STATE OF NEW JERSEY

DEPARTMENT OF AGRICULTURE

PHILLIP ALAMPI, *Secretary*

Forty-second Annual Report

OF THE

New Jersey State Department of Agriculture

July 1, 1956 — June 30, 1957

Trenton, N. J., June 30, 1957

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Messrs. Maier and Yeagle will retire from the Board on June 30, 1957. The new members will be Alfred H. Lowe, Sr., of Cranbury and Aubrey S. Walton, Jr., of Moorestown.

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STATE OF NEW JERSEY

DEPARTMENT OF AGRICULTURE

PHILLIP ALAMPI, *Secretary*

TRENTON

June 30, 1957

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

I have the honor to transmit, on behalf of the State Board of Agriculture, the Forty-second Annual Report of the New Jersey Department of Agriculture, for the fiscal year ended June 30, 1957.

Respectfully yours,

Phillip Alampi

The State Board of Agriculture

The State Board of Agriculture is responsible for all policies of the State Department of Agriculture, and is the highest official agency representing New Jersey's agricultural industry.

The eight members of the Board are all active farmers, who serve without compensation. They meet at least once each month in Trenton with the Secretary of Agriculture and often with other officials of the Department. During the 1956-57 fiscal year, 18 meetings of the Board were held.

Terms of Board members are staggered and two new members are appointed each year. They are chosen by official delegates to the annual State Agricultural Convention for recommendation to the Governor for appointment. The law provides for 84 official delegates, who represent the county boards of agriculture, Pomona granges, and State breed and commodity organizations.

The proceedings of the 42nd State Agricultural Convention appear on page 154.

The Year in Review

Warm temperatures and adequate rainfall during 1956 made ideal growing conditions for most New Jersey crops. Record yields were established in a number of instances and excellent quality was the rule. Some improvement in prices occurred, reversing the downward trend of the past two years.

The total value of New Jersey's agricultural production in 1956 amounted to $375,000,000, an 11.3 per cent increase over the $337,000,000 recorded in 1955. All commodities registered increases, with the exception of milk, poultry meat, tree fruits and berries.

Bountiful vegetable and grain crops were reflected in greatly increased valuations for these commodities over the year before. The value of grain was more than doubled. Crops in the vegetable category displaced milk as the second ranking agricultural product. Eggs continued in first place, increasing very slightly in value over the revised figure for the previous year. Milk dropped to third place, declining one million dollars from 1955. Nursery and greenhouse products continued as one of the expanding types of New Jersey agriculture and moved into fourth place.

It is interesting to note that livestock and poultry products accounted for 56 cents of every farm dollar in 1956, evidence that this segment of New Jersey agriculture now dominates.

The gross farm value of all agricultural products in 1956, compared with 1955, is tabulated below:

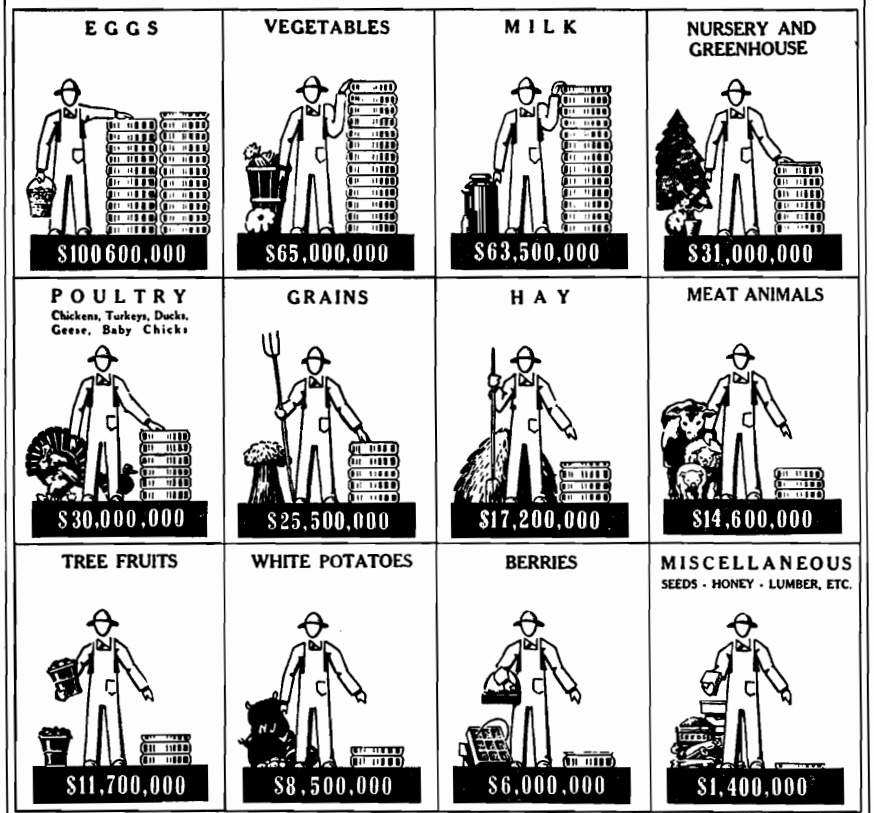
Commodity	Gross Farm Value 1956	Gross Farm Value 1955	Per Cent Change 1956 Compared with 1955
Eggs	$100,600,000	$99,500,000	+ 1.1
Vegetables	65,000,000	46,500,000	+ 39.8
Milk	63,500,000	64,800,000	— 2.0
Greenhouse and Nursery	31,000,000	28,000,000	+ 10.7
Poultry, Including Chicks and Poults	30,000,000	30,500,000	— 1.6
Grain	25,500,000	12,100,000	+ 107.4
Hay	17,200,000	15,900,000	+ 8.2
Meat Animals and Wool	14,600,000	13,900,000	+ 5.0
Tree Fruits	11,700,000	12,400,000	— 5.7
White Potatoes	8,500,000	5,100,000	+ 66.7
Berries	6,000,000	7,100,000	— 15.5
Miscellaneous Products	1,400,000	1,200,000	+ 16.7
TOTALS	$375,000,000	$337,000,000	

Per cent increase for all farm products in 1956 ..... 11.3

1956 VALUE of PRODUCTION

NEW JERSEY AGRICULTURAL PRODUCTS

$375,000,000



PRELIMINARY ESTIMATES PREPARED BY THE
NEW JERSEY CROP REPORTING SERVICE, U.S. DEPARTMENT OF AGRICULTURE

NEW JERSEY DEPARTMENT OF AGRICULTURE, January 1957

THE WORK OF THE DEPARTMENT

The increase in importance of livestock enterprises to New Jersey's agricultural economy is reflected in the proportion of the Department's budget allotted to animal disease control. Out of each dollar appropriated to the Department for the fiscal year, about 44 cents went to the Division of Animal Industry. The 1956-57 allotments were:

Division of Animal Industry	44 cents
Division of Plant Industry	19 cents
Division of Markets	13 cents
Division of Administration	5 cents
Maintenance of fairs, 4-H exhibits, etc.	5 cents
Division of Information	2 cents
Licensing and Bonding	2 cents
Other operating expenses	10 cents

Much of the work of the Department is regulatory, concerned with the enforcement of laws enacted by the Legislature and assigned to the Department to administer. Control of animal diseases and plant pests falls into this category. Two examples of other work which is regulatory in nature are the licensing and bonding of dealers in agricultural products and enforcement of the fresh egg law.

In addition, the Department performs promotional services, that are wide in scope, and are designed to benefit both producers and consumers. Much of this service centers around specialized marketing projects and informational service.

ANIMAL DISEASE CONTROL

Substantial progress has been made in the eradication of brucellosis from the State's dairy herds. During the past fiscal year, four additional counties were certified as brucellosis-free areas, bringing the total now certified to six.

Mandatory brucellosis testing of all cattle in the State was made effective January 1, 1957. At the close of the fiscal year, only 848 cattle remained untested and, of the 7,889 herds under supervision, 97 per cent were found to be free of the disease.

During the fiscal year, the State Board of Agriculture approved a regulation, to go into effect July 1, 1957, which revises the brucellosis testing schedule. This should provide even better control and, at the same time, will save the State an estimated $10,000 each year.

The infection rate for bovine tuberculosis is now about nine hundredths of 1 per cent, considered to be an irreducible minimum. However, the Division of Animal Industry maintains constant vigilance and continues its careful testing of the State's cattle population to prevent this costly disease from spreading.

Three outbreaks of vesicular exanthema of hogs were discovered in the fall of 1956, the first to occur in the State since 1952. These were promptly diagnosed by Department veterinarians and all infected and exposed animals were slaughtered.

CONTROL OF PLANT PESTS

The most extensive pest control program conducted in 1956-57 was that directed against the gypsy moth. Moths were found south of the areas sprayed in the spring of 1956 during scouting inspections the following summer and fall.

In the spring of 1957, about 185,000 acres of forest land in northern New Jersey were sprayed by aircraft with the United States and New Jersey departments of agriculture cooperating in the program. The aim was to eradicate the pest from the State. Early observations indicate that control was excellent, and that no large-scale spraying will be necessary in 1958, although this must be determined definitely by trapping and scouting work in the months to come.

MARKETING

New Jersey farmers are giving increasing attention to the marketing of their products, and this trend was reflected in the Department's marketing program. Poultry producers, who have been faced with severe economic problems for several years, began the development of a long-range merchandising program, based upon strict quality control of eggs and other poultry products, combined with source identification, to be supervised by the Department of Agriculture.

A law creating the New Jersey Poultry Products Promotion Council within the Department was enacted in May, 1957. The 11-member Council, which represents all segments of the industry, is responsible for a promotion and advertising program for New Jersey poultry products. An organization meeting has been held, an executive director named, and plans for a marketing program are being formulated. Council activities are to be supported by a tax on poultry feeds, amounting to one cent per hundred pounds, which will be paid by all New Jersey poultry farmers. Other commodity groups have evidenced interest in similar programs.

The excellent crop season, too, intensified the work of the Division of Markets. Inspection and certification of fruits and vegetables for both the fresh market and for processing was much greater than in the past two years. Sales of fruits and vegetables on the nine cooperative auction markets during the 1956 season amounted to more than four million packages, with a total value exceeding nine million dollars.

Eighty-two million dozens of eggs were inspected and graded by Department personnel, an increase of 25 per cent over the previous year.

MILK CONTROL

After extended hearings in 1956 and 1957, Federal Milk Marketing Order 27 was amended to include the 13 northern counties of New Jersey. The order becomes effective August 1, 1957. Two thousand New Jersey producers will be affected by the order. In all, the new market pool contains 12 to 15 per cent of the total annual milk production of the nation.

Price fixing at the retail level had been abolished early in 1955. At the beginning of this fiscal year, prices were again fixed at all resale levels by the Office of Milk Industry in the interests of more orderly milk marketing.

RURAL ADVISORY COMMITTEE

Funds were made available during the fiscal year to begin exploratory work on some of the social and economic problems facing New Jersey's rural areas. Studies on these problems are being conducted by the Rural Advisory Committee named by Govenor Meyner. A consultant was appointed to analyze the extent and severity of the situation and make recommendations as to its solution. Particular attention is being given to the effects of urbanization on rural areas, the need for planning, and water and taxation problems as they relate to agriculture and rural communities.

These are a few of the principal activities and accomplishments of the Department during the past fiscal year. Details of these and other projects are to be found in the division reports which follow.

Report of the Division of Markets

WARREN W. OLEY, *Director*

Weather conditions as they affected crop production and marketing were very unfavorable in 1955. The 1956 season was much more satisfactory to New Jersey producers. Although the spring of 1956 was 10 days to two weeks later than normal, marketing conditions in New Jersey for fruits and vegetables were excellent. Prices averaged well above the low prices of the spring of 1955.

As this fiscal year opened, New Jersey experienced normal weather conditions. Rainfall was adequate and temperatures not excessive. Total rainfall as recorded at Trenton for the entire year of 1956 was 43.65 inches. During the last half of this fiscal year (January through June 1957), total rainfall at Trenton was 15.23 inches. Normal for the six month period is 19.37 inches. We, therefore, end the year and start the new with a shortage of 4.14 inches of rainfall. The last six months of the fiscal year were also abnormally warm. This condition fostered excellent growth of farm crops for spring harvest and marketing, but will probably be a serious hazard to the harvest of 1957 summer crops.

Quality of most farm crops in 1956 was excellent and, as a result, many of New Jersey's important crops brought better than normal returns to growers. Both per acre yield and price of the cannery tomato crop were the highest per acre ever recorded. White potatoes, another important summer and early fall crop, were grown successfully by our producers.

Poultry farmers have had a discouraging year, largely caused by nationwide overproduction.

Relations with other departments having mutual interests have been cordial. Cooperation extended to this Division by the Department of Health, Department of State, Department of Institutions and Agencies, and by the Department of Conservation and Economic Development, also by the Division of Weights and Measures of the Department of Law and Public Safety, is deeply appreciated. Relations with the Agricultural Experiment Station and the Agricultural Extension Service are excellent.

The following pages give in some detail the objectives and accomplishments of all sections of the Division, and certain accomplishments of other organizations where the Division is partly responsible for programs of work.

BUREAU OF FRUIT AND VEGETABLE SERVICE

The principal interest of the Bureau of Fruit and Vegetable Service is aid in the marketing of fresh fruits and vegetables, including the establishment and development of outlet facilities, such as local auction markets, city markets in New Jersey and terminal markets in large adjacent cities, and consumer educational and promotional work to create and stimulate demand for Jersey grown products. It includes assistance to growers and shippers in grading and packing.

Supervision of inspection and certification of fruits and vegetables for the fresh market and the grading of raw crops for processing are the most important functions of the Bureau. Inspection is conducted in accordance with established standards and practices as approved by both the Federal and State departments of agriculture. Both departments and the New Jersey Agricultural Society are cooperatively responsible, under a three-way agreement, for the operation of the service.

Volume of inspection work varies from year to year, being mainly influenced by crop production, marketing regulations of certain commodities, market prices and quality demand. Shipping point inspections this fiscal year were almost three times greater than last fiscal year, mainly due to increased volume of potato work.

Grading of raw products for processing has developed rapidly since the beginning of this work, and has been enhanced by the tremendous impact frozen foods have had upon fruit and vegetable marketing in the past decade. Frozen food and canned products processors have continued to show increased interest in purchasing supplies on the basis of established standards or contract specifications. Efforts are continually being made to improve the quality of our service in this field.

Since better grades mean better returns, producers of crops for processing are given assistance by observations made by inspectors at grading platforms as to ways and means by which they can improve their grades by following better harvesting and handling practices and exercising close field supervision.

Volume of crops graded for processing also varies annually and is governed by such factors as weather, cultural and harvesting practices, acreage planted and yield.

PURPOSE OF INSPECTION

Fruit and vegetable inspection on the basis of established grades provides an efficient method for buying and selling fresh produce. The grades provide the yardstick for measuring quality; the inspectors, the interpretation and application of these grades. The service helps producers and shippers get the best possible returns for their products and guarantees to the receivers and distributors that the produce received meets certain grade designations. It is a permissive service and provides unbiased certification at reasonable cost. It is available to applicants throughout the State on carlots, trucklots, warehouse and storage lots.

Inspection certificates offer proof of compliance with Federal and State regulations, export requirements, government programs and contract purchasing. They may be offered as prima facie evidence in court cases involving disputes between carriers, storage companies, shippers and receivers. The inspection service provides a stabilizing effect in the orderly marketing of fresh fruits and vegetables both nationally and internationally. It keeps close contact with the local fruit and vegetable auction markets and city farmers' markets, and cooperates in the recently instituted program for roadside markets.

The most important outlet for Jersey grown vegetables, exclusive of white potatoes, is the processing industry. Close to half of the vegetable acreage in the State is planted to crops for processing. The two most important are tomatoes and asparagus. Other processing crops for which our grading service is requested are carrots, snap beans, red sweet peppers, green tomatoes and sweet potatoes.

Most processors contract with growers on the basis of Federal or State standards, while others make contract specifications to fit their own particular needs without reference to any fixed standard. In either case, they request grading, which is made available through the shipping point inspection service.

Grading is done for the purpose of establishing the value of each load delivered. Contracts specify prices to be paid for certain quality which is established by sampling each load, analyzing the samples according to specifications and applying the percentages established to the entire load. Prices paid to growers are directly proportionate to quality delivered. The purpose of this system of purchasing is to encourage the growers to deliver quality which will net them the highest returns and at the same time provide the processor an opportunity to maintain a high standard finished product

at minimum cost. On the other hand growers who contract with processors are protected against a fluctuating fresh market by having a fixed contract price.

Grading at processing plants is performed by inspectors employed by the New Jersey Agricultural Society and supervised by personnel of the Bureau of Fruit and Vegetable Service in conjunction with supervisory personnel of the United States Department of Agriculture.

This fiscal year 84 licensed fruit and vegetable inspectors were required to handle the inspection of commodities for fresh market and processing in New Jersey.

CERTIFYING FRESH PRODUCE

Apples

Apple inspections this fiscal year were only slightly above last year. Growing and harvesting conditions were very favorable in 1956. This resulted in large yields and an exceptionally clean crop with high color and excellent finish. Production in 1956 was about 100 thousand bushels greater than the previous year and approximately a half-million bushels greater than the last 10-year average for New Jersey.

Inspection and certification of apples for export are manadatory under the U. S. Export Apple and Pear Act. Shippers to foreign ports must have grade certification under the Act, which limits the minimum quality and condition of export shipments. It also requires that shipments be certified as being within certain established tolerances for spray residues.

The volume of our inspections on apples depends largely upon the export volume. Two factors affecting the number of requests for apple inspection are domestic market conditions and prices, and foreign market demand and price.

With domestic prices good and quality high this year, there seemed to be no difficulty for shippers in making sales without benefit of inspection and certification. Fruit kept well in cold storages and most of the lots inspected during the year graded U. S. Fancy or better. Approximately 65 per cent of the apples inspected were for export and 14 per cent were inspected and certified on the basis of the U. S. Standards for Apples for Processing. One hundred and ninety-one lots of apples, comprising 108,631 bushels, were inspected and certified compared with 150 lots and 91,427 bushels last year.

Green Corn

The Cooperative Growers' Association, Inc., of Beverly again requested inspection of green corn. This program began in 1945 to provide several of the large chain stores in the Greater Philadelphia area with field-fresh sweet corn at its peak of eating perfection. This year there was a change in the hours worked by our Federal-State inspector assigned to the market. Under the former field-fresh program he was in the field at 5:00 A. M. each day. This year he reported to the market at 7:00 A. M. and inspected only loads as requested by the market manager. Loads inspected were sold on the basis of grade.

Quality of green corn was high in 1956 and most lots inspected were certified as U. S. Fancy. A total of 35 lots, comprising 12,360 bushel crates, was inspected as compared with 33 lots, covering 12,273 bushels, the previous year.

White Potatoes

Growing conditions for white potatoes were generally good. Acreage was reduced from 22,000 in 1955 to 17,000 this year. Production on this acreage averaged 210 hundredweights per acre compared with 169 hundredweights in 1955.

Quality and size of the crop were above average. Except for some shipments that were dirty, following heavy rains in July, and a few reports of distant shipments arriving at destinations showing decay and breakdown, quality compared favorably with that from other competing areas throughout the season.

As a result of warnings to potato shippers late in the season last year, that the provisions of the Perishable Agricultural Commodities Act on misbranding would be enforced, most of the potato dealers in New Jersey requested that inspectors be assigned to them on a full-time basis. This was done and shippers were able to sell inspected potatoes in branded sacks on the basis of U. S. Standards without fear of violation of the misbranding law. Experienced inspectors were hard to obtain and only 12 men were available for inspection of potatoes at the peak of the season.

This fiscal year our Federal-State inspectors certified 1,858 lots of potatoes at shipping points throughout the State. A total of 646,085 hundredweights were certified. Our inspection records indicate that quality of inspected potatoes was higher than any previous season, averaging 97.3 per cent U. S. No. 1 quality, with more than 96 per cent Size A. Last year 493 lots, amounting to 142,810 hundredweights, were inspected.

Other Vegetables

Under the Canadian Import Requirements, fresh asparagus shipped to Canada must be inspected and certified as meeting at least the U. S. No. 2 grade for fresh market asparagus. Containers in such shipments must be individually marked to denote shipper's name and address, grade, and country of origin. Inspection certificates on shipments to Canada that comply with all regulations must specify that the load "Meets Canadian Import Requirements." Special permits are given by the Canadian Department of Agriculture to cover asparagus to be used for processing. Such asparagus need not meet the trimming requirements as specified in the U. S. No. 2 grade, provided certificates issued specify that such shipment "Meets Canadian Import Requirements for Processing Purposes Only."

This year several brokers in the Swedesboro area delivered asparagus to Canada both for fresh market and for processing. In all, 32 trucklots were inspected. Two lots failed to meet import requirements; eight lots, containing 1,864 pyramid type asparagus crates, went to fresh market; and 22 lots, containing 427,686 pounds, moved to processing plants in Canada. A considerably larger volume of asparagus could have been exported to Canada for fresh market if growers had exercised better grading practices. In 1956, Canadian shipments amounted to 14 trucklots, containing 266,190 pounds. Over-all weight shipped this year was 483,606 pounds.

In addition to products covered in detail in this report, we inspected and certified shipments of cabbage, carrots, lettuce, onions, peaches, tomatoes and mixed lots of vegetables. Several of these commodities were exported to Canada, including five shipments of cabbage, containing 2,030 crates; 24 lots of lettuce, containing 9,497 crates; and one load of cannery tomatoes, containing 1,000 5/8-bushel hampers. Total inspections of the above products covered 75 lots, comprising 46,536 containers.

Federal-State inspectors were also stationed at several of the shipping point fruit and vegetable auction markets for inspection and arbitration purposes.

CANNERY CROPS

Asparagus

Grading of asparagus for processing is the largest single project within this Bureau. Processors have spread their receiving stations to strategic locations throughout the producing areas, thereby making it necessary to employ more inspection personnel to handle the grading than for any other commodity.

New Jersey ranks second only to California in the production of asparagus. In the spring of 1957 about 33,000 acres were in production in New Jersey, with about 60 per cent of the crop going to processors and 40 per cent to the fresh market.

With large inventories from the 1955 and 1956 crops in the hands of processors both in California and New Jersey at the beginning of this year's harvest, processors were cautious in establishing a price to growers. The harvesting season was well under way before the contract price was established. It was 10 cents per pound for N. J. No. 1 spears, 7 inches in length, 4½-inch minimum green color, ⅜-inch minimum diameter measured at the butt end of the spear. In 1956 the price for this asparagus was 12½ to 13 cents per pound.

There were only three types of contracts this year against five last season. The three included the specifications as noted in the above paragraph. Another specified a 7½-inch spear with 5½-inch minimum green color and ⅜-inch minimum diameter at the butt. The third was based on contract specifications of a 10-inch all green spear with a ½-inch tolerance for white at the butt, ¼-inch minimum diameter, 4½-inch minimum green color.

The first two contracts mentioned above were based on the New Jersey Standards for Green Asparagus for Processing and were graded on that basis. Asparagus delivered on the third contract was graded in accordance with contract specifications without reference to the New Jersey Standards.

The inspection service has no part in the terms and agreements between processors and producers, but has the responsibility of seeing that both parties live up to the terms specified in the contracts.

Nine New Jersey and six out-of-state processors packed Jersey grown asparagus graded by our inspectors this season. There were also some shipments to Canadian processors.

Growing conditions were ideal this season up to about June 10. Thereafter, excessively high temperatures and dry weather started a drop in production and quality. This continued to the end of the season and most processors stopped operations by June 15. This was the earliest closing date on record.

May deliveries this year were far in excess of May 1956, but the reduced deliveries in June brought the season to a close with last year's volume exceeding this year's by about three million pounds. Total volume graded this year was 50,692,611 pounds as compared with last year's total of 53,614,572 pounds.

Grade averages this season under the regular contract based on New Jersey Standards were 71 per cent N. J. No. 1, 6 per cent culls and 23 per cent butts. Last season these averages were 73 per cent, 6 per cent and 21 per cent, respectively. Grade averages on the canner-grower contract specifications this year were 91 per cent pay weight, 3 per cent contract culls and 6 per cent butts. Last season's averages were 87 per cent pay weight and 13 per cent butts. Culls were too negligible to mention.

Tomatoes

From the standpoint of volume and dollar return to growers, tomatoes are the most important crop produced for processing. New Jersey usually ranks third or fourth nationally in tomato production, outranked only by California and Indiana most years, and some years by Ohio.

This fiscal year producers of tomatoes for processing set a new high for production in New Jersey, with yields averaging 12.6 tons per acre. With sufficient moisture and good growing weather, and the correct temperature ranges for fruit setting, it was evident early in the season that, barring excessive rain, this year would set a new record for production. High production is usually accompanied by high quality for most crops and this was true of this year's tomatoes.

Total volume graded this season was 157,464 tons with grade averages of 64 per cent U. S. No. 1, 33 per cent U. S. No. 2 and 3 per cent culls. Last year our New Jersey growers suffered a disastrous season and wound up with the lowest volume and grades since records have been kept. This was directly attributable to adverse weather. Last season the total volume graded was only 36,710 tons with grade averages of 47 per cent U. S. No. 1, 49 per cent U. S. No. 2 and 4 per cent culls.

SUMMARY 1956 CANNERY TOMATO SEASON AND COMPARISON WITH PREVIOUS 10 YEARS

Seasons	Total Tons	U. S. No. 1 (Per Cent)	U. S. No. 2 (Per Cent)	Culls (Per Cent)
1956	157,464	64	33	3
1955	36,710	47	49	4
1954	130,462	62	36	2
1953	192,623	66	32	2
1952	127,418	57	39	4
1951	215,875	70	28	2
1950	195,697	69	29	2
1949	147,076	63	34	3
1948	132,561	60	36	4
1947	204,395	62	35	3
1946	107,737	65	33	2

Other Cannery Crops

While asparagus and tomatoes are the two most important crops grown for processing in New Jersey, our grading service is requested for several other commodities. These products were graded on the basis of the U. S. Standards for Processing for each commodity.

The following list shows the products and volume of each graded and a comparison with last year's products and volume:

1956-1957		1955-1956	
Product	Pounds	Product	Pounds
Carrots	20,110,000	Carrots	13,536,000
Snap Beans	2,828,000	Red Sweet Peppers	336,000
Red Sweet Peppers	2,528,000	Green Tomatoes	268,000
Green Tomatoes	314,000	Sweet Potatoes	200,000
Sweet Potatoes	108,000	Blueberries	94,000

TERMINAL INSPECTIONS

While the major portion of the regulatory work of this Bureau is the inspection and certification of products grown and packed in New Jersey, it further includes inspections in New Jersey terminal markets of products received in interstate shipment. Inspections are made at the request of receivers of such produce. Most requests are for potato inspections, but various other commodities are inspected in carlot and trucklot quantities. In February 1957 the Federal Fresh Fruit and Vegetable office in New York City requested that we take over the inspection of weekly deliveries of supplies to the New Jersey State Hospitals at Trenton and Marlboro on a permanent basis. We assigned one of our State inspectors to this work.

Only those inspectors authorized by the United States Department of Agriculture as collaborators are eligible to make terminal inspections. In addition to the chief of the Bureau, there are three supervisors and one Agricultural Society inspector who are certified as collaborators and authorized to do this work in New Jersey. Terminal inspections are certified on straight Federal certificates rather than the Federal-State type used in reporting shipping point inspections.

The following table shows the 10-year record of shipping point inspections by products:

TEN-YEAR RECORD OF SHIPPING POINT INSPECTIONS BY PRODUCTS

	47-48	48-49	49-50	50-51	51-52	52-53	53-54	54-55	55-56	56-57
Apples	213	100	789	234	796	157	228	369	150	191
Asparagus	3	50	93	46	10	45	36	24	14	32
Beans	....	....	....	1	....	1	2	....	....	....
Beets	....	....	....	1	....	....	1	....	....	....
Cabbage	13	3	8	5	4	7	2	1	6	6
Carrots	5	5	6	....	....	1	1	1	....	10
Cauliflower	1	5	2	....	....	....	....	....	....	....
Celery	11	5	2	....	....	....	....	....	....	....
Corn	100	91	37	67	92	113	135	91	33	35
Cucumbers	2	3	8	....	1	4	49	1	5	....
Lemons	1	....	1	....	....	....	....	....	....	....
Lettuce	1	4	1	2	....	5	1	5	1	36
Onions	38	36	28	15	42	14	27	28	15	9
Onions, green	....	10	....	....	....	2	1	....	....	....
Parsley	....	....	1	....	....	....	....	....	....	....
Peaches	....	....	1	1	5	3	3	8	1	2
Peppers	78	36	48	....	5	5	2	....	....	....
Potatoes	14,066	12,586	10,454	18,429	9,989	1,748	782	632	493	1,858
Radishes	1	7	3	....	....	....	....	....	....	....
Rutabagas	....	....	....	....	....	3	....	....	1	....
Spinach	1	....	2	....	....	1	....	....	....	....
Squash	....	....	1	6	....	....	....	....	....	....
Sweet potatoes	5	33	5	26	12	7	24	9	33	2
Tomatoes	6	....	1	1	....	....	4	....	....	12
Turnips	2	....	1	....	....	1	....	....	....	....
Mixed Fruits & Vegetables	357	684	550	....	....	....	....	....	....	....
Mixed Vegetables	210	155	128	3	....	2	1	3	2	2
Totals	15,114	13,813	12,170	18,837	10,956	2,119	1,299	1,172	754	2,195

During this fiscal year the following commodities were certified at various terminals in New Jersey:

Product	Volume
White Potatoes	31,408 hundredweights
Onions	1,800 50-pound sacks
Cranberries	1,416 25-pound bags
Watermelons	147 melons

Inspections on deliveries to institutions, including those on items for replacement for items rejected upon original delivery, amounted to 62 in all, and covered 340,027 pounds passed and 11,216 pounds rejected. The produce covered by these inspections includes just about all items in the fresh fruit and vegetable line that the normal household would use, including items used for seasoning in cooking.

MARKET ACTIVITIES

As compared with the summer months of 1955, the months of July and August 1956 were very favorable to plant growth. In 1955 we experienced a severe drought, but rainfall was nearly normal in the early months of this fiscal year. The weather conditions were reflected in the marketing situation.

Not only was volume much heavier on our shipping point markets in both July and August than in 1955, but prices in July were also higher. Prices in August were lower, but chiefly because of the very high prices for peaches in 1955. These 1955 high prices were caused by the freeze, resulting in a peach crop failure in southern states. Low prices in June, July and August 1955 were also the result of the freeze in the south in March of that year, which delayed harvest in the states south of us so that their harvest and ours coincided.

It is interesting to compare prices of a few summer crops as received in the 1956 season with the returns in the summer of 1955. Volume of snap beans was higher this past summer, and average prices at the shipping point auctions were $2.50 a bushel as compared with $1.60 in 1955. Sweet corn averaged $2.26 for 50 ears as compared with $1.25 in 1955, and the harvested crop was 50 per cent greater in 1956. Cucumbers for slicing and pickling averaged $2.12 a bushel as compared with $1.37 in 1955, while volume was slightly lower. Volume of eggplant was slightly larger and prices averaged $1.26 per bushel as compared with $1.19 in 1955. Volume and prices of peppers, which is one of the heavy production crops, was about the same. Volume of market tomatoes was much greater and prices slightly higher. The better prices obtained, even with higher volume, reflects the high quality resulting from favorable growing and harvesting conditions.

The Division worked closely with associations and individuals conducting marketing operations. Ten of the markets again supplied the Division with weekly statistical material, helpful in carrying out promotional work and in compiling needed statistics for both this office and the Federal office.

Some representative of the Division attends nearly all monthly directors' meetings of cooperative marketing associations, and the Division is also represented at most commodity group meetings where marketing problems are discussed. While closest contacts are with the shipping point auction associations, the Division also works with city market associations as needed. A more detailed report of the activities of some of these groups follows.

Shipping Point Auction Markets

Following the method of reporting used in previous annual reports, information in this section is given for the complete calendar or crop-growing year. Therefore, the entire marketing year of 1956 is covered and some material on the first six months of 1957 is given separately. Complete information for the spring of 1957 will be embodied in the annual report of 1957-58.

Total value of all sales by the nine auction associations was $1,523,230.47 more than in the 1955 season. Volume both at auction and by direct sales was also larger.

The volume of sales on the seven produce auctions which operated during the last half of the fiscal year, or during the spring months of 1957, was approximately 13 per cent greater than in the spring of 1956. This was partly due to a very late spring season in 1956. Prices, however, were about 10 per cent lower during the spring months of 1957. This was very largely due to the much lower price for asparagus on the auctions. Asparagus prices were about 60 cents a crate lower than the preceding year.

The accompanying chart gives the sales' volume and cash returns at the nine shipping point markets for the 1956 season. It also compares those sales with the 1955 season. A table is also submitted showing the principal commodities sold at the auctions during the 1956 calendar year and comparable information for 1955.

SUMMARY OF SALES AT FRUIT AND VEGETABLE AUCTION MARKETS

	Season of 1956		Season of 1955	
Market	Number of Packages Sold	Value of Sales	Number of Packages Sold	Value of Sales
Beverly	267,381	$ 402,055.05	239,586	$ 262,556.47
Consigned and direct	203,000*	477,000.00	335,339*	633,114.43
Cedarville	605,011	1,546,946.08	528,072	930,571.93
Glassboro	448,059	721,573.57	351,229	773,632.30
Hammonton	262,318	1,005,586.60	278,348	977,689.40
Blues to processors	160,043* lbs.	35,209.52	158,310* lbs.	30,117.53
Sweets to processors	485,154* bu.	604,255.70	268,467* bu.	307,045.65
Hightstown	348,109	383,464.57	353,368	425,036.11
Consigned and direct	32,195*	65,052.05	40,231*	49,272.67
Landisville	646,159	1,110,555.71	551,766	925,369.58
Consigned and direct	87,265*	147,051.33	85,013*	157,982.03
Pedricktown	151,599	423,746.45	157,025	461,795.10
Swedesboro	754,128	1,957,237.00	747,953	2,051,293.10
Asparagus to processors	1,798,835* lbs.	224,857.46	.....*	.....
Vineland	851,803	1,522,924.67	706,038	1,118,708.99
Totals — by auction	4,334,648	$ 9,074,089.70	3,913,385'	$7,926,652.98
Value — all sales	.....	$10,627,515.76	.....	$9,104,285.29

Average price per package (by auction), 1956 $2.093
Average price per package (by auction), 1955 $2.026
Per cent of increase in price per package, all commodities (by auction), 1956 over 1955 3.307%

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

*Not included in totals sold by auction or in average price per package by auction, but included in "Value — All sales."

PRINCIPAL COMMODITIES SOLD AT FRUIT AND VEGETABLE AUCTION MARKETS

Volume in 1956 With 1955 Comparisons

Commodity	Unit	1956	1955
Apples	Bushels	23,291	24,330
Peaches	Bushels	166,777	195,763
Blackberries	Crates, 12 pts.	44,724	9,030
Blueberries & huckleberries	Crates, 12 pts.	179,391	176,686
Raspberries	Crates, 12 pts.	4,331	7,294
Strawberries	Crates, 24 qts.	84,139	77,957
Asparagus	Crates, doz. bunches	464,035	528,914
Beans, lima	Bushels	20,747	19,310
Beans, snap	Bushels	144,874	147,776
Beets	Bushels	8,817	16,287
Broccoli-rabe	Bushels	56,474	77,565
Cabbage	Bushels	86,555	46,605
Cantaloupes	Bushels	52,273	39,657
Carrots	Bushels	1,779	2,349
Cauliflower	Crates, 1½ bu.	7,310	3,214
Corn, sweet	Bushels or sacks	110,727	71,040
Cucumbers and pickles	Bushels	153,996	169,113
Dandelion	Bushels	17,186	25,879
Eggplants	Bushels	88,368	81,025
Lettuce	Crates, 2 doz.	243,513	168,674
Okra	Climax baskets, 12 qts.	24,093	35,553
Onions	Sacks, 50 lbs.	104,157	125,308
Parsley	Bushels	35,585	31,592
Peppers	Bushels	551,840	535,833
Potatoes, sweet	Bushels	901,256	273,236
Potatoes, white	Sacks, 100 lbs.	20,802	30,029
Radishes	Crates	13,615	14,122
Scallions	Crates	18,703	15,780
Squash	One-half bushel	54,838	63,499
Tomatoes	Climax baskets	655,072	500,755
Watermelons	Each	5,188	11,577
Watermelons-icebox	Bushels	4,143	2,505

City Farmers' Markets

All city markets owned and operated by farmers that were in existence in 1955 are still operating. These are located in Paterson, Newark, Trenton and Bradley Beach (Asbury Park). Division personnel have visited these markets on request and have met with directors during the year. Representatives of the Division have also attended annual meetings of two of the farmers' city markets. Work with these markets is purely advisory.

For more than 30 years the Division has obtained a weekly report of activities of the Atlantic City Market. The Division helped to establish this market and for many years assisted in its management. Sales have decreased in recent years as marketing practices of farmers and buyers have changed. Sales in the past fiscal year have dropped off with the exception of a small increase in the volume of egg sales. During this fiscal year there were 3,753 farmers' loads sold in this market. These consisted of 183,220 bushels of

fruits and vegetables, 38,580 dozens of eggs and 21,025 pounds of poultry. Gross returns were $318,482.

MISCELLANEOUS

The Division works very closely with The Cooperative Marketing Associations in New Jersey, Inc. Membership in this statewide association includes all of the auction markets and also two cooperatives that handle fruits or vegetables in direct selling. The association had an annual meeting and the fruit and vegetable section held five summer meetings. The State association has very active committees that work for the good of cooperatives in general. The fruit and vegetable section finances *Auction News,* and market advertising through an arrangement with the Division of Information.

BUREAU OF MARKET REPORTING AND COOPERATIVES

The two responsibilities of this Bureau are very different in nature but have a relationship that is helpful. Much of the accurate price reporting so necessary in a market news or market conditions program can be obtained directly from cooperatives. Shipping point auctions in both the fruit and vegetable field and in poultry and eggs supply this office with invaluable data. These facts and figures not only enable the Bureau to present valuable information on crop yields and condition, but give needed information on the price structure. In turn, this office can supply cooperatives with information on crops and prices in other areas that can be used in developing intelligent market practices.

MARKET REPORTING

There are 10 important crops covered in the Market Conditions reports, which are released before and during the marketing season. These reports are one page in length and contain information on prospects from competing areas, transportation situations, government regulations, labor conditions, packaging, and names, addresses and telephone numbers of government agencies where pertinent programs are in effect.

New Jersey Truck Crop News reports planting, growing extent of harvest, quality and other crop information, primarily of benefit to the trade in seeking New Jersey supplies. In addition to the direct mailing, this report gets wide circulation in the trade papers and in daily and weekly papers within the State.

Auction News, while primarily a promotional weekly release to buyers, gives information on supply, prices, including weekly low, high and weighted average, and markets at which commodities are available. It also

carries the name and telephone number of market managers to whom requests for information may be directed or through whom purchases may be arranged. By designating the market, the area of the State in which the product can be obtained is identified. The expense of this publication is paid by the auction markets on a prorated basis. Material included is largely developed from weekly reports made by the market managers and the composition is prepared by the Bureau staff.

Timely articles for the trade papers are prepared on various commodities in season. Reports on general conditions in New Jersey agriculture are prepared for buyer-readers of the trade papers. The purpose is to keep these buyers or potential buyers informed relative to New Jersey as a source of available supplies.

Daily Potato Destinations Reporting

The only daily reporting activity performed by the Bureau at present is that covering potato destinations. The report shows the daily volume of shipments to receiving states. New Jersey shippers have a very wide distribution and these reports include destinations in 30 states. New Jersey led in developing this type of report. It was started when truck transportation became dominant. The United States Department of Agriculture reports at that time carried only rail movement. Before the new idea was originated in the Bureau, New Jersey dealers were in the dark as to shipments by all dealers to certain markets. The information from these reports enables them to plan their shipments with better knowledge of receipts. Long Island now issues similar information which almost completes the picture of receipts in the most intensive shipping season. New Jersey shippers who supply us with the information are mailed a report by first-class mail as soon as it is compiled. The information is made available to the United States Department of Agriculture for inclusion in the leased wire report covering the f.o.b. and terminal market prices as issued from the Philadelphia office.

The *Annual Potato Summary* was prepared as in former years.

Other Price Reporting

At the request of the sweet potato growers in southern New Jersey, a program of price reporting was developed in cooperation with the Federal Market News Service. Beginning about the middle of December, the Federal market reporter in Philadelphia called several leading shippers, including New Jersey cooperative marketing associations, and from them obtained the price at the country point for that day. It was found that prices do not

usually change more than twice a week. The shipments and prices are easily controlled when shipments are made from storage. The reporter issued these prices as obtained from three or four points in New Jersey twice a week as a part of the regular sweet potato report from the Philadelphia office. The reason for this report is that terminal market prices do not reflect a true picture of market conditions. Since the advent of the large chains and super markets, a very large proportion of sales are made at country point. All preliminary work, such as proper contacts, was done by this Bureau. The cost of the telephone calls from Philadelphia was paid by the New Jersey State Sweet Potato Industry Association, Inc. The service proved to be quite helpful. It is hoped, when funds are available, to extend this service to possibly a dozen other vegetables and fruits where purchases are now largely made at the production point.

Several years ago the Bureau maintained a daily price reporting service to the various producing areas. At that time a teletype machine was installed in this office and other machines were hooked up with it at four cooperative markets in South Jersey and with one county agent's office. This Bureau relayed the prices obtained by telephone from New York and Philadelphia. Interested parties obtained the information needed by calling their nearest cooperating office. The plan was discontinued, partly because of availability of prices over the radio direct from the terminal markets. The radio service now has been largely discontinued and some interest is being expressed in reestablishing the earlier program.

Promotional Activities

Auction News, which is essentially promotional in nature, is supplemented by advertising paid for by the produce auction markets. The medium of two prominent trade papers is used. The same format, an outline of the State with the auction markets located by stars, has been used over a period of years. The name of each market, its manager and the telephone number are given. Some eight to 10 important commodities available during the week of publication are emphasized in bold faced type in a box in the upper right corner. This type of advertising is designed to attract new buyers and to acquaint distant buyers with commodities in season in New Jersey.

A new approach has been made this year with insertions in a Philadelphia groceryman's trade paper. The format is different, stressing nearness to market, freshness and longer shelf life.

Direct advertising is done through the *Auction News*. The mailing list includes about 700 known buyers on the markets or interested in the market activities, and the object is of course to keep them as active purchasers of New Jersey products.

COOPERATIVES

The work of the Bureau with cooperatives is both regulatory and promotional. The regulatory work is outlined in the New Jersey Agricultural Co-operative Associations Act. While this regulatory work is important, helpful and necessary, it is felt that promotional work as developed has had a most beneficial influence on marketing in New Jersey. The Division can well be pleased not only with the success of its work but with the fine spirit of cooperation developed with producers and with the Extension Service. Nearly all of the cooperative marketing associations in New Jersey were established with the direct aid of the Division.

It is estimated that from 60 to 75 million dollars worth of fruits, vegetables, eggs, poultry, livestock, grains and fish, as well as certified New Jersey grown seed, are sold annually by cooperatives. Feeds, supplies and packages purchased for farmers amount to another 60 million dollars. New Jersey boasts the first cooperative breeders association in the United States.

The work of the Bureau is elastic and is limited by the amount of time that the small staff can devote to it. Necessarily the work is mostly by request. Aid may be given in starting a cooperative, and in preparing or reviewing its incorporation or by-laws. Assistance to attorneys or accountants of cooperatives is often requested. Dissolution of cooperatives after they have served their purpose is one service defined in the New Jersey Co-operative Law.

General service performed other than by specific request is the issuance of a bi-monthly publication entitled *New Jersey Cooperative News*. The *News* includes information regarding Department regulations, interpretation of legal matters, news of other cooperatives, notices of meetings, information on new cooperatives and a listing of all active cooperatives.

For the past two years a Presidents Luncheon was held at Atlantic City at the time of the New Jersey Mid-Atlantic Farm and Home Show. All arrangements were handled by the Bureau chief. Since 1952 the Bureau has arranged for an annual meeting of cooperative directors which has been held on the Tuesday afternoon of Farmers Week.

The directory of New Jersey Farmer Cooperatives is revised and reprinted every few years. It is cross-indexed by commodity and cooperative so that it is easy to determine what a cooperative has to offer or where a particular class of commodities can be obtained.

DAIRY PRODUCTS MARKETING

The year just closed was the first full year in which the present supervisor handled the program. Under his direction, considerable progress has been made in developing interest in the project. The old New Jersey Official Grades Milk Dealers' Association, Inc., was reorganized, and new officers and trustees were elected. Monthly meetings have been held. As a result of discussions at these meetings, several changes in the work of the Division were made. The association recommended to the Department of Agriculture that one physical examination of herds be eliminated during the year. Previously, two physicals were made yearly. The recommendation was approved by the Department.

The dairy farm and milk plant inspection forms were revised to conform with the current Department of Health recommended forms and were put into effect in November 1956. The New Jersey Official Grades Milk Dealers' Association, Inc., requested that the Department of Agriculture inspectors take recheck samples on farms where milk had high bacterial counts. This practice has been put into effect and is working very satisfactorily for the producer and dealer.

As of January 1, 1957, the New Jersey Dairy Laboratories, which handle all laboratory check analyses for this project, increased their fees for services. This action and other increases in cost made it necessary for the Department to increase the fees to the dealers by 15 per cent. This was the first increase by the laboratory in many years.

One of the Department regulations requires that once each year every milk plant employee where official grades milk is handled must be examined by a physician to determine if he is medically satisfactory to handle milk. In the past year 171 employees were given milk handlers' cards by the Department of Agriculture after satisfactorily passing the medical examination.

Several municipal boards of health have accepted the Department of Agriculture milk handlers' certificates. This has eliminated duplication and expense which previously existed. The Department's medical reports are due July 1 of each year. Some municipal boards of health did require their reports January 1. After some discussion of this matter, a plan was worked out whereby Department certificates would be accepted by some of these municipalities in which official grades milk is sold.

New Jersey Dairy Laboratories of New Brunswick have made microscopic analyses of all milk samples taken in the Department's control work. During the year 4,188 samples were collected and analyzed and reports sent from this office to producers, dealers and health officers cooperating.

During the year 115 warning letters were sent out from this office to producers having two consecutive high counts. Thirteen producers were suspended from their market because of a third consecutive high count, but all were reinstated as soon as sanitary conditions had been corrected or a satisfactory bacteria count had been secured from the producer.

During the year the largest dealer in the program withdrew from it. This processor and dealer has made considerable growth in the last few years and felt that it would be more advantageous for him to carry on his own sanitation program. This included the establishment of a laboratory for milk analysis work and employment of a force of field technicians, including necessary veterinary personnel. The Division is sorry to lose this cooperator. The loss has been partly made up by the acceptance of two new dairies to come under the grades supervision work. These are Bush Dairy Farms of Flemington and Krauszer's Dairy of New Brunswick. The two dealers together handle about 20,000 quarts of milk daily.

Altogether there are now 19 dealers purchasing and processing New Jersey official grades milk. This milk comes from 270 farms and is produced by 12,914 cows. All cows in these herds were physically examined during the year by veterinarians in accordance with the grade regulations.

The accompanying table records the physical examination of cows by counties during the fiscal year 1956-57 and the results of the examination.

RESULTS OF VETERINARIAN EXAMINATION OF HERDS BY COUNTIES

County	Number of Herd Examinations	Number of Animal Examinations	Number of Animals Passed	Number of Animals Isolated	Number of Animals Condemned
Burlington	13	501	487	14	....
Hunterdon	171	5,983	5,865	117	1
Mercer	14	404	396	8	....
Middlesex	1	18	18	....	....
Monmouth	16	817	800	17	....
Morris	39	1,513	1,496	17	....
Somerset	66	2,201	2,179	21	1
Sussex	31	1,127	1,116	11	....
Union	1	22	22	....	....
Warren	9	335	334	1	....
Totals	361	12,921	12,713	206	2

No. of herds in which all animals were passed	259	or	71.75%
No. of herds in which animals were excepted	102	or	28.25%
No. of animals passed	12,713	or	98.39%
No. of animals isolated	206	or	1.59%
No. of animals condemned	2	or	0.02%

The supervisor attended hearings called by the Office of Milk Industry pertaining to the pricing of milk. He attended the monthly Dairy Council meetings and is a member of the marketing committee of the Council. He also attended Metropolitan Dairy Technology Society meetings and Dairy Products Improvement Institute meetings where programs of sanitation and health requirements of milk were discussed.

LIVESTOCK AUCTION MARKETS

Sales on the six livestock auctions operating in New Jersey were slightly below the previous year. This year 154,762 head were sold as compared with 160,242 head last year. Price per head varied less than 1 per cent. The following chart shows the sales at the six cooperating markets for the fiscal year.

SUMMARY OF SALES AT LIVESTOCK AUCTION MARKETS

Market	No. of Head	Value
Flemington	19,855	$ 653,693.37
Hackettstown	48,881	2,378,487.98
Mount Holly	3,614	70,493.37
New Egypt	9,358	540,981.88
Sussex	41,672	1,749,489.41
Woodstown	31,382	1,480,184.37
Totals	154,762	$6,873,330.38

BUREAU OF POULTRY SERVICE

Farm prices for products of the poultry industry declined further during the fiscal year 1956-57 as the most prolonged poultry depression in recent history continued into its fourth year. New Jersey market eggs have averaged below 50 cents per dozen wholesale at the farm for 36 of the 42 months from January 1954 to July 1957. There were only 24 months of comparably low prices during the previous eight years, January 1946 to January 1954. Poultry meat prices also remained at relatively low levels, except for temporary improvements on special items in seasonal demand. Feed costs were slightly higher than the previous year.

Six new egg marketing projects joined the State grading program. There were 19 fewer hatcheries under State supervision, principally because of the economic recession, and nearly one-fourth less chicks were produced by the supervised hatcheries.

Crop Reporting Service estimates indicate that the New Jersey market egg flock was increased to a total of 14,829,000 birds in 1957. The hens and pullets population which had been growing for the previous 20 years had reached a peak of 14,907,000 on January 1, 1955, dropping about

600,000 birds in 1956. Although many laying houses stand idle, the layer populations of other farms have been increased, largely by crowding more birds into the same floor space. Replacement pullets, as indicated by the hatch of egg type chicks between January and July, may be about 20 per cent below the previous year. A relatively larger than normal carryover of old hens accounts for the increased total number of layers this year.

POULTRY STANDARDIZATION

Operating under the N. J.-U. S. Poultry Improvement Plan for the 22nd year, the Bureau certified 870,684 birds in 394 flocks in 17 counties with 83 hatcheries cooperating. The number of birds in participating flocks was 15.8 per cent less than the record high of 1,034,633 birds in 1952-53. Production of chicks in the State supervised hatcheries was approximately 28,931,000, 24.8 per cent less than the previous year's 38,500,000. About 340,000 turkey poults were produced under State supervision.

There were 111 privately-employed workers certified as flock selectors and 121 as pullorum-typhoid testing agents working in various phases of the N. J.-U. S. National Poultry Improvement Plan. The State inspector and seasonally employed assistant are supported by fees paid by participants.

Department personnel selected and blood-tested 301,078 birds (32.9 per cent of the total) and 612,208 birds were handled by field agents who are assisted and whose work is closely checked by the Bureau of Poultry Service inspector and two Division of Animal Industry men. The work of the agents has been very satisfactory. Selecting agents operated in two breeding stages, Approved and Certified. Testing agents operated in both Passed and Clean pullorum-typhoid stages.

New Jersey now has 393 Pullorum-Typhoid Clean flocks in a total of 394 hatching egg flocks under supervision. The number of birds in the Clean classification decreased from 969,526 in 1955-56 to 867,376 in 1956-57.

The average participating flock numbered 2,209 birds last year, 2½ times greater than the average of 10 years ago. The total capacity of the participating hatcheries in New Jersey is 10,936,850 eggs per setting. The average hatchery capacity is 131,781 eggs per setting, about 76 per cent greater than 10 years ago (average capacity in 1946-47 was 74,936 eggs).

The breeding and health classifications used were:

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

The scope of the services the poultry standardization program rendered is indicated in Poultry Table 1.

POULTRY TABLE 1

N.J.-U.S. Improvement Plans	Number in 1956-57	Number in 1955-56	Per Cent Changes
Number of flocks cooperating	394	467	—15.6
Total number of breeders	870,684	982,779	—11.4
Number of hatcheries cooperating	83	102	—18.6
Hatchery capacity cooperating	10,936,850	13,295,330	—17.7
Hatchery capacity in New Jersey	14,191,000	15,545,000	— 8.7
Number of birds in pullorum-typhoid classes only	1,177	875	+34.5
Number of birds in Approved stages	838,985	942,547	—10.9
Number of birds in Certified stages	30,522	39,357	—22.4
Number of birds in ROP Trapnest	2,760	4,203	—34.3
Number of birds qualified in Register of Merit	194	213	— 8.9
Number of birds qualified for Honor Roll	166	101	+64.3
Number of females in ROP breeding pens	856	1,049	—18.3
Number of ROP cockerels leg banded	2,369	3,155	—24.9
Percentage of birds reacting to the pullorum-typhoid test	0.0065	0.0228	—0.0153
Number of flock inspections	330	340	— 3.0
Number of hatchery inspections	106	112	— 5.4
Number of ROP inspections	16	19	—15.8

Poultry Tables 2 and 3 give the classification and distribution of birds under supervision, and the number of birds banded by breeds and by counties. Ocean County leads in numbers of breeding birds, followed by Monmouth, Cumberland and Hunterdon.

POULTRY TABLE 2

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

NUMBER OF BIRDS

County	Number of Flocks	N.J.-U.S. Certified Pullorum-Typhoid Passed	N.J.-U.S. Certified Pullorum-Typhoid Clean	N.J.-U.S. Approved Pullorum-Typhoid Passed	N.J.-U.S. Approved Pullorum-Typhoid Clean	N.J.-U.S. Pullorum-Typhoid Passed	N.J.-U.S. Pullorum-Typhoid Clean	Totals
Atlantic	12	.....	.....	.....	27,211	.....	.....	27,211
Bergen	3	.....	.....	.....	2,095	.....	.....	2,095
Burlington	15	.....	2,694	.....	11,215	.....	.....	13,909
Cape May	1	.....	.....	.....	14,165	.....	.....	14,165
Cumberland	70	.....	3,230	.....	118,038	.....	.....	121,268
Gloucester	20	.....	18,980	.....	26,298	.....	.....	45,278
Hunterdon	61	.....	.....	3,308	129,033	.....	.....	132,341
Mercer	27	.....	.....	.....	56,311	.....	9	56,320
Middlesex	9	.....	.....	.....	30,362	.....	.....	30,362
Monmouth	46	.....	.....	.....	185,809	.....	.....	185,809
Morris	1	.....	.....	.....	579	.....	.....	579
Ocean	67	.....	5,618	.....	173,506	.....	425	179,549
Passaic	5	.....	.....	.....	3,695	.....	.....	3,695
Salem	36	.....	.....	.....	29,842	.....	.....	29,842
Somerset	7	.....	.....	.....	18,773	.....	.....	18,773
Sussex	10	.....	.....	.....	5,638	.....	743	6,381
Warren	4	.....	.....	.....	3,107	.....	.....	3,107
Totals	394	.....	30,522	3,308	835,677	.....	1,177	870,684

POULTRY TABLE 3

NUMBER OF BREEDERS, BY COUNTIES, BREEDS OR VARIETIES

County	S.C. White Leghorns	New Hampshires	Rhode Island Reds	Barred Rocks	White Rocks	Cornish	Crosses	Incross bred	Others	Turkeys	Totals
Atlantic	17,400	.....	2,969	1,059	.....	.....	5,667	.....	.....	116	27,211
Bergen	1,206	.....	149	.....	740	.....	.....	.....	.....	.....	2,095
Burlington	7,553	.....	995	423	1,936	.....	2,365	.....	.....	637	13,909
Cape May	14,165	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,165
Cumberland	94,404	210	4,113	.....	2,652	1,866	17,525	.....	498	.....	121,268
Gloucester	33,529	.....	.....	.....	214	261	9,825	.....	.....	1,449	45,278
Hunterdon	81,727	739	2,540	.....	2,925	.....	43,692	.....	.....	718	132,341
Mercer	32,973	.....	.....	.....	.....	.....	20,023	2,480	9	835	56,320
Middlesex	30,099	.....	.....	.....	.....	.....	.....	.....	.....	263	30,362
Monmouth	138,926	708	.....	.....	794	.....	45,316	.....	.....	65	185,809
Morris	579	.....	.....	.....	.....	.....	.....	.....	.....	.....	579
Ocean	167,706	.....	353	.....	.....	.....	6,063	3,317	425	1,685	179,549
Passaic	1,330	578	.....	.....	748	.....	663	.....	.....	376	3,695
Salem	17,057	1,740	.....	136	1,812	1,281	7,672	.....	.....	144	29,842
Somerset	17,073	.....	1,505	.....	.....	.....	100	.....	.....	95	18,773
Sussex	4,414	700	.....	.....	.....	.....	.....	.....	43	1,224	6,381
Warren	1,977	.....	.....	.....	.....	.....	898	.....	.....	232	3,107
Totals	662,118	4,675	12,624	1,618	11,821	3,408	159,809	5,797	975	7,839	870,684

White Leghorns accounted for 76.7 per cent of the total of all varieties enrolled in the State program. New Hampshires and Rhode Island Reds went down in numbers, the former significantly to 4,675 birds compared with 9,224 birds in 1955-56. Plymouth Rocks also decreased in number, there having been 1,618 of the Barred variety and 11,821 White Rocks. White and buff Cornish continued to grow in popularity.

Two New Jersey ROP breeders are selecting poultry families for the factor of interior egg quality, with the Bureau's technical assistance.

Participation in the Turkey Improvement Program totaled 7,856 birds in 1956-57, an 8.0 per cent increase from 1955-56.

Thirteen new agents qualified at the 16th annual school for flock selectors and pullorum-typhoid testers. Instructors from the College of Agriculture cooperated with the Division of Markets and the Division of Animal Industry.

One Federal supervisor was in the State once this year. The National Poultry and Turkey Improvement Plans Regional Conference in Boston was attended by two members of the Division and one member of the Division of Animal Industry.

Lists of participating breeding flocks and hatcheries, with their official ratings, were published in *Farm Service News*.

COOPERATIVE MARKETING

The cooperative egg marketing associations with which the Bureau of Poultry Service worked in various programs last year handled 2,213,725 cases of eggs, all wholesale graded. The foregoing statistics include only six "egg auctions" and two "bargaining cooperatives." The Bureau also worked with eight other bargaining cooperatives, but no statistics can be reported because no official inspection was performed, and no volume and price reporting program is now feasible.

Actual volume and dollar value of eggs is reported for the auction markets located at Vineland, Mount Holly, Hightstown and Flemington, which are under State inspection supervision; and at Hackettstown and Paterson, which operate on market grades. These six cooperatives marketed 1,201,770 cases of eggs, 1.69 per cent more than last year. The total value was $14,403,906.40, 16.10 per cent less than the previous year. The average price per case of eggs, regardless of size or quality, was $11.99 or 39.97 cents per dozen, 17.47 per cent less than the 1955-56 average of 48.43 cents per dozen.

Five cooperative auctions conduct live poultry sales and during 1956-57 sold a total of 4,237,116 pounds of poultry, which was 717,401 pounds or 14.48 per cent less than the previous year. The total value of live poultry was $739,915.18, 31.35 per cent less than last year. The five auctions' 1956-57 average-per-pound price of 17.4 cents was 19.82 per cent less than the previous year's 21.7 cents.

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

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

Auction Markets Egg-Feed Ratio

Study of the appended ratios of egg prices compared with feed costs (Poultry Table 7) reveals that there were no months in fiscal year 1956-57 which were favorable economically to New Jersey producers. A rule of thumb assumption is that an egg-feed ratio of 8 dozen = 100 pounds is an indication of poultry prosperity.

The annual range of egg price variation occurred between the July 1956 high of 45.36 cents and the June 1957 low of 33.29 cents per dozen.

POULTRY TABLE 4

SUMMARY OF EGG AND POULTRY AUCTION MARKETS

July 1, 1956 to June 30, 1957

Market	Cases of Eggs	Value of Eggs	Crates of Poultry	Pounds of Poultry	Value of Poultry	Total Value
Flemington	393,523	$ 4,666,089.05	46,565	2,195,897	$416,308.11	$ 5,082,397.16
Hackettstown	23,705	288,131.03	7,688	457,395	79,059.19	367,190.22
Hightstown	121,718	1,474,189.08	9,570	495,515	71,626.13	1,545,815.21
Mount Holly	63,413	731,496.86	13,314	713,841	124,407.39	855,904.25
Paterson	44,461	526,992.22	6,364	374,468	48,514.36	575,506.58
Vineland	554,950	6,717,008.16	.....	.....	.....	6,717,008.16
Totals	1,201,770	$14,403,906.40	83,501	4,237,116	$739,915.18	$15,143,821.58

Average price per case, 1956-57 $11.99
Average price per pound of live poultry, 1956-57 $0.174
Average price per case, 1955-56 $14.53
Average price per pound of live poultry, 1955-56 $0.217

POULTRY TABLE 5

AVERAGE PRICE PER DOZEN EGGS ON SIX NEW JERSEY AUCTION MARKETS

Month	1956	For Comparison 1955	1939
July	$0.4536	$0.4497	$0.2647
August	.4351	.5299	.2678
September	.4520	.5274	.2948
October	.4322	.4790	.3029
November	.4145	.5123	.3318
December	.4050	.5829	.2453
	1957	1956	1939
January	.3787	.5235	.2372
February	.3814	.4450	.2260
March	.3622	.4758	.2305
April	.3918	.4483	.2218
May	.3329	.4284	.2146
June	.3514	.4211	.2384

The development of the marketing program is traced in Table 6, "Ten Years of Progress in New Jersey Poultry and Egg Auction Sales."

POULTRY TABLE 6

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

Year	Number Cases of Eggs	Number Crates of Poultry	Pounds of Poultry	Total Combined Value Eggs and Poultry
1956-57	1,201,770	83,501	4,237,116	$ 15,143,821.58
1955-56	1,181,742	99,084	4,954,517	18,245,286.84
1954-55	1,348,732	112,629	5,718,722	18,148,548.35
1953-54	1,334,554	116,074	5,869,994	22,068,208.60
1952-53	1,291,951	114,313	5,869,308	23,083,519.57
1951-52	1,180,320	130,754	6,882,213	20,302,196.16
1950-51	1,067,278	122,147	6,548,720	19,353,488.51
1949-50	1,007,268	123,392	7,170,230	16,035,952.60
1948-49	807,739	102,301	5,194,487	16,331,155.63
1947-48	724,749	91,445	4,709,002	14,550,468.95
Total	11,146,103	1,095,640	57,154,309	$183,262,646.79

POULTRY TABLE 7

NEW JERSEY EGG AUCTIONS—EGG-FEED RATIO

		July			August			September		
		1956	1955	1939	1956	1955	1939	1956	1955	1939
EGGS										
Total dozens sold		2,880,810	2,604,570	891,300	3,011,730	2,752,980	900,540	2,850,210	3,077,130	855,660
Total price paid	dollars	1,306,748	1,171,326	235,920	1,310,539	1,459,039	241,138	1,288,418	1,622,851	252,290
Av. price per doz.	dollars	.4536	.4497	.2647	.4351	.5299	.2678	.4520	.5274	.2948
FEED										
Av. 100 lb. scratch	dollars	3.95	3.95	1.60	4.00	3.85	1.50	4.00	3.80	1.86
Av. 100 lb. mash	dollars	4.60	4.50	2.18	4.60	4.50	2.16	4.60	4.40	2.02
Av. laying ration	dollars	4.28	4.23	1.89	4.30	4.18	1.83	4.30	4.10	1.94
RATIOS										
Doz. eggs required to buy 100 lb. feed		9.4	9.4	7.1	9.9	7.9	6.8	9.5	7.8	6.6
No. lb. feed one doz. eggs will buy		10.6	10.6	14.0	10.1	12.7	14.6	10.5	12.9	15.2

		October			November			December		
		1956	1955	1939	1956	1955	1939	1956	1955	1939
EGGS					3,347,190	2,988,150	969,330	2,958,480	2,811,060	1,135,350
Total dozens sold		3,345,630	3,137,850	995,430	1,387,468	1,530,880	302,285	1,198,238	1,638,548	278,465
Total price paid	dollars	1,446,021	1,503,066	301,571	.4145	.5123	.3118	.4050	.5829	.2453
Av. price per doz.	dollars	.4322	.4790	.30296						
FEED										
Av. 100 lb. scratch	dollars	3.95	3.75	1.78	3.95	3.70	1.77	3.95	3.70	1.83
Av. 100 lb. mash	dollars	4.40	4.45	2.54	4.45	4.35	2.25	4.45	4.35	2.58
Av. laying ration	dollars	4.18	4.10	2.16	4.20	4.03	2.14	4.20	4.03	2.20
RATIOS										
Doz. eggs required to buy 100 lb. feed		9.67	8.6	7.1	10.1	7.9	6.9	10.4	6.9	9.0
No. lb. feed one doz. eggs will buy		10.3	11.7	14.0	9.9	12.7	14.6	9.6	14.5	11.2

POULTRY TABLE 7—*Continued*

NEW JERSEY EGG AUCTIONS—EGG-FEED RATIO

		January			February			March		
		1957	1956	1939	1957	1956	1939	1957	1956	1939
EGGS										
Total dozens sold		2,983,500	2,682,060	1,099,080	2,661,480	2,798,340	1,085,550	3,033,420	3,250,680	1,372,230
Total price paid	dollars	1,129,944	1,404,152	260,807	1,015,234	1,245,371	245,377	1,098,913	1,546,828	316,304
Av. price per doz.	dollars	.3787	.5235	.2373	.3814	.4450	.2260	.3622	.4758	.2395
FEED										
Av. 100 lb. scratch	dollars	3.95	3.70	1.54	3.95	3.70	1.54	3.90	3.70	1.56
Av. 100 lb. mash	dollars	4.45	4.30	2.04	4.45	4.35	2.04	4.40	4.35	2.06
Av. laying ration	dollars	4.20	4.00	1.79	4.20	4.03	1.79	4.15	4.03	1.81
RATIOS										
Doz. eggs required to buy 100 lb. feed		11.1	7.6	7.5	11.0	9.0	7.9	11.4	8.5	7.9
No. lb. feed one doz. eggs will buy		9.0	13.1	13.3	9.1	11.0	12.6	8.7	11.8	12.3

		April			May			June		
		1957	1956	1939	1957	1956	1939	1957	1956	1939
EGGS										
Total dozens sold		3,109,500	3,085,020	1,213,620	3,243,720	3,347,040	1,388,070	2,626,860	2,917,380	1,117,170
Total price paid	dollars	1,218,392	1,383,000	269,177	1,079,987	1,433,855	297,863	923,263	1,228,520	266,289
Av. price per doz.	dollars	.3918	.4483	.2218	.3329	.4284	.2146	.3514	.4211	.2384
FEED										
Av. 100 lb. scratch	dollars	3.90	3.75	1.58	3.85	3.90	1.64	3.80	3.90	1.69
Av. 100 lb. mash	dollars	4.40	4.45	2.11	4.40	4.65	2.18	4.30	4.65	2.18
Av. laying ration	dollars	4.15	4.10	1.84	4.13	4.28	1.91	4.05	4.28	1.94
RATIOS										
Doz. eggs required to buy 100 lb. feed		10.6	9.1	8.3	12.4	10.0	8.9	11.5	10.1	8.1
No. lb. feed one doz. eggs will buy		9.4	10.9	12.1	8.1	10.0	11.2	8.7	9.8	12.3

Feed cost more by about 1.7 per cent than a year earlier, or about 7 cents higher per 100 pounds if monthly prices are averaged. The 1956-57 hypothetical average New Jersey layer produced 190 eggs at a feed cost of $4.19 and an income of $6.30 for eggs, leaving a balance of $2.11 per bird for all other costs. Comparisons for a year earlier are: Feed costs, $4.11; egg income, $9.15; balance, $5.04. That hen's counterpart in the "golden year" of 1948 when egg prices averaged 61.38 cents would have produced an income of $11.60 at a feed cost of $5.08, leaving $6.52.

GRADING AND INSPECTION SERVICE

The total volume of eggs graded under the supervision of Bureau of Poultry Service personnel totaled 2,744,259 cases, or 82,327,770 dozens, an increase of 25.58 per cent over the previous year. Of that quantity, 1,133,604 cases, or 34,008,120 dozens, were inspected and graded in accordance with official New Jersey Wholesale Grades for Eggs at the cooperative auction markets located at Vineland, Mount Holly, Hightstown and Flemington. Hackettstown and Paterson operate on market grades patterned after the State program, but their statistics are not included in this section.

Eggs inspected prior to delivery to public institutions totaled 12,916 dozens, packaged in 4,305 30-dozen cases after candling to conform with New Jersey Consumer Grades. Grading certificates were issued for each lot inspected.

Thirty-six firms under contract with the Department apply official New Jersey Consumer Grades for Eggs to the eggs candled and graded into retail packages, and 515,978 cases, or 15,479,340 dozens, were prepared for market in this manner. This volume may be considered as the nucleus for the new State Seal of Quality program when it is launched.

Another form of inspection service rendered determines percentages of different qualities in each lot of eggs inspected. Bureau personnel inspected 13,341 cases under this plan. Two producer organizations, under contract and employing a qualified grader licensed by this Department, provide a similar service for their members.

The Federal-State agreement covering egg grading for institutional delivery was reinstituted, with service limited to one place of business. The Bureau supervised inspection of a small part of the volume of eggs graded for institutional delivery, serving in behalf of the United States Department of Agriculture and issuing Federal certificates.

Supervisory visits were made periodically to all plants under contract for grading service. At each plant under contract, the Department has licensed a qualified grader who is required to maintain conformity to grade.

Administrative costs are covered through the application of a graduated scale of fees stipulated in the contract. An hourly charge is made for service performed other than by contract.

FRESH EGG LAW ENFORCEMENT

The State Fresh Egg Law Enforcement policy continues to emphasize the law and the official regulations promulgated under that law as the basic rules for marketing eggs. Wholesalers and retailers again were highly cooperative with enforcement personnel, who also render a service of technical assistance to improve egg merchandising methods.

The senior egg law inspector made 381 visits to distributing firms to discuss marketing procedures and conformity with the law. Inspections by all inspectors were made in 9,624 stores, 6.3 per cent more than the previous year. Violations among all stores totaled 1,250, or 12.99 per cent, a 4.62 per cent decrease. Six violations resulted in hearings and 392 warnings were issued. Two penalties were assessed.

Table 8 shows by counties the number of stores inspected and the number of stores in violation.

SOURCE IDENTIFICATION LAW

Compliance with Chapter 143, P. L. 1953, which forbids use of the State's name improperly to connote a domestic origin to out-of-state eggs, was considerably improved through assignment of a full time agent in April. All inspection personnel contributed importantly to this work in addition to their regular duties at egg candling plants and warehouses.

The assigned agent made 246 inspections, practically all of which revealed violation of the law with respect to the improper reuse of egg cases. Among this number were instances where eggs from out-of-state sources were being repackaged as "Jersey" eggs. For the most part these initial visits and inspections were to acquaint users of used egg cases with the provisions of the law. The response has been favorable in that those firms which were visited did, for the most part, take steps to make the necessary changes.

POULTRY TABLE 8

NUMBER OF STORES INSPECTED AND PER CENT VIOLATION, BY COUNTIES

County	Independent Stores			Chain Stores			All Stores		
	Stores Inspected	Number of Violations	Per Cent Violations	Stores Inspected	Number of Violations	Per Cent Violations	Stores Inspected	Number of Violations	Per Cent Violations
Atlantic	220	6	2.73	29	4	13.79	249	10	4.02
Bergen	659	48	7.28	87	14	16.09	746	62	8.31
Burlington	308	43	13.96	36	8	22.22	344	51	14.83
Camden	573	65	11.34	80	11	13.75	653	76	11.64
Cape May	116	10	8.62	13	2	15.38	129	12	9.30
Cumberland	126	8	6.35	20	3	15.00	146	11	7.53
Essex	1,343	216	16.08	147	39	26.53	1,490	255	17.11
Gloucester	201	21	10.45	21	2	9.52	222	23	10.36
Hudson	1,766	153	8.66	84	11	13.10	1,850	164	8.86
Hunterdon	27	2	7.41	8	5	62.50	35	7	20.00
Mercer	331	66	19.94	49	17	34.69	380	83	21.84
Middlesex	663	113	17.04	76	23	30.26	739	136	18.40
Monmouth	476	70	14.71	61	16	26.23	537	86	16.01
Morris	209	20	9.57	21	4	19.05	230	24	10.43
Ocean	110	8	7.27	19	1	5.26	129	9	6.98
Passaic	771	61	7.91	45	5	11.11	816	66	8.09
Salem	123	5	4.07	12	2	16.67	135	7	5.19
Somerset	114	21	18.42	15	4	26.67	129	25	19.38
Sussex	23	.....	.....	3	.....	.....	26	.....	.....
Union	525	109	20.76	70	26	37.14	595	135	22.69
Warren	39	8	20.51	5	.....	.....	44	8	18.18
Totals	8,723	1,053		901	197		9,624	1,250	

	1956-1957	1955-1956
Total stores inspected	9,624	9,053
Total violations	1,250	1,594
Average per cent violations	12.99%	17.61%

The brief experience with this law indicates that one inspector is not sufficient to maintain the necessary surveillance or to visit all outlets that are possible violators. Many firms are finding that a new case is cheaper than trying to obliterate marks of a previous user on a second-hand case. This is particularly true where the case has markings on all four sides.

POULTRY PRODUCTS PROMOTION COUNCIL

This new agency was created by a law enacted in 1957, and was placed in the Division of Markets. The feed tax collection aspects of the law were assigned to the Bureau of Licensing and Bonding.

Much of the work preparatory to the organization of the Council on July 1, 1957, was performed by Bureau of Poultry Service personnel who cooperated with the State Poultry Association in developing the new long range advertising and marketing program for New Jersey eggs, poultry meat and turkeys of certified quality and verified source. Technical assistance in preparing the enabling legislation was rendered to the industry sponsors.

The 11-member Council (three market egg producers, two meat producers, one turkey growers, three feed distributors, one Experiment Station representative, and the Secretary of Agriculture) will operate through a staff member to integrate the promotional program with the inspection and regulatory services of the Division of Markets. Basic in the promotion plans is expansion of the official grading service, which provides a nucleus of 36 grading stations with 15 million dozens of consumer-graded eggs packed under inspection supervision last year.

SPECIAL POULTRY ACTIVITIES

Poultry Bureau staff members participated in programs of the Poultry and Egg National Board and Northeastern Poultry Producers Council, including schools for poultry barbecuers, a poultry products promotional dinner for editors and radio broadcasters and the NEPPCO Egg Quality and Marketing School.

New Jersey continued to cooperate with Pennsylvania, New York and Connecticut agencies on plans for developing a regional system of egg price and volume reports, to be coordinated through the United States Department of Agriculture. As a result of earlier explorations, New York State set up such a system, and similar action by New Jersey has been recommended as soon as the budget permits participation on a Federal-State matched funds basis.

Report of the Division of Animal Industry

R. A. HENDERSHOTT, *Director*

During the past fiscal year, with the exception of the reappearance of vesicular exanthema on three garbage feeding farms, there were no serious outbreaks of infectious diseases in the animal population of the State.

PULLORUM DISEASE

During the 1956-1957 fiscal year a total of 909,713 birds was tested in the field, a reduction of 113,749 as compared with the preceding year. More significant is the total number of reactors disclosed: 67 for a percentage of 0.007 compared to a reaction of 269 with a percentage of 0.03 for the 1955-56 season.

Reflecting on the total reaction percentage average of 0.007, pullorum disease may well be considered at the vanishing point in New Jersey breeding flocks.

FOWL TYPHOID

During the 1956-1957 year a total of 26 flocks of poultry was placed under quarantine; during the same period 12 flocks have been released from quarantine after slaughter of the infected birds and cleaning and disinfection of the premises.

ENCEPHALOMYELITIS

During the 1956-1957 period Eastern equine encephalomyelitis was diagnosed in 19 flocks of pheasants and in 48 horses on 46 premises. Because of its transmissibility to man, continued study and research on this disease is important from a public health standpoint. Of particular interest is the role of various species of mosquitoes as vectors and the parts played by free-flying birds and horses as reservoirs of the virus. The mode of overwintering is also receiving study by different agencies.

TERMINAL MARKET POULTRY INSPECTION

Terminal market inspection of inshipped live poultry was continued at the Vanderpool Street Market in Newark by a Division agent. He reported the inspection of 5,466 loads of poultry of 5,568,000 birds weighing 27,335,000 pounds; 47,000 birds weighing about 190,800 pounds were condemned and withheld from trade channels.

BRUCELLOSIS

Very important strides in brucellosis eradication were made during the fiscal year 1956-1957. The cattle in brucellosis tested herds rose from 93 per cent to 99.5 per cent of cattle in the State. Most reactors to the blood test for brucellosis were slaughtered; the few reactors that were retained were tagged and quarantined. Effective January 1, 1957, brucellosis testing of cattle in New Jersey became compulsory; this action was the first deviation from a completely voluntary program which started February 5, 1927. Starting in April 1957, herds in which brucellosis reactors were disclosed were quarantined until reactors were slaughtered and the herds had passed two tests without reaction at prescribed intervals.

The brucellosis milk ring test was used to great advantage and resulted in considerable saving in conducting the brucellosis eradication program. It also relieved dairymen of the burden of restraining animals for blood testing, which was formerly required. During the year brucellosis ring tests were conducted on 1,436 herds of 71,797 cattle. Of these herds, 1,238 or 86 per cent were negative. These negative herds contained 62,293 animals. Since the necessity of one of the blood tests of these herds was removed through the use of the brucellosis ring test, a saving of well over $18,000 was realized. Blood tests were conducted on the 198 herds of 9,504 animals with suspicious ring test reaction. Just under half of these herds proved to be infected.

By reciprocal agreement with neighboring states, the Division received reports of brucellosis ring tests conducted on 127 herds of 4,771 animals which ship to out-of-state milk dealers. Negative results were obtained on 110 herds of 3,555 animals.

Until the compulsory immediate slaughter of brucellosis reactors becomes effective on July 1, 1957, owners of infected herds may temporarily retain reactors if they desire. All retained reactors are quarantined; when later moved, they go directly to slaughter. Regulations do not provide for payment of indemnity on retained reactors. Only 56 herds of 2,538 cattle are retaining reactors as the fiscal year ends. The records indicate that 148 reactors were disclosed on the last test of these herds; it is believed that many of these have since been slaughtered.

During this fiscal year, Bergen, Passaic, Camden, and Union counties were certified brucellosis free. With Cape May and Atlantic counties, which were previously certified, this brings the total certified counties in New Jersey to six.

TUBERCULOSIS

Although it has been said that the rate of infection of bovine tuberculosis has reached an irreducible minimum, constant vigilance and effort are required to prevent this costly disease from spreading. Every indicated action is taken in attempting to achieve complete eradication.

At the end of the year 102 herds were classified as infected with tuberculosis. Extreme caution is taken to insure that all animals reacting to the tuberculin test are promptly sent to slaughter, and all herds from which reactors have been removed are quarantined until they have passed the prescribed number of tests without evidence of reaction.

Only one herd could properly be described as a problem herd during this year. Particular attention was given to this herd in order to enable it to reach a tuberculosis free status.

The entire State of New Jersey is accredited tuberculosis free. During this fiscal year 12 counties were completely tested and reaccredited: Bergen, Burlington, Essex, Gloucester, Hunterdon, Mercer, Middlesex, Monmouth, Ocean, Passaic, Somerset and Warren.

VESICULAR DISEASES

The main line of resistance in protection against the ravages of the vesicular diseases is in the field of swine disease control. The field force of the New Jersey Division of Animal Industry, together with that of the United States Animal Disease Eradication Division, conducted semi-monthly inspections on all garbage feeding swine farms and less frequent inspections on grain feeding swine farms. These inspections were carried on carefully even though no evidence of vesicular disease had been observed from 1952 to the 1956 outbreak of vesicular exanthema.

As a result of this vigilance, three outbreaks of vesicular exanthema were promptly observed and diagnosed. All infected and exposed swine were slaughtered. Careful cleaning and disinfection of involved and adjacent premises were conducted. The disease did not spread.

One of the three outbreaks occurred in August, the next in October and the last in November. In order to protect the livestock industry of the State, the State Board of Agriculture agreed to approve indemnity payments on all affected and exposed swine slaughtered and specially processed.

As further protection, Federal and State personnel issued permits for movement of swine, and observed swine movements to insure compliance with regulations. During March two individuals were fined for swine movement violations.

HOG CHOLERA

Nationwide eradication of hog cholera is gathering momentum. Fourteen states have outlawed the use of fully virulent hog cholera virus in the immunization of swine and report very few cases of hog cholera. In place of fully virulent virus, modified live virus and serum is being more universally employed throughout the nation.

At the request of the United States Livestock Sanitary Association, a bill was introduced in the Congress to prohibit the production of fully virulent virus for farm use. Unfortunately, the bill failed to pass in this session of Congress. We are hopeful it will meet with better success in the last half of the 85th Congress.

The eradication of hog cholera is dependent on three major actions.

1. The cooking of garbage fed to swine.
2. Prohibition of the licensed production of fully virulent virus for farm use.
3. The quarantine of swine herds in which hog cholera occurs and the disposition of recovered swine to plants for special processing just as we are currently doing with vesicular exanthema.

ANTHRAX

Two cases of anthrax were disclosed during the fiscal year. In each case, the carcass was completely burned under supervision, and the contact animals were given preventive inoculation and observed for symptoms of the disease.

MUCOSAL DISEASE

In February the Division received a report of a bovine animal presenting symptoms of mucosal disease. Mucosal disease is a virus condition reported in the middle and far west but this is the first report we have received of its occurrence in New Jersey.

The affected animal was bled and the blood was submitted to the laboratory for a white cell blood count and a differential blood picture. The laboratory reported a very low white cell count, quite characteristic of mucosal disease.

A few days following the initial bleeding of the animal, the animal was again bled and laboratory tests made. A diminishing white cell count was again reported. Since this blood picture was quite characteristic of the disease, a diagnosis of mucosal disease was definitely made.

CATTLE FEVER TICKS

Tick fever is a disease caused by *Babesia bigemina*, a microparasite of the blood. This disease was responsible for an estimated loss of 73 million dollars in 1906. Tick fever was eradicated in the United States by an unrelenting campaign against the ticks *Boophilus annulatus* and *Boophilus microplus*.

Late in April or early in May cattle fever ticks were observed in a section of Florida. The Animal Disease Eradication Division, Agricultural Research Service, United States Department of Agriculture found that a load of rodeo animals had been shipped to New Jersey from a location near the tick-infested area. Local representatives of that Division found the animals in southern New Jersey. Fortunately, the animals had been placed with only rodeo stock, and no other animals had been exposed.

The New Jersey Department of Agriculture placed a quarantine on the premises. The United States Department of Agriculture sent a tick expert, as well as local representatives, to the scene. The local area field veterinarian of the New Jersey Division of Animal Industry worked with the Federal authorities on this project.

With the excellent cooperation of the owner and his employees, all of the exposed animals were examined and sprayed by Federal and State disease control specialists. No cattle fever ticks were found.

Any animals to be moved will be inspected and sprayed prior to loading. The remaining animals will be inspected for ticks at approximately monthly intervals. This procedure will not interfere with the use of these animals for rodeo purposes.

PSOROPTIC MANGE OF SHEEP

Periodic inspections of sheep flocks were made during the year to examine for psoroptic mange or sheep scabies and other conditions. As the year ended, 336 flocks containing 8,318 sheep were under supervision.

Psoroptic mange was observed in 11 flocks, which were quarantined. Therapeutic dipping was supervised. Only three flocks are now awaiting release from quarantine.

INSPECTION OF DISPOSAL PLANTS

The Division of Animal Industry conducted the inspections required prior to licensing of disposal plants, under Chapter 415, Laws of 1953.

RETIREMENT OF TWO KEY EMPLOYEES

Two employees of the Division, Miss Irene E. Mullen and Dr. James W. Crouse, retired during the year. Each had served the livestock interests of the State faithfully for more than 35 years. Each had the respect of the members of the veterinary profession and the livestock and poultry industries of the State. The Division wishes them health and happiness in their retirement.

REORGANIZATION

In June, preparatory to starting a new fiscal year, the Division of Animal Industry was reorganized by combining the brucellosis, tuberculosis and swine disease control work under the chief of the Bureau of Livestock Disease Control. The chief of this Bureau is Dr. R. E. Kerlin, formerly chief of the Bureau of Brucellosis Control.

A new Bureau of Poultry Disease Control has been set up and is being headed by Dr. Walter M. Andress, formerly a supervisor in tuberculosis control, who has had wide experience in poultry meat inspection. Through this Bureau it is planned to render greater assistance to the industry.

INSPECTION OF POULTRY

July 1, 1956 to June 30, 1957

State	Truck Loads	Birds	Approximate Weight
Connecticut	262	312,000	1,310,000
Delaware	1,236	1,313,000	6,180,000
Kentucky	30	14,000	150,000
Maryland	14	14,000	70,000
Massachusetts	83	83,000	415,000
New Hampshire	115	116,000	575,000
New Jersey	1,955	1,989,000	9,775,000
New York	396	400,000	1,980,000
North Carolina	76	36,000	380,000
Pennsylvania	1,194	1,240,000	5,970,000
Virginia	55	26,000	280,000
West Virginia	50	25,000	250,000
Total	5,466	5,568,000	27,335,000

Number of birds condemned	47,000
Approximate weight of birds condemned	190,800

PULLORUM-TYPHOID CONTROL

Fowl tested in field	909,713
Number reacting	67
Per cent reacting	0.007
Fowl tested in laboratory	8,290
Number reacting	.....
Per cent reacting	.....
Total fowl tested	918,003
Total fowl reacting	67
Per cent reacting	0.007

New Jersey Exports of Hatching Eggs and Poultry
July 1, 1956 to June, 1957

Country to Which Consigned	Hatcheries Shipping	Hatching Eggs	Baby Chicks	Cockerels	Pullets	Others
Argentina	1	-------	75	-------	-------	-------
Belgium	1	-------	-------	100	-------	-------
Bermuda	1	-------	25	-------	-------	-------
British Guiana	1	-------	1,500	-------	-------	-------
British West Indies	4	-------	189,800	13,300	750	5 pigeons
Canada	11	9,360	5,730	1,300	600	91 pigeons 2 geese 1,000 pheasants 300 turkeys
Central America	2	-------	-------	3	-------	2 roosters 1 hen
Chile	1	-------	-------	800	200	-------
Cuba	1	-------	-------	-------	2,000	-------
Dominican Republic	1	-------	-------	300	-------	-------
France	1	420	-------	-------	-------	-------
Germany	1	-------	-------	-------	-------	4 pigeons
Hawaii	3	-------	-------	10	-------	3 pigeons
Holland	1	-------	-------	25	-------	-------
India	1	-------	100	-------	-------	-------
Ireland	1	125	-------	-------	-------	-------
Italy	2	-------	400	-------	-------	-------
Mexico	2	-------	-------	450	3,600	-------
Peru	2	-------	105	100	1,100	-------
Puerto Rico	5	-------	56,800	10,000	13,100	-------
South America	2	360	-------	-------	-------	50 pigeons
Venezuela	2	-------	25,200	16,800	-------	-------
West Africa	2	-------	200	-------	2,500	-------
Totals	48	10,265	279,935	43,188	23,850	153 pigeons 2 roosters 1 hen 1,000 pheasants 300 turkeys 2 geese

CATTLE UNDER SUPERVISION
1945 - 1957

	Tuberculosis			Brucellosis			
	Herds	Animals	Reactors Indemnified	Herds	Animals	Reactors Indemnified	Calves Officially Vaccinated
1956-1957	8,014	185,327	162	7,889	184,479	1,830	16,179
1955-1956	8,488	194,937	141	7,305	181,028	2,133	17,514
1954-1955	9,483	204,620	173	6,937	173,091	1,081	17,886
1953-1954	9,797	214,212	188	5,852	144,909	653	22,029
1952-1953	10,415	215,660	135	5,129	113,225	362	23,626
1951-1952	10,683	207,959	193	4,019	81,499	254	22,394
1950-1951	11,273	200,496	232	3,427	66,944	166	19,944
1949-1950	11,962	205,105	198	3,099	60,930	191	18,305
1948-1949	12,692	200,817	282	2,595	52,671	190	16,183
1947-1948	13,478	201,238	368	2,030	45,153	206	14,813
1946-1947	14,347	202,034	770	1,761	30,548	203	13,381
1945-1946	14,867	201,349	707	1,592	29,069	209	.....

CATTLE SURVEY

June 30, 1957

County	Total Herds	Total Cattle	Brucellosis Herds	Brucellosis Cattle	Certified Herds	Certified Cattle	Former Plan B Herds	Former Plan B Cattle	Reactors in Former Plan B Herds
Atlantic	105	421	105	421	Certified	County			
Bergen	52	719	52	719	Certified	County			
Burlington	689	21,794	663	21,759	286	11,030	7	383	29
Camden	126	1,505	126	1,505	Certified	County			
Cape May	70	410	70	410	Certified	County			
Cumberland	382	5,249	379	5,194	278	3,813	1	1	1
Essex	28	631	28	631	19	437			
Gloucester	488	4,966	485	4,957	319	3,205	4	41	4
Hudson	---	---	---	---	---	---	---	---	---
Hunterdon	1,319	29,654	1,287	29,421	799	19,964	17	656	41
Mercer	349	6,907	349	6,907	262	5,412			
Middlesex	351	5,137	349	5,134	221	3,827	2	28	3
Monmouth	566	8,852	564	8,849	355	6,704	5	391	5
Morris	398	8,839	386	8,791	190	5,241	4	392	20
Ocean	109	1,076	105	937	71	580			
Passaic	73	532	73	532	Certified	County			
Salem	734	16,608	708	16,488	343	10,337	3	80	7
Somerset	532	11,694	532	11,694	345	9,251	6	222	11
Sussex	810	33,377	795	33,174	331	15,269	7	344	27
Union	27	208	27	208	Certified	County			
Warren	806	26,748	806	26,748	343	12,863			
Totals	8,014	185,327	7,889	184,479	4,162	107,933	56	2,538	148

GOAT SURVEY

June 30, 1957

County	Total		Brucellosis		Certified	
	Herds	Goats	Herds	Goats	Herds	Goats
Atlantic	13	98	12	96	7	85
Bergen	22	157	22	157	12	80
Burlington	14	63	11	59	4	39
Camden	10	52	10	52	5	39
Cape May	1	2	1	2	.....	.....
Cumberland	6	50	6	50	3	34
Essex	4	54	4	54	2	51
Gloucester	42	112	36	102	15	43
Hudson	.....	.....	.....	.....	.....	.....
Hunterdon	50	444	44	419	22	354
Mercer	11	37	10	36	9	31
Middlesex	21	76	19	73	11	63
Monmouth	24	125	24	125	13	90
Morris	33	214	32	209	20	173
Ocean	11	28	8	22	.....	.....
Passaic	16	76	16	76	8	55
Salem	12	57	8	44	6	36
Somerset	44	390	42	387	26	320
Sussex	8	61	7	60	4	48
Union	6	21	6	21	1	3
Warren	26	116	22	108	14	83
Totals	374	2,233	340	2,152	182	1,627

SUMMARY OF TESTING

July 1, 1956 to June 30, 1957

TUBERCULOSIS ERADICATION PROGRAM

Veterinarians Testing	Cattle Lots	Cattle Animals
N. J. Division of Animal Industry	1,227	43,244
U. S. Animal Disease Eradication Division	253	5,200
Accredited practitioners	5,740	155,494
Total	7,220	203,938

Reactors — 190 or 0.09%

In addition to the tuberculin testing of cattle, tuberculin tests were conducted on 206 lots of goats; 1,955 goats were in these lots.

BRUCELLOSIS ERADICATION PROGRAM, BLOOD TESTING

Veterinarians Testing	Cattle Lots	Cattle Animals	Goats Lots	Goats Animals
N. J. Division of Animal Industry	580	13,192	33	187
U. S. Animal Disease Eradication Division	624	22,396	43	290
Accredited practitioners	7,097	174,624	93	1,161
Total	8,301	210,212	169	1,638

Reactors — 2,435 or 1.16%

BRUCELLOSIS ERADICATION PROGRAM, BRUCELLOSIS RING TESTING

Herds tested	1,436
Animals in tested herds	71,797
Clean herds	1,238
Animals in clean herds	62,293
Suspicious herds	198
Animals in suspicious herds	9,504

BRUCELLOSIS TESTS OF IMPORTED ANIMALS

Veterinarians Testing	Cattle Lots	Cattle Animals
N. J. Division of Animal Industry	811	7,032
U. S. Animal Disease Eradication Division	132	1,895
Accredited practitioners	263	4,214
Total	1,206	13,141

Reactors — 3 or 0.26%

TUBERCULOSIS REACTORS INDEMNIFIED
July 1, 1956 to June 30, 1957

Cattle Appraised	Total	
Registered	25	
Grade	137	
Total	162	
Salvage		**Average**
Registered	$ 3,033.95	$ 121.36
Grade	15,763.32	115.06
Total	$ 18,797.27	$ 116.03
State Indemnity		
Registered	$ 3,693.22	$ 147.73
Grade	10,117.42	73.85
Total	$ 13,810.64	$ 85.25
Federal Indemnity		
Registered	$ 1,250.00	$ 50.00
Grade	3,402.88	24.84
Total	$ 4,652.88	$ 28.72
Sum of Salvage, Federal and State Indemnity	$ 37,260.79	$ 230.00

Total State idemnity paid for tuberculin test reactors from the beginning of this work in 1916 to June 30, 1957 is $3,987,883.47

BRUCELLOSIS REACTORS INDEMNIFIED

	July 1, 1956 to June 30, 1957	December 16, 1940 to June 30, 1957
Cattle Appraised		
Registered	92	1,542
Grade	1,738	9,354
Total	1,830	10,896
Appraised Value		
Registered	$ 34,260.00	$ 454,588.00
Grade	465,526.00	2,271,752.40
Total	$ 499,786.00	$ 2,726,340.40
Average Appraised Value		
Registered	$ 376.48	$ 294.80
Grade	267.85	242.86
Total	$ 273.11	$ 250.21
Salvage		
Registered	$ 10,726.82	$ 151,578.77
Grade	203,396.00	1,013,023.21
Total	$ 214,122.82	$ 1,164,601.98
Average Salvage		
Registered	$ 118.27	$ 98.30
Grade	117.03	108.30
Total	$ 117.01	$ 106.88
State Indemnity		
Registered	$ 13,644.32	$ 167,849.99
Grade	129,755.69	609,829.77
Total	$ 143,400.01	$ 777,679.76
Average State Indemnity		
Registered	$ 149.93	$ 108.85
Grade	74.66	65.19
Total	$ 78.36	$ 71.37
Federal Indemnity		
Registered	$ 4,600.00	$ 66,939.08
Grade	43,448.65	212,858.87
Total	$ 48,048.65	$ 279,797.95
Average Federal Indemnity		
Registered	$ 50.00	$ 43.41
Grade	25.00	22.76
Total	$ 26.26	$ 25.68

BRUCELLOSIS SERVICE FEES AND INDEMNITY PAID

1945 - 1957

	State Indemnity Paid	Federal Indemnity Paid	State Veterinary Service Fees For Testing	Federal Veterinary Service Fees For Testing	State Veterinary Service Fees For Vaccination	Federal Veterinary Service Fees For Vaccination
1956-1957	$143,400.01	$48,048.65	$ 8,542.85	$47,336.63	$ 9,636.50	$10,173.50
1955-1956	168,913.00	56,516.13	14,433.25	41,585.98	22,024.50	.....
1954-1955	142,561.23	46,105.99	24,880.25	18,554.00	20,790.50	.....
1953-1954	53,787.83	8,071.00	37,602.55	.....	24,121.50	.....
1952-1953	30,883.20	10,339.77	33,826.95	.....	25,771.50	.....
1951-1952	23,676.13	7,950.45	12,427.85	.....	24,480.50	.....
1950-1951	14,070.37	4,904.19	8,973.50	.....	22,447.50	.....
1949-1950	17,027.83	5,745.34	7,395.05	.....	21,137.50	.....
1948-1949	18,521.50	6,289.40	6,397.05	.....	18,704.00	.....
1947-1948	20,666.25	7,077.12	5,312.75	.....	17,210.50	.....
1946-1947	17,814.89	6,337.06	3,358.90	.....	14,975.00	.....
1945-1946	16,349.96	6,835.27	1,916.00	.....	.....	.....

CATTLE IMPORTED AND RELEASED

July 1, 1956 to June 30, 1957

Origin	Adult Dairy and Breeding	Dairy and Breeding Under 6 Mo. of Age	Feeder Steers
Arizona	12	....	.....
Canada	1,260	....	.....
Colorado	.....	1	.....
Connecticut	42	1	.....
Delaware	86	....	.....
England	2	....	.....
Florida	2	....	23
Idaho	.....	....	62
Illinois	32	1	42
Indiana	9	....	.....
Iowa	7	....	.....
Ireland	21	....	.....
Kansas	.....	....	69
Kentucky	10	5	.....
Maine	20	....	.....
Maryland	219	3	15
Massachusetts	15	4	.....
Michigan	277	....	.....
Minnesota	28	....	.....
Mississippi	4	....	.....
Missouri	13	....	.....
Nebraska	1	....	.....
New Hampshire	1	....	.....
New York	4,025	9	11
Ohio	219	28	9
Oklahoma	36	....	.....
Pennsylvania	449	19	1,155
Rhode Island	34	3	.....
South Carolina	10	....	.....
Tennessee	9	....	.....
Texas	57	....	.....
Vermont	22	....	.....
Virginia	55	....	193
Washington	3	....	.....
Wisconsin	6,447	....	.....
Totals	13,427	74	1,579

CATTLE SHIPPED OUT OF NEW JERSEY

July 1, 1956 to June 30, 1957

Destination	Lots	Animals
Arizona	17	47
Arkansas	6	6
British West Indies	1	2
California	7	6
Canada	24	29
Colorado	11	14
Connecticut	41	86
Cuba	7	45
Florida	16	47
Georgia	3	11
Germany	1	1
Illinois	73	80
Indiana	9	9
Iowa	24	24
Louisiana	4	23
Maine	3	12
Maryland	120	340
Massachusetts	25	33
Michigan	9	53
Minnesota	1	1
Missouri	19	21
Mississippi	1	1
Nebraska	1	1
New Hampshire	3	3
New Mexico	1	1
New York	97	342
North Carolina	315	545
Ohio	21	37
Oklahoma	8	8
Oregon	1	1
Pennsylvania	318	823
Peru	1	1
Puerto Rico	7	88
Rhode Island	1	1
South Africa	1	1
South America	6	23
South Carolina	23	117
South Dakota	1	1
Tennessee	4	4
Texas	13	16
Vermont	5	8
Virginia	48	171
Washington	1	1
West Virginia	2	2
Wisconsin	13	14
Wyoming	1	1
Totals	1,314	3,101

LIVESTOCK AUCTION MARKETS

The following livestock auction markets are Federal-State approved under the provision of Title 9, Part 78 Code of Federal Regulations.

Boyer Sales Company, New Egypt
Harris Sales Company, Woodstown
Jaegers Livestock Market, Sussex
Jersey City Stock Yards, Jersey City
Livestock Cooperative Auction Market Assn. of North Jersey, Hackettstown
Jacob Zlotkin & Son, Freehold

All cattle sold for dairy or breeding purposes at Harris Sales Company were tuberculin tested. During the year 334 lots of 596 cattle were so tested.

SLAUGHTERING ESTABLISHMENTS

In addition to those slaughtering establishments operating under full-time Federal inspection, the following slaughtering establishments are Federal-State approved under the provision of Title 9, Part 78 Code of Federal Regulations.

CATTLE, INCLUDING BRUCELLOSIS REACTORS

Delaware Packing Co., Trenton
Fisher Brothers, Bridgeton
J. H. & H. E. Hartman, Trenton
Irell Packing Co., Monroeville
Schein, Inc., Hopelawn
Trenton Packing Co., Trenton

CATTLE, NOT KNOWN TO BE AFFECTED WITH BRUCELLOSIS

Wm. L. Burtch, Vineland
Gaskill's Frosted Food Locker Plant, Elmer
Daniel A. Gottlieb & Sons, Inc., Camden
Haskell Packing Co., Haskell
Maresca's, Stockton
Miller Brothers, Camden
Monmouth County Abattoir, Asbury Park
Moonlight Hog Farms, Flemington
Perth Amboy Packing Co., Perth Amboy
George Preziosi, New Village
Clarence Rome, Sussex
Salem Packing Co., Salem
O. W. Struble, Inc., Newton
John Tindik Son's, Bordentown
Wagner Provision Co., Gibbstown

SWINE SURVEY

June 30, 1957

County	Grain Fed Herds	Swine in Grain Fed Herds	Heat Treated Garbage Fed Herds	Swine in Heat Treated Garbage Fed Herds	Raw Garbage Fed Herds	Swine in Raw Garbage Fed Herds	Total Herds	Total Swine
Atlantic	85	2,628	7	1,830	45	3,489	137	7,947
Bergen	23	628	5	4,276	....	.....	28	4,904
Burlington	265	5,189	12	13,000	27	3,301	304	21,490
Camden	162	1,377	7	2,150	6	720	175	4,247
Cape May	105	2,431	8	2,410	23	1,074	136	5,915
Cumberland	383	2,471	4	850	6	680	393	4,001
Essex	10	564	....	.....	1	250	11	814
Gloucester	676	4,362	72	77,356	22	9,963	770	91,681
Hudson	3	4,257	11	29,119	18	14,913	32	48,289
Hunterdon	427	7,550	3	3,050	....	.....	430	10,600
Mercer	121	2,356	1	120	10	1,018	132	3,494
Middlesex	137	3,663	4	445	9	766	150	4,874
Monmouth	397	6,201	7	6,761	36	1,394	440	14,356
Morris	180	1,660	1	250	17	5,651	198	7,561
Ocean	98	1,000	1	1,200	11	525	110	2,725
Passaic	4	9	....	.....	1	8	5	17
Salem	730	6,541	....	.....	3	35	733	6,576
Somerset	167	3,566	....	.....	12	1,347	179	4,913
Sussex	187	2,454	....	.....	3	145	190	2,599
Union	11	351	....	.....	2	300	13	651
Warren	260	2,404	....	.....	1	5	261	2,409
State	4,431	61,662	143	142,817	253	45,584	4,827	250,063

INDEMNITY ON SWINE SLAUGHTERED AND SPECIALLY PROCESSED BECAUSE OF INFECTION WITH AND EXPOSURE TO VESICULAR EXANTHEMA

	First Outbreak	Second Outbreak	Third Outbreak	Total
Number of Swine	1,316	1,515	6,153	8,984
Appraisal	$29,416.50	$48,380.40	$200,311.30	$278,108.20
Salvage	$10,706.80	$31,639.50	$131,165.24	$173,511.54
State Indemnity	$ 9,354.85	$ 8,370.45	$ 34,573.03	$ 52,298.33
Federal Indemnity	$ 9,354.85	$ 8,370.45	$ 34,573.03	$ 52,298.33

SHEEP INSPECTION
July 1, 1956 to June, 1957

Number flocks under supervision	364
Number sheep in flocks under supervision	8,318
Number inspections conducted	364
Number sheep inspected	9,386
Number farms affected	11
Number farms remaining under quarantine at end of year	3

INSPECTION OF SWINE HERDS
July 1, 1956 to June 30, 1957

	State	Federal	Total
Grain feeding farms	533	66	599
Heat treated garbage feeding farms	1,005	2,385	3,390
Raw garbage feeding farms	3,110	1,638	4,748
Total	4,648	4,089	8,737

SWINE MOVED UNDER PERMIT
July 1, 1956 to June 30, 1957

	Slaughter	Feeder	Breeder	Total
Grain fed	23,563	11,914	305	35,782
Heat treated garbage fed	165,858	168,980	1,226	336,064
Raw garbage fed	21,003	7,706	77	28,786
Total	210,424	188,600	1,608	400,632

SWINE IMPORTED FOR SLAUGHTER
July 1, 1956 to June 30, 1957

Armour & Company, Jersey City	123,893
Walter Blaker, Clarksboro	259
C. W. Brown, Mount Royal	18
Delaware Packing Co., Trenton	27,222
W. S. Ellis, Pennsauken	82
John Englehorn & Son, Newark	651,176
Fisher Bros., Bridgeton	565
D. A. Gottlieb & Sons, Camden	240
Charles Haag, Inc., Hoboken	86,056
C. Miller & Co., North Bergen	208,324
Swift & Co., Jersey City	243,055
Trenton Packing Co., Trenton	20,250
Van Wagenen & Schickhaus, Harrison	103,565
Total	1,464,705

SWINE IMPORTED FOR BREEDING AND FEEDING
July 1, 1956 to June 30, 1957

Feeder	87,403
Breeder	123
Total	87,526

SUMMARY OF ACTIVITIES OF STATE EMPLOYED VETERINARIANS

July, 1956 to June, 1957

	Andress	Armstrong	Brower	Clapham	Jewell	Muller	Newlin	Novich	Roney	Savage	Sutton	VanMunster	Wells	Wilson	Total State
Tuberculosis															
1. Herds tested	87	26	158	182	214	12	125	162	117	1	219	.....	....	91	1,394
2. Cattle & goats tested	3,834	1,071	4,814	6,085	6,576	43	3,663	4,393	4,620	3	6,633	.....	....	3,876	45,611
3. Reactors disclosed	4	22	2	6	21	.....	9	3	21	....	32	.....	....	.....	120
4. Reactors appraised	5	37	1	8	11	.....	3	9	16	....	26	.....	....	23	139
(a) Non-subject reactors* moved	4	9	1	.....	10	4	5	.....	5	9	6	.....	....	3	56
Brucellosis															
5. Herds bled	31	8	5	37	22	142	17	164	23	7	4	152	....	17	629
6. Cattle & goats bled	1,286	14	87	625	332	3,401	51	3,357	112	98	33	4,584	....	336	14,316
7. Herds brucellosis ring test tested	.....	167	.....	.....	.....	187	.....	.....	.....	184	.....	195	....	.....	733
8. React. branded & appraised	38	186	51	.....	1	166	.....	24	.....	555	.....	138	....	3	1,162
9. Farm visits to discuss program	3	165	3	.....	2	257	7	14	32	159	.....	64	....	23	729
10. Barn inspections—T.B.	5	16	2	5	15	.....	4	11	18	....	21	.....	....	19	116
Brucellosis	7	95	11	.....	.....	94	3	20	.....	245	.....	69	....	.....	544
11. Lots inships bled	23	37	45	37	40	15	45	74	231	2	46	.....	92	136	823
12. Inships bled—cattle	71	224	349	376	329	241	210	1,198	2,263	90	428	.....	986	880	7,645
13. Conditional import cattle disposed of—Lots	.....	2	.....	.....	1	1	.....	.....	9	....	7	.....	1	18	39
Cattle	.....	3	.....	.....	1	8	.....	.....	15	....	66	.....	1	50	144
14. Anthrax vaccinations—Herds	.....	29	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	....	1	32
Horses & cattle	.....	750	.....	.....	.....	.....	.....	.....	.....	41	.....	.....	....	86	877
15. Visits to auction markets	94	92	91	3	.....	18	1	31	59	....	4	3	....	99	495
16. Visits—To farms	16	32	18	30	111	120	24	160	164	61	159	54	....	230	1,179
To veterinarians	46	25	33	23	35	73	17	78	150	47	82	16	....	139	764
To county agents	.....	1	.....	.....	.....	4	.....	1	13	7	.....	2	....	1	29
To local farm meetings	.....	.....	.....	1	1	2	3	.....	14	4	6	5	....	7	43
To others	18	7	14	15	6	52	6	9	24	45	8	8	....	39	251
17. Steers Released—Lots	4	13	14	.....	30	2	.....	18	3	3	3	.....	....	3	93
Steers	56	228	225	.....	124	45	.....	309	155	56	81	.....	....	71	1,350
18. Special investigation visits	15	3	5	8	2	2	1	.....	8	3	2	.....	2	.....	51
19. Sheep farm inspections	60	42	37	26	55	.....	18	.....	32	6	10	.....	....	5	291
20. Rendering plant inspections	8	6	19	5	2	6	7	.....	8	....	.....	6	....	.....	67

*Reactors not eligible for indemnity.

SUMMARY OF ACTIVITIES OF FEDERAL EMPLOYED VETERINARIANS

July, 1956 to June, 1957

	Bamber	Jackson	McKinney	Olivier	Smith	Ziriax	Total Federal	Total State	Total State & Federal
Tuberculosis									
1. Herds tested	108	3	7	.....	109	.....	227	1,394	1,621
2. Cattle & goats tested	2,870	34	360	.....	1,442	.....	4,706	45,611	50,317
3. Reactors disclosed	.....	1	.....	.....	5	.....	6	120	126
4. Reactors appraised	17	1	.....	.....	3	.....	21	139	160
(a) non-subject reactors* moved	1	....	.....	.....	2	.....	3	56	59
Brucellosis									
5. Herds bled	15	14	172	234	125	75	635	629	1,264
6. Cattle & goats bled	92	368	5,765	13,013	1,716	2,573	23,527	14,316	37,843
7. Herds brucellosis ring test tested	.....	39	171	174	16	.....	400	733	1,133
8. React. branded and appraised	2	11	582	61	39	84	779	1,162	1,941
9. Farm visits to discuss program	19	....	153	53	146	85	456	729	1,185
10. Barn inspections—T.B.	13	....	.....	.....	1	.....	14	116	130
Brucellosis	.....	1	205	23	16	56	301	544	845
11. Lots inships bled	111	....	.....	.....	4	.....	115	823	938
12. Inships bled—Cattle	1,752	....	.....	.....	12	.....	1,764	7,645	9,409
13. Conditional import cattle disposed of—Lots	6	....	.....	1	.....	.....	7	39	46
Cattle	67	....	.....	3	.....	.....	70	144	214
14. Anthrax vaccinations—Herds	.....	....	.....	.....	.....	.....	.....	32	32
Horses & cattle	.....	....	.....	.....	.....	.....	.....	877	877
15. Visits to auction markets	45	....	20	.....	45	16	126	495	621
16. Visits—To farms	27	....	16	.....	185	92	320	1,179	1,499
To veterinarians	48	1	44	2	15	16	126	764	890
To county agents	.....	....	1	.....	1	1	3	29	32
To local farm meetings	.....	....	1	.....	.....	.....	1	43	44
To others	4	....	22	1	17	7	51	251	302
17. Steers released—Lots	4	....	.....	.....	1	.....	5	93	98
Steers	35	....	.....	.....	34	.....	69	1,350	1,419
18. Special investigation visits	1	....	3	.....	5	.....	9	51	60
19. Sheep farm inspections	4	....	.....	8	10	2	24	291	315
20. Rendering plant inspections	.....	....	.....	.....	.....	.....	.....	67	67

*Reactors not eligible for indemnity.

ACTIVITIES OF STATE EMPLOYEES—BUREAU SWINE DISEASE CONTROL

July 1, 1956 to June 30, 1957

	Allen	Armstrong	Baird	Brower	Butterhof	Donner	Evans	Jewell	Recht	Roney	Wilson	Total State
Vesicular Exanthema												
1. Herds inspected	848	1	667	....	1,013	....	1,204	14	610	92	9	4,458
2. Approx. no. swine	309,181	55	105,000	....	215,032	....	102,711	1,885	217,102	12,000	1,350	964,316
3. Herds infected	.....	....	.....	....	.....	1	.....	.....	.....	.....	.....	1
Active lesions	.....	....	.....	....	.....	1	.....	.....	.....	.....	.....	1
Recent infection	.....	....	.....	....	.....	....	.....	.....	.....	.....	.....	.....
Old infection	.....	....	.....	....	.....	....	.....	.....	.....	.....	.....	.....
4. Farms quarantined	.....	....	.....	....	.....	1	.....	.....	.....	.....	.....	1
5. Differential tests	.....	....	.....	....	.....	3	.....	.....	.....	.....	.....	3
6. Farms released from quarantine	.....	....	.....	....	.....	....	.....	.....	.....	.....	.....	.....
7. No. permits issued	193	736	278	467	102	73	129	20	833	112	26	2,969
For feeders	1	218	110	184	57	27	56	2	209	92	3	959
For slaughter	192	518	168	283	45	46	73	18	624	20	23	2,010
8. Vehicles stopped	4	....	.....	....	.....	45	.....	.....	.....	3	.....	52
With permit	4	....	.....	....	.....	45	.....	.....	.....	3	.....	52
Without permit	.....	....	.....	....	.....	....	.....	.....	.....	.....	.....	.....
Action taken	.....	....	.....	....	.....	....	.....	.....	.....	.....	.....	.....
9. Slaughtering establishments checked	.....	....	.....	....	.....	10	2	.....	2	2	.....	16
10. Inspection of swine at auction markets	1	....	.....	18	.....	....	.....	.....	.....	.....	.....	19
11. Disinfection of trucks	4	....	.....	1	19	....	.....	.....	.....	.....	.....	24
12. Inspection of inshipped swine	30	....	.....	....	3	....	.....	.....	.....	.....	.....	33
13. Suspected diseases	.....	....	.....	....	.....	....	.....	.....	.....	.....	.....	.....
14. Other visits	.....	....	.....	....	.....	....	.....	.....	.....	.....	.....	.....

Activities of Federal Employees—Bureau Swine Disease Control

July 1, 1956 to June 30, 1957

	Bamber	Bastianelli	Blakeslee	Deignan	Fraleigh	Germaine	Green	Harlow	Hoffman	Hudgins
Vesicular Exanthema										
1. Herds inspected	61	745	618	....	....	....	....	14	704	578
2. Approx. no. swine	43,550	659,546	655,170	....	....	....	....	28,198	610,255	1,132,923
3. Herds infected	.....	.....	.....	....	....	....	....	.....	.....	.....
Active lesions	.....	.....	.....	....	....	....	....	.....	.....	.....
Recent infection	.....	.....	.....	....	....	....	....	.....	.....	.....
Old infection	.....	.....	.....	....	....	....	....	.....	.....	.....
4. Farms quarantined	.....	.....	.....	....	....	....	....	.....	.....	2
5. Differential tests	.....	.....	.....	....	....	....	....	.....	.....	.....
6. Farms released from quarantine	.....	.....	.....	....	....	....	....	.....	.....	.....
7. No. permits issued	345	753	782	41	21	44	507	37	869	830
For feeders	177	483	526	8	1	15	288	10	672	45
For slaughter	168	270	256	33	20	29	219	27	197	785
8. Vehicles stopped	.....	.....	.....	2	53	50	184	29	.....	1
With permit	.....	.....	.....	1	51	48	181	29	.....	1
Without permit	.....	.....	.....	1	2	2	3	.....	.....	.....
Action taken	.....	.....	.....	....	....	....	....	.....	.....	.....
9. Slaughtering establishments checked	3	.....	.....	....	....	6	....	.....	.....	2
10. Inspection of swine at auction markets	.....	.....	.....	....	....	10	....	.....	.....	.....
11. Disinfection of trucks	.....	.....	.....	....	....	....	....	.....	.....	.....
12. Inspection of inshipped swine	.....	.....	.....	....	....	....	....	.....	.....	.....
13. Suspected diseases	.....	.....	.....	....	....	....	....	.....	.....	.....
14. Other visits	.....	.....	.....	....	....	....	....	.....	.....	.....

ACTIVITIES OF FEDERAL EMPLOYEES—BUREAU SWINE DISEASE CONTROL (*Continued*)

July 1, 1956 to June 30, 1957

	Jackson	Kell	Maltman	Musterman	Schwika	Smith	Stuffer	Wald	Wright	Ziriax	Total Federal	Total State	Total State & Federal
Vesicular Exanthema													
1. Herds inspected	127	102	....	....	1,093	63	....	....	....	127	4,232	4,458	8,690
2. Approx. no. swine	147,771	37,280	....	....	469,098	179,145	....	....	....	68,000	4,030,936	964,316	4,995,252
3. Herds infected	.....	.....	....	....	.....	.....	....	....	....	.....	.....	1	1
Active lesions	.....	.....	....	....	.....	.....	....	....	....	.....	.....	1	1
Recent infection	.....	.....	....	....	.....	.....	....	....	....	.....	.....	.....	.....
Old infection	.....	.....	....	....	.....	.....	....	....	....	.....	.....	.....	.....
4. Farms quarantined	.....	.....	....	....	.....	.....	....	....	....	.....	2	1	3
5. Differential tests	.....	.....	....	....	.....	.....	....	....	....	.....	.....	3	3
6. Farms released from quarantine	.....	.....	....	....	.....	.....	....	....	....	.....	.....	.....	.....
7. No. permits issued	7	36	407	7	429	16	337	....	449	6	5,923	2,969	8,892
For feeders	.....	24	228	....	267	.....	177	....	259	2	3,182	959	4,141
For slaughter	7	12	179	7	162	16	160	....	190	4	2,741	2,010	4,751
8. Vehicles stopped	.....	.....	210	36	.....	.....	59	53	123	.....	800	52	852
With permit	.....	.....	200	33	.....	.....	59	53	120	.....	776	52	828
Without permit	.....	.....	10	3	.....	.....	....	....	3	.....	24	.....	24
Action taken	.....	.....	....	8	.....	.....	....	....	....	.....	8	.....	8
9. Slaughtering establishments checked	.....	.....	....	8	.....	.....	....	....	2	.....	21	16	37
10. Inspection of swine at auction markets	.....	.....	....	2	.....	.....	....	....	....	.....	12	19	31
11. Disinfection of trucks	.....	.....	....	....	.....	.....	....	....	....	.....	.....	24	24
12. Inspection inshipped swine	.....	.....	....	....	.....	.....	....	....	....	.....	.....	33	33
13. Suspected diseases	.....	.....	....	....	.....	.....	....	....	....	.....	.....	.....	.....
14. Other visits	.....	.....	....	....	.....	.....	....	....	....	.....	.....	.....	.....

DIVISION LABORATORY REPORT
July 1, 1956 to June 30, 1957

BLOOD TESTS MADE FOR BRUCELLOSIS ON INSHIPPED ANIMALS

Samples received	13,141*
Unfit for test	37
Samples tested	13,104*
Reactors	14
Negative	13,090

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

BLOOD TESTS MADE FOR BRUCELLOSIS ON ANIMALS IN HERDS UNDER SUPERVISION

Samples received	211,884
Unfit for test	420
Samples tested	211,464
Reactors	2,491
Suspicious	5,459
Negative	203,514

MILK RING (BRT) TESTS FOR BRUCELLOSIS

Samples received	5,079
Unfit for test	47
Samples tested	5,032
Suspicious	281
Negative	4,751

HOTIS TEST MADE FOR MASTITIS ON MILK SAMPLES OF ANIMALS

Number of animals	39
Number of samples	155
Streptococci	100
Negative	51
Other organisms	5

BLOOD TESTS MADE FOR PULLORUM DISEASE OF POULTRY

Samples received	8,244
Unfit for test	1
Samples tested	8,243
Reactors	3
Negative	8,240

BLOOD TESTS MADE FOR LEPTOSPIROSIS OF ANIMALS

Samples received	75
Reactors	3
Negative	72

BACTERIOLOGICAL, MICROSCOPIC AND POSTMORTEM EXAMINATION
July 1, 1956 to June 30, 1957

Lots	Animal	No.	Material	Condition Suspected	Findings
88	Avian	198	Chickens	*S. Pullorum*	Negative
2	Avian	11	Turkeys	*S. Pullorum*	Negative
6	Avian	12	Chickens	*S. Pullorum*	Positive
5	Avian	17	Chickens	Typhoid	Fowl typhoid
2	Avian	4	Chickens	Unknown	Leukosis
1	Avian	1	Chicken	Unknown	Fowl cholera
1	Avian	5	Chickens	Unknown	Negative
1	Avian	2	Poults	Coccidiosis	Internal hemorrhage
1	Avian	4	Poults	Unknown	Blackhead
7	Bovine	7	Ears	Anthrax	Negative
2	Bovine	6	Ear, spleen	Anthrax	Negative
1	Bovine	1	Spleen	Anthrax	Negative
1	Bovine	1	Spleen	Anthrax	*B. anthracis*
1	Bovine	1	Blood sample	Anthrax	Negative
				Leptospirosis, Hemorrhagic septicemia	
1	Bovine	1	Blood sample	Anthrax	*B. anthracis*
6	Bovine	7	Feti	*B. abortus*	Negative
1	Bovine	1	Uterine exudate	*B. abortus*	Negative
1	Bovine	1	Spleen	Acid fast bacteria	Negative
1	Bovine	1	Lung, liver	Pathogenic bacteria	Negative
1	Bovine	1	Ear, liver, kidney	Pathogenic bacteria	Negative
1	Bovine	4	Blood samples	Vibrio fetus	Negative
1	Bovine	2	Semen samples	Vibrio fetus	Negative
1	Bovine		Feces	Parasites & ova	Ova of ascaris & trichuris
2	Bovine	6	Blood samples	Leucopenia	4 normal, 2 marked Leucopenia
1	Bovine	2	Milk samples	Pathogens	Hemolytic staph.
1	Bovine	1	Skin scraping	Mange mites, ringworm	Negative
1	Equine	1	Blood sample	*S. abortivoequina*	Negative
1	Equine	1	Ear	Anthrax	Negative
1	Equine	1	Blood sample	Filarial worms	Negative
1	Ovine	1	Ear	Anthrax	Negative
1	Ovine	1	Blood sample	Listerella Monocytogenes	Negative
1	Ovine	1	Pus sample	Coccidioides immitis, Actinobacillosis and Pseudotuberculosis	Recovered non-pathogenic fungus belonging to the genus streptomyces
1	Ovine	1	Spleen, liver intestine, kidney	Unknown	Strongylosis
2	Ovine	2	Skin scrapings	Mange mites	Negative
1	Porcine	1	Hog	Cause of death	Evidence of pneumonia
1	Porcine	3	Hogs	Unknown	Pediculosis and evidence of previous septicemia
1	Porcine	1	Heart, liver, kidney, lungs, intestines	Pathogenic bacteria	Negative
1	Porcine	1	Pig	Unknown	Suppurative pneumonia, parasitic worms
1	Porcine	1	Pig	Unknown	Pediculosis necrotic enteritis
1	Porcine	1	Ear	Anthrax	Negative
2	Porcine	2	Skin scrapings	Mange mites	Negative
1	Porcine	2	Hog livers	Pathogenic bacteria	Negative
		1	Can of banana puree	Pathogenic bacteria	Negative
		1	Louse		*Hematopinus suis*

Report of the Division of Plant Industry

FRANK A. SORACI, *Director*

BUREAU OF ENTOMOLOGY

GYPSY MOTH CONTROL

Since its introduction into Massachusetts in 1869, the gypsy moth has become established in the forests of the Northeast. Initial control measures were slow and costly. With the development of aerial spray methods and new insecticides, control measures that were highly effective and relatively inexpensive became available. A large scale program, having the complete extermination of the gypsy moth from the country as its ultimate goal, was initiated in the spring of 1956.

In New Jersey, the program of control of the gypsy moth is made up of four phases: *trapping*, *scouting*, *spraying* and *quarantine*. All phases must be carried out if the objective is to be reached.

Trapping consists of placing sex-attractant traps in areas where there is suspicion of infestation. The traps serve also as a check on the effectiveness of the control operation. This phase of the program is carried on during the moths' flight season in July and August. Traps are patrolled and serviced at 10-day intervals.

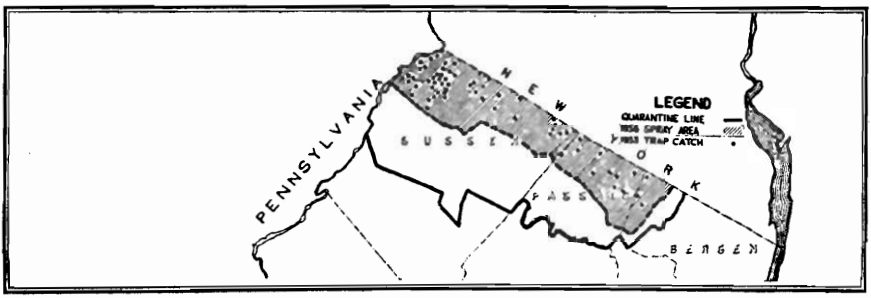
Scouting consists of visual examination for egg masses on all standing vegetation in areas where moths were captured during trapping. In addition, selective site scouting provides examination of forested areas that are especially favorable for infestation by gypsy moth. Scouting operations are carried on during the season of the year when the foliage is off the trees.

Spraying consists of the application by specialized aircraft of one pound of DDT in one gallon of light fuel oil to the acre during the latter part of April and early May when the gypsy moth is in its early larval stages.

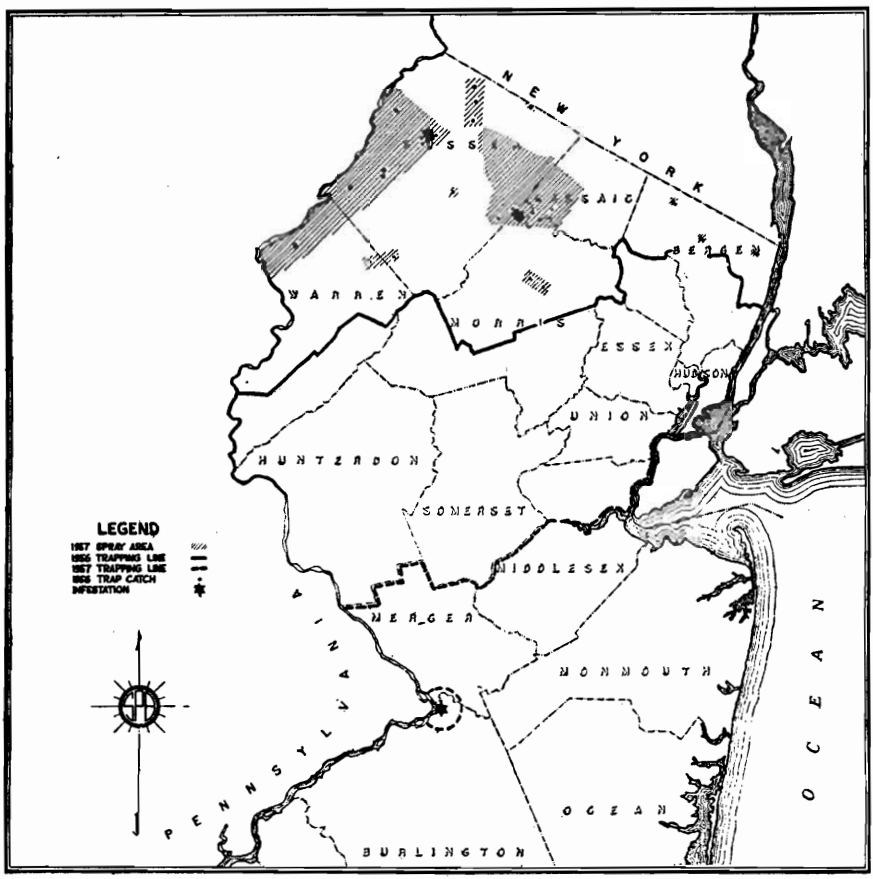
The objective of *quarantine* is to check gypsy moth spread by preventing the movement of infested articles out of the quarantined area. This program is carried on throughout the entire year.

Trapping

Beginning on July 3, 1956, 2000 traps were placed in designated sites over approximately one million acres of land. All of Sussex, the northern two-thirds of Warren and the northern half of Morris, Passaic, and Bergen counties were covered by the survey. The traps were located on a seven-eighths mile grid throughout the entire section. This system of trapping



Gypsy Moth Control Operations (fiscal 1956)



Gypsy Moth Control Operations (current year)

provides saturation of the trapped area with gypsy moth scent. Thus, any moth within the trapped area should come under the influence of one or more traps during its period of flight. The recovery of male gypsy moths in a trap usually indicates the presence of an infestation within a one-half mile radius. The traps were regularly patrolled to remove captured moths and freshen, or replace, deteriorated baits.

The first male moth was caught on August 10, 1956. A total of 34 moths was captured at 27 different trap sites. All moth catches were single except for two traps in Sandyston Township in Sussex County, where one trap caught four moths and another took five. A map showing the location of moth catches appears on the opposite page.

Scouting

Scouting of the attracting trap sites began on January 7, 1957 and continued until the first week of March. All tree growth for a distance of one-half mile around each of the attracting trap sites was examined for egg masses. A selected spot-scouting survey was also conducted. Scouting sites were selected where elevation, forest conditions, and location in relation to common carrier traffic were favorable for the establishment of gypsy moth infestations. This type of scouting survey was continued in a southerly direction as far south as Elizabeth, Somerville and Phillipsburg.

All scouting for gypsy moth egg masses was suspended after the first week in April, by which time a total of 6,255 open and 12,673 woodland acres had been inspected.

Two separate sites of infestation were discovered. One was near Culvers Lake in the Stokes State Forest, Sandyston Township, Sussex County and the other in the Lake Stockholm region, Jefferson Township, Morris County. All egg masses discovered were creosoted to prevent larval emergence.

Spraying

Based on trapping and scouting results, plans were made for the spraying of portions of the northern New Jersey counties of Bergen, Passaic, Morris, Warren and Sussex with insecticide applied at the rate of one pound of DDT to one gallon of light oil to the acre. Financing for the cooperative Federal-State gypsy moth spray program was provided on a matching fund basis. The area in New Jersey and additional surrounding areas in Pennsylvania were classified as one spray unit.

Prior to the spraying, careful checks were made throughout the area. Locations of fish ponds, reservoirs, poultry and fur farms were noted and

plotted on the work maps used by the pilots and ground personnel. In addition to these caution areas, "Kytoon" (aerial marker) sites were selected and plotted on the maps.

Meetings were held with representatives of the Department of Conservation and Economic Development and with members of the Department of Health to familiarize them with the purpose and operation of the program.

The over-all spray area of 188,205 acres was divided into 25 work sections according to the general contour of the land, the presence of roads, and other natural markers that would be useful to the spray pilot when he was making his spray runs. Kytoon sites were selected along boundary lines of each work section. Kytoons (helium-filled balloons) were flown at these sites while the section was being sprayed.

Three Federal pick-up trucks were equipped with two-way radio units for use in ground observation. Airports out of which spray aircraft were operating were also equipped with radios, as were two aerial observation planes.

Eight aircraft of various types, both single and multi-equipped, applied insecticide to all tree growth in the spray area. The smaller aircraft were used primarily in dress-up work around water edges and caution areas while the larger aircraft were used in large forest tracts.

Initial spray application began at dawn on April 25, 1957. All spraying was done in the early morning when air movement was at a minimum. Final application of spray was on May 18, 1957.

Complaints

Complaints received from the public during the spray program ranged from annoyance at noise caused by the aircraft, to fish kill in some of the lake areas. A common complaint concerned the oil mist that covered the windshield of cars during the time of spray application.

Complaints of dead and dying bees in the spray area were investigated by the State apiary inspector who found that all were unjustified. Inspections were made of all known apiaries in the sprayed areas. In the four counties of Bergen, Morris, Sussex and Warren, 44 apiaries were visited and 224 colonies were inspected. Thirty-six of the 224 were infected with American foul brood and 13 colonies were dead because of neglect. In apiaries where colonies had been properly manipulated, a surplus of honey had been stored and colonies were normal. No bees killed by the spray operation nor any colonies weakened from this cause were found.

Complaints of fish kill in and out of the spray area were investigated by one of the gypsy moth inspectors, accompanied by either a fishery biologist or a law enforcement officer of the Fish and Game Division. In

most cases the mortality was brought about by a cause other than DDT poisoning, although some unimportant kills of bait or panfish did occur, especially in impounded waters.

A complaint concerning the burning of spinach and onion crops in the Rockaway Valley farming region was brought to the attention of the Department by a farmer of that region. Vegetation taken from the affected area for chemical analysis showed a slight insecticide residual of 0.3 to 0.5 part per million, which is insufficient to cause burning of the leaves.

A complaint of death of cows in Sussex County by DDT poisoning was investigated by qualified veterinarians who diagnosed influenza.

Quarantine

As a result of the continued find of the gypsy moth in the State, the quarantine regulations for this insect have remained in force.

The regulated area consists of entire townships and incorporated municipalities of Montague, Vernon, Sandyston, Frankford, Lafayette, Hardyston and Wantage in Sussex County; West Milford, Ringwood, Wanaque and Bloomingdale in Passaic County; and Mahwah, Oakland and Ramsey in Bergen County.

All stages of the gypsy moth; all timber products, manufactured or non-manufactured; all trees, shrubs, plants and vines having persistent woody stems; all stones and quarry products; and miscellaneous hazardous materials are listed as regulated articles.

These regulated articles may not be moved from points within the regulated area to points outside that area unless such materials have been inspected and issued certification by an authorized inspector. Sixty-two duration certificates, covering 28 lumber operations, 13 sawmills, 12 Christmas bough cuttings, four firewood cuttings, three junk yards, and two native plant gathering operations, were issued. In addition, 567 daily certificates were issued. These included movement of 308 loads of logs, 168 loads of mine props, 74 loads of cordwood, 16 loads of Christmas boughs, and one load of Christmas trees.

Gypsy Moth Infestation in Bordentown

On June 6, 1957 during a regular inspection of a nursery in Bordentown Township, Burlington County, by a Division inspector, an infestation of gypsy moth was discovered. Egg masses and larvae were found on and about birch trees in the nursery. The entire nursery was treated by mist-blower with DDT, within a few hours after the discovery.

A temporary quarantine was immediately drawn up by the New Jersey Department of Agriculture. A follow-up spray was applied before rein-

spection and removal of the quarantine. Nursery stock removed from the nursery before the discovery of the infestation was examined at its destination and found free of any form of gypsy moth.

A crew of three men spent an entire week inspecting all wooded areas and housing developments in the immediate vicinity of the nursery, with negative results.

WHITE-FRINGED BEETLE CONTROL

In the 1955-56 Annual Report the finding during the spring inspection of only a few white-fringed beetle larvae within the treated area in Vineland and the application of additional insecticides to infested uncultivated land were reported. The small number of finds indicated that excellent control had been achieved.

Since eradication of this beetle is the program objective, thorough scouting for adult beetles was carried on during the summer of 1956 and a search for larvae was conducted during the fall and winter months.

Less than 100 white-fringed beetles, in a dead or dying condition, were found in the treated uncultivated areas during the summer scouting. More insecticide was applied as the beetles were found. This emergence was expected in view of the finds of larvae in early spring. The beetles, however, were being killed during emergence by contact with the surface layer of insecticide. No beetles were found in the treated cultivated farmland nor were any found outside of the control area.

Inspection and certification of hazardous material for movement from the control area was arranged in compliance with a quarantine order of this Department.

During the fall and early winter a program of soil sampling was initiated and no white-fringed beetle larvae were found. There was a corresponding lack of other soil-inhabiting forms of insects, all of which gave further evidence of the efficiency of the insecticidal applications.

During May and June, 1957, an inspector scouted the 350-acre control area, following plows and harrows during tillage operations and looking for white-fringed beetle larvae and pupae. No specimens were observed. A close watch was maintained while lettuce, pepper, sweet potato and other plants were removed from seed beds and planted in the fields. Here, too, results were negative.

Also, during this two-month period the inspector was on hand to prevent the unauthorized movement of soil, plants, uncleaned farm equipment and other material capable of spreading the white-fringed beetle to unregulated areas. A close watch was maintained at the site of a building erected within the treated area. No forms of white-fringed beetle were found during digging, filling, and grading operations.

On the basis of the year's survey work, it is known that excellent control has been obtained and that eradication of the pest is near. The survey will be continued during the next year or more as needed to assure the eradication of this dangerous agricultural pest.

NURSERY INSPECTION

During the fiscal year 793 nurseries were inspected for issuance of the certificate of inspection of this Department. These figures represent an increase of 109 nurseries certified over the 1955-56 report. Two hundred forty-seven infestations, which required application of control measures before certification could be granted, were found in 115 nurseries. There were 29 fewer infestations and 21 fewer nurseries infested.

The pests most commonly found were rhododendron lace bug, juniper scale, holly leaf miner, azalea lace bug, bagworm, Euonymus scale, oyster shell scale, juniper scale and Taxus mealybug. These nine insects, out of a total of 32 species found, accounted for 176 of all infestations.

Dealers Certificates

Certification was granted to 241 dealers in nursery stock. This is done only after sources of plant material are investigated and found to be pest free. Follow-up inspections were made of the premises of 177 dealers in nursery stock to determine freedom from pests of stock held over. Of the total number inspected, the stock of only two was found to contain insect infestations that required application of control measures.

Special Certificates

Special certificates were issued to 371 private individuals and nurserymen desiring to ship plant material out of New Jersey under special conditions. These certificates are commonly issued following inspection just prior to shipment, in accordance with special requirements of other states and foreign countries, applicable to the material to be moved.

Canadian Certificates

One hundred eighteen special certificates were issued for the movement of plant material from New Jersey to Canada, in accordance with special requirements of the Dominion government.

Special Corn Borer Certificates

One hundred four special certificates were issued for the movement of plant material into states enforcing quarantine measures on account of the European corn borer.

Domestic Inspections

Forty-three shipments of plant material from other states were inspected as a check on the efficiency of the various state inspection services. No infested plant material was found.

Foreign Inspections

One inspection was made of unquarantined plant material entering New Jersey from Canada. No infestation was found.

Gypsy Moth Inspections

Two hundred six nurseries, located in the northern part of the State within and near to the area quarantined on account of the gypsy moth, were inspected during the winter months. No infestations of gypsy moth were found.

Special (Request) Inspections

One hundred forty-four inspections were made for residents of the State, reporting the presence of injurious insects and plant diseases affecting their premises. The necessary information concerning life habits and control measures for the pests was given.

RED STELE DISEASE OF STRAWBERRIES

During March and April, 1957, 58 inspections were made of strawberry plantings in New Jersey. This work is necessary to prevent the spread of red stele disease. Fifty-eight growers entered 242.99 acres in this program. Of the total acreage inspected, 26.50 acres, involving eight growers, were rejected because of infection with the disease. Certification was issued for plants growing in 216.49 acres entered by 50 growers.

Mention was made in the 1955-56 Annual Report of the initiation of a program designed to provide strawberry plants free of red stele disease, virus diseases and nematodes. This Department would act as the certifying agency and the New Jersey Agricultural Experiment Station would provide clinically-tested, virus-free and nematode-free foundation stock. The Small Fruits Industry Committee of the New Jersey State Horticultural Society is interested in the establishment of this program, which would result in a great improvement in plant and fruit quality of plants and in better yields. Approximately 2,000 foundation plants of the varieties Midland and Sparkle have been released to two growers who have the facilities and background to fulfill the rigid requirements for raising Registered (Increase) Plants. One grower is located in southern New Jersey and the other in central New Jersey, as assurance that crop failure in one area would not result in a total loss of the year's work. These Registered plants are the property of

the Industry Committee and will be issued by them to nurserymen-growers of Certified (Improved) Plants.

Several inspections of this planted stock revealed that despite late planting and drought, good growth was made and "runners" were being formed. The growers are fulfilling the requirements of the program and there is enthusiasm for the future.

BLUEBERRY PLANT CERTIFICATION

This report covers the calendar year 1956, the 12th year of certification of blueberry plants and propagating material for "stunt" disease. Two or more inspections are made each year; one in the spring and the second in the fall, at a time when disease symptoms are most readily seen. Diseased bushes are tagged and their removal is required. Fields showing more than 0.75 per cent diseased bushes at any one inspection or a total of more than 1 per cent for all inspections are rejected and refused certification.

Stunt diseased bushes per acre inspected amounted to 1.3 in the spring inspection and 0.5 in the fall, giving a total of 1.8 for the season. This figure is slightly greater than the number reported in 1955, but less than numbers found in 1954 and 1953. The number of diseased bushes per acre has remained almost constant since 1947, as can be seen in the following table.

REVIEW OF BLUEBERRY INSPECTION AND CERTIFICATION

Year	Number of Growers	Acres Inspected	Number of Stunt Bushes Tagged Per Acre (Certifiable Portion)
1945	14	155.25	4.7
1946	26	362.23	5.7
1947	23	346.38	2.4
1948	31	288.30	1.4
1949	34	367.40	1.5
1950	33	396.50	1.8
1951	37	391.13	1.4
1952	31	365.09	1.7
1953	28	338.17	2.2
1954	22	291.25	2.2
1955	22	306.00	1.4
1956	22	302.25	1.8

The apparently static residual of disease has caused questioning of this program. The stunt disease reduction from 1945 to 1948 indicated that real benefits were being derived, but the certification program did not reduce the incidence of stunt during the next eight years. Thus, a revision of the program was proposed to the industry and adopted.

Certification is now based on the inspection of nursery plants and enough mother plants to supply cutting wood for the growers' use and for sale. Mother plants are cut to a maximum of 12 inches from the ground annually to provide such cutting wood.

All mother plants, rooted cuttings and nursery plants are required to be sprayed or dusted twice a year with insecticides known to control leafhoppers, the carriers of stunt disease. Field inspection is made after the insecticide has been applied. On inspection, mother plants showing symptoms of stunt or other virus diseases, such as shoestring, mosaic and ringspot, are required to be removed within 10 days. Also, five rows of plants on each side of the mother plants are inspected to provide isolation. If the diseases are found in the isolation rows, the grower is required to remove the infected plants.

Nursery plants, to qualify as certified, must not have more than 0.75 per cent stunt disease at any one inspection, nor more than a total of 1 per cent stunt disease for the season. All injurious insects found on mother plants, isolation plants and nursery plants must be controlled before certification.

POST-ENTRY QUARANTINE INSPECTIONS

During the year 205 inspections were made of plant material imported from foreign countries and grown under supervision of this Department, in accordance with the requirements of the cooperative post-entry quarantine project of this Department and the United States Department of Agriculture.

Certain plant materials originating in foreign countries and capable of carrying and introducing plant diseases into this country can be imported only under post-entry quarantine permit. Such plants arriving in this State must be grown in quarantine under the supervision of this Department. The usual quarantine period is two growing seasons, but the period may vary according to the habits of involved pathogens and plants. During the holding period, two inspections are made each year and at the termination of this period, if the plants have shown no disease symptoms, they are released.

MATERIAL IMPORTED BY GENUS, 1956-57

Genus of Plants	Number Imported
Acer	3,730
Aesculus	5
Hydrangea	1,675
Ilex	300
Juniperus	2,271
Laburnum	75
Malus	300
Punica	2
Rhododendron	3,790
Rosa	2,870
Sorbus	51

MATERIAL RELEASED BY GENUS, 1956-57

Genus of Plants	Number Imported	Number Released
Acer	4,465	2,852
Anthurium	86	96
Berberis	2,536	2,130
Cytisus	100	.....
Euonymus	500	300
Hibiscus	5	1
Hydrangea	100	.....
Ilex	3,800	1,396
Jasminum	52	2
Juniperus	1,240	151
Laburnum	676	218
Malus	1,750	3,250
Rhododendron	3,791	3,790
Rosa	906	429

GOLDEN NEMATODE SURVEY

Since 1948 this Department has cooperated with the United States Department of Agriculture in an annual survey of potato growing areas for signs of the golden nematode. This pest, established on Long Island, is one that has ruined the potato industry in many parts of the world.

During July and August, 1956, one inspector employed by this Department and one Federal inspector gathered soil samples and grader debris samples for processing at the Federal laboratory at Hicksville, Long Island.

A total of 1,224 samples was taken, representing 8,141 acres of potatoes, or roughly one-third of the potato acreage of the State. No golden nematode was found in any of the samples.

POTATO GRADER COLLECTIONS

County	Acres Represented	Samples Taken	Field Samples Acres	Field Samples Samples	Total Acres	Total Samples
Burlington	637	80	145	184	782	264
Gloucester	260	27	.....	.....	260	27
Cumberland	371	39	.....	.....	371	39
Mercer	2,337	321	6	8	2,343	329
Salem	314	34	.....	.....	314	34
Middlesex	2,184	287	.....	.....	2,184	287
Monmouth	1,887	244	.....	.....	1,887	244
Grand Totals					8,141	1,224

COOPERATIVE ECONOMIC INSECT SURVEY

Surveys designed to obtain information on the occurrence, distribution and abundance of insects in the State were continued during the year. Information obtained was disseminated through newsletters and other media to agricultural agents, growers and others dealing with agricultural problems. This service was of direct benefit to the farmers in increasing the effectiveness of insect control programs.

A consolidated survey report was prepared for the year 1956 and was distributed to many agricultural workers in this and other states. This compilation should prove valuable as a record of insect activity, for use in preparing future insect control programs, and in the evaluation of past efforts and conditions.

Mexican Bean Beetle Survey

The Mexican bean beetle is a serious pest of beans in New Jersey. The population of beetles has been low for the past few years, and growers and entomologists have speculated that a sudden increase in infestation might occur. To provide an index of population and obtain data on current populations, a survey of the overwintering abundance was made.

Adult Mexican bean beetles are most likely to be found in the upper layer of duff on the soil in pine or mixed pine and deciduous woods within one-quarter of a mile from fields that had been planted to beans during the past growing season. County agricultural agents in two major bean producing counties, Cumberland and Cape May, were asked to provide information on areas of intensive bean production. The inspectors were directed to examine these production areas for wooded areas that appeared to provide ideal hibernating quarters for bean beetles. At each hibernation site, the inspectors examined a number of square yards of litter on top of the soil for the presence of beetles.

Four hundred thirteen square yards of duff from 18 sites were examined. A total of 30 beetles was found at only two locations in Cumberland County. As first year findings, it is difficult to evaluate the data, but it would appear that the population is relatively sparse at the locations examined. These findings should serve as a basis for comparing Mexican bean beetle populations in future years.

Asparagus Beetle Survey

Asparagus beetles are a serious pest of asparagus wherever it is grown in New Jersey, particularly in the southern counties where it is a major crop.

The important asparagus producing counties in the State were surveyed for overwintering abundance of the asparagus beetle, *Crioceris asparagi* (L.) and for the spotted asparagus beetle, *Crioceris duodecimpunctata* (L.). Ten fields were surveyed in each of Cumberland, Salem, and Gloucester counties, five fields in each of Atlantic, Camden and Burlington counties, and one field in Monmouth County. Only commercially producing fields were examined.

In 46 fields in seven counties, taking 100 stalks per field, a total of 2,399 common asparagus beetles and 171 spotted asparagus beetles was found. One hundred twenty-six larval and nine pupal forms were also found

in the stalks. In addition to the two species of asparagus beetles, European corn borer larvae, common stalk borer larvae and other insect species were found in small numbers hibernating in the stalks.

Gloucester, Camden and Atlantic counties had the highest beetle populations. Populations of beetles found in Cumberland, Salem and Burlington counties were substantially lower. The State average number of common asparagus beetles per 100 stalks per field was 52.2 and for the spotted asparagus beetle, 3.7 per 100 stalks per field.

Potato Aphid Survey

The potato aphid is an important pest of tomatoes and white potatoes, which are major New Jersey crops. The yearly abundance of potato aphids varies markedly and if a prediction of outbreaks were possible, fields could be saved from much damage by this pest.

Research has shown that on the first tomato blossom clusters, only one-half as many fruits are set on aphid infested plants as on plants that are free of aphids. Hence, to early market gardeners this pest is very important. Aphids are no less a pest on tomatoes later in the season and on white potatoes, eggplant, peppers and, occasionally, on sweet potatoes. These crops make up a large segment of the vegetable industry.

A swamp rose, *Rosa palustris*, is the primary overwintering host for eggs of the potato aphid, *Macrosiphum solanifolii* (Ashmead). Thirty terminals of rose, bearing nine buds each, were cut off at each location. Each of the 270 buds was examined in the laboratory for eggs and the number of fully distended (alive) and shrunken (dead) eggs was recorded. The same data were taken from 270 crotches from varying positions of the plant samples.

Eighteen locations were sampled in seven counties where potatoes and/or tomatoes are major crops. Eggs were found at 11 locations but were more prevalent in the southern counties.

Heaviest populations were found along Raccoon Creek near Swedesboro, Gloucester County, where aphids have been observed over the years to be heaviest on tomato plantings. Populations were next heaviest along the upper reaches of the Maurice River tributaries in Salem County and the tributaries of the Cohansey River in Cumberland County. Few eggs were found in the central New Jersey area.

European Apple Sawfly

European apple sawfly, *Hoplocampa testudinea* (Klug) is an introduced pest of apples and may cause extensive damage. The pest was identified on Long Island in 1939. It was discovered in Rockland County, New York, in 1950 and in Bergen County, New Jersey, in 1951. The known area of in-

festation in New Jersey was confined to Bergen County above Teaneck and Hackensack until 1955 when the sawfly was found in the Preakness area of Passaic County.

Eleven commercial orchards in apple growing areas of the northern half of the State were checked for sawfly activity on June 4 and 5, 1956. In addition to these commercial orchards, apple trees in approximately 40 other locations were surveyed. The areas surveyed included the southern portions of Warren and Morris counties, the northern areas of Hunterdon and Somerset counties, the eastern halves of Essex and Union counties, and a small area in the northern part of Monmouth County.

In commercial orchards, from 1,000 to 4,000 apples were examined for sawfly activity. In the noncommercial locations the number of apples examined depended on the number of trees and amount of fruit set. Examinations were made for characteristic signs of the sawfly's activity. Suspicious specimens were taken to the laboratory for examination.

Specimens of the European apple sawfly were found in three locations in Essex County. One location was in Caldwell and two locations were near Northfield. The sawfly has now spread as far as Essex County, and its further movement should be examined carefully.

European Corn Borer Survey

As in past years a survey was made to determine the fall population of the European corn borer. The results of the survey compared with those obtained in the fall of 1955 are presented in the table below:

County	Average Number of Borers Per 100 Plants	
	1956	1955
Sussex	74	38
Warren	67	31
Hunterdon	204	92
Somerset	695	117
Middlesex	567	250
Monmouth	597	242
Mercer	690	394
Burlington	609	197
Camden	226	367
Gloucester	374	223
Salem	127	94
Cumberland	154	75
State mean comparable counties (12)	365	177

Ten fields in each county were examined with the exception of Camden and Cumberland counties where five fields were inspected. One hundred ten fields in the 12 major corn producing counties of the State were examined. With the exception of Camden County, every county showed an increase in the number of borers present. The counties located in the central part of the

State had the highest populations. It was predicted that if weather conditions were favorable in the spring of 1957, a very high population of first generation larvae might be expected.

Another survey was made in the spring of 1957 to determine winter mortality and check early development of the borers. Two infested plants per field were dissected and the number of borers present was recorded. The same fields were examined in fall and spring surveys. Also, when dead borers were present, cause of death was reported if possible.

Sixty-four fields in 12 counties were inspected for overwintering borers. The winter of 1956-1957 showed the highest mortality of larvae since 1954. However, the overwintering population was much higher than previous years.

	Statewide Average		
Year	Per Cent Mortality	No. Fields	Borers Per Infested Stalk (Spring)
1954	20.2	49	
1955	43.7	60	0.9
1956	42.1	83	1.43
1957	56.7	64	2.12

The outlook for infestation this spring was the highest for the past three years. The populations were nearly twice as high as in 1956, when corn borer was serious.

However, insect parasites were found to be increasing in number as a cause of death to borers. In addition to favorable weather for borers, the low incidence of parasites has been responsible for high borer populations in the past two years. The table below shows that parasitization increased as cause of death to larvae this past winter.

	Per Cent Overwintering Mortality			
Year (Spring)	Bird Feeding	Insect Parasitization	Mechanical Injury (stalk breakage, etc.)	Fungi
1954	33.3	45.2	11.9	9.6
1955	62.5	32.5	5.0	
1956	74.7	24.1	1.2	
1957	23.7	51.5	24.8	

Spittlebug Survey—1953-1956

Since the fall of 1953, fall and spring abundance surveys of meadow spittlebug, *Philameus leucophthalmus*, have been conducted. In the fall surveys, red clover plants in alfalfa fields are examined for egg masses. In the spring in the same fields, dandelion plants are examined for young nymphs. Results have shown a correlation between the number of egg masses collected in the fall and the number of nymphs observed the following spring.

The 1956 spittlebug infestation was small, being four times lower than 1954 and twice as low as 1955. Populations of eggs in the fall of 1956 were

low, only slightly higher than the fall of 1955. On the basis of these findings, the 1957 infestation will probably be light. Each year the northwestern counties show the heaviest population.

RESULTS OF SPITTLEBUG SURVEYS, 1953-1956

County* (No. of fields examined)	Av. No. Egg Masses** Fall 1953	Av. No. Nymphs*** Spring 1954	Av. No. Egg Masses** Fall 1954	Av. No. Nymphs*** Spring 1955	Av. No. Egg Masses** Fall 1955	Av. No. Nymphs*** Spring 1956	Av. No. Egg Masses** Fall 1956
Sussex (5)	1.8	11.8	2.0	13.2	1.0	5.8	2.4
Warren (5)	7.0	55.4	0.8	82.4	3.4	20.0	3.0
Hunterdon (5)	14.0	61.0	2.5	20.0	1.6	14.2	2.8
Morris (3)	7.7	34.7	2.7	5.6	2.0	2.7	2.0
Somerset (3)	7.7	109.3	1.6	43.6	3.0	9.0	6.7
Middlesex (3)	0.3	20.3	....	0.3	3.0	1.7	1.7
Mercer (3)	2.0	78.3	5.0	9.3	....	2.3	0.3
Monmouth (3)	....	15.3	0.7	6.7	0.3	2.0	1.3
Burlington (5)	1.4	6.0	0.2	1.2	0.2	13.6	0.4
Camden (3)	0.7	14.0	2.0	7.3	1.0	.....	2.7
Gloucester (3)	4.0	9.0	2.7	37.6	....	12.0	0.7
Salem (5)	1.6	11.5	2.6	8.2	0.4	7.2	0.6
Cumberland (3)	0.7	22.0	....	13.0	....	1.3	0.7
Cape May (3)	1.0	2.3	....	1.7	....	.....	0.3
State average per field	5.4	30.5	3.1	18.8	1.2	7.7	1.8
Ratio - Egg masses: Nymphs	5.7		6.1		6.4		

* Figures in parentheses indicate number of fields surveyed.
** Per 15 red clover plants per field.
*** Per 5 dandelion plants per field.

Alfalfa Weevil Survey

Alfalfa weevil is spreading throughout New Jersey. This spread has been followed by various types of surveys. One survey method is to check alfalfa stems during the late fall to observe egg laying, which is an indicator of the next season's activity. Previous fall surveys for adult weevils failed to locate weevils even where infestations were known to be heavy.

Based on fall egg laying, it was predicted that alfalfa weevil would be a serious economic pest as far north as Trenton in 1956. Some commercial damage was forecast as far north as Monmouth, Middlesex and Hunterdon counties. These predictions were substantiated by observations during the 1956 growing season.

Forty-four fields in 14 counties were surveyed for fall egg deposition in 1956. The area of intensive survey was the central and northern regions where weevils are currently becoming established. The survey crew gathered 100 alfalfa stems at random from each field. These stems were examined in the laboratory, and data were taken on the number of stems infested, numbers of egg clusters per stem, number of eggs, location of egg clusters within the stem, and the general average height of alfalfa stems in each sample.

In 1956, 71.7 per cent of the fields in the State showed infestation, whereas in 1955, only 41.7 per cent of the fields were infested. What makes these data more significant is that in 1955 the area of heavy infestation in South Jersey was surveyed more intensively than the central and northern counties which had a sparse infestation. The number of egg clusters per field was greater in 1956 than in 1955. However, the 1956 survey was carried out from two to three weeks later in the fall which may account for the higher comparative egg counts over 1955.

A very important fact noted was that egg counts in the southern counties where infestation is known to be heavy were no higher in some cases than egg counts in such northerly locations as Warren County. In addition, the average number of egg clusters per field in all counties surveyed was more than two per 100 stems. Two egg masses per 100 stems is considered to be indicative of the threshold of economic damage the following season.

It appeared that fall egg laying in the northernmost counties in 1956 was as well developed a habit of the insect as in the southern areas. Whether or not this situation will change from year to year is not yet known. As previously reported, the fall egg laying habit is not well developed in western states with colder average temperatures than in New Jersey.

RESULTS OF FALL ALFALFA WEEVIL EGG CLUSTER SURVEYS

County	No. of Fields Surveyed		No. of Fields with Egg Clusters Present		Av. No. of Egg Clusters Per Field in 100 Stems		Av. No. of Eggs Per Field in 100 Stems
	1955	1956	1955	1956	1955	1956	1956
Cape May	3	1	3	1	6.6	12	64
Cumberland	7	1	4	1	7.7	88	900
Salem	6	1	4	1	4.7	16	92
Gloucester	6	1	5	1	6.3	32	368
Camden	3	1	2	1	4.0	32	224
Burlington	5	1	3	1	2.4	32	216
Monmouth	3	5	2	5	2.6	27.2	246
Mercer	3	5	....	5	....	28.8	229
Middlesex	3	5	1	4	4.0	9.6	69
Hunterdon	4	5	1	2	1.0	8	62
Somerset	3	5	....	4	....	3.2	20
Warren	4	5	....	5	....	13.6	88
Morris	5	3	....	2	....	2.6	20
Sussex	5	5	....	3	....	3.2	27.2
Total	60	44	25	36			
Per Cent Fields with Egg Clusters			41.7	71.7			

Results of the survey indicated that alfalfa plantings over the entire State would be subject to serious damage by the alfalfa weevil during the 1957 growing season. County agricultural agents, growers and other agricultural interests were advised of the situation and recommendations for control were distributed.

In the spring of 1957, a limited amount of time was spent on a survey of alfalfa weevil populations in alfalfa fields in seven central and northern counties. The survey showed that alfalfa weevil populations were higher in 1957 in all counties surveyed than on comparable dates in 1956. This was particularly noticeable in Hunterdon County, where severe injury was reported.

Spotted Alfalfa Aphid Survey

The recent appearance in Virginia of spotted alfalfa aphid, *Therioaphis maculata* (Buckton), which first appeared in the West and has caused considerable damage across the country has raised the question of how soon the pest might become established in New Jersey. A detection survey for the aphid was initiated during the year.

Fifty-two alfalfa fields and five red clover fields were examined by net sweepings for aphids. Several hundred aphids per field were brought to the laboratory but no spotted alfalfa aphids were identified. It is expected that the survey will be repeated in 1957.

Pea Aphid Survey

In conjunction with the alfalfa weevil survey in the spring of 1957 some data were gathered on pea aphid populations in alfalfa fields. No comparisons may be made with data from previous years, but figures presented in the table below are indicative of populations existent in fields that spring.

SPRING 1957

		April 25				May 1			
County	Location	Nymphs	Adults	Winged Forms	Total*	Nymphs	Adults	Winged Forms	Total*
Sussex	1		S	F	6	F	S		11
	2		S		3	S	S		18
Warren	1	F	S		8	S	M		50
	2	-	-	-	-	F	S	F	14
Hunterdon	1	S	S		8				
	2	S	S		20	F	S		14
Somerset	1	S	S		16	F	S		12
Morris	1								
	2								

F — Few
S — Some
M — Many
* — Number of insects collected per 5 sweeps of standard insect collecting net

Red Clover Pest Survey

Clover root borer, *Hylastinus obscurus*, and weevils belonging to the genus *Sitona* are suspected causes of poor stand survival. Also suspected as contributing causes are various fungi, bacteria and nematodes. There is a strong possibility of an interrelation between some of these agents.

The 1955 survey of red clover pests was repeated in 1956. From each red clover field sampled throughout the major red clover production areas, 20 plants were brought to the laboratory for examination. Thirty-three fields were examined in 1955 and 37 in 1956. Only 12.9 per cent of the plants were damaged by insects in 1956 as compared to 53.0 per cent in 1955. However, the percentage of fields showing damage was nearly constant from year to year, 84.4 per cent in 1955 and 83.3 per cent in 1956.

In 1955, 23.1 per cent of the infested fields had 100 per cent of the plants injured as compared with none in 1956. In 1955, 76.9 per cent of the infested fields had 50 per cent or more of the plants damaged, whereas in 1956 only 6.7 per cent of the fields showed injury to this degree. In 1955, 23.1 per cent of the infested fields showed less than 50 per cent injury; in 1956 this figure was 93.3 per cent.

Research work performed during the growing season and observations of plants gathered during the two fall surveys indicate that clover root borer is probably not the major insect attacking red clover roots in New Jersey. Collections of larvae and other evidence point to the *Sitona* group as the major cause of root feeding injury. This feeding apparently contributes to root rotting.

An explanation for the difference in root injury in the two survey years may lie in the effect of climatic conditions on the *Sitona* group. Adult *Sitona* emerge from pupae in early summer, and mate in early fall. Egg laying begins during late October, and larvae are active in late fall and early spring, with pupation taking place in early June. Climatic conditions advancing the life cycle would cause early egg laying and hatch in the fall, which would promote larval feeding on roots that fall.

The 1955 growing season was relatively warm, and this tended to advance phenological development. In contrast, the 1956 season was cool, one of the latest on record. This would seem to be the significant factor producing the difference in root feeding.

Tomato Plant Survey

The volume of tomato plants imported into New Jersey each spring is very large. The majority of these plants come from Georgia which has an active certification service concerned with the freedom of the plants from injurious insects and diseases. However, from time to time there has been some question by growers and other agricultural groups of this State of the significance of southern grown plants in the insect and disease complex in New Jersey tomato growing areas.

In the spring of 1957 arrangements were made for conducting a survey of imported tomato plants. Inspectors were assigned to examine plants arriving at import points, for the presence of disease symptoms and insects. Specimens of plants showing disease symptoms were collected for pathological examination. Samples of plants, whether or not showing evidence of attack, were also taken for nematode examination. The Plant Pathology and Entomology Departments of Rutgers University assisted by performing the necessary laboratory diagnostic work.

A total of 115 samples, consisting of approximately 50 plants each, was taken for insect, disease and nematode examination. Examination showed that the tomato leaf miner, *Liriomyza pusilla* (Meigen), was the most serious insect problem. Evidence of leaf miner injury was present on one or more plants in practically every bundle of 50 plants inspected. An accurate evaluation of the importance of this insect on imported plants is rather difficult, but it is believed to be of minor significance because the insect overwinters in New Jersey and damage caused by it is generally not severe. The only other insects noted during the inspections were three aphids and two thrips.

Symptoms of disease were practically nonexistent on the plants with only three *Alternaria* leaf spots on a plant submitted for pathological examination. Many plants exhibited bruises and weather scald on leaves and stems.

A total of 108 samples, consisting of the roots from each bundle of 50 plants, was examined for the presence of nematodes. Only 17 samples were found to be infested with nematodes and only six were considered to have nematodes in quantities sufficient to be significant in plant growth.

The following four nematode genera were identified: *Meloidogyne, Tylenchus, Dorylain* and *Aphelenchorider*. Of these genera, *Meloidogyne,* (the root-knot group) is the only genus considered important in crop production. Only two samples were infested with nematodes of the genus *Meloidogyne* in numbers considered sufficient to be significant in plant growth.

Poultry Pest Survey

A survey to determine the status of poultry ectoparasites and the effectiveness of control measures used in New Jersey flocks was initiated in 1956. The survey was limited to six counties which would be representative of the poultry industry in the State. These were Hunterdon, Mercer, Monmouth, Ocean, Atlantic and Cumberland. Farms were selected to represent a cross-section of the industry in each county.

At each farm data about the flock and control measures applied by the farmer were obtained. Then, if possible, five birds from each of five pens and the environs of each pen were examined for the presence of ectoparasites. In most cases growers were unwilling to permit actual examination of pens for lice and mites.

A sample of litter was obtained from practically all farms surveyed. This litter was placed on screening in large funnels and allowed to dry. As the litter dried, mites and other animal life in the litter moved downward and fell into containers of alcohol below the funnels. The containers were suitably labeled and held for specimen identification. To date, it has not been possible to examine these samples but they can be stored indefinitely and studies will be made as soon as possible.

A total of 130 farms was visited in the course of the survey. These farms had an aggregate of 722,850 birds of which 504,910 were layers that produced 1,899,668 eggs weekly. In 1956, 435,720 replacements were raised as compared with 401,100 in 1955, an increase of 9 per cent. One hundred twenty-four of the farms were equipped with roosts, and of this number, 29 per cent had pits below the roosts while 71 per cent were open. "Staz dry" was the leading type of litter used, and alone or in combination with other materials was employed on 88 per cent of the farms inspected. Straw was used on 12 farms located, with one exception, in the northern part of the State. Corn cobs were used in two instances and wood shavings in one, while no litter was used on one farm.

MATERIALS USED FOR CONTROL OF LICE AND MITES

	Number Farms Using Material						
	Total	Hunterdon	Mercer	Monmouth	Ocean	Atlantic	Cumberland
No. farms surveyed	130	17	10	21	47	15	20
Lindane	53	2	2	12	16	9	12
Malathion	13	....	1	1	11	....	....
Black Leaf 40	51	10	2	7	18	6	8
Carbolineum	36	6	5	4	7	6	8
Creosote	17	3	....	2	8	3	1
Crude oil or oil	13	1	....	....	12	....	....
Kerosene	24	....	1	2	15	5	1
DDT	8	1	2	....	5	....	....
Chlordane	5	1	....	1	2	....	1
Other materials*	10	3	1	4	1	1	....
No control	5	1	....	1	1	....	2

*Other materials include Methoxychlor, sulfur candles, space sprays and unknown proprietary products.

From these data it is evident that a variety of control measures are used, some of which are of doubtful value or safety. Many growers use a combination of treatments such as carbolineum or creosote in oil or kerosene

before housing birds, plus a treatment with lindane, Black Leaf 40 or malathion sometime after birds are housed. It appears that many growers are not aware of the residual action of such materials as lindane and malathion, which can replace carbolineum or creosote for mite control and Black Leaf 40 for lice. These newer materials in the dilutions recommended are more effective and safer than the older materials providing they are used carefully.

MATERIALS USED FOR CONTROL OF FLIES

	Total	Hunterdon	Mercer	Monmouth	Ocean	Atlantic	Cumberland
No. farms surveyed	130	17	10	21	47	15	20
Malathion	17	3	2	2	5	2	3
DDT	7	....	1	1	4	....	1
Lindane	13	....	1	2	7	2	1
Baits	9	....	....	....	2	4	3
Traps	3	....	1	1	1	....	....
Space sprays	14	1	....	4	7	....	2
Other materials	10	....	1	4	3	2	....
No control	65	13	5	11	20	6	10

The most striking feature of these data is that 50 per cent of the poultrymen do no fly control work. Of the insecticides used, malathion is most popular, followed by lindane and space sprays. In poultry houses probably much of the malathion was used in the form of baits; consequently, the figures for baits are low and those for malathion are high. It is noteworthy that DDT and lindane are still finding wide usage among poultrymen. This is understandable because blowflies and other species which have shown no evidence of resistance to the chlorinated hydrocarbons are common on poultry farms.

An analysis was made of control measures used on those farms where birds were examined. It was impossible to establish correlation between material used and degree of infestation because there was no uniformity in practices. In general, it appears that where lindane was used there were less lice than with Black Leaf 40. As expected, use of carbolineum or creosote did not control lice.

On more than half of the farms, neither lice nor mites were found. However, in most cases of this sort only two to five birds were examined, and it is probable that further examination would have revealed a higher infestation. From the table it is also evident that most infestations were light, but 42.2 per cent of birds examined had lice and 12.6 per cent had mites. The latter figure indicates a rather high incidence of northern fowl mite, *Ornithonyssus sylviarum*. In the daytime common poultry mite is seldom found on birds. Very few houses were examined for common poultry mite but it appears that many growers have at least some infestation.

EXTENT OF INFESTATION ON BIRDS EXAMINED FOR ECTOPARASITES

	Total	Hunterdon	Mercer	Monmouth	Ocean	Atlantic	Cumberland
Number of farms	75	8	5	14	27	8	13
Number of farms without lice	39	5	4	8	14	1	7
Number of farms without mites	54	6	4	9	17	7	11
Birds examined	474	60	23	88	154	66	83
Lice							
Heavy	6	....	....	1**	....	....	5
Medium	61	....	....	9	33	7	12
Light	133	29	**	6**	50	37	11
Per cent infested	42.2						
Mites on birds							
Heavy	5	....	....	....	5	....	....
Medium	8	....	....	6	....	....	2
Light	47	15	**	9	23	....	....
Per cent infested	12.6						
Mites on roosts*							
Heavy	2	....	....	....	2	....	....
Medium	4	....	....	2	2	....	....
Light	8	....	**	1***	4	1	2

* No examination permitted at most locations.
** One additional grower reported pest present. No birds examined.
***Two additional growers reported pest present. No birds examined.

JAPANESE BEETLE QUARANTINE ENFORCEMENT

The volume of nursery stock shipped inside and outside the regulated area under quarantine certification was 4,116,599 units, a decrease of approximately 500,000 units from last year. The estimated value was $2,045,553, an increase of $790,000 over the previous fiscal year. In addition, 1,056 cubic yards of potting soil, most of which was shipped outside of the regulated area, was treated and certified.

Inspection and treatment procedures remained the same as in previous years. A few nurserymen expressed interest in the development of aerial insecticidal spray for certification of nursery plots containing growing plants without the requirement of subsequent cultivation (mixing of soil and insecticide) in plant rows. Another request dealt with the possibility of spraying roots of deciduous trees instead of the present method of dipping them in tanks containing the treating chemical. These suggestions are under consideration.

The seasonal quarantine for 1957 directed against the spread of adult Japanese beetles involved a reduction of the area in which certification of regulated fruits and vegetables is required and in which closing of ventilators, screening or treatment of trucks and refrigerator cars apply. In previous years all of New Jersey was included. Now regulations apply only to the counties of Monmouth, Ocean, Burlington, Camden, Atlantic, Gloucester, Salem, Cumberland, Cape May, Mercer and Middlesex.

Regulatory measures to prevent spread of the pest by airplanes were taken, where infestations warranted, at active fields throughout New Jersey and other states without regard for seasonal quarantine boundaries.

FARM PRODUCTS

UNITS OF FARM PRODUCTS SHIPPED UNDER CERTIFICATION

Month	No. Trucks	Commodity Apples (Bu.)	Cabbage (Crt.)	Lima Beans (Bu.)	String Beans (Bu.)	Peaches (Bu.)
July 1956	23	2,122	1,191	.....	6,503	2,750
August 1956	10	3,500	.....	420	.....	1,800
June 1957	45	.....	6,741	.....	19,112	.....
Totals	78	5,622	7,932	420	25,615	4,550

Value estimated by shippers at $174,292.

BEE CULTURE

The abundance of moisture, along with good colony management, helped to produce a surplus crop of honey in 1956. In March 1957 early pollen sources, such as maples, pussywillows and skunk cabbage, gave colonies an early start in brood rearing. As the year progressed dry weather held back the normal growth of nectar secreting plants.

During the year, two important reservoirs of disease were found and destroyed. One abandoned apiary in Morris County consisted of 57 colonies infected with American foul brood. In Burlington County, an apiary of 26 infected colonies was destroyed. These finds were responsible in large measure for the increase in incidence of American foul brood, from 5.3 per cent of colonies inspected last year to 6.4 per cent for the present fiscal year.

Five hundred twenty-five apiaries were inspected in 20 of the 21 counties. They contained 5,509 colonies. The results of the inspections are tabulated as follows.

Summary of Inspections

County	Apiaries Registered	Apiaries New	Colonies Registered	Colonies New	Nuclei	Crossed Comb	American foul brood Apiaries Registered	American foul brood Apiaries New	American foul brood Colonies Registered	American foul brood Colonies New	European foul brood Apiaries Registered	European foul brood Apiaries New	European foul brood Colonies Registered	European foul brood Colonies New	Colonies Burned	Microscopic Determination A.f.b.	Microscopic Determination E.f.b.	Microscopic Determination Neg.
Atlantic	12	....	322	.....	.....	....	8	....	31	....	2	..	3	..	....	..	....	....
Bergen	37	10	172	19	.....	1	12	1	27	1	....	..	.....	..	....	..	1	....
Burlington	38	5	498	32	.....	....	8	....	50	....	17	1	174	2	26	5	38	11
Camden	7	4	225	36	.....	10	2	2	16	21	2	..	2	..	12	..	....	....
Cape May	13	....	336	.....	30	....	....	....	.....	....	....	..	.....	..	....	..	1	....
Cumberland	14	4	247	13	.....	....	6	....	12	....	4	..	12	..	....	3	3	4
Essex	5	2	16	17	.....	....	1	....	1	....	....	..	.....	..	....	1	....	2
Gloucester	6	....	76	.....	.....	....	1	....	1	....	4	..	35	..	....	..	....	....
Hunterdon	32	5	516	17	222	11	2	....	2	....	1	..	1	..	....	..	1	....
Mercer	11	2	51	23	.....	....	....	....	.....	....	....	..	.....	..	....	..	....	....
Middlesex	10	3	120	35	.....	9	1	....	1	....	....	..	.....	..	....	..	....	3
Monmouth	62	56	712	266	.....	35	10	7	31	17	2	..	4	..	5	4	....	4
Morris	72	13	758	36	.....	38	11	1	106	2	....	..	.....	..	....	1	....	3
Ocean	2	....	4	.....	.....	....	....	....	.....	....	....	..	.....	..	....	..	....	....
Passaic	3	1	8	1	.....	....	1	....	5	....	....	..	.....	..	....	..	....	....
Salem	2	....	32	.....	.....	....	....	....	.....	....	2	..	13	..	....	..	....	....
Somerset	15	4	244	19	.....	....	1	....	1	....	4	..	30	..	1	1	1	2
Sussex	14	3	155	17	.....	8	1	1	6	2	....	..	.....	..	6	..	....	....
Union	14	4	101	15	.....	....	3	1	7	5	....	..	.....	..	....	..	1	....
Warren	30	10	322	48	.....	36	4	1	8	1	....	..	.....	..	....	1	....	....
Totals	399	126	4,915	594	252	148	72	14	305	49	38	1	274	2	50	16	46	29

Certificates of Transfer Issued: 16
Queen-Bearing Certificates Issued: 5

BUREAU OF PLANT PATHOLOGY

CANKER STAIN DISEASE CONTROL

(Calendar Year 1956)

Scouting for this disease was conducted throughout this year, involving 15 counties in which 157,615 trees were examined. Of this number, 649 were tagged as canker stain disease infected. The concentration of infected trees continues to occur in Camden County.

The heavily infested areas of the State, Camden County and parts of Burlington and Gloucester counties, are scouted annually. The remaining townships of the State are inspected biennially with the exception of the few local areas in which infected trees have been found. By the end of 1957, 90 per cent of the municipalities in which plane trees are known to occur will have been tabulated with respect to the approximate number of plane trees and, if not too numerous, their location plotted on local maps. Of the 183 municipalities scouted in 1956, 23 are now listed as not having any plane trees.

CANKER STAIN SCOUTING BY COUNTIES

County	Total No. Trees	Tagged Trees to January 1, 1956 Total	Total Removed	Standing	Trees Tagged in 1956
Atlantic	11,750	.....	.....	.....	.....
Bergen	650	.....	.....	.....	.....
Burlington	22,100	196	195	1	48
Camden	55,000	4,101	3,877	224	547
Cape May	8,450	.....	.....	.....	.....
Cumberland	2,750	.....	.....	.....	.....
Essex	27,880	2	2	.....	1
Gloucester	8,625	46	44	2	6
Mercer	6,300	6	6	.....	16
Middlesex	1,630	.....	.....	.....	.....
Monmouth	2,960	.....	.....	.....	.....
Morris	270	.....	.....	.....	.....
Passaic	1,600	.....	.....	.....	.....
Salem	7,150	150	150	.....	31
Warren	500	12	12	.....	.....
Totals	157,615	4,513	4,286	227	649

Five hundred forty-seven new cases were detected in Camden County, these being principally in eight townships. In many of these townships the maintenance of street trees is the responsibility of the Street Department. In several others the work is performed on the basis of contract bids. Inadequate appropriations, plus the constant change of personnel, are two of the major contributing factors to the delays in the removal of infected trees which form a constant source of inoculum for spread to neighboring healthy trees. Nevertheless, an estimated 75 per cent of the standing diseased trees

were removed in 1956. With the exception of the central area of Camden County, almost all infected trees were promptly removed upon notification of the concerned officials.

The symptom picture of scouting for this disease in the Camden-Burlington County area is still confounded by the appearance of rosy canker, as well as by the bark proliferation which precedes the appearance of trunk suckers. The complicity of the plum borer in this symptom complex is still very vaguely understood.

DUTCH ELM DISEASE CONTROL

(Calendar Year 1956)

Survey for Dutch Elm Disease

A general survey was made to determine the trend of Dutch elm disease in each New Jersey county. Localities of noteworthy Dutch elm disease incidence in 1956 are as follows:

Atlantic County	—Two trees in Hammonton. None reported heretofore.
Bergen County	—Franklin Lakes-Oakland-Wyckoff showed a slight increase. Most of the trees are in native stands.
Burlington County	—General — not serious. A slight increase in Delanco and Riverton. Moorestown had 27 cases in 1955 and four in 1956.
Camden County	—General — not serious. Few trees found in City of Camden, Stratford, Laural Springs area, Haddon Heights and Haddonfield.
Cape May County	—No symptomatic trees observed this year.
Cumberland County	—No symptomatic trees observed this year.
Essex County	—Essex County Parks-Millburn Township-East Orange.
Gloucester County	—No symptomatic trees observed this year.
Hudson County	—In this entire urban territory Jersey City showed a slight decrease and North Bergen a slight increase.
Hunterdon County	—General — not serious.
Mercer County	—General — not serious. Slight increase in Ewing Township.
Middlesex County	—General — not serious.
Monmouth County	—Rumson-Little Silver-Red Bank area — a decrease over the 1955 incidence.
Morris County	—A decrease in Morristown and Morris Plains. An increase in Boonton and along the Boonton-Denville Road.
Ocean County	—No symptomatic trees observed this year.
Passaic County	—Wayne Township-Little Falls area, all woodlot trees.
Salem County	—No symptomatic trees observed this year.
Somerset County	—General but light distribution. More noticable in the Bedminster-Oldwick area. All native elms.
Sussex County	—An increase in native stands from Cranbury Lake to Andover.
Union County	—Summit-Cranford-Westfield. A decrease on the Baltusrol Country Club property.
Warren County	—Along the 10-mile highway route from Hackettstown to Penwell many dead and dying elm trees occur. Many of these are on State highway right-of-way. An increase in the area from Buttzville to Belvidere — all woodland trees.

Assistance to County and Municipal Shade Tree Commissions

The principal activity of this type was directed at the 25 parks of the Essex County Park System. Failure to control the disease in this park system would threaten surrounding municipalities. Scouting revealed 216 symptomatic trees; 54 of which were in Branch Brook Park, 37 in Verona Park, 24 in Watsessing Park and 22 in Weequahic Park.

The annual disease incidence in these parks has been the cause of considerable concern. It may be that the pre-foliar bark beetle spray applied to the numerous elm trees did not result in a deposition of DDT sufficient to control bark beetle. Many of the elms are located in a concentration of trees not readily accessible to spray equipment. This is particularly true where the mist-blower is used. The Essex County Park Commission will add to its equipment a high power hydraulic sprayer so that trees comparatively inaccessible may be properly sprayed by extension hose lines. The felling, cutting and transporting of wood to a burning ground, approximately three miles distant from the various parks, presents a formidable problem. In an attempt to find a solution, five symptomatic trees were deeply girdled on August 14 to observe the loosening of the bark following such treatment. If mid-summer girdling will result in the loosening of the bark so that bark beetle multiplication and spread may be arrested, then this practice could be adopted as an auxiliary procedure. Five of the six trees girdled in August, 1956, had tight bark in February, 1957.

Fifteen hundred elm trees growing in six Hudson County parks were inspected. Of this number, five were found to have Dutch elm disease symptoms. They were removed and burned within a month. Jersey City has only 200 elms, of which five were found to be symptomatic. These, too, were promptly removed and burned.

Assistance to municipal shade tree men was more extensive this year than in any of the previous years. The elm leaf beetle, as usual, was a complicating factor. Many of the municipalities are not equipped with spraying machinery and must rely on commercial arborists for such services. Furthermore, many of these municipalities are handicapped by inadequate appropriations for pre-foliar bark beetle spraying of street and park elms. However, municipalities operating under such restricted conditions are eager to (1) protect the trees against extensive elm leaf beetle feeding and (2) arrange for the prompt removal of symptomatic trees. To fulfill these needs, the inspectors of this Department have rendered much valuable assistance to the municipal shade tree custodians.

Unless confronted with the circumstances of native elms growing within close proximity to the municipal limits, most of the municipal shade tree men have followed the sanitation recommendations of this Department. Per-

suasion of private property owners for the prompt removal of affected trees was frequently successful. The hazard of the falling branches from a dead elm is often a sufficient impetus for prompt attention. Nevertheless, the high cost of tree removal, frequently $300, may be a factor responsible for delay.

Assistance to Commercial Arborists and Private Property Owners

Eighty-seven requests were received from this group for information pertaining to the condition of elm trees. In instances where pruning of symptomatic elm trees appears to be of possible usefulness, such a recommendation is made. However, the recommendation states that such pruning is to be done promptly. If delayed beyond a week or 10 days, pruning should be abandoned and preparations made for the removal of the tree. During the growing season the fungus usually progresses so rapidly from the branches to the central trunk that little time can be lost in the amputation of such affected branches to the point of wood that is not discolored.

The majority of these requests are from private property owners and the question often arises as to where the services of a commercial arborist may be obtained. The usefulness of a directory of commercial arborists in New Jersey was recognized in 1954, and provisions have been made for its publication.

The most significant work on private property is being conducted at the Baltusrol Country Club in Springfield where the loss of elm trees in the past has been alarming. A serious mistake in the spray mixture formulation in 1955 was unfortunate; 43 symptomatic trees were detected and promptly eradicated. During the spring of 1956 the golf course superintendent arranged for the spraying of the course. Twenty-one trees were marked during the summer of 1956 and eradicated. A survey of the property made during the last week in September did not reveal any additional symptomatic trees. This is a departure from the previously made late summer examinations.

Required Inspection of State Highway Contracts for Recommended Disposition of Involved Elm Trees

A clause in all State highway contracts requires that all encountered elm wood in trees be disposed of in accordance with recommendations of the New Jersey Department of Agriculture. The following inspections, in connection with highway projects, were made since January 1 of this year: (1) the right-of-way overpass on U.S. 22 in Warren County, (2) widening of Route 22 from Mountainside to Scotch Plains, (3) the construction of the Maple Shade traffic circle on Route 38, and (4) work on Route 23 in the boro of Franklin, Hardyston Township, Sussex County.

A Levittown, N. J., project, involving 4,000 acres of recently acquired land in Burlington County, has approximately 750 acres of woodland. The development company notifies this Department of clearance in the woodland areas so that a Department inspector may mark the elm wood and specify its disposition. This is usually accomplished by burning on location. As this clearance is progressive, the inspections will probably continue for some months. Supervision was provided for the marking and disposition of encountered elm wood on a 150 acre tract in Camden County purchased by the Ford Motor Car Company. A 65-acre tract in Burlington County was acquired by the Delcrest Housing Corporation and inspections were made for elm wood.

The Soil Conservation Service of the State of New Jersey has awarded the contract for the widening of the Pequest River, for flood control, along an eight-mile area from Townsbury to Alphano in Warren County. The Soil Conservation Service requested the assistance of one of our inspectors to supervise the disposition of the involved elm trees. Approximately 3,000 elm trees, ranging in diameter from one to 25 inches with an average of eight inches, and situated on 31 properties, were marked. Three of the property owners requested some of the trees for sawing into planks. These requests were granted and supervision of the disposition of the slash was supplied. The trees which occurred on the remaining 28 properties were destroyed on location.

Investigation of Promising Chemicals and Techniques for the Arresting of Infection in Symptomatic Trees

The presently accepted recommendations for Dutch elm disease control involve an indirect procedure; namely, the prevention of infection by the killing of bark beetles before infectious feeding begins. Under this procedure all elm trees must be presumed to be susceptible; hence, a program for their protection must include a DDT bark beetle spray for all elm trees. Pre-foliar application of DDT is expensive, approximately three dollars per average size tree. Furthermore, foliar sprays for the control of leaf feeding insects are usually required. A modest estimate of the cost of recommended protection of elm trees against bark beetle feeding and defoliation can well reach four dollars per tree per season. This cost, in the face of the nominal appropriation to most shade tree commissions, practically eliminates the adoption of such a program.

The suggestion of tree chemotherapy for the arresting or elimination of an established infection has been the subject of intensive research for the last 50 years. Thus far, with few exceptions, chemotherapy for vascular tree

diseases has not been established as a reliable tool. However, in view of the costliness and tedium involved in elm tree spraying, a constant search for satisfactory chemotherapeutants and techniques is in progress. Several chemicals, which have been publicized as useful materials for such reactions, have faded into oblivion because of their failure to produce consistently reliable results.

The recently developed fungicide, Captan, has demonstrated its ability as a very effective fungicidal material and has displayed a very low order of toxicity to the plants on which it is used. Furthermore, this chemical, although practically insoluble in water, is apparently absorbed through the leaves and translocated to growing tissue. The responses of biennial bearing apple trees, such as Baldwin, to Captan treatment have been astounding. Experiments were begun, applying Captan to the foliage of trees displaying a symptom of Dutch elm disease in the hope that development of the fungus might be arrested and the trees resume their normal healthy growth.

During 1955, six symptomatic elm trees in two of the Essex County Parks were sprayed with Captan for the control of an established infection. Unfortunately, the first applications were made about one month after the initial detection of symptoms. Even so, several of the sprayed trees displayed remarkable responses by growing a new crop of leaves on the branches which appeared to have been killed by Dutch elm disease. However, none of the six treated trees survived the 1955 season.

Experimental work was continued in 1956, making a more timely application of Captan following the detection of initial symptoms. Cooperative agreements for this work were established with the Essex County Park Commission, Teaneck Park Commission, Englewood Park Commission and a private arborist in Ridgewood.

Ten trees were selected in three of the Essex County Parks, three in Englewood, three in Teaneck and two in Ridgewood. To make sure that the selected trees were definitely infected with the Dutch elm disease fungus, twig samples were submitted to the Federal Laboratory of Forest Pathology at Columbus, Ohio. A positive report was issued for each sample submitted.

Captan was employed as a 50 per cent wettable powder and used at the rate of two pounds to 50 gallons. In Essex County Park the first applications were made on June 15, five days after the trees were selected. Rain fell one and one-half hours after the first spray was applied. Frequent rainfall during the latter part of June and the entire month of July impeded the experiments. The trees in the Essex County Park System were sprayed four times on June 15, July 13, 19 and 31. According to plant pathologists familar with

the tenacity of this spray mixture to the foliage during a rainfall, most of the applied Captan probably was washed to the ground before it had a reasonable time to be absorbed into the foliage.

The net results of this experimental spraying involving 18 trees are the abandonment of 16 trees because of extensive and progressive infections, and two trees in which the progress of the fungus was definitely arrested. As in 1955, several of the sprayed trees again displayed very surprising resumption of growth and the unfurling of new leaves after the Captan application. However, as heretofore stated, the progress of the fungus may have been arrested temporarily only to continue to the ultimate death of the tree.

Whether or not Captan has any promise as a chemotherapeutic agent in Dutch elm disease control remains to be established. Possibly the concentration could be increased to four pounds in 50 gallons. But most of all, the problem of adhesion to the foliage despite rainfall must become a primary consideration. Numerous stickers have been suggested. However, the continued investigation of this chemical is beyond the scope of current resources of this Department and should be initiated with an organization fully equipped to pursue this work in greater detail. Such a proposal will be made to the Forest Pathology Laboratory at Columbus, Ohio.

OAK WILT SCOUTING IN NEW JERSEY

(Calendar Year 1956)

As in the past two years, the personnel of the Bureau of Plant Pathology were instructed to plan their travel so that they would, throughout the summer period, cover most of the first and second class roads in their assigned areas. This plan provides for a general view of the oak growing areas of the State and permits the detection of suspect trees that fall within the range of observation of these men.

Conditions for oak wilt scouting in 1956 were not ideal. A severe frost in late May, particularly damaging in the south-central portion of the State, and an oak tree defoliator infestation in July in several southern counties, damaged oak foliage and destroyed the indices for oak wilt scouting. Rapid refoliation of many of these trees obscured the frost damage by middle August.

Oak wilt scouting in areas heavily affected by the above factors cannot be considered as reliable, although the probability of oak wilt infection is very remote. One tree, located in Stelton, was considered sufficiently symptomatic to warrant the collection of samples. These were submitted to the Rutgers Department of Plant Pathology for culturing. This culturing resulted in a negative report. To date, no oak wilt has been found in New Jersey.

AIRPLANE SPRAYING OF PINE PLANTATIONS FOR SAWFLY CONTROL

Seventeen red and Scots pine plantations, involving 766 acres in the counties of Essex, Warren, Somerset, Morris and Hunterdon, were sprayed by aircraft for sawfly control. Of this acreage all but 300 acres were sprayed by the Lehava Air Service of Philadelphia. Control was satisfactory. Three hundred acres at the East Orange Watershed were sprayed through direct arrangements with the Water Department of the City of East Orange by the Airborne Spray Service, Bedford, Mass., using a helicopter. The initial application provided very erratic control. The Watershed superintendent required a respray of this area.

The Lehava Air Service also sprayed 20 acres of woodlot for canker-worm control.

VIRUS CONTROL OF THE EUROPEAN PINE SAWFLY

In cooperation with the Division of Forest Insects of the United States Forest Service, two red pine plots (1) Stephen State Park, Hunterdon County and (2) the Baylor Farm, Delaware, Warren County, were sprayed with a pathogenic virus, the former with a hand sprayer in 1951 and the latter by airplane in 1951-1952. This virus, introduced from Europe by the Canadian Department of Forest Biology, was reported to have been quite effective in the reduction of pine sawfly populations.

The decimation of larvel populations during the first two years following application was quite impressive. Thereafter, it gradually waned to the point where the destructive feeding of the sawfly larvae again became quite evident. These two plots were re-examined in the spring of 1957. Infected larvae were found on both plantations, but not in sufficient numbers to constitute satisfactory control of larval feeding. The use of DDT for the protection of these pines has been recommended. The continuation of the virus work will depend on further studies to be made by the Federal entomologists.

SURVEY TO DETERMINE THE ANNUAL TREND IN THE SEVERITY OF CANKERWORM DAMAGE

Inspections were made at 49 official stations in the northern two-thirds of the State to ascertain the severity of damage caused by fall and spring cankerworms. Strikingly, the damage was considerably less than that of the previous five years; the heaviest infestation being reported as light.

MATSUCOCCUS SCALE SURVEY

This scale, established locally on Long Island and in the vicinity of Waterbury, Conn., is causing considerable damage and death to red pines.

This insect has been discovered at Yonkers, New York. In cooperation with the Federal Forest Service Insect Research Division, a survey was made in the spring of 1957 of red, Scotch, Austrian and mugho pines on public and private property in nine municipalities bordering the Hudson River, opposite Yonkers, New York. No evidence of infestation by this scale was detected.

A General Survey of Pests Affecting Evergreens Commonly Used for Reforestation in New Jersey

Upon the request of the Division of Forest Insect Research of the United States Forest Service, a cooperative project was established with this Department for the purpose of making an annual survey, on established plots, of some of the more important forest pests. These study plots continued from 1950 to 1955 inclusive and involved (1) white pine weevil on white pine and Norway spruce, (2) twig borer on white pine, (3) European pine sawfly on red pine and Scots pine, (4) the pine shoot moth on red pine and (5) the spruce gall aphid on Norway spruce. A summary of the findings was presented in the 1955-1956 annual report for this Department. Because many of these plots have trees of a size that made the continuation of the survey burdensome and of questionable value, these plots were discontinued in 1956. New plots will probably be established at a later date. New techniques which will permit a better understanding and evaluation of the results will be introduced in the new project outlines. A survey for the incidence of white pine weevil on one of the plots was conducted in 1956. This plot, too, has been discontinued.

Forest Pest Survey

The Division of Forest Insect Research of the United States Forest Service has inaugurated in the Northeastern Division, which comprises the New England and Middle Atlantic States, a new procedure for the assembly of information pertaining to the occurrence, abundance and nature of damage inflicted by forest pests. The collected survey information by the member states will be compiled and published by the Forest Service. This Bureau is participating in this survey. The report of forest and shade tree pests for June 1957 is as follows:

Infestation of pine sawfly on native hard pines was generally heavier than last year, although quite spotty in some locations. The area of general infestation is delimited on the north by Jamesburg in Middlesex County and by a line southwesterly through Hightstown, Wrightstown, Medford Lakes and thence to Hammonton, New Gretna, Forked River, Toms River, Lakewood and thence to Jamesburg. The areas of heaviest infestation are in the

vicinity of Browns Mills and in a wide band along the highway from Seven-Mile Colony traffic circle in Lebanon State Forest to Lakehurst. A heavy infestation in a narrow band extends north from Lakewood to Smithburg along the northeastern border of the infestation. It is probable that several species of *Neodiprion* were feeding, principally on pitch and short-leaf pine.

The pine needle miner was conspicuous and destructive to the needles of pitch and short-leaf pine principally in the Penn State Forest.

Numerous chestnut oaks in Lebanon State Forest showed die-back symptoms, involving wood one inch in diameter. Specimens submitted to Rutgers Department of Plant Pathology cultured negative.

The eastern tent caterpillar caused almost complete defoliation of infested apple and wild cherry trees. Very little secondary damage was reported.

Birch leaf miner damage was severe and statewide.

Several reports of sweet gum die-back were received. Investigations revealed most of the trouble on the higher ground and on street trees. The 1957 foliage appears normal.

The red pine sawfly, *Neodiprion sertifer*, caused moderate to severe damage on unsprayed plantations of red pine.

Several species of unidentified oak scales have severely devitalized large pin and black oak street trees in Collingswood. Many dead branches were observed. Street planted oaks elsewhere in the State display similar symptoms but to a lesser degree.

Dutch elm disease symptoms appeared earlier than usual this year. The disease is general throughout the northern half of the State with many street trees involved. Trees which were pre-foliar sprayed showed good survival.

Verticillium wilt of maples, particularly Norway maple, is more evident than in the past five years. Many trees have already lost their 1957 foliage. The infection is statewide.

Fall and spring cankerworm damage surveys at 49 established observational stations indicate that the damage thus far inflicted is far below the level of each of the last three years.

The elm leaf beetle population is far below the level of that of the past 10 years. In locations where egg masses were previously abundant at this time of the year, a search is necessary to detect them.

Evidence of the fall webworm feeding is becoming evident in many parts of the State.

Canker stain of London plane appears to be still generally confined to the Camden-Burlington County areas. A single infected tree was detected in Elizabeth and laboratory confirmed. This is the first record for Union County.

On the basis of history, sycamore anthracnose can be expected to be severe on all native sycamores almost every year and frequently quite damaging to the London plane. This disease was practically nonexistent on the thousands of sycamores in the State with the exception of a few localized areas along the North Jersey coast. This is a most exceptional circumstance.

Numerous sweet gum street trees in Merchantville and Collingswood have displayed die-back symptoms similar to those described as being responsible for the loss of trees of this species in the Washington, D.C., area. This disorder was first noticed in 1955 during the second of two successive drought years. During 1956 well distributed adequate rainfall enabled most of these trees to resume normal growth even though the remaining dead branches adversely affected the symmetry of the trees. Assuming that this condition may have been caused by inadequate soil moisture, several vertical five-inch diameter wells were placed adjacent to several of the ailing sweet gum trees. Regular watering into these wells, which are 30 inches in depth, resulted in considerable foliage improvement as contrasted with the neighboring trees which had not received this treatment. The introduction of these watering wells in the vicinity of street trees will probably be practiced more extensively, if results which have been accrued thus far continue to be in evidence in the future.

LABORATORY ACTIVITIES

RESPONSE OF ELMS TO SUB-SURFACE AND SURFACE FERTILIZATION

In the spring of 1956 an experimental program was begun to test the response of elm trees fertilized by broadcast surface application and compare the results with those obtained through sub-surface injection of equivalent amounts of soluble fertilizer materials. The previous annual report describes the procedures followed and the initially observed response of the trees.

Leaf samples were collected from the 62 trees involved and analyzed to establish the level of nutrients actually being absorbed during the growing season. The condition existing toward the end of the growing season is considered to be the most significant for interpreting response, and is here reported as found in mid-September.

Nitrogen is usually a critical element in shade tree growth because it is most easily lost from the soil through leaching and normally no replacement occurs to affect the loss through the removal of fallen leaves. Therefore, unfertilized shade trees are usually found to be considerably undernourished in this element which is essential for attractive foliage and vigor-

ous growth of the tree. The average mid-September leaf content of nitrogen in the control group (no fertilization) of elms on the Van Nest plots was 0.97 per cent. In the group receiving a surface broadcast application of fertilizer, the leaf nitrogen content was 1.55 per cent. The average leaf nitrogen content of the groups fertilized by hydraulic sub-surface injection was 1.50 per cent. Similarly, in the experiments conducted at the White Horse laboratory, the nitrogen content of the leaves of the control (unfertilized) group was 1.43 per cent. The nitrogen content of the leaves in the trees receiving surface broadcast fertilization was 1.72 per cent, and for the groups fertilized by hydraulic injection, 1.63 per cent.

The response to potassium fertilization followed the same general pattern as for nitrogen. In the Van Nest experiments, the control trees had a leaf content of 1.09 per cent potassium. Where the fertilizer was applied to the surface, the leaf content of potassium was 1.25 per cent. In the injection experiments, the potassium in the leaves was 1.10 per cent. The White Horse experiments showed 1.25 per cent potassium for surface application, 1.10 per cent for soil injection, and 1.01 per cent potassium in the controls.

As is usual in elms, no response was obtained following the application of phosphorus, all of the trees having a normal amount (about 0.18 per cent) regardless of the method of application.

The results of leaf analysis support the visual evidence that elms will respond well to fertilization applied as a surface broadcast. The data presented above show that a higher assimilation resulted from broadcast application than from sub-surface injection of equivalent amounts of fertilizer.

FOLIAR APPLICATION OF NUTRIENTS TO SHADE TREES

In the last few years, arborists have been attempting tree fertilization by spraying soluble fertilizer materials on the foliage. Presumably these materials are then absorbed into the leaf tissue and function in the nutrition of the plant. That such absorption does occur has apparently been well established by several investigators of plant physiology. Pertinent questions as yet unanswered are whether or not a significant amount of nutrient can be thus supplied, and how often such treatment must be repeated to maintain good growing conditions. An opportunity arose to investigate these points when the horticulturist in charge decided to apply a nutrient foliar spray to a large number of mature elms located in Branch Brook Park, Newark.

A proprietary soluble fertilizer having a 15-15-15 analysis was used. This was dissolved in water at the rate of one pound per 50 gallons for use in conventional hydraulic spray equipment, and 10 pounds per 50 gallons of water when application was made with a mist blower. In general, the

trees required from 45 to 50 gallons of solution each for hydraulic spray coverage, and about five gallons each for the mist blower applications. The amount of fertilizer applied per tree was, therefore, approximately equal for the two spraying methods, or about one pound of the fertilizer per large tree.

Leaf samples were obtained from each of a number of representative trees just prior to spraying, and again after spraying as soon as the deposits were dry enough to handle. Each leaf was then washed in three changes of water, the wash concentrated by evaporation and analyzed to determine the amount of the several elements deposited. Corrections were made for the normal leaching of the elements from the leaves by subtracting the "blank" value established from the leaves collected just prior to spraying. The following table presents the results, where the data have been calculated to the basis of the dry weight of the leaves washed.

PRESUMED MATERIAL ADDED BY FOLIAR SPRAYING, IF ALL WERE ULTIMATELY ABSORBED. DRY LEAF BASIS

	Materials Available for Absorption (Per Cent)		
Application method	N	P_2O_5	K_2O
Mist blower	0.06	0.12	0.06
Hydraulic	0.03	0.05	0.08
Normal leaf content	1.50	0.46	1.80

Analyses were also made on the collected leaves without washing, and the average for eight trees showed an increase of 0.08 per cent in nitrogen, and 0.015 per cent in phosphorus (0.034 per cent on a P_2O_5 basis). These figures are not encouraging from the standpoint of routine shade tree nutrition. The amount of material applied is too small when compared with the normal leaf content of the several nutrients. Probably if repeated applications were made in each growing season significant benefit could be expected.

CHLOROSIS IN PIN OAKS

An attempt to rectify a chlorotic condition in a large pin oak located in Phillipsburg was begun in April, 1956. The chelated iron compound introduced by the Geigy Company and known as "Chel 330 Fe" was used. Six applications of the material were made during the 1956 growing season, all by dissolving the solid in water and sprinkling the solution under the canopy of the tree. A total of 1,980 grams (almost 4.5 pounds) was applied between April and August. These applications were successful up to a point, as the tree maintained a much heavier leaf canopy than it had in the past, the color of the foliage was much improved and die-back of limbs was arrested. However, the recovery was by no means complete and in the spring of 1957 the yellow color was again pronounced. Additional applications

were, therefore, made in 1957. Results are discouraging in view of the large amount of chelate applied, and the probable necessity for repeated yearly treatments.

WHITE-FRINGED BEETLE LARVAL SURVEY

The area in Vineland previously found infested by the white-fringed beetle, *Graphognathus leucoloma,* was re-examined during the fall of 1956 for larval forms. A soil washing machine and all related equipment used in this work was obtained on loan from the Southern Plant Pest Control Region of the United States Department of Agriculture. F. J. Bartlett, a specialist from the Gulfport, Miss., Laboratory, spent a week in New Jersey instructing the staff in the procedures employed. All of the survey operations were conducted on the infested area to prevent the possibility of transporting the insect to new locations. Seven areas selected on the basis of previous adult beetle finds and density of infestation were systematically surveyed by methods approved by the United States Department of Agriculture. No larval forms of the white-fringed beetle were recovered.

CULTIVATION OF A NEMATODE PARASITIC IN INSECTS

Requests were received from the United States Department of Agriculture and the Biology Department of Saint John's University for living cultures of the nematode, *Neoaplectana glaseri.* This nematode is parasitic in the larvae of the Japanese beetle, and was extensively cultivated and distributed in New Jersey some 15 years ago. Infected larvae of the Japanese beetle were recovered in the spring of 1957, and cultures of the nematode were established in the laboratory. Several millions of the larval nematodes were supplied to each organization to assist them in initiating the contemplated biological studies.

BEE DISEASE EXAMINATIONS

All cases of bee disease which cannot be readily classified in the field are now submitted to the laboratory for microscopic determination. This program was initiated during the current year and will be of real assistance to the field inspectors.

ELM GROWTH IN "CAPTAN" TREATED SOIL

The possibility of using the fungicide "Captan" as an aid in Dutch elm disease control was investigated by the Bureau of Plant Pathology. The laboratory assisted by determining the level of "Captan" in the soil at which growth of the elm is affected. Seeding tests showed that a standard 50 per

cent wettable dust was tolerated by the elm at concentrations of one part in 375. At a concentration of one part in 200 in the soil, the seedlings were visibly injured. No chemical analytical method was found capable of determining the quantity of absorbed and translocated "Captan" in the plant. When the standard quantitative colorimetric tests for "Captan" are used on elm, some normal constituent of the tissue causes an interference which invalidates the test. No satisfactory procedure for the elimination of this interference could be developed.

PLANT PARASITIC NEMATODE SURVEYS

Plant parasitic nematodes are the object of increasing attention in every section of the country. Recent estimates place the farmers loss due to crop attack by nematodes as high as 10 per cent. In some cases, such as the golden nematode of potatoes, the soybean cyst nematode, or the burrowing nematode of citrus, the damage can result in complete crop failure. A careful examination of plant roots and field soil is necessary to determine the presence or absence of nematode infestations. Because the organisms are very small and inconspicuous, specialized laboratory techniques are required for detection and positive identification of damage.

During the spring of 1957 an examination was made of southern-grown tomato plants shipped into New Jersey for field transplanting. This was to assure the purchaser of healthy plants and to prevent the introduction of damaging disease organisms. A nematode examination was part of this inspection.

A nematode causing severe damage in soybeans was first found in the United States in 1954. This nematode, *Heterodera glycines*, was previously known only in Japan and Manchuria. It is now known to be established in North Carolina, South Carolina, Tennessee, Arkansas, Kentucky and Missouri. No positive connection between the areas of infestation has yet been found, and the method of dissemination remains one of conjecture. A survey of soybean fields in New Jersey was begun to determine whether or not the pest is present in this State. Because the field symptoms indicative of possible nematode presence are not well developed until the summer is advanced, it is premature to make any report at this date.

The meadow nematode, *Pratylenchus coffeae*, has recently been implicated in the disease known as "black root" in strawberries, the original work being done in Arkansas. Thus, some problems that have remained unanswered for years, and even troubles heretofore unsuspected, are turning out to be due to nematodes. There is strong evidence that nematode inspection should be required for movement of transplants and nursery stock, just as

is now required for other disease and insect pests. This is a hitherto almost unexplored field and certainly some knowledge of the existing conditions is desirable.

CERTIFIED SEED EXAMINATION FOR APPLIED INSECTICIDE AND FUNGICIDE

Procedures are required for the examination of seed treated with insecticide and fungicide in the seed certification program. This is to assure that an adequate, but not harmfully excessive, quantity of the protectants is being uniformly applied to the seed. Further, a moderate amount of seed stock is often carried over into the following year, and if an adequate protective residue is not present, the seed must be retreated. In the absence of specific information, such carry-over seed has commonly been retreated as though it had never been through the process. If effective residues remain on the carry-over seed, such treatment results in an unnecessary expense, delay and extra handling. Such seed is also obviously over-treated.

Simple, rapid and inexpensive procedures were developed during the past year for the determination of the insecticide and fungicide deposited on the seed. The insecticide may be determined by stripping it from the seed with a suitable solvent and determining the quantity present by a specific colorimetric test. Mercurial fungicides may be similarly determined. A very simple bio-assay method was also developed for fungicides, involving the suppression of fungus growth on a nutrient agar plate when the treated seed is distributed over the freshly inoculated plate. The zone of inhibition which appears on incubation is proportional to the fungicide residue on the seed.

BIOLOGICAL CONTROL OF A SAWFLY IN PITCH PINE

A sawfly defoliating hard pines in the south central portion of New Jersey attracted some attention in 1956. In the spring of 1957 it was evident that this insect was present in outbreak proportions over most of the pitch pine area in the State. This sawfly was first tentatively identified as *Neodiprion dyari*, but recently specialists have determined it as *Neodiprion pratti paradoxicus*. Observations on the distribution, life history, and other factors of importance in any attempted control program were begun in the current spring. Cocoon collections made over most of the presently known infested area show that the insect was present in very considerable numbers in the same area in 1956. The insect shows a decided preference for pitch pine, with short leaf pine less severely attacked. Others species of pine are attacked very little or not at all.

The chalcid parasite of sawflies, *Microplectron fuscipennis*, was found to attack the cocoons of *Neodiprion pratti*, and complete its development in

a normal manner. The parasite apparently behaves on *Neodiprion pratti* and *Neodiprion sertifer* in an identical manner. During the period 1939-1945 approximately 13 million *Microplectron* were reared and distributed in plantings of red pine infested by *Neodiprion sertifer* in New Jersey. The parasite proved easy to establish and is an important parasite of *sertifer*. There is every reason to believe that *Microplectron* can become established on *Neodiprion pratti*, but synchronization of the parasite and host will have to determined by field trials.

Cocoon collections were made from 60 locations in the area infested by *Neodiprion pratti*, and the cocoons incubated to determine the present parasite status in this sawfly. No *Microplectron* were obtained, which indicates that the parasite has not yet naturally begun to attack *pratti*. Considering the apparently rapid and recent build-up in the *pratti* population, and the very limited overlapping with the established *sertifer* infestation, this is to be expected.

The conditions indicate that it would be highly desirable to have natural control agents established on the *pratti* population as rapidly and extensively as possible. There is little or no hope of employing chemical control methods over the large area involved.

A breeding stock of *Microplectron* was obtained by incubation of *Neodiprion sertifer* cocoons obtained in Princeton and Washington's Crossing State Park. A supply of sawfly cocoons was also collected from the field during June (they are not available earlier) and a program of rearing *Microplectron* begun. It is expected that about 500,000 parasites can be reared for field distribution during the summer of 1957.

The Forestry section of the State Department of Conservation and Economic Development is vitally interested in this program. Their personnel will cooperate in the distribution of the parasite and in following the subsequent course of events. Several study areas will be established in the infested State parks to gather the essential information on the performance of the parasite.

BUREAU OF SEED CERTIFICATION

GRAIN SEED CERTIFICATION

The field crop seed certification program in terms of production shows the largest increase of any year in the history of the work in New Jersey. A total of 84,281 bushels was sealed in 1956, as compared with 56,955 bushels in 1955; an increase of 27,326 bushels. The previous high of total bushels sealed was in 1952 when 67,777 bushels were certified. The 1956 crop is 16,504 bushels over the previous all-time high. However, increased production of certified seed to a point beyond the market development is also

an unhealthy condition. That was the case in the 1956 program. Production was enlarged to a greater extent than the market could absorb, resulting in carry-over seed of both corn and soybeans.

Federal programs to reduce grain acreage is also a problem when attempting to increase the quantity of New Jersey certified seed marketed. A problem that has haunted the seed certification program since its inception was insufficient quantity of seed. This problem seems to have been corrected for the moment. All New Jersey farmers were able to purchase for the first time in several years seed of any variety or hybrid they desired.

Corn

In 1956 the hybrid seed corn acreage was again increased in an effort to meet the demand for New Jersey certified hybrid seed. In 1955, a total of 660 acres was entered for certification and in 1956, 773.5 acres were entered; an increase of 113.5 acres. Approximately one-half of the acreage planted in 1956 was in position to be irrigated but with good weather conditions, irrigation became unnecessary.

The acreage of New Jersey No. 7 was reduced from 258 to 157; New Jersey No. 8 seed production increased from 301 to 331 acres; New Jersey No. 9, a new hybrid in 1955 with only 46 acres being produced, was accepted by New Jersey farmers and the seed acreage in 1956 was increased to 192 acres; New Jersey No. 10 increased from four and one-half acres to 66 acres and Connecticut No. 554 acreage remained approximately the same with 21 acres being produced.

New Jersey No. 10 in tests throughout the State, compared very favorably with other hybrids. This double cross is also an excellent seed producer and is very sensitive to the fertility of the soil. On medium or low fertility soils, New Jersey No. 10 will not produce as well as New Jersey No. 8 or New Jersey No. 9. However, on high fertility soils, New Jersey No. 10 will normally out-yield both of these hybrids.

As weather conditions were ideal in all parts of the State for the growing of corn, a survey was made to determine the yield difference in fields planted to different plant populations. The survey disclosed one significant fact. The New Jersey Agricultural Experiment Station recommends a plant population of 12,000 to 14,000 plants per acre to achieve maximum yield of seed. Most of the seed growers followed the recommendations exactly as to the spacing of kernels in the row and the width of the row. However, consideration was not given to germination and mechanical displacement of the seed. Consequently, almost every field had a population of 10,000 plants per acre instead of 12,000 or 14,000 as was intended.

During field inspections only one field of 20 acres was rejected because of improper detasseling. Weather conditions were ideal and tassels appeared evenly throughout the seed fields, making the work of detasseling easier and less expensive. Many fields were 95 per cent detasseled by the time silk appeared on the plant. The most critical period for corn production is during the silking and tasseling period. Throughout the State optimum conditions of sufficient moisture, and temperature ranging from 70°F. to 90°F., were the rule.

The male sterile parent of New Jersey No. 7 (Wf9 MS x 38-11) performed as expected. Pollen shed in approximately 0.25 per cent of the sterile seed. A slightly larger percentage of pollen was observed shedding in the male sterile seed of New Jersey No. 8 and New Jersey No. 9 (Wf9 MS x Hy2). There was less pollen shedding in all the male sterile seed this year than had been observed in previous years. This, undoubtedly, is related to the growing conditions.

During bin inspection one lot of seed in Morris County containing approximately 1,000 bushels was noted to have a poor appearance and a slight trace of mold, as it was being dried and hand-picked. Upon closer examination and testing, 500 bushels or approximately 15 acres, were rejected for low germination. It was found that the seed was damaged by frost.

1956 SEED CORN ACREAGE

Variety	Acres Entered	Acres Rejected		Acres Passed
		Field	Bin	
New Jersey No. 7	157	20	.....	137
New Jersey No. 8	331	.....	.....	331
New Jersey No. 9	192	.....	15	177
New Jersey No. 10	66	.....	.....	66
Connecticut No. 554	21	.....	.....	21
Foundation Single Cross	6.5	.....	.....	6.5
Totals	773.5	20	15	738.5

The average yield of all hybrids for 1956 was 40 bushels of flats per acre. This is the highest yield ever achieved in the production of New Jersey certified hybrid seed corn. This figure seems all the more significant when compared with the lowest yield on record of 14.4 bushels of flats per acre in 1955. New Jersey No. 10 averaged 64 bushels of flats per acre, followed by Connecticut No. 554 with 40 bushels; New Jersey No. 8, 36 bushels; New Jersey No. 9, 35 bushels; and New Jersey No. 7, 28 bushels.

Particular attention should be given to Connecticut hybrid No. 554. This hybrid is extremely difficult to pollinate and several plantings of pollen parents must be made at different intervals to be sure that pollen is

shedding when the silk is receptive. The average bushels of flats per acre of this hybrid in 1954 was 14.9, in 1955, 8.3, and under 1956 conditions, 40.

The seed ears this year were well pollinated and of a size which gave a high percentage of flat grades with little loss because of undesirable sizes. The average per cent of flats per acre during the past seven years has been 68 per cent of total yield. This year the average of salable flats per acre was 77 per cent.

In 1955 many lots of seed were noted to possess a high percentage of insect damaged kernels which had to be removed by hand picking. This operation is time consuming and very expensive. Many growers this year inaugurated a spray or dusting program to help eliminate the insect damage. The method which appeared to be the most effective was to spray or dust by airplane when the corn is at the full silk stage with a 10 per cent DDT insecticide at the rate of 40 to 45 pounds per acre. Several growers used this method and averaged only 10 per cent insect damaged ears. The insects that damaged the seed in the fields were the fall army worm, European corn borer and the earworm.

A total of 27,834 bushels of flat grades of the 1956 crop was certified. A carry-over of 754 bushels of flat grades from the 1955 crop had satisfactory germination and seed quality. There were 384 bushels of round grades certified. This makes a total for the year of 28,972 bushels accepted for certification.

SEED CORN CERTIFIED IN 1956

Hybrid	Flats	Rounds	Carry-over Flats	Bushels Sealed
New Jersey No. 7	4,142	94	47	4,283
New Jersey No. 8	11,708	137	470	12,315
New Jersey No. 9	6,885	112	98	7,095
New Jersey No. 10	4,258	41	27	4,326
Connecticut No. 554	841	.....	5	846
Ohio W-64	.....	.....	107	107
Totals	27,834	384	754	28,972

Because of increased yields this past summer, the New Jersey Field Crop Improvement Association will carry over approximately 10,000 bushels of hybrid seed corn to be sold in 1957. The Association is treating the carry-over seed with DDT for storage insect control. In order for the seed to be marketed, it willl have to be treated with an additional insecticide (dieldrin) and fungicide. The carry-over of seed is an objective the Association has been attempting to attain for several years. By having a reserve of seed, the demand for New Jersey hybrid seed corn can be met in years of crop failure.

For the first time a central drying and hand-picking plant has been established at the Association Mill at Allentown. Prior to the Association's

drying and hand-picking, this work was accomplished on the individual seed producer's farm. Approximately 50 per cent of the growers took advantage of this service and increased participation is expected in the future. The corn dryer contains 10 bins and can be drying 3,000 bushels of ear corn at one time. Ear parent seed corn was delivered to the dryer from the field when the moisture content was below 32 per cent. In five to seven days a bin containing 250 bushels of shelled corn was dried, hand-picked and ready for grading. A total of approximately 13,827 bushels of shelled corn was dried and hand-picked at the Allentown mill. Without this dryer, certainly several hundred bushels of seed would have been lost. This year, seed processing has been one of the easiest tasks to perform and with the addition of the drying equipment, a more even flow of seed has been available for mill processing. This is an important advancement of seed quality and seed purity.

Six and one-half acres of foundation seed were planted; two and one-half acres of J47 x B42 and two acres of J47 x 38-11 and J47 x C103. All three single crosses produced excellent crops and sufficient seed is in storage for production of New Jersey hybrids for the next two years.

Sweet Corn

The third year of hybrid sweet corn seed production in New Jersey under the supervision of the certifying agency again proved encouraging. The main effort of the program for this year was to commence building inbred lines in quantity and quality to produce sufficient seed fields in 1958 and 1959. The New Jersey Agricultural Experiment Station provided half-pound and one pound lots of New Jersey inbreds. From these small quantities of seed, seed stocks are being built so that by 1958 sweet corn seed production can be of any acreage that may be desired.

Small acreages of New Jersey No. 106, New Jersey No. 101 and Carmelcross were produced under certification regulations in Burlington County. Approximately 10 acres of seed were grown late in the growing season and matured during the month of September. Very careful spraying and dusting programs for the control of insects are necessary as well as planned and timely applications of water.

All the elements for a successful sweet corn program exist in New Jersey—a good basic plant breeding program at the Experiment Station, a certifying agency having necessary facilities for inspections, a sufficient number of interested seed producers and a brisk demand from the fresh market sweet corn producers for New Jersey hybrids.

Barley

In 1956, 576 acres of Wong barley were entered for certification compared with 433 acres entered in 1955, this being an increase of 143 acres. In 1955 it was necessary to reject from certification only 79 acres or 18 per cent of the total. However, in 1956, 208.5 acres were rejected or 36 per cent of the total, resulting in only 13.5 more acres being certified in 1956. The main reason for the rejection was mixture of other grains. This usually results from failure on the part of the seed producer to clean the drill properly, or poor selection of seed fields from the standpoint of volunteer plants. Another reason for rejections this year was a high population of weeds. A weed that has been getting progressively worse and resulting in increased losses to New Jersey grain crops is dog fennel, *Anthemis cotula*. Very few fields in New Jersey are not infested to some extent with this daisy-type of plant. Several fields that were entered for certification were heavily infested and rejections were made. Although the seed of fennel is easy to remove from small grains, it is impossible to inspect properly a heavily infested field. Also, abnormal growth of the grain plants appears under such conditions.

A special field inspection was made during the month of May to observe and make counts of loose smut. In registered fields where the seed was hot water treated, not a single smut head was found. In the certified fields, approximately five diseased plants per acre were observed. This is considered excellent control.

Harvesting of the barley seed was a week to 10 days delayed because of the low temperatures of April and May. Lateness of the season hurried some seed producers into harvest before the grain was in proper condition. This resulted in the rejection of several lots at the cleaning mill because the seed had high moisture content making it impossible to place in storage. Germinations of the seed were exceptionally good. Storms during and prior to harvest darkened the color of the seed, but otherwise quality was high. Tests weights averaged 50 pounds per bushel.

One hundred fifty bushels of foundation seed were selected by the certifying agency and the seed was hot water treated in August for the control of loose smut. Germination of this seed was reduced from 93 per cent to 54 per cent during the hot water treatment. The process for controlling loose smut in barley is a delicate procedure and a review of the method used will be made before the next season.

A total of 19,478 bushels of barley was sealed as compared with 22,033 bushels the previous year. Approximately 53 bushels were sealed for each acre certified. This is one of the highest average yields per acre ever

achieved in this seed program. Despite all efforts to get more acreage and despite the high yields, the supply of certified barley seed did not meet the demand. Efforts are being made to increase production in the future.

WINTER BARLEY SEED PROGRAM

Variety	Acres Entered	Acres Rejected Field	Acres Rejected Bin	Acres Passed	Bushels Sealed
Wong					
Foundation	3	.....	.....	3	150
Registered	44.5	10	.....	34.5	1,874
Certified	528.5	161.5	37	330	17,454
Totals	576.0	171.5	37	367.5	19,478

Wheat

A total of 687 acres of wheat was entered for certification. This is a decrease of 58 acres from the previous year. Dual, a stiff straw, high yielding, newly recommended variety was grown on a small scale for the first time in New Jersey. This variety, being Hessian fly resistant, can be planted early in the fall, making a good cover crop or grain yield.

A notable increase in loose smut, especially in the Seneca variety, has been observed for the past several years. In 1955, 36 per cent of the Seneca variety was rejected from certification for excessive amounts of loose smut. It was expected that by selecting lightly infected fields for replanting and by hot water treating a small amount of seed each year, loose smut could be kept under control. However, in 1956 it was necessary to reject 78 per cent of the Seneca acreage for excessive amounts of loose smut. After discussing this disease problem with specialists of the New Jersey Agricultural Experiment Station and with several members of the Foundation Seed Committe, a recommendation was made to enter into a limited generation program of seed production for the varieties of Seneca and Dual wheat, similar to that now successfully operating in Wong barley.

A limited generation program refers to a seed program where a small amount of seed will be hot water treated annually. This seed is called foundation seed. Foundation seed is distributed by the New Jersey Field Crop Improvement Association to selected growers for increase. The progeny of this seed is known as registered seed. The registered seed is again distributed by the Field Crop Association to certified seed growers for the production of certified seed. Only seed fields which are planted with foundation or registered seed or their equivalent can be accepted for certification. This program may reduce the acreage planted of the Seneca and Dual varieties for this coming year because of a limited amount of registered seed.

During the month of June, field inspections were completed with 180 acres being rejected, principally because of the presence of loose smut, mixture of other grains, varietal mixtures, disease and inseparable weeds. The 180 acres rejected represents 28 per cent of the entire acreage. The previous year 17 per cent of the acreage was rejected. Heavy rains during July made the harvest of quality seed difficult. The moisture content of several lots of seed was above the maximum allowance of 14 per cent, and seed was not processed until the excessive moisture was removed.

During bin inspection practically no damage was noticed due to storage insects. It was necessary to reject 29 acres of wheat during bin inspection because of low germination.

The total bushels sealed was 14,356. This is a decrease of approximately 3,000 bushels from the previous year. The decrease resulted principally from the high percentage of field rejections in the Seneca variety.

Again this year the supply of certified wheat failed to meet the market demand. Several thousand more bushels of seed could have been sold. Every effort is being made to increase the planting acreage for next year.

1956 WHEAT PROGRAM

Variety	Acres Entered	Acres Rejected Field	Acres Rejected Bin	Acres Passed	Bushels Sealed
Seneca					
Registered	8	.....	.....	8	159
Certified	168	131	4	33	1,365
Pennoll					
Certified	510	49	25	436	12,832
Dual	1	.....	.....	1	.....
Totals	687	180	29	478	14,356

Winter Oats

A total of 122 acres of LeConte oats was entered for certification. This is an increase of 16 acres over the previous year. However, because of increased rejections that were necessary during field inspection, the acreage passed in 1956 was 25 acres less than in 1955. Forty-two acres or 34 per cent were rejected for mixture of other grains and inseparable weeds. Wild onion and garlic were the main causes of rejection. There was also considerable mixture of other crops such as wheat and barley and all seed growers were required to rogue their fields to remove the mixture. A five acre registered field was rogued by State inspectors to improve seed quality. A total of 264 bushels of clean seed was certified from the registered field and the seed is to be used for planting stock in 1957.

Dr. Steve Lund, small grain breeder of the New Jersey Agricultural Experiment Station, has been successful in purifying LeConte by row selec-

tion. This seed, as soon as it is increased, will become the source of all New Jersey certified LeConte seed oats. A new variety which will be recommended for certification in 1957 is Dubois. Dubois is more winter-hardy than LeConte but is more susceptible to lodging. Neither of the recommended oats for New Jersey are perfect but represent the best varieties at the present time.

A total of 3,456 bushels of LeConte was sealed, making an average yield of 43 bushels per acre. The market for LeConte during the fall planting season was dull and seed moved very slowly. It is possible that some of the market was absorbed by the new variety, Dubois. Also evident is the fact that a good educational program stressing the purpose and place for winter oat production in New Jersey is needed.

1956 OAT PROGRAM

Variety	Acres Entered	Acres Rejected		Acres Passed	Bushels Sealed
		Field	Bin		
LeConte					
Registered	5	.....	.....	5	264
Certified	117	42	.....	75	3,192
Totals	122	42	.....	80	3,456

Soybeans

The total acreage of soybeans entered for certification was 1,086, more than double the 536 acres entered the previous year. The increase in acreage was due mostly to the overwhelming acceptance of the Clark variety by the soybean growers. Of the acres entered, 73 per cent was planted in the Clark variety. During field inspection 97 acres were rejected because of varietal mixture, excessive weeds, volunteer corn and failure to prove origin of the seed.

This year four varieties, Clark, Chief, Hawkeye and Lincoln, were recognized for certification.

Clark is a sister strain of Lincoln, having similar appearance and characteristics. It tends to produce more vine growth than Lincoln and is approximately seven days longer in maturing. The Lincoln and Hawkeye varieties which have been under certification for a number of years are still well accepted by the seed trade and are utilized for their shorter growing season. The Chief variety, which has a growing season approximately as long as the Clark, is losing favor because the Clark variety can be used as a substitute with better yielding capacity. The one field of Chief entered for certification failed to pass the germination requirements.

This year's growing season was excellent as contrasted with last year when a prolonged drought existed. The soybeans which were harvested before the last week of October were of high quality and germinated in the

high 90's. Soybeans that remained in the field after the last week in October were subjected to a lengthy storm, became moldy and possessed low germination. Some lots of beans harvested in early December germinated as low as 38 per cent.

Approximately 32 per cent of the soybean acreage entered for certification was rejected. Most of the rejections were caused by low germinations due to late harvest.

Soybean yields this year were very high, averaging 24 bushels of clean seed per acre. This average is one of the highest in the history of New Jersey certified soybean seed.

1956 SOYBEAN PROGRAM

Variety	Acres Entered	Acres Rejected Field	Acres Rejected Bin	Acres Passed	Bushels Sealed
Clark	799	84	143	572	13,636.5
Hawkeye	119	.....	12	107	2,434.5
Lincoln	137	2	72	63	1,948.5
Chief	31	11	20	.....	.....
Totals	1,086	97	247	742	18,019.5

TOMATO SEED CERTIFICATION

The 1956 field inspections were begun July 27 and terminated August 18. The total acreage certified was 2,706, a decrease of 356 acres from the 3,062 acres certified in 1955. The variety Brookston, which was admitted for certification for the first time in 1955, was not on the certified list for 1956. Campbell Soup Company, the sponsor of this variety, withdrew it from further seed production because of its very unacceptable performance in 1955, principally because of the severe cracking of the fruit. Two unnamed, experimental varieties of Campbell Soup Company were field inspected for freedom from disease in order to qualify the resultant seed for the production of certified plants in Georgia in the spring of 1957. Thirty-four acres of experimental variety 135, and 110 acres of experimental variety 146 were thus approved.

The synchronization of the production of Georgia-grown tomato plants with transplanting conditions in New Jersey is usually beset with complications. This year was no exception. The adverse growing conditions in Georgia included severe sand storms which considerably damaged the newly emerging seedlings and a tornado which swept through the southern part of that State during middle April. However, by the latter part of April the supply of plants for New Jersey appeared to be adequate with few exceptions and in most instances New Jersey planting was completed by May 20. During the night of May 25 the temperature fell to near freezing in most

of the commercial growing areas in southern New Jersey and considerable damage was inflicted on the new transplants. Because of this widespread condition along the eastern seaboard, a feverish demand for replacement plants immediately arose in Georgia. This demand, coupled with some inadvertent mixing of loads, resulted in the planting of some New Jersey fields, intended for seed, with mixtures in such numbers that roguing and certification were impracticable. Furthermore, many New Jersey farmers realizing that the time was late for replanting, procured plants wherever available and in many instances introduced a strain or another variety which rendered the field unacceptable for seed. These factors resulted in a reduction in the acreage certified in 1956 as compared with 1955.

The season of 1956, although ideal from the standpoint of temperature, was not favorable from the standpoint of July precipitation. Rainfall in Bridgeton was practically double the normal for this month. However, by the beginning of August this excessive July precipitation was not believed to have caused any undue damage to the field acreage.

PRECIPITATION IN JUNE AND JULY, 1956
Ritter Seed Farms, Bridgeton, New Jersey

Date	Rainfall (inches)	Date	Rainfall (inches)
June 2	2.0	July 3	.24
10	1.3	5	.47
22 to 23	1.05	6	.07
		7-8	.38
Total	4.35	10	.20
		11	.17
		17	.07
		20	3.25
		24	.22
		27	1.06
		28	1.50
		Total	7.63

The insect problem was of a minor nature. Greenhorn tomato worms were practically absent. Colorado potato beetles were damaging to early transplants but readily succumbed to the applied sprays. A serpentine leaf miner was observed on a few plants in several fields.

The production of certified tomato seed in the State of New Jersey is dependent on the sustained vigor of producing plants throughout the period of normal growth which should extend, at least, to the middle of September. The excessive rainfall during July is credited with the leaching from many of the soils of sufficient fertilizer to starve the plants which were in the height of production of a generous crop. With the yellowing and ultimate collapse of the plants, production is significantly reduced and the quality of the fruit delivered to the canhouse may result in the rejection of such

loads and hence the loss of the seed. The fertilizer practices for the tomato crop are in need of re-examination so that conditions such as those which prevailed in 1956 may be avoided in subsequent years. The installment application of fertilizer, foliar feeding with liquid sprays, and fertilizer formulations of slowly soluble nitrogen materials are avenues of probable correction which should be throughly explored for the benefit of the farmer, the canner and the seedman.

The fields inspected during the first week in August presented an excellent appearance and fruit formation and growth proceeded at a rapid rate. By August 10 many of the fields displayed a general yellowing of the foliage. A casual observation suggested the rapid progress of fusarium wilt. However, an examination of the stems of many of the plants indicated that fusarium wilt was not responsible for the abnormal discoloration of the plants.

The field laboratory of one of the New Jersey canners made a thorough survey of this condition. Laboratory examination of collected foliage indicated a low content of nitrogen. The growers were immediately advised to make an application of 25 to 50 pounds of nitrogen per acre in the hope that the plants would be revitalized and would continue in the production of large, red ripened fruit. By August 15 numerous fields presented a very disappointing appearance with the plants almost completely collapsed, leaves showing *Alternaria* infection and the stems displaying collar rot lesions. The fruit instead of ripening to a deep red, ripened to an orange-red color. The rapid appearance of anthracnose on the ripening fruits further added to the distress of the processors. Numerous fields were withdrawn from certification.

TOMATO SEED CERTIFICATION FOR 1956

Acreage Certified

Seedsman	Rutgers	Marglobe	Pritchard	Improved Garden State	Stokesdale	Valiant	Century	Ontario	Queens	Total
California Packing Corp.	14	.....	.....	.....	.....	.....	.....	.....	22	36
Campbell Soup Company	778	.....	.....	515	.....	.....	.....	11	.....	1,304
J. T. O'Brien and Son	60	20	10	.....	.....	.....	.....	5	4	99
Ritter Seed Company	645	.....	.....	120	50	.....	9	.....	30	854
Francis C. Stokes Co.	108	86	.....	.....	.....	16	.....	.....	.....	210
Swedesboro Seed Co.	144	29	.....	.....	.....	.....	.....	.....	30	203
Totals	1,749	135	10	635	50	16	9	16	86	2,706

Pounds of Seed Certified

Seedsman	Rutgers	Marglobe	Pritchard	Improved Garden State	Stokesdale	Valiant	Century	Ontario	Queens	Total
California Packing Corp.	452	.....	.....	.....	.....	.....	.....	.....	573	1,025
Campbell Soup Company	27,575	.....	.....	15,850	.....	.....	.....	100	.....	43,525
J. T. O'Brien and Son	1,560	850	560	.....	.....	.....	.....	235	47	3,252
Ritter Seed Company	23,195	.....	.....	882	2,271	.....	159	.....	305	26,812
Francis C. Stokes Company	6,070	4,200	.....	.....	.....	990	.....	.....	.....	11,260
Swedesboro Seed Company	4,255	1,855	.....	.....	.....	.....	.....	.....	2,010	8,120
Totals	63,107	6,905	560	16,732	2,271	990	159	335	2,935	93,994

POUNDS OF NEW JERSEY CERTIFIED TOMATO SEED VALIDATED FOR EXPORT SHIPMENT
July 1, 1956 - June 30, 1957

				Africa					
1956	Ceylon	Cuba	Italy	Johannes-burg	Grahams-town	Pretoria	Nairobi	Texas (for export)	Totals
July	52	.....	.....	.....	.....	.....	.....	.....	52
August	.....	41	.....	100	.....	.....	.....	350	491
September	.....	130	.....	.....	.....	.....	.....	50	180
October	.....	.....	.....	.....	10	.....	.....	.....	10
November	.....	.....	2	.....	.....	.....	.....	150	152
December	.....	.....	.....	150	.....	.....	.....	200	350
1957									
January	.....	.....	.....	.....	.....	80	.....	50	130
March	.....	.....	.....	.....	.....	.....	24	.....	24
April	.....	20	.....	.....	.....	.....	.....	15	35
May	.....	.....	.....	200	.....	.....	.....	.....	200
June	.....	.....	.....	200	.....	.....	.....	.....	200
Totals	52	191	2	650	10	80	24	815	1,824

POUNDS OF NEW JERSEY VEGETABLE SEEDS EXPORTED FOR WHICH PHYTOSANITARY CERTIFICATES WERE ISSUED
July 1, 1956 - June 30, 1957

1956	Cuba	Mexico	Texas (for export)	Totals
August	24	.....	.....	24
September	425	202	.....	627
October	70	.....	.....	70
November	.....	.....	30	30
1957				
January	.....	.....	205	205
Totals	519	202	235	956

SEED POTATO CERTIFICATION

Late crop seed potatoes in New Jersey in 1956 were grown on about the same acreage as in the previous three or four years. With good quality seed available from Maine and Canada at reasonable prices, the production of seed in New Jersey will always be limited. However, a new concept in producing seed in New Jersey in conjunction with processing plants could change the acreage and work requirements of the certifying agency. The New Jersey Agricultural Experiment Station is investigating the possibility of producing seed in cooperation with Seabrook Farms or any other frozen French fry processors. The best potatoes for French frying have high specific gravity and are generally produced in cool growing seasons. Thus, by producing potatoes late in the season under certification regulations, the tubers could be graded with the larger sizes being shipped to the fryer, and the smaller sizes used for seed.

This past season 98 per cent of the planting stock of New Jersey certified seed potatoes was from out-of-state sources. With the availability of foundation or tuber unit stock that has been proven to be free of disease and

varietal mixture, the seed grower finds it inadvisable to maintain his own foundation fields. Only 9 per cent rejections were needed during the field, bin or Florida inspection to maintain the certification standards. The majority of the rejections were caused by virus disease. The virus increases were caused by poor planting stock, improper isolation and inadequate spray programs to control disease spreading aphids.

Seed fields during the first inspection appeared retarded approximately two weeks in growth. Heavy rains during the planting period caused delay and also deterioration in planting stock in fields that were already planted. However, ideal weather persisted for the greater part of the season. Although irrigation systems were available on many farms, it was not necessary to place them in use. An early frost in September killed back the top vine growth but with warmer weather thereafter the plants continued to grow until November. Harvest was late and many seed fields were not in storage until the middle of November.

Because of the late harvest, it was impossible to send to Florida samples from all seed fields. This year 15 samples were collected by the growers during harvest. Samples were then assembled by State inspectors and treated chemically to break the dormant period of the seed. After six to eight weeks a field reading was made in Florida to determine the virus content of the seed. All certified seed fields in New Jersey are not required to be tested in Florida, however, growers are urged to cooperate for their own protection. Certified seed grown in New Jersey that has had disputable disease symptoms must be tested in Florida before certification is granted. This additional step in the certification program tends to improve the quality of our seed.

PRODUCTION OF CERTIFIED WHITE POTATO SEED OF NEW JERSEY

Variety	1956 Passed (acres)	1956 Production (bushels)	1955 Passed (acres)	1955 Production (bushels)
Cobbler	5	675	8	1,288
Katahdin	52	7,020	59	14,170
Chippewa	23	3,105	21	4,494
Kennebec	2	270	4	840
Pungo	....	.....	3	624
Jersey Red Skin	2	270	.....	.....
Totals	84	11,340	95	21,416

ACREAGE FAILING AND PASSING CERTIFICATION

	Acres	Per Cent
Rejected or withdrawn at first inspection	8	9
Rejected or withdrawn at second inspection	.....	.....
Rejected at third inspection	.....	.....
Rejected resulting from Florida testing	.....	.....
Rejected or withdrawn fourth inspection	.....	.....
Passing fourth inspection (certified)	84	91

VARIETAL DISTRIBUTION OF REJECTIONS AND WITHDRAWALS

Variety	Acres Entered	Acres Rejected and Withdrawn by Inspections				Acres Certified
		First	Second	Third	Florida	
Cobbler	5	.....	.....	.....	.....	5
Katahdin	56	4	.....	.....	.....	52
Chippewa	24	1	.....	.....	.....	23
Kennebec	4	2	.....	.....	.....	2
Pungo	1	1	.....	.....	.....	.....
Red Skin	2	.....	.....	.....	.....	2
Totals	92	8	.....	.....	.....	84

INSPECTION AND CERTIFICATION WORK OF NEW JERSEY LATE CROP WHITE POTATO SEED IN 1956

Seed Source	100-lb. Bags	Per Cent
Maine	1,095	80
Prince Edward Island	229	17
New Jersey	30	2
Nova Scotia	13	1
Totals	1,367	100

Report of the Division of Information

FRED W. JACKSON, *Director*

One of the important duties of the Department is to keep the public fully and promptly informed about its activities. This function is centered in the Division of Information.

Through its regular news services, the Division attempts to bring information about agriculture to the entire population of New Jersey and to foster a better and more sympathetic understanding between farm and city people. Another aim is to create an interest in New Jersey farm products.

Up-to-date information on the services, functions and regulations of the Department is brought directly to the attention of farmers, farm organizations and allied industries.

NEWS SERVICES

During the past fiscal year, a total of 275 press releases were prepared and issued. This amounts to an average of more than five per week. The releases were sent to approximately 250 newspapers, radio stations and agricultural publications serving the New Jersey-New York City-Philadelphia area. The releases enjoyed wide and regular usage in all of these media.

Fifteen sets of mat releases were issued during the year and several hundred photographs were furnished to the press to augment the news service.

Increased emphasis was placed upon service to radio and television stations. Plans were made to initiate in the summer a series of monthly 10-minute tape recordings, in which the Secretary of Agriculture would report on current highlights of the Department's work. These will be distributed to about a dozen radio stations throughout the State, through the cooperation of the New Jersey College of Agriculture. In addition, two or three brief interviews with members of the Department staff will be recorded each month and distributed in the same way.

Especial mention should be made of the continued cooperation of *New Jersey Farm and Garden* which has been generous in its coverage of Department activities. A page is made available each month for an editorial by the Secretary of Agriculture. The January issue devoted much space to advance publicity of Farmers Week. The magazine has a circulation of 25,000 readers, most of whom are New Jersey farmers. Excellent cooperation has also been given by a number of other general agriculture and special interest publications.

In the course of the year, many requests for special services have been received for articles, photographs and information on New Jersey agriculture. These have received prompt attention.

PUBLICATIONS

The Division edits and handles the processing details for all printed Department reports, circulars and special publications.

It prepares six issues of *Farm Service News* each year. This four-page publication is mailed to approximately 20,000 farm and rural readers in New Jersey.

The following circulars and reports were edited and published during 1956-57.

Folder	—For Your Drinking Milk Ask for New Jersey Grade A or Grade B.
Folder	—For Your Drinking Milk Ask for New Jersey Premium.
Report	—Fortieth Annual Report of the New Jersey State Department of Agriculture - July 1, 1954 - June 30, 1955.
Binding	—12 issues of *New Jersey Farm and Garden*, for calendar year 1956.
Binding	—*State Department News Service* - Volumes 1-12 May 1927 to June 1938.
Farm Service News	—6 issues - July, September, November 1956; January, March, May 1957.
Leaflet	—Destruction by the Gypsy Moth.
Circular No. 400	—The Blueberry and Cranberry Industries in New Jersey.
Circular No. 401	—Licensed Dealers Under the Milk Dealers' Licensing and Bonding Act, Produce Dealers' Licensing and Bonding Act (Including Egg and Live Poultry Dealers), Cattle Dealers' Licensing Act and Disposal Plant Operators' Licensing Act.

As of June 30, 1957, the following have been edited but delivery has not been completed by the printer:

Circular No. 402	—Facts and Figures - Annual Potato Summary - Crop of 1956.
Circular No. 403	—Woody Honey Plants for Roadside Planting in New Jersey.
Circular No. 404	—New Jersey Agricultural Statistics, 1944-1956.
Report	—Forty-first Annual Report of the New Jersey State Department of Agriculture - July 1, 1955 - June 30, 1956.

Publications prepared in connection with the 1957 Farmers Week were as follows:

1957 Farmers Week Program
Homemakers' Program - 1957 Farmers Week
Highlights of Your Convention
Citations for Distinguished Service to New Jersey Agriculture, 1957

FARM PRODUCTS PROMOTION

During the past fiscal year the agricultural activities of the State Promotion Section, a unit of the Department of Conservation and Econom-

ic Development again were serviced on a cooperative basis through the Division of Information. The Division served in a liaison capacity with the participating agricultural commodity groups. This arrangement, which has been in effect since 1938, has proved satisfactory to the State agencies concerned as well as to the cooperating farm organizations.

The allotment for agriculture was divided among seven projects. The allotments for each were supplemented by funds furnished by each of the cooperating commodity groups. As during the previous year, an effort was made to compensate for the lack of advertising space by making the most of every opportunity to provide editors, particularly food editors, with copy and photographs for use in reader column space. Considerable success was achieved in enlisting the cooperation of other agencies, the trade and the utilities by getting them to mention New Jersey products in their advertisements and releases and to include New Jersey products as much as possible in their demonstrations.

Acknowledgement again should be made of the cooperation of the members of the home economics staffs of all four of the principal New Jersey utilities. Included on their staffs are about 40 home economics specialists who are responsible for a large number of meetings, exhibits and demonstrations on food subjects scheduled throughout the year. Consequently, there are many opportunities when New Jersey farm products can be featured or included in recipes, thus presenting them directly to thousands of food-minded housewives. Two of the utilities again prepared at their own expense consumer leaflets on New Jersey products.

Brief outlines of the projects caried on cooperatively with the farm commodity groups during the 1956-57 year follow.

The Cooperative Marketing Associations in New Jersey, Inc.

A considerable volume of New Jersey grown fruits and vegetables is marketed through the nine cooperative produce auction markets which are organized in a statewide cooperative. This organization sponsored a series of advertisements which appeared in *The New York Packer* and *The Produce News*, the two principal publications circulating among the produce trade. Advertisements were sponsored in each of these publications, running in July and August, 1956, as well as six insertions each in April, May and June 1957. During the 1956 season, a total of more than 1,050 different buyers from 13 states and Canada purchased New Jersey products at the auctions which furnish an outlet for a considerable volume of New Jersey produce. They also establish a price level for many other transactions and so are beneficial in maintaining current market prices.

Blueberry Institute

This organization, which publicized and aided in the marketing of cultivated blueberries, is sponsored by a grower group. The value of the cultivated blueberry crop now exceeds that of cranberries or any other small fruit. The allotment of State funds met the cost of a series of mat releases and trade paper advertisements and a series of photographs of original blueberry recipes.

New Jersey Field Crop Improvement Cooperative Association, Inc.

This organization produces and sells certified field crop seeds which are of special importance to New Jersey dairymen and poultrymen who produce home-grown feeds. The New Jersey hybrid varieties of corn have been featured in a series of cooperative advertisements with further mention of State-certified soybeans, wheat, oats and barley in season. The advertisements now are on a full year basis and again were carried in 12 issues of *New Jersey Farm and Garden*, 10 issues of *The Moos* and nine issues of *Dairymen's League News*.

New Jersey Peach Industry Committee

This statewide organization continued last year with its promotional activities to call attention to the new varieties and the tree-ripened New Jersey peaches now available. As usual the campaign was conducted with the cooperation of food editors, radio commentators, representatives of the wholesale and retail trade and others concerned with the promotion of food products. A review of the season's prospects was prepared and gift boxes of peaches and cultivated blueberries were distributed at a dinner conference and visit to a Hunterdon County peach orchard. There was an excellent response in terms of newspaper reader column space, editorial mention and time on both radio and television programs. The annual dinner and reception for editors were held with excellent attendance.

New Jersey Apple Institute

The New Jersey growers experienced little serious difficulty in moving the main season varieties of apples, so much of the promotional effort was concentrated again on varieties marketed in the summer and late spring months. Consequently, a series of releases, photographs and recipes was issued in July and August, 1956, illustrating how the Starr and Twenty Ounce varieties could be used by consumers.

In addition, the services of a publicity agent in New York City were retained on a cooperative and part-time basis to handle relations with the

food page editors of newspapers and magazines, radio food editors and the representatives of the utilities. Gift packages of Stayman apples were sent to editors in December and repeated with Rome Beauty apples in March.

A conference and visits to two orchards and dinner were scheduled at the farm of an apple grower with about 60 food editors and guests attending, most of them making the trip in a special bus. As usual, the response in terms of publicity throughout the winter has been excellent and aided materially in moving the crop. A series of 20 announcements scheduled on the "McCanns at Home" food hour on WOR again proved very effective in marketing late holdings of Rome Beauty.

New Jersey Poultry and Egg Cooperative Marketing Association, Inc.

A request was received from the group of cooperatives marketing eggs under the New Jersey State certified label for aid in combating the depressed market situation. An allotment was made to cover the cost of posters and egg carton inserts as part of a promotion program arranged with the stores and milk dealers handling this brand of New Jersey eggs.

New Jersey Sweet Potato Industry Association

This new organization continued for a second year to successfully market improved types of New Jersey sweet potatoes. A request was granted for an allotment of funds which were used principally to provide a series of advertisements in the two main produce trade papers, as well as for a series of nine mats of photographs of new sweet potato recipes.

FARMERS WEEK

One of the major agricultural events in New Jersey is the annual Farmers Week, held in Trenton each year during January. The six-day program includes the State Agricultural Convention and meetings of more than 40 farm and allied organizations.

The Division of Information is responsible for advance publicity and coverage of Farmers Week and is also active in program planning and arrangements.

Report of the Office of Milk Industry

FLOYD R. HOFFMAN, *Director*

BUREAU OF ADMINISTRATION

During the fiscal year covered by this report, the procedure for a Federal milk marketing order for New Jersey was worked out between the Govenor's Milk Committee and the Dairy Branch of the United States Department of Agriculture. A Memorandum of Agreement for procedure was obtained between the director of the Office of Milk Industry for New Jersey and the Secretary of Agriculture for the Federal Government. It was agreed between these parties to hold a joint hearing to ascertain from producers and other interested parties the type, scope and kind of marketing order to be promulgated. The joint hearing started on June 18, 1956, in Newark, under the call of hearing by the Federal Government, the Office of Milk Industry of New Jersey, and the Department of Agriculture and Markets of the State of New York.

This hearing lasted until March 29, 1957, and approximately 16,000 pages of testimony were received. The director or deputy director followed the procedure in practically all of the sessions, 25 in New Jersey and 81 in New York State.

At the close of the hearing, the Secretary of Agriculture made the findings of all agencies. The order was promulgated and the referendum to the order was completed for the order to go into effect on August 1, 1957.

This Federal order will regulate the market for approximately 2,000 producers in New Jersey, and in total, will regulate the market for approximately 55,000 producers in other states. The volume of milk in this gigantic pool will be approximately 12 to 15 per cent of the total annual production of milk in the United States.

An act was passed by the Legislature on December 28, 1956, which increased the amount of the license fees to be paid to this office. The money derived from these increased fees is to be used to establish an auditing program to more effectively administer the provisions of the Milk Control Act.

During the year, the director, the deputy director or other representatives of this office attended eight out-of-state conferences or meetings, for the purpose of keeping the Office of Milk Industry advised of all activities and conditions in the over-all milkshed supplying the State of New Jersey, which affect the milk industry here. Approximately 50 per cent of the fluid milk consumed in New Jersey is produced in other states.

PUBLIC HEARINGS

The statute requires that before a price change of any kind is made, a public hearing shall be held to afford all interested parties an opportunity to give testimony regarding the contemplated change.

A public hearing was called by the director on February 4, 1957, in Trenton, for the purpose of hearing testimony on:

1. Resale prices for milk sold at the farm by producer-dealers to consumers, including definition of producer-dealer.
2. Resale price for milk sold f.o.b. a dealer's processing plant to consumer.
3. Methods of, and recommendations for pricing quantity discounts on home delivered milk.
4. Pricing milk in multiple package containers to stores and to consumers.
5. Pricing milk to subdealers with recommendations for quantity discounts.
6. Store price differentials.
7. Pricing milk f.o.b. farm for bulk holding tank pick-up.
8. Mileage differentials for subdealers hauling their own milk from processing plant or depot.
9. Fair trade practices respecting the distribution of doorstep (porch) milk boxes as now regulated by Regulation F-29.

The volume of testimony made it necessary to continue the hearing through February 5, 6, 11, 13, 14 and 27. The hearing was one of the longest on record to be held by this office. Ten producers, ten dealers, four producer-dealers, two stores, two subdealers, four consumers and two labor representatives testified. There were also ten legal representatives present to submit testimony and to cross-examine witnesses.

Based on the evidence presented at this hearing, Order No. 57-1 was issued, effective April 1, 1957. This new price order made provisions for milk sold at the farm, and for retail sales in two-quart containers, as well as for milk sold out of stores and home delivered. These price changes are explained in further detail in the following section.

PRICE ORDERS AND REGULATIONS

During the fiscal year, the following orders and regulations were issued:

Official Order 56-3, effective July 1, 1956, restored the fixing of wholesale and retail prices for milk sold in New Jersey. Price fixing had been

abolished in February, 1955, but following a public hearing held June 4, 1956, it was decided that price fixing was necessary to assure orderly marketing of milk. Therefore, prices were again fixed at all resale levels by this office.

Regulation H-4, dated September 10, 1956, rescinded Regulation H-3 which had required the posting of prices to be charged for milk sold, both wholesale and retail. Although the fixing of prices had been restored by the order mentioned in the foregoing paragraph, it was necessary to keep the price-posting regulation in effect pending the outcome of the Court case in the matter of the appeal against Order No. 56-3. However, when the appeal was withdrawn, price posting was no longer necessary.

Order No. 57-1 was promulgated by the director on March 14, 1957, effective April 1, 1957. This order increased the minimum prices in most cases for milk sold, both wholesale and retail. It permitted consumers to pay one cent less for milk purchased at the farm from a producer-dealer than for milk bought at a store. It also established the definition for a producer-dealer as one who produces all the milk which he sells.

The request for a reduction in retail price of milk purchased at processing plants and carried home by consumers was denied, on the basis that such a reduction would create unfair competition with nearby stores. A discount for quantity purchases of home-delivered milk was also denied. However, a discount of one-half cent per quart on milk sold at retail in two-quart containers was granted.

The retail price of milk bought at a store was continued to be one and one-half cents less than the retail price of home-delivered milk.

A comparison of the minimum prices for home-delivered regular pasteurized milk is shown below:

Order	Effective	Area 1	Area 2	Area 3	Area 4	Area 5
56-3	7/1/56	24½c	26½c	25½c	25½c	24½c
57-1	4/1/57	26c	26½c	26c	26c	26c

The five milk marketing areas of New Jersey are defined in general as follows:

Area 1—South Jersey with the exception of the very rural parts of Ocean and Monmouth counties and the seashore area.

Area 2—The seashore area of Cape May and Atlantic counties.

Area 3—The seashore area of Ocean and Monmouth counties.

Area 4—The metropolitan area of North Jersey.

Area 5—The rural areas of North Jersey, and that part of Ocean and Monmouth counties not bordering the seashore.

No increase in price was provided for farmers using bulk holding tanks on their farms. However, to compensate the producer for the installa-

tion of a bulk holding tank, it was decided that the dealer would assume the cost of transporting the milk from the holding tanks on the farms to the receiving plants. It was necessary to amend this provision, suspending this clause for the period from April 1 to June 30, 1957.

After numerous conferences on this subject, and because producers were threatened with loss of market by their dealers, it was necessary to issue Order No. 57-2, effective July 1, 1957, rescinding that portion of Order No. 57-1 relating to the pricing of farm bulk tank milk.

Regulation H-5, effective April 1, 1957, rescinded Regulation F-29. F-29 prohibited the giving or lending of anything of value by a licensee of this office to customers. Regulation H-5 continued this program, with the exception of doorstep milk boxes, which under the new regulation could be loaned by the milk companies to consumers if the boxes are properly identified with the name of the milk company.

Regulation H-6, effective April 1, 1957, provided certain stipulations for sales of milk to subdealers. This regulation provided discounts for bottles and cases, volume purchases, and mileage allowances for subdealers hauling their own milk from the processing plant.

APPEALS

On July 5, 1956 an appeal was taken against Order No. 56-3 (the price-fixing order) by two licensees, Lampert Dairy Farms and Cornell Dairy Farms. A stay was obtained on July 12, 1956, but the Deputy Attorney General secured a dissolution of the stay on the same date. However, the appeal was later withdrawn, and the Superior Court issued a dismissal of this case dated September 19, 1956.

A hearing was held on the application for license of the Welsh Farms Producers' Cooperative Association, Inc. and the license was denied. An appeal was taken to the Appellate Division of the Superior Court. The Court rendered its decision, upholding the findings of the Office of Milk Industry, and a Mandate of Affirmance dated June 6, 1956 was issued by the Court. The mandate directed that producers be repayed in accordance with the findings of this office. Repayment was completed by August 1956.

BUREAU OF AUDITING

The function of the Bureau of Auditing is to maintain dealer relations within the industry, and to audit monthly reports submitted by the dealers showing the utilization of milk in the State. The report furnished by each licensed dealer on a monthly basis gives the production, importation and sales of milk in each classification.

During the fiscal year an average of about 250 dealers' reports were audited monthly. The tables at the end of this report are based upon these audits.

Another function of the Bureau of Auditing is to determine whether or not producers in New Jersey have been paid the proper price per hundredweight for their milk. Audits of monthly reports disclose that a total of $25,830.50 was underpaid producers during the year. Correspondence on this matter indicates that producers were paid $24,183.84 of that amount, and negotiations are pending for the balance.

Also, credit regulations are handled by this bureau to ascertain that before a subdealer changes his source of supply, his bills have been paid in full to the dealer from whom he had been purchasing milk and milk products. This information is derived from applications filed on forms provided by this office. A total of 63 applications to change source of supply were received from subdealers, and, of these, 46 were granted permission to change. The balance were either denied permission to change because of indebtedness or requests were withdrawn before the expiration of the 30-day waiting period.

BUREAU OF LICENSING

Prior to the fiscal year covered by this report, licensing had been handled as part of the Bureau of Auditing function. Due to the amount of work involved in licensing new applicants and the transfer by handlers of ownership of business, it was necessary to set up a bureau to handle licensing.

Applications for renewal of licenses must be handled in a 60-day period. This increases the work load of all members of the staff considerably. Applications are received starting May 10 of each year and the licenses for renewal must be issued by July 1.

The table below shows in detail the number of applications processed and licenses issued during the year July 1, 1956, to June 30, 1957, as compared with the previous year.

Type of license	1956-57	1955-56	Change
Dealers, processors, producer-dealers, subdealers and manufacturers	2,474	2,418	+ 56
Stores	12,930	14,100	—1,170
Butterfat testers	366	377	— 11
Weighers and samplers	369	387	— 18
Permits to purchase	159	175	— 16

The total revenue received during the fiscal year 1956-57 from licensing was $109,271.01, as compared with $108,588.70 received during the previous year, 1955-56.

BUREAU OF INVESTIGATIONS AND ENFORCEMENT

A total of 3,564 contacts were made during the year in investigation work. These calls were made to investigate alleged violations and complaints, and included dealers, producer-dealers, subdealers, producers, stores, consumers and school boards.

As a result of these investigations, 106 informal hearings were scheduled. Of these, 86 were heard and the remainder were excused or charges dismissed. One formal hearing was held on an order to show cause why license should not be revoked. Seven additional formal hearings were cancelled and settled informally, and two were pending at the end of the fiscal year.

The total penalties assessed as the result of these investigations and hearings amounted to $27,205. Penalties paid during this fiscal year amounted to $22,515.

Creamery inspectors made 594 creamery visits during the year to check the butterfat tests of milk to determine whether or not producers had received proper payment based on butterfat content of milk.

A large number of producers during this fiscal year changed their method of handling milk from the can system to a bulk holding tank system. The number of bulk holding tanks tested during the year was 323. The calibrating of these tanks is for proper agitation to see that the mixture is uniform in all parts of the tank. The total number of producers in New Jersey operating under this system is 634.

The total number of farmers called upon to check butterfat tests of milk produced was 375.

During the fiscal year 5,994 pieces of glassware were calibrated for use by the industry in testing milk for butterfat content. The fees received for this work amounted to $175.70 for the year.

BUREAU OF STATISTICS

A newly created position of agricultural economist will provide the Office of Milk Industry with personnel to develop a much needed study of processing and delivery costs, as well as maintenance of records and charts on production trends and marketing conditions. At the present time, all producer matters are also handled by this bureau.

A form was prepared and distributed to milk dealers in New Jersey in August, 1956 requesting cost data to be used by this office to establish pricing of milk. Although only 50 per cent volunteered the information requested, the data obtained was helpful in ascertaining a true resale price for orders fixing resale prices.

During the fiscal year a new producers' organization was formed in New Jersey called the Master Dairy Farmers' Guild. This Guild was organized for the purpose of bargaining by producers with dealers for a higher producer return for milk. Much publicity was given to the new organization and many meetings and conferences were held. The outcome was a procedure whereby producers withheld their milk from delivery to their handlers. In northern New Jersey much property was destroyed and many acts of violence occurred during a three-day milk producers' strike in late February. The dealers obtained an injunction against the Guild for the acts committed and the case is pending in the Civil Court.

During the period covered by this report 150 producers changed their markets for better prices, more convenient trucking and other similar reasons. Also, 298 producers discontinued the production of milk. Eleven new herds started production of milk during this fiscal year. At the end of the fiscal year, there were 3,473 herds producing milk for sale in New Jersey compared to 3,760 in 1955-56.

To show how the production of these herds fared in comparison to general marketing conditions in the northeastern milkshed, the following tables are used:

Table 1 shows the variation between blend prices in New Jersey, New York and Philadelphia. Table 2 shows the production of milk as reported by dealers and producer-dealers in New Jersey. Table 3 shows the quantity of milk purchased from North Jersey producers, the percentage of milk in each class, amount paid and the average price paid. Table 4 shows this same information for South Jersey, and Table 5 shows the combined figures for the entire State.

The area referred to as North Jersey in the tables is the area north of Mercer County and north of Ocean County. All territory below this line is referred to as South Jersey.

Table 6 shows the sales of milk and cream in New Jersey in quarts. Table 7 is a report of New Jersey produced milk which was exported, as well as milk imported from other states for use in New Jersey. Cream imported for use in New Jersey is reported separately in Table 8.

TABLE 1

COMPARISON OF ORDER 27 PRICES PAID PRODUCERS AT THE 60-71 MILE ZONE WITH PRICES PAID FOR CLASS I 3.5 PER CENT MILK AT NEW JERSEY PLANTS AND WITH PRICES PAID PRODUCERS UNDER ORDER 61
1956-1957*

	Blend Price Paid Producers			Amount By Which The New Jersey and Order 61 Price Exceeds The Order 27 Price	
	New Jersey	Order 61	Order 27	New Jersey	Order 61
1956					
July	$ 5.15	$ 4.79	$ 4.27	$ .88	$ .52
Aug.	5.29	4.80	4.61	.68	.21
Sept.	5.41	4.67	4.75	.66	.08
Oct.	5.53	5.31	4.90	.63	.41
Nov.	5.66	5.42	5.18	.48	.24
Dec.	5.53	5.33	5.03	.50	.30
1957					
Jan.	5.45	4.97	4.91	.54	.06
Feb.	5.38	4.94	4.83	.55	.11
Mar.	5.26	4.90	4.54	.72	.36
Apr.	5.11	4.50	4.32	.79	.18
May	4.91	4.36	4.02	.89	.34
June	5.03	4.44	4.07	.96	.37
Total	63.71	58.43	55.43	8.28	3.02
Average	5.31	4.87	4.62	.69	.25

* Order 27 refers to the New York Milk Marketing Area.
Order 61 refers to the Philadelphia Milk Marketing Area.

TABLE 2

PRODUCTION OF MILK AS REPORTED BY DEALERS AND PRODUCER-DEALERS IN NEW JERSEY (POUNDS)
1956-1957

	North Jersey	South Jersey	New Jersey Total
1956			
July	64,330,268	22,377,337	86,707,605
Aug.	64,589,497	23,459,902	88,049,399
Sept.	61,880,324	22,292,053	84,172,377
Oct.	63,586,837	22,232,246	85,819,083
Nov.	61,151,518	21,057,830	82,209,348
Dec.	64,401,589	22,342,659	86,744,248
1957			
Jan.	65,922,201	22,797,034	88,719,235
Feb.	56,413,343	21,222,729	77,636,072
Mar.	69,084,371	23,943,047	93,027,418
Apr.	69,742,345	24,081,299	93,823,644
May	80,147,998	26,969,552	107,117,550
June*	70,522,650	23,345,609	93,868,259
Yearly total	791,772,941	276,121,297	1,067,894,238
Monthly average	65,981,078	23,010,108	88,991,187
Total 1955-1956	832,117,449	278,555,935	1,110,673,384
Per cent of decrease 1956-57 from 1955-56	—4.85%	—.87%	—3.85%

*June figures are an estimated average of 5-year period from June 1952 through June 1956.

TABLE 3

MILK PURCHASED FROM NORTH JERSEY PRODUCERS; PERCENTAGE OF MILK IN EACH CLASS; TOTAL QUANTITY OF MILK; AMOUNT PAID, AND AVERAGE PRICE PAID
1956-1957

	No. of Producers	Per Cent Cl. I	Per Cent Cl. II	Per Cent Cl. IIA	Total Quantity Purchased (Pounds)	Total Amount Paid	Average Price Per Cwt.
1956							
July	2,641	66.97	30.37	2.66	60,102,878	$ 3,056,378.46	$ 5.09
Aug.	2,644	74.11	23.43	2.46	60,390,865	3,181,045.94	5.27
Sept.	2,624	76.90	21.14	1.96	57,829,077	3,115,792.89	5.39
Oct.	2,609	79.55	18.55	1.90	59,329,679	3,266,728.60	5.51
Nov.	2,590	84.87	13.53	1.60	56,982,942	3,235,296.35	5.68
Dec.	2,573	79.99	18.09	1.92	60,024,842	3,320,318.54	5.53
1957							
Jan.	2,620	77.32	20.80	1.88	61,521,907	3,340,508.35	5.43
Feb.	2,550	77.18	20.91	1.91	52,249,999	2,824,040.54	5.40
Mar.	2,540	70.17	27.44	2.39	64,506,155	3,359,069.77	5.21
Apr.	2,522	68.57	28.66	2.77	65,117,827	3,301,731.29	5.07
May	2,494	62.16	34.20	3.64	75,517,619	3,680,131.90	4.87
June**	2,457*	69.61	27.51	2.90	64,950,718	3,036,289.44	4.64
Total					738,524,508	38,717,332.07	
Average 1956-57	2,572.0	73.95	23.72	2.33	61,543,709	3,226,444.34	5.26
Average 1955-56	2,712.4	Total 1955-56			778,013,359	38,698,297.55	5.00
Per cent increase or decrease 1956-57 compared with 1955-56	—5.18%				—5.08%	+0.05%	+5.20%

* Actual count.

**June figures are an estimated average of 5-year period from June 1952 through June 1956.

TABLE 4

MILK PURCHASED FROM SOUTH JERSEY PRODUCERS; PERCENTAGE OF MILK IN EACH CLASS; TOTAL QUANTITY OF MILK; AMOUNT PAID, AND AVERAGE PRICE PAID
1956-1957

	No. of Producers	Per Cent Cl. I	Per Cent Cl. II	Per Cent Cl. IIA	Total Quantity Purchased (Pounds)	Total Amount Paid	Average Price Per Cwt.
1956							
July	987	91.68	6.08	2.24	21,405,746	$ 1,250,797.43	$ 5.84
Aug.	980	91.37	6.27	2.36	22,468,872	1,302,184.87	5.80
Sept.	983	91.64	6.19	2.17	21,378,656	1,256,637.97	5.88
Oct.	980	94.23	3.98	1.79	21,319,626	1,288,779.07	6.05
Nov.	974	95.03	3.37	1.60	20,188,126	1,219,500.19	6.04
Dec.	962	92.84	5.31	1.85	21,431,375	1,279,956.64	5.97
1957							
Jan.	950	92.37	6.13	1.50	21,860,875	1,300,481.47	6.02
Feb.	894	92.46	5.93	1.61	20,335,235	1,185,116.76	5.83
Mar.	933	90.74	6.46	2.80	22,972,498	1,346,855.84	5.86
Apr.	925	87.11	8.35	4.54	23,121,499	1,316,592.92	5.69
May	924	86.95	5.84	7.21	25,959,674	1,420,791.28	5.47
June**	904*	90.84	5.60	3.56	22,062,251	1,170,240.80	5.30
Total					264,504,433	15,337,935.24	
Average 1956-57	949.7	91.44	5.79	2.77	22,042,036	1,278,161.27	5.81
Average 1955-56	1027.9	Total 1955-56			264,905,860	14,922,584.14	5.65
Per cent increase or decrease 1956-57 compared with 1955-56	—7.61%				—0.15%	+2.78%	+2.83%

* Actual count.

**June figures are an estimated average of 5-year period from June 1952 through June 1956.

TABLE 5

MILK PURCHASED FROM NEW JERSEY PRODUCERS (NORTH & SOUTH COMBINED); PERCENTAGE OF MILK IN EACH CLASS; TOTAL QUANTITY OF MILK; AMOUNT PAID, AND AVERAGE PRICE PAID
1956-1957

	No. of Producers	Per Cent Cl. I	Per Cent Cl. II	Per Cent Cl. IIA	Total Quantity Purchased (Pounds)	Total Amount Paid	Average Price Per Cwt.
1956							
July	3,628	73.46	23.99	2.55	81,508,624	$ 4,307,175.89	$ 5.28
Aug.	3,624	78.79	18.78	2.43	82,859,737	4,483,230.81	5.41
Sept.	3,607	80.88	17.11	2.01	79,207,733	4,372,430.86	5.52
Oct.	3,589	83.43	14.69	1.88	80,649,305	4,555,507.67	5.65
Nov.	3,564	87.53	10.87	1.60	77,171,068	4,454,796.54	5.77
Dec.	3,535	83.37	14.73	1.90	81,456,217	4,600,275.18	5.65
1957							
Jan.	3,570	81.27	16.95	1.78	83,382,782	4,640,989.82	5.57
Feb.	3,444	81.46	16.71	1.83	72,585,234	4,009,157.30	5.52
Mar.	3,473	75.57	21.93	2.50	87,478,653	4,705,925.61	5.38
Apr.	3,447	73.43	23.33	3.24	88,239,326	4,618,324.21	5.23
May	3,418	68.51	26.94	4.55	101,477,293	5,100,923.18	5.03
June**	3,361*	74.99	21.94	3.07	87,012,968	4,206,530.23	4.84
Total					1,003,028,940	54,055,267.30	
Average 1956-57	3,521.7	78.56	19.00	2.45	83,585,745	4,504,605.61	5.40
Average 1955-56	3,740.3		Total 1955-56		1,042,919,219	53,620,881.69	5.16
Per cent increase or decrease 1956-57 compared with 1955-56	—5.85%				—3.83%	+0.81%	+4.65%

* Actual count.

**June figures are an estimated average of 5-year period from June 1952 through June 1956.

TABLE 6

SALES OF MILK AND CREAM* IN NEW JERSEY (QUARTS)
1956-1957

	Milk			Cream*		
	No. Jersey	So. Jersey	N. J. Total	No. Jersey	So. Jersey	N. J. Total
1956						
July	50,541,189	16,720,714	67,261,903	8,125,949	2,141,774	10,267,723
Aug.	52,345,490	17,593,621	69,939,111	8,473,321	2,180,717	10,654,038
Sept.	50,539,257	15,322,467	65,861,724	6,958,264	1,706,879	8,665,143
Oct.	54,031,302	15,723,266	69,754,568	7,379,179	1,482,020	8,861,199
Nov.	51,449,088	14,972,414	66,421,502	8,194,462	1,411,991	9,606,453
Dec.	52,112,157	14,686,907	66,799,064	9,330,238	1,550,061	10,880,299
1957						
Jan.	53,186,277	14,997,086	68,183,363	7,547,634	1,275,646	8,823,280
Feb.	48,713,177	13,638,347	62,351,524	7,282,209	1,205,508	8,487,717
Mar.	53,265,629	14,997,939	68,263,568	7,870,910	1,506,459	9,377,369
Apr.	52,145,931	14,472,330	66,618,261	9,618,542	1,632,084	11,250,626
May	54,618,655	14,865,826	69,484,481	9,904,665	1,542,676	11,447,341
June**	47,837,234	13,731,179	61,568,413	10,532,554	1,794,668	12,327,222
Total	620,785,386	181,722,096	802,507,482	101,217,927	19,430,483	120,648,410
Average	51,732,116	15,143,508	66,875,624	8,434,827	1,619,207	10,054,034
Totals						
1955-56	610,283,656	177,808,685	788,092,341	110,089,142	20,283,242	130,372,384
Per cent increase or decrease 1956-57 compared with 1955-56	+1.72%	+2.20%	+1.83%	—8.06%	—4.21%	—7.46%

*Cream equals Fluid Milk Equivalent.
**June figures are an estimated average of 5-year period from June 1952 through June 1956.

TABLE 7

SCHEDULE OF NEW JERSEY PRODUCTION EXPORTED AND IMPORTS OF MILK FOR NEW JERSEY USE (POUNDS)

	New Jersey Producers Milk Exported			Milk Imported For Use In New Jersey		
	No. Jersey	So. Jersey	N. J. Total	No. Jersey	So. Jersey	N. J. Total
1956						
July	21,315,870	1,633,436	22,949,306	80,689,345	17,783,257	98,472,602
Aug.	18,853,235	1,715,120	20,568,355	81,947,873	18,892,478	100,840,351
Sept.	17,610,108	1,522,514	19,132,622	80,146,335	12,313,099	92,459,434
Oct.	18,237,958	1,425,274	19,663,232	85,557,485	13,332,801	98,890,286
Nov.	18,884,522	1,362,600	20,247,122	79,084,395	13,062,945	92,147,340
Dec.	16,774,669	1,315,741	18,090,410	82,622,625	10,316,063	92,938,688
1957						
Jan.	22,588,356	1,372,905	23,961,261	81,495,854	10,510,830	92,006,684
Feb.	18,335,772	1,480,243	19,816,015	75,323,564	10,887,776	86,211,340
Mar.	24,465,794	1,737,823	26,203,617	82,222,142	11,270,334	93,492,476
Apr.	27,660,612	1,878,513	29,539,125	78,382,728	11,084,445	89,467,173
May	33,868,605	2,476,432	36,345,037	88,453,961	10,235,069	98,689,030
June*	24,079,435	2,079,203	26,158,638	71,797,541	10,080,568	81,878,109
Total	262,674,936	19,999,804	282,674,740	967,723,848	149,769,665	1,117,493,513
Average	21,889,578	1,666,650	23,556,228	80,643,654	12,480,805	93,124,459
Total						
1955-56	298,945,834	23,266,333	322,212,167	942,390,675	139,295,581	1,081,686,256
Per cent increase or decrease 1956-57 compared with 1955-56	—12.13%	—14.04%	—12.27%	+2.69%	+7.52%	+3.31%

*June figures are an estimated average of 5-year period from June 1952 through June 1956.

TABLE 8

CREAM* IMPORTED FOR USE IN NEW JERSEY

	No. Jersey	So. Jersey	N. J. Total
1956			
July	20,942,346	2,353,154	23,295,500
Aug.	20,253,438	2,712,458	22,965,896
Sept.	16,096,103	1,959,453	18,055,556
Oct.	15,668,408	1,549,684	17,218,092
Nov.	16,764,854	1,265,286	18,030,140
Dec.	22,206,053	1,298,115	23,504,168
1957			
Jan.	17,643,074	1,037,681	18,680,755
Feb.	15,183,828	1,046,254	16,230,082
Mar.	19.253,019	1,368,404	20,621,423
Apr.	20,869,778	1,524,046	22,393,824
May	22,057,775	1,697,780	23,755,555
June**	24,280,663	2,574,286	26,854,949
Total	231,219,339	20,386,601	251,605,940
Average	19,268,278	1,698,883	20,967,162
Total 1955-56	239,202,106	20,885,141	260,087,247
Per cent decrease 1956-57 from 1955-56	—3.34%	—2.39%	—3.26%

*Fluid Milk Equivalent pounds.

**June figures are an estimated average of 5-year period from June 1952 through June 1956.

Bureau of Licensing and Bonding

It is the function of this bureau to discharge the responsibilities of the Department as stated in the Milk Dealers' Licensing and Bonding Act, the Produce Dealers' Licensing and Bonding Act, the Cattle Dealers' Licensing Act, and the Disposal Plant Operators' Licensing Act.

During the year additional responsibilities were assumed in connection with the Poultry Products Promotion Council and Tax Act, passed in 1957.

Milk Dealers' Licensing and Bonding Act

The trend towards fewer and larger milk processing operations continued and resulted in a further decrease in the number of dealers licensed under this act. One-hundred and fifty dealers were licensed to purchase milk from New Jersey producers during the period July 1, 1956 to June 30, 1957. Some adjustments in amounts of bonds filed were made as provided by the act and a total of $4,450,000 in surety bonds and U. S. Government securities was deposited with the Secretary, in support of the 150 licenses issued. In the 1955-56 year, 168 licenses had been issued, supported by $4.384,000 in bonds.

Claims were filed against only one of the 150 licensed dealers this year. The claims totaled $12,288.71. However, the dealer paid the producers subsequent to the filing of the claims and it did not become necessary to use the U. S. Government bonds which had been deposited by the dealer.

Produce Dealers Licensing and Bonding Act

Dealers licensed under this act include those who purchase fruits, vegetables, eggs and live poultry from New Jersey producers. Licenses were issued to 629 such dealers this year. Each dealer is required to provide a Bond in support of his license, the size of the bond depending on the dollar value of commodities purchased and the promptness with which payment is paid. A total of $1,546,000 in bonds was filed in support of the 629 licenses issued.

The number of inquiries, complaints and claims received under this act increased this year. This does not indicate a greater prevalence of unethical practices in the trade, but an increased awareness by producers of the services available through the Department.

Thirty-three complaints were filed against 11 different licensees during the year. Twenty-three claims were filed against five dealers. Two of the five dealers paid the claims privately. In one of the three remaining cases, the surety company paid the one claimant. In the second, involving 14 claims against a $1,000 bond, the surety company has agreed to pay the $1,000 penalty for distribution to the 14 claimants on a prorated basis, since the

total of the claims exceeds the amount of the bond. In the third case the surety company has refused to pay (at the insistence of the licensee) and is being sued by the State.

The bulk of the complaints are based on slowness in payment, checks which did not clear the banks, or unauthorized deductions for cartage and similar small amounts. These are usually settled privately upon receipt of a letter from this office suggesting that this be done to avoid the filing of a claim.

CATTLE DEALERS' LICENSING ACT

During the period July 1, 1956 to June 30, 1957 licenses were issued to 165 cattle dealers, three less than in the previous licensing year. Applicants for such licenses are not required to provide bonds, their practices being regulated by the threat of revocation of license. The only complaints received were against out-of-state dealers who were operating in New Jersey without a license. Licenses were subsequently issued to these dealers.

DISPOSAL PLANT OPERATORS LICENSING ACT

Licenses were issued to 22 operators of disposal plants and dead animal removers during the year.

The act requiring such licenses has not been revised and the limitations enumerated in last year's annual report continue to exist. Several conferences directed toward clarifying the provisions of the law have been held, but the pressure of other work has prevented the general revision of the act which seems to be necessary.

POULTRY PRODUCTS PROMOTION COUNCIL AND TAX ACT

This act, which became a law on May 17, 1957, imposes a tax of one cent per hundred pounds on all poultry feed used in New Jersey, the proceeds to be used for promoting the sale of New Jersey-produced eggs and poultry.

The collection of the tax which becomes effective July 1, 1957, was assigned to this Bureau. A list of dealers who sell poultry feed, farmers who produce and use their own feed, and out-of-state feed suppliers is being compiled since these will be the sources from which the tax will be collected.

Report of New Jersey Crop Reporting Service

GORDON G. BUTLER, *Agricultural Statistician in Charge*

The New Jersey Crop Reporting Service is operated jointly by the New Jersey and United States Department of Agriculture. Cooperative operation of this service promotes economy and efficiency, avoiding duplication of effort. Federal funds provide for a basic program of crop and livestock estimates for the State as a whole, comparable with estimates for other states. State funds make it possible to prepare and publish more detailed data, such as estimates by counties and special reports on commodities of local importance.

CURRENT REPORTS

In the cooperative State-Federal program, the number and contents of current reports have been expanded to meet local needs more fully. During the past fiscal year, 120 mimeographed reports were issued by the New Jersey office. Reports on milk and egg production, chicks hatched, livestock slaughtered, and agricultural prices are issued monthly throughout the year. Through the growing season, monthly crop reports show production forecasts for nine grain and feed crops, five fruit crops, twenty vegetable crops, potatoes and sweet potatoes. Reports scheduled at less frequent intervals cover grain stocks, livestock inventories, pig crops, turkeys and honey. These reports are mailed without charge to anyone who requests them. Mailing lists for various reports range from less than one hundred to several thousand names.

VOLUNTARY REPORTERS

The crop and livestock estimates shown in current reports are based mainly on voluntary mail reports from producers. A total of about 7,500 New Jersey farmers receive one or more of 40 different series of questionnaires. Some report monthly on milk or egg production, others report monthly on specialized crops or, less frequently, on livestock or other types of production. Current prices received by farmers are reported by local buyers and marketing cooperatives. Prices paid by farmers for feed, supplies and equipment are reported by dealers in these commodities. All of these reporters serve voluntarily without pay, as a public service to agriculture. Voluntary reporting by mail makes it possible to issue up-to-date reports at very reasonable prices.

SPECIAL SURVEYS AND REPORTS

Expansion of statistical services for New Jersey agriculture beyond the basic Federal program is a matched fund project. The Agricultural Marketing Act of 1946 provides Federal funds for matching State funds in marketing service work, including collection and publication of additional basic statistics. During the past fiscal year, much of the copy was prepared for printing a revised edition of *New Jersey Agricultural Statistics*. This publication will include annual agricultural statistics for the State for 1945 through 1956 and estimates by counties for 1953 through 1956. Estimates for 1950 through 1955 have been revised, when necessary, based on data from the 1954 Census of Agriculture. A similar publication, issued in 1955, met a strong demand, particularly for the estimates by counties, which are used by handlers of farm products and firms marketing supplies, equipment or services to farmers.

Early in 1957 a summary report was issued on an enumerative survey of all blueberry and cranberry growers in the State. For cranberries, this survey provided the first complete data on bearing acreage and yield per acre since 1945. The survey provided the basis for establishing a series of annual production estimates for blueberries, which are not included in the Federal program. In New Jersey, blueberries rival apples and peaches in value.

An enumerative survey of all apple and peach growers was conducted in early 1957. The principal purpose of this special survey is to determine the number of trees by age and variety. Information was also collected on production by varieties, marketing methods, containers and storage. Data from the survey is being summarized for a report to be issued during next fiscal year.

Weekly publication in season of *New Jersey Truck Crop News* is a cooperative project of the New Jersey Crop Reporting Service, the Division of Markets of the New Jersey Department of Agriculture and the United States Weather Bureau. This report carries up-to-date information on crop prospects and expected harvest dates for vegetable and fruit crops in important production areas of the State. This information is obtained by weekly travel and contacts in the producing areas. The report also summarizes weekly weather data from about 15 stations. New Jersey is the only State for which this type of report is issued weekly.

The New Jersey Junior Breeders' Fund

During the fiscal year 1956-57, a total of 129 loans amounting to $14,885.90 was made by the New Jersey Junior Breeders' Fund. This is an increase from the previous year of $1,122.97, when loans totaled $13,762.93.

Charges against the emergency fund for livestock losses incurred by members totaled $630.00 for the year. These losses included three ewes, three dairy heifers and one Angus cow. Two dairy heifers were non-breeders.

Earnings from interest charged on loans provided all members subscriptions to breed journals and awards at the following events:

Flemington State 4-H Dairy Show	$135
Cumberland County 4-H Dairy Show	45
State FFA Livestock Show	130
Baby Beef Show	145
	$455

The New Jersey Agricultural Society continued its awards to members exhibiting the four best fitted animals at the Flemington State 4-H Dairy Show, Cumberland County 4-H Dairy Show, and to the winners of the 4-H Meritorious Milk Production Records. The Frelinghuysen Memorial Awards recognizing members whose dairy animals made the highest milk production records in the 4-H and vocational agriculture programs were again presented by Joseph S. Frelinghuysen, Jr., at the Annual Dairy Banquet, Farmers Week. William A. Haffert has also continued to provide subscriptions to *New Jersey Farm and Garden* for all members of the fund.

The resources of the New Jersey Junior Breeders' Fund have been available for thirty-six years to the farm youth of this State. During this time more than 4,100 loans in excess of $349,000.00 have been transacted. The original endowment of $30,000.00 is still intact, a tribute to the integrity and industry of the members, their parents and leaders.

TOTAL AMOUNT LOANED BY COUNTIES

	Loaned 1956-57	Total Loans Since 1921
Atlantic	$ 1,066.00	$ 6,197.94
Bergen	.....	1,081.80
Burlington	914.44	20,035.35
Camden	.....	2,264.94
Cape May	.....	3,177.43
Cumberland	680.00	12,024.33
Essex	80.00	885.30
Gloucester	250.00	10,085.86
Hudson	.....	.....
Hunterdon	2,556.40	27,619.61
Mercer	910.00	35,158.35
Middlesex	1,148.83	41,895.63
Monmouth	1,100.00	32,338.11
Morris	200.00	8,109.00
Ocean	206.93	4,762.48
Passaic	.....	716.25
Salem	600.00	33,011.16
Somerset	884.80	20,410.00
Sussex	2,633.50	57,384.07
Union	.....	200.00
Warren	1,655.00	31,817.23
Total	$14,885.90	$349,174.84

Official Proceedings of the Forty-second Annual State Agricultural Convention

The 42nd annual State Agricultural Convention was held in the Assembly Chamber of the State Capitol in Trenton on Tuesday, January 22, 1957. The meeting was called to order at 10:00 A. M. by Charles E. Maier, president of the State Board of Agriculture. The invocation was offered by the Rev. W. Gordon Lowden, Central Methodist Church, Bridgeton.

The roll of delegates was called by Secretary of Agriculture Phillip Alampi as follows:

Delegates of the State Agricultural Convention

From County Boards of Agriculture

Name	Address	Term	County
Joseph Lamonca	Hammonton	2 years	Atlantic
Louis J. Sanguinetti	Minotola	1 year	Atlantic
Everett L. Conklin	Rutherford	2 years	Bergen
John Troast	Westwood	1 year	Bergen
Barclay H. Allen	Mt. Holly	2 years	Burlington
Clement B. Lewis	Riverton	1 year	Burlington
Samuel C. DeCou	Merchantville	2 years	Camden
Peter N. Angel	Berlin	1 year	Camden
Leland Stanford	Green Creek	2 years	Cape May
Vincent DiLuzio	Tuckahoe	1 year	Cape May
Peter G. Manetas	Bridgeton	2 years	Cumberland
Thomas D'Agostino	Bridgeton	1 year	Cumberland
William A. Crane	West Caldwell	2 years	Essex
George F. Meyer	Caldwell	1 year	Essex
Leslie Richards	Sewell	2 years	Gloucester
John Rainey	Woodstown	1 year	Gloucester
Conrad Gregorio, North Bergen, alternate for Albert Schenone	Union City	1 year	Hudson
Henry A. Marselle	Weehawken	2 years	Hudson
Fred H. Totten	Ringoes	2 years	Hunterdon
Harold B. Everitt	Flemington	1 year	Hunterdon
John W. Tindall	Princeton Junction	2 years	Mercer
Herbert Hurley	Princeton	1 year	Mercer
Alex Dembeck, Jr.	New Brunswick	2 years	Middlesex
George R. Parker, Jr.	Plainsboro	1 year	Middlesex
Walter W. Lott	Freehold	2 years	Monmouth
Howard P. Story, Sr.	Freehold	1 year	Monmouth
Lowry T. Mead	Chester	2 years	Morris
Harold O. Farrand	Parsippany	1 year	Morris
Reginald V. Page	Toms River	2 years	Ocean
Fred E. Scammell	South Toms River	1 year	Ocean
Ernest Hausamann	Paterson	2 years	Passaic
Edward Anthony	Clifton	1 year	Passaic
Samuel Crystal	Bridgeton	1 year	Salem

Name	Address	Term	County
Lawrence C. Broomell, Woodstown, alternate for Thomas J. Curley	Salem	1 year	Salem
David W. Amerman	Neshanic	2 years	Somerset
Gilbert I. Runyon	Skillman	1 year	Somerset
Thomas E. Inslee	Newton	2 years	Sussex
Walter W. Yetter	Newton	1 year	Sussex
Wilfred Haines	Union	2 years	Union
William Happel, Scotch Plains, alternate for C. H. Brewer	Rahway	1 year	Union
George W. Cummins	Vienna	2 years	Warren
Fred W. Fuchs, Jr.	Belvidere	1 year	Warren

From Pomona Granges

Name	Address	Term	County
Martin Decker	Hammonton	1 year	Atlantic
John Clauss	Fair Lawn	1 year	Bergen-Passaic
C. Harold Joyce	Medford	1 year	Burlington
Reuben H. Dobbs	Marlton	1 year	Camden
Allan McClain	Green Creek	1 year	Cape May
Robert P. Wheaton	Bridgeton	1 year	Cumberland
Harry E. Lentz	Thorofare	1 year	Gloucester
James L. Ramsey	White House Station	1 year	Hunterdon
Wilbert T. Overhalt	Titusville	1 year	Mercer
J. V. S. Dumont	Somerville	1 year	Middlesex-Somerset
Howard P. Clayton	Freehold	2 years	Monmouth
Frank C. Pettit	Woodstown	1 year	Salem
John P. Cowan	Newton	1 year	Sussex
Alfred F. Baylor	Columbia	1 year	Warren

From Other Organizations

American Cranberry Growers' Association—Edward V. Lipman, New Brunswick, 1 year; Anthony R. DeMarco, Hammonton, 1 year.

Jersey Chick Association—C. K. Darby, Somerville, 1 year; Nello Melini, Vineland, 1 year.

New Jersey Association of Nurserymen—Albert Flemer, Holmdel, 1 year; George F. Runge, Elizabeth, 2 years.

New Jersey State Florists' Association, Inc.—August Bosenberg, New Brunswick, 1 year; George H. Masson, Jr., Yardville, 1 year.

New Jersey State Grange—Clinton H. Cowperthwait, Moorestown, 1 year; Ellsworth Oberly, Stewartsville, 1 year.

New Jersey State Horticultural Society—Clarence H. Steelman, Sr., Princeton, 2 years; Russell M. Marlatt, Port Murray, 1 year—alternate for Lester Collins.

New Jersey State Poultry Association—Eugene Goetz, Lakewood, 1 year; Howard L. Woodward, Englishtown, 1 year.

United Milk Producers of New Jersey—Benjamin Hart, Pennington, 1 year; Thomas L. Lawrence, Hamburg, 1 year.

Blueberry Cooperative Association—W. A. Jarvis, Pemberton, 1 year.

Cooperative Growers' Association, Inc.—J. Cresswell Stuart, Beverly, 1 year.

E. B. Voorhees Agricultural Society—Israel Phillips, Somerville, 1 year.

New Jersey Holstein-Friesian Cooperative Association, Inc.—Charles H. Kirby, Harrisonville, 1 year.

New Jersey Agricultural Experiment Station—Tunis Denise, Freehold, 1 year.

New Jersey Beekeepers Association—Paul L. Holcombe, Lambertville, 1 year.

New Jersey College of Agriculture—Dr. William H. Martin, New Brunswick, 1 year.
New Jersey Field Crop Improvement Cooperative Association, Inc.—Harry Crine, Freehold, 1 year—alternate for Hobart R. Gardner, Vincentown.
New Jersey Guernsey Breeders' Association—Stanford C. Mallory, Mendham, 1 year.
New Jersey State Potato Association—Albert Punk, Imlaystown, 1 year.
The Cooperative Marketing Associations in New Jersey, Inc.—William J. Lauderdale, Lambertville, 1 year.

APPOINTMENT OF COMMITTEES

The following committees were appointed by President Maier:

NOMINATING COMMITTEE FOR MEMBERS OF THE STATE BOARD OF AGRICULTURE

Leslie Richards, Chairman	Gloucester County Board of Agriculture
Leland Stanford	Cape May County Board of Agriculture
William A. Crane	Essex County Board of Agriculture
Fred H. Totten	Hunterdon County Board of Agriculture
Walter W. Lott	Monmouth County Board of Agriculture
Reginald Page	Ocean County Board of Agriculture
Lawrence Broomell	Salem County Board of Agriculture
Conrad Gregorio	Hudson County Board of Agriculture
Ernest Hausamann	Passaic County Board of Agriculture
Thomas E. Inslee	Sussex County Board of Agriculture
Benjamin Hart	United Milk Producers of New Jersey
Albert Punk	New Jersey State Potato Association
Nello Melini	Jersey Chick Association
J. V. S. Dumont	Middlesex-Somerset Pomona Grange
Alfred F. Baylor	Warren Pomona Grange

NOMINATING COMMITTEE FOR MEMBER OF FISH AND GAME COUNCIL

William J. Lauderdale, Chairman	The Cooperative Marketing Associations in New Jersey, Inc.
John W. Tindall	Mercer County Board of Agriculture
Edward V. Lipman	American Cranberry Growers' Association
David W. Amerman	Somerset County Board of Agriculture
Tunis Denise	New Jersey Agricultural Experiment Station
Wilfred Haines	Union County Board of Agriculture
Fred Scammell	Ocean County Board of Agriculture

COMMITTEE ON RESOLUTIONS

Martin Decker, Chairman	Atlantic Pomona Grange
Lowry Mead	Morris County Board of Agriculture
Fred W. Fuchs, Jr.	Warren County Board of Agriculture
George R. Parker, Jr.	Middlesex County Board of Agriculture
Israel Phillips	E. B. Voorhees Agricultural Society
Albert Flemer	New Jersey Association of Nurserymen
Everett Conklin	Bergen County Board of Agriculture
Frank C. Pettit	Salem Pomona Grange

COMMITTEE ON CREDENTIALS

Louis J. Sanguinetti, Chairman	Atlantic County Board of Agriculture
Clarence E. Steelman, Sr.	New Jersey State Horticultural Society
Thomas D'Agostino	Cumberland County Board of Agriculture
Clement B. Lewis	Burlington County Board of Agriculture
Walter W. Yetter	Sussex County Board of Agriculture

COMMITTEE TO WAIT ON THE GOVERNOR

J. Cresswell Stuart, Chairman	Cooperative Growers' Association, Inc.
Dr. William H. Martin	New Jersey College of Agriculture
John Clauss	Bergen-Passaic Pomona Grange
Samuel DeCou	Camden County Board of Agriculture

REPORT OF COMMITTEE ON CREDENTIALS

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

ELECTION OF MEMBERS OF THE STATE BOARD OF AGRICULTURE

The chairman of the nominating committee placed the names of Alfred H. Lowe, Sr., fresh vegetable grower of Cranbury, and Aubrey S. Walton, Jr., of Moorestown, in nomination for membership on the State Board of Agriculture. Upon motion made and duly seconded it was voted that the nominations be closed and Messrs. Lowe and Walton were unanimously selected for recommendations to the Governor for a four-year period beginning July 1, 1957.

ELECTION OF A MEMBER OF THE FISH AND GAME COUNCIL

The chairman of the nominating committee for membership on the Fish and Game Council of the Department of Conservation and Economic Development placed in nomination the name of Charles H. Cane, of Rosemont, for a four-year term. There being no further nominations, the nominations were closed. Mr. Cane was unanimously elected for recommendation to the Governor for the four-year term beginning April 1, 1957.

CITATIONS

Citations for distinguished service to agriculture were awarded to the late Dr. Fred R. Beaudette, of Highland Park (accepted by Dr. William H. Martin to present to Dr. Beaudette's family); Irving T. Gumb, of East Orange; Charles W. M. Hess, of Mountain View; Edward H. Phillips, of Cape May; and Miss Grace M. Ziegler, of Trenton.

The citations, read by Secretary of Agriculture Phillip Alampi, were as follows:

CITATION OF FRED R. BEAUDETTE

New Jersey is proud of you as an adopted son, and grateful that you chose our State in which to pursue your career as a poultry pathologist for more than one-third of a century.

Our older poultrymen well remember how you lifted a great burden from their shoulders in 1933 when you emerged from your laboratory with the first vaccine for the prevention of laryngotracheitis, a great poultry scourge of that day.

Again, in 1944, when a new disease threatened our flocks and heavy economic losses were being sustained, you were the first to identify the causative virus, thereby opening the doors for research leading to vaccines and preventive measures for Newcastle disease.

You have been an effective and sympathetic teacher not only at Rutgers University but as a lecturer throughout the nation and in foreign lands. You have given freely of your time and your great talents to instruct thousands of practical farmers in methods of combatting avian diseases, thus increasing the production efficiency of our flocks and making possible the expansion of the poultry industry. The consuming public as well as agriculture has profited immeasurably.

Uncounted beneficiaries of your outstanding achievements and men of the world of science and education acclaim this award by the State Board of Agriculture of the CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF IRVING T. GUMB

The common interests and high rank of both industry and agriculture in New Jersey are well known. Likewise, the relationship and cooperative spirit that prevail between the two groups are widely recognized.

To you and your colleagues in the New Jersey State Chamber of Commerce must be credited our mutual understanding. Farmers have gained an insight of industry, the basic economy of our State. Likewise, business leaders have enjoyed an intimate acquaintance with farm people and rural affairs.

Under your guidance the annual interchange of visits to industrial plants or in turn, to our farms, has won wide acclaim as a means for stimulating pride and encouraging cooperation within our State.

In recent years the interdependence of business and agriculture has assumed even greater significance in view of the rapid development of our State and the movement of industry to rural areas. Your far-sighted program and your own sincere efforts have paved the way for a bond of concord and good will between us and our new neighbors.

Together we have demonstrated that industry and agriculture are aware of the opportunities and responsibilities concerned with the future of our State. On behalf of our farmers and rural residents we express our sincere gratitude and award to you this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF CHARLES W. M. HESS

We are proud to honor you as one of our outstanding farm leaders. You have dedicated your great store of energy and enthusiasm to the betterment of your own vocation and the welfare of New Jersey agriculture.

You have labored diligently to build well our farm organizations, State agencies and your own nursery associations. Inspired by your example each has attained new goals of service. Each is a monument to your dynamic leadership and masterful guidance.

Beyond our borders you have been honored with important responsibilities in regional and national groups. There, too, you have won wide renown for both your zeal and industry.

Besides answering these many calls on behalf of your fellow nurserymen, you have found time to develop your own eminently successful enterprise and to participate in local civic affairs.

For these and your many other achievements we congratulate you and take special pride because of your term as a member of the State Board of Agriculture, in presenting this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF EDWARD H. PHILLIPS

Fulfilling a tradition of your family, yours has been an outstanding career. As dairyman, vegetable grower, farm and civic leader, you have won the regard and respect of a wide circle of farm people throughout the State as well as in your own community.

Year after year, in addition to conducting with marked success your own extensive farm operations, you always found time to devote to the welfare of your fellow farmers. Countless beginners—many of them clients of State and Federal farm agencies—have benefited through your counsel and guidance.

Seeking constantly to better our agriculture you have been an ardent advocate of research and a loyal supporter of the Extension Service. You have encouraged others to attain a higher degree of efficiency in both production and marketing.

In the field of grower-processor relations you are to be commended for your success in promoting better understanding. You have rounded out your career by filling with honor many offices concerned with civic affairs.

Recalling with pride your terms as a member and president of this Board, we award to you this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

CITATION OF GRACE M. ZIEGLER

Since 1917 when you became affiliated with the Department of Agriculture—then newly reorganized—you have steadfastly devoted your outstanding talents to the advancement of New Jersey agriculture and the welfare of our farmers.

As a highly competent assistant to our first Secretary of Agriculture, Alva Agee, and to each of his successors, you spared no effort to further the program of the Department. To you must be credited much of its high standing as a State agency.

Under your guidance the New Jersey Junior Breeders Fund has rendered valuable aid and contributed a wealth of experience to nearly 3300 farm youth borrowers since the Fund was established in 1921. With its original capital intact, the Fund remains a monument not only to its founders but to you, its able administrator.

Members of the State Board of Agriculture, past and present, are unanimous in acknowledging their indebtedness and in expressing their gratitude for your tireless efforts to aid them in their deliberations. All count you as a sincere and trusted friend.

It is fitting that we pause in these proceedings in which you have participated for so many years, to pay tribute to your example and to award to you this CITATION FOR DISTINGUISHED SERVICE TO NEW JERSEY AGRICULTURE.

REPORT OF THE COMMITTEE ON RESOLUTIONS

The following resolutions, presented by Martin Decker and reported favorably by the committee, were adopted by the State Agricultural convention:

WHEREAS, New Jersey is experiencing an increase in industrial and residential developments, as well as a shift in population from the cities to the suburban and rural areas; and

WHEREAS, many industrial plants are locating on rural sites and their employees are seeking homes in rural communities; and

WHEREAS, the impact of this rather sudden shift has brought about a serious situation, imposed many burdens on local municipalities and counties; and

WHEREAS, there is urgent need to avoid temporary and make-shift adjustments which are costly and unsatisfactory; and

WHEREAS, Governor Robert B. Meyner has recognized the urgency of this situation by the appointment of the Rural Advisory Committee which recently has been assigned to the Department of Agriculture; now therefore, be it

Resolved, That Governor Meyner be commended for his interest in the problem of rural adjustments and that the Department of Agriculture be provided with sufficient funds and personnel to proceed with and complete a thorough study so that definite recommendations can be prepared to aid rural communities confronted with this problem.

WHEREAS, Planning boards are being organized throughout New Jersey at both county and municipal levels; and

WHEREAS, such planning boards are authorized to plan and zone land areas with full jurisdiction in matters concerned with the future use of such areas; and

WHEREAS, much of the land so regulated is devoted to agriculture and related rural enterprises; now therefore, be it

Resolved, That all farmers and farm organizations devote more attention to such planning and zoning activities in their communities, and that they seek representation for agricultural interests on such planning and zoning boards.

WHEREAS, The several phases of livestock and poultry farming now dominate our New Jersey agriculture; and

WHEREAS, the several livestock categories represent a value and investment of several hundred million dollars; and

WHEREAS, the control and eradication of diseases are a first essential to the maintenance and welfare of a sound and prosperous livestock industry; and

WHEREAS, a recent survey and report completed by a special committee of the New Jersey Inter-Breed Cattle Association has recommended that the diagnostic laboratory facilities in the Department of Agriculture at Trenton are inadequate and lack proper personnel; now therefore, be it

Resolved, That the delegates assembled at this Agricultural Convention endorse the request of the Department of Agriculture for additional funds to expand and improve its diagnostic laboratory services at an early date so as to protect the health of the poultry, dairy, swine, horses and other kinds of livestock on New Jersey farms.

WHEREAS, One of our most important needs in agriculture is an improved system of marketing whereby producers of farm products in New Jersey will be recompensed for quality of products offered for sale; and

WHEREAS, improvement in procedures can only be accomplished through research, and study of improved methods developed by individuals within the State and outside of the State; now therefore, be it

Resolved, That the College of Agriculture and the Department of Agriculture be requested to devote the time and effort to this end and that funds be requested of the Legislature to implement such studies and methods.

WHEREAS, God in His infinite wisdom has seen fit to call from our midst Harry Souder, whose services will be greatly missed in agricultural circles; now therefore, be it

Resolved, That we bow in humble submission to God's will, and that even though he will be greatly missed, his deeds will long be remembered; and be it further

Resolved, That a copy of this resolution be sent to his bereaved family.