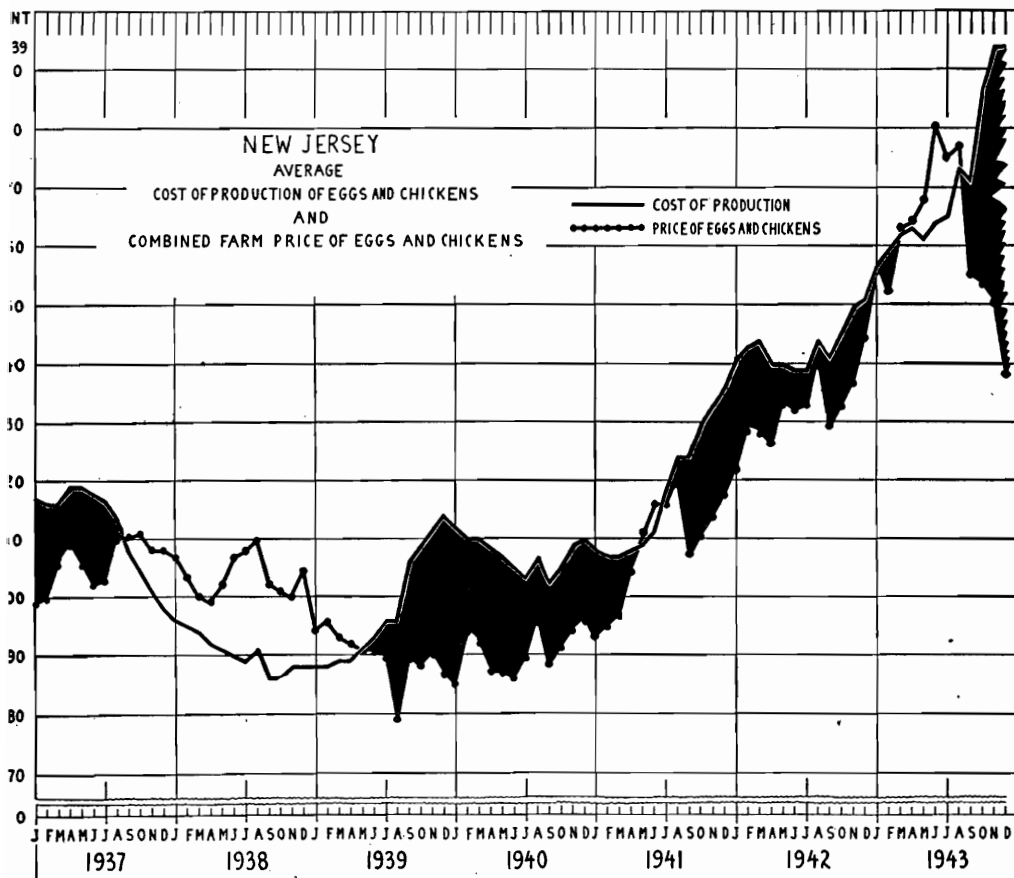
Per Cent of 1937-1939, Month to Month Comparison

Month	1937	1938	1939	1940	1941	1942	1943
	Per Cent of 1937-1939						
January	90	114	95	84	93	110	138
February	92	111	98	83	94	113	142
March	95	110	95	89	97	114	145
April	99	108	94	87	97	111	152
May	100	108	92	90	100	113	159
June	98	109	93	91	101	114	168
July	99	106	95	94	105	120	172
August	105	102	92	90	102	125	170
September	113	99	89	89	103	124	161
October	115	96	88	90	106	130	159
November	117	93	90	91	108	134	162
December	117	96	88	93	109	135	137



NEW JERSEY AVERAGE FARM PRICE OF CHICKENS PER POUND, FROM 1937 TO 1943

Month	1937	1938	1939	1940	1941	1942	1943	Average 1937-1939
January	\$0.190	\$0.240	\$0.200	\$0.176	\$0.195	\$0.230	\$0.290	\$0.210
February	0.192	0.230	0.203	0.173	0.196	0.234	0.295	0.208
March	0.200	0.230	0.200	0.187	0.203	0.240	0.305	0.210
April	0.210	0.230	0.200	0.186	0.207	0.237	0.324	0.213
May	0.210	0.227	0.193	0.190	0.210	0.237	0.334	0.210
June	0.203	0.227	0.193	0.190	0.210	0.237	0.350	0.208
July	0.200	0.215	0.193	0.190	0.214	0.244	0.350	0.203
August	0.217	0.210	0.190	0.185	0.210	0.257	0.350	0.206
September	0.240	0.210	0.190	0.190	0.220	0.264	0.343	0.213
October	0.240	0.200	0.183	0.187	0.220	0.270	0.330	0.208
November	0.239	0.190	0.184	0.186	0.220	0.274	0.330	0.204
December	0.240	0.196	0.180	0.190	0.223	0.277	0.280	0.205



The first prosperous period was from September, 1937 to May, 1939; the second lasted only two months, May and June, 1941; and the third existed from January to August, 1943. During the last period, one month, February, was a month of depression.

After 18 months of continuous depression the industry showed healthy signs of recuperation, when, in January, 1943, the cost of production and combined farm price of eggs and chickens were on a par. During June, 1943, the industry attained its peak; the combined average farm price of eggs and chickens at that time exceeded the cost of production by about 10 per cent. However, this prosperity did not last long, and in September, 1943, a serious setback began. During September, 1943, the cost of production exceeded the farm price by 10.3 per cent; in October, 1943, by 21.4 per cent; in November, 1943, by 28.5 per cent; and in December, 1943, by 40.6 per cent.

There are indications that during January and February, 1944 the depression deepened.

NEW JERSEY COMBINED PRICE OF EGGS AND CHICKENS

Per Cent of 1937-1939, Month to Month

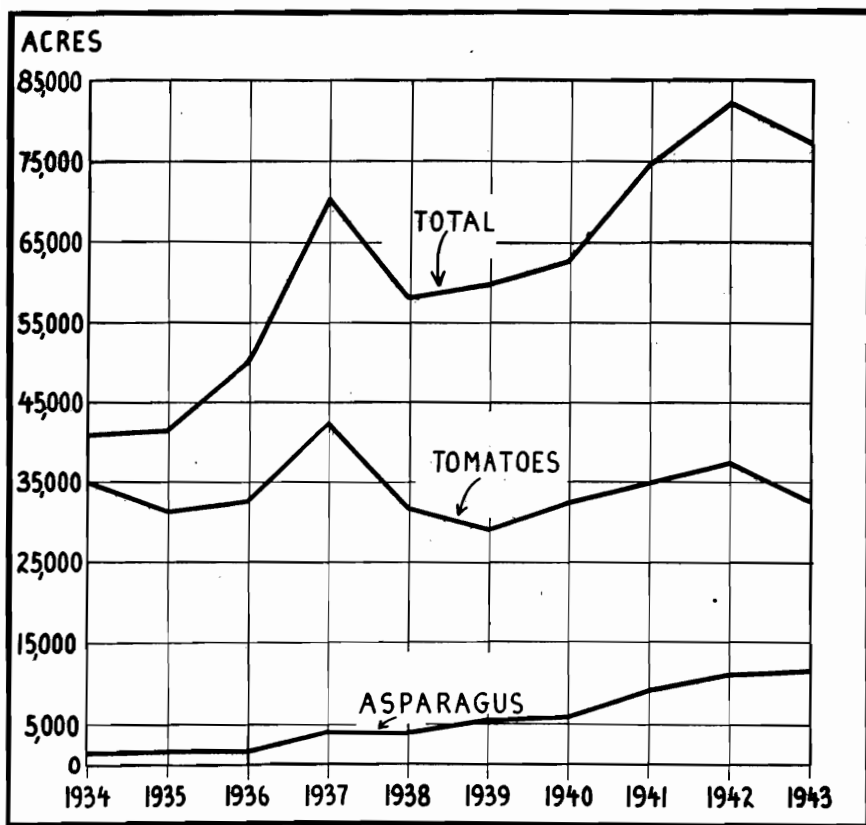
Month	1937	1938	1939	1940	1941	1942	1943
	Per Cent of 1937-1939						
January	99	107	94	85	93	123	157
February	100	104	96	95	95	130	152
March	107	100	93	93	97	129	163
April	110	99	92	87	105	126	164
May	106	102	91	87	111	134	168
June	102	107	91	86	116	132	181
July	103	108	90	90	116	133	175
August	111	110	79	97	121	142	177
September	110	102	90	88	107	129	155
October	111	101	88	92	111	133	154
November	108	100	91	95	114	137	151
December	108	105	87	97	118	146	138

OPERATION OF FOOD PROCESSING PLANTS IN NEW JERSEY AS IT AFFECTS NEW JERSEY FARMERS, 1934-1943

During the last decade the food processing industry in New Jersey has made remarkable progress. The total acreage of principal commodities such as tomatoes, Lima beans, asparagus, green peas, snap beans, spinach, beets, pumpkins, squash, sweet corn, peppers, and cranberries was almost doubled; the quantity delivered to the processing plants more than doubled, and if the years 1934 and 1943 are compared, the farmers receipts increased at least five times. This advance was caused by a strong demand on the part of the processors for tomatoes, Lima beans, asparagus, green peas, snap beans, spinach, beets, and cranberries. Although the acreage of tomatoes remained relatively steady, the tonnage of tomatoes delivered to the processing plants increased rapidly. The expansion of the total acreage for processing is due mostly to a very significant increase in the acreage of asparagus, Lima beans, green peas, snap beans, spinach, and cranberries.

ACREAGE

There were 40,683 acres of principal commodities grown for processing in 1934. The acreage began to increase in 1935, and in 1937, reached 70,247 acres. In 1938, the acreage went down to 58,133 acres and since then it has grown rapidly, reaching a peak of 82,306 acres in 1942, and remaining at the high level of 76,834 acres in 1943. So, comparing the year 1934 with 1943, the acreage rose 89 per cent. The average percentage of acreage of the principal crops grown for processing during the ten-year period, 1934-1943, was 35.3 per cent of the total acreage of all vegetables (white potatoes excluded) and cranberries grown in New Jersey. The percentage, however, did not remain static from year to year, but grew gradually, being 26.9 per cent in 1934 and reaching 41.8 per cent in 1943. The acreage of vegetables grown for processing increased at a considerably higher rate than the acreage cultivated for fresh market.



ACREAGE OF PRINCIPAL COMMODITIES GROWN FOR
DELIVERY TO PROCESSING PLANTS

The average ten-year, 1934-1943, annual acreage of tomatoes for processing was 33,788 acres. It fluctuated from the lowest, 28,910, in 1939, to the highest, 42,363 acres in 1937. These are, however, the two extreme years. Generally the acreage stood around 32,000-33,000 acres, and did not show violent increases or decreases.

The average ten-year, 1934-1943, annual acreage of asparagus for processing stood at 5,485 acres. The beginning was modest—in 1934 only 1,443 acres were devoted to processing. The growth was slow in 1935 and 1936. In 1937 and 1938 the acreage showed a tendency toward rapid expansion, and it stood at about 3,800 acres. In 1941, the acreage moved up to 9,016 acres, and in 1943 it was 11,572 acres. Comparing 1934 with 1943, the acreage increased 8 times. What are the reasons for such vigorous growth? The primary reason is that the processing plants in New Jersey created a demand for asparagus, and the growers found it advantageous to satisfy that demand. The second reason is the excellent quality and suitability of the New Jersey crop for processing. The third reason is that asparagus is ready for processing early in the season, in May and June, ahead of such crops as tomatoes, Lima beans, etc., so the processing plants, instead of being idle, are operating. The fourth reason is the availability of a market for the finished product.

Lima beans, green peas and spinach made the same strides as asparagus. The acreage of each has increased many times. The actual figures cannot be revealed because only a few plants are processing these vegetables, and the figures must be kept in confidence.

The average ten-year, 1934-1943, annual acreage of snap beans for processing stood at 1,707 acres. In 1934, the acreage was only 214 acres, while in 1943 it reached a height of 2,873 acres.

The acreage of beets for processing also shows a strong upward trend. The ten-year, 1934-1943, average annual acreage was 661 acres. In 1934, it stood at 356 acres, while in 1943 it amounted to 1,521 acres.

Although the acreage of squash does not show a tendency toward any considerable expansion, it does not go down. The ten-year, 1934-1943 average annual acreage amounted to about 879 acres. It varies considerably from year to year; the lowest year was 1935, with 195 acres, and the highest, 1942, with 1,730 acres.

The acreage of pumpkins is decreasing slightly. The ten-year, 1934-1943, average annual acreage was 442 acres. In 1937, it reached its peak of 1,872 acres, and in 1940, its valley of 77 acres.

The green pepper is a new-comer. Our records show that from 1934 to 1937, inclusive this vegetable did not go to the canneries. The crop began modestly with 279 acres in 1938; in 1939, it was at its height of 1,163 acres. Since that year it has been about 800 acres annually.

Fifteen years ago hardly any cranberries went into the processing plants to be converted into jelly, sauce or juice. Housewives prepared these

delicacies in the home. About 12 years ago some canneries began to process these berries and consumers liked the products. At the present time, about one-half of the New Jersey crop goes to the processing plants. In 1934, the crop from approximately 1,650 acres found its way into the canneries. In 1942, the acreage reached a peak of 6,800 acres.

A relatively small acreage is devoted to sweet corn which goes to the processing plants.

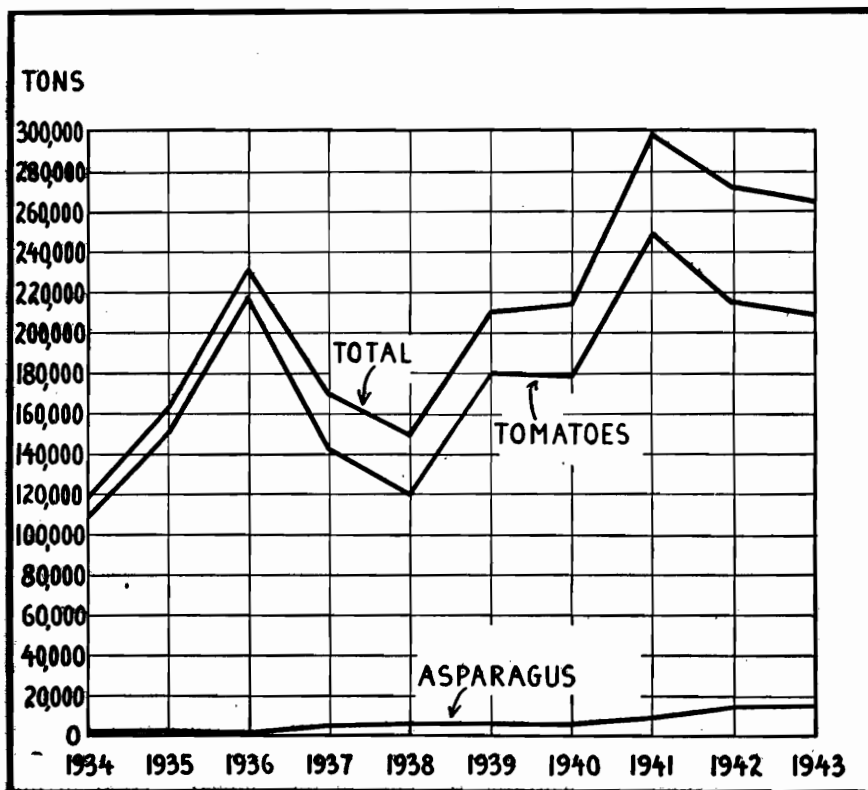
Besides the above mentioned crops, New Jersey processing plants buy from time to time raspberries, blackberries, blueberries, gooseberries, strawberries, rhubarb, apples, pears, broccoli, cherries, carrots, peaches, and sweet potatoes. The total acreage of these commodities grown for processing is not known to us. Probably it amounts to about 1,000-1,500 acres annually. The acreage of these commodities is not included in our total acreage.

QUANTITY DELIVERED TO THE PROCESSING PLANTS

Parallel with the increase in acreage of crops for processing, deliveries of crops to the processing plants rose considerably. The ten-year, 1934-1943, average annual tonnage of principal crops brought to the plants was 208,949 tons. In 1934, the tonnage stood at 117,765 tons. In 1936, it reached 232,015 tons. During 1937 and 1938, the tonnage went down to 169,124 and 148,106 tons, respectively. Since 1939, the tonnage has been climbing; in 1939, it was 210,377 tons; in 1941, it reached a peak of 298,167 tons. In 1942 and 1943, it was 272,143 and 265,597 tons, respectively. Tomatoes constituted the bulk of the tonnage. Next in line stood asparagus, followed by Lima beans, spinach, beets, green peas, squash, snap beans, cranberries, peppers, pumpkins, sweet corn, etc.

QUANTITY OF EACH COMMODITY DELIVERED TO THE PROCESSING PLANTS EXPRESSED IN TERMS OF PERCENTAGE OF ALL PRINCIPAL COMMODITIES GROWN FOR PROCESSING

Year	Tomatoes (per cent)	Asparagus (per cent)	Lima beans, Green peas, and Spinach (per cent)	Snap beans (per cent)	Beets (per cent)	Other Principal Crops (per cent)
1934	91.4	1.7	0.5	0.3	1.9	4.2
1935	92.5	1.2	3.3	0.2	1.2	1.6
1936	94.1	0.6	1.9	0.6	0.9	1.9
1937	84.0	2.6	5.7	2.1	1.5	4.1
1938	80.0	3.6	8.8	1.5	3.6	2.5
1939	85.5	2.6	5.0	1.1	0.4	5.4
1940	83.3	2.6	7.8	0.8	1.4	4.1
1941	83.0	3.0	6.9	0.5	2.3	4.3
1942	79.0	5.2	7.2	1.7	3.1	3.8
1943	78.7	5.7	7.1	2.8	3.0	2.7
Ten-year, 1934-1943, Average	84.5	3.1	5.7	1.2	2.0	3.5



TONNAGE OF PRINCIPAL COMMODITIES DELIVERED BY NEW JERSEY FARMERS TO PROCESSING PLANTS

The ten-year, 1934-1943, average annual tonnage of tomatoes delivered to the processing plants was 176,619 tons, or 84.5 per cent of the total tonnage of all principal commodities. The tonnage of tomatoes grew gradually and during the three-year period, 1941-1943, it stood at about 220,000 tons annually. Note that the acreage of tomatoes remained at about the same level while the tonnage delivered to the factories increased considerably.

In 1934, the tonnage of tomatoes constituted 91.4 per cent of the total tonnage of all principal crops. The percentage began to decline in 1937 and in 1943 it was 78.7 per cent of all principal commodities. This decline in percentage while the tonnage went up, is explained by the remarkable increase in the tonnage of asparagus, Lima beans, green peas, spinach, and other crops.

The tonnage of asparagus has shown a remarkable growth. While in 1934 it was only 1,954 tons, in 1943 it reached 15,178 tons. The advance at first was relatively moderate, but has increased enormously during the

last three years. The ten-year, 1934-1943, average annual tonnage was 6,433 tons, which constituted 3.1 per cent of the total tonnage of all principal commodities. In 1943, the percentage of the tonnage of asparagus reached the height of 5.7 per cent of the total tonnage of the principal crops for processing in that year.

The tonnage of Lima beans, green peas and spinach made a splendid advance, comparable to that of asparagus.

The ten-year, 1934-1943, average annual tonnage of snap beans for processing was 2,523 tons, or 1.2 per cent of the tonnage of all principal crops for processing. It began with 321 tons in 1934 and ended with 7,318 tons in 1943.

The beet tonnage also kept a good pace. The average, 1934-1943, annual tonnage of 4,117 tons constituted about 2 per cent of the total tonnage of all principal crops grown for processing. The tonnage fluctuated wildly from the lowest—778 tons in 1939—to 8,335 tons in 1942.

The ten-year, 1934-1943, average annual tonnage of cranberries for processing was 1,891 tons. It varied considerably from year to year, showing, however, a very definite upward trend. The lowest tonnage was 227.4 tons, in 1935; the highest was 4,514 tons, in 1937.

FARMERS' RECEIPTS

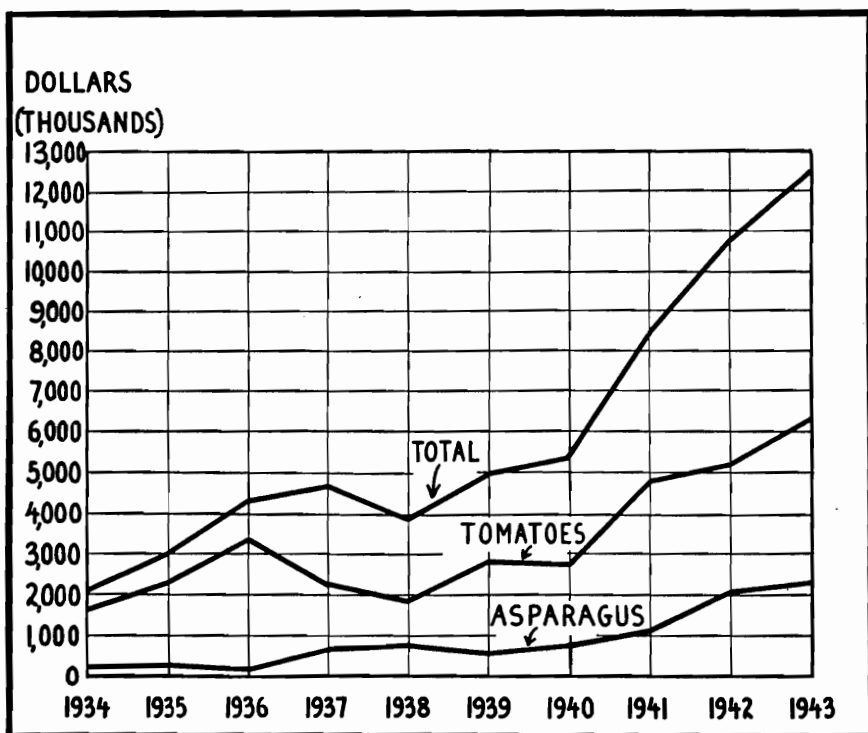
The ten-year, 1934-1943, average annual receipts by farmers for principal commodities delivered to New Jersey processing plants amounted to \$6,009,479. The 1934 total receipts of \$2,144,673 were the lowest. Receipts grew gradually, reaching \$12,543,157 in 1943. The average ten-year, 1934-1943, cash income from principal crops grown for processing amounted to 5.4 per cent of the total cash income received by farmers for all commodities. It was only 3.2 per cent in 1934, and from then on it developed slowly up to 6.9 per cent in 1941; 7.2 per cent in 1942; and 6.6 per cent in 1943.

RECEIPTS BY FARMERS FOR EACH COMMODITY FOR PROCESSING EXPRESSED IN TERMS OF PERCENTAGE OF TOTAL RECEIPTS FOR ALL PRINCIPAL COMMODITIES DELIVERED TO THE PROCESSING PLANTS

Year	Tomatoes (per cent)	Asparagus (per cent)	Lima beans, Green peas, and Spinach (per cent)	Snap beans (per cent)	Beets (per cent)	Cranberries (per cent)	Other Principal Crops (per cent)
1934	77.8	10.8	2.9	0.6	0.7	5.4	1.8
1935	74.1	9.4	13.4	0.3	0.5	1.6	0.7
1936	77.8	4.2	8.7	1.5	0.6	6.7	0.5
1937	48.1	14.2	17.7	3.7	0.5	15.4	0.4
1938	47.8	19.6	24.0	2.3	1.8	3.6	0.9
1939	60.6	12.1	14.9	2.8	0.2	6.9	2.5
1940	51.2	14.0	21.1	1.9	0.7	6.2	4.9
1941	57.2	13.4	19.6	1.3	1.1	5.6	1.8
1942	48.6	19.6	17.5	4.1	1.5	7.2	1.5
1943	50.7	18.7	15.7	8.0	1.2	4.0	1.7
Ten-year Average 1934-1943	55.5	15.0	16.5	3.6	1.0	6.2	2.2

The leading source of income was tomatoes. The ten-year, 1934-1943, average annual income from tomatoes amounted to \$3,337,857, or 55.5 per cent of the total income from all principal commodities delivered to the processing plants. In 1934, the income from tomatoes stood at \$1,668,149. As time went on, larger production and better price increased the farmers' return, and in 1943 it was \$6,361,765.

It is important to notice the influence of crops other than tomatoes on the farmers' income. In 1934, tomatoes brought the farmers 77.8 per cent of their total income from principal crops grown for processing. In 1935 and 1936, the percentage stood at 74.1 and 77.8 per cent, respectively. In 1937, other crops for processing began to play an important role in the farmers' economy. For that reason, the 1937 income from tomatoes shrank to 48.1 per cent of the total income from crops for processing. Since that year, the percentage has varied between a low of 47.8 per cent in 1938 and a high of 60.6 per cent in 1939.



RECEIPTS OF NEW JERSEY FARMERS FOR PRINCIPAL COMMODITIES
DELIVERED TO PROCESSING PLANTS

In 1943, asparagus brought to the farmers ten times as much income as ten years earlier, i.e., during 1934. The 1943 income was \$2,340,599 against \$230,572 in 1934. This industry has established itself firmly in New Jersey and there are prospects that it will grow. The ten-year, 1934-1943, average annual farm income stood at \$904,420, or 15 per cent of the total income received by farmers from sales of principal commodities to the processing plants. In 1942, the percentage was 19.6 per cent, and in 1943, it stood at 18.7 per cent.

The ten-year, 1934-1943, average annual farmers' receipts from sales of Lima beans, green peas, and spinach to the processing plants amounted to 16.5 per cent of the total receipts for all principal crops grown for processing.

The income from snap beans reached the high figure of \$1,007,835 in 1943. In 1935, it was only \$8,373. The ten-year, 1934-1943, average annual income stood at \$214,723, or 3.6 per cent of the total income derived from the sales of principal commodities to the processing plants. In 1943, the percentage was 8 per cent.

Beets also brought to the farmers an increasing income. In 1934, it was only \$15,323, while in 1943 it reached \$155,392. On the average, beets bring to the farmers about 1 per cent of all income derived from sales of principal crops for processing.

The ten-year, 1934-1943, average annual income from cranberries sold to the processors was \$373,718, or 6.2 per cent of the total income received from sales of principal crops to the processing plants.

The following table shows the average price per ton and the average price per acre of all principal commodities sold to the processing plants.

Year	Average Price per Ton Received by Farmers for All Principal Commodities Sold to the Processing Plants	Average Price per Acre Received by Farmers for All Principal Crops Grown for Processing
1934	\$18.21	\$52.72
1935	18.79	74.12
1936	18.68	86.81
1937	27.69	66.67
1938	26.02	66.28
1939	23.57	83.45
1940	25.12	86.09
1941	28.18	112.79
1942	39.51	130.64
1943	47.23	163.25

**ACREAGE, QUANTITY DELIVERED TO PROCESSING PLANTS AND MONEY RECEIVED BY NEW JERSEY
FARMERS FOR PRODUCE GROWN FOR PROCESSING PLANTS FROM 1934 TO 1943**

Year	Total N. J. Acreage Devoted to Crops for Processing (<i>acres</i>)	Tons Delivered by N. J. Farmers to Processing Plants (<i>tons</i>)	Money Received by N. J. Farmers for Produce Delivered to Processing Plants (<i>dollars</i>)	Average Price Received by N. J. Farmers per ton of All Com- modities Delivered to Processing Plants (<i>dollars</i>)	Average Gross In- come per Acre of Produce Delivered by N. J. Farmers to Processing Plants (<i>dollars</i>)	Approximate Total Acreage of Vegetables and Cran- berries, White Potatoes, Excluded, Harvested in N. J. (<i>acres</i>)	Per Cent of Acreage of Vegetables and Cranber- ries for Processing of Total Acreage of All Vege- tables and Cranberries Grown in N. J.* (<i>per cent</i>)	N. J. Total Cash Income of Farmers (<i>dollars</i>)	Per Cent Money Received by N. J. Farmers for Processing Crops of Total Cash Income (<i>per cent</i>)
1934	40,683	117,765	2,144,673	18.20	52.72	151,000	26.9	67,861,000	3.2
1935	41,109	162,172	3,047,197	18.79	74.12	153,000	26.9	79,107,000	3.9
1936	49,934	232,015	4,334,590	18.68	86.81	163,000	30.6	98,995,000	4.4
1937	70,247	169,124	4,683,113	27.69	66.67	174,000	40.4	99,716,000	4.7
1938	58,133	148,106	3,853,122	26.02	66.28	185,000	31.4	95,626,000	4.0
1939	59,428	210,377	4,959,353	23.57	83.45	184,000	32.3	98,530,000	5.0
1940	62,451	214,028	5,376,056	25.12	86.09	181,000	34.5	104,665,000	5.1
1941	74,482	298,167	8,401,103	28.18	112.79	178,000	41.8	121,540,000	6.9
1942	82,306	272,143	10,752,430	39.51	130.64	190,000	43.3	149,900,000	7.2
1943	76,834	265,597	12,543,157	47.23	163.25	184,000	41.8	191,066,000	6.6
10-Year, 1934-1943, Average	61,561	208,949	6,009,479	28.76	97.62	174,300	35.3	110,700,600	5.4

* White potatoes excluded from the total acreage.

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TOMATOES FOR PROCESSING

Year	Acreage (acres)	Quantity Delivered to Process- ing Plants (tons)	Average Price per Ton Received by Farmers (dollars)	Total Receipt by Farmers (dollars)
1934	34,924	107,692	15.49	1,668,149.00
1935	31,087	150,000	15.06	2,259,000.00
1936	32,464	218,221	15.45	3,371,514.00
1937	42,363	142,046	15.86	2,252,850.00
1938	31,569	118,557	15.54	1,842,376.00
1939	28,910	179,840	15.78	2,837,875.00
1940	32,203	178,200	15.46	2,754,972.00
1941	34,531	247,567	19.40	4,802,800.00
1942	37,069	214,937	24.32	5,227,268.00
1943	32,760	209,131	30.42	6,361,765.02
10-year Average, 1934-1943	33,788	176,619	18.90	3,337,857.00

ASPARAGUS FOR PROCESSING

1934	1,443	1,954	118.00	230,572.00
1935	1,573	1,980	145.17	287,437.00
1936	1,510	1,416	129.78	183,768.00
1937	3,800	4,442	149.63	664,656.00
1938	3,795	5,288	142.87	755,497.00
1939	5,452	5,401	111.05	599,781.00
1940	5,856	5,596	134.85	754,621.00
1941	9,016	8,868	126.50	1,121,802.00
1942	10,835	14,206	148.21	2,105,471.00
1943	11,572	15,178	154.21	2,340,599.00
10-year Average, 1934-1943	5,485	6,433	140.59	904,520.00

SNAP BEANS FOR PROCESSING

1934	214	321	39.33	12,625.00
1935	273	273	30.67	8,373.00
1936	1,765	1,440	44.36	63,878.00
1937	2,295	3,490	49.84	173,942.00
1938	2,400	2,183	40.42	88,237.00
1939	1,925	2,406	58.20	140,029.00
1940	1,806	1,734	59.83	103,745.00
1941	1,511	1,545	70.36	108,706.00
1942	2,007	4,523	97.25	439,862.00
1943	2,873	7,318	137.72	1,007,835.00
10-year Average, 1934-1943	1,707	2,523	85.10	214,723.00

STATE DEPARTMENT OF AGRICULTURE

BEETS FOR PROCESSING

Year	Acreage (acres)	Quantity Delivered to Processing Plants (tons)	Average Price per Ton Received by Farmers (dollars)	Total Receipt by Farmers (dollars)
1934	356	2,189	7.00	15,323.00
1935	405	1,965	8.44	16,585.00
1936	835	2,180	11.42	24,896.00
1937	267	2,492	8.53	21,257.00
1938	809	5,298	12.75	67,550.00
1939	90	778	11.39	8,861.00
1940	570	3,024	13.00	39,312.00
1941	544	6,996	13.40	93,746.00
1942	1,217	8,335	19.49	162,449.00
1943	1,521	7,912	19.64	155,392.00
10-year Average, 1934-1943	661	4,117	14.70	60,537.07

CRANBERRIES FOR PROCESSING

1934	1,650	525	220.00	115,500.00
1935	1,625	227.4	220.00	50,028.00
1936	3,750	1,285	225.00	289,125.00
1937	5,650	4,514	160.00	722,240.00
1938	2,800	781	180.00	140,580.00
1939	6,050	2,427	140.00	339,780.00
1940	4,180	1,717	195.00	334,815.00
1941	5,860	2,345	200.00	469,000.00
1942	6,800	3,246	240.00	779,040.00
1943	4,000	1,841	270.00	497,070.00
10-year Average, 1934-1943	4,237	1,891	197.65	373,718.00

SQUASH FOR PROCESSING

1934	918	3,819	8.87	33,875.00
1935	195	1,479	7.37	10,900.00
1936	821	3,101	7.50	23,258.00
1937	....	....	....	....
1938	....	....	....	....
1939	1,303	3,295	8.12	26,755.00
1940	853	3,789	7.85	29,743.00
1941	913	5,218	8.72	45,501.00
1942	1,730	3,459	9.75	33,725.00
1943	300	697	17.51	12,204.47
8-Year Average, 1934-1943	879	3,107	8.69	26,995.58

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PUMPKINS FOR PROCESSING

Year	Acreage (acres)	Quantity Deliv- ered to Process- ing Plants (tons)	Average Price per Ton Received by Farmers (dollars)	Total Receipt by Farmers (dollars)
1934	203	687	8.66	5,949.00
1935	217	928	8.50	7,888.00
1936	.....	.....	.....	.....
1937	1,872	2,540	7.94	20,168.00
1938	557	2,134	8.52	18,182.00
1939	225	854	8.65	7,387.00
1940	77	390	7.50	2,925.00
1941	125	1,800	8.00	14,400.00
1942	420	830	10.77	8,939.00
1943	278	625	10.20	6,375.00
9-Year Average, 1934-1943	442	1,199	8.55	10,245.89

GREEN PEPPERS FOR PROCESSING

1938	279	165	40.00	6,600.00
1939	1,163	2,823	35.00	98,805.00
1940	840	750	43.00	32,250.00
1941	412	1,200	40.00	48,000.00
1942	941	2,142	39.12	83,795.00
1943	755	710	39.23	27,853.30
6-Year Average, 1938-1943	732	1,298	38.17	49,550.55

AVERAGE PRICES RECEIVED BY NEW JERSEY FARMER

The statistical branch of the bureau is closely following the change in price received by New Jersey farmers. This branch is gathering average monthly farm prices of commodities sold by farmers. After prices are gathered, they are classified, tabulated, and their index numbers computed.

Up to July, 1943, the index number of prices received by farmers was tabulated using the five-year period, 1910-1914, as a base. In July, 1943, the base was changed from 1910-1914 to 1935-1939.

The reasons for changing the base period are many: Here are a few: The five-year period from 1910 to 1914 is remote. It takes a deep knowledge and a very vivid imagination for us to recall conditions during 1910-1914. Profound changes have taken place in our economic life from the period 1910-1914 to the present time. The 1910-1914 value of the dollar differed greatly from the value of the 1943 dollar. Some farm commodities have grown in importance during the last 30 years while others have lost their significance. The quality products, such as milk and eggs, were not known 30 years ago because they were not graded. The functions of the law of supply and demand are more greatly affected by governmental regulations than 30 years ago. All these and many other factors have a

bearing upon the making of prices. In other words, the nature of present-day prices is not the same as it was during 1910-1914. By using 1910-1914 base, statisticians and economists are comparing prices which are incomparable. For that reason, the base period has been moved closer to the current economic condition; namely, to 1935-1939.

AVERAGE PRICES PAID BY NEW JERSEY FARMERS FOR COMMODITIES USED IN PRODUCTION OF AGRICULTURAL COMMODITIES

When it is necessary to arrive at the purchasing value, or exchange value of the farm dollar in any state, the index number of farm prices of that state is usually divided by the United States index number of prices paid by farmers for commodities used in production and living. This procedure is not correct because it assumes that prices paid by farmers in any state are moving upward or downward at the same rate throughout the country. The fact is that the prices paid by farmers vary greatly from state to state, from region to region, etc., and that the increase or decrease in prices is not uniform.

The correct approach is to divide the index number of prices received by farmers of the state by the index number of prices paid by the farmers in the same state. To accomplish this, the statistical division of the Bureau of Plant Industry for many years has been publishing the index number of prices received by farmers, and has now completed the project on the index number of prices paid by New Jersey farmers for commodities used in production. The commodities included in the index number of prices paid are: (1) price of dairy and poultry rations; (2) price of hired farm labor; (3) price of fertilizers; and (4) price of seeds and plants. New Jersey farmers spent \$42,283,000 in 1939 for these four items. The total expenditure for commodities used in production during that year amounted to \$55,000,000. Therefore, the items used in the index number constitute 76.9 per cent of all expenditures for commodities used in production. In other words, the sample is representative.

The prices of these four items were gathered on a monthly basis from January, 1935, to the present time.

New Jersey is the first state in the Union to inaugurate this project. This index is published monthly in *New Jersey Farm and Retail Food Prices*.

AVERAGE PRICES RECEIVED AND PRICES PAID BY NEW JERSEY FARMERS, 1910-1943

Average prices received by New Jersey farmers for 30 important commodities as well as average prices paid by New Jersey farmers for feed-stuffs, fertilizers, labor, seeds and plants were gathered under one cover. The average prices received by farmers were gathered on monthly and annual bases from 1910 to 1943 inclusive. The average prices paid by

farmers were collected on monthly and annual bases from 1935 to 1943. A circular entitled "Average Prices Received and Prices Paid by New Jersey Farmers, 1910-1943", was prepared, embodying these data.

AVERAGE NEW JERSEY RETAIL FOOD PRICES

This publication has been issued monthly by the Bureau of Plant Industry since September, 1936. Retail prices for 83 individual food items are used to compute the index but prices are gathered on 103 items. These prices are gathered from sources that represent over 2,000 retail food stores scattered throughout the state. Chain and independent stores are both represented and retail prices at which these stores actually sell to the consumer are used—not ceiling prices.

The mailing list for this publication is the same as that used for *Cost of Living in New Jersey*.

The general monthly trend in the average retail price of all foods was downward from January, 1937, to August, 1939, at which time it was at the lowest point in our records. In September, 1939, retail food prices rose sharply, due to the beginning of war in Europe. This price flurry settled down in October and a downward tendency was noted, until January, 1941, when the index was 101.3 on an August, 1939, base. In February, 1941, the average retail price of all foods started upward and continued for 22 consecutive months, i.e., through November, 1942, when the index reached 140.1. In December, 1942, a minor decline was noted, followed by a rise for 5 months, which placed the May, 1943, index at the peak point of 157.0. A year of declining prices followed, placing the May, 1944, index at 144.9. The June, 1944, index was 146.6, or 1.1 per cent higher than in May.

COST OF LIVING IN NEW JERSEY

A study of the cost of living in New Jersey has been published since October, 1938. Prior to June, 1941, the survey was issued quarterly, but since that time it has been released bi-monthly.

The mailing list for this publication, as of July, 1941, amounted to 450 addresses. This number increased to approximately 800 by July, 1943, and at the present time (July, 1944) includes 900 addresses, to which almost 1,000 copies are mailed. The difference between the number of names and number of copies mailed is due to the fact that some firms request extra copies in order to distribute them among their departments. Some schools use them in class rooms. Copies are mailed to seventeen states and the District of Columbia.

A breakdown of our mailing list shows that the publication is distributed to the following:

- 157 Manufacturing industries.
- 161 Business enterprises other than manufacturing (includes retail stores; real estate agencies; service corporations, such as telephone companies, laundries, transit companies).
- 156 New Jersey state and municipal government agencies (includes county agents and extension specialists).
- 75 Schools and colleges.
- 72 Libraries.
- 51 Labor unions.
- 50 Professional men.
- 28 Chambers of commerce.
- 20 Federal Government agencies.
- 6 Hospitals.

The remainder of the list goes to individuals.

Many groups, both employers and employees, have called upon representatives from this bureau to explain and interpret the index so that it could, in fairness to both parties, be incorporated into wage contracts. In this way, wage disputes have been adjusted without strikes or costly arbitration.

Representatives from this bureau were called to New York to attend and advise with a member of President Roosevelt's "Committee on Cost of Living."

These personal contacts have spread the use of our index among a larger number than would otherwise have been possible.

With war or the prospect of war in view, wages and retail prices inevitably increase. With this in mind, our index was based on June, 1939, which is the quarter before war started in Europe. Fluctuations in the index on this base may therefore (with some seasonal changes excluded) be definitely laid to war and matters pertaining to war, such as "Lend-Lease," OPA, etc.

The index of "All Goods and Services" remained fairly steady from June, 1939, until December, 1940, at which time the index was 102.3. In March of 1941, when lend-lease buying and shipments began to expand, the trend accelerated. This relatively rapid rise continued until April of 1943, at which time tighter OPA regulations under more rigid enforcement, coupled with War Bond deductions from wages, steadied prices and stopped the rise. From April, 1943, to April, 1944, relatively small fluctuations were noted in the over-all picture. In June, 1944, the index advanced 1.1 per cent as compared with April, 1944, and stood at 131.1 on a June, 1939 base.

LATE CROP SEED POTATOES IN STORAGE

This survey has been made annually since 1937 and the results are used in planning the work of certified seed potato inspection.

Schedules were mailed to 22 cold storage plants. Eleven of these plants reported a total of 38,629 bags (equivalent to 100-lb. bags) in storage. Of these, 36,593 bags were white skin potatoes (Cobblers, Green Mountains, Chippewas, etc.), and 2,036 were Red Skins.

This total compares with 24,217 in 1943; 33,782 in 1942; and 24,836 in 1941. The five year average, 1939-1943, was 29,535 bags in storage.

POTATO INSPECTION

During the inspection season, almost every condition one might find while inspecting and certifying seed potatoes was experienced. The season was started with an increase acreage. Drought conditions, even approaching dust bowl conditions, assailed the crop from planting time in late July and early August until the last day of September. This was followed by a rainy period which provided growth in those fields not in the process of dying from the drought. When the normal digging season arrived, rain was still falling. In South Jersey, the killing frost came very late as a ground freeze following a snow storm on Armistice Day. Some lots of seed had exceptionally low field readings while at the other extreme some lots had excessive virus counts. Bacterial ring rot was found in two lots causing their rejection. Aphids and leaf hoppers were generally light in South Jersey but leaf hopper populations were rather high in Central Jersey. Late blight was conspicuous by its absence after the heavy infection of 1942. Early blight did not prove too serious a factor even though most of the early part of the growing season was adverse. The finding of the potato tuber moth infestation for the first time in New Jersey constituted another unusual feature of the year.

Despite all of these many drawbacks, with the possible exception of the heavy rejections and withdrawals due to high virus counts, the acreage certified came through with a better than expected yield of tubers, most of which were bright and salable. Extra expenses were incurred, however, in the added trouble of harvesting under muddy conditions. In some cases, two tractors were necessary to pull a digger across the field. The cost of fumigation necessitated by the finding of the potato tuber moth was an extra expense.

A review of the Weather Bureau records shows a deviation from the normal rainfall of -7.72 inches and -5.90 inches for the three months of July, August, and September at the Bridgeton and Hightstown stations, respectively. Coupled with this, the average of the high temperatures was above the normal for high temperatures for the same three-month period. Because of the drought, the prospects were not very bright during September, causing some growers to withdraw their entry, judging then that they

would not produce enough seed to plant their normal spring acreage of commercial potatoes. The rainy period, which started on September 30 and continued throughout October, renewed growth in those plantings which were not too far gone. The fields which survived the drought, even making reasonable growth, were those which were plowed early and kept tilled—thus conserving the moisture from earlier in the year. Yields per acre varied from well below 100 bushels per acre to as high as 375 bushels per acre (Sequoia—2 lots) with an over-all average of 135.7 bushels on 392 acres of seed certified. By varieties, this average yield of those certified were: Bliss Triumph, 82 bushels per acre; Red Skins, 99 bushels per acre; Cobblers, 112 bushels per acre; Chippewas, 122 bushels per acre; Houma, 123 bushels per acre; Katahdins, 151 bushels per acre; Sebago, 159 bushels per acre; Green Mountains, 163 bushels per acre; and Sequoia, 181 bushels per acre.

Entries were received from 59 growers for a total of 840.25 acres. Withdrawals and rejections eliminated 270.63 acres at the end of the first inspection and 177.75 acres more at the end of the second inspection. The purchase of good new foundation seed accounts for most of the certified acreage, although rather heavy leaf hopper infestations during the early stages of growth in Central Jersey may have increased disease counts and caused rejections on second inspection.

About 42 per cent of the acreage was planted with seed grown previously in New Jersey, 27 per cent with new seed from Nova Scotia, 25 per cent with new lots from Maine, the remainder was planted with lots from New Brunswick, Prince Edward Isle, and New York sources.

The potato tuber moth was discovered in early crop potatoes in the middle of September. Apparently the insect has been in New Jersey more than one year, but going unnoticed, had built up a heavy population in the late summer, favored by the hot dry weather. A survey was started by the New Jersey Department of Agriculture and the United States Department of Agriculture to determine the extent and severity of the infestation. It was readily found in the vines of the growing late crop. At a conference called by Secretary of Agriculture W. H. Allen and attended by growers of seed, purchasers of seed, Experiment Station and Department workers, it was deemed advisable to order a fumigation for all seed. A new rule was formulated making it mandatory to fumigate all certified seed grown in the infested area. Methyl bromide was used to fumigate all lots of seed sold and many other lots for the growers' own use. This comparatively new fumigant is very effective in killing potato tuber moths in all stages. It is easily applied, and under most circumstances has a very low cost. It should be remembered that the material is lethal to men and animals and necessary precautions should be maintained. Much credit must go to the staff of the county agents' offices for their assistance in arranging job schedules and assisting in the application of the fumigant.

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A REVIEW OF THE INSPECTION AND CERTIFICATION WORK OF NEW JERSEY LATE CROP WHITE POTATO SEED IN 1943

Acres Entered for Certification:

County	Acres	Per Cent
Cumberland	535.00	63.67
Salem	131.00	15.59
Camden	81.00	9.64
Middlesex	59.75	7.11
Burlington	21.50	2.56
Mercer	6.00	.71
Monmouth	6.00	.71
Total	840.25	100.00

Seed Source:

	100-lb. Bags	Per Cent
New Jersey	3,897.5	41.99
Nova Scotia	2,549.0	27.46
Maine	2,364.0	25.47
New Brunswick	218.0	2.35
Prince Edward Isle	132.0	1.42
New York	122.0	1.31
Total	9,282.5	100.0

Seed Treatment:

	100-lb. Bags	Per Cent
No treatment	7,357.0	79.26
Semesan	1,925.5	20.74
Total	9,282.5	100.0

PRODUCTION AND DISTRIBUTION

CERTIFIED CROP OF WHITE POTATO SEED OF NEW JERSEY

	1943	1942
Acres of seed certified	391.87	546.15
Total yield (field run) in bushels	53,193	103,151
Average yield per acre in bushels	135.7	189.0
Bags of certified seed sold	10,909	25,620
Bags sold within the state	10,909	25,278
Bags sold out of state	.....	342
Pennsylvania	.....	342
(old sacks used)		
Bags sold untagged (tags not allowed)	2,498	3,185
Total bags of seed sold	13,407	28,805
Bags seed unsold December 31	6,019	5,615
Baskets of seed retained for own use	21,549	43,248
Bushels of seed retained for own use	13,468	26,919

Note: Seed packed and sold in 100-pound bags.

PRODUCTION AND DISTRIBUTION OF "WAR-APPROVED" SEED

Acres of seed "War Approved"	80
Total yield (field run) in bushels	9,159
Bags "War Approved" seed sold	622
Bags "War Approved" seed unsold December 31	1,799
Baskets of "War Approved" seed retained for own use	6,887
Bushels of "War Approved" seed retained for own use	4,305

POTATO ACREAGE ENTERED FOR CERTIFICATION, 1943

County	Growers	Katahdins	Chippewa	Sebago	Irish Cobblers	Bliss Triumph	Red Skins	Sequoia	Houma	Green Mountains	Total
Cumberland	34	236.08	121.08	65.92	32.25	30.25	24.25	13.67	7.00	4.50	535.00
Salem	9	71.50	13.00	42.00	.....	.....	.....	4.50	.....	.....	131.00
Camden	2	60.00	.....	10.00	.....	.....	10.00	.....	1.00	.....	81.00
Middlesex	10	29.25	17.50	2.00	10.00	.....	.....	.....	1.00	.....	59.75
Burlington	2	4.00	8.00	.....	6.00	.....	.....	2.00	1.50	.....	21.50
Mercer	1	6.00	.....	.....	.....	.....	.....	.....	.....	.....	6.00
Monmouth	1	.....	6.00	.....	.....	.....	.....	.....	.....	.....	6.00
Totals	59	406.83	165.58	119.92	48.25	30.25	34.25	20.17	10.50	4.50	840.25

ACREAGE FAILING AND PASSING CERTIFICATION

	Acres	Per Cent
Acreage rejected at first inspection	89.33	10.63
Acreage withdrawn at first inspection	181.30	21.58
Acreage rejected at second inspection	177.75	21.15
Total acreage rejected at end of two inspections	267.08	31.79
Acreage rejected at third tuber inspection	0	0
Acreage rejected and withdrawn three inspections	448.38	53.36
Acreage passing three inspections (certified)	391.87	46.64
Acreage passing "War Approved" class	80.00	9.52

VARIETAL DISTRIBUTION OF REJECTIONS AND WITHDRAWALS

Variety	Acres Rejected and Withdrawn by Inspections				
	Acres Entered	First	Second	Acres Certified	Acres War Approved
Katahdin	406.83	85.80	99.75	221.28	16.5
Chippewa	165.58	89.83	32.00	43.75	14.0
Sebago	119.92	67.00	33.50	19.42	40.0
Cobblers	48.25	15.00	12.00	21.25	3.0
Bliss Triumph	30.25	0.00	0.00	30.25	0.0
Red Skins	34.25	2.00	0.00	32.25	0.0
Sequoia	20.17	6.00	0.50	13.67	2.5
Houma	10.50	5.00	0.00	5.50	4.0
Green Mountains	4.50	0.00	0.00	4.50	0.0
Totals	840.25	270.63	177.75	391.87	80.0

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WHITE POTATO SEED CERTIFICATION INDUSTRY OF NEW JERSEY

Year	Number of Growers	Acres Entered	Percentage Rejection	Varietal Distribution	
1938	45	355.5	24.47	Cobblers	165.75
				Chippewas	149.75
				Red Skins	18.00
				Green Mountains	16.00
				Katahdins	6.00
1939	57	584.50	7.44	Cobblers	257.25
				Chippewas	178.75
				Katahdins	87.00
				Red Skins	48.00
				Green Mountains	12.00
1940	74	732.99	31.45	Houmas	1.50
				Chippewas	271.53
				Cobblers	252.04
				Katahdins	142.17
				Red Skins	43.50
1941	59	567.05	19.04	Green Mountains	11.75
				Houmas	10.00
				Sebago	2.00
				Katahdins	188.10
				Chippewas	168.50
1942	54	658.41	15.1	Cobblers	157.10
				Red Skins	28.00
				Green Mountains	9.75
				Houmas	9.50
				Sebago	4.00
1943	59	840.25	53.36	Sequoia	2.10
				Katahdins	279.00
				Chippewas	247.25
				Cobblers	58.00
				Sebago	25.83
				Red Skins	25.50
				Houmas	13.50
				Sequoia	5.83
				Green Mountains	3.50
				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 Mountains	4.50

SUMMARY OF WEATHER CONDITIONS

	Bridgeton				Hightstown			
	July	August	September	October	July	August	September	October
Number of days during which rain fell	9	6	8	10	16	8	14	14
Heaviest daily rainfall (in inches)	1.0	.40	.9	1.82	1.42	.69	.40	1.44
Lightest daily rainfall (in inches) .....	.04	.03	.03	.03	.06	.02	.01	.02
Total rainfall (in inches)	1.77	.79	2.15	5.87	4.01	2.14	1.10	5.80
Deviation from normal (in inches)	-2.68	-3.88	-1.16	+2.77	-0.91	-2.88	-2.11	+2.10
Average relative humidity at 7:30 A.M.* ...	79	77	82	84	81	79	81	81
Normal for month at 7:30 A.M.*	73	76	77	75	78	81	80	82
Per cent of possible sunshine*	52	64	53	39	63	65	65	44
Deviation from normal (per cent)*	0	+2	-10	-24	+3	+4	0	-13
Highest temperature reached	97	97	96	78	93	93	96	81
Average of high temperatures	88.5	88.7	79.6	64.4	85.4	86.3	77.8	65.0
Normal of the high temperatures	87.5	85.3	79.3	68.8	85.3	82.4	76.9	66.0
Lowest temperature reached†	49	54	41	33	49	49	36	29
Average of the low temperatures	65.6	64.8	55.4	44.5	63.5	61.0	52.7	43.5
Normal for low temperatures	66.2	64.8	57.8	46.9	63.8	62.1	55.4	44.8

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

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

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

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CLIMATOLOGICAL DATA—BRIDGETON AND HIGHTSTOWN STATIONS

Bridgeton—September

Hightstown—September

Day	Rainfall	Temperature		Rainfall	Temperature	
		High	Low		High	Low
1		95	66		92	63
2		95	68		93	66
3		86	65	T	75	62
4	.40	76	64		70	64
5		88	66	.01	87	63
6		95	69	T	95	68
7		96	71	.08	96	66
8	.03	80	66	T	77	66
9		87	55		87	53
10		75	54	.02	77	52
11		80	49		80	45
12		73	52		72	44
13		78	47		71	42
14		77	53	T	70	43
15	.23	82	60	.22	82	60
16	.07	90	61	T	87	58
17		78	59	.20	74	56
18		69	44		69	40
19		76	41		76	36
20		73	48	T	70	45
21	.36	70	60	.02	75	57
22	.06	78	55		73	60
23		82	61		83	53
24	.10	73	52	.15	72	51
25		65	48		68	43
26		66	42		67	41
27		77	42		77	39
28		80	49		85	45
29		81	46		72	48
30	.90	68	49	.40	63	51

Total 2.15 Average 79.6 Average 55.4 Total 1.10 Average 77.8 Average 52.7

CLIMATOLOGICAL DATA—BRIDGETON AND HIGHTSTOWN STATIONS

Day	Bridgeton—July			Hightstown—July		
	Rainfall	Temperature		Rainfall	Temperature	
		High	Low		High	Low
1		77	49		76	47
2		85	54		80	53
3		82	53		82	53
4		86	57		81	53
5	.22	90	68	.84	86	60
6		85	69	.07	83	60
7	.20	76	65	1.42	73	60
8		82	63		80	60
9		87	67	T	79	60
10		89	70	.22	87	60
11	.07	91	74	T	84	60
12	.04	95	70	T	89	70
13		88	70	.11	87	60
14	.05	90	72	.30	86	70
15		93	69		90	60
16		93	64		88	60
17		95	67		91	60
18		90	74		88	70
19		89	63		86	50
20		93	59		88	50
21		97	70	.49	93	60
22	T	94	70	T	87	70
23		87	64		83	60
24		91	63		90	60
25	.15	95	67	.39	89	50
26	1.00	82	67	T	84	60
27		90	65	T	92	60
28	.04	88	65	.11	87	60
29		91	72	.06	84	60
30		85	67		85	60
31		88	66		88	60
Total 1.77		Average 88.5	Average 65.6	Total 4.01	Average 85.4	Average 60.0

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CLIMATOLOGICAL DATA—BRIDGETON AND HIGHTSTOWN STATIONS

Bridgeton—August

Hightstown—August

Day	Rainfall	Temperature		Rainfall	Temperature	
		High	Low		High	Low
1		92	66		92	65
2		95	67		93	64
3		95	71		92	68
4		93	72	T	87	69
5		89	76	.31	85	71
6		86	61		85	56
7		67	61		84	53
8		93	65	T	90	62
9		93	67		90	61
10	.14	97	70	.53	91	67
11		89	70		89	67
12		95	67		90	63
13	.15	85	73	.02	84	69
14	.40	94	74	.33	92	72
15		91	63		85	60
16		90	62		87	57
17		84	71		83	66
18		80	58		78	54
19		80	59		81	49
20		87	54		84	49
21		90	59		83	55
22		89	59		88	58
23		92	60		93	57
24		94	63		91	61
25		94	66		91	64
26		94	68		91	66
27	.07	83	70	.69	77	61
28	.03	70	60	.26	73	56
29	T	75	55		75	52
30		82	63		83	61
31		93	60		88	59

Total 0.79 Average 88.7 Average 64.8 Total 2.14 Average 86.3 Average 61.0

CLIMATOLOGICAL DATA—BRIDGETON AND HIGHTSTOWN STATIONS

Bridgeton—October				Hightstown—October		
Day	Rainfall	Temperature		Rainfall	Temperature	
		High	Low		High	Low
1	.80	63	55	.64	71	53
2	.03	75	55	T	77	66
3		66	52		66	54
4		68	46	T	60	48
5		62	40		63	33
6		63	38		69	30*
7		75	41		80	42
8		78	45		81	43
9		78	46		81	48
10		70	48		69	45
11		63	38		62	30*
12		68	34		70	29*
13		70	36		75	36
14		75	50		77	46
15	.20	70	58	.65	70	55
16	.06	68	62	.36	76	60
17		66	43	.28	68	44
18		55	38		54	43
19		53	40	.06	54	37
20		58	39		54	38
21		63	38		66	37
22	.30	66	43	.11	61	37
23		60	45		59	40
24		59	38		58	37
25	.39	54	44	.31	51	43
26	1.50	53	48	1.44	50	44
27	.68	53	48	.74	57	48
28	1.82	56	49	1.16	55	51
29	.04	60	43	.02	60	44
30	.05	66	45	.03	58	48
31		61	33		59	43
Total 5.87		Average 64.4	Average 44.5	Total 5.80	Average 65.0	Average 43.5

* Killing frosts.

SEED CERTIFICATION AND RELATED WORK

TOMATO SEED CERTIFICATION

The ever-increasing demand for New Jersey certified tomato seed is indicated by the approximate increase of 650 acres certified in 1943 as compared with the preceding year.

During the 1943-1944 fiscal year, 36 seed treatment declaration certificates were issued at various times to four New Jersey seedsmen for validation of shipments to Cuba, Mexico, South Africa, and Porto Rico. These certificates covered 6,184 pounds of tomato seed and 249 pounds of pepper seed.

ACREAGE CERTIFIED

Name	Mar- globe	Rut- gers	Stokes- dale	Val- iant	Bonny Best	Garden State No. 37	Pritch- ard	Camp- bell No. 178	Total
Joseph White Company	324	960	....	..	....	....	....	..	1,284
Edgar Hurff Company	379	1,191	59	..	35	....	155	..	1,819
Francis Stokes Company	322	875	129	1	....	....	....	..	1,327
Campbell Soup Company	118	693	....	..	....	116	....	1	928
H. J. Heinz Company	....	143	....	..	....	....	....	..	143
Dr. Marcus Newcomb	....	3	....	..	....	....	....	..	3
Total	1,143	3,865	188	1	35	116	155	1	5,504

POUNDS OF SEED CERTIFIED

Seedsman	Mar- globe	Rut- gers	Pritch- ard	Val- iant	Bonny Best	Garden State No. 37	Stokes- dale	Camp- bell No. 178	Total
Campbell Soup Company	1,432	9,787	....	..	....	1,380	....	40	12,639
Edgar Hurff Company	11,319	40,701	4,848	..	1,184	....	1,937	..	59,989
Francis Stokes Company	18,171	32,860	....	34	....	....	6,082	..	57,147
Joseph White Company	7,639	29,067	....	..	....	....	....	..	36,706
H. J. Heinz Company	....	881	....	..	....	....	....	..	881
Dr. Marcus Newcomb	....	250	....	..	....	....	....	..	250
Total	38,561	113,546	4,848	34	1,184	1,380	8,019	40	167,612

VARIETAL DISTRIBUTION CERTIFIED TOMATO SEED ACREAGES

Year	Bonny Best	J. T. D.	Balti- more	Mar- globe	Val- iant	Break- O'Day	Stokes- dale	Rutgers	Grothens Globe	Prit- chard	Glovel	Garden State No. 37	Campbell No. 178	Total
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	3,504

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GRAIN SEED CERTIFICATION

Despite a very severe drought season which curtailed the yields of hybrid corn seed, and the extremes of rain in the field which reduced the yields of soybeans, the year of 1943 saw a slight increase in the amount of seed available to farmers for planting. Most of the seeds offered were easily disposed of with the exception of soybeans. Many growers had lots of seed unsold at the end of the season. Many farmers who were growing soybeans as an oil crop for the first time were disappointed in the yields and in their inability to get them harvested. This may be the reason for the drop in demand. Another reason often expressed was tied up in the economics of the crop as compared to the growing of corn which is used on the farms and the supplies of which, from western sources, have been very short.

A summary of the inspection results follows:

GRAIN SEED CERTIFICATION, 1943

Crop	Number of Growers	Acreage Entered	Acreage Passed	Bushels Sealed
Hybrid corn				
N. J. No. 2	16	160	160	3,523.5
N. J. No. 4	12	89	84	2,734.5
N. J. No. 5	2	9.5	9.5	204
Oats	10	156	98	1,408.5
Soybeans				
Harbinsoy	4	55	55	330
Granger	17	318	283	2,575
Chief	43	1,122.5	944.5	10,310.5
Hokkaido (vegetable type)	2	28	....	48
Winter wheat	11	346	310	3,917
Winter barley	12	175	175	3,023
Winter rye	1	2	2	....
Total	130	2,461.0	2,121.0	25,074.0

GRASS SEED CERTIFICATION, 1943

Crop	Number of Growers	Acreage Entered	Acreage Passed	Pounds Sealed
Velvet bent grass	1	9	9	175
Kentucky 101 red clover	1	30	30	1,440
Ladino clover	1	4.5	..	....
Total	3	43.5	39	1,615

RASPBERRY PLANT CERTIFICATION

Reduced plantings of raspberries in the berry section, a direct result of war time conditions and regulations, brought along a decrease in sales of certified raspberry plants. Eleven acres of plants were approved for three nurserymen.

STRAWBERRY PLANT CERTIFICATION

The strawberry plants of five dealers were inspected for the Red Stele disease. A total of 13 acres of plants proved satisfactory for plant sales.

NURSERY INSPECTION

Certificates of inspection were issued beginning September 1, 1943, to 429 nurseries. Certificates are issued only when the nurseries are found to be free of dangerously injurious insects and plant diseases upon inspection. Following is a list of insect infestations observed and the frequency of occurrence:

Insect Pests	Number of Infestations
Juniper Scale	65
Spruce Gall Aphid	35
Oyster Shell Scale	33
Rhododendron Lace Bug	32
Bagworm	30
Pine Sawfly (<i>Neodiprion sertifer</i>)	28
European Pine Shoot Moth	19
Pine Leaf Scale	17
Juniper Webworm	13
Taxus Mealy Bug	9
Azalea Lace Bug	11
Boxwood Leaf Minor	8
Euonymus Scale	6
Red Spider	4
White Pine Weevil	3
Lilac Borer	3
Willow Borer	3
Oriental Peach Moth	1
Tulip Scale	1
Pine Bark Aphid	1
Pine Tip Borer	1
Elm Scale	1
Dogwood Borer	1
Poplar Borer	1

In all, there were 121 nurseries in which 326 infestations were found. These infestations were satisfactorily controlled and certificates issued.

WHITE PINE BLISTER RUST CONTROL-AREA PERMITS

Under the provisions of Quarantine No. 63 of the United States Department of Agriculture, effective December 21, 1938, in order to prevent the spread of white pine blister rust in this State, currant and gooseberry plants (*Ribes* sp. and *Grossularia* sp.) may be shipped into New Jersey only after a "control-area permit" has been issued to the out-of-state consignor. From July 1, 1943 to June 30, 1944, a total of 1,481 permits was issued.

DEALERS' CERTIFICATES

Certificates were issued to 50 dealers in nursery stock for the year beginning September 1, 1943. These dealers signed agreements to purchase stock from listed certified nurserymen only.

SPECIAL CERTIFICATES

Special certificates are issued to nurserymen who desire to ship plant material to a state or a foreign country which has special requirements other than the copy of the certificate of inspection. The special certificate attests to the freedom of the stock from insects and diseases at the time of inspection (just previous to shipment). It is also issued, on request, to persons not in the nursery business who desire to make a small shipment or two to some point outside of New Jersey. A total of 131 of these certificates was issued.

REQUEST INSPECTIONS

Requests are received from time to time for advice in the control of various insects and in other nursery and horticultural problems. In some cases, special calls are necessary. Thirty-two such calls were made during the year ending June 30, 1943.

EUROPEAN CORN BORER SURVEY

In the fall of 1943, corn fields were sampled in 19 counties of New Jersey so that information as to the status of the population of this insect could be obtained. This survey has been carried on for several years and the same field methods have been used during that time. Thus, it has been possible to compare the actual number of larvae found per 100 plants in each of these counties for several years.

There follows a list of borers per 100 plants for each of the counties surveyed for the years 1942 and 1943. The average per cent of plants found infested in the 1943 sampling is also given.

County	Average Number Borers Per 100 Plants		Average Per Cent Plants Infested
	1942	1943	1943
Atlantic	23.6	17.8	13.5
Bergen	190.6	471.2	76.4
Burlington	273.4	395.8	72.0
Camden	182.7	212.5	5.5
Cape May	21.6	35.0	16.0
Cumberland	99.0	187.1	31.1
Essex-Union	75.8	359.0	63.6
Gloucester	95.8	124.8	31.2
Hunterdon	87.0	205.6	46.8
Mercer	166.4	762.4	71.6
Middlesex	437.0	459.4	62.4
Monmouth	273.8	391.6	62.4
Morris	40.8	270.0	50.8
Ocean	68.7	136.3	37.5
Passaic	154.2	163.2	40.0
Salem	29.4	121.4	24.4
Somerset	112.4	178.6	46.8
Sussex	17.2	81.6	22.8
Warren	32.0	114.4	34.8
Average for 19 counties	125.3	246.7	42.6

POTATO TUBER MOTH SURVEY

A large amount of cull potatoes and pick-outs from F. S. C. and F. D. A. potatoes stored in Moorestown were found to be heavily infested with potato tuber moths. In an endeavor to find the extent of and to eliminate any further infestations, a survey of the warehouses storing these potatoes and of the potato cellars and institutional dumps was necessary.

Eight commercial storage warehouses were inspected. The premises of these, including that storage plant which had dumped the infested potatoes, were found to be free of tuber moth. At the time the inspections were made only one unit still had these potatoes on hand and these were not infested. The others had shipped the potatoes either out of New Jersey or to State institutions for food. A list of State institutions utilizing these potatoes was obtained for inspection purposes.

Because of gasoline and tire shortage, form letters were sent to all the State agencies in order to eliminate those not growing their own potatoes, those storing the government potatoes only in commissary and those feeding pick-outs and culls to the hogs. Twelve institutions were inspected. Results were negative.

The large potato dump at Moorestown was not treated during the fall or winter since literature suggests that the tuber moth cannot withstand freezing temperatures. A periodic survey and sampling of the pupae population throughout the winter showed that the pupae were alive and

capable of emergence when warm weather should arrive. It was thus necessary to clean up this infestation. The pile was burned over with weed burners during late March and early April. Moths were found flying during the last treatment and it became necessary to cover the pile with sand and fumigate. The pile was covered with sand and gravel and fumigated with carbon disulphide. The State and Federal departments and Burlington County Road Department cooperated. This treatment completed the elimination of the infestation.

A compilation of the temperature tables for Moorestown from October, 1943 to the end of March, 1944 shows that this insect did not survive extremes of cold as found this far north. Over this six-months period there was a total of 112 days freezing weather of which only 34 were heavy freeze (below 20°). The winter sampling of pupæ and the emergence when brought into a warm room shows that the tuber moth can survive our winters under certain conditions and may possibly become a pest of potatoes, tomatoes, peppers, and eggplant.

GIPSY MOTH

On July 1, 1944, the Department distributed 600 gipsy moth assembling cages in Morris, Union, and Warren counties. The cages were carefully placed and patrolled during July, August, and the first part of September. No adult male gipsy moths were captured as a result of this work.

LOCATION OF CAGES BY TOWNSHIPS

Township	Number of Cages
Morris County	
Chatham	60
Chester	51
Mendham	63
Morris	51
Randolph	85
Union County	
Springfield	19
Union	21
Summit	15
Warren County	
Blairstown	50
Hope (and Liberty)	73
Knowlton	42
Oxford	70
Total	600

After the traps were taken up, the gipsy moth force began scouting operations in Bergen, Somerset, and Morris counties. The scouting was confined to open country and isolated trees, and small woodland blocks. This work continued until the foliage had dropped sufficiently to enable the men to work in the large woodland blocks. Heavy foliage makes scouting difficult and uncertain because of the poor light.

About the middle of October, heavy frost followed by rain and strong winds removed most of the foliage. Scouting conditions from then on were very good all season. In November, three of the nursery inspectors were temporarily transferred to gipsy moth scouting work and continued until spring. Inasmuch as the gipsy moth force carries only three scouts, the addition of these inspectors made it possible to cover much more ground. Because of the capture of several adult male gipsy moths across the Hudson River in New York State, considerable scouting was done in Bergen County along the Hudson River in Alpine, Englewood, Englewood Cliffs, and in Tenaflly townships. One crew worked in Passaic, Morris County, and in North and East Brunswick, Middlesex County. Since nothing was found in North Brunswick, East Brunswick, or Passaic, these townships are now considered free from gipsy moth infestation.

PLAN OF WORK FOR YEAR 1945

The number one threat of invasion by the gipsy moth is in the Palisades section of Bergen County. One adult male gipsy moth was captured at a trap in Englewood Borough. This trap was only three blocks from where one adult male moth was caught in 1939. Moreover, this summer one male moth was taken at a trap in New York State, in the town of Greenburgh. A moth was caught here last summer as well as two moths taken in Yonkers just south of Greenburgh. Therefore, it seems certain that there is a small gipsy moth infestation developing somewhere in this area, either in New York State, or in New Jersey, or perhaps in both. Much intensive scouting will be necessary in this area now, both by the State of New York, and by the New Jersey Department of Agriculture. Because of mileage restrictions, one crew will be assigned scouting work in the township of South Brunswick, Middlesex County. This township was quite generally infested some years ago. The travel here will be small.

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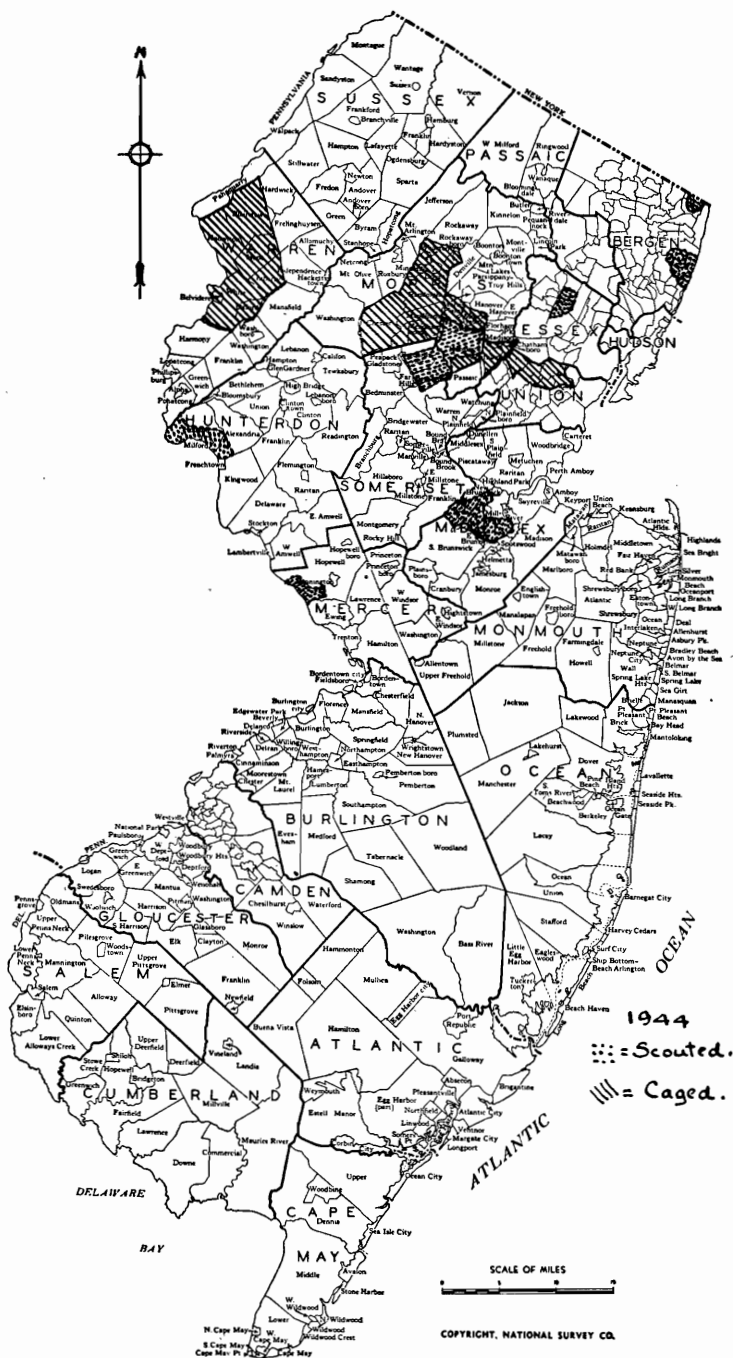
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ANNUAL SUMMARY OF SCOUTING AND TREATMENT WORK

Township	Acres Wood- land Scouted	Shade Trees Scouted	Fruit Trees Scouted	Isolated Trees Scouted
Bergen County—				
Englewood	380	5,850	....	....
Englewood Cliffs	560	1,200	....	461
Fort Lee	232	2,266	346	....
Rock Leigh	251	....	....	....
Tenafly	694	422	....	76
Essex County—				
West Orange	719	640	325	1,330
Hunterdon County—				
Alexandria	180	....	....	340
Holland	339	65	623	61
Mercer County—				
Hopewell	329	....	162	9,818
Morris County—				
Mendham	67	124	....	....
Passaic	706	451	332	8,769
Somerset County—				
Bernards	870	1,708	277	637
Middlesex County—				
East Brunswick	165	....	37	243
North Brunswick	418	....	....	136
Miscellaneous*	....	....	486	14,575
Total	5,910	12,726	2,588	36,446

* This scouting work was done in conjunction with other work in various localities, and is difficult to break down for any given place.

All scouting work was of a rough nature, with the exception of that in Bergen County where the men were very careful to check all important growth. The Department feels that an infestation of the gipsy moth here may be rather small at this time.



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BEE INSPECTION SERVICE

Regular bee inspection work was maintained throughout the season although it was necessary to group requests for inspections in order to conserve mileage. The majority of the beekeepers made every effort to cooperate, even though, in some instances, they were compelled to wait several weeks for inspection.

The winter scouting program, which was inaugurated some years ago in order to locate neglected colonies and to inspect dead colonies for disease, was discontinued in order that more mileage would be available for the seasonal inspection work. However, the importance of this work in controlling outbreaks of American foul brood cannot be disputed and will be resumed as soon as conditions permit.

The queen-rearing and package-producing apiaries received their seasonal inspections. All apiaries located within a reasonable distance of queen breeders and package bee producers were inspected in order to determine if any contagious bee diseases might be present.

The three leading races of bees reared within New Jersey are Italians, Caucasians, and Carniolans. There has been a continuous effort on the part of all breeders to improve their respective strains of bees and to meet the requirements of commercial honey production and pollination work.

APIARY INSPECTIONS

During the fiscal year, 1943-1944, 564 apiaries were visited for inspection; 5,864 colonies and 624 nuclei were examined for bee diseases.

American foul brood was found in 100 apiaries; and 290 colonies were infected with the disease. Information on how to destroy and burn diseased colonies was given to the owners in printed form. However, in six cases the owners failed to carry out instructions, and it was necessary to seize and burn 35 colonies. European foul brood was found in eight apiaries, 31 colonies being infected. All outbreaks of this disease were found in three counties in South Jersey. Queen bees in the diseased colonies were destroyed and young queens of resistant stock were introduced. So far, this method has controlled the malady.

The number of colonies found in plain boxes was 145, the majority of which were the results of improper control of swarming.

MICROSCOPIC DIAGNOSIS

Beekeepers continued to take advantage of microscopic diagnosis of any suspicious-looking dead bee brood. During the year, 74 smears of dead bee brood were received by mail and diagnosed microscopically.

The organism *B. larvae* causing American foul brood was found in 35 smears. The organism *B. pluton* causing European foul brood was found in 19 smears. In one smear, the organism of *Nosema apis* was found. This disease is prevalent in the southern part of the United States and affects adult bees, but so far has not caused any considerable alarm in New Jersey. Nineteen smears were negative.

CERTIFICATES ISSUED

Ten queen-rearing certificates were issued during the fiscal year.

County	Number of Certificates	Race of Bees
Burlington	2	Italians
Hunterdon	4	Italians, Caucasians and Carniolans
Mercer	2	Italians
Cape May	2	Italians

Eleven certificates of transfer were issued as follows:

County	Number of Certificates
Bergen	1
Cumberland	1
Gloucester	1
Hunterdon	1
Mercer	2
Passaic	2
Union	1
Warren	2

One certified honey certificate was issued to a resident of Burlington County.

APIARY INSPECTIONS BY COUNTIES

July 1, 1943, to June 30, 1944

County	Apiaries	Colonies	Nuclei	Box Hives	Cross Combed	Apiaries A. fb.	Colonies A. fb.	Apiaries E. fb.	Colonies E. fb.	Colonies Destroyed and Burned		Smears A. fb.	E. fb.
										Neg.			
Atlantic	1	10	..	1	..	..	..	..	..	1	1	1	..
Bergen	43	110	..	..	..	5	7	..	..	..	..	..	..
Burlington	34	677	..	2	1	8	20	5	24	1	3	4	2
Camden	..	..	..	..	..	..	..	..	..	..	..	1	..
Cape May	8	127	45	2	..	1	4	1	2	..	1	2	1
Cumberland	44	766	..	1	3	9	37	1	3	2	..	7	11
Essex	1	2	..	..	..	..	..	..	..	..	4	1	1
Gloucester	12	48	..	..	..	2	2	1	2	..	2	2	2
Hunterdon	79	1,323	456	17	29	13	42	..	..	12	2	..	..
Mercer	61	747	123	2	..	13	23	..	..	..	2	4	..
Middlesex	12	35	..	..	..	2	3	..	..	..	..	..	..
Monmouth	9	83	..	..	..	..	..	..	..	..	..	1	..
Morris	36	272	..	..	4	12	28	..	..	..	1	3	..
Passaic	71	321	..	..	..	13	30	..	..	2	..	..	..
Salem	3	126	..	..	..	..	..	..	..	..	..	..	2
Somerset	18	91	..	..	1	3	7	..	..	..	..	1	1*
Sussex	62	648	..	87	23	7	64	..	..	17	3	2	..
Union	17	48	..	..	..	3	5	..	..	..	..	3	..
Warren	53	429	..	33	18	9	18	..	..	..	..	3	..
Total	564	5,863	624	145	79	100	290	8	31	35	19	35	19

* Nosema apis.

DUTCH ELM DISEASE

The long expected termination of WPA and the consequent loss of this support to the Dutch Elm Disease Control Project in New Jersey became a reality in February, 1943. Relief monies from several sources were available to this project from the years 1934 to February, 1943, inclusive. Table 1 presents information pertaining to the various federal appropriations and State contributions for the period during which this project has been operating. Of the approximate \$19,000,000 relief money expended, about 30 per cent was allocated for work in the State of New Jersey. Table 2 indicates the number of WPA men employed in New Jersey during the period July, 1935 to February, 1943, inclusive.

Examination of Table 1 and Table 2 must lead to the conclusion that a considerable amount of money and a considerable number of man-days have been spent in New Jersey in behalf of this work. An analysis of the accomplishments is timely.

Dutch elm disease control work in New Jersey as initially conceived, had for its objective the eradication of the Dutch elm disease. By 1938 the entire northern half of New Jersey was involved. This area was reasonably well scouted for diseased trees, and also for trees which were considered contributory to the problem by virtue of their being suitable for the breeding of the bark beetles known to carry the fungus from one tree to another. During the early days of the project, many conditions unfavorable to the well-being of elms were encountered in both urban and rural sections. Many of the urban centers, then and even today, had no organized shade tree service for the maintenance of the shade and ornamental trees within their political units. Many thousands of decrepit, broken, deformed and devitalized elm trees, classified as a menace with respect to this project, were removed and destroyed. Even if such trees were, at the time of removal, not directly involved in the spread of the disease, their declining condition would most likely have been an invitation to bark beetles as years progressed. These trees were removed at no direct cost to the property owners, or if municipal trees, to the municipality in which they were situated.

In the rural areas, scouting was conducted in a careful manner. Much clean-cutting work was done in areas where the disease incidence was high, or scouting work difficult. Aside from contributing to the control of the Dutch elm disease, the removal of elm trees from woodlots is deemed to have provided a real silvicultural service in that the elm, a species of little market value, was cut, thereby removing competition suffered by the more merchantable species, pin oak and red maple.

A general appraisal of the benefits of the sanitation and eradication work done to date must be viewed with considerable satisfaction in that many trees, which ordinarily would have remained intact, were removed and burned in the belief that they represented a potential menace to the

TABLE 1

FEDERAL APPROPRIATIONS AND STATE COOPERATIVE CONTRIBUTIONS FOR DUTCH ELM DISEASE ERADICATION

	FISCAL YEAR											
	1931-34	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	Total
Federal—												
Emergency	.....	\$351,020	\$563,190	\$2,730,000	\$4,315,882	\$2,870,686	\$3,009,289	\$2,002,085	\$1,668,874	\$1,646,900	\$250,661*	\$19,408,587
Budgetary	.....	.....	152,996	261,156	261,156	460,860	478,489	500,000	400,000	353,345	356,475	3,224,477
State—												
Connecticut	.....	.....	1,500	20,000	5,000	42,500	7,985	10,000	6,500	5,000	4,580	103,065
Indiana	.....	.....	.....	.....	500	3,000	5,000	5,000	1,875	3,200	.....	18,575
Massachusetts	.....	.....	.....	2,500	3,000	.....	5,000	5,000	5,000	5,000	5,000	30,500
New Jersey	.....	5,000	55,000	50,000	39,000	41,580	38,189	37,755	41,430	39,830	37,885	385,669
New York	.....	.....	200,000	177,000	127,000	127,000	154,195	125,995	99,783	102,000	85,765	1,198,738
Ohio	\$25,000	.....	625	625	750	.....	.....	.....	.....	.....	.....	27,000
Rhode Island	.....	.....	.....	6,000	5,000	.....	1,500	1,500	1,500	1,500	1,500	18,500
Maryland State (University)	.....	.....	.....	.....	.....	.....	500	500	500	500	.....	2,000
Pennsylvania	.....	.....	.....	.....	.....	.....	.....	.....	750	.....	.....	750
Total	\$25,000	\$356,020	\$973,311	\$3,247,281	\$4,757,288	\$3,545,626	\$3,700,147	\$2,687,835	\$2,226,212	\$2,157,275	\$741,866	\$24,417,861

* To February 1, 1943—Termination of W. P. A. assistance.

TABLE 2

NUMBER OF W. P. A. WORKERS ON DUTCH ELM DISEASE CONTROL PROJECT IN NEW JERSEY

1935	July	1,823	1938	January	2,278	1940	January	479	1942	January	281
1936	January	2,054		July	1,651		July	754		July	116
	July	1,230	1939	January	1,586	1941	January	510	1943	January	77*
1937	January	4,050		July	1,409		July	255			
	July	3,092									

* W. P. A. assistance terminated January 31, 1943.

remaining elm trees of desirable shape and state of health. It is safe to appraise this work by making the statement that the sanitation work heretofore conducted certainly represents a decided improvement in the conditions generally of elm trees, and undoubtedly contributed to the rapidly declining rate of disease incidence following the consequences of the silvicing misfortune.

Obviously a sharp reduction in personnel demands that general public assistance be forthcoming if the tempo of the previous program are to be met, even in part. Furthermore, the New Jersey Department of Agriculture had arranged with owners of trees condemned because of Dutch elm disease infection or beetle infestation for the removal of these trees with State labor. The Department now has had to advise such property owners that this work could not be done in accordance with previous agreements. This circumstance, in addition to many others, led to the issuance of the memoranda which are annotated below :

Notification of Change of Policy

This general memorandum was issued principally to enlist the aid of the New Jersey property holders in the disposition of elm wood prior to specified dates to preclude beetle emergence; and to report to our East Orange office the location of trees suspected of a Dutch elm disease infection.

Notification of Inability to Perform Work

This memorandum was addressed to owners of trees who had given their permission for pruning or eradication work, advising such owners that the State could not fulfill the agreement already made, and recommending that the property owner perform, so far as his abilities permit, the work which this Department had undertaken.

Memorandum to Shade Tree Commissions

This memorandum notified Shade Tree Commissions throughout the State of our change of policy from one of entire State and Federal work to one of State supervision for work done by private or public agencies. Furthermore, each Shade Tree Commission was advised of the number of trees and their locations which had been listed by this Department for eradication or pruning work, thereby enabling such a commission to assume an interest in the disposition of each of these cases.

Notice to Public Utilities and Line Clearance Companies

This memorandum was sent to each of the enlisted utilities in New Jersey having any connection with line clearance activities. The disposition of elm wood cut during two specifically mentioned periods was emphasized.

Memorandum to Lumbermen for Cutting Elm Wood in New Jersey

This memorandum requested lumbermen handling elm wood at any of their lumbering operations to dispose of the elm slash in a manner prescribed so that the elm bark beetle menace might not become a significant factor.

The foregoing enumerated memoranda mark a radical change in policy of this project. Prior to January 1, 1943, this Department, by virtue of State law, quarantined, condemned, and frequently removed and burned elm trees known to be infected or potentially dangerous from a beetle standpoint. This plan precluded any property owner interference. The policy beginning January 1, 1943, represents a complete reversal of this plan whereby the property owner is not forbidden to interfere with the disposition of such trees, but actually encouraged owners to assume responsibility of the disposition of diseased or infested trees, inasmuch as such a service would no longer be forthcoming from the State and Federal Government cooperative effort.

An examination of the experiences in eight years' participation in this work caused one factor to become very luminous. The complicity of elm wood as the part of a diseased tree, a hanger caused by storm damage, felled trees for clearance operations, or wood piles must be viewed as elements deserving consideration. The spread of the fungus from tree to tree is almost entirely through the agency of the smaller bark beetle *Scolytus multistriatus*. The transmission of the fungus from a diseased tree to a healthy tree through root graft represents only a small portion of the diseased trees which have been found to date.

The conviction that cut elm wood suitable for bark beetle breeding constitutes a hazard has been derived from a number of field experiences. Three of these are mentioned and amplified here.

1. During the early days of this project in New Jersey, a considerable number of trees infected with Dutch elm disease were found on the East Orange Watershed property. This disease outbreak was attributed entirely to the woodpiles located at various places on the reservation. These woodpiles represented thinnings, most of which were elm. Bark beetles attacked this wood and the progeny emerged in great numbers. Since these woodpiles have been made free of elm wood, the incidence of disease at this location has fallen to a very low level.

2. During the year 1941, an area between Raritan River and River Road just west of the borough of Highland Park was cleared, graded and landscaped for the creation of a site known as Johnson Park. The clearance involved a considerable number of small elm trees. The wood from the elms was cut into fireplace lengths for use by the picknickers in the open fireplaces which were constructed in the park. The elm in these woodpiles was vigorously attacked by the beetles in 1941. The emergence of these beetles in 1942 and their subsequent feeding on the remaining elm trees

resulted in the detection of 38 confirmed Graphium cases before the close of the season. All these Graphium trees were promptly removed. Elm wood from the wood pile was likewise burned. In the summer of 1943, 10 more wilting trees had been observed. This area had been carefully scouted before the initiation of the Park creation plan, and no diseased trees found there. However, cutting of the elms and the salvaging of the resultant wood for fireplace wood attracted the bark beetles in such numbers that the resultant generations caused the infection and death of approximately 25 trees to date.

3. During the summer of 1941, clearance for a power line involved the felling of 21 small elm trees in a ravine at Marksboro, Warren County. These felled trees were left on location. In 1942, 20 diseased trees were discovered within 300 feet of the elm wood. In 1943, eight additional trees were detected. A careful analysis of all the conditions in this area lead unmistakably to the conviction that these felled elm trees attracted bark beetles carrying the fungus, and that the subsequent multiplication of beetles resulted in the transmission of the fungus from this wood to nearby trees and the initiation of infection.

These three examples of the complicity of recently cut elm wood in the spread of the disease are rather convincing. Although the disease can in all likelihood become intensified by virtue of such wood and the work of the bark beetle, undoubtedly many of the elms of general infection can be attributed to man-made conditions: the accumulation of woodpiles for firewood, the clearance of trees for park construction, and the felling of trees for power line construction, etc.

Cut elm wood, hangers, diseased and devitalized trees usually present an attractive and suitable accommodation for the construction of egg-laying galleries by the female bark beetle. Male bark beetles, mites, and other insects visiting several galleries can well serve in carrying the Dutch elm disease fungus from galleries constructed by infested beetles to galleries initially free from the fungus. Thus one Graphium beetle can initiate a general infestation of beetles emerging from nearby galleries. Of these beetle materials, the cut elm wood is certainly the most readily controlled and removed-from-hazard category.

Termination of WPA support for this work in New Jersey has resulted in a very reduced personnel. In July 1943, approximately 35 State and Federal Government men were working in the State of New Jersey. The best that can be hoped for is that these men can aid property owners and shade tree commissions in detecting diseased trees, advising them, and also searching for woodpiles which may serve as a new focus for the infection of many trees in the immediate environs.

Realizing the importance of cut elm wood in the spread of the disease, the New Jersey Department of Agriculture conducted a woodpile survey in a number of New Jersey towns where the disease had been of significant proportions. Table 3 lists towns in which woodpile surveys were con-

ducted, the number of woodpiles found, and the number of woodpiles containing elm wood. Elm fuel wood owners were advised that such wood should either be debarked, immediately burned, or stored in a dry cellar. Table 4 indicates the degree of compliance by involved property owners to the recommendations which were made to them at the time of finding elm wood in their woodpile.

The Dutch elm disease control project in the State of New Jersey is enacting many changes of policy, largely occasioned by the absence of a sufficient number of men to conduct the work on the basis of previous years. However, the information and experiences which have been gained by eight years intimate contact with this work should enable those charged with the administration to greatly assist individual property owners in the removal of hazards which may have arisen on their property. Various schemes were given field trial during the summer of 1943. All aimed at the attainment of information which might lead to the better utilization of time and effort of the men on the project. However, the principal burden of work must be shifted from State and Federal Departments of Agriculture to the individual property owners. At the present time, the property owner who is confronted with the problem of pruning or removing the diseased tree may encounter difficulty in hiring competent help. This is to be expected during the period when available manpower is either drafted into the armed forces or attracted to war industries paying generous salaries.

The New Jersey Department of Agriculture cooperated with the Federal Department of Agriculture in conducting the following investigations.

1. A study of the spread of the disease: Three plots were established—Ridgewood, Princeton and Morristown—each area involving about 75 square miles. An estimation of the infested bark beetle material and the scouting for several years for trees infested with Dutch elm disease should yield information as to the trend of the disease in the absence of any intensive sanitation work such as has been conducted in previous years. The results of this study should serve as a guide for recommendations to municipalities interested in the pursuit of Dutch elm disease control work on a basis which will justify the expenditure of reasonable sums of money and labor assignments.

2. Beetle Trapping: Trap logs were established in 180 locations throughout the northern half of New Jersey to estimate bark beetle abundance. This trapping material was selected and placed in accordance with the best available information of the federal entomologists at Morristown. For some unaccountable reason, this trapping material was largely ineffective, even though in previous years similar material, similarly placed, attracted many beetles. The various climatic factors operating during the conduct of this trapping will be examined to ascertain the reason for the very poor attraction of beetles to these trap logs.

3. The Flight of Bark Beetles: In the establishment of line limits for the performance of sanitation work in behalf of Dutch elm disease control, the question of the spread and flight of the beetles must become a necessary consideration. Currently available information on the subject is not very helpful. A large scale experiment was established in Lebanon State Forest, Burlington County, to ascertain the distance which bark beetles would travel from the logs from which they emerged to trap logs placed at various distances from these disbursing centers. Although approximately 67,000 beetles were liberated from infested logs placed at the very centers of the plots, a very low percentage of these were recovered from the trap logs placed according to past experimental procedure. The fate of the escaped or untrapped beetles is not known.

However, a sober examination of many experiences of this project in the past ten years permits the construction of a plan of control which offers fair promise to the salvation of the American elms in the now-known area of infection. The fate of the elm trees in New Jersey is far removed from a hopeless condition. Currently, information is gained which yields further encouragement that the disease, once thought to spell doom to the elm population of the United States, can be controlled within reasonable limits by adherence to a principle of sanitation—the disposition of elm wood suitable for the multiplication of bark beetles.

TABLE 3
WOOD PILE CHECKING—SPRING 1943

County	Town	Man-Days	Wood Pile (No Elm)	Wood Pile (With Elm)
Bergen	Englewood	12	136	9
	Ridgewood	13	254	5
Burlington	Bordentown	2	8	1
	Burlington	2½	77	..
Essex	West Orange	30	120	28
	Montclair	45	220	14
	East Orange	30	57	6
	Glen Ridge	6	31	1
	Cedar Grove	8	51	1
	Verona	8	57	2
	Bloomfield	9	98	6
	West Caldwell	6	64	3
	Caldwell Township	2	29	1
	Caldwell	4	24	1
	North Caldwell	2	12	1
Hunterdon	Lambertville	5	15	2
	High Bridge	8	20	12
	Frenchtown	5	11	..
	Flemington	5½	26	4
	Clinton	2	12	2
	Annandale	1	6	2
	Califon	2	16	7
	Glen Gardner	½	12	..

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County	Town	Man-Days	Wood Pile (No Elm)	Wood Pile (With Elm)
Mercer	Princeton	50	67	16
	Trenton	16	44	2
	Lawrenceville	3	8	1
	Pennington	3	23	3
	Hightstown	3	23	..
	Hopewell	1	17	..
Middlesex	New Brunswick	10	...	1
	Highland Park			
	Johnson Park	6	...	1
Monmouth	Red Bank	16	16	..
	Shrewsbury	7	9	..
	Little Silver	5	12	..
	Rumson	10	26	..
	Matawan	2	3	..
Morris	Morristown	9	25	..
	Madison	7½	61	4
	Chatham	7½	123	8
	Boonton	7½	53	6
	Rockaway	2	20	3
	Wharton	2	10	1
	Dover	6	24	..
	Mountain Lakes	3	30	1
	Butler	2	14	1
	Denville	4	37	2
	Millington			
	Sterling	4½	29	2
	Gillette			
Passaic	Clifton	14	117	11
	Passaic	8	32	3
	Paterson	14	38	4
Somerset	Somerville	7	12	2
	Bernardsville	6	26	..
	Bedminster	½	3	..
	Basking Ridge	½	4	1
	North Plainfield	1	22	1
	Bound Brook	3	11	1
Sussex	Newton	2	11	..
Union	Plainfield	8	15	..
	Westfield	24	201	18
	Summit	18	120	9
Warren	Phillipsburg	13	6	1
	Washington	5	10	1
	Oxford	½	...	..
	Bloomsbury	½	...	..
	Hackettstown	6	10	3
	Blairstown	1	7	2
	Belvidere	4	9	4
Total		531½	2,684	221

TABLE 4
RESULTS OF RE-CHECKING WOOD PILES—MAY 1943

County	Town	Total Number of Elm Piles Found	Total Number Piles Burned, Debarked, or Properly Stored	Number of Piles Still on Location
Burlington	Bordentown	1	...	1
Hunterdon	Lambertville	2	2	..
	Flemington	5	3	2
	Clinton	1	...	1
Mercer	Princeton	16	10	6
	Trenton	2	2	..
	Pennington	3	2	1
Middlesex	New Brunswick	1	1	..
	Highland Park	1	1	..
Morris	Chatham	8	5	3
	Boonton	6	4	2
	Butler	1	1	..
	Denville	2	1	1
	Madison	4	3	1
	Rockaway	3	3	..
	Wharton	1	1	..
	Mountain Lakes	1	1	..
	Millington	1	1	..
Somerset	Stirling	1	...	1
	Basking Ridge	1	1	..
	Bound Brook	1	...	1
	North Plainfield	1	...	1
	Somerville	3	3	..
Union	Westfield	18	15	3
	Summit	9	7	2
Warren	Belvidere	3	3	..
	Blairstown	2	2	..
	Hackettstown	3	2	1
	Phillipsburg	1	1	..
	Washington	1	...	1
Total		103	75	28

JAPANESE BEETLE QUARANTINE ACTIVITIES FOR FISCAL YEAR 1943-44

The activities of the year ending June 30, 1944 show an increase over those of the year ending June 30, 1943.

The nursery and greenhouse business slumped to the tune of 3,036,294 less plants certified than last year. Shipments certified for destinations outside the regulated area dropped 52 per cent while shipments certified for delivery inside the regulated area increased 24 per cent over last year.

The use of ethylene dichloride dip and methyl bromide gas as certifying agents is causing a reduction in the use of arsenate of lead as a soil insecti-

cide. These new insecticides are gaining popularity among plant shippers especially during the present period of labor shortage. They are time savers and fit in well with the technique of nursery practice.

In the certification of farm produce, a total of 2,188 carloads were treated for certification with methyl bromide, 2,175 carloads of which were white potatoes. This year was the first time methyl bromide was used in fumigating truckloads of farm produce. Twenty-four truckloads were treated. Produce certified by this method comprised apples, beets, blueberries, beans, cabbage, carrots, eggplant, onions, peppers, squash, and tomatoes.

In cases where equipment for fumigation was not available, manual inspection was used. There were 42 truckloads and five carloads certified, of which 37 truckloads were potatoes and the balance were shipments of mixed vegetables and fruits.

The fumigation requirements were lifted on August 27, 1943 and from then until September 9, 1943 when the summer quarantine was lifted, some 892 carloads and two truckloads of potatoes were certified, and two truckloads of mixed produce.

The fumigation of carloads of potatoes was conducted by the Pennsylvania and Central Jersey railroads at four points in New Jersey; namely, Trenton (with yards at Morrisville, Pennsylvania), Matawan, Bridgeton, and Deerfield.

Truck fumigation was conducted with State equipment. The State Department of Agriculture provided the methyl bromide and applicators and charged at the rate of one dollar per pound for the fumigant. The money collected from this service was turned over to the State Treasurer since there is no authority for applying the funds to replenish equipment.

Temporary inspectors for the summer season were paid from both State and federal funds.

SHIPMENTS OF FARM PRODUCE CERTIFIED BY FUMIGATIONS (CH_3Br .)

Commodity	Railroad Cars	Units	Trucks	Units	Cars and Trucks	Units
White potatoes	2,175	653,047	..	....	2,175	653,047
Apples	1	516	..	....	1	516
Beets	....	....	1	368	1	368
Cabbage	5	2,269	5	1,770	10	4,039
Onions	2	1,000	..	....	2	1,000
Tomatoes	....	....	7	5,673	7	5,673
Mixed vegetables*	1	569	11	6,635	12	7,204
Blueberries	4	4,195	..	....	4	4,195
Total	2,188	661,596	24	14,446	2,212	676,042

* Mixed vegetable cars and trucks consisted of beans, peppers, squash, carrots, beets, tomatoes, and eggplants.

STATE DEPARTMENT OF AGRICULTURE

SHIPMENTS OF FARM PRODUCE CERTIFIED BY MANUAL INSPECTION

Commodity	Railroad Cars	Units	Trucks	Units	Cars and Trucks	Units
White potatoes	..	....	37	8,166	37	8,166
Apples	..	....	1	400	1	400
Mixed vegetables	5	2,337	4	1,046	9	3,383
Total	5	2,337	42	9,612	47	11,949

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

Commodity	Railroad Cars	Units	Trucks	Units	Cars and Trucks	Units
White potatoes	892	267,600	2	425	894	268,025
Mixed	..	....	2	493	2	493
Total	892	267,600	4	918	896	268,518

CUT FLOWERS CERTIFIED, 172 BOXES

SHIPMENTS OF FARM PRODUCE UNDER "P" PERMIT

Commodity	Trucks	Units
White potatoes	6	1,811

EMPTY RAILROAD CARS FUMIGATED WITH CYANIDE, 4

TOTAL AMOUNTS OF PLANTS, SAND, SOIL, PEAT, COMPOST, ETC., SHIPPED

Month	Outside Area		Inside Area	
	Plants	Sand, Soil, etc.	Plants	Sand, Soil, etc.
1943 July	247,553	.....	99,174	750 lbs.
August	79,533	.....	8,750	.....
September	92,704	.....	64,298	5,000 lbs.
October	407,741	.....	179,204	.....
November	315,689	.....	190,582	.....
December	116,751	.....	74,061	.....
1944 January	115,752	.....	56,202	.....
February	205,221	.....	142,875	.....
March	364,975	.....	286,536	.....
April	575,043	.....	367,210	.....
May	416,782	.....	683,832	.....
June	448,016	.....	227,745	.....
Total	3,385,760	.....	2,380,469	5,750 lbs.

SUMMARY OF PLANT TREATMENTS

Agent	Plants Treated	
Ethylene dichloride	425,099	
Methyl bromide (chamber)	579,647	
Methyl bromide solution	15	
Lead arsenate (initial treatment)	38,079	(326,244 sq. ft.)
Lead arsenate (re-treatment)	19,994	(398,303 sq. ft.)
Lead arsenate (no lead required)	36,810	(1,314,685 sq. ft.)
Total	1,099,644	

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POTTING SOIL TREATED

Agent	Cubic Yards
Carbon disulphide	496.042
Steam	16

SURFACE SOIL TREATED

Agent	Square Feet
Arsenate of lead	2,970
C.S. ₂	700
Napthalene	4,225
CH ₃ Br	2,202

HEELING IN AREAS, ETC., ARSENATE OF LEAD (SQUARE FEET)

Initial	Re-treatment	No Lead Required
675	14,224	65,820

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

Number of establishments dealing in nursery and ornamental stock, etc.:

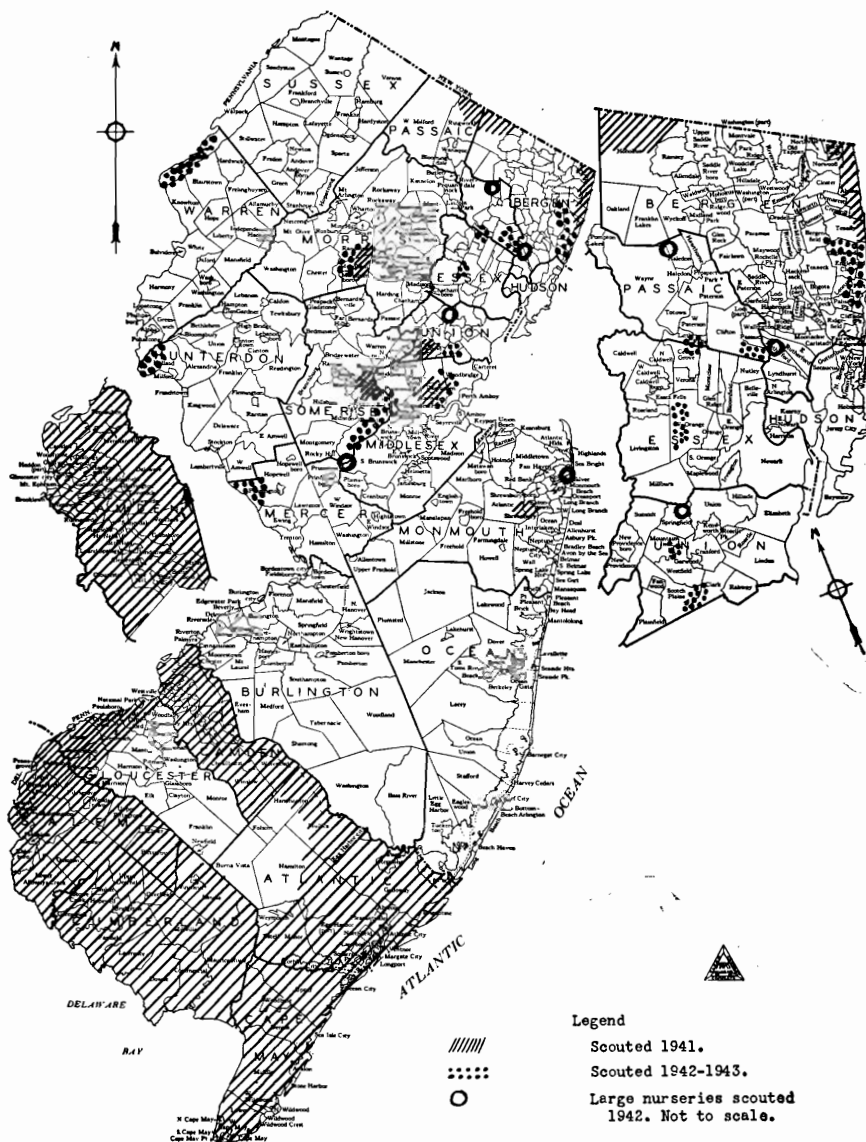
Nurseries	30
Greenhouses	8
Nurseries and greenhouses	39
Plant growers	42
Miscellaneous establishments	6
Total	125

MEN EMPLOYED

	Month	Farm Products		Nursery and Greenhouses		Totals	
		Federal	State	Federal	State	Federal	State
1943	July	5	3	10	12	15	15
	August	6	3	10	12	16	15
	September	2	3	10	12	12	15
	October	2	..	12	13	14	13
	November	..	..	12	14	12	14
	December	..	..	11	13	11	13
1944	January	..	..	5	12	5	12
	February	..	..	5	11	5	11
	March	..	..	9	12	9	12
	April	..	..	10	14	10	14
	May	..	..	10	15	10	15
	June	..	4	10	12	10	16

Number of Automobiles Operated Each Month During the Year

1943	July	4	14	..	4	4	18
	August	5	14	..	3	5	17
	September	3	14	..	14	3	18
	October	..	..	1	17	1	17
	November	..	..	2	17	2	17
	December	..	..	..	16	..	16
1944	January	..	..	..	14	..	14
	February	..	..	..	14	..	14
	March	..	..	4	14	4	14
	April	..	..	2	14	2	14
	May	..	..	4	14	4	14
	June	..	..	5	15	5	15



JAPANESE BEETLE SURVEY

INSPECT PARASITE INVESTIGATIONS

The cooperative agreement between the State Department of Agriculture and the Federal Bureau of Entomology and Plant Quarantine was continued throughout the year.

Insect parasite investigations were directed in the following channels for the fiscal year 1943-1944: (1) the rearing and field distribution of *Microplectron fuscipennis*, a parasite of the European pine sawfly; (2) field distribution and laboratory and field studies of the fungus *Beauveria bassiana* as a pathogen for adult Japanese beetles; (3) continued field studies of the survival and natural spread of the nematode *Neoaplectana glaseri*, a parasite in Japanese beetle larvae; (4) work with nematodes as parasites in White Fringed beetle larvae, this being done in cooperation with the Federal Government laboratory at Gulfport, Mississippi; (5) rearing and field distribution of *Macrocentrus ancylovorus*, the most effective control agent for the Oriental fruit moth in New Jersey.

REARING AND FIELD DISTRIBUTION OF *Microplectron fuscipennis*

The severe depredations of the European pine sawfly, *Neodiprion sertifer*, in plantations of red and Scotch pine, continued unabated during the year. The northern half of New Jersey is generally infested by the sawfly, the southern boundary being a line from Trenton to Imlaystown to Freehold to South Amboy. This infested area contains the major plantings of these susceptible pines. The most serious sawfly infestations are in Essex, Morris, and Somerset counties. Scoutings in the vicinity of Imlaystown have so far failed to determine the presence of this sawfly in native pines.

The following observations made on the life history of *Neodiprion sertifer* are of interest, and aid in any attempt at control. This sawfly is an importation from Europe, where it is widely distributed. It is known to be a serious defoliator of *Pinus resinosa*, *P. sylvestris*, *P. densiflora*, *P. montana*, *P. banksiana*, *P. nigra*, and *P. ponderosa*. There is reason to believe that it can maintain itself on *P. echinata*, one of the important pines of southern New Jersey. In mixed plantings, migration of the sawfly larvae from partially or completely defoliated red pine to white pine, and even Norway spruce, has been observed. These migrated larvae fed to maturity and produced normal cocoons on the unnatural host plants. It seems probable that the oviposition instinct of the female sawfly determine the species attacked, and that normally immune species of conifers are acceptable food for the larval stages. Female sawflies oviposit only in the coarse-needled pines, as exemplified by red, Scotch, mugho and Austrian pine. Therefore, as the sawfly extends its range in the United States it is likely that new host pines will become available and the insect become a major pest of important economic forests.

In the vicinity of Trenton, adult sawflies emerge from the cocoons about September 6, and the first oviposition was observed September 13. The peak of adult abundance occurs about September 27, at which time newly-deposited eggs could be found in abundance in the terminal needles of the pines. Some sawflies continue to emerge during the first half of October. The winter is passed in two ways by this insect: (1) as over-wintering eggs, inserted in slits made in the terminal needles of susceptible pines, (2) a small proportion, possibly 5 per cent, of each year's cocoons pass the winter in diapause as larvae. These emerge as adults the following fall, making a 2-year life cycle for a small percentage of *N. sertifer*.

The overwintered eggs hatch between April 26 and May 1. This is, of course, somewhat delayed in the northern sections of New Jersey. By the end of May, defoliation of the infested trees is severe, and many fully-grown larvae are found, although newly spun cocoons are rare. By June 11, cocoons are usually common, and cocooning seems to be complete by June 15. The summer is passed in the cocoon, during which time the insect successively develops from larval to prepupal to pupal and the adult stage, when emergence again occurs in late September and early October.

The egg stage of *Neodiprion* is relatively free from attack by either parasites or predators. The feeding larval forms are not attacked to any extent by birds and other predators, but are parasitized to some extent by tachinid flies. The cocoons are attacked by a number of native and introduced insect parasites, and significant numbers are destroyed by these. Rodents destroy a small proportion of the cocoons. As many as 50 per cent of the insects may be destroyed in the cocoons by various parasitic fungi, which collectively are at present the most significant of the natural control factors. The percentage of cocoons destroyed by fungi increases with the length of time a plantation is infested. However, the fungi seem to be universally present in the infested plantations and it does not appear that anything could be gained by an attempted distribution of the causative organisms.

Certain native hymenopterous parasites have adapted themselves to *Neodiprion* cocoons, and are significant factors in control. These parasites soon automatically appear in infested plantations, and probably little could be gained by attempting to aid in their distribution.

In 1939, liberations of a small chalcid parasite, *Microplectron fuscipennis*, were made by the Morristown laboratory of the Federal Division of Forest Insects. These parasites were obtained from the New Haven, Connecticut, Federal laboratory where they were being reared to combat the spruce sawfly. After 1940, the rearing work at New Haven was terminated, and it was decided to begin rearing *Microplectron* at the White Horse (New Jersey) laboratory for distribution in New Jersey. The rearing and distribution of this parasite has been continued in this laboratory since 1940.

Microplectron fuscipennis is a small hymenopterous insect, about 0.15 inches in length, and jet black in color. The adults are very active, and are continuously moving about in and on the forest duff. Most of their travel is made by walking or a succession of rapid jumps, but they are capable of sustained periods of flight. The parasite rapidly disperses itself over considerable distances, having been found as far as 5 miles from the liberation point the second season after liberation. The female parasite drills into the host cocoons and deposits her eggs on the integument of the host insect. Most females oviposit but once, in one cocoon, depositing the average of 30 eggs. These eggs soon hatch, and the larval parasites kill the host insect and either partially or completely devour the cadaver. They then transform to pupae, then adults, and the latter chew a small exit hole in the host cocoon and emerge. Mating occurs immediately after emergence. The female parasites are ready to oviposit within a day after emergence. The adult life-span in the forest seems to be from a week to 10 days. Under forest conditions 19 days is probably an average time per generation. About 6 generations of the parasite can occur in the summer, as contrasted with the single yearly generation of the host, *Neodiprion*. In nature, the sex ratio is about 8 females to 1 male, which is another distinct advantage of this parasite. The parasite has an enormous ratio of increase due to the rapidity of development, the number of eggs per female, and the exceptionally favorable sex ratio. Our studies extending over 2 years in the field indicate that the only reason it does not entirely overwhelm the host in a short time is that the parasite is unable to reach those sawfly cocoons which are deeply hidden in the forest duff.

Microplectron parasitizes from 15 per cent to 20 per cent of the *Neodiprion* cocoons in plantings having a very heavy duff cover; with light duff cover the parasites destroy more than 45 per cent of the host cocoons.

DISTRIBUTION IN NEW JERSEY

Distribution of this parasite in New Jersey is a reasonable procedure for the protection of susceptible pines, and it is possible that eventually the sawflies will be brought under a sufficient degree of control to prevent the annual complete defoliations of the plantings.

In no case has *Microplectron* failed to establish and maintain itself in an infested forest, and field surveys have shown that it rapidly disperses over distances as great as 5 miles.

In July, 1942, a program for the general distribution of *Microplectron* in the sawfly-infested plantings of New Jersey was begun. During the winter of 1943, a detailed survey of the pine plantings in the infested area was conducted; maps and card indexes were prepared in order to thoroughly and intelligently distribute the parasite and evaluate the results later. By June, 1943, equipment was ready for the large scale rearing of *Microplectron*.

During the summer of 1939, the Federal Division of Forest Insects released an estimated 500,000 *Microplectron* in New Jersey. During the summer of 1941, the New Jersey Department of Agriculture reared and released 64,000 *Microplectron*. During the 1942-1943 fiscal year, this Department reared and released 358,000 *Microplectron*. During the current fiscal year, the State Department reared and released 3,048,000 *Microplectron* in the field, placing these in 48 plantations widely distributed over the sawfly-infested area. In general, the parasites were placed in infested plantings at the rate of 3,000 parasites per acre of planting. Releases were made in the larger and more important plantings first, leaving the smaller plantings for subsequent attention. It is proposed to maintain the rearing and release work with this parasite for at least another year in order to establish the parasite in most of the pine plantations in the infested area.

RELEASES OF *Microplectron fuscipennis*, 1943-1944

Date	Number of Parasites	Location of Release
7/3/43	60,000	Rockefeller Institute, Princeton
7/19/43	42,000	Atlantic Terra Cotta, Rocky Hill
7/27/43	30,000	Col. Arthur Foran, Mt. Airy
7/28/43	18,000	L. W. Allen, Pottersville
7/29/43	30,000	John Hammett, Andover
	15,000	Walter Sullivan, Boonton
7/30/43	45,000	South Mountain Reservation, Essex County Park Commission, West Orange
8/3/43	12,000	Herbert Cox, Anthony
	27,000	Hinchman Bros., Cokesbury
8/4/43	33,000	South Mountain Reservation, West Orange
8/5/43	90,000	Ingersoll Rand Co., Phillipsburg
8/18/43	30,000	Newark Water Department, Newfoundland
8/19/43	60,000	P. C. Zuhlke, Pottersville
	48,000	Alan Buckwalter, Three Bridges
8/23/43	150,000	Washington's Crossing Park
8/24/43	42,000	Borough of Princeton (Sewage Plant)
8/25/43	270,000	East Orange Water Reserve, Millburn
8/26/43	96,000	Union County Park Commission, Kenilworth
8/27/43	135,000	Hackettstown Water Board
8/31/43	150,000	Voorhees State Park, High Bridge
9/1/43	75,000	Hacklebarney State Park, Chester
	252,000	John R. and W. B. Hardin, Chester
	15,000	McGregor (adjoins Hardin), Chester
9/2/43	153,000	Hercules Powder Co., Kenil
	24,000	Herman T. Backhus
	90,000	Jenny Jump State Forest
9/3/43	84,000	North Jersey District Water Supply, Wanaque
9/7/43	36,000	Samuel Freeman, Far Hills
	45,000	Augustus Knight, Far Hills
	45,000	R. S. Pierrepont, Far Hills
	30,000	Dunwalke Farms (Clarence Dillon), Far Hills
9/8/43	60,000	Frank R. Serles, Zion
	15,000	Sheldon Martin, Far Hills
	18,000	E. H. Rice, Far Hills
	138,000	Comm. Water Co., Summit

Date	Number of Parasites	Location of Release
9/10/43	27,000	C. F. Baker, Basking Ridge
	51,000	Bound Brook Water Co., Bound Brook
	42,000	Robert Case, Millington
	78,000	Perth Amboy Watershed
9/13/43	30,000	Hendon Chubb, Chester
	15,000	R. Herms (Hacklebarney Park), Morristown
	15,000	Alexander Martin, Peapack
	120,000	Owen Winston, Ralston
9/16/43	60,000	Franklin Rue, Imlaystown
	15,000	Louis Mossman, Gladstone
	21,000	Arthur Whitney, Mendham
9/17/43	24,000	August Belmont, Mendham
	87,000	Col. Arthur Foran, Mt. Airy

Beauveria bassiana AS AN ADULT JAPANESE BEETLE PATHOGEN

An investigation was begun in 1940 to determine whether or not a fungus disease of the Colorado potato beetle, discovered in Canada, would be pathogenic in the adult Japanese beetle, and some work has been done each succeeding season on this project. The work is complicated by the fact that active field investigations are possible only during a very short period from about July 10 to August 15, and that different isolates of the fungus vary widely in virulence, and there is no known way to prevent the rapid "staling" of initially virulent strains of the fungus.

A brief review of the work preceding the present fiscal year is given for the sake of perspective. In 1940, it was found that the fungus *Beauveria bassiana* is pathogenic in adult Japanese beetles. No previous records exist of this disease in Japanese beetles in this area. Two outdoor screened test cages were erected in the summer of 1940, and adult beetles exposed to the fungus spores were introduced in each. These beetles developed the disease and died. There was no surviving larval population, and during the summers of 1941, 1942, 1943 and 1944 each cage was stocked with successive lots of healthy, field collected beetles without any previous exposure to the fungus. In each of these years the disease reappeared and it is evident that the fungus is capable of maintaining virulence under natural conditions between the successive yearly broods of adult beetles. These cages are also used to supply fresh isolates of the fungus for the investigations. There is evidence that the fungus is becoming more virulent for the Japanese beetles due to these successive passages through the host without intermediate artificial culture. The isolates prepared from the caged beetle cadavers in June, 1944, were all extremely virulent when tested, whereas in former years the majority of isolates were but weakly pathogenic.

The earlier attempts to introduce the disease in the field were by spraying or dusting host plants with the fungus spores. However, it was soon learned that the organism causes disease only by penetration through the insect integument and not by ingestion. The most practical approach to

large-scale inoculation of beetles with the fungus is to trap the insects in the standard beetle trap, introduce cultured *Beauveria* spores with the beetles in a closed container, and after a minute or two of agitation to thoroughly mix the spore material with the beetles. Then liberate the insects for normal dispersal. This method results in a positive and very high rate of infection in the beetles, and may be done with economy of labor and cultured spore material. All attempts at field introduction have been done in this manner since the summer of 1942.

ESSEX COUNTY FIELD EXPERIMENT WITH *Beauveria bassiana*

During the Japanese beetle trapping season of 1942, approximately 250 beetle traps were placed in an area four miles square in Essex County. Beetles caught in these traps were dusted with spores of *Beauveria bassiana* and liberated at 25 locations approximately one mile apart in the experimental area. An estimated four million beetles were dusted with the spores and liberated in this area. To determine whether or not fungus-dusted beetles were distributing themselves over the area, 25 scouting traps were placed at points intermediate with the liberation sites. These beetles were incubated under conditions which should make the disease evident if spore-contaminated beetles were present. In 1942 (the year of introduction), fungus infected beetles were recovered from nine of the 25 scouting traps, showing that the fungus-infected beetles were dispersing as far as one-half mile from the liberation sites. Direct scouting by individuals also revealed a number of infected beetles at various points over the experimental area. However, concurrent work with the fungus used in this field experiment showed that some lots of the spore material were not pathogenic; the necessity of testing of each lot of spores prior to field use was not appreciated or practiced at this time. Therefore, an unknown amount of the introduction work must be considered valueless.

In the summer of 1943 no beetles were dusted with the fungus in this area but the 25 scouting traps were replaced in an attempt to recover fungus infected beetles resulting from the previous year's introduction. A number of positive *Beauveria* infected beetles were recovered from the scouting traps at 8 of the 25 locations, proving that the fungus had successfully survived and caused a degree of natural infection in the following brood of beetles. The number of *Beauveria* diseased beetles recovered was certainly not large enough to consider the disease epidemic, but this season was dry and unfavorable for propagation of fungus diseases.

JOBSTOWN AREA FIELD EXPERIMENTS WITH *Beauveria bassiana*

In July, 1943, an area of about 4 square miles at Jobstown was selected as a convenient and suitable site for a further attempt to introduce the fungus *Beauveria* as an adult Japanese beetle pathogen. This area in recent years has been repeatedly subject to heavy damages by the beetles, being

a sort of "island" of beetle infestation surrounded by an area of less extensive damage. Beetles were trapped, dusted with *Beauveria* spores, and liberated at 4 locations within the area. Between July 16 and August 12, an estimated 2,300,000 beetles were subjected to fungus infection. On August 3, the experimental area was scouted for diseased beetles and a large number found at each liberation site and for a distance of several hundred yards around each point. Later scoutings failed to show any increased evidence of the disease, a condition undoubtedly resulting from the excessively dry weather prevailing in this area throughout the summer. In this experiment, each individual lot of the spore material was tested for pathogenicity prior to its use in the field, and only cultures found highly pathogenic were used.

THE PRESENT EVALUATION OF *Beauveria bassiana* AS AN ADULT
JAPANESE BEETLE DISEASE AGENT

Attempts to evaluate the effectiveness of specific insect parasites and diseases from the results of several season's observations are not generally reliable. This is so because there is often no accurate measuring method for determining changes in the pest population, or in the assumed control agent's magnitude, or in separating either change from other environmental variables such as weather and other parasites and diseases. However, the results of four seasons' work with *Beauveria* as a disease of the Japanese beetle have shown some definite results. Under the conditions which usually prevail in laboratory tests, the fungus is a virulent communicable disease readily transmitted from living or dead infected individuals to other beetles coming in close contact. The conditions which lead to epidemic infections are: (1) intimate contact between diseased and previously healthy beetles—the disease organism being ordinarily mechanically transmitted; (2) a uniformly moist environment which, while not necessary for the mortality of an infected insect, is absolutely necessary to permit the parasite to form spores, or fruiting bodies, and thus perpetuate itself; (3) ordinary summer temperatures. Outdoor test cages closely simulate laboratory conditions, and the disease has been found to successfully overwinter and appears in the following year's brood of beetles, becoming a true epidemic. In several field tests, encouraging results have been obtained, in that in one small test a true epidemic occurred, while in a larger test (Essex County) the disease has been found to recur in endemic, but not epidemic, conditions the year following its introduction. The epidemic condition occurred during a moist season which was ideal for fungus development while at the same time accentuating the gregarious nature of the beetle, both conditions being conducive to rapid dispersal of the disease. The endemic establishment of the disease was under conditions generally unfavorable. A study of more than 20 experimental areas indicates that an intensive effort at disease introduction should be made over an area of several square miles at least if there is any hope of permanently establishing the disease. Large

numbers of insects must be used during all but exceptionally favorable circumstances in order to assure that reasonable numbers will die under conditions which permit the parasite full development and be available to attack the succeeding brood of beetles. The proposal of making a large number of limited introductions at widely dispersed points does not seem to fit the necessary epidemiology of *Beauveria* in Japanese beetles, just as malaria is not an epidemic disease of humans in New Jersey. *Beauveria* does reappear the following year when once introduced in sufficient volume. Under favorable summer weather conditions (uniformly moist), it might become epidemic and wide-spread. Further attempts to introduce the disease in heavily-infested Japanese beetle areas may be justified in the hopes that optimum weather conditions during July and August may make *Beauveria* a useful adjunct in the biological complex for the natural control of the Japanese beetle. At present, the work should not be considered a failure, although certainly it has not been a marked success. Steady progress has been made in improving the performance of the organism, and successful wide-spread introduction of the disease in New Jersey may yet be accomplished.

FIELD STUDIES ON THE NEMATODE *Neoaplectana glaseri*

Because the staff was occupied with work on more recent projects, the investigations on *Neoaplectana glaseri* were not so extensive as those conducted in previous years. Attempts were made to obtain information on two subjects: (1) the continued survival of the parasites in plots treated in 1931; (2) the spread of the parasites from a plot treated in 1942.

Four small plots of soil at Yorktown were treated with nematodes in May, 1931. Since that time, the beetle population has been maintained at a high level by the addition of healthy Japanese beetle larvae collected from other areas. No nematodes have been introduced since the original treatment. Two hundred healthy third-instar Japanese beetle larvae were placed in each plot in September, 1943 and again in June, 1944. When the soil was examined later, larvae infected with *Neoaplectana glaseri* were recovered. Therefore, this parasite of Japanese beetle larvae has maintained itself under field conditions for 13 years with a host population artificially maintained. So few beetle larvae arrive at maturity that the artificial introduction of larvae is necessary to maintain a host population in these cages.

In May, 1942, twenty-five nematode plots were placed on the property of the Crestmont Golf Club at West Orange, for the purpose of determining how rapidly the nematode infestation would spread from these plots and result in a general infestation of all the turf on the course. Examinations conducted in 1942 and the fall of 1943 indicated that some spread had occurred but negative results were obtained this spring, probably because of the extremely dry condition of the soil when the examination was conducted.

COOPERATIVE WORK WITH NEMATODES AS PARASITES OF THE
WHITE FRINGED BEETLE

The Federal laboratory at Gulfport, Mississippi, where nematodes of the genus *Neoplectana* are being studied as parasites of the white fringed beetle (*Pantomorus*, spp.) has now developed to the point where very little culture material is required from our Department. Several small lots of nematodes were sent to Gulfport to establish a laboratory maintenance stock there. Some help was given on the use of the Baermann isolation technique for making rapid nematode surveys in field plots. The project is developing smoothly, and nematodes still remain the only known method of biological control for the white fringed beetle. An interest in this project may well be retained, because the white fringed beetle is an extremely serious garden crop pest, probably capable of extending its range to the latitude of Philadelphia. Its biology is such that it is very easily introduced during ordinary commercial intercourse, not being at all confined to transport in plant material or plant products.

REARING *Macrocentrus ancylivorus*, A PARASITE OF THE ORIENTAL
FRUIT MOTH

The rearing of *Macrocentrus ancylivorus* on the Oriental fruit moth using green apple slices as host food was mentioned in the 1942-1943 annual report. During the current year, production by this method was expanded. Suitable green apples were obtained through the cooperation of orchardists at Princeton and Masonville. Valuable advice was obtained from the Connecticut and New York Agricultural Experiment Station, where rearing of *Macrocentrus* by this method has been conducted for several years. The necessary equipment and temperature—controlled incubation rooms were constructed by the laboratory staff. Parasites were reared without serious difficulty throughout the winter and early spring. A total of 54,000 parasites were produced, of which 54 per cent were females, and 46 per cent males. Twenty-six thousand six hundred parasites were sent to the field, mostly for release against the first generation Oriental fruit moths. The remainder of the reared parasites were used in experimental and rearing work.

In October 1943, it was found that *Macrocentrus* can be reared using the potato tuber moth as a host insect, and small-sized potatoes as the host food. This method was first devised by entomologists of the State of California, and is still in process of development. Rearing *Macrocentrus* on the potato tuber moth is not so laborious as the procedure using the Oriental fruit moth, but does possess one disadvantage in that there is no known way of forcing the parasite or the parasitized host into diapause, and therefore it is impossible to store up material for later emergence. The methods devised in the White Horse Laboratory vary considerably from those used in California, or by the Federal Peach Moth Parasite Laboratory at Moores-

town, New Jersey. Since this rearing method is not standardized in detail at present, no description will be given. During the development of the project, 86,280 *Macrocentrus* were reared, of which 33,400 were liberated in the field against the first and second brood Oriental fruit moth.

FIELD DISTRIBUTION OF *Macrocentrus ancylivorus*

The Oriental fruit moth is probably the most important pest in peach orchards in New Jersey. No satisfactory control by cultural practices or spraying is known at present. In New Jersey, satisfactory control can be obtained by liberating the parasite *Macrocentrus ancylivorus* at the rate of about 300 female parasites per acre of peach orchard, these liberations being timed to coincide with the appearance of second-brood fruit moth larvae in the succulent peach twigs. The parasites so effectively reduce the second generation fruit moths in the orchards that infestation of the fruit by the third generation moths is greatly reduced from what it otherwise would be. It is possible that an equal, or even better, control of the pest would result from parasite liberations on the first brood since this would not only reduce the population of moths but also allow an increase in parasite population to further check the second brood. Liberations on first brood moths have never before been made in New Jersey because the parasites were not available so early in the season.

The conduct of the experimental work to compare the efficiency of *Macrocentrus* liberations against first and second brood moths was entirely under the direction of Dr. B. F. Driggers, of the New Jersey Agricultural Experiment Station. Some test orchards were located in southern New Jersey, and others in the northern part of the State. Liberations on the first-brood infestations began May 15 and continued until June 7. Forty-three thousand two hundred *Macrocentrus* were liberated. Liberations on the second-brood infestations began June 15 and were practically completed by July 1. Twenty-three thousand four hundred *Macrocentrus* were liberated in these test orchards. The total *Macrocentrus* used therefore, was, 66,600. In all of these liberations, the parasites were used at a sex ratio of 125 females to 75 males.

The results of these liberations will not be evident until the peach harvest is completed, and therefore are not available for this report.

ADULT JAPANESE BEETLE DAMAGE SURVEY SUMMER 1943

A survey of the damage to host plants caused by the feeding of adult Japanese beetles was conducted during the period August 2-20.

The methods of observation and scoring were the same as those employed in similar surveys described in the monthly reports for August, 1940, September, 1941, and August, 1942. In order to make possible the drawing of reliable comparisons, the observations were made at the same locations each year. Comparative figures for the four surveys are given in the attached table.

The examination was made from a moving car, except in places where the damage was too slight to be discernible when the car was moving. The damage observed was usually on sassafras or wild grape, with maple, cherry, and linden also frequently employed.

The scoring system employed is indicated below :

1. Host plants present. No damage observed.
2. Host plants very scarce. No damage observed.
3. Damage present, but scarcely discernible.
4. Slight damage to host plants, easily discernible.
5. Moderately heavy damage to host plants.
6. Heavy damage to host plants, with serious defoliation.

The foliage damage over the State was, on the average, about the same as that which occurred last year. Noticeable decreases occurred in Essex and Union counties. The infestation is still increasing in area and intensity in the northernmost counties and now appears to have reached the state boundaries in all directions. This year's survey was the first in which beetles were found in and north of the town of Sussex. Damage was heavier in Salem County this year and it seems possible that the beetle population is again increasing there, where at one time it was extremely heavy, subsequently dropping to a moderately low level.

The areas of heaviest damage this year are: (1) the sections of Salem and Cumberland counties bounded by the line from Salem to Woodstown to Elmer to Bridgeton and extending from that line southward to Delaware Bay, (2) Hunterdon County north of the Rosemont-Linvale line.

OBSERVATIONS ON SEVERITY OF BEETLE DAMAGE SUMMER 1943

County	1	2	3	4	5	6	1943 Aver- age	1942 Aver- age	1941 Aver- age	1940 Aver- age
Hunterdon	9	32	2	4.8	4.7	3.9	4.1
Salem	1	23	35	5	4.7	4.3	4.2	4.8
Passaic	4	5	..	4.6	4.3	2.4	2.6
Morris	28	21	1	4.5	4.5	3.9	4.0
Somerset	14	11	..	4.4	4.6	3.7	4.1
Essex	6	3	..	4.3	5.4	5.0	4.4
Monmouth	23	12	..	4.3	4.3	3.8	3.6
Mercer	2	25	12	..	4.3	4.3	3.5	4.3
Middlesex	1	33	8	..	4.2	4.5	3.7	3.6
Cumberland	15	28	13	9	4.2	4.2	3.8	4.1
Bergen	24	6	..	4.2	4.2	3.9	3.6
Gloucester	26	3	..	4.1	4.0	3.4	3.7
Warren	23	3	..	4.1	4.0	3.3	3.2
Union	8	..	..	4.0	4.5	4.0	4.2
Burlington	9	49	3	..	3.9	3.7	3.3	3.4
Ocean	1	3	..	..	3.8	3.5	3.2	3.6
Sussex	6	6	..	..	3.5	2.5	1.3	1.3
Cape May	..	1	12	17	..	..	3.5	3.7	3.1	3.2
Camden	8	7	..	..	3.5	3.3	3.0	2.8
Atlantic	..	1	10	9	..	..	3.4	3.3	2.9	2.5
Total	..	2	65	365	167	17	4.2	4.2	3.6	3.8

Report of the Bureau of Animal Industry

DR. R. A. HENDERSHOTT, *Chief*

TUBERCULOSIS ERADICATION

In spite of efforts to reduce the amount of tuberculosis in herds throughout the State by means of the application of tuberculin tests each year to all herds numbering more than two cattle, reaction has continued to mount in practically all areas. A year ago we removed as reactors a total of 580 animals whereas this year 1,030 reactors were disclosed on test. This is an increase of $77\frac{1}{2}$ per cent over the preceding year. The increase in reaction, occurring in practically all counties, is accentuated in Bergen, Burlington, Hunterdon, Morris, Passaic, and Sussex counties.

In an endeavor to find out what factors are operating to occasion the increase in tuberculosis throughout the State, a meeting of State and Federal Government testing agents was held on February 25 of this year. This meeting was also attended by Secretary Allen and Dr. Porteus. After considerable discussion, it was brought out that a number of factors seemed to be at least in part responsible, notably the importation of Canadian cattle, many of which pass the first test after entry and react on subsequent tests.

Dr. Crouse had drawn attention to this situation earlier in the year and as a result retests were ordered conducted on a number of inshipped loads which has been done with the following results:

No. Loads	Origin	No. Animals Tested	Result
2	Canada	55	..
1	Ohio	21	..
1	Wisconsin	28	2
<hr/> 4		<hr/> 104	<hr/> 2 or 1.92%

It is true that other States have experienced considerable difficulty with Canadian cattle, notably Rhode Island.

It is planned to continue retests of inshipped cattle until sufficient number of tests have been conducted to give a clear picture of the part such shipments play.

It is a fact that due to Army calls for veterinarians, the middle western States from which so many of our replacements come, are unable to test their herds as in former years.

At this meeting it was stated that many of the reactors were occurring in herds that were listed as accredited rather than in infected herds. One reason advanced for this condition was the fact that some of these herds were those which, on initial test, were grossly infected and there was the likelihood that some of the original animals had carried infection for some

time without revealing evidence of it, and that during this labor shortage period some of these cases were breaking down and spreading infection. While this is possible, it is hard to believe that our recent increase in reaction can in any major way be attributed to this cause.

In this connection our agent in Sussex County in his monthly letter for January reports a case where an accredited herd in his area was sold out and subsequently wherever these sale animals were tested they were taken out as reactors. Undoubtedly herds of this nature, when dispersed, are a factor in the spread of infection. In the same report our agent in Bergen County relates a case where infection was introduced into the herd through the purchase of a bull originally sold for slaughter but purchased by the farmer and used for breeding purposes.

Both of these cases indicate need for the isolation and retest of purchased replacement animals.

The general consensus of this meeting was that the field men were doing everything possible to bring the situation under control. The feeling was expressed that shortage of labor as well as the demand for fluid milk in the war effort were bringing about a letdown in sanitary practices and lessened resistance as far as the animals were concerned.

As the result of increase in infection in Burlington County, Dr. Cosgriff has been detailed to conduct retests of all herds in that area on which slaughter house reports indicate infection is present. It is hoped that through intensive testing the infection can be reduced.

On June 30, 1944, there were 16,212 herds consisting of 216,014 head of cattle under supervision. This is a decrease of 247 herds and an increase of 3,691 cattle over the number recorded at the beginning of this fiscal year. During the year initial tests were conducted on 2,180 herds of 10,040 cattle resulting in the disclosure of 53 or .53 per cent reactors. The per cent of reactors disclosed on tests of cattle added to herds under supervision was 1.54; of 7,314 cattle tested 116 were declared reactors.

A total of 244,496 tuberculin tests were conducted resulting in 1,030 reactors or .42 per cent reaction as compared with .25 per cent a year ago. Of the 1,030 reactors disclosed, 841 were eligible for indemnity; 31 of these were purebred and 810 grade animals.

Following is a table which gives the trend of tuberculin test results during the past ten years:

Year	Herds Under Supervision	Animals Under Supervision	Tests Conducted	Reactors Resulting	Per Cent Reaction
1934-1935	19,687	193,178	236,053	2,994	1.27
1935-1936	19,718	196,672	212,996	1,604	.75
1936-1937	18,823	196,774	232,275	1,912	.82
1937-1938	18,185	199,474	253,025	1,428	.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

The amount of State indemnity paid during this fiscal year for reactors condemned increased from an average of \$43.14 for the fiscal year 1942-1943 to \$62.78 for 1943-1944. During the year 20,312 dairy cattle and 5,817 steers or a total of 26,129 cattle were imported as compared with 28,439 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, 1944.

Class of Cattle	Number of Animals	Amount Paid
Registered animals	31	\$2,818.84
Grade animals	810	49,980.43
	<hr/>	<hr/>
Registered and Grade	841	\$52,799.27

Average State Indemnity Paid Per Head:

Registered animal	\$90.93
Grade animal	61.70
Registered and Grade	62.78

The following summary indicates the amount of salvage received by owners for reactors resulting from the tuberculin test during the year ending June 30, 1944.

Class of Cattle	Number of Animals	Amount Paid
Registered animals	31	\$1,864.72
Grade animals	810	47,713.71
	<hr/>	<hr/>
Registered and Grade	841	\$49,578.43

Average Salvage Received Per Head:

Registered animal	\$60.15
Grade animal	58.91
Registered and Grade	58.95

The following summary indicates the amount of federal indemnity paid for reactors resulting from the tuberculin test during the year ending June 30, 1944.

Class of Cattle	Number of Animals	Amount Paid
Registered animals	31	\$1,261.60
Grade animals	810	18,691.63
	<hr/>	<hr/>
Registered and Grade	841	\$19,953.23

Average Federal Indemnity Paid Per Head:

Registered animal	\$40.70
Grade animal	23.08
Registered and Grade	23.73

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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)	\$122,330.93
Average amount received per head by owners for reactors	\$145.46

TOTAL STATE INDEMNITY PAID BY COUNTIES

July 1, 1943 to June 30, 1944

County	Indemnity
Atlantic	.....
Bergen	\$1,531.28
Burlington	6,804.19
Camden	3,047.36
Cape May	.....
Cumberland	976.70
Essex	1,727.31
Gloucester	379.58
Hudson	.....
Hunterdon	6,208.51
Mercer	2,022.39
Middlesex	795.89
Monmouth	2,778.21
Morris	4,538.99
Ocean	1,021.70
Passaic	2,109.87
Salem	2,224.59
Somerset	589.62
Sussex	11,700.32
Union	1,044.17
Warren	3,298.59
Total	<hr/> \$52,799.27

TOTAL STATE INDEMNITY PAID BY COUNTIES, FROM THE BEGINNING OF

ACCREDITED HERD WORK IN 1916 TO JUNE 30, 1944

County	Indemnity
Atlantic	\$8,620.13
Bergen	35,354.21
Burlington	338,631.22
Camden	17,307.85
Cape May	10,847.14
Cumberland	77,050.87
Essex	40,686.29
Gloucester	64,023.14
Hudson	4,455.78
Hunterdon	350,338.21
Mercer	181,729.22
Middlesex	78,429.27
Monmouth	130,989.65
Morris	140,252.20
Ocean	32,643.50
Passaic	35,424.81
Salem	358,276.60
Somerset	220,849.03
Sussex	974,465.12
Union	40,198.89
Warren	377,172.46
State	<hr/> \$3,517,745.59

HERDS AND CATTLE UNDER STATE AND FEDERAL SUPERVISION

June 30, 1944

County	Herds Under Supervision	Herds Fully Accredited	Number of Cattle Under Supervision June 30, 1944			Number of Cattle Fully Accredited June 30, 1944		
			Reg.	Grades	Total	Reg.	Grades	Total
Atlantic	218	168	13	592	605	7	497	504
Bergen	276	182	242	2,460	2,702	217	2,031	2,248
Burlington	1,152	975	1,258	21,532	22,790	1,157	20,010	21,167
Camden	334	265	233	1,498	1,731	229	1,346	1,575
Cape May	163	141	83	660	743	83	625	708
Cumberland	951	828	368	5,535	5,903	322	5,254	5,576
Essex	121	107	230	1,721	1,951	228	977	1,205
Gloucester	1,126	834	790	5,469	6,259	792	4,895	5,687
Hudson	24	10	....	102	102	....	78	78
Hunterdon	2,044	1,924	2,985	28,629	31,614	2,561	24,631	27,192
Mercer	890	732	1,412	8,874	10,286	1,220	7,719	8,939
Middlesex	1,065	880	777	7,692	8,469	727	4,238	4,965
Monmouth	1,390	1,091	1,960	8,809	10,769	1,668	7,995	9,663
Morris	945	742	2,398	10,393	12,791	2,151	9,659	11,810
Ocean	285	243	8	1,525	1,533	10	1,455	1,465
Passaic	241	170	61	2,692	2,753	11	2,182	2,193
Salem	1,252	1,082	564	17,169	17,733	446	15,699	16,145
Somerset	1,124	937	3,110	10,371	13,481	3,087	9,792	12,879
Sussex	1,175	923	2,232	32,935	35,167	2,026	26,288	28,314
Union	201	166	59	3,079	3,138	58	1,960	2,018
Warren	1,235	1,030	1,735	23,759	25,494	1,722	23,149	24,871
Total	16,212	13,430	20,518	195,496	216,014	18,722	170,480	189,202

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INFECTED HERD RECORD

County	Number of Infected Herds in New Jersey June 30, 1944	Number of Cattle in Infected Herds June 30, 1944	Number of Reactors Disclosed in Infected Herds, July 1, 1943 to June 30, 1944
Atlantic	...	...	...
Bergen	8	173	56
Burlington	29	828	154
Camden	...	...	...
Cape May	...	...	...
Cumberland	7	217	30
Essex	4	468	47
Gloucester	4	42	10
Hudson	...	...	...
Hunterdon	27	783	108
Mercer	16	1,034	21
Middlesex	17	1,415	31
Monmouth	19	480	51
Morris	10	509	80
Ocean	2	52	25
Passaic	6	159	39
Salem	34	1,040	58
Somerset	11	350	15
Sussex	64	3,125	207
Union	3	1,044	31
Warren	35	1,406	67
State	305	13,025	1,030

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

STATE DEPARTMENT OF AGRICULTURE

July 1, 1943 to June 30, 1944

	INITIAL TESTS					HERD ADDITION TESTS					OTHER TESTS				
	Tested		Reactors		Gr.	Tested		Reactors		Gr.	Tested		Reactors		Gr.
	Lots	Reg.	Gr.	Reg.		Lots	Reg.	Gr.	Reg.		Lots	Reg.	Gr.	Reg.	
1943															
July	52	..	107	..	..	3	..	39	..	2	257	192	1,460	..	13
August	48	56	83	..	1	1	7	37	..	1	201	323	2,778	..	21
September	57	5	165	1	8	..	..	..	..	..	253	239	3,150	1	14
October	49	28	88	..	..	..	..	3	..	1	267	643	3,343	..	24
November	142	..	86	..	1	..	..	4	..	4	161	415	2,867	..	15
December	37	18	31	..	..	..	..	1	..	..	107	260	2,388	..	..
1944															
January	19	1	69	..	..	..	..	9	..	6	126	231	3,587	..	14
February	6	1	5	..	..	2	1	15	..	2	144	180	2,770	1	11
March	16	..	51	..	1	..	..	19	..	..	378	359	8,131	..	24
April	74	..	175	..	..	1	..	19	..	..	307	690	4,519	..	57
May	52	26	221	..	..	2	..	55	..	1	254	1,124	3,749	4	64
June	56	32	226	..	3	2	..	31	..	..	380	377	3,834	1	18
Totals	608	167	1,307	1	14	11	8	232	..	17	2,835	5,033	42,576	7	275
Percentage of Reactors				.60	1.07				..	7.32				.14	.65
Average Percentage				1.02						7.08				.59	

CATTLE TESTED IN NEW JERSEY UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ON THE STAFF OF THE
UNITED STATES DEPARTMENT OF AGRICULTURE
July 1, 1943 to June 30, 1944

	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.
1943															
July	5	..	8	..	..	..	..	40	..	..	51	...	203	..	2
August	27	..	50	..	..	3	..	49	..	..	138	26	576	..	..
September	7	..	9	..	..	..	..	12	..	1	68	48	964	..	1
October	8	40	14	..	..	..	..	130	..	..	56	1	405	..	1
November	7	..	45	..	..	..	..	81	..	6	59	7	2,804	..	9
December	12	1	31	..	..	..	..	89	..	..	47	...	1,056	..	..
1944															
January	2	..	8	..	..	..	..	2	..	2	21	...	737	..	..
February	5	38	20	..	..	4	18	64	..	..	103	36	670	..	23
March	12	..	17	..	..	8	..	130	..	3	112	71	1,737	..	14
April	5	..	67	..	1	..	..	28	..	..	51	215	1,068	1	12
May	7	..	61	..	..	..	..	36	..	..	62	63	3,222	1	8
June	24	..	94	..	..	..	..	95	..	..	88	37	1,491	..	5
Totals	121	79	424	..	1	15	18	756	..	12	856	504	14,933	2	75
Percentage				..	.24				..	1.59				.40	.50
Average Percentage				.20					1.55					.50	

CATTLE TESTED IN NEW JERSEY UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ACCREDITED BY THE
UNITED STATES DEPARTMENT OF AGRICULTURE
July 1, 1943 to June 30, 1944

	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.
1943															
July	64	..	241	..	..	13	..	239	..	3	397	302	3,902	..	11
August	82	9	310	..	1	26	..	393	..	4	485	393	4,585	..	11
September	115	..	563	..	..	26	..	425	..	4	1,097	1,041	16,418	..	47
October	102	41	572	..	1	17	24	499	1	5	802	685	13,131	1	31
November	152	198	764	..	1	16	37	594	..	13	918	2,005	15,654	2	56
December	108	20	985	..	9	36	6	495	..	7	893	987	14,180	..	37
1944															
January	152	17	959	..	7	19	34	557	1	31	872	1,550	12,358	5	83
February	66	3	267	..	2	11	..	939	..	6	812	1,758	12,335	2	78
March	115	73	655	1	6	14	2	556	..	3	784	1,181	12,738	2	50
April	123	71	574	..	3	22	57	670	..	3	1,301	1,836	19,985	2	46
May	173	16	672	..	3	20	12	547	..	1	1,015	1,849	12,937	..	22
June	199	106	947	..	3	17	13	412	..	5	1,045	992	11,083	..	16
Totals	1,451	554	7,509	1	36	237	185	6,326	2	85	10,421	14,579	149,306	14	488
Percentage				.18	.48				1.08	1.34				.096	.33
Average Percentage				.46					1.34					.31	

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SUMMARY OF CATTLE TESTED UNDER ACCREDITED HERD PLAN

July 1, 1943 to June 30, 1944

INITIAL TESTS	Registered Animals	Grade Animals	Total
Tested	800	9,240	10,040
Reacted	2	51	50
Percentage of Reactors .53			
HERD ADDITION TESTS			
Tested	211	7,314	7,525
Reacted	2	114	116
Percentage of Reactors 1.54			
OTHER TESTS			
Tested	20,116	206,815	226,931
Reacted	23	838	861
Percentage of Reactors .38			
TOTAL			
Tested			244,496
Reacted			1,030
Percentage of Reactors			.42
Percentage of Reactors Based on Cattle Population			.48

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

July, 1943 to June, 1944

July, 1942 to June, 1943

County	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Test Made	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Test Made
Atlantic	605	...	...	152	...	573	1	.17	583	.17
Bergen	2,702	56	2.07	4,630	1.21	2,695	...	...	1,083	...
Burlington	22,790	154	.68	25,025	.62	22,833	59	.26	24,995	.24
Camden	1,731	...	...	1,912	...	1,728	1	.06	1,912	.05
Cape May	743	...	...	12	...	759	...	...	756	...
Cumberland	5,903	30	.51	6,727	.45	7,805	7	.09	7,219	.10
Essex	1,951	47	2.41	2,342	2.01	2,104	33	1.57	2,971	1.11
Gloucester	6,259	10	.16	6,348	.16	5,743	6	.10	6,464	.09
Hudson	102	...	...	...	...	102	...	...	102	...
Hunterdon	31,614	108	.34	30,884	.35	30,487	41	.13	27,524	.15
Mercer	10,286	21	.20	10,763	.20	10,098	13	.13	13,030	.10
Middlesex	8,469	31	.37	11,930	.26	8,072	21	.26	11,364	.18
Monmouth	10,769	51	.47	11,704	.44	10,294	21	.20	10,890	.19
Morris	12,791	80	.63	12,536	.64	12,475	18	.14	13,736	.13
Ocean	1,533	25	1.63	1,745	1.43	1,526	28	1.83	1,626	1.72
Passaic	2,753	39	1.42	2,661	1.47	2,612	2	.08	1,737	.12
Salem	17,733	58	.33	21,202	.27	17,822	52	.29	20,702	.25
Somerset	13,481	15	.11	14,373	.10	12,855	57	.44	14,590	.39
Sussex	35,167	207	.59	46,000	.45	34,188	136	.40	40,633	.33
Union	3,138	31	.99	6,214	.50	2,964	...	...	6,281	...
Warren	25,494	67	.26	27,236	.25	24,588	84	.34	27,023	.31
State	216,014	1,030	.48	244,496	.42	212,323	580	.27	235,221	.25

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

July, 1941 to June, 1942

July, 1940 to June, 1941

County	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Test Made	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Test Made
Atlantic	545	...	...	176	...	543	5	.92	549	.91
Bergen	2,681	26	.97	5,068	.51	2,940	21	.71	4,428	.47
Burlington	22,419	104	.46	28,831	.36	22,219	146	.66	28,326	.52
Camden	1,797	1	.06	1,459	.07	1,725	3	.17	2,134	.14
Cape May	793	2	.25	861	.23	772	...	...	828	...
Cumberland	7,394	2	.03	6,868	.03	7,058	14	.20	6,854	.20
Essex	2,306	98	4.25	4,302	2.28	2,281	26	1.14	2,668	.97
Gloucester	5,630	9	.16	5,940	.15	5,550	7	.13	6,272	.11
Hudson	103	...	...	103	...	113	...	...	150	...
Hunterdon	27,418	38	.14	30,482	.12	27,378	116	.42	28,861	.40
Mercer	10,325	23	.22	10,244	.22	9,970	18	.18	13,822	.13
Middlesex	7,641	41	.54	11,831	.35	7,783	25	.32	12,005	.21
Monmouth	10,148	23	.23	10,974	.21	9,813	32	.33	13,757	.23
Morris	13,142	80	.61	16,063	.50	13,147	118	.90	16,526	.71
Ocean	1,496	8	.53	1,977	.40	1,630	3	.18	1,629	.18
Passaic	2,648	12	.45	5,982	.20	2,714	18	.66	3,588	.50
Salem	16,589	54	.33	21,762	.25	16,448	77	.47	21,301	.36
Somerset	12,405	44	.35	13,588	.32	11,957	44	.37	13,327	.33
Sussex	35,729	242	.68	47,783	.51	35,660	270	.76	55,419	.49
Union	3,564	2	.06	6,913	.03	3,679	19	.52	7,345	.26
Warren	24,254	62	.26	27,670	.22	24,843	66	.27	31,202	.21
State	209,027	871	.42	258,877	.34	208,223	1,028	.49	270,991	.38

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

July, 1939 to June, 1940

July, 1938 to June, 1939

County	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Test Made	Number Animals Under Supervision	Number Animals Reacting	Per Cent Reaction on Total Cattle Population	Number Tests Made	Per Cent Reaction on Test Made
Atlantic	537	6	1.12	818	.73	542	1	.18	308	.32
Bergen	2,892	16	.55	3,897	.41	2,924	13	.44	3,869	.34
Burlington	22,508	100	.44	25,776	.39	22,202	93	.42	26,280	.35
Camden	1,726	6	.35	1,748	.34	1,680	7	.42	2,067	.34
Cape May	889	...	...	932	...	963	8	.03	1,270	.63
Cumberland	6,738	7	.10	5,449	.13	6,728	18	.27	7,705	.23
Essex	2,209	3	.14	3,556	.08	2,098	9	.43	4,538	.20
Gloucester	5,725	12	.21	5,741	.21	5,423	15	.28	6,243	.24
Hudson	120	1	.83	122	.82	134	...	...	330	...
Hunterdon	27,454	98	.36	31,026	.32	27,016	89	.33	28,854	.31
Mercer	9,570	30	.31	14,087	.21	9,479	42	.44	13,459	.31
Middlesex	7,931	32	.40	11,107	.29	8,046	58	.72	12,597	.46
Monmouth	9,603	84	.87	12,206	.69	9,670	137	1.42	11,446	1.20
Morris	12,627	22	.17	14,907	.15	12,469	57	.46	13,142	.43
Ocean	1,655	14	.85	1,899	.74	1,655	18	1.08	1,768	1.02
Passaic	2,739	6	.22	3,565	.17	2,736	14	.51	4,086	.34
Salem	16,323	100	.61	21,939	.46	15,832	228	1.44	22,459	1.02
Somerset	11,997	34	.28	13,569	.25	12,025	65	.54	13,137	.49
Sussex	34,601	360	1.04	49,407	.73	33,211	399	1.20	41,666	.96
Union	3,446	57	1.65	7,495	.76	3,446	23	.67	7,189	.32
Warren	24,897	102	.41	31,446	.32	23,722	123	.52	25,681	.48
State	206,187	1,090	.53	260,692	.42	202,001	1,417	.70	248,094	.57

INSHIPPED CATTLE

All dairy and breeding cattle brought in with the exception of calves under six months of age have been re-bled on arrival. It will be noted from the tables following that the number of animals bled does not correspond with the number released. This is due to the fact that some shipments are held up pending receipt of proper test charts and are not released until such charts are received which is after the close of our books for that particular month.

On retests made of 20,222 animals, 238 or 1.18 per cent gave a positive reaction to the Bang's test and were either returned to the State of origin or sent to slaughter. This is a decrease in the per cent of reaction found over last fiscal year when 25,536 animals were tested with 357 or 1.4 per cent reactors resulting.

The greatest number of imports were received this year from Wisconsin and of 7,244 retested from this State, 27 or .37 per cent were removed because of a positive reaction to the retest made in New Jersey. Next in line came Canada, from which point 4,311 consigned to New Jersey were retested with 60 or 1.39 per cent giving a positive reaction.

In May of this year we inaugurated a program of retesting occasional shipments from various States for tuberculosis. During May and June a total of 27 lots of 562 cattle were retested with 4 reactors resulting or .71 per cent. These four reactors were found in Canadian shipments as will be noted from the following table.

Origin	Number Lots Retested	Number Cattle Tested	Number Reactors Disclosed
Canada	13	295	4
Maryland	1	8	..
Michigan	2	44	..
New York	1	4	..
Ohio	6	98	..
Pennsylvania	1	22	..
Wisconsin	3	91	..
Totals	27	562	4 or .71 per cent

RECORD OF BLOOD TESTS MADE ON INSHIPPED ANIMALS

July 1, 1943 to June 30, 1944

State of Origin	Number Lots Bled	Number Cattle Bled	Number Reactors Resulting	Per Cent
Canada	314	4,311	60	1.39
Connecticut	3	17	..	...
Delaware	4	9	..	...
Georgia	2	8	..	...
Idaho	11	184	9	4.89
Illinois	4	8	..	...
Indiana	8	174	..	...
Iowa	1	9	..	...
Kansas	2	35	..	...
Kentucky	1	23	..	...
Maine	1	21	..	...
Maryland	67	459	13	2.83
Massachusetts	4	31	1	3.23
Michigan	95	2,260	30	1.33
Minnesota	8	182	..	...
Mississippi	1	22	..	...
New Hampshire	2	6	..	...
New Mexico	1	2	..	...
New York	216	1,581	41	2.59
North Carolina	1	1	..	...
Ohio	70	1,183	23	1.94
Pennsylvania	270	2,011	30	1.49
Rhode Island	1	51	2	3.92
Tennessee	3	42	..	...
Texas	3	85	1	1.18
Vermont	2	21
Virginia	21	242	1	.41
Wisconsin	280	7,244	27	.37
Total	1,396	20,222	238	1.18

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Following is a summary of the cattle shipped into New Jersey by months, those condemned on tuberculin test and those shipped out of the State during the year ending June, 1944.

Month	Number of Dairy Cattle Shipped into New Jersey	Number of Cattle Condemned on Tuberculin Test	Number of Cattle Shipped Out of New Jersey
July	1,468	31	42
August	2,643	39	62
September	2,299	77	42
October	1,916	65	89
November	2,510	107	54
December	1,450	53	100
January	1,128	149	104
February	1,066	125	84
March	1,163	104	129
April	1,385	125	79
May	1,211	104	153
June	2,073	51	46
Totals	20,312	1,030	984

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

1939-1940	1940-1941	1941-1942	1942-1943	1943-1944
26,040	29,650	26,905	26,381	20,312

IMPORT CATTLE RECEIVED FROM VARIOUS STATES AND RELEASED FOR DAIRY AND BREEDING PURPOSES, 1943-1944

Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Canada	355	595	412	249	282	316	94	148	233	467	311	705	4,167
Connecticut	1	...	...	1	15	...	...	...	...	...	...	...	17
Delaware	3	...	5	4	...	...	...	...	...	...	...	...	12
Georgia	...	8	...	...	...	...	8	...	...	...	...	...	16
Idaho	...	56	30	113	6	36	13	...	...	...	...	27	281
Illinois	...	...	...	1	1	...	...	...	...	3	...	...	5
Indiana	...	47	48	58	20	...	...	...	1	...	...	...	174
Kansas	...	...	53	...	...	...	...	...	2	...	...	...	55
Kentucky	...	...	...	...	...	...	...	...	...	...	...	23	23
Maine	...	...	...	21	...	...	...	...	...	...	...	...	21
Maryland	66	75	48	48	38	24	24	31	26	8	15	63	466
Massachusetts	...	2	...	3	2	...	...	...	1	...	26	1	35
Michigan	103	272	199	195	266	114	176	133	193	174	212	185	2,222
Minnesota	28	29	84	...	...	...	...	...	...	1	...	...	142
Missouri	...	...	...	...	...	...	22	...	...	...	...	...	22
New Hampshire	...	...	...	1	...	...	...	...	...	...	...	5	6
New Mexico	10	...	...	2	...	...	...	...	...	...	...	...	12
New York	129	111	181	111	236	169	107	44	125	228	134	127	1,702
North Carolina	...	...	...	1	...	...	...	...	...	1	...	...	2
Ohio	83	193	166	71	218	47	34	81	49	46	22	130	1,140
Pennsylvania	101	262	228	273	211	167	93	130	182	86	64	238	2,035
Rhode Island	...	...	...	...	...	...	...	51	...	...	...	...	51
Tennessee	...	1	...	...	...	...	...	...	3	...	...	41	45
Texas	...	...	22	...	...	...	...	...	...	...	48	...	70
Vermont	...	14	...	...	...	...	...	...	...	...	...	...	14
Virginia	...	28	1	22	21	7	18	...	10	23	27	60	217
Wisconsin	586	937	811	736	1,189	570	537	445	333	348	352	463	7,307
Totals	1,465	2,630	2,288	1,910	2,505	1,450	1,126	1,063	1,158	1,385	1,211	2,068	20,259
Calves Under Six Months Imported	3	13	11	6	5	...	2	3	5	...	...	5	53
Total Dairy and Breeding Cattle Imported	1,468	2,643	2,299	1,916	2,510	1,450	1,128	1,066	1,163	1,385	1,211	2,073	20,312

IMPORTED FEEDER STEERS RELEASED BY STATE, JULY 1943-JUNE 1944

State	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Lancaster, Pa., Stockyards	578	1,028	523	117	68	120	145	136	155	32	325	93	3,320
Colorado	...	...	51	...	...	...	...	...	...	...	...	...	51
Idaho	29	252	317	162	130	...	56	...	...	...	...	...	946
Illinois	...	20	99	19	...	...	2	...	...	...	...	...	140
Iowa	...	...	...	...	...	...	...	...	...	...	28	...	28
Kansas	...	...	...	...	...	...	...	56	...	...	...	...	56
Maryland	20	18	137	131	69	58	55	17	115	99	52	...	771
Michigan	...	...	...	...	...	83	...	...	...	...	...	...	83
Nebraska	...	...	...	...	...	23	48	...	22	...	26	46	165
New Mexico	38	...	...	48	47	...	...	...	...	...	...	...	133
New York	...	...	3	...	...	...	...	...	...	...	...	...	3
Ohio	16	...	38	...	...	...	...	...	...	...	...	...	54
Pennsylvania	7	...	8	15	...	...	...	...	...	...	...	...	31
Texas	...	...	36	...	...	...	...	...	...	...	...	...	36
Total Steers Imported	688	1,318	1,212	492	314	284	306	210	292	131	431	139	5,817
Total Dairy and Breeding Cattle Imported	1,468	2,643	2,299	1,916	2,510	1,450	1,128	1,066	1,163	1,385	1,211	2,073	20,312
Total Dairy, Breeding and Feeding Cattle Imported	2,156	3,961	3,511	2,408	2,824	1,734	1,434	1,276	1,455	1,516	1,642	2,212	26,129

CATTLE SHIPPED OUT OF THE STATE DURING THE FISCAL YEAR, 1943-1944

Month	Number of Lots From Herds Under Supervision	Number of Animals From Herds Under Supervision
July	23	42
August	24	62
September	32	42
October	61	89
November	23	54
December	36	100
January	22	104
February	27	84
March	43	129
April	48	79
May	43	153
June	22	46
Totals	404	984

SUMMARY OF THE LIVESTOCK SOLD AT THE JERSEY CITY STOCK YARDS FOR
SLAUGHTER AT POINTS THROUGHOUT THE STATE, JULY 1943-JUNE 1944

1943-1944	Calves	Sheep	Cows	Bulls	Hogs	Steers	Total
July	1,367	2,106	1,408	462	234	287	5,864
August	8,836	9,820	794	700	443	1,878	22,471
September	10,084	7,922	968	344	495	2,532	22,345
October	9,910	11,679	2,076	380	383	2,525	26,953
November	6,801	10,004	2,830	221	1,039	1,547	22,442
December	3,273	5,692	2,936	206	1,224	1,388	14,719
January	6,828	4,404	3,271	256	1,859	2,326	18,944
February	5,236	1,286	2,301	223	1,511	1,405	11,962
March	3,111	942	2,475	349	1,805	1,618	10,300
April	2,383	3,861	2,349	571	3,096	1,286	13,546
May	3,179	4,000	1,953	549	6,522	1,221	17,424
June	5,889	6,124	1,683	751	11,575	1,501	27,523
Total	66,897	67,840	25,044	5,012	30,186	19,514	214,493

LIVESTOCK AUCTION SALES MARKETS

Veterinary supervision of the Harris Sales Company Auction Market has been continued throughout the year. The work completed at this point for the year follows.

		Number of Cattle Tuberculin Tested
Inshipped		1,445
Local		1,115
		Number of Swine Treated
Single	Double	Total
128	5,319	5,447

TOTAL SALES REPORTED AT HARRIS SALES COMPANY AUCTION MARKET

July 1, 1943 to June 30, 1944

Cows	Calves	Sheep	Swine	Horses	Poultry
4,864	11,823	1,394	16,838	2,727	117
Steers	Goats	Bulls	Eggs	Reactors	
2,865	58	1,055	7,320	263	

All of the livestock passing through the Harris Sales Company Auction Market is inspected by the veterinarian assigned to this market for health. No unhealthy livestock is permitted to be offered for sale.

BANG'S DISEASE CONTROL

The sustained demand for milk production during the war plus the increasing cost of replacement animals has continued to adversely affect progress of the control program for Bang's disease. However, there is some interest developing for township area testing, particularly for a survey of all cattle in the area through the use of the informative test. This is viewed as a healthy trend as it would provide for community interest in disease control which holds forth greater promise for substantial progress than could be obtained from individual herd testing. It is hoped that all agencies related to the dairy industry will encourage this type of community action. Interest is also growing for a program of calfhood vaccination and plans are already provided for its use. The employment of Strain 19 in the immunization of calves has proved to be of great value in herds where replacements are grown and seems to be especially adapted to and useful in herds in which infection occurs. Several large dairy operators in the State are emerging from a difficult problem of Bang's infection through the growing of vaccinated replacements.

It is our feeling that every encouragement should be given dairymen to work to rid their herds of this infection as early as possible. There will not always be such a demand for fluid milk as experienced at present and history has a way of repeating itself. Many will recall that some years ago when milk was flush, local boards of health and milk companies made use of the situation to eradicate tuberculosis from herds producing for them. A study of tuberculosis eradication and Bang's disease controls reveals many parallels.

For the past fiscal year State indemnity has been paid on 376 reactors, totaling \$21,392.86 as compared with 584 reactors and \$21,426.36 for the previous year.

The number of fully accredited Bang's disease free herds in the State on June 30, 1944 is 780 as compared with 739 on June 30, 1943.

Blood tests have been conducted on animals vaccinated as calves. For the fiscal year 7,796 tests have been conducted on such animals. In addition, 1,180 tests have been made of goats, 16 tests of horses, 48 tests of swine, 497 tests for milk whey titre, and 4 tests of sheep.

Private practitioners have submitted 861 samples from herds not under supervision for the control of Bang's disease and 102 tests have been conducted on animals residing outside of New Jersey.

During the year a total of 115 herds comprising 3,432 animals were informatively tested for Bang's disease. Of this number 357 or 10.4 per cent gave a positive reaction; 79 or 2.3 per cent gave a highly suspicious re-

action; 294 or 8.57 per cent gave a slightly suspicious reaction, and 2,702 or 78.73 per cent gave a negative reaction.

Initial tests have been conducted on 376 herds of 4,658 cattle with 535 reactors resulting or 11.49 per cent.

HERDS AND ANIMALS UNDER SUPERVISION FOR THE ERADICATION OF BANG'S DISEASE
AND HERDS AND ANIMALS ACCREDITED AS BEING FREE OF BANG'S DISEASE

June 30, 1944

County	Number of Herds Under Supervision	Number of Animals Under Supervision	Number of Herds Fully Accredited	Number of Animals in Herds Fully Accredited
Atlantic	217	556	180	210
Bergen	10	216	5	171
Burlington	52	2,037	26	853
Camden	40	345	22	276
Cape May	178	759	148	590
Cumberland	88	1,298	57	801
Essex	8	407	3	20
Gloucester	45	836	25	529
Hudson	...	...	...	...
Hunterdon	57	2,811	23	812
Mercer	99	3,042	62	1,061
Middlesex	41	2,878	13	194
Monmouth	82	1,969	44	1,336
Morris	88	3,892	30	700
Ocean	3	7	2	4
Passaic	3	298	1	63
Salem	54	1,372	19	370
Somerset	200	4,638	96	1,715
Sussex	23	1,799	5	218
Union	21	230	6	96
Warren	123	3,383	13	336
State	1,432	32,773	780	10,355

The following summary indicates the amount of State indemnity paid for reactors resulting from the Bang's test during the year ending June 30, 1944:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	79	\$7,380.54
Grade animals	297	14,012.32
Registered and Grade	376	\$21,392.86

Average State Indemnity Paid Per Head:

Registered animal	\$93.42
Grade animal	47.18
Registered and Grade	56.90

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The following summary indicates the amount of salvage received by owners for reactors resulting from the Bang's test during the year ending June 30, 1944:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	79	\$4,551.73
Grade animals	297	18,588.39
Registered and Grade	376	\$23,140.12

Average Salvage Received Per Head:

Registered animal	\$57.62
Grade animal	62.59
Registered and Grade	61.54

The following summary indicates the amount of federal indemnity paid for reactors resulting from the Bang's test during the year ending June 30, 1944:

Class of Cattle	Number of Animals	Amount Paid
Registered animals	79	\$3,807.54
Grade animals	297	7,171.06
Registered and Grade	376	\$10,978.60

Average Federal Indemnity Paid Per Head:

Registered animal	\$48.20
Grade animal	24.14
Registered and Grade	29.20

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)	\$55,512.18
Average amount received per head by owners for Bang's reactors	147.64

RECORD BY COUNTIES OF THE NUMBER OF BANG'S REACTORS APPRAISED, THEIR APPRAISED VALUE, THE TOTAL AND AVERAGE
AMOUNTS RECEIVED BY OWNERS FROM SALVAGE, STATE AND FEDERAL INDEMNITY

July, 1943 to June, 1944

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	..	5	5	.....	\$630.00	\$630.00	.....	\$561.26	\$561.26	.....	\$112.25	\$112.25
Bergen	1	2	3	\$250.00	250.00	500.00	\$197.37	232.10	429.47	\$197.37	116.05	143.16
Burlington	1	17	18	200.00	2,385.00	2,585.00	172.50	2,010.12	2,182.62	172.50	118.24	121.26
Camden	1	1	2	350.00	145.00	495.00	270.00	132.79	402.79	270.00	132.79	201.40
Essex	..	7	7	.....	925.00	925.00	.....	825.03	825.03	.....	117.86	117.86
Gloucester	1	7	8	225.00	930.00	1,155.00	202.79	841.32	1,044.11	202.79	120.19	130.51
Hudson	1	4	5	225.00	590.00	815.00	201.56	535.14	736.70	201.56	133.79	147.34
Monmouth	18	15	33	3,935.00	2,455.00	6,390.00	3,317.26	2,139.70	5,456.96	184.29	142.65	165.36
New Jersey	4	33	37	925.00	5,210.00	6,135.00	763.83	4,554.94	5,318.77	190.96	138.03	143.75
Passaic	10	103	113	1,965.00	15,835.00	17,800.00	1,730.48	13,837.60	15,568.08	173.05	134.35	137.77
Perth	2	5	7	500.00	760.00	1,260.00	412.50	649.16	1,061.66	206.25	129.89	151.67
Richmond	7	32	39	2,220.00	5,162.00	7,382.00	1,649.05	4,645.99	6,295.04	235.58	145.19	161.41
Salem	1	17	18	200.00	2,420.00	2,620.00	168.39	2,079.63	2,248.02	168.39	122.33	124.89
Somerset	5	9	14	1,240.00	1,270.00	2,510.00	1,028.22	1,163.85	2,192.07	205.64	129.32	156.57
Union	21	27	48	5,650.00	4,600.00	10,250.00	4,363.94	3,607.48	7,971.42	207.81	133.61	166.07
Warren	3	3	6	815.00	555.00	1,370.00	651.83	450.83	1,102.66	217.28	150.22	183.77
Worcester	3	10	13	675.00	1,780.00	2,455.00	610.09	1,505.43	2,115.52	203.36	150.54	162.73
Total	79	297	376	\$19,375.00	\$45,902.00	\$65,277.00	\$15,739.81	\$39,772.37	\$55,512.18	\$199.24	\$133.91	\$147.64

RECORD BY COUNTIES OF THE NUMBER OF BANG'S REACTORS APPRAISED, THE AMOUNT OF SALVAGE RECEIVED AND THE
STATE AND FEDERAL INDEMNITY PAID

July, 1943 to June, 1944

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	..	5	5	.....	\$243.97	\$243.97	.....	\$193.01	\$193.01	.....	\$124.28	\$124.28
Bergen	1	2	3	\$44.74	142.68	187.42	\$102.63	53.65	156.28	\$50.00	35.77	85.77
Burlington	1	17	18	45.00	818.74	863.74	77.50	783.13	860.63	50.00	408.25	458.25
Camden	1	1	2	90.00	71.16	161.16	130.00	36.62	166.62	50.00	24.41	74.41
Essex	..	7	7	.....	381.80	381.80	.....	271.60	271.60	.....	171.63	171.63
Gloucester	1	7	8	91.79	427.55	519.34	66.60	251.21	317.81	44.40	162.56	206.96
Hudson	1	4	5	84.43	288.89	373.32	70.28	150.55	220.83	46.85	95.70	142.55
Monmouth	18	15	33	944.42	1,091.26	2,035.68	1,495.22	681.82	2,177.04	877.62	366.62	1,244.24
Morris	4	33	37	206.00	2,332.60	2,538.60	359.50	1,438.70	1,798.20	198.33	783.64	981.97
Passaic	10	103	113	578.00	6,795.04	7,373.04	693.50	4,519.96	5,213.46	458.98	2,522.60	2,981.58
Somerset	2	5	7	125.00	295.00	420.00	187.50	232.50	420.00	100.00	121.66	221.66
Trenton	7	32	39	387.33	1,698.96	2,086.29	911.72	2,150.63	3,062.35	350.00	796.40	1,146.40
Union	1	17	18	36.78	1,013.71	1,050.49	81.61	703.12	784.73	50.00	362.80	412.80
Warren	5	9	14	316.45	659.87	976.32	461.77	305.06	766.83	250.00	198.92	448.92
Westchester	21	27	48	1,109.74	1,397.09	2,506.83	2,245.54	1,539.23	3,784.77	1,008.66	671.16	1,679.82
Windsor	3	3	6	206.47	198.52	404.99	302.46	177.31	479.77	142.90	75.00	217.90
York	3	10	13	285.58	731.55	1,017.13	194.71	524.22	718.93	129.80	249.66	379.46
Total	79	297	376	\$4,551.73	\$18,588.39	\$23,140.12	\$7,380.54	\$14,012.32	\$21,392.86	\$3,807.54	\$7,171.06	\$10,978.60

RECORD BY COUNTIES OF THE NUMBER OF BANG'S REACTORS APPRAISED, THEIR APPRAISED VALUE, THE TOTAL AND AVERAGE
AMOUNTS RECEIVED BY OWNERS FROM SALVAGE, STATE AND FEDERAL INDEMNITY

December 16, 1940 to June, 1944

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	..	53	53	.....	\$5,945.00	\$5,945.00	.....	\$5,380.26	\$5,380.26	.....	\$101.51	\$101.51
Bergen	3	3	6	.....	350.00	1,030.00	\$581.40	328.38	909.78	\$193.80	109.46	151.54
Burlington	42	62	104	6,820.00	7,800.00	14,620.00	6,077.84	6,894.45	12,972.29	144.54	111.20	124.73
Camden	1	4	5	350.00	520.00	870.00	270.00	481.49	751.49	270.00	120.40	150.30
Essex	..	59	59	.....	6,770.00	6,770.00	.....	6,159.85	6,159.85	.....	104.40	104.40
Gloucester	20	79	99	3,115.00	9,165.00	12,280.00	2,781.44	8,450.24	11,231.68	139.07	106.97	113.45
Hudson	..	15	15	.....	1,400.00	1,400.00	.....	1,305.92	1,305.92	.....	870.61	870.61
Monmouth	9	35	44	1,590.00	3,760.00	5,350.00	1,453.52	3,469.78	4,923.30	161.50	99.14	111.89
Morris	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Passaic	49	36	85	9,400.00	5,085.00	14,485.00	8,225.11	4,557.88	12,782.99	167.86	126.61	150.39
Somerset	46	194	240	7,975.00	24,045.00	32,020.00	7,139.09	22,012.30	29,151.39	155.20	113.46	121.46
Sussex	82	531	613	13,410.00	67,780.00	81,190.00	12,035.32	61,817.71	73,853.03	146.77	116.42	120.48
Trenton	40	66	106	7,535.00	8,225.00	15,760.00	6,754.38	7,452.91	14,207.29	168.86	112.92	134.03
Union	90	164	254	17,630.00	22,372.00	40,002.00	15,242.80	20,040.22	35,283.02	169.36	122.20	138.91
Warren	..	1	1	.....	175.00	175.00	.....	142.50	142.50	142.50	142.50	142.50
Washington	1	24	25	200.00	3,345.00	3,545.00	168.39	2,928.12	3,096.51	168.39	122.01	123.86
Windsor	31	178	209	5,725.00	20,395.00	26,120.00	5,130.71	18,962.88	24,093.59	165.51	106.53	115.28
York	81	167	248	16,125.00	21,775.00	37,900.00	13,620.04	19,205.83	32,825.87	168.15	115.00	132.36
Delaware	47	13	60	8,080.00	1,795.00	9,875.00	7,086.71	1,588.16	8,671.87	150.78	121.94	144.53
Franklin	..	6	6	.....	645.00	645.00	.....	598.15	598.15	.....	99.69	99.69
Hamilton	55	65	120	10,465.00	8,460.00	18,925.00	9,159.99	7,582.98	16,742.97	166.55	116.66	139.52
Total	597	1,755	2,352	\$109,100.00	\$219,807.00	\$328,907.00	\$95,726.74	\$199,357.01	\$295,083.75	\$160.35	\$113.59	\$125.46

RECORD BY COUNTIES OF THE NUMBER OF BANG'S REACTORS APPRAISED, THE AMOUNT OF SALVAGE RECEIVED AND THE
STATE AND FEDERAL INDEMNITY PAID

December 16, 1940 to June, 1944

	<i>Number of Reactors Appraised</i>			<i>Amount of Salvage Received</i>			<i>Amount of State Indemnity Paid</i>			<i>Amount of Federal Indemnity Paid</i>		
	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total	Reg.	Gr.	Total
nty												
tic	..	53	53	.....	\$2,841.98	\$2,841.98	.....	\$1,552.48	\$1,552.48	.....	\$985.80	\$985.80
n	3	3	6	\$208.95	220.36	429.31	\$235.52	64.81	300.33	\$136.93	43.21	180.14
ngton	42	62	104	2,378.00	3,400.50	5,778.50	2,221.00	2,199.74	4,420.74	1,478.84	1,294.21	2,773.65
en	1	4	5	90.00	288.47	378.47	130.00	115.46	245.46	50.00	76.96	126.96
May	..	59	59	.....	3,329.73	3,329.73	.....	1,720.11	1,720.11	.....	1,110.01	1,110.01
erland	20	79	99	1,114.23	4,913.32	6,027.55	1,000.37	2,132.45	3,132.82	666.84	1,404.47	2,071.31
	..	15	15	.....	846.86	846.86	.....	276.55	276.55	.....	182.51	182.51
ester	9	35	44	781.69	2,047.40	2,829.09	404.14	856.28	1,260.42	267.69	566.10	833.79
on	..	..	..	.....	.....	.....	.....	.....	.....	.....	.....	.....
rdon	49	36	85	3,097.86	2,615.94	5,713.80	3,150.97	1,234.45	4,385.42	1,976.28	707.49	2,683.77
er	46	194	240	3,218.51	13,053.54	16,272.05	2,378.22	5,495.67	7,873.90	1,542.35	3,463.09	5,005.44
esex	82	531	613	5,183.30	35,173.63	40,356.93	4,113.35	16,305.65	20,419.00	2,738.67	10,338.43	13,077.10
mouth	40	66	106	3,176.00	4,068.50	7,244.50	2,179.50	2,078.25	4,257.75	1,398.88	1,306.16	2,705.04
s	90	164	254	5,375.80	9,765.14	15,140.94	6,122.29	6,721.58	12,843.87	3,744.71	3,553.50	7,298.21
	..	1	1	.....	60.00	60.00	.....	57.50	57.50	.....	25.00	25.00
ic	1	24	25	36.78	1,580.19	1,616.97	81.61	882.37	963.98	50.00	465.56	515.56
rsset	31	178	209	2,504.44	12,005.75	14,510.19	1,610.51	4,194.53	5,805.04	1,015.76	2,762.60	3,778.36
x	81	167	248	4,723.95	10,179.15	14,903.10	5,675.87	5,736.75	11,412.62	3,220.22	3,289.93	6,510.15
en	47	13	60	2,678.05	835.34	3,513.39	2,699.05	478.88	3,177.93	1,709.61	270.94	1,980.55
	..	6	6	.....	364.14	364.14	.....	140.41	140.41	.....	93.60	93.60
	55	65	120	3,341.87	4,111.00	7,452.87	3,561.49	2,174.39	5,735.85	2,256.63	1,297.59	3,554.22
total	597	1,755	2,352	\$37,909.43	\$111,700.94	\$149,610.37	\$35,563.90	\$54,418.31	\$89,982.21	\$22,253.41	\$33,237.16	\$55,490.57

GOATS

Following is a summary of the number of herds and animals under supervision and those fully accredited as free from both tuberculosis and Bang's disease, by counties.

County	TUBERCULOSIS				BANG'S DISEASE			
	<i>Under Supervision</i>		<i>Fully Accredited</i>		<i>Under Supervision</i>		<i>Fully Accredited</i>	
	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals
Atlantic	1	5	1	5	2	7	...	...
Bergen	23	183	9	60	16	134	6	45
Burlington	6	21	...	...	6	25	2	17
Camden	8	95	2	12	4	22	3	16
Cape May	1	1	...	...	...	...	...	...
Cumberland	6	55	3	52	1	5	1	5
Essex	6	23	3	14	3	16	2	11
Gloucester	19	100	8	52	9	51	7	46
Hudson	...	...	...	...	...	...	...	...
Hunterdon	14	60	2	9	6	26	1	6
Mercer	8	82	...	...	3	74	1	71
Middlesex	9	68	3	38	1	28	1	28
Monmouth	22	139	14	100	17	120	10	91
Morris	53	419	13	153	19	228	9	130
Ocean	...	...	...	...	...	...	...	...
Passaic	9	118	4	50	3	71	3	71
Salem	2	16	1	6	1	9	...	...
Somerset	8	327	3	284	9	201	1	140
Sussex	2	26
Union	2	10	2	10	2	10
Warren	2	4	3	4
State	201	1,752	68	845	105	1,031	47	677

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RECORD OF BLOOD TESTS MADE ON GOATS UNDER SUPERVISION FOR
BANG'S DISEASE

July 1, 1943 to June 30, 1944

County	Number of Herds Tested	Number of Goats Tested
Atlantic	2	7
Bergen	12	130
Burlington	5	17
Camden	1	6
Cape May	..	..
Cumberland	1	5
Essex	2	12
Gloucester	3	5
Hudson	..	..
Hunterdon	5	19
Mercer	3	74
Middlesex	1	28
Monmouth	15	111
Morris	16	171
Ocean	..	..
Passaic	2	59
Salem	1	9
Somerset	2	117
Sussex	..	..
Union	..	..
Warren	3	4
Total	74	774

PHYSICAL EXAMINATIONS CONDUCTED ON COWS FOR
NEW JERSEY OFFICIAL GRADES OF MILK

Under supervision of the Bureau of Animal Industry, 16,259 physical examinations for health were completed by private veterinary practitioners during the year ending June 30, 1944. Condemnations continue to lessen each year, 82 animals being condemned and 369 removed from production for treatment.

Following is a summary of the examinations made during the year 1943-1944.

Month Made	Number of Herd Examinations	Number of Animals Examined	Number of Animals Condemned	Number of Animals Isolated	Number of Animals Passed
July	6	117	...	..	117
August	5	119	3	2	114
September	5	107	...	4	103
October	4	73	...	2	71
November	173	5,398	39	118	5,241
December	48	1,537	2	21	1,514
January	6	118	...	2	116
February	21	423	2	8	413
March	17	468	4	21	443
April	231	7,072	30	170	6,872
May	29	815	2	21	792
June	1	12	12
Totals	546	16,259	82	369	15,808

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STATE DEPARTMENT OF AGRICULTURE

POULTRY INSPECTION

Inspection of all car and truck lots of poultry arriving at the poultry terminals has been carried out throughout the year and 9,470,937 birds were examined with an estimated weight of 34,515,538 pounds. Of this number 160,500 birds, weighing approximately 645,136 pounds, were condemned due to health condition.

Following is a summary of the number of birds inspected which arrived in car and truck lots, and their estimated weight by months.

Month	Number of Birds Inspected		Total	Approximate Weight
	Car Lots	Truck Lots		
1943				
July	71,287	665,000	736,287	2,945,150
August	180,000	502,700	682,700	1,798,000
September	79,000	647,500	726,500	3,045,288
October	16,500	898,500	915,000	3,332,000
November	116,000	677,000	793,000	3,004,600
December	60,000	631,200	691,200	2,744,500
1944				
January	12,000	1,036,500	1,048,500	3,686,000
February	7,000	661,750	668,750	2,546,500
March	.....	809,500	809,500	2,850,000
April	.....	1,049,000	1,049,000	3,815,000
May	3,500	654,500	658,000	2,423,500
June	.....	692,500	692,500	2,325,000
Total	545,287	8,925,650	9,470,937	34,515,538

CARLOTS OF POULTRY RELEASED AT RAILROAD TERMINALS, JULY 1, 1943-JUNE 30, 1944

State of Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Illinois	2	..	1	..	..	..	..	..	..	..	..	..	3
Iowa	..	..	1	..	2	2	..	..	..	..	..	..	5
Kentucky	1	..	..	..	..	..	..	..	..	..	..	..	1
Maryland	3	..	..	..	..	..	..	..	..	..	..	..	3
Nebraska	7	4	9	1	5	6	2	2	..	..	1	..	37
South Dakota	6	8	8	3	14	6	1	..	..	..	..	..	46
Tennessee	..	..	..	..	3	..	..	..	..	..	..	..	3
Virginia	..	..	..	..	5	1	..	..	..	..	..	..	6
Totals	19	12	19	4	29	15	3	2	..	..	1	..	104

TRUCKLOAD LOTS OF POULTRY FROM VARIOUS STATES, JULY 1943-JUNE 1944

Connecticut	15	14	26	33	47	51	63	25	53	79	58	55	519
Delaware	193	164	156	155	121	109	153	125	130	138	104	80	1,628
Indiana	3	6	10	5	7	5	7	..	2	12	9	13	79
Kentucky	..	..	..	..	..	..	4	..	..	..	..	..	4
Maine	..	..	..	..	4	2	..	2	7	1	..	..	16
Maryland	101	20	37	30	14	20	41	20	41	64	83	69	621
Massachusetts	8	4	10	22	12	12	12	10	3	7	..	24	124
New Hampshire	..	..	69	54	33	24	21	6	11	35	15	11	279
New Jersey	56	25	86	109	94	80	88	53	54	91	47	52	835
New York	2	1	14	23	19	25	48	31	17	49	26	30	285
North Carolina	15	9	7	7	..	14	44	34	23	34	18	10	215
Ohio	..	..	..	..	6	..	..	..	..	..	..	..	6
Pennsylvania	48	46	71	105	78	91	106	77	77	77	62	49	887
Rhode Island	2	..	..	..	1	1	4	3	4	4	..	..	19
Tennessee	9	1	..	4	4	..	..	15	..	2	7	7	49
Virginia	80	60	79	107	73	69	118	74	104	140	75	50	1,029
Totals	532	350	565	654	513	503	724	504	570	763	474	443	6,595

STATE DEPARTMENT OF AGRICULTURE

POULTRY CONDEMNED AT POULTRY TERMINALS

July 1, 1943 to June 30, 1944

Month	Number of Birds Condemned	Approximate Weight in Pounds
1943		
July	13,255	53,020
August	7,935	31,940
September	11,606	46,424
October	14,644	58,564
November	14,281	60,570
December	10,353	41,412
1944		
January	17,153	68,612
February	12,215	48,590
March	16,138	64,552
April	17,855	71,420
May	13,525	53,932
June	11,540	46,100
Total	160,500	645,136

NUMBER OF FOWLS BLOOD-TESTED BY BUREAU REPRESENTATIVES FOR PULLORUM DISEASE

NUMBER AND PERCENTAGE REACTING, BY COUNTIES

July 1, 1943 to June 30, 1944

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	33,184	422	1.27	81	22	27.16	33,265	444	1.33
Bergen	3,475	8	.23	5	4	80.00	3,480	12	.34
Burlington	15,222	253	1.66	366	132	36.07	15,588	385	2.46
Camden	3,013	35	1.16	...	...	....	3,013	35	1.16
Cape May	26,833	366	1.36	36	6	16.67	26,869	372	1.38
Cumberland	101,583	890	.88	515	58	11.26	102,098	948	.93
Essex	...	...	...	...	...	....	...	...	...
Gloucester	16,614	163	.98	328	20	6.10	16,942	183	1.08
Hudson	...	...	...	...	...	....	...	...	...
Hunterdon	16,125	237	1.47	13,507	691	5.12	29,632	928	3.13
Mercer	27,360	478	1.75	2,732	164	6.00	30,092	642	.21
Middlesex	11,526	390	3.38	345	177	51.30	11,871	567	4.78
Monmouth	38,948	223	.57	3,269	133	4.07	42,217	356	.84
Morris	4,377	30	.69	27	27	100.00	4,404	57	1.29
Ocean	44,863	553	1.23	2,784	481	17.28	47,647	1,034	2.17
Passaic	3,102	34	1.10	51	3	5.88	3,153	37	1.17
Salem	50,511	1,080	2.14	253	23	9.09	50,764	1,103	2.17
Somerset	1,799	20	1.11	648	22	3.40	2,447	42	1.72
Sussex	4,588	8	.17	109	6	5.50	4,697	14	.30
Union	...	...	...	...	...	....	...	...	...
Warren	1,199	...	...	...	...	....	1,199	...	...
Total	404,322	5,190	1.28	25,056	1,969	7.86	429,378	7,159	1.67

Out of State—July, 1943-June, 1944

Delaware	5,076	6	1.69	...	...	....	5,076	6	.12
Maryland	1,699	24	1.41	...	...	....	1,699	24	1.41
Pennsylvania	26,444	539	2.04	12	6	50.00	26,456	545	3.06
Total	33,219	569	1.71	12	6	50.00	33,231	575	1.73

MISCELLANEOUS ANIMAL DISEASES

SWINE ERYSIPELAS

During the year an outbreak of swine erysipelas occurred on the premises of Mr. Frank Smith of Port Murray. The history of this infection is interesting and indicates the need in this State of some legal supervision of livestock auction markets. During February, Mr. Smith purchased some pigs at the Hackettstown Auction Market. Within a few days following the purchase the swine became sick. Dr. Boyd of Hackettstown was called and diagnosed swine erysipelas. An endeavor was made to save the animals through the administration of erysipelas anti serum in spite of which all but two died.

At the time of an investigation conducted by the Bureau of Animal Industry, Dr. R. A. Hendershott found two hogs, one exhibiting symptoms sub-acute swine erysipelas, the other entirely recovered. Blood samples were collected from both animals and a subsequent laboratory examination confirmed the diagnosis.

Dr. Boyd reported several other outbreaks of a similar condition in the vicinity in which all swine died as a result of infection, now thought to be swine erysipelas. Veterinarians in the area were requested to notify us should other cases develop.

ANTHRAX

In April, as is customary, the Bureau immunized livestock in Salem County, cooperating with the office of the county agricultural agent; 1,137 cows, 88 calves and 76 horses were given prophylactic inoculations of intradermal anthrax vaccine.

In November, one positive case of anthrax was diagnosed in Burlington Count. This was encountered in a herd of cattle owned by Fairhaven Farms, Burlington, where five cows had died. Specimens were collected and sent to a commercial laboratory for examination. The diagnosis was anthrax.

In order to protect the remaining animals on the farm—about 65 cattle and three horses—the Department obtained anthrax spore vaccine and immunized all cattle and horses on the premises. No further losses were reported.

ENCEPHALOMYELITIS

Although the Bureau has not had any positively diagnosed cases of encephalomyelitis in the State, reports received from veterinarians indicate that owners are still immunizing their horses as a protection against the disease.

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Following is a record of the vaccinations reported by private veterinarians:

County	Number of Horses Vaccinated
Atlantic	1
Burlington	5
Cape May	60
Cumberland	57
Gloucester	2
State	<hr/> 125

STALLION LICENSES

During the year \$63 has been collected in fees for stallion licenses issued. The following tables indicate the registration by breeds as well as by counties:

STALLIONS LICENSED, BY BREEDS

July 1, 1943 to June 30, 1944

Breed	Number Registered
Belgian (purebred)	4
Percheron (purebred)	4
Saddle (purebred)	3
Suffolk (purebred)	2
Tennessee Walking Horse (purebred)	1
Thoroughbred (purebred)	12
Grades	1
Total	<hr/> 27

STALLIONS LICENSED, BY COUNTIES

July 1, 1943 to June 30, 1944

Atlantic	..
Bergen	..
Burlington	1
Camden	2
Cape May	..
Cumberland	..
Essex	..
Gloucester	..
Hudson	..
Hunterdon	4
Mercer	2
Middlesex	..
Monmouth	10
Morris	2
Ocean	..
Passaic	1
Salem	3
Somerset	1
Sussex	..
Union	..
Warren	1
State	<hr/> 27

STATE DEPARTMENT OF AGRICULTURE

HOGS INOCULATED AS A PROTECTION AGAINST CHOLERA INFECTION, BY COUNTIES

July, 1943 to June, 1944

Vaccinations Made by Private Veterinarians

County	Number of Hogs Given Single Treatment	Number of Hogs Given Double Treatment
Atlantic	...	430
Bergen
Burlington	...	40
Camden
Cape May	...	1,608
Cumberland	...	10
Essex
Gloucester
Hudson
Hunterdon	...	368
Mercer
Middlesex	54	661
Monmouth	129	348
Morris
Ocean
Passaic
Salem
Somerset	...	29
Sussex	...	300
Union	12	311
Warren	...	77
State	195	4,182

HOGS INOCULATED AS A PROTECTION AGAINST CHOLERA INFECTION, BY MONTHS

July, 1943 to June, 1944

Vaccinations Made by Private Veterinarians

Month	Number of Hogs Given Single Treatment	Number of Hogs Given Double Treatment
July	...	79
August	25	165
September	27	420
October	...	620
November	3	428
December	6	597
January	22	337
February	49	655
March	18	181
April	1	140
May	41	356
June	3	204
Totals	195	4,182

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WORK DONE IN THE BUREAU LABORATORY

The following is a report of all the work completed in the Bureau Laboratory during the fiscal year July 1, 1943 to June 30, 1944.

BANG'S DISEASE

Samples received	86,921
Insufficient sera	64
Broken	25
Tests set	86,832
Tests read	87,189
Positive	2,883
Highly suspicious	1,065
Slightly suspicious	4,274
Hemolyzed	561
Negative	78,406

INSHIP ANIMALS

Samples received	20,281
Insufficient sera	9
Broken	70
Tests set	20,202
Tests read	20,202
Positive	239
Hemolyzed	11
Negative	19,952

VACCINATED ANIMALS

Samples received	9,672
Insufficient sera	16
Broken	1
Tests set	9,655
Tests read	9,732
Positive	1,560
Highly suspicious	447
Slightly suspicious	1,459
Hemolyzed	231
Negative	6,035

PULLORUM DISEASE

Samples received	25,068
Broken	1
Insufficient sera	13
Tests set	25,054
Tests read	25,054
Positive	1,599
Suspicious	373
Hemolyzed	502
Contaminated	12
Negative	22,568

STATE DEPARTMENT OF AGRICULTURE

MILK SERA TEST

Samples received	1,333
Tests set	1,333
Tests read	1,333
Positive	130
Negative	1,203

HOTIS TEST (MASTITIS)

Number Animals	4,443
Samples received	17,585
Streptococci	3,207
Staphylococci	1,938
Coli	8
Corynebacterium pyogenes	4
Unsatisfactory	16
Contaminated	49
Broken	2
Negative	12,361

BACTERIOLOGICAL, MICROSCOPIC AND POST-MORTEM EXAMINATIONS

Animal	No.	Material	Condition Suspected	Findings
Avian	1	Chicken carcass	Unknown	Chicken badly decomposed, unsatisfactory for examination
Avian	2	Sick chickens	Unknown	Positive for fowl cholera
Avian	4	Chickens	Unknown	Fowl leukemia
Avian	14	Chicks	Unknown	Coccidiosis
Avian	1	Intestines	Parasites	Positive for round worm ova (<i>ascardia galli</i> and <i>heterakis gallinae</i>). Negative for coccidia
Avian	1	Chicken	Unknown	Infectious bronchitis
Avian	18	Chickens	Salmonella pullorum	Negative for pullorum
Avian	3	Ducks	Unknown	The ducks are apparently dying from botulism
Avian	10	Chickens	Pullorum disease	Seven negative for pullorum disease, three positive for pullorum disease
Avian	9	Chickens	Salmonella pullorum	Positive for Salmonella pullorum
Avian	70	Chicks	Pullorum disease	Positive for pullorum disease
Avian	1	Pullet	Coryza	Acute coryza complicated with bronchitis
Avian	2	Pullets	Pullorum disease	Negative for pullorum disease
Avian	2	Chicks	Unknown	Pathological-Pasturella anicido (fowl) Bacteriological-Pasturella anicido or cholera
Avian	1	Growth	Differential diagnosis	Visceral lymphocytoma
Avian	5	Chickens	Unknown	Fowl typhoid
Avian	2	Chicks	Unknown	Coccidia found in abundance
Avian	2	Chickens	Unknown	First bird died of toxemia; second bird showed pox, roup, fowl cholera, parasites
Avian	8	Pullets	Salmonella pullorum	One positive for Salmonella pullorum, seven negative for Salmonella pullorum
Avian	25	Chicks	Pullorum disease	Negative for pullorum disease
Avian	2	Turkeys	Pullorum disease	Positive for pullorum disease
Avian	1	N. H. Red hen	Unknown	Death caused by severe hemorrhage of the liver. Pullorum disease also recovered
Avian	2	Turkey poults	Cause of losses	Negative for pullorum disease
Avian	12	N. H. Red chicks	Unknown	Coccidiosis (<i>Eimeria tenella</i>)
Avian	3	Jersey Black Giant chickens	Fowl Paralysis	Fowl paralysis-coccidiosis

BACTERIOLOGICAL, MICROSCOPIC AND POST-MORTEM EXAMINATIONS—Continued

Animal	No.	Material	Condition Suspected	Findings
Avian	1	Chicken	Coccidiosis	Positive for coccidiosis
Avian	1	Pigeon	Unknown	Bacteriological-E. coli; feeding condition
Avian	1	Chicken	Cause of hemorrhagic diarrhea	Coccidiosis
Avian	5	Chicks	Unknown	Positive for fowl typhoid, <i>Shigella gallinarum</i>
Avian	1	Pullet	Unknown	Severe heart hemorrhage
Avian	3	Chicks	Unknown	Positive for coccidiosis; negative for <i>Salmonella pullorum</i>
Bovine		Parasites from intestines of calf	Unknown	<i>Anceptostomatosis</i> internally- <i>Hematopenus vituli</i> and <i>Trichodistes scalaris</i> externally culturis negative
	3	Fecal material from calves		
	1	Kidney of calf		
Bovine	17	Blood samples	Complete blood count	All counts normal
Bovine	1	Angus calf	Brucellosis, <i>Vibrio</i> , etc.	Negative for <i>Brucella</i> . Negative for <i>Vibrio</i> . A strain of streptococcus was isolated in pure culture from the spleen
Bovine	1	Bovine uterine discharge	Bovine Trichomoniasis	Negative for bovine trichomoniasis
Bovine	1	Fetus	Brucellosis and vibris infection	Negative for <i>Brucella abortus</i> and <i>Vibrio</i>
Bovine	1	Vaginal	Trichomoniasis	Negative for trichomonads streptococci
Bovine	1	Spleen from bull	Unknown	A gram-negative bacillus of the coli type (<i>Proteus</i>), extremely pathogenic and highly lethal for mice, was isolated from the spleen of the bull
Bovine	1	Fetus	Brucella and Trichomonads	Negative for <i>Brucella</i> and trichomonads
Bovine	1	Vaginal discharge	Trichomoniasis	Negative for trichomoniasis
Bovine	1	Stomach and intestines of cow	Poisoning	Negative for poisoning
Bovine	2	Fetus	<i>Brucella abortus</i>	Negative for <i>Brucella abortus</i>
Bovine	1	Spec. flesh from cow's leg	Blackleg	Negative for blackleg
Bovine	1	Fetus	<i>Brucella</i> , Streptococci and Trichomonads	Negative for streptococci; negative for <i>Brucella abortus</i> ; negative for trichomonads; positive for actinomycosis

Bovine	2	Urine	Diphtheried bacilli (Corynebacterium)	Specimens of urine from both cows contained Corynebacterium renale (Pyelonephritis)
Bovine	1	Ear, liver, lung, kidney	Anthrax	Negative for anthrax
Bovine	1	Ear of heifer	Anthrax	Negative for anthrax; positive for non- Hemolytic staph
Bovine	1	Urine	Pyelonephritis	No corynebacteria were found in cultures from the urine. Escherichia coli was present. The coli present were pathogenic for mice
Bovine		Ears	Unknown	Negative for anthrax, cultures of Staphy- lococcus albus were found
Bovine	4	Four quarter samples of milk	Brucella abortus	Negative for Brucella abortus. Agglutination test also negative
Bovine	1	Fetus and placenta	Brucella abortus	Negative for Brucella abortus
Bovine	1	Fetus	Brucella abortus	Pure culture of Brucella abortus recovered
Bovine	1	Small intestines	Johne's disease	Johne's disease
Bovine	1	Exudate from udder	Type of infection	Anthrax Bacelli was isolated
Bovine	1	Blood and milk samples. Cotyedens and stomach content	Brucella abortus	Brucella abortus recovered
Bovine	1	Vaginal discharge	Examined for infection	Negative for trichomoniasis. Recovered cul- tures of non-Hemolytic staphylococci and diphtheroid bacilli
Bovine	1	Urine	Corynebacterium renale	Negative
Bovine	1	Aborted Fetus	Bang's Disease	Negative for Bang's disease
Bovine	1	Organs from cow	Unknown	Escherichia coli isolated
Bovine	1	Abscesses	Actinomycosis	Actinobacillus
Bovine	1	Urine of Bull	Microscopic examination albumen and acetone tests	Microscopic examination of sediment showed exithelial cells, no pus, no casts. Negative for albumen and acetone
Bovine	5	Blood and milk from cow	Brucellosis	Negative for brucellosis culture and whey titer
Bovine	2	Vaginal discharge from 2 cows	Brucellosis and Trichomoniasis	Negative to trichomoniasis; negative for brucellosis

BACTERIOLOGICAL, MICROSCOPIC AND POST-MORTEM EXAMINATIONS—Continued

Animal	No.	Material	Condition Suspected	Findings
Bovine	1	Blood	Brucellosis	Blood was positive for brucellosis. Milk whey titers were positive in all four quarters. Cultures for Brucella in the milk were negative
	4	Milk samples		
Bovine	20	Milk samples	Brucellosis	Negative for brucellosis (cultures and whey titer)
Bovine	1	Uterus, Fallopian tubes, ovaries, and udder from cow	Brucellosis	Brucella abortus was isolated from one udder quarter of the cow
Bovine	4	Milk from individual udder quarters	Brucellosis	Brucella was recovered from left hind quarter
Bovine	1	Uterus and ovaries from cow	Brucella abortus	Negative for Brucella abortus
Bovine	1	Uterus, supermammary glands and udder	Brucella abortus	Brucella abortus was isolated from the supermammary glands and from the four quarters of the udder
Bovine	16	Milk samples on 4 cows	Brucella abortus in the milk whey (titer)	Brucella was recovered from one quarter. This quarter also showed a whey titer; all other quarters were negative
Bovine	2	Samples of feces from 2 heifers	Parasitic ova	Feces samples on both heifers contained hookworm (strongyles) and some coccidia
Bovine	1	Samples of mastitis milk from cow	Type of infection	Cow is suffering from an acute mastitis having an infection with a coliform organism in the right hind quarter and a streptococcus agalactiae in the right fore quarter.
Bovine	1	Vaginal discharge type of infection from a cow	Type of infection	Escherichia coli in pure culture was isolated from the discharge
Bovine	156	Milk samples from individual quarters of 39 cows	Brucella infection	All quarters were negative for Brucella abortus on culture. One quarter of one cow showed a suspicious whey titer.
Bovine	12	Milk samples	Brucella abortus	Brucella cultures recovered from all four quarters on one cow. Two cows negative in all quarters

Bovine	1	Pus from abscesses	Actino-infection	Actinobacillus isolated
Bovine	1	Vaginal discharge	Trichomoniasis	Negative for trichomoniasis
Bovine	32	Milk samples	Brucella abortus	All quarters negative for Brucella
Bovine	8	Milk samples from 2 cows	Brucella abortus	Brucella abortus was recovered from one quarter of one cow. One cow was negative
Bovine	8	Milk samples from 2 cows	Brucella abortus	Brucella abortus was recovered from both cows
Bovine	62	Milk samples	Brucella abortus	Brucella abortus isolated from 2 quarters of one cow. Fifteen cows negative
Bovine	12	Milk samples	Brucella abortus also whey titer	Negative for Brucella abortus. Whey titers were negative
Bovine	1	Pasteurized milk sample	Bacterial count	The sample of pasteurized milk contained 20,000 bacteria per c.c. The flora consisted only of bacilli, probably thermophilic bacteria from the equipment
Bovine	2	Placenta	Brucellosis	Negative for Brucella abortus
Bovine	1	Vaginal swab	Brucella abortus	The vaginal swab culture showed only Escherichia coli
Bovine	171	Milk samples	Brucella abortus, also whey titer	Twenty-one cows showed positive whey titers. Fourteen cows were shedding Brucella abortus from one or more quarters
Bovine	4	Milk samples	Brucella abortus, also whey titer	Brucella abortus was isolated from one quarter. All quarters were negative on whey titer
Bovine	1	Blood sample	Brucellosis	Blood sample was negative on the agglutination test. Vaginal secretion was negative for trichomoniasis and Brucella abortus
	1	Vaginal swab	Trichomoniasis and Brucella abortus	Blood was negative on agglutination test. The milk sample was negative for Brucella abortus and whey titer
Bovine	1	Blood sample	Brucellosis	
	1	Milk sample	Brucellosis and whey titer	
Bovine	491	Milk samples	Brucella abortus, also whey titer	One hundred twenty-four cows were tested for milk cultures made for Brucella abortus. Brucella abortus was isolated from one cow in the LH and RH quarters. All the other cows were negative. All animals were negative for brucellosis on whey titer

BACTERIOLOGICAL, MICROSCOPIC AND POST-MORTEM EXAMINATIONS—Continued

Animal	No.	Material	Condition Suspected	Findings
Bovine	1	Blood sample	Brucellosis	Blood and milk were positive on the agglutination test for brucellosis
	4	Milk samples		
	1	Calf stomach		
Bovine	48	Milk samples	Brucella abortus, also whey titer	Of 12 cows which were positive on the blood test, 6 were found to be shedding Brucella abortus from one or more udder quarters
Bovine	12	Milk samples from 3 cows	Brucella abortus, also whey titer	Two cows were negative for Brucella abortus and negative on whey titer. One cow was positive in all quarters on whey titer and was found to be shedding Brucella abortus from the LH, LF, and RH quarter of the udder
Bovine	4	Milk samples	Brucella abortus and whey titer	Milk samples showed positive whey titers and Brucella abortus was isolated from the LH and RH quarters of the udder
Bovine	8	Milk samples from 2 cows	Brucella abortus and whey titer	One cow was positive in all quarters on whey titer and was found to be shedding Brucella from the RH quarter. The other cow was negative.
Bovine	2	Urine samples from 2 cows	Corynebacterium renale	The urines on both cows were negative for corynebacterium renale; staphalococci and coli were present in both samples
Canine	7	Blood	Leptospirosis	Six positive for leptospirosis; one negative
Canine	1	Blood and urine from dog	Leptospirosis	Negative for leptospirosis
Canine	1	Male cocker spaniel	Unknown	Acute nephritis, origin unknown
Equine	1	Intestine, 3 oz. drinking water	Unknown	Water not toxic
Equine	6	Vaginal cultures from 5 mares	Equine abortion	Negative for equine abortion
Equine	1	Feces	Parasitic ova	Light strongyle infestations
Equine	1	Internal organs from a foal	Bacteria involved as cause of death	A hemolytic streptococcus was the apparent cause of death
Equine	4	Vaginal smears	Streptococcus	Culture was positive for streptococcus

Equine	1	Culture from internal organs of foal	Type of streptococci	The streptococci isolated from the foal was of the animal pyogenes type, the streptococcus genitalium of Dimock
Equine	2	Blood samples	Salmonella abortivo-equine	Negative
Equine	2	Swabs	Salmonella abortivo-equine	E. coli and staphylococci
Equine	5	Swabs	Streptococci	Negative for streptococci
Equine	6	Swabs	Brucellosis	Cultures revealed E. coli and staphylococci
Ovine	1	Lamb Carcass	Unknown	An atypical strain of clastridia was isolated from the organs of the lamb
Ovine	1	Liver, lung, intestine	Unknown	Positive for nodular strongylosis—likely of long standing
Ovine	1	Sheep carcass	Unknown	Pregnancy disease of ewes
Ovine	1	Sheep	Unknown	Urethral calculi cause of death—"Uremia"
Ovine	1	Sample of goat feces	Parasites	Coccidia were found; also strongyles
Porcine	1	Ear from sow	Anthrax or other infectious disease	Negative for anthrax, Salmonella choleraesuis (B. suispestifer) was located from the blood
Porcine	1	Young pig	Unknown	Death due to suffocation
Porcine	1	Shoat	Unknown	Pathological-erysipelas
Porcine	1	Viscera	Unknown	Bacteriological-erysipelas
Porcine	1	Viscera	Unknown	Acute hog cholera
Porcine		Lungs, liver, heart and spleen	Unknown	Malnutrition, parasitism, some evidence of cholera
Porcine	1	Internal organs	Unknown	A gram negative bacillus unidentifiable was isolated in pure culture from all organs
Porcine	1	Male pig	Unknown	S. Cholerasius
Porcine	1	Two anterior limbs from sow	Erysipelas	Gastro enteritis of hemorrhagic character due to irritant food or other material
Porcine	1	Male pig	Unknown	Negative
Porcine	2	Small pigs	Unknown	Pneumonia and pleurisy
				Severe gastro-enteritis and anemia. Bacteriological examination showed Pasturella suisseptica

BACTERIOLOGICAL, MICROSCOPIC AND POST-MORTEM EXAMINATIONS—Continued

Animal	No.	Material	Condition Suspected	Findings
Porcine	1	Carcass of pig	Unknown	Pathological-hog cholera Bacteriological-Salmonella suispestifer, actinomyces necrophonus
Porcine	1	Whole carcass	Condition of pathological condition	Clinical-skin incrustation suggest mange. Dermatitis bacteriological—usual coli with staphylococci
Porcine	1	Pig	Bacteriological findings	All cultures from the hog cholera case were negative except those from the cecal valve ulcers from which Escherichia coli was isolated
Porcine	2	25 lb. pigs	Unknown	Anemia, culture showed staphylococci and coli
Bovine	16	Lots pullorum antigen	Purity and routine testing	Recommended for routine testing
	1	Cultures	Diagnosis of anthrax (Animal Inoculation)	Positive diagnosis of anthrax made on cultures which were submitted for animal inoculation tests
	2	Samples of water	Poison	Negative

Official Proceedings of the Twenty-ninth Annual State Agricultural Convention

The twenty-ninth annual New Jersey State Agricultural Convention was held in the Assembly Chamber of the State Capitol at Trenton on Tuesday, January 25, 1944. The meeting was called to order at 10:00 A. M. by John W. H. Thornborrow, president of the State Board of Agriculture. The invocation was offered by Rev. Paul W. Kapp, former chaplain of the New Jersey State Grange.

The roll of delegates was called by W. H. Allen, State Secretary of Agriculture, as follows:

DELEGATES OF THE STATE AGRICULTURAL CONVENTION

FROM COUNTY BOARDS OF AGRICULTURE

Name	Address	Term	County
William J. Slack	Hammonton	2 years	Atlantic
Louis J. Sanguinetti	Minotola	1 year	Atlantic
Gerard Grootendorst	Oakland	2 years	Bergen
Richard Scoskie	Ridgewood, R. D.	1 year	Bergen
Stanley Coville	New Lisbon	2 years	Burlington
Robert Brooks	Moorestown	1 year	Burlington
Salvidore Donio	Old Egg Harbor Rd., Hammonton	2 years	Camden
Fred C. Sickler	Sicklerville	1 year	Camden
Arthur Cresse	Rio Grande	2 years	Cape May
C. Newton Schellinger	Green Creek	1 year	Cape May
Joseph Hancock	Bridgeton, R. D. 2	2 years	Cumberland
Percy Fogg	Bridgeton, R. D. 1	1 year	Cumberland
Roderick MacDougall	Summit	2 years	Essex
C. Russell Jacobus, Montclair, alternate for William A. Crane	West Caldwell	1 year	Essex
Carlton Heritage	Richwood	2 years	Gloucester
Ralph B. Starkey	Mullica Hill	1 year	Gloucester
H. B. Everitt	Flemington	2 years	Hunterdon
Charles Burd	Pittstown	1 year	Hunterdon
Ralph Hunt	Princeton, R. D. 2	1 year	Mercer
Robert Simpkins	Yardville, R. D. 1	1 year	Mercer
Alex Dembeck, Jr.	New Brunswick, R. D. 2	2 years	Middlesex
Leroy Scott	Cranbury, R. D.	1 year	Middlesex
Walter W. Lott	Freehold, R. D. 3	2 years	Monmouth
Harry Crine	Freehold, R. D. 1	1 year	Monmouth
F. W. Ruzicka	492 Main St., Chatham	2 years	Morris
Stanley Andrews	Long Valley	1 year	Morris
Martin Schubkegel	Lakewood, R. D. 3	2 years	Ocean
William H. Borneman	Toms River, R. D. 2	1 year	Ocean
Henry Grazioso	647 Valley Road, Clifton	2 years	Passaic
Walter Sikkema	Paterson, R. D. 2	1 year	Passaic
Joseph S. Ayares	Salem, R. D.	2 years	Salem

Name	Address	Term	County
Edward Fogg	Canton	1 year	Salem
Edward M. Haynes	Skillman	2 years	Somerset
David W. Amerman	Neshanic	1 year	Somerset
Harry Vance	Glenwood	2 years	Sussex
Charles Lendrim	Newton, R. D. 3	1 year	Sussex
Walter M. Ritchie	Rahway	2 years	Union
Charles H. Brewer	Rahway, R. D. 2	1 year	Union
Frank L. Pursell	Phillipsburg, R. D. 1	2 years	Warren
Smith J. Almer	Belvidere, R. D.	1 year	Warren

FROM POMONA GRANGES

Name	Address	Term	County
Martin Decker	Hammonton, R. D. 1	1 year	Atlantic
John Van Houten	Midland Park, R. D.	1 year	Bergen and Passaic
William D. Cowperthwaite	Medford	1 year	Burlington
Abel B. Clement	Laurel Springs	1 year	Camden
Henry H. White	Cape May Court House ...	1 year	Cape May
Alexis Clark	Morris Plains	1 year	Central District
George L. Brooks	Bridgeton, R. D. 2	1 year	Cumberland
J. Willard Gardiner	Mullica Hill	1 year	Gloucester
Theo. H. Dilts	Three Bridges	1 year	Hunterdon
Isaac Lipman	Titusville	1 year	Mercer
T. E. Gibson	Princeton, R. D. 1	1 year	Middlesex and Somerset
William H. Hunt	Freehold, R. D. 1	1 year	Monmouth
William H. Smick	Salem	1 year	Salem
Irving Drew	Sussex	1 year	Sussex
Heston G. Woolf	Stewartsville	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—Lester Collins, Moorestown, 2 years;
Lawrence J. Smith, South River, 1 year.
- New Jersey State Grange—Henry M. Loveland, Bridgeton, 1 year; Archie Height,
Freehold, 1 year.
- New Jersey State Poultry Association—Max DeJonge, Ringoes, 1 year; J. H. Riley,
Tuckerton, 1 year.
- Jersey Chick Association—Henry Rapp, Jr., Farmingdale, 1 year; Elmer Wene,
Vineland, 1 year.
- New Jersey Association of Nurserymen—Edward Phillips, Andover, 2 years; Arthur
Levick, Bridgeton, R. D. 2, 1 year.
- New Jersey Florists' Association—August Bosenberg, Box 345, New Brunswick, 2
years; Henry Hornecker, 77 Central Ave., East Orange, alternate for George H.
Smith, 557 Main St., East Orange, 1 year.
- New Jersey Agricultural Experiment Station—James Andrews, Dover, 1 year.
- New Jersey College of Agriculture—William H. Martin, New Brunswick, 1 year.
- Holstein-Friesian Association of New Jersey—Stanley B. Roberts, Port Jervis, R. D.
1, New York, 1 year.
- New Jersey Guernsey Breeders' Association—Lloyd B. Wescott, Clinton, 1 year.
- New Jersey State Potato Association—Robert Ewing, Greenwich, 1 year.
- New Jersey Beekeepers' Association—Milton H. Stricker, Maple Shade, 1 year.
- E. B. Voorhees Agricultural Society—H. Earl Propst, New Brunswick, R. D. 1,
1 year.
- Blueberry Cooperative Association—Harold B. Scammell, Toms River, 1 year.
- New Jersey Field Crop Improvement Cooperative Association—Ernest Simpkins,
Yardville, 1 year.
- Cooperative Growers' Association—J. Cresswell Stuart, Beverly, 1 year.

APPOINTMENT OF COMMITTEES

At the delegates' dinner held on the evening preceding the convention, the nominating committee was appointed by President Thornborrow as follows:

Stanley Coville, Burlington County, Chairman
David W. Amerman, Somerset County
Henry Rapp, Monmouth County
Martin Decker, Atlantic County
Frank L. Pursell, Warren County
Ralph Starkey, Gloucester County
Robert Ewing, Cumberland County
Stanley Roberts, Sussex County
Steffen Olsen, Bergen County

Other committees appointed at the State Agricultural Convention by President Thornborrow were:

COMMITTEE ON RESOLUTIONS

Francis Ruzicka, Morris County, Chairman
Lloyd Bruce Wescott, Hunterdon County
Roderick MacDugall, Essex County
Abel B. Clement, Camden County
C. Newton Schellinger, Cape May County

COMMITTEE ON CREDENTIALS

Archie Height, Monmouth County, Chairman
James Andrews, Morris County
Louis J. Sanguinetti, Atlantic County
Edward Fogg, Salem County
Martin Schubkegel, Ocean County

GOVERNOR'S ESCORT

Lester Collins, Burlington County, Chairman
Elmer H. Wene, Cumberland County
Theodore H. Dilts, Hunterdon County

REPORT OF COMMITTEE ON CREDENTIALS

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

ELECTION OF MEMBERS TO THE STATE BOARD OF AGRICULTURE

The chairman of the nominating committee placed the names of Charles H. Cane, of Rosemont, and Leslie Richards, of Sewell, in nomination for membership on the State Board of Agriculture to succeed John W. H. Thornborrow, of Millville, and Herbert Francisco, of West Caldwell, whose terms expire on June 30, 1944. Upon motion made and duly seconded it was voted that the nominations be closed and Messrs. Cane and Richards were unanimously elected for a four-year period beginning July 1, 1944.

CITATIONS

CITATIONS FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE were awarded to George Edward Edgar, of Belvidere; Harry Francis Hall, of Camden; Thomas Jefferson Headlee, of Dayton, and William Justice Slack, of Hammonton.

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

CITATION OF GEORGE EDWARD EDGAR

At three score and ten, many devote themselves to their yesterdays. You, with a full life already given to distinguished service to agriculture, still direct your thoughts and energies toward better tomorrows.

New Jersey is proud and grateful that your concern for the welfare of agriculture has never ended at your fencelines. Successful in your own extensive farm operations, you have helped your many neighbors in the County of Warren to greater and better agricultural endeavors.

Instead of enjoying the comfortable retirement you so richly deserve, in this hour of national peril, you labor daily on the food production front, working beside the youths you have helped to enlist from the schools to assist other farmers.

Our dairy herds for endless tomorrows will be capable of greater production because of the pure blood of superior animals that has been spread through the cooperative breeding project you helped to establish. Our heritage of soil will be held in trust for farmers of the future through the soil-conserving measures you practice on your own land, and teach to others.

In the name of all friends of agriculture, the State Board of Agriculture confers this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF HARRY FRANCIS HALL

Through the seeds of better plants that will spring from the soils of New Jersey for many years to come, your identity is imprinted upon the agriculture of our State.

For nearly a third of a century, you have persevered in your purpose to give New Jersey vegetable growers improved varieties with which to work. And you have led the way, through research and demonstration, toward a more intelligent use of our soil resources.

Yours was the watchful eye that saw and yours the genius that recognized the forerunner of the now famous variety of Rutgers tomato, today grown around the world. Yours was the patience that marked the slow seasons of nature during which improved varieties of other vegetables were developing. Yours, too, the hands that moulded these growing things to the pattern of modern agriculture, and thereby helped shape the economic future of vegetable culture. Yours, today, is a great share in the battle of food production, and the ultimate victory that will be ours.

The New Jersey State Board of Agriculture desires publicly to commend your work, and so confers upon you this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF THOMAS JEFFERSON HEADLEE

You have forged new weapons for the use of man in his eternal warfare against the injurious insects. You have made farming more efficient—life safer and more comfortable for the people of our State.

Through more than three decades of service in our College of Agriculture, Experiment Station and Department of Agriculture, you have made substantial and enduring contributions to the protection of crops and livestock from their insect enemies. Under your leadership new materials and new methods have been developed and eagerly adopted by our alert farmers.

Through your outstanding contributions to the control of mosquitoes, you have made New Jersey a better place in which to live and have added immeasurably to

its wealth. Thousands of acres of once virtually uninhabitable land have been reclaimed for agriculture, for industry, for recreation, as the mosquito population has been decimated again and again.

For your vision and energy, your courage and skill, we award this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF WILLIAM JUSTICE SLACK

Twenty-five years of your life, you have stood among the leaders of agricultural marketing in New Jersey. Yet, those twenty-five years are broadened into half a century, were you to count your double days of duty, night as well as day, in the service of your market members, your County of Atlantic, and your State of New Jersey.

In a large measure, to your unbounded energy and inspiring leadership, your neighboring farmers attribute the establishment of the Hammonton Cooperative Fruit Auction Association, through which two and one-half million dollars' worth of the produce of their farms has been marketed.

Mindful of tomorrow, you have led the local movement to conserve the soil resources of your county's farms. With a businesslike concern for sound financing, you have served as official adviser to those who borrowed to expand their agricultural endeavors. And, you are fighting this war as surely as if you were bearing arms, through your faithful service on the food front.

Today, before the assembly of this Agricultural Convention, in which you have participated unfailingly as a delegate for two decades, the State Board of Agriculture publicly commends you and confers upon you this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

Citations were awarded to schools rendering outstanding contribution to the wartime food production program. Dr. Harry Stearns, superintendent of Woodbury High School, accepted the citation on behalf of the Woodbury High School; Dr. Wilbur Saunders, head master of Peddie School, received the citation awarded to the Peddie School, and Warren Beebe, director of Essex County vocational schools, accepted on behalf of the vocational schools of Essex County.

The citations were as follows:

CITATION OF THE WOODBURY HIGH SCHOOL

To the Woodbury High School goes the distinction of having had 40 per cent of its students, girls as well as boys, give their time to the extent of 80,000 hours in helping farmers of Gloucester County plant and harvest their crops. This in itself is a laudable contribution to the war effort.

Equally commendable, though, are the efforts of you, Doctor Stearns, and your associates in this school. The immediate recognition of the need for adequate supervision, and the whole-hearted response of the faculty and public-spirited citizens of the community to meet this need, whereby 350 days of supervision were supplied to guide this army of youth on the farms, are fundamental reasons why many Gloucester County farmers hold these willing, youthful helpers in high esteem.

Because of this all-out effort on the part of students and faculty alike in this critical period, by virtue of which earnest cooperation there was harvested a great amount of needed food that otherwise might have been lost to our nation, this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE is awarded by the State Board of Agriculture, in the presence of this assembly, to the Woodbury High School.

CITATION OF THE PEDDIE SCHOOL

The Peddie School of Hightstown has long been recognized not only as a worthy institution of higher learning, but also as a force in molding the character of those young men who have lived under its influence.

When Peddie opened its dormitories and campus facilities to establish and operate successfully a farm labor center for youth, benefiting many farmers sorely pressed for harvest help, your school, Doctor Saunders, went beyond the pale of its primary purposes. Through this unselfish action, Peddie has contributed an outstanding and valuable service to its farmer neighbors of the Central Jersey area.

This project has attracted both State-wide and national attention. Its success has been due in no small measure to the foresight and patriotism of you, as its headmaster, and your associates, and to the willingness of all of you to carry through in the face of the many difficulties inherent in an undertaking of this kind.

The New Jersey State Board of Agriculture pays tribute to these accomplishments in awarding to The Peddie School this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF THE ESSEX COUNTY VOCATIONAL SCHOOLS

The Essex County Vocational Schools have made a unique and enviable contribution to our food production program. The training of unskilled youths, giving them some actual farm experience, is the highlight of an effort worthy of emulation. Its success has been achieved by dint of foresight and long hours of work and patience.

Your task has been the harder because of the metropolitan background of the majority of your student body, which, however, has not deterred these youths in their zeal or abilities. Notwithstanding, some 500 boys completed this pre-season training and thereby became more valuable helpers to those farmers for whom they worked.

Not only was this training program of benefit to Essex County farmers, but because you shared some 200 Essex County boys with farmers in other counties where the shortage of help was even more critical, your training and placement efforts were of far-reaching effect.

With this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE, the State Board of Agriculture commends the Essex County Vocational Schools and their personnel for this conspicuous achievement.

REPORT OF COMMITTEE ON RESOLUTIONS

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

WHEREAS, We urge the vital necessity of an adequate supply of food as a means of achieving the victory toward which the United Nations are striving, and

WHEREAS, The crop season of 1943 was one of record endeavors, in many fields, in spite of drought, labor shortage and other handicaps, so that our production contributed in substantial fashion to the national food stocks, and

WHEREAS, Our Federal Government has again urged all farmers to produce to the utmost capacity of their farms,

Therefore, Be It Resolved, That we here assembled as delegates to this Agricultural Convention of the State of New Jersey, renew our pledge to keep the faith and endeavor to attain high goals of production, thereby helping our victorious conclusion of this holocaust and the re-establishment of Freedom and Peace; and that a copy of this resolution be sent to the Honorable Claude R. Wickard, Secretary of Agriculture of the United States; and

Be It Further Resolved, That we give added impetus to an assured victory by supporting to the best of our limited abilities the current Fourth War Loan Drive.

WHEREAS, The process of revising the Constitution of the State of New Jersey is now under way, and

WHEREAS, Since 1916 the State Board of Agriculture has been elected by delegates from the recognized agricultural organizations of New Jersey, in order to function for the sound development of all types of farming and farm products for the joint benefit of all the citizens of this great consumer State, and

WHEREAS, The selection of a Secretary by the State Board of Agriculture has been found to be most equitable and representative,

Therefore, Be It Resolved, That any legislation either presented to the electorate in the proposed revision or to be made a part of subsequent and contingent law retain the same principle of organization as outlined in preceding paragraphs.

WHEREAS, The Office of Price Administration is endeavoring to prevent rising and inflationary costs of living and establishing ceiling prices on certain articles including food, and

WHEREAS, Contemplated or established ceiling prices for New Jersey crops must, if production is to be maintained, recognize and make allowances for the high costs of production as compared with heavily mechanized and low assessment areas producing the same crops, and

WHEREAS, The Office of Price Administration from their own investigations should be fully informed of the price injustices, due to the later season, which will result if present proposals to drop prices sharply are carried out on or about the time the first heavy New Jersey production reaches the market,

Therefore, Be It Resolved, That this Convention of delegates, representing the agricultural commodity groups of New Jersey, go on record as urging that the Office of Price Administration give immediate attention to a review of ceiling prices now in effect or under consideration, in consultation with leading growers and others from

New Jersey, to the end that vital production of fresh, near-by agricultural products may at least be maintained under advancing costs of production on which there are now broad ceilings, and

Be It Further Resolved, That we inform the Office of Price Administration of the importance of this petition by forwarding a copy of this resolution to the Honorable Chester Bowles, its administrator.

WHEREAS, In the midst of a terrible World War it has been necessary to select manpower for our Armed Forces, and,

WHEREAS, The National Selective Service Administration has given fair consideration to the deferment of farm men, feeling that they are contributing by their work and experience in the production of vital food for the Armed Forces, a service not less great and courageous than actual service in the Armed Forces, and

WHEREAS, Reasonable and workable directives have been issued by State Selective Service officials specifying work meeting these deferments,

Therefore, Be It Resolved, That this Convention commend Colonel Bloomer and his able staff for their very sincere cooperation to help make it possible for farmers in New Jersey to contribute to so great an extent with the valuable manpower which these officials deferred for farm work.

WHEREAS, New Jersey farm products are marketed in nearby metropolitan areas in the face of severe competition from products shipped from other areas, and

WHEREAS, Many of these competing products are supported by extensive advertising and promotional programs sponsored by producers, by trade organizations and by public funds, and

WHEREAS, Many New Jersey farmers have benefited from a program for promoting the sale and distribution of New Jersey farm products, sponsored by the New Jersey Council in cooperation with the State Department of Agriculture, and

WHEREAS, These programs have been of great assistance in stimulating demand and maintaining prices for New Jersey farm products,

Therefore, Be It Resolved, That the delegates attending this official 1944 Agricultural Convention representing the principal agricultural organizations in New Jersey, do hereby commend the program of the New Jersey Council and respectfully recommend to the Governor and to the Legislature that the activities of the New Jersey Council be continued.

Be It Resolved, That this Convention again wishes to publicly acknowledge its indebtedness to the many diligent workers and officials of the New Jersey State Department of Agriculture and all related agencies, by whom and through whom this Convention and New Jersey's agriculture have reached, and will continue to hold, its high place in the life of the Garden State, and

Be It Further Resolved, That a special copy of this resolution be forwarded to Willard H. Allen, Secretary of Agriculture; to Dr. William H. Martin, dean of the State Agricultural College and director of the Agricultural Experiment Station, and to Herbert W. Voorhees, president of the New Jersey Farm Bureau, whose contributions in time and effort during the past year to agriculture have been beyond the requirements of their office.

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WHEREAS, The passing of Alva Agee has brought to a close the career of a man of great vision, public spirit, and high ideals, and

WHEREAS, The agricultural life of New Jersey has been enriched by the years he devoted in this State to an eminently successful advancement of better farming, better citizenship, and better living, all of which will serve as a lasting monument to his distinguished service,

Therefore, Be It Resolved, That this Convention observe a moment of respectful silence in tribute to the memory of this great leader.

Be It Firmly Resolved, That we stand for a moment of silence in respect and admiration for those who have departed this life during the past year either from fields of agriculture or on the wide front battlefields of the world.

Be It Further Resolved, That our prayers shall go out every hour of the day and night for the safe return of our boys who in strange lands and at home are fighting in many and vital ways that we may continue to enjoy and preserve the Priceless Heritage which is ours, Freedom forever. So Keep Us God.

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