



Inspection sheds at a large New Jersey cannery where tomatoes were inspected by the Department of Agriculture.



Some of the Japanese beetle traps used by the Department of Agriculture in 1932.

STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE

WILLIAM B. DURYEE, SECRETARY



Eighteenth Annual Report
of the
New Jersey
State Department of Agriculture

July 1, 1932-June 30, 1933

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Trenton, N. J. November, 1933

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STATE OF NEW JERSEY
DEPARTMENT OF AGRICULTURE

WILLIAM B. DURYEE, *Secretary*

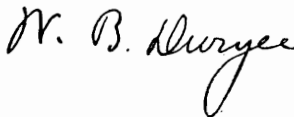
Trenton

November 1, 1933.

*To 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 Eighteenth Annual Report of the New Jersey Department of Agriculture, for the fiscal year ended June 30, 1933.

Respectfully,

A handwritten signature in cursive script, reading "W. B. Duryee". The signature is written in dark ink and is positioned below the typed name "W. B. Duryee".

EIGHTEENTH ANNUAL REPORT OF THE NEW JERSEY STATE DEPARTMENT OF AGRICULTURE

JULY 1, 1932—JUNE 30, 1933

Report of the Secretary of Agriculture

WILLIAM B. DURYEE

The critical economic conditions which have been prevailing in all types of agriculture in New Jersey, as well as in other states, are reflected in the types of service being performed by the Department of Agriculture. It is quite apparent that the services of a department concerned with agriculture and with the general public interest must be adjusted to keep in step with changing conditions and to aid in solving the problems which confront this important industry.

With an annual appropriation for the year ending June 30, 1933, that was nearly 40 per cent less than that of the previous year, the department adjusted its operations so that it could render additional services. A number of lines of work were directed to assist in the economic recovery of food producers. Until such recovery takes place and the relative economic status of agriculture is improved, it is doubtful whether there can be permanent general recovery.

FARM ECONOMICS AND FINANCE

The greatest stress was laid during the year upon a relatively new type of work in the department, which is covered under the general term of farm economics and finance. The burden of taxation on New Jersey farms is excessive and in periods of low net income the farm owner has little to show for his labors after his taxes are paid, if, in truth, he is able to pay them at all. The problem can be attacked in only two ways, namely, through a redistribution of the cost of government to lighten the load placed on real estate or through a reduction in the cost of government operation.

In order to determine to what extent governmental expenditures can be reduced in the rural counties of the state, a committee of leading farmers and economists was organized to study the structure of rural government and to determine whether, through consolidation of governmental units and the elimination of unproductive services, the cost to the taxpayer could be

materially reduced. A great deal of interest was aroused in this project, and, while the group concerned was not in a position to put its ideas into effect, a background of information on the subject was established as a basis for action.

It became evident shortly after the close of the 1932 crop season that there would be a great need for credit if the farmers of New Jersey were to be able to continue their operations for another year. It was likewise evident that local banking institutions, which had previously been carrying the credit load, were for a number of valid reasons unable to continue further financing of farmers in a great many localities. A group of bankers, farmers, and business men dealing with farmers was called in to consider this problem and to devise, if possible, some new source of credit supply. At about that time, the Reconstruction Finance Corporation was considering the establishment of agricultural credit corporations in the various Federal Land Bank districts of the country. This seemed to the group concerned to be the most likely source of assistance, and joining with representatives of other states in this Land Bank district, a great deal of active interest was developed, looking toward the establishment of a regional corporation to serve the needs of New Jersey farmers.

After long delay and many difficulties, the corporation, known as the Regional Agricultural Credit Corporation of Albany, N. Y., was established, and two directors were named by the Reconstruction Finance Corporation from New Jersey, one being Mr. Carl S. Crispin, of Swedesboro, chairman of the agricultural committee of the State Bankers' Association, and the other, the secretary of agriculture. Further difficulties were encountered in the setting up of the corporation and in getting it into action in time to be of assistance for the growing season of 1933. A great deal of time was devoted to this effort and hundreds of farmers brought their credit problems to the Department of Agriculture in the hope of securing some assistance, many of them being the outstandingly successful farmers of the state who need credit annually for their large investment in fertilizers, seeds, equipment and labor.

A group of public-spirited men were enlisted as inspectors for the corporation and conferences of these men were held from time to time in order that the greatest possible service might be rendered to New Jersey's agricultural interests. The State Board of Agriculture, recognizing the need, made it possible for the secretary to serve on the board of directors of the corporation during its formative period.

By the close of the fiscal year, the corporation had loaned to farmers in New Jersey approximately \$756,000, which was the second-largest amount loaned to any state in the Land Bank district. At that time, a large number of applications for loans were still not acted upon. A total of more than \$2,000,000 was requested by nearly 1,000 New Jersey farmers.

An office and stenographic facilities were provided by the department for the supervising inspector appointed by the corporation for the central and northern counties of the state. This was done so that farmers wishing information on the service of the corporation could obtain it direct from the department offices. Headquarters for the corporation's work in the southern counties was maintained in Swedesboro.

While it is doubtful whether federal credit may be considered the best type, because of the more or less impersonal relationship which prevails between borrower and lender, the fact remains that, had this credit source not been available, a great many farms in New Jersey could not have been operated during the 1933 crop year. It appears that this credit service will be available to farmers for at least another season.

As the result of economic stress, many farmers found themselves unable to pay interest on mortgages, or the principal if due, and, as a result, wholesale foreclosures seemed to be inevitable. As a means of meeting this situation, a recommendation was made to Governor Moore that he name an emergency farm mortgage committee, the department agreeing to provide the necessary secretarial assistance and office equipment. An excellent group, comprising five persons, was named to this committee, and, through the endorsement of the Governor, it was able to serve immediately as a clearing house of information and assistance for hard-pressed borrowers. This committee met regularly and gave real assistance to farmers in a great many instances. It held conferences with representatives of the Joint Stock Land Bank and the Federal Land Bank in the district including New Jersey, and secured their cooperation at an early stage in its work.

In addition to these specific services designed to meet an emergency situation, the department furnished, daily, information on agricultural loans of all types, and served as a center of information and assistance along the lines of farm finance.

As a further step in the dissemination of sound economic information, an organization, known as the New Jersey Agricultural Forum, was created for the purpose of discussing matters of economic importance to farmers, rural bankers, business men and all others concerned with the farmer's status in our economic life. Meetings of the forum were held at regular intervals. Experts in various fields volunteered their services and the result was the setting up of a method of obtaining free discussion and distribution of reliable information as a new feature in the agricultural life of New Jersey.

IMPROVING THE DAIRY INDUSTRY

For several years, the department has been taking an active part in the development of a strong dairy industry in New Jersey. Through the creation of the State Dairy Committee, which is thoroughly representative of the milk-producing sections and interests of the state, betterment of the dairy

industry has been evolved which has been of material assistance to producers and consumers. The committee in 1931 sponsored the setting up of two official grades of milk, known as *New Jersey Grade A Raw* and *New Jersey Grade A Pasteurized*, with high standards of production and distribution and surrounded by every known safeguard to public health. The administration of these grades has been successful, and, by the end of the fiscal year, about 14 per cent of all the Grade A milk produced in the state was being sold under the official grade labels.

The eradication of bovine tuberculosis entered a new and, it is hoped, final phase during the year. By June 30, there were 163,692 cattle under state and federal supervision in New Jersey for the eradication of this disease. Since the initiation of the eradication program in 1917, the State of New Jersey has paid \$2,734,392.07 in indemnities to owners of reactors and the Federal Government, \$1,601,317.53. The salvage which the owners have received from slaughtered cattle brings the total to nearly \$6,000,000. Owners of reacting cattle have not been paid in full for the animals, however, and thus they, the Federal Government and the state have all contributed toward the elimination of this disease. In view of the large investment already made in combating the disease, it is essential that the supervision of herds be continued and that regular tests be performed in order to conserve the investment and preclude the possibility of any return of the disease.

In order that the work might proceed effectively and economically, the area plan of testing was put into effect throughout the state, and entire counties are rapidly being brought under the accreditation plan. When those counties become "modified accredited" areas, to all intents and purposes the disease is non-existent there. Because of the high percentage of infection, New Jersey had a particularly difficult problem to undertake in the eradication of tuberculosis, but it now appears that the final stage in the eradication program is at hand, and the problem will change from one of eliminating the disease through the slaughter of reactors to one of maintaining the ground already gained.

The most important step in the interests of the dairy industry ever undertaken was the creation of the State Milk Control Board in May by an act of the Legislature. This was the result of study of means of preventing the complete disaster which confronted the dairy industry as the result of price-cutting, overproduction, the low purchasing power of the consumer and generally demoralized conditions. The act, Chapter 169 of the Laws of 1933, provided for the creation of a board of three men to serve without compensation. One of the members was designated as the secretary of the State Board of Agriculture, another as a representative of the State Board of Health and the third, as an appointee of the Governor. When the board was organized, the secretary of agriculture was elected chairman.

While the Milk Control Board was set up as an independent state agency, the funds allotted to it were inadequate and it was necessary for the Depart-

ment of Agriculture to give it every possible assistance in order that it might be able to function at all. Furthermore, the act creating the board stated that "Technical and other services for such milk control board shall be performed, so far as practicable, by forces or officers in the Department of Agriculture. . . ." Under these conditions it was necessary for the secretary and the department as a whole to give a great deal of time and effort to the problems that the board was directed to attack. With limited funds and a necessarily small operating staff, the Milk Control Board itself was compelled to give a tremendous amount of time, energy and thought to its work.

The seriousness of the problem confronting the board in its direction of the milk industry is indicated to some degree by the fact that \$75,000,000 is invested in the production of milk in the state, by the fact that the output of the industry is worth, in normal times, more than \$22,000,000 annually, and also by the fact that more than 4,000,000 consumers were affected by the board's actions in designating minimum prices. Furthermore, the large and complex distributing organizations in the state were vitally concerned. All of these elements converged upon the board at the outset and the whole problem presented difficulties and responsibilities as great as any that have been placed upon any board in recent years. A report of the board's activities for the first three months of its operation has been made to the Governor and to the Legislature, and copies are available for those interested in receiving them.

While, as has been stated, the Milk Control Board is an independent state agency, the assistance of the Department of Agriculture has been recognized as essential to whatever progress it may have been able to make. Naturally, a considerable portion of the time that has been previously devoted by the secretary of agriculture to administrative functions within the department must now be given to the Milk Control Board. These services have been freely given, but is doubtful whether it is to the best interests of the Department of Agriculture that the secretary be expected to devote to this agency time already occupied, and attention should be given to a type of set-up which would place milk control on a more independent and self-supporting basis than has been possible to date. While the work of the Milk Control Board is considered to be of a somewhat temporary nature and the act terminates its functions in 1935, there is considerable doubt whether the state, having taken action in this field, will ever withdraw completely from it. The present would seem to be an appropriate time, therefore, to give consideration to the further policy of the state in this respect.

Milk is one of the basic agricultural commodities coming under the jurisdiction of the United States secretary of agriculture according to the provisions of the Federal Agricultural Adjustment Act. So far, the principal federal effort in milk control has been along the line of establishing trade agreements for specific milk sheds. The parties to these agreements are the distributors, producers, cooperative associations of producers, and the milk

control board of the state or states concerned. These agreements are drawn on the basis of milk sheds and do not take cognizance of state lines, except that dependence for enforcement of the code in a state having a milk control board is apparently being placed upon that board. New Jersey producers and consumers are vitally concerned with the trade agreements drawn for Philadelphia and New York, and it has been necessary for representatives of the Milk Control Board and the Department of Agriculture to attend a number of hearings and conferences in which the interests of the people of New Jersey are involved.

IMPROVING THE POULTRY INDUSTRY

The State of New Jersey is particularly adapted to the poultry industry. The gains which have been made in poultry husbandry in recent years constitute a clear indication of the possibilities for its further development. However, growth and intensive methods of production bring problems in their train which must be anticipated and solved, if the industry is to remain on a sound economic basis.

During the past year the State Poultry Association gave especial attention to a program prepared by the Department of Agriculture, and is beginning to attack, from the industry's standpoint, the problems which are generally recognized as being of paramount importance. The poultry industry of the state has an annual output of \$22,000,000 under normal conditions, and there seems to be nothing to stop the further development of this industry if intelligent attention is given and effective action is taken in meeting such problems as disease control, breeding, legislation, management and marketing. A program looking to the meeting of these needs has been adopted by the leaders in the poultry industry in the state and, barring unforeseen difficulties in the industry, a basis is now being laid for an intelligent and extensive development of the poultry industry which should make it surpass any ideas previously held of its possibilities.

CONSUMER INFORMATION

A new line of work undertaken by the department during the year is known as the Consumer Information Service. Based upon the thesis that consumers are very much in the majority in New Jersey and that the interests of producers are affected by the consuming habits of the people of the state, it was felt that a definite method of supplying consumers with food information would be desirable. Especial attention has been given to the dissemination of information on New Jersey farm products and the attention of consumers has been directed to the purchase of these products when they are at their best on the market. This service does not compete with, or conflict with, any other activity along food consumption lines, but rather supplements other efforts, and is directed mainly toward acquainting consumers with the value of fresh New Jersey products.

The information which is assembled regarding New Jersey products is distributed by means of leaflets, booklets, radio talks and newspaper releases and through meetings and exhibits. Two hundred and twenty newspapers, or more than half of all of the papers published in the state, are using the material which is prepared on food products.

Twenty-one radio talks were given through the facilities of Station WOR, Newark, on seasonable topics. Most of these talks were given by the secretary. More than a half million copies of leaflets dealing with such New Jersey products as eggs, milk, sweet potatoes and tomato juice were prepared and, in addition, 30,000 booklets were issued on the subject, "Healthful Foods, How to Buy Them." More than 1,000 inquiries were received during the year from consumers for further information regarding the subjects mentioned in these statements on foods. The Consumer Information Service is conducted in cooperation with the Milk Research Council of New York City. The expense of printing and the preparation of mats for newspaper release work constitute a very small obligation upon the state.

Although the Consumer Information Service is new, it has attracted wide attention and many of the articles prepared are published in newspapers in distant states. From the testimony that has been received by the department, it is apparent that the service is appreciated, both by consumers and producers, and that it has met a long-felt want in serving the common interest of both groups.

COORDINATING AGRICULTURAL ACTIVITIES

In an effort to bring about a coordinated attack upon agricultural problems in the state, the department sponsored a series of conferences on the aid that is being given New Jersey farmers in the production and marketing of specific commodities, including milk, poultry, vegetables and fruits. The College of Agriculture, the State Experiment Station, the State Grange and the State Federation of County Boards of Agriculture joined with the department in a study of the work now being done in meeting the problems of producers engaged in the production of these several commodities, and a joint program was drawn up, showing the work under way.

This program was submitted to representative producers and their criticism of it invited. This procedure resulted in better knowledge being gained on the part of each agency as to the work being done in each field, it secured better cooperation among those interested in solving the problems, and it brought to bear in a direct manner the practical experience of producers upon the projects under way. The whole-hearted spirit of interest and cooperation which prevailed at the meetings could not help but result in the advancement of the general agricultural work of the state and in a practical approach to each phase of the problems involved in the production and marketing of each commodity.

WHITE POTATO MARKETING

With the approach of the marketing season for potatoes in the summer of 1932, it became apparent that disaster was likely to occur as the result of low prices for white potatoes. In order that the problem might be attacked by those most familiar with its various angles, the secretary of agriculture invited representative growers and dealers to a conference with representatives of the State Agricultural College and Experiment Station to determine what could be done to meet the emergency. In normal times, the white potato crop of New Jersey brings a return of \$7,875,000 to the producers. The crop requires a large investment in seed, fertilizer and labor, and with prices for the crop falling below the cost of production, a serious economic crisis was at hand. An analysis of the situation by those attending the conference showed the condition to be worse than had been anticipated.

Immediate steps were taken to prevent price cutting by dealers, to place a high quality pack on the market and to publicize the food value of potatoes. The aid of Governor Moore was requested and he presided at a conference of large food-distributing companies whose representatives promised cooperation in stabilizing prices and in encouraging the use of potatoes for food. While the department continued to give assistance in the general problems confronting the industry, the leadership in bringing about some orderly system of marketing was undertaken by Dr. William H. Martin, of the State Agricultural Experiment Station.

The crisis that confronted the potato industry in the crop season of 1932 aroused producers and dealers to the need for some definite method of eliminating the long-continued abuses in potato marketing in New Jersey. Accordingly, a plan for marketing the crop in an orderly manner was drawn up, discussed over a period of several months and put into operation with prospects of success for the 1933 crop.

INSECT PEST CONTROL

During the year, the department continued its efforts to control the gipsy moth and the Japanese beetle. Attention is called to the report of the Bureau of Plant Industry, which outlines the procedure that was followed in the attack upon both of these insect infestations. The progress that has been made in controlling the gipsy moth has enabled the annual state appropriation for this work to be reduced from \$125,000 in the early 1920's to \$10,800.

The Japanese beetle constitutes a more difficult problem because of its extraordinarily rapid rate of reproduction and the very large number of food plants which serve to supply the beetle with feeding grounds and enable it to become disseminated over wider and wider areas. The problem of dealing with the Japanese beetle is being attacked along two general lines: first, by the certification of products to be shipped to areas outside the quarantined zone as is required by the Federal Japanese beetle quarantine, and second,

by putting into effect measures of suppression. The suppressive measures include the trapping of the beetle on a huge scale, the dissemination of information on methods of using protective poison sprays, and the development of a nematode parasite, which has been found to be particularly destructive to the beetle grubs. The results achieved in all of these fields are being carefully checked to determine their effectiveness and the worth-whileness of the money spent in suppression.

In some areas in the southern part of New Jersey, myriads of beetles have appeared to the consternation of the inhabitants and have damaged crops on a large scale. While it is recognized that the beetle is likely to be a permanent inhabitant of New Jersey, the methods of controlling it are becoming better understood, and except in the new areas of heavy infestation, the beetle is not giving great concern. It is apparent that the infestations mount annually in a given locality until a peak is reached, after which there is a rapid decline in beetle population. It would seem that the funds now being spent on the Japanese beetle are necessary, in view of the magnitude of the infestation and the necessity for devising measures to cope with it.

MARKETING

The marketing work of the department showed great progress during the year. The principal services of the Bureau of Markets are the crops and markets information service, dairy products marketing, fruit and vegetable marketing and poultry products marketing. That the marketing phases of the department's work cover an important field is shown by the fact that the fruit and vegetable auction markets with which the department cooperates sold nearly \$1,000,000 worth of products during the year, while the poultry and egg auction markets, which also operate with the department's aid, also distributed more than \$1,000,000 worth of products during the period. In addition, the department cooperated with and gave assistance to various city markets in the state, the gross sales of which totaled several million dollars in value. The service of inspecting tomatoes for canneries resulted in the inspection of more than 150,000 tons of tomatoes, comprising about 75 per cent of all the canhouse tomatoes marketed by New Jersey farmers. About 450 tons of asparagus also were inspected for canning purposes. New Jersey ranks second among all the states in the production of canhouse tomatoes and second also in the production of asparagus.

The marketing services of the department reach into many fields besides those mentioned, giving assistance not only to entire industries, but to thousands of individuals as well.

AGRICULTURAL WEEK

Agricultural Week was held during the fourth week in January with the largest attendance in its history. The total attendance at the New Jersey

Farm Show in the Trenton Armory for the week was more than 15,000. In addition, meetings of various agricultural organizations were held in public rooms in Trenton during the week and were marked by large attendances. The State Agricultural Convention, which is provided for by law, was held at the State House for the election of two members of the State Board of Agriculture and for the transacting of other business involved in this annual affair. High lights of the convention were addresses by Hon. W. Warren Barbour, United States Senator from New Jersey, and by Governor A. Harry Moore.

Both the agricultural convention and the various sessions of Agricultural Week are under the direction of the farmers of the state, there being a committee concerned with the operation of each. Therefore, while these events are held under the sponsorship of the department, the programs and the general conduct of the meetings are in the hands of representative producers who have given freely of their time to make the events useful and successful.

LICENSING AND BONDING

The enforcement of state laws requiring the licensing and bonding of milk and produce dealers and the licensing of cattle dealers constituted one of the important projects of the Department of Agriculture during the fiscal year.

PRODUCE DEALERS

Since the enactment of Chapter 93, Laws of 1930, which requires that dealers, commission merchants and brokers who buy produce from farmers on credit must be licensed and bonded, economic conditions have been in a turmoil and farmers throughout the United States have been in financial distress. During the 1933 fiscal year, prices for New Jersey farm produce were considerably below the 1910-1914 level and in many instances were below the cost of production.

The cities have likewise felt this economic upheaval, which is now in its fourth consecutive year. Many of the unemployed in cities who are able to obtain trucks travel through farming areas purchasing produce on credit from anyone who will risk selling to them. As a result, there is an increased number of irresponsible dealers, and an increasing number of producers are not only losing their produce, but are left with little or no hope of recovering any of the losses incurred in transactions with such dealers. These dealers are an increased burden to farmers and a menace to the produce industry, for they have an unfair advantage over the responsible dealers who produce bonds each year for the protection of the farmers with whom they do business. The Department of Agriculture makes every attempt to curb the activities of these irresponsible dealers and appreciates the cooperation of farmers in helping to reduce their numbers.

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Whenever the department receives complaints that its licensees have failed to pay for produce bought on credit, the offending parties are immediately notified and adjustments are made, if at all possible. As a result, it is comparatively seldom that farmers dealing with licensed houses sustain any loss.

During the past fiscal year, claims collected for the farmers of the state through the department's efforts amounted to \$13,454.18. During the same period 14 unlicensed dealers were sued for violation of the law, and they were assessed penalties totaling \$1,275. Licenses were issued to 306 dealers, who filed bonds for \$914,000 with the department.

NUMBER OF LICENSEES UNDER CHAPTER 93, LAWS OF 1930

County	Licenses Issued	Bonds Filed	Amount of Bonds
Atlantic	20	20	\$60,000
Burlington	6	6	18,000
Camden	1	1	3,000
Cape May	1	1	3,000
Cumberland	46	46	140,000
Essex	37	37	111,000
Gloucester	31	31	93,000
Hudson	3	3	9,000
Mercer	12	12	36,000
Middlesex	4	4	12,000
Monmouth	13	13	39,000
Ocean	1	1	3,000
Passaic	12	12	36,000
Salem	18	16	48,000
Somerset	1	1	3,000
Union	2	2	6,000
Warren	1	1	3,000
Outside of New Jersey.....	97	97	291,000
Total	306	304	\$914,000

MILK DEALERS

During the fiscal year, dairy farmers, in particular, experienced the ill-effects of the depression. Prices for milk continued to drop until dairymen were operating at a considerable loss and, unless the situation improved, could not have continued in business much longer. Added to the effects of the depression was the keen competition among the dealers of the state for markets. Losses due to price-cutting by the dealers were felt by the dairymen, for it was they who actually took the loss in that they received less and less for their milk.

Toward the end of the fiscal year, the Legislature created the State Milk Control Board for the purpose of stabilizing the dairy industry. Although this body was in operation only a short time before the close of the year, numerous improvements were brought about as a result of its efforts.

Because of the failure of numerous banks and the difficulty experienced by dealers in making collections from their customers, many of those dealers who in previous years were able to obtain the necessary bonds in order to be licensed by the department were not able to do so in the past year, since surety companies were unwilling to accept this type of risk without full collateral to cover the amount of the bonds. Numerous dealers reported to the department that they were informed that the collateral they must deposit in order to secure a bond would have to be in the form of high grade securities which would be easily negotiable. This worked a great hardship on the dealers, for in many cases their money was invested in real estate or equipment which in normal times would have been acceptable to bonding companies.

It was necessary during the year to penalize 21 dealers who failed to file bonds with the department and continued in business in violation of Chapter 74, Laws of 1917. Penalties collected under this law amounted to \$575. Licenses were issued to 204 dealers who filed bonds totaling \$513,575 with the department.

NUMBER OF LICENSEES UNDER CHAPTER 74, LAWS OF 1917

County	Licenses Issued	Bonds Filed	Amount of Bonds	Exemptions
Atlantic	2	1	\$10,000	..
Bergen	3	2	10,600	1
Burlington	15	14	31,750	2
Camden	5	4	14,000	..
Cape May	3	1	700	2
Cumberland	16	11	8,625	2
Essex	8	7	39,000	1
Gloucester	8	5	4,500	5
Hudson	1	1	5,000	..
Hunterdon	14	12	57,500	3
Mercer	19	15	28,800	2
Middlesex	9	8	10,000	..
Monmouth	24	22	52,600	4
Morris	23	17	42,550	..
Ocean	2	2	4,600	..
Passaic	9	7	10,600	1
Salem	6	5	12,000	4
Somerset	12	9	11,500	1
Sussex	7	5	112,800	..
Union	4	3	9,000	..
Warren	12	10	26,450	2
Outside New Jersey	2	2	11,000	..
Total	204	163	\$513,575	30

CATTLE DEALERS

Chapter 28, Laws of 1931, requires that cattle dealers be licensed by the department. It gives the department considerable jurisdiction over inter-state and intra-state movement of cattle.

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It was necessary for the department to hold several hearings during the fiscal year as a result of various cattle sales of a questionable nature. Three licenses were revoked because of the failure of dealers to operate according to the provisions of the law. One license was revoked because the licensee was not able to clear himself of being involved in several shady cattle transactions.

Failure to keep premises in a sanitary condition was the cause of revoking a license of one dealer. Usually the dealers do as instructed by the department to keep their premises in a sanitary condition, since they have no desire to have their licenses revoked. The penalty for operating without a license is \$200 for the first offense, and they do not wish to incur this fine. Although no penalties were imposed during the year, unless several dealers against whom the department has evidence comply with the provisions of this law, they will be penalized during the 1934 fiscal year.

A total of 187 licenses were granted to cattle dealers during the year, as compared to 213, granted during the 1932 fiscal year. Because of the depression and a lack of working capital, some former dealers did not continue in business.

NUMBER OF LICENSEES UNDER CHAPTER 28, LAWS OF 1931

County	Licenses Issued
Bergen	6
Burlington	10
Camden	3
Cape May	3
Cumberland	13
Essex	12
Gloucester	4
Hudson	5
Hunterdon	16
Mercer	5
Middlesex	4
Monmouth	6
Morris	16
Ocean	2
Passaic	12
Salem	14
Somerset	8
Sussex	19
Union	9
Warren	11
Outside New Jersey	9
Total	187

THE NEW JERSEY JUNIOR BREEDERS' FUND, INC.

Since the New Jersey Junior Breeders' Fund was established in 1921, nearly three times the amount of the original contribution has been loaned to boys and girls for the purchase of purebred livestock. More than one thousand New Jersey boys and girls have thus benefited through the generosity of former United States Senator Joseph S. Frelinghuysen and Mr. Julius Forstmann, of Passaic, who contributed \$30,000 to establish the fund. The fund is administered by a board of trustees consisting of the secretary of agriculture, who is secretary-treasurer, and four members of the State Board of Agriculture. During the past year the four members serving in this capacity were Andrew R. Scully, of Neshanic Station; H. Norman Fogg, of Hancock's Bridge; William H. Clark, of Hainesville; and Elmer H. Wene, of Vineland.

During the year, there was a noticeable decline in the number of requests for loans, due without doubt to the poor returns that have been received from livestock in the last few years. Only 42 loans were made during the entire year, this number being about one-third of the number made during the more prosperous years of the fund's existence. At the close of the fiscal year, the amount of loans outstanding was only \$7,455.14, or less than one-fourth of the amount of money available.

Recognizing existing conditions, the trustees of the fund made effective on March 1 a decrease in the interest rate payable by the borrowers, from 6 per cent to 4 per cent, for a period of one year.

Another step which will aid the junior breeders was taken by representatives of the various New Jersey livestock associations at a meeting with the board of trustees of the fund and representatives of the Extension Service of the New Jersey College of Agriculture, held on March 21, 1933. At this time, assurances were given that any dairy animal purchased through the fund which proved to be a non-breeder would be replaced by a satisfactory purebred animal. Following this meeting, the board of trustees of the fund voted that the bill of sale forms for calves should be amended to include an agreement by the seller to replace the animal sold if it proved to be a non-breeder.

Copies of the revised regulations of the fund were distributed in May to prominent breeders of livestock in the state, to executive committees of county boards of agriculture, to county club agents and county agricultural agents, and to vocational agricultural teachers, with the request that renewed interest be taken in the promotion of the interest of farm boys and girls, who might wish to take advantage of the fund. Throughout the past year, as in previous years, the hearty cooperation of these groups was of vital importance in the administration of the fund.

There was much interest in the junior livestock exhibits at the Trenton Inter-State Fair in September, 1932, when \$460 was distributed as prizes for the best entries in the calf, swine and poultry classes of the fund. The splendid showing made by these entries, not only in the 4-H Club classes but

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in the open classes as well, was a tribute to the skill of their young owners. For the first time, sweepstakes prizes were not offered, the \$460 representing awards in the regular classes of the fund.

The following tables analyze the loans made since the fund was established:

SUMMARY OF LOANS BY COUNTIES

County	Calf Loans		Pig Loans		Poultry Loans		Total
	Previous	1932-33	Previous	1932-33	Previous	1932-33	
Atlantic	..	..	..	..	..	..	..
Bergen	..	..	1	..	..	..	1
Burlington	36	..	16	..	2	..	54
Camden	..	..	..	..	..	..	..
Cape May	7	..	..	..	1	1	9
Cumberland	56	..	7	1	23	1	88
Essex	..	..	..	..	19	..	19
Gloucester	21	1	..	1	3	1	27
Hudson	..	..	..	..	..	..	..
Hunterdon	62	4	3	..	..	..	69
Mercer	131	3	62	3	12	4	215
Middlesex	103	..	1	..	31	..	135
Monmouth	58	2	12	..	77	..	149
Morris	46	1	1	..	4	..	52
Ocean	17	..	..	..	9	..	26
Passaic	..	..	..	..	..	..	..
Salem	60	7	67	5	7	1	147
Somerset	29	..	1	..	..	..	30
Sussex	55	2	1	..	10	..	63
Union	..	..	..	..	..	..	..
Warren	75	4	3	..	1	..	83
Totals	756	24	175	10	199	8	1,172

SUMMARY OF LOANS BY YEARS

Fiscal Year	Calf Loans		Pig Loans		Poultry Loans		Total Loans	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
1921	30	\$2,815.00	..	\$.....	..	\$.....	30	\$2,815.00
1922	92	7,985.00	16	1,074.98	16	824.25	124	9,884.23
1923	81	6,365.00	21	1,267.25	13	636.25	115	8,268.50
1924	96	8,670.00	10	409.50	14	932.00	120	10,011.50
1925	81	7,065.00	26	1,320.00	17	1,183.50	124	9,568.50
1926	71	6,639.50	25	1,684.30	32	1,563.10	128	9,886.90
1927	83	7,444.00	19	1,240.00	28	1,112.50	130	9,796.50
1928	54	4,644.00	10	620.00	31	890.70	95	6,154.70
1929	55	4,960.00	13	805.00	15	680.65	83	6,445.65
1930	37	3,317.50	15	876.00	17	692.20	69	4,885.70
1931	38	3,467.50	12	769.00	7	308.00	57	4,544.50
1932	38	2,875.00	8	415.00	9	394.00	55	3,684.00
1933	24	1,820.00	10	426.75	8	323.00	42	2,569.75
Totals...	780	\$68,067.50	185	\$10,907.78	207	\$9,540.15	1,172	\$88,515.43

PUBLICITY AND PUBLICATIONS

As a means of disseminating useful agricultural information and letting farmers and other interested persons know of the progress being made along agricultural lines, news articles were regularly furnished to the press of the state. Through the cooperation of newspapers, the department was thus able to call to the attention of farmers and others the services and facilities that were available for their assistance. This cooperation proved particularly valuable during the year in letting farmers know of important new agricultural credit and mortgage relief facilities.

The department cooperated with the State Dairy Committee in preparing and issuing a small mimeographed publication, the *New Jersey Dairy Bulletin*, which was sent to dairymen throughout the state. This bulletin, issued at irregular intervals, served to inform them of matters of timely interest in the New Jersey dairy field and of steps that were being taken to improve the dairy industry.

In the interest of economy, the *State Department Service*, formerly a monthly publication, was placed on a bimonthly basis. This publication, one page in size, presents accounts of interesting developments affecting agriculture in the state and informs farmers of the activities of and services offered by the Department of Agriculture.

Economy was the watchword of the department in the publication of circulars during the year. As a means of saving money, only six circulars were issued. A perusal of their titles will indicate the nature of their subject matter and their usefulness to the farmers and agricultural industry of the state. The circulars and other publications issued by the department were as follows:

Circular No. 230—The New Jersey Plan of Poultry Standardization and Accreditation and List of Breeding Flocks and Hatcheries Under Official Supervision, 1932-1933.

Circular No. 231—Marketing Cannery Tomatoes on Grade in New Jersey.

Circular No. 232—A Survey of the Cranberry and Blueberry Industry in New Jersey.

Circular No. 233—Roster of County Boards of Agriculture and State Agricultural Organizations for 1933.

Circular No. 234—Japanese Beetle Spraying Recommendations for the Protection of Ornamental Trees and Shrubs and Non-Commercial Fruit Holdings.

Circular No. 235—Instructions for Maintaining Japanese Beetle Traps.

Seventeenth Annual Report of the New Jersey Department of Agriculture, 1931-1932.

Booklet—New Jersey Wholesale and Retail Grades and Standards for eggs.

Booklet—Regulations for "New Jersey Certified Honey".

Six issues of bimonthly publication, "State Department Service".

COOPERATION

The opportunity is taken to express appreciation for the efforts that have been made by all members of the department staff in the work of the year.

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The serious economic plight of farmers was reflected in redoubled efforts on the part of the staff to be of practical assistance and to adapt themselves to the need of the times. Economy was the watchword throughout the year, and material savings were made in expenditures and in personnel. Withal, this report is submitted in the belief that it constitutes a higher standard of service than that of any previous year. The secretary believes that the standing of the department has risen in public estimation as the result of the whole-hearted and unselfish efforts of each member of the staff, regardless of the field of work or type of responsibility involved.

The work of the department was further aided by the cooperation of other agricultural agencies, including the State Agricultural College and Experiment Station, by the county agricultural agents, the State Grange, and the State Federation of County Boards of Agriculture. Respectful acknowledgement is also made of the cooperation of the Governor and the Legislature, whose interest and financial support made possible the contribution that the department was able to make to agriculture.

NEW JERSEY STATE LIBRARY

Report of the Bureau of Animal Industry

J. H. McNEIL, *Chief*

TUBERCULOSIS ERADICATION

The program for the control and eradication of bovine tuberculosis which is carried on cooperatively by the State Department of Agriculture and the United States Department of Agriculture was inaugurated in New Jersey in 1917. This program is carried on under the "Accredited Herd Plan," which is characterized by the cooperation of the federal and state departments and their joint reimbursement of farmers for cattle found infected with the disease and condemned to be slaughtered.

On June 30, 1933, there were under supervision in New Jersey 15,880 herds comprising 163,692 cattle. From the start of the work in 1917 until this date, the State of New Jersey paid \$2,734,392.07 in indemnities to farmers whose cattle were slaughtered as tuberculous, and the United States Government, \$1,601,317.53. In addition, owners of the slaughtered cattle received \$1,546,845.62 in salvage, making a total of \$5,882,555.22.

The total indemnity payments represent a large investment for both the state and federal governments. Therefore, it is especially desirable that liberal appropriations be continued to enable the testing of cattle which have not been placed under supervision to be completed, and to make possible the retesting of herds already under supervision and of herd additions, at regular periods. If this is not done, it will not be possible to keep herds free from tuberculosis or to insure against additional losses on future tests.

The dairymen of New Jersey purchase practically all of their herd additions and replacements. Therefore it is especially desirable that the regulations permitting the movement of only qualified healthy cattle into the state should be strictly enforced.

A distinct forward step in the eradication of bovine tuberculosis was taken by the Department of Agriculture during the year, when it inaugurated the area system of eradication throughout the state. This system, which is authorized in Chapter 91, of the Laws of 1927, and its amendments, provides that when 75 per cent of the cattle in a township, county or other designated area have been placed under the supervision of the department for the eradication of tuberculosis, the department may proceed to eradicate the disease in the area completely by testing and by preventing the movement of untested cattle from place to place in the area. It also provides that when 90 per cent of the cattle in the area have been placed under supervision, the department may enter premises and test cattle without the consent

of the owners. The law provides that indemnities be paid for condemned cattle provided the rules governing the eradication work are complied with by the owners.

Following is a brief summary of the work accomplished in tuberculosis eradication during the 1933 fiscal year:

At the close of the fiscal year ending June 30, 1932, there were under state and federal cooperative supervision in New Jersey 12,218 herds comprising 136,020 cattle. At the close of the fiscal year ending June 30, 1933, there were under supervision 15,880 herds comprising 163,692 animals, an increase of 29.97 per cent in the number of herds and 20.34 per cent in the number of animals.

During the past twelve-month period, 197,539 tuberculin tests were made of cattle under supervision. Reactions were found in 12,564 tests, or 6.36 per cent of those made.

During the year 1931-1932, the percentage of reactors on initial tests was 42.27, 34,059 animals having been tested and 14,395 having reacted. During the year 1932-1933, the percentage of reactors on initial tests was 29.87, 4,268 herds of 30,431 animals having been tested and 9,089 animals having reacted.

The percentage of reactors among out-of-state cattle added to herds under supervision during the fiscal year 1931-1932 was 2.09. Of 20,253 cattle tested, 424 reacted. In the year 1932-1933, 16,035 cattle were tested and 385, or 2.4 per cent reacted.

Second and third retests are made of herds already under supervision. During the fiscal year 1931-1932, 136,021 animals were tested on retest and 2,259, or 1.66 per cent, reacted. During the fiscal year 1932-1933, 151,073 animals were tested on retest and 3,090, or 2.04 per cent, reacted.

During the year 1931-1932, indemnity was paid for 17,974 reactors, 704 of which were registered animals and 17,270, grade animals. During the year 1932-1933, indemnity was paid for 10,132 reactors, of which 302 were registered animals and 9,830, grade animals.

Following is the total amount received by dairymen and breeders for 10,132 reactors condemned to be slaughtered as a result of tuberculin testing during the fiscal year 1932-1933:

Amount Received from Salvage of Reactors.....	\$137,114.65
Amount Paid by State of New Jersey in Indemnities.....	\$346,060.08
Amount Paid by the United States Government in Indemnities	\$200,953.74
Total	\$684,128.47

This is an average of \$67.52 per head.

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TOTAL STATE INDEMNITY PAID, BY COUNTIES,

JULY 1, 1932-JUNE 30, 1933

Atlantic	\$ 214.17
Bergen	1,600.04
Burlington	19,018.09
Camden	749.17
Cape May .....	.....
Cumberland	1,542.19
Essex	3,036.30
Gloucester	2,633.72
Hudson	37.62
Hunterdon	48,360.47
Mercer	6,620.33
Middlesex	7,124.95
Monmouth	3,908.76
Morris	9,542.12
Ocean	3,228.25
Passaic	1,310.01
Salem	7,360.53
Somerset	14,277.41
Sussex	145,472.88
Union	8,124.33
Warren	61,898.74
State	<u>\$346,060.08</u>

TOTAL STATE INDEMNITY PAID, BY COUNTIES, FROM THE BEGINNING
OF ACCREDITED HERD WORK IN 1916 TO JUNE 30, 1933

Atlantic	\$ 6,294.16
Bergen	29,644.96
Burlington	293,476.96
Camden	11,794.68
Cape May	7,639.75
Cumberland	65,035.87
Essex	28,067.01
Gloucester	55,280.22
Hudson	4,099.69
Hunterdon	273,772.67
Mercer	153,897.05
Middlesex	55,738.56
Monmouth	82,220.24
Morris	98,964.45
Ocean	23,081.53
Passaic	30,087.33
Salem	299,557.80
Somerset	187,484.32
Sussex	729,278.26
Union	25,535.66
Warren	284,680.40
State	<u>\$2,745,631.57</u>

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The following summary indicates the amount of state indemnity paid for reactors resulting from the tuberculin test during the year ending June 30, 1933:

Class of Cattle	Number of Animals	Amount Paid
Registered Animals	302	\$ 15,428.87
Grade Animals	9,830	330,631.21
Registered and Grade	10,132	\$346,060.08

Average State Indemnity Paid Per Head

Registered Animal	\$51.09
Grade Animal	33.63
Registered and Grade	34.16

The following summary indicates the amount of salvage received by owners for reactors resulting from the tuberculin test during the year ending June 30, 1933:

Class of Cattle	Number of Animals	Amount Paid
Registered Animals	302	\$ 4,735.99
Grade Animals	9,830	132,378.66
Registered and Grade	10,132	\$137,114.65

Average Salvage Received Per Head

Registered Animal	\$15.68
Grade Animal	13.47
Registered and Grade	13.53

The following summary gives the estimated total federal indemnities received by owners of condemned cattle:

Class of Cattle	Amount Paid
Registered and Grade	\$200,953.74

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

TOTAL AMOUNT RECEIVED BY OWNERS FOR REACTORS (Sum of salvage, federal indemnity and state indemnity)	\$684,128.47
Average amount received per head by owners for reactors	\$67.52

STATE DEPARTMENT OF AGRICULTURE

Following is a record by counties of the herds and cattle maintained under state and federal supervision June 30, 1933:

County	Herds Under Supervision	Herds Fully Accredited	Cattle in County (1930 Federal Census)	Cattle in County Under Supervision
Atlantic	427	358	502	702
Bergen	188	104	2,331	2,551
Burlington	1,278	710	15,257	18,549
Camden	358	196	981	1,349
Cape May	335	277	848	1,161
Cumberland	1,300	1,083	5,948	6,604
Essex	65	20	2,286	2,381
Gloucester	1,259	850	4,431	4,879
Hudson	18	11	23	164
Hunterdon	1,792	957	18,655	19,318
Mercer	1,000	675	7,916	9,534
Middlesex	538	350	8,200	5,172
Monmouth	984	588	7,503	7,592
Morris	814	411	8,756	8,946
Ocean	390	268	1,391	1,729
Passaic	255	170	2,008	2,765
Salem	1,387	953	13,103	14,195
Somerset	940	475	8,414	10,002
Sussex	1,209	499	25,718	26,201
Union	160	9	2,089	2,972
Warren	1,183	518	15,827	16,926

State	15,880	9,482	152,187	163,692
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Animals in Herds Under Supervision

19,968 Registered
143,724 Grade

163,692

Animals in Herds Fully Accredited

15,071 Registered
82,163 Grade

97,234

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INITIAL TESTS AND REACTORS, BY COUNTIES,
JULY 1, 1932-JUNE 30, 1933

County	Number of Herds	Animals Tested		Animals Reacting		Percentage Reacting		Total Animals Tested	Total Animals Reacting	Per cent of Total Reacting
		Registered	Grade	Registered	Grade	Registered	Grade			
Atlantic	96	....	122	....	4	....	3.28	122	4	3.28
Bergen	65	40	495	....	32	....	6.46	535	32	5.98
Burlington	384	16	1,940	3	356	18.75	18.35	1,956	359	18.35
Camden	141	1	319	....	33	....	10.34	320	33	10.31
Cape May	32	3	68	....	....	....	....	71	....	....
Cumberland	159	14	347	....	14	....	4.03	361	14	3.88
Essex	28	5	570	....	94	....	16.49	575	94	16.35
Gloucester	389	16	784	....	78	....	9.95	800	78	9.75
Hudson	1	....	7	....	....	....	....	7	....	....
Hunterdon	535	150	4,941	40	1,688	26.67	34.16	5,091	1,728	33.94
Mercer	226	30	818	1	88	3.33	10.76	848	89	10.50
Middlesex	97	8	587	....	183	....	31.18	595	183	30.76
Monmouth	232	83	981	2	85	2.41	8.66	1,064	87	8.18
Morris	257	80	1,633	18	412	22.50	25.23	1,713	430	25.10
Ocean	111	1	391	....	78	....	19.95	392	78	19.90
Passaic	68	....	244	....	3	....	1.23	244	3	1.23
Salem	296	12	1,142	....	78	....	6.83	1,154	78	6.76
Somerset	225	123	1,416	8	348	6.50	24.58	1,539	356	23.13
Sussex	396	146	6,737	65	3,406	44.52	50.56	6,883	3,471	50.43
Union	141	44	944	....	156	....	16.52	988	156	15.79
Warren	389	83	5,090	38	1,778	45.78	34.93	5,173	1,816	35.11
State	4,268	855	29,576	175	8,914	20.47	30.14	30,431	9,089	29.87

CATTLE TESTED IN NEW JERSEY UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ON THE STAFF OF THE STATE DEPARTMENT OF AGRICULTURE
JULY 1, 1932-JUNE 30, 1933

	Initial Tests					Herd Addition Tests					Other Tests				
	Lots	Registered	Grade	Reactors Registered	Grade	Lots	Registered	Grade	Reactors Registered	Grade	Lots	Registered	Grade	Reactors Registered	Grade
1932—															
July	530	52	3,035	11	786	86	25	637	...	12	666	316	4,541	5	70
August	452	49	2,662	15	739	101	20	602	1	15	540	350	4,131	3	41
September	324	33	2,513	14	884	96	40	927	...	14	481	435	6,454	2	127
October	283	98	2,480	9	883	115	28	849	...	16	532	529	5,280	9	121
November	152	34	1,312	4	473	77	34	1,247	...	27	497	553	6,986	25	186
December	176	31	1,526	10	564	149	66	1,309	3	33	953	1,713	12,695	29	337
1933—															
January	129	46	1,114	4	197	90	34	895	3	36	721	1,403	9,154	7	153
February	156	32	1,475	19	480	104	48	697	...	21	745	1,837	8,889	2	186
March	338	27	2,676	13	812	101	59	1,064	1	36	1,020	2,477	11,494	27	290
April	59	5	380	1	72	74	48	664	2	16	961	1,469	11,646	7	260
May	431	87	3,649	39	1,364	96	49	947	...	43	904	1,371	12,225	15	214
June	365	90	2,134	10	519	119	40	974	1	20	1,403	932	9,865	19	412
Totals	3,395	584	24,956	149	7,773	1,208	491	10,812	11	289	9,423	13,385	103,360	150	2,397
Percentage of															
Reactors .....	....	....	....	25.51	31.15	....	....	....	2.24	2.67	....	....	....	1.12	2.32
Average Percentage ..	....	....	....	31.02	....	....	....	....	2.65	....	....	....	....	2.18	....

CATTLE TESTED IN NEW JERSEY UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ON THE STAFF OF THE UNITED STATES DEPARTMENT OF AGRICULTURE
 JULY 1, 1932-JUNE 30, 1933

	Initial Tests					Herd Addition Tests					Other Tests				
	Lots	Registered	Grade	Reactors Registered	Grade	Lots	Registered	Grade	Reactors Registered	Grade	Lots	Registered	Grade	Reactors Registered	Grade
32—															
July	5	..	35	.....	.....	3	1	8	.....	1	15	21	144	7	1
August .....	..	..	.....	.....	.....	3	..	17	.....	1	24	49	269	..	3
September	10	2	35	.....	4	6	1	14	.....	1	15	1	138	..	..
October	1	..	26	.....	.....	4	..	18	.....	..	18	109	256	..	2
November	23	..	99	.....	32	..	..	..	.....	..	13	249	90	2	..
December	22	..	78	.....	.....	6	..	22	.....	..	10	2	115	..	..
33—															
January	8	..	17	.....	1	2	..	6	.....	..	18	23	139	..	..
February	21	..	146	.....	82	5	..	19	.....	1	13	....	128	..	1
March	10	..	101	.....	28	3	..	12	.....	2	12	1	102	..	..
April .....	..	..	.....	.....	.....	2	..	4	.....	1	24	697	198	..	..
May	8	..	67	.....	2	2	..	42	.....	1	25	133	120	..	2
June	11	64	24	.....	.....	6	..	33	.....	1	51	39	409	..	3
Totals	119	66	628	149	42	2	195	9	238	1,324	2,108	9	12
Percentage of															
Reactors	23.73	4.6268	.57
Average Percentage	21.47	4.5761	

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CATTLE TESTED UNDER THE ACCREDITED HERD PLAN BY VETERINARIANS ACCREDITED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE
 JULY 1, 1932-JUNE 30, 1933

STATE DEPARTMENT OF AGRICULTURE

	Initial Tests					Herd Addition Tests					Other Tests				
	Lots	Registered	Grade	Reactors Registered	Grade	Lots	Registered	Grade	Reactors Registered	Grade	Lots	Registered	Grade	Reactors Registered	Grade
1932—															
July	181	27	894	3	223	28	7	144	..	3	72	96	897	3	36
August	77	13	491	7	184	35	14	280	1	2	183	93	1,169	..	7
September	69	5	298	1	87	35	19	393	..	7	136	79	1,398	1	31
October	56	7	336	5	150	67	22	516	..	8	162	38	970	1	40
November	41	5	272	1	86	58	27	418	..	6	143	109	1,214	..	17
December	40	25	292	7	81	59	28	294	1	9	136	151	1,384	4	63
1933—															
January	22	16	101	..	7	36	34	432	..	2	152	524	2,831	1	20
February	24	6	230	1	51	26	17	225	..	5	148	361	2,153	1	34
March	31	..	131	..	12	24	19	331	2	11	339	880	3,860	3	67
April	5	..	29	..	1	18	..	225	..	4	336	336	3,631	1	39
May	46	44	342	..	57	32	16	243	..	5	272	387	2,514	3	26
June	80	56	295	1	18	32	13	254	1	2	287	268	2,873	6	37
Totals	672	204	3,711	26	957	450	216	3,755	5	64	2,366	3,322	24,894	24	417
Percentage of															
Reactors .....	..	..	.....	12.75	25.79	..	..	.....	2.31	1.7	.....	.....	.....	.72	1.68
Average Percentage ..	..	..	.....	25.11		..	..	.....	1.74		.....	.....	.....	1.56	

CATTLE TESTED UNDER THE ACCREDITED HERD PLAN BY ACCREDITED VETERINARIANS AND VETERINARIANS ON THE STAFF OF THE STATE DEPARTMENT OF AGRICULTURE
 JULY 1, 1932-JUNE 30, 1933

	Initial Tests					Herd Addition Tests					Other Tests				
	Tested		Reactors			Tested		Reactors			Tested		Reactors		
	Lots	Registered	Grade	Registered	Grade	Lots	Registered	Grade	Registered	Grade	Lots	Registered	Grade	Registered	Grade
1932—															
July	7	..	13	..	..	..	..	..	..	..	1	3	20	2	13
August	26	..	81	..	16	2	..	2	..	..	9	3	36	..	..
September	26	..	49	..	1	..	..	..	..	..	10	3	38	..	2
October .....	..	..	..	..	..	1	..	11	..	1	38	10	169	..	1
November	12	..	47	..	..	4	..	441	..	5	55	41	1,054	5	43
December .....	..	..	..	..	..	4	..	89	..	..	18	7	357	..	3
1933—															
January .....	..	..	..	..	..	..	..	..	..	..	..	..	.....	..	..
February .....	..	..	..	..	..	..	..	..	..	..	..	..	.....	..	..
March .....	..	..	..	..	..	1	..	7	..	..	3	5	549	..	..
April .....	..	..	..	..	..	1	..	13	..	1	1	14	76	..	1
May	6	1	85	..	18	1	..	1	..	..	5	24	105	..	1
June	5	..	6	..	..	..	..	..	..	..	39	11	155	2	8
Totals	82	1	281	..	35	14	..	564	..	7	179	121	2,559	9	72
Percentage of															
Reactors	12.46	1.24	7.44	2.81
Average Percentage	12.41	1.24	3.02

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SUMMARY OF CATTLE TESTED UNDER ACCREDITED HERD PLAN
DURING THE YEAR ENDING JUNE 30, 1933

	Registered Animals	Grade Animals	Total
Initial Tests			
Tested	855	29,576	30,431
Reacted	175	8,914	9,089
Percentage of Reactors.....			29.87
Herd Addition Tests			
Tested	709	15,326	16,035
Reacted	16	369	385
Percentage of Reactors.....			2.4
Other Tests			
Tested	18,152	132,921	151,073
Reacted	192	2,898	3,090
Percentage of Reactors.....			2.04
Total			
Tested	19,716	177,823	197,539
Reacted	383	12,181	12,564
Percentage of Reactors.....			6.36

TOTAL NUMBER OF REACTORS SLAUGHTERED,
BY MONTHS, 1932-1933

July	1,366
August	1,305
September	1,069
October	1,009
November	1,014
December	1,152
January	531
February	813
March	1,314
April	451
May	1,523
June	1,098
Total	12,645

TESTS MADE ON NATIVE CATTLE NOT UNDER STATE AND FEDERAL SUPERVISION,
 JULY, 1932-JUNE, 1933

Tested by Private Veterinarians

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	HERD TESTS				OTHER TESTS				TESTS FOR EXPORT			
	Number of Lots	Animals Tested	Animals Reacted	Per Cent Reacted	Number of Lots	Animals Tested	Animals Reacted	Per Cent Reacted	Number of Lots	Animals Tested	Animals Reacted	Per Cent Reacted
1932—												
July	19	228	1	.44	..	..	..	..	1	7	..	..
August	5	26	..	...	..	..	..	..	..	..	..	..
September	4	12	1	8.33	..	..	..	..	1	1	..	..
October	11	85	2	2.35	..	..	..	..	1	18	..	..
November	5	71	2	2.82	..	..	..	..	..	..	..	..
December	19	302	..	...	..	..	..	..	..	..	..	..
1933—												
January	10	44	..	...	..	..	..	..	..	..	..	..
February	6	30	2	6.67	..	..	..	..	1	1	..	..
March	11	39	7	17.95	..	..	..	..	..	..	..	..
April	7	10	1	10.00	..	..	..	..	1	1	..	..
May	6	76	..	...	1	1	..	..	..	..	..	..
June	4	13	..	...	..	..	..	..	1	1	..	..
Totals	107	936	16	1.71	1	1	..	..	6	29	..	..

INSPECTING AND RELEASING INSHIPPED CATTLE

All cattle shipped into New Jersey for dairy or breeding purposes are inspected by representatives of the Bureau of Animal Industry and their credentials are checked in order that animals infected with tuberculosis or Bang's abortion disease may be kept from entering the state. Because of the large number of New Jersey cattle which have reacted to the tuberculin test and have been slaughtered, the number of cattle imported into the state has been quite high. During the fiscal year ending June 30, 1933, 22,900 cattle were shipped into the state from other states and the Dominion of Canada.

The Department of Agriculture and Markets of New York State made operative October 1, 1932, a regulation which practically prohibited the movement of all dairy and breeding cattle into that state unless they were fully accredited as being free from Bang's disease. During the 1931-1932 fiscal year, 2,674 cattle were received at the Newark Stock Yards, 972, or 36 per cent, of which were re-consigned to New York State. During the fiscal year ending June 30, 1933, 1,899 cattle were received at the Newark Stock Yards, 229, or 13 per cent. of which were re-consigned to New York before October 1.

IMPORT CATTLE RECEIVED FROM VARIOUS STATES FOR DAIRY AND BREEDING PURPOSES, 1932-1933

Point of Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Athenia (Quarantine) ..	...	...	...	...	...	13	...	...	...	...	...	...	13
Connecticut .....	...	...	...	...	...	...	1	...	...	1	2	...	4
Delaware .....	...	...	...	...	...	...	...	1	..	...	1	...	2
Iowa .....	...	30	...	...	...	...	...	...	...	...	...	...	30
Lancaster (Yards) .....	...	27	26	42	40	31	...	...	...	15	...	...	181
Maine	5	...	...	...	...	...	...	...	...	...	...	...	5
Maryland	33	101	46	20	1	24	12	19	34	38	46	67	441
Massachusetts .....	...	2	...	1	1	1	...	1	2	...	...	1	9
Michigan	301	397	367	393	222	351	86	132	128	106	200	442	3,125
Minnesota .....	...	...	...	...	23	97	23	...	...	...	...	...	143
Missouri .....	...	...	...	...	...	...	...	...	...	...	...	23	23
New York	4	21	1	...	12	38	...	41	22	24	25	44	232
North Carolina .....	...	3	...	...	9	...	...	...	...	...	...	...	12
Ohio	208	549	305	486	349	267	180	166	280	420	465	817	4,492
Oklahoma .....	...	...	...	...	...	...	...	5	...	...	...	...	5
Pennsylvania	139	278	142	202	127	148	101	85	96	136	129	306	1,889
South Carolina .....	...	...	...	...	...	...	...	...	...	1	...	...	1
Tennessee	26	74	...	...	...	...	...	...	23	...	41	47	211
Virginia	66	135	106	85	3	8	16	21	32	30	41	73	616
West Virginia .....	...	...	...	...	...	...	...	...	...	...	15	...	15
Wisconsin	1,234	1,829	2,037	1,175	716	846	413	424	503	564	707	1,003	11,451
Totals	2,016	3,446	3,030	2,404	1,503	1,824	832	890	1,125	1,335	1,672	2,823	22,900

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CATTLE SHIPPED OUT OF THE STATE DURING THE FISCAL YEAR 1932-1933

Month	Number of Lots From Inshipped Cattle	Number of Animals From Inshipped Lots	Number of Lots From Herds Under Supervision	Number of Animals From Herds Under Supervision
July	5	95	4	27
August	7	64	2	9
September	12	165	7	20
October	13	77	13	42
November	4	18	8	18
December	4	7	6	12
January	4	27	8	62
February	5	16	7	17
March	8	82	7	74
April	7	76	13	42
May	8	35	14	74
June	7	53	9	34
Totals	<u>84</u>	<u>715</u>	<u>98</u>	<u>431</u>

BANG'S DISEASE CONTROL

Steady and substantial advancement has been made in the control and eradication of Bang's disease, also known as contagious abortion. In many instances public health officials have imposed restrictions on the sale of raw milk unless it is produced by animals which are negative to the agglutination test for this disease. They are requiring the pasteurization of all milk from animals which give a positive reaction to the test or are preventing it from being sold on the markets.

There is fast developing a feeling on the part of the owners of dairy cattle that as the situation changes and pasteurization becomes practically universal, contagious abortion will lose much of its importance from a public health standpoint and the dairyman whose herd is infected will have to consider the maintenance of a herd free from infection from an economic standpoint.

The following herds, having passed the required number of tests and their owners having complied with the requirements prescribed by the Bureau of Animal Industry of the New Jersey Department of Agriculture for the maintenance of herds for the prevention and eradication of Bang's abortion disease, were issued accredited herd certificates during the year ending June 30, 1933:

OWNER'S NAME	ADDRESS
Anderson, W. A.	R. D. No. 3, Princeton
Baldwin, Charles	Pennington
Benson, R. L.	Coventry Farm, Princeton
Blagden, Mrs. Mabel	Red Bank
Borden, C. Lawrence	Mickleton
Bunting, T. Bruce	Burlington
DeCou, Howard	Merchantville
Dignan, Thomas	Princeton
Dillon, Clarence	Dunwalke Farms, Far Hills
Fackler, Howard	R. D. No. 4, Trenton
Farkis, John	Cream Ridge
Geran, Mrs. Elmer H.	Matawan
Hall, Gordon	Cranford
Hall, J. Elliott	Morristown
Hope, J. L.	Madison
Howe, Edward L.	Princeton
Kappes, A. K.	Freehold
Kinnicutt, F. H.	Far Hills
Leeds, Henry W.	Westville
Lewis, Clarence	Sterlington, N. Y.
Lloyd, Mrs. F. G.	Bernardsville
Loree, L. F.	West Orange
McCoy, Dr. John E.	Oakland
McPherson, Wm. Boyd	R. D. No. 1, Cape May
Merrick, Roger S.	Farmingdale
Miller, J. W.	Princeton
Moore, D. H. & Sons	Hopewell
Pyne, Upton Estate	Bernardsville
Post, George	Bernardsville
Reeves, A. C.	R. D. No. 4, Trenton
Russell, Dr. J. E.	R. D. No. 4, Trenton
Rutherford, Robert	Cape May
Updike, John D.	Princeton
Van Ronk, E. H.	Somerville
Van Zandt Brothers	Blawenburg
Wainwright, Harold R.	R. D. No. 3, Burlington
Ward, J. E.	Stockton

The following summary shows the work accomplished since the inauguration of the program for the control of Bang's abortion disease in the state in 1926:

Total number of animals bled since the work commenced.....	74,384	
Total number of animals showing positive reaction.....	6,397	8.60%
Total number of animals showing negative reaction.....	66,321	89.16%
Total number of animals bled on initial test since the work commenced	8,743	
Total number of animals showing positive reaction.....	2,264	25.89%
Total number of animals showing negative reaction.....	6,479	74.10%

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HERDS AND ANIMALS UNDER STATE SUPERVISION FOR THE
ERADICATION OF BANG'S ABORTION DISEASE AND HERDS
ACCREDITED AS BEING FREE OF IT, BY COUNTIES

JUNE 30, 1933

County	Number of Herds Under Supervision	Number of Herds Fully Accredited	Number of Animals Under Supervision
Atlantic	..	..	...
Bergen	3	1	33
Burlington	13	3	557
Camden	3	1	17
Cape May	5	2	96
Cumberland	2	..	137
Essex	3	1	214
Gloucester	8	2	206
Hudson	..	..	...
Hunterdon	6	1	168
Mercer	22	10	792
Middlesex	8	..	739
Monmouth	17	4	377
Morris	11	2	726
Ocean	2	..	42
Passaic	3	1	43
Salem	1	..	49
Somerset	34	8	1,067
Sussex	1	..	191
Union	1	1	105
Warren	8	..	380
State	151	37	5,939

AGGLUTINATION BLOOD TESTS MADE IN THE BUREAU LABORATORY
FOR BANG'S ABORTION DISEASE

Fiscal Year 1932-1933

County	Number of Tests	Negative Reactions	Positive Reactions	Suspicious Reactions
Atlantic	....	....	...	...
Bergen	89	79	2	8
Burlington	1,943	1,662	134	147
Camden	97	85	...	12
Cape May	295	234	18	43
Cumberland	322	312	2	8
Essex	707	525	52	130
Gloucester	602	582	3	17
Hudson	....	....	...	...
Hunterdon	428	410	6	12
Mercer	1,548	1,360	65	123
Middlesex	2,390	2,111	80	199
Monmouth	1,351	1,193	33	125
Morris	2,765	2,217	140	408
Ocean	129	124	...	5
Passaic	103	98	1	4
Salem	54	48	...	6
Somerset	2,361	1,998	138	225
Sussex	828	701	29	98
Union	141	129	6	6
Warren	968	820	58	90

PHYSICAL EXAMINATIONS

The physical examination of herds of cattle is carried out in cooperation with the Bureau of Markets as part of the program for the administration of the New Jersey grades of milk. During the 1932-1933 fiscal year, most of the herds producing the officially graded milk were examined twice.

Following is a table indicating the number of herd and cattle examinations made during the 1932-1933 fiscal year and the results of the examinations:

PHYSICAL EXAMINATIONS OF CATTLE, FISCAL YEAR 1932-1933,
BY COUNTIES

County	Number of Herd Examinations	Number of Animals Examinations	Number of Animals Passed	Number of Animals Isolated	Number of Animals Condemned
Atlantic .....	..	.....	.....	..	..
Bergen .....	..	.....	.....	..	..
Burlington	3	57	55	2	..
Camden .....	..	.....	.....	..	..
Cape May .....	..	.....	.....	..	..
Cumberland .....	..	.....	.....	..	..
Essex	6	81	77	2	2
Gloucester .....	..	.....	.....	..	..
Hudson .....	..	.....	.....	..	..
Hunterdon	16	552	532	20	..
Mercer	26	513	490	20	3
Middlesex	6	303	294	7	2
Monmouth	3	51	50	1	..
Morris	105	3,065	2,966	64	35
Ocean .....	..	.....	.....	..	..
Passaic .....	..	.....	.....	..	..
Salem .....	..	.....	.....	..	..
Somerset	60	1,217	1,177	34	6
Sussex .....	..	.....	.....	..	..
Union .....	..	.....	.....	..	..
Warren	16	600	562	33	5
State	241	6,439	6,203	183	53

SUMMARY

Number of herd examinations made	241
Number of herds in which all animals passed	137—56.85%
Number of herds in which animals were isolated	89—36.93%
Number of herds in which animals were condemned	29—12.03%
Number of herds in which animals were both isolated and condemned ..	14—5.81%

SWINE DISEASE CONTROL

Work of vaccinating hogs against cholera was carried on entirely by private veterinarians during the 1932-1933 fiscal year, no vaccinations having been made by members of the bureau staff. Reports of vaccinations made were submitted to the bureau by private veterinarians doing the work.

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NUMBER OF HOGS INOCULATED AS A PROTECTION
AGAINST CHOLERA INFECTION, BY MONTHS

July, 1932, to June, 1933

Vaccinations Made by Private Veterinarians

	Single Treatments	Double Treatments
July	35	1,029
August .....	..	744
September	10	1,199
October	42	2,055
November	65	1,223
December .....	..	427
January .....	..	227
February	3	143
March .....	..	259
April .....	..	466
May .....	..	352
June .....	..	1,022
Totals	155	9,146
Total—Single	155	
Total—Double		9,146
Grand Total		9,301

HOGS INOCULATED AS A PROTECTION AGAINST
CHOLERA INFECTION, BY COUNTIES

July, 1932–June, 1933

Vaccinations Made by Private Veterinarians

	Single Treatments	Double Treatments
Atlantic .....	..	168
Bergen .....	..	....
Burlington .....	..	643
Camden .....	..	116
Cape May	28	1,121
Cumberland	3	244
Essex .....	..	40
Gloucester .....	..	2,176
Hudson .....	..	....
Hunterdon	29	130
Mercer .....	..	135
Middlesex .....	..	222
Monmouth	85	1,698
Morris .....	..	392
Ocean .....	..	62
Passaic .....	..	830
Salem	10	345
Somerset .....	..	329
Sussex .....	..	....
Union .....	..	433
Warren .....	..	62
State	155	9,146
Total—Single	155	
Total—Double		9,146
Grand Total		9,301

STATE DEPARTMENT OF AGRICULTURE

MALLEIN TESTS CONDUCTED AND REPORTED

*Fiscal year 1932-1933**Tests Made by Private Veterinarians*

Month	Negative	Positive
July	15	..
August	18	..
September	13	..
October	26	..
November	1	..
December	1	..
January	23	..
February .....	..	..
March	3	..
April	1	..
May	41	..
June	45	..
Totals	187	..

GLANDERS

Private veterinarians made 187 mallein tests of horses during the year to determine whether they were infected with glanders. The results of these tests, all of which were negative, were reported to the bureau by the veterinarians making the tests.

ANTHRAX

Following is a comparative summary of the number of cattle and horses vaccinated as a protection against anthrax during the year ending June 30, 1933:

Number of Cattle	Number of Horses	Total
816	89	905

JOHNE'S DISEASE

A subcutaneous test to diagnose the presence of Johne's disease was made by a representative of the bureau on one herd of 43 cattle in Mercer County. The results of the test were negative. The reason for conducting this test was that the disease had been diagnosed as being present in cattle removed from this herd.

STALLION REGISTRATION

The examining and registering of stallions was done during the year by bureau representatives when owners requested such service. Following is a summary of registrations issued:

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STALLIONS REGISTERED, YEAR ENDING JUNE 30, 1933—BY BREEDS

Breed	Number
Percheron (Registered)	4
Thoroughbred (Registered)	1
Grade Drafts*	4
	—
Totals	9

* Includes grade Percherons and Belgians.

STALLIONS REGISTERED, BY COUNTIES, YEAR ENDING JUNE 30, 1933

County	Number
Atlantic .....	..
Bergen .....	..
Burlington	1
Camden .....	..
Cape May .....	..
Cumberland	1
Essex .....	..
Gloucester .....	..
Hudson .....	..
Hunterdon	2
Mercer .....	..
Middlesex .....	..
Monmouth .....	..
Morris	1
Ocean .....	..
Passaic .....	..
Salem	1
Somerset	1
Sussex	1
Union .....	..
Warren	1
	—
Totals	9

POULTRY INSPECTION

During the year the bureau continued its practice of inspecting all poultry shipped from other states to railroad terminals in New Jersey. This work was carried on for the purpose of detecting diseased birds and preventing any contagious poultry disease from being transmitted from inshipped birds to poultry flocks in New Jersey. A total of 2,767 carlots of inshipped poultry were inspected and 3,817 birds were found diseased and ordered slaughtered.

Following is a summary of the poultry inspection work:

CARLOTS OF POULTRY FROM VARIOUS STATES RELEASED AT RAILROAD TERMINALS IN
NEW JERSEY, JULY 1, 1932-JUNE 30, 1933

Place of Origin	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Alabama	2	..	..	..	7	4	8	5	24	11	7	2	70
Arkansas	19	21	11	5	4	8	14	20	28	26	20	12	188
Colorado	..	..	..	..	..	..	1	..	..	..	..	..	1
Georgia	2	..	..	..	..	..	..	1	3	3	2	1	12
Illinois	13	16	41	49	50	60	24	19	20	20	21	22	355
Indiana	45	42	50	37	40	55	39	36	31	34	37	32	478
Iowa	13	17	23	16	19	18	9	2	..	..	..	7	124
Kansas	2	1	2	3	1	3	1	..	..	..	..	..	13
Kentucky	13	3	3	3	5	4	..	4	8	12	13	3	71
Minnesota	1	..	..	..	..	1	..	..	..	..	..	..	2
Mississippi	..	..	..	..	..	1	2	1	2	6	4	..	16
Missouri	39	46	48	32	19	33	19	24	31	33	24	20	368
Nebraska	6	6	13	8	6	8	7	6	6	6	2	4	78
North Carolina	..	..	..	..	1	1	7	13	8	4	..	..	34
North Dakota	..	..	1	..	5	..	..	..	..	..	..	..	6
Ohio	31	29	29	24	45	61	28	25	22	23	26	26	369
Oklahoma	..	..	..	2	1	..	..	..	1	..	..	..	4
Pennsylvania	..	..	1	1	..	..	..	..	..	..	..	..	2
South Carolina	..	1	..	..	..	..	1	19	2	..	1	..	24
South Dakota	9	4	3	3	7	8	7	2	3	..	..	..	46
Tennessee	25	13	2	3	29	20	16	36	71	106	96	35	452
Virginia	..	..	..	..	15	14	..	3	3	4	..	2	41
Wisconsin	4	3	4	2	13
Totals	224	202	231	188	254	299	183	216	263	288	253	166	2,767

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NUMBER OF BIRDS CONDEMNED AND SLAUGHTERED
AND THEIR APPROXIMATE WEIGHT, 1932-1933

Month	Number of Cars	Number of Birds	Approximate Weight in Pounds
July .....	..	.....	.....
August .....	..	.....	.....
September	6	723	2,502
October	6	663	2,389
November	1	334	962
December	16	1,602	6,134
January	2	170	610
February .....	..	.....	.....
March	2	325	1,296
April .....	..	.....	.....
May .....	..	.....	.....
June .....	..	.....	.....
	<hr/>	<hr/>	<hr/>
Totals	33	3,817	13,893

CARLOTS OF POULTRY RELEASED AT THE VARIOUS RAILROAD TERMINALS IN NEW JERSEY,
JULY 1, 1932-JUNE 30, 1933

Month	C.R.R. N.J. J.C.	C.R.R. Nrks.	D.L.&W. Boonton	D.L.&W. J.C.	D.L.&W. Nrks.	D.L.&W. Passaic	Erie Caldwell	Erie Nrks.	Erie Whkn.	N.J.C. Lakewood	Pa. Cranbury	Pa. Eliz.	Pa. J.C.	Pa. Nrks.	Total
July	29	..	..	60	..	..	..	50	54	..	..	10	6	15	224
August	19	..	..	57	..	..	..	39	55	..	..	8	11	13	202
September	19	..	..	56	..	..	..	59	59	..	..	11	13	14	231
October	23	..	2*	38	..	..	5*	49	43	..	..	8	3	17	188
November	67	..	8*	43	..	..	11*	49	31	1	..	9	11	24	254
December	84	..	6*	50	..	2	11*	61	35	..	..	11	10	29	299
January	50	..	..	38	..	1	..	51	20	..	..	8	2	13	183
February	88	..	..	40	1	..	..	47	17	..	..	8	3	12	216
March	122	..	..	57	1	..	..	47	13	..	..	10	..	13	263
April	142	..	1	57	..	..	..	53	18	..	..	6	1	10	288
May	112	1	..	56	..	..	..	47	11	..	4	10	9	3	253
June	54	..	..	45	..	..	..	33	10	..	2	8	..	14	166
Totals	809	1	17	597	2	3	27	585	366	1	6	107	69	177	2,767

*Carlots of geese.

Following is a comparison of the number of carlots of poultry released monthly at the New York City and New Jersey railroad terminals during the past fiscal year:

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
New Jersey.....	224	202	231	188	254	299	183	216	263	288	253	166	2,767
New York City...	427	545	670	605	859	681	590	505	487	496	374	382	6,621

POULTRY INSPECTION AT AUCTION MARKET

During the year the bureau made inspections of poultry at the poultry auction market established in Elmer by the Cooperative Egg Auction Association of South Jersey. The inspection work was performed by a representative of the bureau for the first two weeks of the market's existence, one in September and one in October, after which the work was turned over to the auction association. Following is a record of the inspection work done by the bureau:

POULTRY INSPECTION AT ELMER AUCTION MARKET

	No. Owners	No. Crates Insp.	No. Leg-horns Insp.	No. Heavy Fowl Insp.	No. Heavy Broilers Insp.	No. Medium Broilers Insp.	No. Light Broilers Insp.	No. Roast-ers Insp.	No. Ducks Insp.	No. Pi-gcons Insp.	Total No. Birds Insp.
September (1 week)	49	137	756	280	350	320	55	160	..	20	1,941
October (1 week)	30	84	308	140	150	25	160	210	45	..	1,038
Totals	79	221	1,064	420	500	345	215	370	45	20	2,979

FOWL POX VACCINATION

The work of vaccinating chickens as a protection against fowl-pox is seasonal, commencing about the first of June of each year and running through until September. The reports of work accomplished given in previous annual reports have been on a seasonal basis. The following report indicates the number of flocks and birds vaccinated during the 1932 season:

NUMBER OF FLOCKS AND CHICKENS VACCINATED AGAINST FOWL POX BY THE BUREAU, SEASON OF 1932

County	Number of Fowls Vaccinated	Number of Flocks Vaccinated
Atlantic	2	960
Bergen	3	968
Burlington	6	7,718
Camden	2	854
Cape May	1	740
Cumberland	2	700
Essex	2	768
Gloucester	4	2,687
Hudson .....	..	.....
Hunterdon	18	8,586
Mercer	11	6,234
Middlesex	8	3,031
Monmouth	16	10,027
Morris	3	2,449
Ocean	18	13,993
Passaic	5	5,933
Salem	2	670
Somerset	9	6,989
Sussex .....	..	.....
Union .....	..	.....
Warren	1	400
State	113	73,707

During the month of June, 1933, applications were received from 37 poultry owners for the vaccination of 24,434 birds. Of this number 7,724 were vaccinated in June. A complete report of the vaccination work done in the 1933 season will be included in the subsequent annual report.

PULLORUM DISEASE CONTROL

The short, plate or field test was used during the past fiscal year for the determination of chickens infected with pullorum disease. This short or rapid antigen test was checked by submitting at least 50 per cent of the blood samples taken to the long or tube method. There was only a very slight variation between the results obtained by the two methods.

This work is carried on in conjunction with the poultry standardization program of the Bureau of Markets.

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NUMBER OF FOWLS BLOOD-TESTED FOR PULLORUM DISEASE,
NUMBER AND PERCENTAGE REACTING, FISCAL YEAR
1932-1933, BY COUNTIES

County	Number of Fowls Tested	Number of Fowls Reacting	Per Cent Reacting
Atlantic	1,148	79	6.88
Bergen	3,046	5	.16
Burlington	3,323	167	5.03
Camden .....	.....	.....	.....
Cape May	318	32	10.06
Cumberland	8,591	72	.84
Essex	1,733	14	.81
Gloucester	4,799	108	2.25
Hudson .....	.....	.....	.....
Hunterdon	22,523	361	1.60
Mercer	7,506	262	3.49
Middlesex	6,708	115	1.71
Monmouth	3,168	30	.95
Morris	2,881	104	3.61
Ocean .....	.....	.....	.....
Passaic .....	.....	.....	.....
Salem	3,778	256	6.78
Somerset	5,404	64	1.18
Sussex	1,812	98	5.41
Union	1,343	1	.074
Warren	291	1	.34
State	78,372	1,769	2.26

WORK DONE IN THE BUREAU LABORATORY

Following is a summary of the work (in addition to the conduct of agglutination blood tests for Bang's abortion disease) performed in the laboratory of the Bureau of Animal Industry:*

TESTING OF MILK SAMPLES FOR PRESENCE OF AGGLUTININS FOR
B. ABORTUS (BANG'S DISEASE)

Number of samples of milk received	149
Number of positive tests	23
Number of negative tests	111
Number of slightly suspicious tests	10

*A record of blood tests for Bang's disease is given on page 41.

TESTING OF BLOOD SAMPLES FOR PRESENCE OF PULLORUM DISEASE
IN POULTRY

Number of tests set up and read	38,294*
Number of tests positive	2,037
Number of tests slightly suspicious	428
Number of samples, insufficient serum	100
Number of samples jellied	408
Number of tests negative	35,321

*This number does not include the rapid or plate tests conducted.

MUSEUM SPECIMENS

Number of specimens collected for museum purposes	28
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POST-MORTEM EXAMINATIONS

Animal	Number	Condition suspected	Finding
Chicken	3	Fowl Cholera	Tuberculosis
Chicken	3	Unknown	Botulism
Chicken	2	Indigestion	Laryngotracheitis
Chicken	4	Pullorum disease	Pullorum disease
Chicken	1	Tuberculosis	Taeniasis
Chicken	8	Pullorum disease	Coccidiosis
Chicken	1	Parasitism	Taeniasis
Chicken	10	Unknown	Catarrhal Enteritis
Duck	1	Unknown	Toxemia

PATHOLOGICAL EXAMINATIONS

Tissue	Animal	Number	Finding
Intestine	Cow	1	Nodular disease

BACTERIOLOGICAL EXAMINATIONS

Material	Animal	Number	Condition suspected	Finding
Blood, milk and genital organs	Cow	3	Bang's disease	Negative

MICROSCOPIC EXAMINATIONS

Material	Animal	Number	Condition suspected	Finding
Ear	Cow	3	Anthrax	Negative
Spleen	Cow	1	Hemorrhagic Septicemia	Negative
Feces	Horse	1	Bots	Ascarid and Strongyle Ova.
Viscera	Cow	1	Tuberculosis	Negative
Lymph glands	Cow	1	Tuberculosis	Negative

Report of the Bureau of Markets

WARREN W. OLEY, *Chief*

Broadly speaking, the main marketing problem from the viewpoint of producers is to place the products of their farms into the channel of trade that leads most directly to the consumer who is able and willing to pay the highest price for those commodities. From the viewpoint of consumers, the most important factors in buying farm products are price, quality, economy, freshness and palatableness.

New Jersey farms are close to a great consuming population. The Bureau of Markets feels a responsibility not only to the producer but to the New Jersey consumer. As the present period of general depression continues, it is increasingly evident that the bureau's endeavors to promote more direct marketing are of great value to both producers and consumers.

New Jersey producers, are in a more favorable economic position than the producers of nearly all other states. Because of their location, New Jersey farmers may choose one of several means of marketing their crops. All over the country the cost of production has decreased, but the costs of transportation and selling have not materially lessened. This situation is to the advantage of New Jersey producers. For years the great bulk of their products was sold by the same agencies that handle the supplies shipped from distant competing states. These agencies are located in concentrated distributing centers, such as Boston, New York, Philadelphia and Pittsburgh.

The motor truck and New Jersey's unsurpassed highway system make it possible for the state's shippers to move a large amount of their products directly to small cities and towns. The problem of the Bureau of Markets in recent years has been to devise a practical means of sale and distribution direct to these intermediate markets. This problem entails many things. The bureau has made progress in acquainting the consumer with the value of nearby-grown products. It has improved the grading, packing and packaging of New Jersey products. These accomplishments have been of great importance in combating the advertising and the quality packs of commodities coming from distant competing areas. The bureau has aided in the development of direct transportation facilities to nearby consumption points, and probably one of its outstanding achievements has been the development of markets in the production areas that serve the trade from small cities and towns. This particular phase of the bureau's work was furthered during the year by the addition of six more markets in

production areas, four of which are of the auction type and two of which are small curb markets. In addition to these, the organization of the Paterson Market Growers' Cooperative Association, Inc., together with the development of a most modern market by that organization, is outstanding.

In order to develop consumer interest in New Jersey commodities and enable the consumer to obtain the greatest amount of benefit from the bureau's marketing work, the Division of Consumer Information was organized. It is doing a fine piece of work and is reported upon more fully in following pages. While the consumer information service has endeavored to keep town and city people informed as to the available products of New Jersey farms and their values, the crops and markets information service of the bureau has been of special benefit to the producer. Its main purpose has been to keep the farmer informed as to the needs of the city markets and the competition to be expected from distant producers. It has worked for more orderly marketing, with less wasted efforts on the part of the producer. These two services are the direct contact lines of the Bureau of Markets with the great mass of consumers and producers.

CROPS AND MARKETS INFORMATION SERVICE

A great many of the serious problems which have arisen in agriculture during the past few years have come about because of the up-setting of the balance between supply and demand. During and after the World War, the production of many agricultural commodities was sharply and steadily expanded, in an attempt to meet an ever-increasing consumer demand. When the economic depression came towards the close of 1929, demand immediately fell off and trading became restricted. During the past three and one-half years, farmers as well as other producers of commodities have been constantly trying to adjust their production to meet this ever-decreasing demand, in order that they may regain the proper balance. This balance must be regained before permanent recovery will be attained.

In solving various economic problems, and in attempting to balance the two factors, supply and demand, we immediately turn to essential information as the basis on which to build. In the reconstruction days of the depression, which now appear before us, we need more than ever facts and figures to guide us in order that we may build as sturdily as possible, and that we may avoid the mistakes of the past. These mistakes were largely the result of the lack of statistics in many cases, and the result of improper interpretation of data in many others.

The crops and markets information service of the Bureau of Markets attempted during the 1933 fiscal year to be of service to New Jersey farmers by furnishing them with essential, timely and accurate information on the production and marketing of their important crops. The trying days

through which the farmers have passed during the past few years have meant increasing calls for service on the part of this particular branch of marketing work. Growers have made innumerable inquiries as to the causes of price declines, as well as possibilities of recovery. In each case they have been given an unbiased answer based on facts.

In general, the 1933 fiscal year was a hard one on the farmers of the state. Prices for most products were low. Potato growers received less than cost-of-production figures for their crop. The market for peaches was better than the market for any other New Jersey fruit crop. Apple growers were faced with a restricted domestic market, and the export market was very poor, because of tariff barriers in some countries, depreciated currencies in others, and a generally low purchasing power in nearly all.

Despite the depressed condition of the market during the greater part of the year, there appeared to be signs of improvement at the close of the year. The big feature of this apparent improvement was a return of confidence, as reflected in increased trading and a greater demand. Several products sold at higher prices at the close of the year than at the corresponding period in the previous year. Prices for some crops are necessarily dependent on prices for other products, while prices for strictly perishable commodities are almost entirely dependent on the law of supply and demand, although a sharp advance in the price level would undoubtedly raise the price of nearly all individual commodities.

In response to the demand for economies in governmental expenditures, the crops and markets information service was operated as economically as possible during the year. The program was carried out with the idea of giving the greatest amount of service, with the least possible expense. No new services which would have entailed additional expense were started, and several items were curtailed in order to keep within the reduced budget. Cooperative agreements with Trenton and Atlantic City were terminated at the beginning of the fiscal year, with a saving of a few hundred dollars. The Hightstown potato information office was operated for a shorter period than usual, and a reduction was made in the salary paid to the man in charge. An attempt was made at all times to keep the mailing lists of the service from getting cumbersome, and to see that the marketing reports went only to interested parties. A saving in printing was effected by the use of ready-cut stencils for the *Weekly Market Review* heading, rather than having the heading printed on the paper. This meant a considerable saving over the entire year.

DAILY MARKET NEWS SERVICE

During the year, the Bureau of Markets continued its cooperative agreements with the Bureau of Agricultural Economics of the United States Department of Agriculture for the collection of daily market reports at important markets for New Jersey farm products. This has now been the

policy of the department for several years. This method is the most economical, as it prevents any duplication of effort and means that the Bureau of Markets secures a greater amount of information for a smaller expenditure than it could by any other method. One man at New York and one at Philadelphia have been cooperative employees of the bureau and the federal department for several years. This situation has been fortunate, as these men know New Jersey conditions, and each additional year of service has meant more satisfactory results from their work. Many special services have been performed by these men for New Jersey growers. These services have included furnishing an early morning report for the auction markets, special berry information for the Hammonton district, and special potato data for the branch office at Hightstown.

The dissemination of daily market information was carried on almost exclusively through the medium of the daily press. This is the most economical method of distribution, and reaches the greatest number of farmers at the least expense. The greatest distribution agency is one of the large press services, which obtains a special report from the federal-state cooperative employee in New York each morning. This report is in the hands of some 20 New Jersey newspapers the same afternoon, and carries a complete report of New Jersey produce at New York that day. The leading daily papers of Philadelphia, which during the summer receives the bulk of its supply of produce from New Jersey, were supplied with reports by the cooperative federal-state employee in that city. During the year, the Western Union Telegraph Company was given permission to distribute potato information through its Trenton, Jersey City and New York offices, during the active potato marketing season.

There were no important changes in the broadcasting of daily market information over the radio during the year. Because of the federal-state agreements, all radio broadcasting was handled through the cooperative employees at New York and Philadelphia.

WEEKLY MARKET SUMMARIES

The issuance of *Market Conditions* reports constitutes the second part of the crops and markets information service. These reports are somewhat different from the usual market report, in that each report is limited to one commodity, and contains as complete crop and market information in connection with that commodity, as it is possible to include at the time of issuance. These reports have continued to be very valuable to New Jersey growers of important crops, since they give the producer an idea of competition, together with other information of an economic nature. In many instances the information has resulted in changes of planting time, in order to avoid competition, and in other cases it has revised the time of harvest for the same purpose. In these reports the bureau attempts to give a complete picture of the situation in all important districts which

might compete with the crops of New Jersey growers.

A total of 179 *Market Conditions* reports were issued during the year. This is a slight reduction from previous years, mainly because of the desire for economy. The reports published included: 33 on apples, 27 on white potatoes, 27 on sweet potatoes, 13 on peaches, 12 on asparagus, 12 on strawberries, 12 on spinach, 10 on lettuce, 9 on tomatoes for market, 8 on onions, and 16 on miscellaneous truck crops, including snap beans, lima beans, cabbage, celery, peppers, and other leading truck crops of the state. A large amount of correspondence was carried on with state officials and shippers of competing areas, as well as members of the fruit and vegetable trade at leading markets. Travel through producing sections was also necessary in order to obtain first-hand information on crop and market conditions.

In connection with the *Market Conditions* reports, the bureau issued a mimeographed circular, entitled "Truck Crops—Production and Movement in New Jersey and Competing Areas." This report included information on acreages, yields, production, carlot movement, and truck receipts. It covered 20 leading New Jersey truck crops and received much favorable comment. One issue was completely exhausted, and it was necessary to make up another 100 copies, as requests continued to come in from growers and dealers.

The *Weekly Market Review* was issued each week throughout the year. This review of prices in eastern markets, as in the past, carried analyses of the grain and feed markets, together with carlot quotations at local delivery stations throughout the state. During the year more space in the *Review* was given to the egg auction market quotations than previously. This resulted in many requests for the report from poultry producers, and dealers. It served as a leading means of advertising the auctions, and aided in furthering the general scheme of auction marketing.

SPECIAL SERVICES

POTATO INFORMATION OFFICE

For the fifth year, a temporary field office of the Department of Agriculture was operated during the active white potato marketing season in Hightstown, which is the leading shipping station for potatoes in the central producing belt. The general purposes of the office have been set forth in previous reports. Briefly, they are to collect and disseminate potato marketing information to growers and dealers throughout the central New Jersey potato belt, and to aid all other sections of the state whenever possible.

The work of the office began during the week of July 24 and extended for a period of eight weeks to September 16. The agent in charge spent the first week largely in field work, making contacts, interviewing growers and dealers, and getting generally acquainted with the potato situation. When he made these contacts, it was evident that the crop would not equal

that of the previous season, because of lighter yields. The consensus of opinion was that the average production for the territory would be about two-thirds of that of 1931. This estimate was later shown to be nearly correct, as the final yields for the entire state showed that the crop yielded 159 bushels per acre, compared with 200 bushels the previous year.

The cooperation of growers and dealers with the Hightstown office was again very satisfactory. Many growers hearing of the office for the first time, availed themselves of the services offered. Approximately 1,400 telephone calls were made while the office was open for information on shipments, destinations, f. o. b. prices, and truckers' buying prices. About two-thirds of the calls were made by farmers, with the remaining one-third coming from leading dealers in the potato belt. During the peak of the season, calls amounted to approximately 50 daily, with an average for the season of 30 to 35 each day. In addition to the telephone service, several growers made personal visits to the office for information.

The season was peculiar and unsatisfactory for most persons involved in the deal. Competition was light, but the deal was draggy throughout. Prices during the greater part of the season were below the costs of production and harvesting. Even at the low prices prevailing, a large portion of the crop remained unmarketed at the time the harvesting season usually closes.

AUCTION MARKET QUOTATIONS

During the 1932 harvesting season, the bureau continued to furnish the various auction markets in the state with a daily report of prices at New York for the important commodities sold over the auction blocks. These quotations form the basis of sales for growers, and give shippers an unbiased picture of the market. The coded frank telegram was used entirely during the 1932 season. The bureau found it necessary to change his method of sending these quotations in the spring of 1933, since growers expressed a desire to obtain an earlier report, in order that they might determine more accurately the amount of produce to sell over the block each day. For this reason, it was decided to issue the information by telephone, and the markets received the reports shortly after 8:30 o'clock each morning. These reports were obtained from the federal-state cooperative employee at New York and were relayed to the Cumberland County agricultural agent's office for the South Jersey auction markets, and direct to the Tri-County Auction Market at Hightstown, through the Trenton office. Reports of satisfaction over the improved service were received from the various auction masters.

HAMMONTON BERRY MARKET

In cooperation with the Philadelphia office of the Bureau of Agricultural Economics of the United States Department of Agriculture, the State Department of Agriculture furnished berry growers of Hammonton and vicinity with daily prices of raspberries, blackberries and huckleberries throughout

the main marketing season. Prices covering the Philadelphia, New York, Pittsburgh and Boston markets were made available at Hammonton shortly after noon. These prices served as a guide to the growers as to the daily value of their berries. Several shippers made use of the service in determining the markets to which they would ship the berries bought each day.

DAIRY PRODUCTS MARKETING

A review of the 1932-1933 fiscal year indicates that it was one of the most serious that New Jersey dairymen have faced. Chaotic price conditions, which became progressively worse each month during the fall and winter destroyed the entire price structure and ruinous competition resulted. One of very few favorable factors was relatively low feed costs, but, on the other hand, more stringent health regulations necessitated expenditures for new equipment in many cases. Economic conditions resulted in a reduction in the consumption of milk, and at the same time the milking cow population remained almost constant with, if anything, a slight increase. This general situation of the fluid milk market was common to most of the eastern states and culminated in considerable agitation for relief measures by means of legislation or in other ways.

This agitation led to the creation of the New Jersey Milk Control Board by the Legislature. The board became operative on May 23, 1933. Its rulings recognized producer problems and undoubtedly were very timely and effective in preserving the dairy industry of New Jersey, especially in view of the fact that feed prices advanced very rapidly during May and June.

The enactment of Chapter 131, Laws of 1932, which revised the milk code of the New Jersey Department of Health and which became effective in July, 1932, resulted in restricting the importation of milk and cream from other states to those supplies which met the new regulations. This act was of considerable benefit in removing inferior milk from competition with nearby supplies. This act also compelled more careful regulation of local supplies by local boards of health and so contributed to the maintenance of better milk standards.

The matter of maintaining consumption levels for milk has been of increasing importance during the past few years when the incomes of many families have been reduced, with corresponding reductions in expenditures for milk. Efforts have been made to keep milk in a prominent place before the public and before relief and welfare agencies. Such an objective was the basis for the formation of the Division of Consumer Information, discussed elsewhere in this report.

During the year, the bureau cooperated closely with the New Jersey State Dairy Committee, one of the members of the bureau staff having acted as secretary of the committee. Through the committee, the bureau was aided in maintaining close contact with the dairy industry of the state and in disseminating useful information on its milk marketing program.

OFFICIAL NEW JERSEY GRADES

The 1933 fiscal year, marked as it was by low prices and unsettled market conditions, was not an opportune time for the promotion of the *New Jersey Grade A* milk program. However, even in the face of these conditions, the volume of milk sold under the official New Jersey grades was maintained and there was a moderate increase in the number of dealers and producers, and also an expansion of sales into new areas.

The dealers selling milk under the grades recognized the desirability of forming an association to promote their sales. This organization, known as the "New Jersey Official Grade A Milk Dealers' Association," held monthly meetings devoted mostly to sales matters. At the end of the fiscal year it had about 30 members. Member dealers were assisted in the preparation of individual sales literature and one meeting was devoted to the interests of the route salesmen with about 150 drivers present. Active promotion of sales is contemplated by the association.

Under the New Jersey grades there have been 37 active dealers, whose daily volume has varied from 155 to 2,875 quarts and has averaged about 630 quarts daily for each dealer. This represents a net gain of seven dealers during the year, allowing for the withdrawal of seven dealers who applied for permission to sell milk under the grades and failed to complete or to continue with the regulations, or who did not continue in business. After the Milk Control Board took steps to define Grade A milk, there was considerable interest in the New Jersey grades because the unfair competition of questionable Grade A milk was eliminated.

The dealers and producers concerned with the New Jersey grades are concentrated mostly in Morris and Somerset counties, with others in Union, Essex, Hunterdon, Middlesex, Mercer, Burlington, Warren, Monmouth and Cape May counties.

In the case of *New Jersey Grade A* milk producers, there was a net increase of 19 herds, allowing for cancellations or changes affecting 15 herds. The physical examinations of a total of 121 herds were made under the supervision of the Bureau of Animal Industry, each herd having been examined twice during the year. It is of especial interest to note the progressively smaller percentage of cows reported for temporary isolation or for removal in these herds after each examination. In the last annual report, 4.36 per cent of all animals examined were reported for temporary isolation or removal, while, during the 1932-1933 fiscal year, 3.73 per cent and 3.42 per cent respectively were reported for each of the two semi-annual herd examinations. This indicates a high percentage of healthy cows in the herds producing milk under the New Jersey grades, and the examinations are recognized by the herd owners as a valuable factor in their herd management. Generally speaking, the New Jersey grade supervision has helped these producers to hold their market, and the price paid for the

officially graded milk averages higher than that secured in other outlets. Since the enactment of more stringent regulations enforced by state and local health authorities, the New Jersey grade regulations do not appear so strict. This has contributed to a cooperative attitude on the part of practically all of the producers under the New Jersey grades who recognize the service as an aid to maintaining high standards.

During the past year, 835 samples of milk were collected for examination and analysis. Bacteria counts were maintained well below the standards of 30,000 per cubic centimeter for *New Jersey Grade A Raw* and 20,000 per cubic centimeter for *New Jersey Grade A Pasteurized* milk after pasteurization. Occasional high counts were reported with identifications of the organisms involved, thus indicating the causes of such counts, and little difficulty was experienced in correcting the contributing factors.

There was a rather significant trend in butterfat content in the analyses of the year. The average butterfat content of 401 samples collected in the 1931-1932 fiscal year was 3.74 per cent, while during the past twelve months the 835 samples averaged 3.921 per cent of butterfat, an increase of 0.181 per cent.

Seven hundred and fourteen examinations by physicians were made of plant and farm employees during the year. Acknowledgment is made of the cooperation of the New Jersey Department of Health in making laboratory examinations of specimens submitted by physicians in connection with these examinations.

Of the 23,300 quarts sold daily under the official grades, about 8,601 quarts, or about 36 per cent, were sold as *New Jersey Grade A Pasteurized*. This was a considerable increase over the proportion pasteurized during the previous year, due to several dealers starting with pasteurizing, and to the fact that several of the new dealers do not handle any raw milk.

In one municipality, the Borough of Somerville, an ordinance was adopted by the Board of Health restricting all milk sold in that borough to the New Jersey grades. This means that the entire supply has been supervised by the Bureau of Markets, and there is no expense to the community as the dealers each pay the required inspection fee. This ordinance has been the means of vastly improving the local milk supply, reducing the number of dealers, restricting it mostly to nearby producers, and simplifying what had developed to be a rather complex situation with some uncertain sources of milk.

At the end of the year, stabilized price conditions stimulated interest in the New Jersey grades on the part of dealers. Several new applications were pending.

STATE DEPARTMENT OF AGRICULTURE

BUTTERFAT CONTENT OF NEW JERSEY GRADE A MILK

Grade	Number of Samples	Average Quarts Daily	Average Per Cent Butterfat
<i>New Jersey Grade A Raw</i>	682	14,699	3.921
<i>New Jersey Grade A Pasteurized</i>	153	8,601	3.924

SUMMARY OF GRADES

	August 1, 1931	July 1, 1932	July 1, 1933
Dealers	12	30	37
Farms producing.....	38	102	121
Total cows.....	1,064	2,739	3,203
Cows per herd.....	28	27	26
Average quarts produced daily.....	11,729	24,709	23,300
Daily fee income.....	\$5.85	\$12.35	\$11.65
Sub-dealers		56	73
Municipalities where sold.....		128	146

GENERAL MARKETING OF MILK

While considerable time is devoted to the New Jersey grades in matters of supervision and promotion, there remains the greater proportion of milk produced in New Jersey with which direct contacts are more infrequent. Under the conditions which have prevailed, it has been difficult to find markets for producers seeking outlets for milk. However, the supply of 28 producers was placed with dealers during the past year.

CONSUMER INFORMATION SERVICE

In recognition of the desirability of efforts to maintain the consumption of milk, and in realization that the absence of adequate milk in the diets of many families was leading to serious health consequences, a program to promote the use of milk was suggested. At meetings of the New Jersey Milk Conference Board and the New Jersey State Dairy Committee, such a program was discussed and endorsed. With limited appropriations and with no increase in personnel, favorable consideration was given to an offer of the cooperation of the Milk Research Council, Inc., of New York City, an agency supported by milk distributing and producing organizations interested in the New York and metropolitan New Jersey market.

A plan was developed whereby the Division of Consumer Information with an advisory committee of persons prominent in New Jersey was formed. Leaflets on New Jersey crops were prepared, regular newspaper releases were issued every week after November 14, 1932, several special news releases were prepared, a series of 21 radio talks was completed, and New Jersey products, with particular emphasis on milk, were discussed at a number of meetings.

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NEWSPAPER RELEASES

Starting November 14, 1932, 34 weekly newspaper releases on timely New Jersey crops were forwarded to 390 newspapers of New Jersey, Philadelphia and New York City, as well as to the agricultural press. These were forwarded in the form of clip sheets, each covering issues for six weeks. Mats were furnished on request to 128 newspapers each week and clipping reports indicate that 92 other papers used this material. At the end of the year, slightly less than 60 per cent of the press were using this material regularly, which is a rather satisfactory coverage for a new service.

LEAFLETS

Short leaflets numbering about 150,000, suitable for use as envelope inserts, were prepared and distributed as follows:

Sweet Potatoes.....	5,000
Milk	60,000
Eggs	60,000
Tomato Juice.....	25,000

Most of the egg leaflets were distributed through the egg auctions to retail dealers who inserted them in retail cartons. Most of the milk leaflets were distributed directly by milk dealers. The tomato juice leaflet reached consumers through retail grocery stores.

Growers, canners and poultrymen commented favorably on this literature and offered facilities for its distribution.

BOOKLETS

An edition of 30,000 copies of a 16-page illustrated booklet, "Healthful Foods—How to Buy Them," was distributed largely through the home economics classes of the public schools, and to some extent through milk dealers. This booklet, besides containing a story on milk, gives definite suggestions to the housewife on how to buy eggs, poultry and the principal New Jersey fruits and vegetables, both fresh and canned. Two New York City newspapers and one Philadelphia newspaper published the booklet in full, using it serially in their daily food columns.

"Summer Milk Drinks" was the title of a leaflet containing 20 milk drink recipes. An edition of 500,000 copies was prepared for distribution by milk dealers and a few egg dealers. This leaflet was especially well received and a new edition is contemplated.

RADIO TALKS

Two series of weekly radio talks, one of eight talks, which began on November 14, and one of twelve talks, which began on April 10, were given on Monday afternoons over Station WOR at Newark. On these afternoons,

15-minute periods were devoted to discussions of New Jersey milk, eggs, fruits and vegetables, which were considered on the basis of quality, economy and attractiveness in flavor and appearance. Especially in the spring series, where continuity was developed over a 12-week period, it was possible to measure the results in terms of replies written by interested listeners in Pennsylvania, New Jersey, New York and Connecticut. Most of these talks were given by Secretary Duryee.

MEETINGS AND EXHIBITS

Included in the Division of Consumer Information program was an effort to enlist the cooperation of the home or food page editors of the larger city dailies. Their response was excellent and they represent a valuable channel for publicity on New Jersey products. One department store ran, on the days of the radio talks, a weekly New Jersey menu emphasizing New Jersey products. The members of the home economics staff of a large electric company aided in distributing leaflets and in mentioning timely New Jersey market news at their food meetings in March and April. Several such meetings and meetings of women's clubs were attended with an exhibit of New Jersey canned goods.

SUMMARY

The response to the publicity associated with New Jersey products was very encouraging during the eight months of the year that the program was carried on. There are numerous channels in which such work can be promoted. Consumers were found to be eager to obtain information on foods and to obtain assistance in their marketing chores. The field is almost unlimited in possibilities and a more extended program is planned for the coming year.

One weakness in the program is the difficulty the consumer meets in attempting to identify and recognize on the markets the products discussed in newspaper articles or in the radio talks. Consumer packages and a more universal use of definite state grade standards would contribute much toward further interesting consumers in New Jersey products.

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SUMMARY OF CONSUMER INFORMATION SERVICE

November 15, 1932—July 1, 1933

Clip sheet newspaper series released.....	6
Weekly articles in above.....	34
Newspapers, periodicals on mailing list.....	390
Newspapers, etc., using mats.....	128
Other newspapers, etc., using releases as reported by clipping service..	92
Per cent of press on mailing list reported using releases.....	56.4
Total news articles prepared.....	51
Total radio talks.....	20
Literature prepared and distributed—	
Leaflets (Eggs—Milk—Sweet Potatoes—Tomato Juice).....	560,000
Booklets—"Healthful Foods—How to Buy Them".....	30,000
Direct letters, postal cards, etc., received from consumer listeners or readers requesting literature or information on New Jersey products	1,019

FRUIT AND VEGETABLE MARKETING

In its fruit and vegetable marketing activities the Bureau of Markets endeavored to render assistance to growers and shippers in improving marketing methods, obtaining better outlets and wider distribution, and promoting consumer demand for New Jersey products. Much was accomplished. The importance of quality production and grading has been particularly accentuated during the present highly competitive period, and progress in this direction was materially aided by several new services performed by the bureau during the 1932-1933 fiscal year.

STANDARDIZATION

The development and use of official standards of grade, and the inspection and certification of quality on the basis of such recognized standards, is the foundation of fruit and vegetable marketing work.

INSPECTION OF CANNERY TOMATOES

Outstanding in the year's activities was the inspection and grading of tomatoes delivered to four New Jersey canneries. The 1932 contracts of the Campbell Soup Company, of Camden; the P. J. Ritter Company, of Bridgeton; E. Pritchard, Inc., of Bridgeton; and Fogg & Hires, of Salem, called for the purchase of raw material on the basis of the official New Jersey grades instead of on a flat contract price which was the basis previously used. This grading service was in operation from August 1 to October 8, during which period 138,595.5 tons of New Jersey tomatoes and 12,545 tons of Pennsylvania (Bucks County) tomatoes, or a total of 151,140.5 tons, were inspected. This volume was larger than that purchased on grade in any other state. Approximately 75 per cent of New Jersey's production was contracted for by the canners on the basis of grade.

The price paid to growers was dependent on the quality of each load, as determined by the bureau's inspectors. The average return for the season to 2,093 growers was \$16.20 per ton, based on the season average quality of 58 per cent No. 1's, 39 per cent No. 2's, and 3 per cent culls. This average was higher than the average in most other tomato growing states in the 1932 season. Generally favorable weather, good yields and field culling enabled the average and better growers to obtain a higher return than would have been possible had the flat contract system without inspection been in effect. Through the grading system the canner was offered a higher class of material, and the grower was paid according to the relative quality of his deliveries.

A complete report of the tomato grading work was published in Circular No. 231, "Marketing Cannery Tomatoes on Grade in New Jersey."

INSPECTION OF CANNERY ASPARAGUS

Although a number of cannery products had been inspected and bought on grade in various states, no grading work had been done on asparagus until the spring of 1933 when the Bureau of Markets began to inspect and grade cannery asparagus. Consideration by growers and the Edgar F. Hurff Company, of this method of contracting for the 1933 season, led to the drafting and promulgation by the bureau of "New Jersey Standards for Cannery Asparagus." These standards, based partly on the diameter of the stalks, also took into consideration the length of green and the condition of the head. The principle of payment for deliveries was the same as in the case of cannery tomatoes; that is, a financial encouragement to deliver high quality, and non-payment for culls to discourage delivery of undesirable and unusable stock.

A representative of the bureau issued certificates of quality on 1,934 loads of cannery asparagus during the contract period of May 15 to July 5. This volume comprised 30,868 boxes, or approximately 450 tons of asparagus. The grading service was considered by practically all of the growers as the only method for obtaining the fairest payment according to quality.

The quality of the asparagus inspected varied considerably through the season due to weather conditions. Size decreased and culls increased due to branching heads during a period of high temperatures early in June, with a fair recovery later in the season. The weekly average quality during the contract period is illustrated in the accompanying chart, which also shows the relation between the various grades.

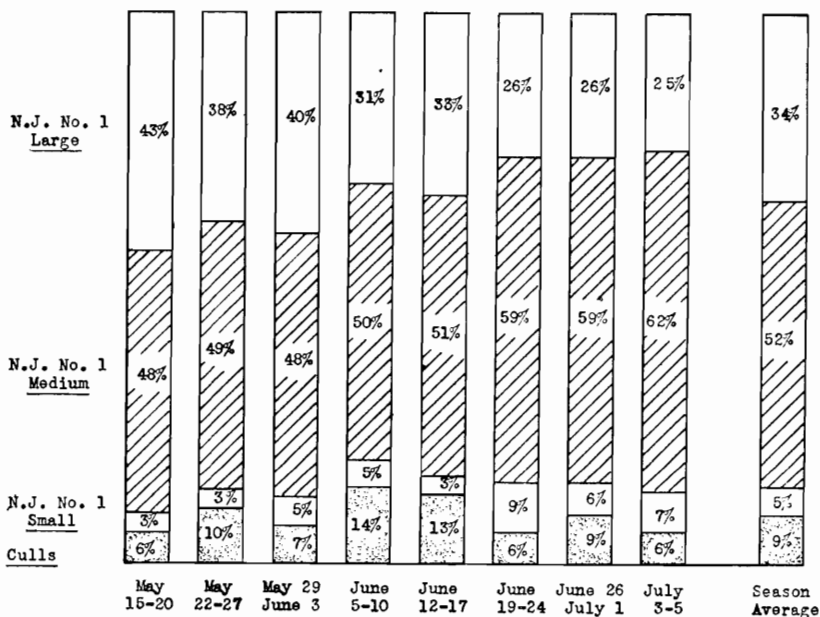


Chart 1—Weekly average quality of cannery asparagus, season of 1933.

INSPECTION AT AUCTION MARKETS

During the 1932 season the bureau provided inspection service at the Cedarville Auction Market for the certification of quality on certain shipments as requested by the buyers. This was the regular shipping point service that is provided on general fruits and vegetables. At the beginning of the 1933 season, however, buyers on this market requested the board of directors to provide complete federal-state line and check inspection on all strawberries, similar to that to which they were accustomed at southern auctions. The bureau maintained this service with a corps of nine in-

spectors during the peak of the season, the cost having been paid for by the buyers and the association. A total of 33,674 crates of 32 quarts were inspected during the season.

This auction market inspection service, which was an entirely new type for this section, involved a determination of quality before the sale, and a check on this quality after the sale upon delivery to car-door or truck. Rejection of loads which were misrepresented as to quality resulted in a general improvement in pack and minimized complaints from city markets. The percentage of loads rejected as topped was relatively small, but was sufficient to have a beneficial effect on the general offerings. The inspection service, in addition to promoting better grading and packing, enabled the buyers to transact business with more confidence because the quality of the produce was represented to them according to definite standards before the bidding.

The inspection of strawberries was of such value that the bureau was requested to continue the service through the season on other crops. Accordingly, by July 1, 1933, it inspected 27,247 hampers of beans, 630 bushels of peas, and 6,951 sacks of onions. Regular federal-state shipping point certificates were issued on all rail shipments without additional charge. A few of these certificates, denoting No. 1 quality, were used to force acceptance without taking a price reduction from the f. o. b. quotation.

SHIPPING POINT INSPECTIONS

Part of the shipping point inspection work is reported under "Inspection at Auction Markets." Other shipping point work consisted of the certification of grade on various products at the request of shippers, usually growers, at the farm or car-door.

One of the most important phases of the shipping point inspection work was the inspection of apples. A total of 230 inspections were made of 71 carloads and 159 truckloads of the fruit. The total volume was 102,869 bushels, of which 59,157 bushels were certified for export to markets principally in the United Kingdom. The export movement occurred during the fall months of 1932. No winter shipments were made from New Jersey, due to unfavorable rates of exchange and increased duties which became effective November 15.

Exceptionally low prices prevailing during the 1932 potato harvesting season reacted against potato inspection work, and only 10 carloads of the crop were inspected.

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RECORD OF INSPECTIONS, BY MONTHS, 1932—1933

Product	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
Apples	34	16	48	95	37	..	..	..	..	..	..	..	230
Beans .....	..	4	..	..	..	..	..	..	..	..	..	36	40
Celery .....	..	..	..	..	..	1	..	..	..	..	..	..	1
Mixed fruit .....	..	2	7	..	..	..	..	..	..	..	..	..	9
Onions	16	..	..	..	..	..	..	..	..	..	..	14	30
Peaches .....	..	..	2	..	..	..	..	..	..	..	..	..	2
Pears .....	..	..	14	1	..	..	..	..	..	..	..	..	15
Peas .....	..	..	..	..	..	..	..	..	..	..	..	1	1
Potatoes	2	7	1	..	..	..	..	..	..	..	..	..	10
Strawberries .....	..	..	..	..	..	..	..	..	..	..	12	140	152
Total.....	52	29	72	96	37	1	0	0	0	0	12	191	490

All the inspection work, both at canneries and at shipping points, was operated on a self-supporting basis from fees. Total fees assessed for the 1932-33 season for the inspection of fruits and vegetables amounted to \$11,264.63.

TEN-YEAR RECORD OF INSPECTIONS, BY PRODUCTS

Product	'23-'24	'24-'25	'25-'26	'26-'27	'27-'28	'28-'29	'29-'30	'30-'31	'31-'32	'32-'33
Apples	250	147	124	...	25	13	1	549	168	230
Beans .....	..	..	..	..	..	..	..	11	33	40
Celery .....	..	..	..	..	..	..	..	..	..	1
Mixed fruit .....	..	..	..	..	..	..	..	..	11	9
Onions .....	..	..	..	..	..	..	..	2	16	30
Peaches	380	443	245	188	154	..	83	4	24	2
Pears .....	..	2	..	..	..	..	..	29	14	15
Peas .....	..	..	..	..	..	..	..	4	..	1
Potatoes	89	77	27	423	757	789	312	911	217	10
Strawberries .....	..	..	..	..	..	..	..	47	23	152
Sweet potatoes .....	..	..	..	..	..	..	1	..	6	..
Total.....	719	669	396	611	936	802	397	1,557	512	490

RECEIVING POINT INSPECTIONS

Nine car loads of produce were inspected at their destination in or near Trenton during the year, usually at the request of receivers to substantiate claims against carriers for damage in transit, or against shippers for deterioration of quality. These consisted of five carloads of potatoes, three carloads of juice grapes, and one carload of onions.

DEVELOPMENT OF GRADES

During the year, progress was made in developing or revising standards to meet existing conditions. United States standards for tomatoes for the manufacture of strained tomato products were set up for use in 1933 by the Federal Department of Agriculture on the basis of the New Jersey cannery tomato inspection work done in 1932. Mention has already been made of

the bureau's development and promulgation of standards for New Jersey cannery asparagus. A new peach grade, named "U. S. Extra No. 1" by the bureau, was adopted and accepted by the federal standardization office.

Investigations of the application of existing New Jersey standards for table asparagus during the 1933 season led to plans for their moderate revision to meet changing conditions, particularly that of cutting greener stalks in accordance with trade demands.

PACKAGE STANDARDIZATION

Package work of importance was the development of a new crate for the packing and marketing of sweet corn. This new container was tried in Burlington County in the 1932 season with marked success, and the Cooperative Growers' Association of Beverly made plans with the cooperation of the bureau to provide for its members crates stamped with "N. J. No. 1," for use in 1933. Combined with this promotional work in grading are also the added advantages of attractiveness, protection, and ventilation, none of which are afforded by the sack which has been in use for sweet corn.

DEMONSTRATIONS AND EXHIBITS

The following demonstrations were made and exhibits set up during the year as a means of furthering the work of fruit and vegetable standardization:

- ASBURY PARK** An exhibit of various fruits and vegetables grown in New Jersey and canned by New Jersey canners was presented to members of the American Home Department of the Federation of Women's Clubs.
- NEWARK** The same exhibit was shown to women attending a home demonstration conducted by a large public utility company.
- CEDARVILLE** An onion-grading demonstration gave growers selling on the Cedarville Auction Market definite facts on requirements for grading onions.
- CAMDEN** Plant officials and field men of the Campbell Soup Company became familiar with grade requirements and grading operations at a pre-season demonstration of cannery tomato grading.
- MULLICA HILL** Growers in Gloucester County were given an opportunity to learn cannery tomato grade requirements at two grading demonstrations given prior to the contract season.
- BRIDGETON** Further demonstrations of cannery tomato grades were made for growers in Cumberland County.
- MOORESTOWN** Methods of grading peaches according to official standards were demonstrated to growers in Burlington County.

- TRENTON Standard grades were demonstrated in an exhibit of apples, peaches and potatoes as a part of the bureau's exhibit at the Trenton Fair.
- TRENTON The quality label as applied to fruits and vegetables, and the exhibit of New Jersey canned fruits and vegetables, formed a part of the bureau's display at the New Jersey Farm Show during Agricultural Week.
- TRENTON A demonstration of skill in apple packing was given by 12 students from seven schools teaching vocational agriculture in the packing contest featured by the bureau during Agricultural Week.
- ATLANTIC CITY To those attending the annual meeting of the State Horticultural Society an exhibit presented the bureau's development of the use of the outline of the state to identify quality in eggs and milk, and its possibilities for use on fruits and vegetables.
- HIGHTSTOWN Standard packages were displayed at the Tri-County Auction Market in an effort to standardize containers for sales at this newly formed auction.

SHIPPING POINT MARKETS

The auction method of selling fruits and vegetables at New Jersey's shipping points began six years ago. Great strides have been made since then. Distribution has to a considerable extent been direct to secondary markets instead of to New York and Philadelphia. As a consequence of this and of competitive bidding, prices to growers have been at higher levels than were generally possible through other marketing channels. The cost to the farmer for selling at these auctions is lower than provided by any other existing sales method, a situation which results in a larger net return to the grower. The fact that more than 500 wholesale buyers from 160 towns and cities in New Jersey and adjoining states patronized the six auctions in the state in 1932 is undeniable evidence of the importance of this new type of selling at concentration points in the producing sections.

One new market started operations in 1932. This was the Hammonton Peach Auction, which was formed the previous year but which at that time did no business. During the 1932 season this new association did a 150-car business, which netted growers an average of about \$1.20 per package for the season. This return exceeded that obtained by many growers selling through other channels.

HIGHTSTOWN MARKET

In December, 1932, a group of fruit and vegetable growers from Mercer, Middlesex and Monmouth counties requested the aid of the Bureau of Markets in improving their market facilities. A few of these producers had become somewhat acquainted with the auction method of selling during the

previous year. Following several committee meetings, two well-attended grower meetings were held at Hightstown and a plan was presented by the bureau which called for the establishment of an auction market. In January, the Tri-County Cooperative Auction Market Association was organized. The directors who were elected held meetings nearly every week after that date. At all of these meetings the bureau was represented. The bureau assisted in obtaining a suitable site for the market, drew up the plans for grounds and buildings, and aided in supervising construction. Many improvements in auction market facilities are found at this market. Construction was completed and the market opened on June 2. Governor A. Harry Moore attended the opening exercises and made a very opportune address, calling attention to the value of cooperation and speaking highly of the auction market system in the state. The association was also fortunate in having Senator A. Crozer Reeves open the market by auctioning off the first package offered for sale. By the close of the year, approximately 400 farmers had joined this organization. The sales during the first month were not heavy, but there were indications that this market would have a most successful season. During June, 15,792 packages of produce were sold for \$11,567.65.

BEVERLY MARKET

The Cooperative Growers' Association of Beverly opened its auction market at Beverly for the fourth season in 1933. A federal-state inspector, furnished by the Bureau of Markets was employed for the entire season to develop better grading and packing methods among farmers selling at this market. Reports from the association, and from some growers themselves, indicate that much was accomplished along this line, and plans were made for a continuation of the service in 1933.

CEDARVILLE MARKET

The Cedarville Auction Market is the oldest of New Jersey's fruit and vegetable auctions, and is outstanding among them in that an appreciable volume of produce is moved from this market to distant buyers by rail. Nearly half a million packages were sold there in 1932, a slight increase over the 1931 volume. Lower prices, particularly for the important strawberry crop, resulted in a smaller gross business than that of the previous year. Mention has already been made of the bureau's activities at this market in maintaining shipping-point inspection service. This service aided materially in developing carlot business at this market.

ANALYSIS OF OPERATION COSTS—PRODUCE AUCTION MARKETS*

Season of 1932

Market	Number of Packages	Gross Sales	Salaries	Misc. Costs	10% of Capital Outlay not Including Land	Total Chargeable Costs of Operation	Cost per Package	Per Cent Selling Costs Are of Gross Sales
Beverly	245,786	\$112,584.44	\$2,742.75	\$268.02	\$280.00	\$3,290.77	\$.0134	2.9
Glassboro	282,490	114,550.94	1,698.84	395.00	60.00	2,153.84	.0076	1.9
Cedarville	469,827	452,979.34	2,453.00	506.30	326.53	3,285.83	.0069	.7
Rosenhayn	111,503	117,467.02	604.00	199.88	121.50	925.38	.0083	.8
Vineland	144,449	70,336.20	858.32	183.62	50.00	1,091.94	.0076	1.6
Hammonton (Peach)..	57,874	69,500.00	443.00	16.26	.....	459.26	.0079	.7
Totals.....	1,311,929	\$937,417.94	\$8,799.91	\$1,569.08	\$838.03	\$11,207.02	\$.0085	1.2

NOTES: Number of packages and gross sales are with one exception from daily sales reports made to the Bureau of Markets.

Beverly conducts not only an auction market, but a consignment and direct sales operation as well as a supply department. Figures shown are auction charges only.

Hammonton records are from peach sales only.

Salaries include all salaries chargeable to the auction except in the case of Rosenhayn where some labor charges are included under miscellaneous costs.

Miscellaneous costs include insurance and bond premiums where paid, taxes where property is assessed, taxes on checks, rents and repairs, and all actual payments made not listed under salaries.

Ten per cent of capital outlay is a uniform figure charged against value of buildings (actual in three cases, estimated in two cases) and permanent equipment, but does not include land values. (Not listed for Hammonton where no property is owned by the market).

There are no items of interest on investment or on surplus or reserve funds.

* Figures are complete for all markets except Cedarville, which operated for two weeks (November 7—19, 1932) after this tabulation was made.

GLASSBORO MARKET

The Glassboro Auction Market ranked next to Cedarville in the amount of produce sold. Started in 1931 to supplant the discontinued Williamstown Market, it has developed rapidly and has been serving many Gloucester County farmers and numerous buyers desiring particularly mixed loads for nearby outlets. In the spring of 1933, a reorganization was effected so that it and other marketing agencies in Gloucester County would come directly under the supervision of the Gloucester County Board of Agriculture.

ROSENHAYN MARKET

In 1932, the Rosenhayn Auction Market had a greater increase in the volume of business done, as compared to the 1931 volume, than did any of the other auctions. This market handles large quantities of several kinds of berries, as well as vegetables, particularly beans and peppers. At the close of the fiscal year the Rosenhayn Market was beginning operations for its sixth consecutive year.

VINELAND MARKET

A 65 per cent increase in volume over its first year's business in 1931 was recorded by the Vineland Auction Market for 1932. A wide variety of produce is sold at this auction beginning with dandelion and other spring greens in March. Here two markets were operated daily, a morning sale for large buyers and large growers with a minimum trading unit of 100 packages, and an afternoon sale for all other trading.

SWEDESBORO MARKET

At the close of the fiscal year, plans were practically completed for the opening of an auction market at Swedesboro, which was planned to be run under the supervision of the Gloucester County Board of Agriculture as is the Glassboro Market. It is expected that this market will eliminate the street market which has been in operation in Swedesboro for many years.

Statistical information on the number of packages sold on the various auction markets, and the value of the produce sold, together with comparisons for 1931, is listed in the following table:

PACKAGES SOLD AT AUCTION MARKETS

Showing 1931 and 1932 comparisons in volume and value

Market	Number of Packages		Value	
	1931	1932	1931	1932
Beverly .....	.....	245,786	.....	\$112,584.44
Cedarville	448,839	476,827	\$549,359.54	455,510.64
Glassboro	199,728	282,490	108,171.40	114,550.94
Hammonton (Peach).....	.....	57,874	.....	69,500.00
Rosenhayn	64,750	111,503	98,567.18	117,467.02
Vineland	87,278	144,449	62,148.72	70,336.20
Totals.....	800,595	1,318,929	\$818,246.84	\$939,949.24

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CITY COOPERATIVE MARKETS

PATERSON MARKET

The outstanding development in city market work in 1932 was the organization of the Paterson Market Growers' Cooperative Association, Inc., and the construction by this organization of one of the most complete city market units in the country. In the seventeenth annual report, mention was made of the need for this market and of the preliminary survey of the market facilities of Paterson made by the Bureau of Markets. Shortly after the beginning of the fiscal year, plans for this market began to take definite shape. A marketing organization was perfected with the help of the bureau on July 5. The association was incorporated under the provisions of the New Jersey agricultural cooperative marketing act. The chief of the bureau met weekly with the board of directors in the county agent's office at Paterson throughout the summer.

A site free from traffic congestion was chosen for the market in an industrial zone. The board allowed for reasonable expansion of both the farmers' market and the store trade. The site is well located on the main line of the Erie Railroad and has railroad siding facilities. It serves not only Paterson but surrounding cities and towns. Plans for a market square with commission houses adjacent were worked out by a competent architect who based his plan on the requirements drawn up by the Bureau of Markets. Within three months, the steel sheds and concrete walks were erected and the first unit of enclosed buildings for commission houses, restaurant, seed store and office were being constructed. Almost immediately the demand for space from Paterson dealers necessitated the building of another section of 16 stores.

The market was built to fill a very definite need. It was almost entirely financed by farmers and is operated by farmers. The raising of the capital needed was a difficult task for these farmers under present economic conditions. Some had to borrow money to finance a few shares of stock; all had to do without some of the things they needed on their farms or in their homes.

The farmers' square, which supplies steel shed protection for 200 farmers' trucks, was officially opened on September 28, 1932. By June 30, 1933, after payment of all operating expenses and setting aside sufficient funds for normal depreciation, the market showed a profit of approximately \$4,800. This rapid success was gratifying not only to the Bureau of Markets but especially to the farmers who had enough vision to launch this important enterprise.

NEWARK MARKET

The Bureau of Markets while not cooperating actively with the Newark Farmers' Market, Inc., was called upon from time to time for assistance and advice. The association increased the value of its services to the farmers of the state and had a financially successful year.

PHILLIPSBURG MARKET

For years a number of New Jersey farmers hauled their produce to markets in Easton, Pennsylvania, and much of it was brought back to Phillipsburg by residents or local retailers. Need for a retail market on the New Jersey side of the Delaware River was apparent, and following a survey by the Bureau of Markets, a municipal market was started in 1932 under the direction of the county director of emergency relief, on the basis of plans and recommendations which the bureau made. The market developed into a center supplying many of the consumers of the residential district in which it is located. Although limited to only moderate growth, the market is giving consumers an opportunity to obtain their supplies of perishables closer to home and growers an opportunity to move reasonable quantities of produce in both wholesale and retail units.

HACKETTSTOWN MARKET

The Hackettstown Kiwanis Club, recognizing the desirability of a local retail farmers' market, appealed to the Bureau of Markets for assistance in determining the possibility for the development of such a market. Residents, it was found, obtained their perishables from retail stores, hucksters, and a few farmers. Under the direction of a growers' committee and a representative of the Kiwanis Club, a market was established and officially opened on June 24, 1933, with approximately a dozen farmers licensed to sell on the market. Plans provide for a morning market three times a week during the summer months.

MUNICIPAL MARKETS

The cooperative agreement with Atlantic City, Camden, Hammonton and Trenton, whereby the state contributed to the expense of supervising city-owned markets, was modified at the beginning of the year. In the interest of economy and because these markets were well established, the financial assistance of the state was withdrawn. The bureau has continued in an advisory way to aid the market masters of these markets. The market masters in Atlantic City, Hammonton and Trenton have continued to report the activities of these markets weekly as they did when the cooperative agreement was in effect. This is most commendable, inasmuch as the withdrawal of the state contribution was a serious cut in salary for the market masters of Atlantic City and Trenton, and was not made up by either city. A summary of the year's activities on these markets is found in the following table:

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MUNICIPAL MARKETS

July 1, 1932 to June 30, 1933

Market	Bushels or Packages of Produce	Dozens of Eggs	Pounds of Poultry	Pounds of Pork	Value of Sales
Atlantic City.....	448,890	181,649	110,347	870	\$464,341.00
Trenton	330,855	56,070	209,035	...	372,241.00
Hammonton	101,115	.....	.....	...	254,981.40
Totals.....	880,860	237,719	319,382	870	\$1,091,563.40

CONSUMER EDUCATION

Contact with members of the Joint Committee on Economic Food Distribution was maintained through the year. Much of this committee's attention was devoted to consumer problems on products other than fruits and vegetables. A publicity campaign for New Jersey peaches, and display exhibits of New Jersey canned fruits and vegetables, mention of which has been made elsewhere, comprised these activities aside from those of the newly formed consumer information service directed by the bureau and already reported upon.

PUBLICITY

Special publicity issued by the fruit and vegetable staff was given distribution through means of advertising letters and a circular. The circular, "Marketing Cannery Tomatoes on Grade in New Jersey" (Circular No. 231, March, 1933) was prepared by the project supervisor to give in detail the results of the inspection of this product. It was distributed principally to all growers contracting on the graded basis, the names of whom were furnished by the four New Jersey canners buying on grade. More than 2,000 farmers received this circular. Four letters advertising the farmer-owned auction markets of New Jersey were sent to the trade in New Jersey and surrounding states, and to markets in New England and the Middle West. These were as follows: general auction market letter, 630; mid-season products, 450; peaches, 450; Hammonton peaches, 117.

POULTRY PRODUCTS MARKETING

In poultry products marketing and in the poultry standardization work, the Bureau of Markets continued the lines of work established in former years. The program for the standardization of baby chicks, hatching eggs and breeding stock was continued satisfactorily, although on a considerably smaller scale than previously. This was largely due to the fact that individual producers felt that they had to economize in every possible way and hoped that it would be possible to drop out of the program for one year without serious results. The bureau was able, however, during the year, to so distribute its work over the state that it was possible for egg producers to obtain their laying stock within reasonably

short distances of their places of business. It maintained its usual rigid inspections of hatcheries during the hatching season, and inspected Record of Performance and other breeding flocks during the entire year.

The state's egg and live poultry auction markets continued their splendid work and by the end of the year were serving approximately 2,500 poultry producers within the state. These poultrymen are located in 20 counties of the state, as shown by the table on page 79. More than 100,000 cases of eggs and more than 1,000,000 pounds of poultry were sold through these organizations for slightly less than \$1,000,000. In each instance the price received was approximately one cent per dozen eggs higher than the highest quoted price for the total volume of comparative grades and sizes on the New York City market, and producers received from three-fourths to two and one-half cents per pound more for their poultry than they would have received had they obtained the highest average comparative price in New York. This is all the more interesting because of the fact that very few producers pay any transportation charge on either eggs or poultry, and because the selling charges in most cases rarely exceed 5 per cent. Taken as a whole, sales through the egg and poultry auctions are yielding the highest quoted price of the New York City market, net at the farm, a situation which results in the distribution to producers of thousands of dollars that would otherwise be spent for transportation and commissions. Shrinkage in poultry is also minimized, or divided between buyer and producer, in such a way that approximately 3 to 4 cents per pound in increased weight is gained by the producer. Bureau representatives met with the boards of directors of the egg and poultry auction associations whenever possible to advise and assist them in every way they could.

The bureau maintained its connections on the metropolitan market for the purpose of developing demand for the eggs graded and labeled in accordance with its grade requirements. The labels are now recognized as indicating the highest possible quality that can be obtained anywhere. The bureau cooperated with the auction associations in maintaining official egg inspectors at the respective auctions in order to maintain this high quality. Check inspections are required from time to time in order to insure that the individuals making inspections at the auctions are enforcing the grade requirements.

In order that it may more easily visualize the value of the auction market work, the bureau maintains a series of charts on the volume and price of both eggs and poultry. These charts include the five-year average prices of eggs and poultry on the New York market, in the grades usually sold in New Jersey, together with the monthly prices received at New York and at the various auctions. In addition to this, it maintains a chart comparing the weekly sales on the respective auctions with the weekly sales on the New York City market.

The following sections report in detail, with charts, the standardization and marketing activities of the poultry division of the bureau.

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AUCTION MARKETS

The sales of poultry and eggs through auction markets almost doubled during the year despite the low value of all poultry products. Distribution of service by the different associations widened in a marked degree. A glance at the accompanying table will show that farmers in every county of the state, except Hudson, were being served by the auction market system, and with this distribution of service there is every reason to believe that the system will be extended very rapidly during the next few years. Hudson County, is entirely urban and considerable service is rendered to its numerous buyers who patronize these auctions. Buying through the auctions is now quite general and most urban communities in the state are now being served with graded products purchased at the auction markets.

AUCTION MARKET MEMBERSHIP, BY COUNTIES

County	Flemington Auction	Burlington Auction	Vineland Auction	Paterson Auction	Totals
Atlantic .....	...	...	32	...	32
Bergen .....	...	...	...	42	42
Burlington	21	467	1	...	489
Camden	1	3	13	...	17
Cape May.....	...	...	24	...	24
Cumberland .....	...	...	177	...	177
Essex	4	...	...	2	6
Gloucester	1	...	62	...	63
Hudson .....	...	...	...	...	...
Hunterdon	817	...	...	...	817
Mercer	68	3	...	...	71
Middlesex	10	...	...	...	10
Monmouth	6	...	...	...	6
Morris	8	...	...	35	43
Ocean	1	3	...	...	4
Passaic	1	...	...	64	65
Salem .....	...	1	28	...	29
Somerset	94	...	...	1	95
Sussex	21	...	...	35	56
Union	5	1	...	...	6
Warren	96	...	...	2	98
Totals.....	1,154	478	337	181	2,150

FLEMINGTON EGG AND POULTRY AUCTION MARKETS

The Flemington Auction Market Cooperative Association continued to set the pace for all others, both in average volume and average price. On June 1, 1933, the Flemington Auction had 1,154 members. These members were distributed through 15 counties and included both egg and poultry producers. During the fiscal year, the Flemington Auction sold 54,533 cases of eggs for a total of \$391,717.78 and maintained an average price for all eggs sold, regardless of size, of 24 cents a dozen, which was 1 cent

per dozen, or 30 cents per case, higher than the highest quoted prices for the total volume on the New York City market. The association also sold 18,646 crates of poultry for \$137,910.38. This poultry weighed 891,608.5 pounds. The cash returned to producers for poultry was approximately three-fourths of a cent per pound or 35 cents per coop above New York quotations. To this increased return should be added 3 cents or 4 cents per pound, which is usually lost through shrinkage in shipment, since most of the poultry marketed through the auction is sold within a few hours after it leaves the farm.

The Flemington Auction Market Association served its members on the \$1.00 membership fee and commissions of 5.1 per cent and 5.36 per cent of the selling price of eggs and poultry, respectively. Information on the volume of poultry and eggs sold and on the prices received, which is distributed by the Associated Press and published following each sale by many trade, metropolitan and local newspapers, has had a tendency to increase prices for comparative goods throughout the state, and during the last few months of the year was being used by receivers to stabilize the New York City market on nearby eggs. This accomplishment has been the aim of poultry producers for many years. New Jersey eggs and poultry may now be sold on a true value basis when sold under Department of Agriculture labels. The Flemington Auction Market Association maintained normal activities during the bank holiday in March.

SALES ON A GRADED BASIS AT THE FLEMINGTON EGG AUCTION MARKET

July, 1932—June, 1933

Month	Number of Cases	Gross Price Flemington	New York Quotation	Difference in Favor of Flemington
1932				
July	3,370	\$24,064.15	\$21,902.12	\$2,162.03
August	3,304	26,279.94	23,613.05	2,666.89
September	3,035	28,534.38	24,960.18	3,574.20
October	2,606	26,860.27	23,938.44	2,921.83
November	3,553	38,999.04	37,601.27	1,397.77
December	4,174	42,287.17	40,490.60	1,796.57
1933				
January	6,202	46,681.52	48,707.90	—2,026.38
February	4,986	26,732.41	26,051.39	681.02
March	5,632	30,901.91	31,325.16	—423.25
April	5,504	30,067.48	29,569.85	497.63
May	7,050	37,075.39	37,052.46	22.93
June	5,117	33,234.12	30,538.57	2,695.55
Totals.....	54,533	\$391,717.78	\$375,750.99	\$15,966.79
Grading and selling charges.....				\$19,989.06
Average price per case.....				\$ 7.18
Average price per dozen.....				\$.24
Per cent of charges to gross receipts.....				5.1

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SALES AT THE FLEMINGTON POULTRY MEAT AUCTION

July, 1932—June, 1933

Month	Number of Crates	Pounds of Poultry	Gross Price Flemington	New York Quotation	Difference in Favor of Flemington
1932					
July	1,811	81,244	\$13,293.52	\$12,243.09	\$1,050.43
August	1,967	89,871	14,791.85	13,378.70	1,413.15
September	1,512	72,373	11,135.73	10,818.43	317.30
October	1,190	60,346	9,317.91	8,606.53	711.38
November	1,559	81,499	11,917.78	12,044.35	-126.57
December	1,218	62,281	8,516.84	8,169.86	346.98
1933					
January	888	47,291	6,992.84	6,787.80	205.04
February	906	47,776½	7,501.18	7,484.43	16.75
March	970	52,413	9,003.59	8,672.04	331.55
April	1,215	58,094	9,511.66	9,171.26	340.40
May	2,656	118,056	18,238.81	17,196.61	1,042.20
June	2,754	120,364	17,688.67	16,796.08	892.59
Totals.....	18,646	891,608½	\$137,910.38	\$131,369.18	\$6,541.20

Selling charges.....	\$7,404.88
Average price per pound.....	\$.155
Per cent of charges to gross receipts.....	5.36

VINELAND EGG AND POULTRY AUCTION MARKETS

The Cooperative Egg Auction Association of South Jersey, located at Vineland, also made splendid progress during the year. This association sold 43,565 cases of eggs for a total of \$315,355.19, which was 1 cent per dozen higher than the highest quoted prices for comparative grades on the New York City market. The price received for all eggs was identically the same as that received on the Flemington Auction, or 24 cents per dozen, and the charges to producers were 4.85 per cent of the gross receipts, or one-quarter of one per cent less than the Flemington charge.

The association began the sale of live poultry during the year, beginning on September 20, at Elmer. It provided at that time for the sale of goods for non-members. The association's initial fee for members is \$5.00 and the annual fee is \$2.00. Poultry producers of the Elmer section, however, did not patronize this auction sufficiently to warrant its continuance. It was, therefore, discontinued at Elmer and reopened at Vineland on April 27, 1933, in connection with the egg auction. Between that time and the end of the year it grew very satisfactorily and will probably extend its service throughout South Jersey.

Because of the limited amount of poultry sold in the early stages of the auction market at Elmer, no reports on the sales were received by the Bureau of Markets for September, October and November. From December to June, however, reports received by the bureau show the auction sold

2,142 crates of poultry for \$11,879.78. This poultry weighed 91,630 pounds. The total receipts indicate a loss to producers of about 1 cent per pound, as compared to the highest average price on the New York City market. This may be explained in part, however, by the fact that very often poultry producers send only poultry of poor quality to the auction market, and this is particularly true where a number of itinerant buyers have been purchasing poultry at the farm for a number of years, and the poultrymen desire to keep the buyers coming.

The Vineland association at the end of the fiscal year had a total membership of 337, distributed in seven counties, and in addition to this membership, lists many non-members selling poultry occasionally through the market.

SALES ON A GRADED BASIS AT THE VINELAND EGG AUCTION MARKET

July, 1932—June, 1933

Month	Number of Cases	Gross Price Vineland	New York Quotation	Difference in Favor of Vineland
1932				
July	2,262	\$16,609.45	\$14,812.28	\$1,797.17
August	2,862	22,156.97	19,845.24	2,311.73
September	2,874	25,973.91	23,566.50	2,407.41
October	2,863	28,374.66	26,479.94	1,894.72
November	2,619	28,827.44	27,622.09	1,205.35
December	2,933	29,616.28	28,764.22	852.06
1933				
January	4,248	33,506.23	33,921.58	—415.35
February	3,938	20,985.77	20,643.96	341.81
March	4,797	26,661.36	26,743.67	—82.31
April	4,340	23,741.07	23,879.40	—138.33
May	5,373	29,513.75	29,190.63	323.12
June	4,456	29,388.30	26,853.09	2,535.21
Totals.....	43,565	\$315,355.19	\$302,322.60	\$13,032.59
Grading and selling charges.....				\$15,321.24
Average price per case.....				\$7.24
Average price per dozen.....				\$.24
Per cent of charges to gross receipts.....				4.85

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SALES AT VINELAND POULTRY MEAT AUCTION

December, 1932—June, 1933

Month	Number of Crates	Pounds of Poultry	Gross Price Vineland	New York Quotation	Difference in Favor of Vineland
1932					
December ..	287	17,108	\$2,097.67	\$2,280.79	—\$183.12
1933					
January	182	11,080	1,590.15	1,698.80	—108.65
February	110	6,483	879.50	1,017.43	—137.93
March	36	2,065	308.45	346.72	—38.27
April	117	5,687	681.15	840.45	—159.30
May	552	20,879	2,494.40	3,044.85	—550.45
June	858	31,328	3,828.46	4,126.79	—298.33
Totals...	2,142	94,630	\$11,879.78	\$13,355.83	—\$1,476.05
Selling charges.....					\$585.68
Average price per pound.....					\$.125
Per cent of charges to gross receipts.....					4.93

BURLINGTON COUNTY POULTRY AND EGG AUCTION

The Burlington County Cooperative Poultry Auction Association, located at Mount Holly, continued its excellent work of serving the heavy poultry meat producing area of Burlington County and vicinity. This association at the end of the fiscal year had a total membership of 478, largely concentrated in Burlington County but distributed to some extent in five other counties. The association was primarily organized as a poultry meat auction and was expected to extend the market facilities of the poultrymen in that area and to obtain a general increase in price. These aims were accomplished very satisfactorily during the year, when the association sold 5,986 coops of poultry for a gross price of \$55,859.25. The poultry weighed a total of 350,285 pounds. The prices at the auction were, on the average, 2 cents per pound, or about \$1.20 per crate, higher than prices of comparative goods on the New York City market. The association was able to maintain its organization on 5.15 per cent of the gross receipts.

The association extended its services by purchasing supplies and selling eggs for its members. The eggs were not sold under standard grades. Therefore, the prices received for them can not be compared to prices on the New York City market. However, the prices appeared to represent a material increase over local quotations. The association sold a total of 2,300 cases of eggs for \$16,156.05 and retained only 4.03 per cent of the gross receipts for its operation. This association had a \$1.00-per-year membership fee.

SALES AT THE BURLINGTON COUNTY POULTRY MEAT AUCTION

July, 1932—June, 1933

Month	Number of Crates	Pounds of Poultry	Gross Price Mount Holly	New York Quotation	Difference in Favor of Mount Holly
1932					
July	230	11,334	\$2,022.96	\$1,726.45	\$296.51
August	380	18,409	3,091.97	2,664.38	427.59
September	345	17,326½	2,981.99	2,413.23	568.76
October	375	21,463	3,673.51	2,862.49	811.02
November	685	41,655½	6,539.50	5,669.47	870.03
December	645	40,928	5,897.78	5,312.41	585.37
1933					
January	1,228	78,057	11,816.54	10,547.93	1,268.61
February	567	34,520½	5,794.17	5,154.65	639.52
March	431	26,112	4,352.22	4,047.74	304.48
April	364	22,131½	3,488.86	2,985.28	503.58
May	403	21,884	3,558.78	3,100.35	458.43
June	333	16,464	2,640.97	2,233.53	407.44
Totals.....	5,986	350,285	\$55,859.25	\$48,717.91	\$7,141.34
Selling charges.....					\$2,878.00
Average price per pound.....					\$.16
Per cent of charges to gross receipts.....					5.15

SALES AT THE BURLINGTON COUNTY EGG AUCTION

July, 1932—June, 1933

Month	Number of Cases	Gross Price Mount Holly
1932		
July	27	\$164.29
August	14½	106.70
September	33½	294.11
October	46½	431.54
November	53	590.62
December	60½	645.87
1933		
January	350	2,419.98
February	281	1,460.95
March	371	1,881.00
April	406	1,979.63
May	478	2,370.50
June	179	3,810.86
Totals.....	2,300	\$16,156.05
Selling charges.....		\$651.90
Average price per case.....		\$ 7.02
Average price per dozen.....		\$.23
Per cent of charges to gross receipts.....		4.03

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PATERSON EGG AND POULTRY AUCTION MARKETS

During the year, the Bureau of Markets aided in establishing another auction market, operated by the North Jersey Cooperative Egg Auction Association, Inc., at Paterson, to extend the auction market service to producers of the northern and northeastern section of the state. The market was organized in February when prices were very low, but from then until the end of the fiscal year maintained higher average prices than any of the other auctions. During that part of the fiscal year that it was open, the association sold 4,029 cases of eggs for \$23,297.41, and retained 7.46 per cent of the gross receipts for its operations. It was able to obtain one and one-half cents per dozen more than the New York quotation for the same class of eggs and averaged $19\frac{1}{4}$ cents per dozen for all eggs sold during this period. The seemingly high charge of 7.46 per cent is explained by the fact that the organization was new and handled only a limited volume of goods, since the amount of supervision required to handle a small number of cases is the same as that required to handle a much greater number. The seemingly high charge was not due to inefficiency on the part of the organization.

The Paterson association established a poultry auction, May 3. During May and June, the association sold 305 crates of poultry, for a gross price of \$1,827.12. This poultry weighed 12,818 pounds. By the end of the year, the association had 181 members in seven counties, and, because of this distribution of members, had excellent chances for increasing its membership materially.

SALES ON A GRADED BASIS AT THE PATERSON EGG AUCTION MARKET

February, 1933—July, 1933

Month 1933	Number of Cases	Gross Price Paterson	New York Quotation	Difference in Favor of Paterson
February	591	\$ 3,278.85	\$ 2,994.40	\$ 284.45
March	897	5,131.49	4,908.81	222.68
April	824	4,599.03	4,346.69	252.34
May	1,052	5,857.00	5,449.46	407.54
June	665	4,431.04	3,758.43	672.61
Totals	4,029	\$23,297.41	\$21,457.79	\$1,839.62
Grading and selling charges.....				\$1,739.29
Average price per case.....				\$ 5.78
Average price per dozen.....				\$.1925
Per cent of charges to gross receipts.....				7.46

SALES AT THE PATERSON POULTRY MEAT AUCTION

May, 1933—June, 1933

Month 1933	Number of Crates	Pounds of Poultry	Gross Price Paterson	New York Quotation	Difference in Favor of Paterson
May	133	5,553½	\$ 748.15	\$ 853.05	\$—104.90
June	172	7,264½	1,078.97	1,029.46	49.51
Totals	305	12,818	\$1,827.12	\$1,882.51	\$ —55.39
Selling charges.....					\$121.20
Average price per pound.....					\$.1425
Per cent of charges to gross receipts.....					6.63

SUMMARY OF AUCTION MARKETS

During the year the poultry and egg auction markets in the state disposed of approximately one million dollars' worth of goods and in so doing returned many thousands of dollars in additional profits to the poultry and egg producers of New Jersey. In addition, it was possible because of the markets to establish a definite quotation on New Jersey eggs packed in accordance with the New Jersey grades established by the Department of Agriculture. The complaints about graded eggs sold at the markets were very few and the amount of refunds made, considering the tremendous amount of business, was almost negligible. In maintaining strict grading, the Bureau of Markets made 90 auction market inspections and 138 check inspections on grades at the various auction markets during the year.

GENERAL POULTRY PRODUCTS MARKETING

In addition to its auction market work, the Bureau of Markets endeavored to be of service to individual poultry and egg buyers and producers, and to the two large egg clubs operating in the state. Close contact was maintained with the New York City wholesale market through personal visits to many of the receivers of eggs and poultry. This contact gave the bureau an opportunity to check the quality of shipments from the New Jersey auctions as they arrived at the New York markets.

The bureau received many requests from buyers for information on sources of eggs and poultry, and from producers seeking new outlets. These persons were informed of the auction markets, and efforts were also made, if these outlets were impractical or unsatisfactory to the individuals, to help them in their particular problems.

POULTRY STANDARDIZATION

The bureau conducted its breeding flocks standardization program along the same general lines as in former years. This work was curtailed considerably, because of the financial condition of New Jersey poultrymen. The number of flocks under supervision was reduced from 300 to 153, the

total number of birds from 156,150 to 84,991, and the number of hatcheries from 67 to 48. The distribution of the standardization work, however, remained about the same as in previous years, with flocks under supervision in 17 counties. That the flocks under supervision have been improved is indicated by the fact that only 6,465 birds of the 85,000 inspected during the year were rejected as compared to slightly more than 29,000 rejected of the 156,000 inspected during the previous year. Pullorum disease infection was also found to be less than in the previous year by 30 per cent, only 1,771 reactors having been located among the total number of birds bled. Even though a smaller number of flocks were under supervision during the year, the same number, 38, were free from pullorum disease as in the previous year, a situation which is some indication of the effectiveness of the standardization program. The field work in poultry standardization was handled without the aid of outside inspectors, the poultry staff of the bureau having made 228 flock inspections in carrying on the standardization program.

The attention of the reader is directed to the accompanying tables which classify the birds in the flocks under supervision, show their distribution according to counties, and give the distribution of the flocks in counties according to the breeds of birds entered.

Representatives of the bureau made a total of 452 sanitary inspections of breeding flocks during the hatching season to see that rules and regulations were maintained by the poultry breeders. They made 61 hatchery inspections during the same period for the purpose of checking egg size, tinted eggs, etc. They also made 326 farm visits for other purposes connected with the standardization work, such as adjusting complaints, making explanations of various kinds, collecting accounts, etc.

It was necessary for the poultry division of the bureau to maintain a complete set of records for both standardization and marketing work.

Records of the bureau show that the reaction of poultry to the pullorum test decreased from 4.6 per cent in 1932 to 2.25 per cent in 1933. These percentages cover birds under the supervision of the Bureau of Markets. All the reactors located were removed for slaughter, under the supervision of the Bureau of Animal Industry as in previous years. Of the 153 flocks inspected and tested, 37 contained less than 200 birds; 104, between 201 and 1,500 birds, and 12, more than 1,501 birds.

CLASSIFICATION AND DISTRIBUTION OF BIRDS UNDER SUPERVISION

County	No. of Flocks	Number of Birds								
		Super-vised	Super-vised Acc'd	Certi-fied	Certi-fied Acc'd	Certified Meat Production	Approved Breeding Flock (Egg)	Approved Egg Accredited	Approved Breeding Flock (Meat)	Approved Meat Accredited
Atlantic	2	921	139	.....	.....	.....	.....	.....	.....	...
Bergen	4	663	72	2,306	.....	.....	.....	.....	.....	...
Burlington	8	105	...	125	1,399	.....	785	.....	742	...
Cape May.....	2	.....	...	286	.....	.....	.....	.....	.....	...
Cumberland	18	2,036	...	4,381	.....	.....	659	1,129	500	...
Essex	2	.....	...	1,719	.....	.....	.....	.....	.....	...
Gloucester	4	1,080	...	3,406	.....	.....	.....	.....	213	...
Hunterdon	29	7,592	213	1,994	383	.....	8,931	.....	2,571	486
Mercer	33	3,102	135	2,493	1,300	1,210	.....	.....	.....	...
Middlesex	8	1,638	...	1,079	.....	.....	3,151	.....	.....	...
Monmouth	4	1,736	...	.....	.....	.....	1,252	.....	.....	...
Morris	2	2,355	...	.....	.....	.....	422	.....	.....	...
Salem	16	937	...	.....	.....	.....	.....	.....	2,398	...
Somerset	13	4,430	...	7	.....	67	330	531	.....	...
Sussex	5	934	...	713	.....	.....	.....	.....	67	...
Union	1	1,342	...	.....	.....	.....	.....	.....	.....	...
Warren	2	290	...	.....	.....	.....	.....	.....	.....	...
Totals.....	153	29,161	559	18,509	3,082	1,277	15,530	1,660	6,491	486

STATE DEPARTMENT OF AGRICULTURE

(135 birds were not blood-tested.)

NUMBER OF BIRDS INSPECTED, BY COUNTIES AND BREEDS

County	No. Flocks Inspected	S. C. White Leghorns	R. I. Reds	Barred Rocks	White Rocks	White Wyandottes	Black Minorcas	Light Brahmas	C. M. P.*	A. B. F.† Egg	A. B. F.† Meat	Totals
Atlantic	2	1,095	47	....	....	....	95	..	....	....	....	1,237
Bergen	4	3,178	67	....	....	....	..	..	....	....	....	3,245
Burlington	8	1,654	128	....	....	....	..	..	....	785	925	3,492
Cape May.....	2	369	....	....	....	....	..	..	....	....	....	369
Cumberland ...	18	6,934	....	....	....	....	..	..	....	1,829	573	9,336
Essex	2	2,000	....	....	....	....	..	..	....	....	....	2,000
Gloucester	4	4,733	....	....	....	....	..	..	....	....	324	5,057
Hunterdon	29	10,189	2,205	1,108	..	740	..	..	....	8,396	1,673	24,311
Mercer	33	2,986	1,452	2,650	..	....	..	..	2,114	....	....	9,202
Middlesex	8	2,299	....	811	..	....	..	..	....	3,199	....	6,309
Monmouth	4	1,431	....	472	..	....	..	..	....	1,259	....	3,162
Morris	2	2,483	151	....	....	....	..	..	....	443	....	3,077
Salem	16	....	....	....	529	665	..	76	....	....	2,804	4,074
Somerset	13	3,478	643	627	..	40	..	..	88	915	....	5,791
Sussex	5	2,202	....	....	....	....	..	..	....	....	101	2,303
Union	1	1,676	....	....	....	....	..	..	....	....	....	1,676
Warren	2	283	40	27	350
Totals.....	153	46,990	4,733	5,695	529	1,445	95	76	2,202	16,826	6,400	84,991

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**Certified Meat Production* class— not inspected for breed characteristics.

†*Approved Breeding Flock* class—not inspected for breed characteristics.

The eggs from these flocks in whole or in part, supplied 48 hatcheries, having a total capacity of 1,243,443 eggs and located in 16 counties. The records of the Bureau of Markets show that 40 breeder hatcheries, with a total capacity of 429,163 eggs, received their total supply from flocks under state supervision, and that 8 commercial hatcheries, with a total capacity of 814,280 eggs, were receiving eggs of at least one breed from birds under supervision. The records also show that these hatcheries hatched a total of 1,300,446 chicks.

The widespread distribution in the state of chicks from these hatcheries, and of chicks from flocks that were under supervision in previous years, has made a very marked improvement in the poultry flocks within the state.

Many commercial hatcheries, as well as large individual poultry producers, are carrying out a program on their own plants similar in detail to the department's project, so that the general improvement in chicks has been very marked during the past few years. Quality factors and disease eradication have been given such attention that competition is very keen among New Jersey's chick producers.

Complete records of the capacities of the hatcheries under state supervision, together with the number of eggs set during the year 1933, and the records of chicks hatched and sold in the various grades (*Supervised, Certified, Certified Meat Production, Approved Meat Production, and Approved Egg Production*) are kept on file by the Bureau of Markets and are available to anyone desiring detailed information on this subject.

RECORD OF PERFORMANCE SUPERVISION

Record of Performance supervision work was carried on under the same rules as in previous years and, while curtailed to some extent, remained an important factor in the poultry breeding industry of the state. Only six poultrymen with a total of 2,202 birds entered the *Record of Performance Trapnest* project for the 1932-1933 fiscal year. This situation was a direct result of unfavorable financial conditions, since the trapnest project is the most costly part of the whole standardization program. Due to the cost, many breeders are now employing the stagger system of keeping their *Record of Performance* breeding flocks supplied with official record birds; that is, they enter a large number of individuals in the trapnest project once every two years instead of every year and send a few birds to egg-laying contests during the odd year. Each flock entered in the trapnest project is given a one-day inspection once monthly and a three-day inspection once annually, by a representative of the bureau for the purpose of weighing eggs from individuals.

The twelve *Record of Performance* breeders entered a total of 40 breeding flocks, containing 545 breeding females. Distribution of these flocks is shown in the table on page 91. These flocks produced a total of 25,017

eggs, of which 20,673 were set to produce 12,522 *Record of Performance* pedigreed chicks, the males of which, in turn, will head *Certified* flocks and future *Record of Performance* flocks.

DISTRIBUTION AND BREEDS OF RECORD OF PERFORMANCE FLOCKS

County	Number of Flocks	Number of Birds	S. C. White Leghorn Flocks	S. C. Rhode Island Red Flocks
Bergen	3	50	3	..
Burlington	4	26	4	..
Cumberland	4	47	4	..
Essex	4	63	4	..
Gloucester	5	82	5	..
Hunterdon	3	48	3	..
Mercer	13	184	10	3
Morris	4	45	4	..
Totals	40	545	37	3

FEE CHANGES IN STANDARDIZATION PROJECT

Following a study of data on several years' work on the standardization program for baby chicks, hatching eggs and breeding flocks, the department changed the fees for this work from a per-day to a per-bird basis, with the per-bird rate varying according to the number of birds handled. In most cases, the new fee schedule resulted in a saving to poultrymen and at the same time lessened the cost of office work done in connection with the standardization program. A further study of the work resulted in the department's adoption of a further change in the charges for the standardization work for the 1933-1934 fiscal year. This change is expected to result in a considerable saving on the part of poultry producers.

SPECIAL SERVICES

During the year a total of 65 poultry meetings and 48 conferences were attended by representatives of the poultry division of the bureau and 3,800 persons were addressed on poultry marketing and standardization work. Two egg grading demonstrations for the benefit of members of auction markets were given in an effort to assist poultry producers to meet the requirements of the New Jersey grades for eggs. Twenty-one articles on poultry and egg subjects were prepared and published, in addition to the news articles prepared for the Division of Consumer Information. The Baby Chick Show and the Egg Show held during Agricultural Week were supervised by the poultry project leader.

Report of the Bureau of Plant Industry

HARRY B. WEISS, *Chief*

STATISTICAL AND RELATED WORK

CROP REPORTS

The *New Jersey Crop Report* was issued monthly during the year, as usual, with the cooperation of the crop reporters and the Bureau of Agricultural Economics of the United States Department of Agriculture. Because of a curtailed appropriation, the report was not printed but mimeographed. More than 1,000 institutions and persons who formerly received the report were eliminated from the mailing list. Nevertheless, many of them constantly requested current data on New Jersey agriculture, and information on acreage, yield per acre, total production and value of numerous agricultural commodities grown in the state was mailed to them in letter form.

The December, 1932, copy of the *Crop Report* was printed and, among other features, included a summary of the 1931-1932 growing season.

THE CANNING INDUSTRY IN NEW JERSEY

A survey was made of the quantity of agricultural goods canned commercially in New Jersey during 1932, and the results were published in the January, 1933, *Crop Report*.

THE CRANBERRY AND BLUEBERRY INDUSTRIES

A survey of the cranberry industry of the state was planned and made by the Department of Agriculture and the State Agricultural Experiment Station, in cooperation with the American Cranberry Growers' Association. Since the blueberry industry is developing in New Jersey, this industry was included in the survey in order to ascertain its status in 1932. The results of both surveys were published in Department Circular No. 232, "A Survey of the Cranberry and Blueberry Industries in New Jersey."

TENTATIVE PLAN FOR SUBSISTENCE FARMING

The settlement of unemployed families on small farms in various countries was studied and a tentative plan for such settlement in New Jersey was drawn up and submitted to the secretary of agriculture.

USES OF THE NEW JERSEY CROP REPORT

In order to find out the opinions of the readers of the *New Jersey Crop Report* in regard to its usefulness, a survey was made. The result of this survey shows that farmers, canners, farmers' organizations, teachers, extension workers in agriculture, railroads, etc., use the report. A brief summary of the findings follows:

(1) Farmers, canners and farmers' organizations use the kind of information which is valuable for the proper conduct of the individual business involved.

(2) Data furnished in the *Crop Report* help farmers to decide the acreage of various commodities to be planted and the number of livestock and poultry to be raised.

(3) The agricultural statistics given in the reports help them to ascertain the proper time for marketing farm products.

(4) Teachers of agriculture and related subjects in colleges and high schools stated that they were using the data furnished in the *Crop Report* in their teaching work.

(5) Departments of agriculture in various states as well as the New Jersey Extension Service workers use the information furnished in the *New Jersey Crop Report*. In their constant contacts with farmers, they must know what is going on in competing states as well as in their own state. The work of these institutions and men can not be carried on without statistical data.

(6) Newspapers use the *Crop Report* in disseminating crop statistics and in interpreting agricultural conditions in the state and nation.

(7) Merchants dealing in farm products use the information given in the report as a guide in planning their businesses.

(8) Libraries keep the report on their reference shelves.

(9) Railroads make use of the information in distributing freight cars according to the needs of each locality.

FARM TAXATION

In view of the widespread interest in taxation and tax expenditures in New Jersey, a study of county and township taxes in the rural areas of the state was made by the Bureau of Plant Industry in cooperation with the New Jersey Agricultural Experiment Station. The results of this study were printed in Extension Bulletin 101 of the New Jersey State College of Agriculture, under the title "County and Township Taxes in New Jersey."

DEPARTMENT OF AGRICULTURE COST STUDY

An analysis was made of the cost of performing each of the various services of the Department of Agriculture during the fiscal year, July 1, 1930-June 30, 1931. Wherever possible, the average per-unit cost was determined.

IDLE-FARMS-FOR-SALE LISTING SERVICE

A list of idle farms in the state that were being offered for sale by their owners was completed in December. At that time 250 copies of the list were mailed to persons who had requested such information. An equal number of copies were mailed between that time and the end of the fiscal year.

In May, a supplementary list of idle farms for sale was prepared and mailed to those requesting it. Requests for this service were still being received in fair volume at the close of the year.

COMMITTEE ON IMPROVEMENT OF RURAL GOVERNMENT

Field trips of members of the Committee on the Improvement of Rural Government were arranged in Sussex and Salem counties in order that the committee might study the method of road construction and road financing in effect in these counties. These trips were made in September and proved of great interest and value to all who attended.

RURAL ROAD IMPROVEMENT PROGRAM

With the assistance of county engineers, a survey was made of the unimproved rural roads in the state. These roads were classified on the basis of their importance as primary and secondary traffic carriers. A map was prepared for each county in the state, except Hudson, Essex, Union and Bergen counties, on which the unimproved rural roads were designated according to their importance.

According to the classifications used in this survey, there are in the state 1,032 miles of unimproved rural roads of a primary character and 492 miles of unimproved rural roads of a secondary character. The findings of this survey were used in recommending the improvement of important rural roads as a project to be performed under the federal rehabilitation and recovery program.

SUSTINENCE GARDEN LAND SURVEY

At the request of Mr. C. F. Hovey, manager of the Hoboken Mutual Exchange, Inc., a survey was made of available tracts of land in the vicinity of Hoboken which were suitable for the growing of garden crops. Two suitable tracts were located and brought to Mr. Hovey's attention.

FARM CREDIT AND FINANCE WORK

INFORMATION DIVISION

The creation of numerous federal agencies for the extension of credit to farmers resulted in a condition of considerable confusion. Most farmers did not know what kinds of credit were available or how to go about getting federal credit assistance. In recognition of this condition a division of farm credit and finance information was set up in the Bureau of Plant Industry. It is the function of this division to keep in close touch with developments in the farm credit field, to keep farmers informed of such developments and to comply with individual requests for farm credit assistance.

The division is in close touch with the following agencies: the Farm Credit Administration, Washington, D. C.; the Federal Land Bank of Springfield, Mass.; the Regional Agricultural Credit Corporation, Albany, N. Y.; the Land Bank Commissioner, Springfield, Mass.; the Governor's Emergency Farm Mortgage Committee and the 19 National Farm Loan Associations operating in New Jersey.

During the year, several hundred requests for farm credit information and assistance were received and given attention.

THE GOVERNOR'S EMERGENCY FARM MORTGAGE COMMITTEE

A survey of the farm debt situation in December showed that many farmers would not be able to meet the tax and interest payments which were coming due in several months. The extent of farm foreclosures was found to be abnormally large, and it was evident that the number of foreclosures would increase greatly unless preventive steps were taken at once. Federal relief measures were then under consideration, but it was apparent that it would be months before actual relief would be forthcoming from this source.

At the instance of Secretary Duryee, the Governor created an Emergency Farm Mortgage Committee to deal with the situation. On the committee he appointed Paul H. Burk, of Beverly; Dr. Frank App, of Bridgeton; State Senator A. Crozer Reeves, of Lawrenceville; C. H. Roberson, of Freehold, and Clifford E. Snyder, of Pittstown. N. A. Back, of the Department of Agriculture, was elected secretary of the group.

Sixty cases involving debt difficulties were brought to the committee for its consideration and action, between December 20, when it was created, and the end of the fiscal year. The secretary made a personal investigation in each case which required it. In 33 of the 60 cases, a settlement was effected involving an extension in the time of payment of delinquent items, a stay in foreclosure proceedings to provide an opportunity for federal refinancing, or an adjustment of the amounts due to enable their payment. Thirteen cases were found hopeless on investigation. Fourteen cases were pending at the close of the fiscal year. The cooperation of the Federal Land Bank of Springfield, Mass., and the New York Joint Stock Land Bank was obtained. Both these banks hold mortgages on a large number of New Jersey farms.

The committee has had a beneficial effect in a general way. It gave its consideration to various proposals for state legislation on mortgage matters, and opposed legislation which would treat all mortgages and foreclosures in blanket fashion. The committee believes that each case of debt difficulty differs in some important respects from other cases and that an equitable solution must take such differences into consideration. It also believes that a general moratorium on foreclosures loses sight of the fact that some foreclosures represent the ultimate step of the mortgage holder to protect his interests, which may be seriously threatened. In general, it is the belief of the committee that the happiest and simplest solution of these problems is one involving agreement among the several parties.

The committee cooperated with the Court of Chancery in bringing to the attention of the court cases of farm mortgage foreclosure in which the facts justified a stay in the foreclosure proceedings to give the defendant an opportunity to refinance his indebtedness. The committee was assured by Chancellor Luther A. Campbell that in all such cases the necessary respite would be granted.

Action was taken by the committee to discourage the unscrupulous operations of certain mortgage companies and real estate agents in the farm mortgage field. In this work it sought and obtained the cooperation of the New Jersey Real Estate Commission.

It is generally agreed that the committee's activities have had a beneficial influence on the whole farm mortgage field in New Jersey and have acted as a deterrent to numerous foreclosures.

THE REGIONAL AGRICULTURAL CREDIT CORPORATION

In September, a survey was made of the needs of New Jersey farmers for crop production credit for the 1933 crop year. It was evident as a result of this survey that the ordinary sources of credit were seriously depleted and that outside assistance would be required to enable New Jersey farmers to carry on normal operations. Several conferences with rural bankers and farmers devoted to the consideration of the needs for a regional agricultural credit corporation were attended.

The Regional Agricultural Credit Corporation for the First Federal Land Bank District, which includes New Jersey, was established in December. During the following several months and pending the establishment of a permanent organization, one of the members of the bureau's staff acted as agent for the corporation in New Jersey. Contacts were maintained with county agricultural agents and others seeking information about the corporation, and assistance was given to the secretary of agriculture in planning and organizing the work in New Jersey.

During December and January, assistance was given to 65 farmers making application for loans from the Regional Agricultural Credit Corporation.

In February, a supervising inspector was appointed by the Regional Agricultural Credit Corporation for the central and northern districts of New Jersey. The bureau kept in close touch with the work carried on by the inspector.

WHITE PINE BLISTER RUST CONTROL

In 1932, blister rust on white pines was found closer to New Jersey than at any other time. An infection was found at Milford, Pa., and at Washington Crossing, Pa. The former represented natural spread and the latter, artificial movement caused by diseased nursery stock. By the end of the fiscal year, no pine infection had been found in New Jersey since 1918. Although it is suspected that pine infection exists in northwestern Sussex County, none was discovered. It is possible that the general absence of wild ribes (alternate hosts) may account for the freedom of the state from this disease. However, with infectious material near at hand, blister rust must be expected to show eventually in places where the two host plants occur together. In most cases, cultivated currants and gooseberries that are near white pine plantings will be the responsible agents of spread.

Forty sites and environs of 1932 plantings of white pine reforestation stock distributed by the State Forest Nursery were examined for blister rust possibilities; i. e. the presence of the alternate host plants, ribes (currants and gooseberries). Owners were advised by personal contact and by mail of the dangers of the disease and of the method of control by removing nearby ribes bushes. These sites contained 178,000 two-year-old seedlings. Twelve other sites of approximately 60 acres of plantings, ranging from four to 25 years of age, were similarly examined.

Ornamental white pines of various ages in and about Red Bank, Rumson, Moorestown, Morristown and Winslow were examined for blister rust. Native white pine reproduction near Red Bank and Cassville; along the Delaware River in Sussex County near Montague, Dingman's Ferry and Port Jervis, and at Newfoundland, Branchville, Augusta and Layton were scouted for blister rust with negative results on white pine but with infection found on cultivated European black currants and gooseberries at Newfoundland, and on red currants in the Stokes State Forest. General scouting for the location of native white pine and ribes species was conducted along the Delaware River in Hunterdon County, along the Musconetcong River near Riegelsville, and near Wayne, Pompton Lakes, Oradel, Westwood, Woodcliff Lake, Parmus, East Paterson, Oakland and Hohokus. There were no stands of appreciable extent in these locations. A few scattered wild or escaped gooseberries were found along the foot of the hillside below Frenchtown and near Kingwood Station in Hunterdon County. These were tentatively identified as *Ribes hirtella*. Several clumps of American black currant (*Ribes americanum*) were found along the Musconetcong River.

To maintain the protective area created in the previous fiscal year, the State Forest Nursery at Washington Crossing was scouted and its environs rechecked. A total of 175 American black currants (*Ribes americanum*) were pulled. These were mostly seedlings which had sprouted since the eradication of ribes the previous year. A few were missed bushes and a few were sprouts from incompletely pulled crowns. The planting stock in both this nursery and one at Green Bank was checked. One more young ornamental white pine in the Pennsylvania portion of the Washington Crossing Park was found to be infected with blister rust although the canker did not fruit in the spring of 1933.

Three commercial nurseries applied for Federal pine shipping permits as outlined by the revisions of Federal Quarantine No. 63. One nursery at Bound Brook discontinued its application when told of the requirements necessary. One nursery at Wayne was denied a permit for stock on hand because of the presence of 30 European black currants and more than 200 other currants within 300 feet of the white pine blocks. This nursery discontinued its application since it would apply only to stock planted and grown after complete ribes eradication and since the nursery did not anticipate seeding white pine for a number of years. In the case of the third nursery at Kingston, it was necessary to complete the scouting of the full one-mile zone for cultivated ribes before it was learned that too many dangerous bushes existed to allow a permit to be issued. When informed that existing bushes within a radius of one mile precluded the issuance of a permit for stock on hand, this nursery likewise discontinued its application.

Information regarding the January 1, 1933 changes in Federal Quarantine No. 63 was summarized for distribution to nurserymen and other interested parties. Literature dealing with blister rust and its control was sent to all planters of white pine reforestation stock and to others who own white pines.

SEED CERTIFICATION AND RELATED WORK

WHITE POTATO CERTIFICATION

A deficiency of rainfall in July, August and September was responsible for a pronounced reduction in the yields of the 1932 certified white potato seed crop. Following this dry spell the rainfall was so heavy as to prove a serious obstacle to the harvesting of the crop. One grower who had grown late-crop seed for a long time stated that the harvesting season was by far the worst that he had experienced in more than 25 years. Between January 1, and the end of September, the accumulated precipitation departure from the normal for the southern interior section of the state was -2.09 inches. By the end of October this had changed to -0.19 inches and by the end of November to $+3.36$ inches. Harvesting that is normally completed early in November, could not be completed until the latter part of November. Even

then, the tubers were exceedingly muddy and it was necessary for growers to perform many extra operations to get them dried out and free from mud, all during a time when freezing temperatures were imminent.

Early blight was generally present in most fields and progressed with the continuance of dry hot weather to become a factor for reduced yields in some fields, the degree of its seriousness varying with the efficiency of the spraying operations. Dusts, where used, failed to give as satisfactory control of this leaf disease as well-applied wet sprays, but were equal to poorly applied wet sprays. Insects, especially aphids, were not a troublesome factor in 1932. In only a few cases did aphids appear in numbers great enough to be of any account. Leaf hoppers were present in small numbers at the first inspection but disappeared as the number of sprays increased.

Yields ranged from 50 to 350 five-eighths-bushel baskets per acre, the average on 718.67 acres having been 186.79 baskets per acre. For the past several years dry weather during the growing season has reduced the yields and in each of these years the importance of seed-bed preparation has been emphasized by comparing yields with the previous cropping of the land. Plowing under a green manure crop, such as rye and wheat, previous to the planting of the potato crop has consistently given larger yields than other methods of treating the land. In cases in which a farmer harvests the rye or wheat and then plants on the plowed stubble, the loss of yield of potatoes is far greater than the value of the grain and straw harvested. The influence of the previous cropping of the field on the 1932 yields was as follows:

48 acres of fallow land (plowed early and kept tilled) ...	219.65 baskets average
384.75 acres of green manure crop land.....	213.33 baskets average
50.17 acres of truck crop land.....	177.76 baskets average
107.75 acres of sod (plowed under) land.....	158.76 baskets average
22.5 acres of early potato land.....	147.82 baskets average
105.5 acres of grain stubble land.....	116.27 baskets average

Seed disinfectants were used on 79.81 per cent of the seed planted. One lot was subjected to the corrosive sublimate treatment and the remainder was treated by the instantaneous dip method.

Fertilizers were applied at an average rate of 2,009 pounds per acre, individual applications having ranged from 1,500 pounds to 3,285 pounds per acre. The 4-8-7 analysis was the most popular. This, having the nitrogen content stated in terms of nitrogen instead of as ammonia, represents about the same as a 5-8-7 analysis of previous years. Some growers used higher than 4-8-7 analyses. One grower used no fertilizer on a planting following early potatoes. This practice is likely to prove a disappointing one.

Most of the parent seed (64.32 per cent) came from Prince Edward Island, an increasing amount (26.53 per cent) of home-grown seed was planted, and 9.15 per cent came from Maine. All of the seed made a fine showing in the test plot. The field inspections further showed a general absence of disease.

More attention could be paid by the growers to ways and means of eliminating injuries in the handling of the crop. Padding the digger and the grader and more care in picking up the tubers, in loading and unloading and in handling the bags would eliminate a large portion of the injuries which detract from the appearance of the package and pave the way for infection of wasteful rots. The use of 100-pound sacks was tried by several growers and proved to be highly satisfactory. They found that, as is the case with the commercial crop, this sack can be easily handled by one man, and that when it is used, the tendency to rough handling becomes less than when the 150-pound sack is used.

WHITE POTATO SEED CERTIFICATION IN NEW JERSEY

Year	Number of Growers	Acres Entered	1929-1932*		Varietal Distribution	Acreage
			Percentage Rejected	Variety		
1929	64	621.	12.64	Cobblers	584.5	
				Green Mts.	19.0	
				Red Skins	17.5	
1930	64	593	12.65	Cobblers	584.5	
				Green Mts.	2.5	
				Red Skins	6.0	
1931	77	904.5	5.86	Cobblers	874.5	
				Green Mts.	1.0	
				Red Skins	29.0	
1932	63	729.17	1.44	Cobblers	672.00	
				Green Mts.	3.50	
				Red Skins	53.67	

*For 1919-1928 data see *Fifteenth Annual Report*.

SUMMARY OF SEED POTATO CERTIFICATION, 1932

Acres Entered for Certification

County	Acres	Per Cent
Burlington	24.00	3.29
Camden	5.00	0.69
Cumberland	425.17	58.31
Salem	275.00	37.71
	<u>729.17</u>	<u>100.00</u>

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Seed Source

	Bags	Per Cent
Prince Edward Isle.....	3,627	64.32
New Jersey	1,496	26.53
Maine	516	9.15
	<hr/> 5,639	<hr/> 100.00

Seed Storage

	Bags	Per Cent
Del Bay	3,616	64.12
Salem	699	12.40
Pitman	670	11.88
Woodstown	398	7.06
Trenton	149	2.64
Vineland	84	1.49
Camden	23	0.41
	<hr/> 5,639	<hr/> 100.00

Seed Treatment

	Bags	Per Cent
Semesan	3,826	67.85
Sanoseed	619	10.98
Corrosive sublimate	55	.98
No treatment	1,139	20.19
	<hr/> 5,639	<hr/> 100.00

Previous Cropping of Field

	Acres	Per Cent
Green manure crops.....	384.75	53.54
Sod	107.75	14.99
Grain stubble	105.50	14.68
Truck crops	50.17	6.98
Fallow	48.00	6.68
Early potatoes	22.50	3.13
	<hr/> 718.67	<hr/> 100.00

Fertilization

Tons applied (718.67 acres).....	722.88 tons
Average application per acre.....	2,009.00 pounds
Heaviest application per acre.....	3,285.00 pounds
Lightest application per acre.....	1,500.00 pounds

Rate of Planting

	150-lb. Sacks
Total number bags of seed planted.....	5,639.00
Average number bags per acre.....	7.84
Heaviest planting per acre.....	10.00
Lightest planting per acre.....	4.60

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*Calculated Weight of Seed Piece**(Spacing 11x32 in.—17,968 hills per acre)*

Bags Per Acre	Weight of Seed Piece
4.60	0.625 ounces
7.84	1.048 ounces
10.00	1.336 ounces

Yields Per Acre (³/₈ Bushel Baskets)

Average yield (718.67 acres).....	186.79
Lowest yield	50.00
Highest yield	350.00

Preliminary Expenses Per Acre

Seed—7.84 bags @ \$3.50.....	\$27.44
Fertilizer—2,009 pounds @ \$27.00 per ton	27.11
	<hr/>
	\$54.55

Acreage Entered for Certification

County	Growers	Cobblers	Green Mountains	Red Skins	Total
Burlington	1	24	....	....	24.00
Camden	1	....	....	5.00	5.00
Cumberland	40	373	3.50	48.67	425.17
Salem	21	275	....	....	275.00
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total	63	672	3.50	53.67	729.17

Acreage Failing and Passing Certification

	Acres	Per Cent
Acreage rejected at first inspection.....	....	....
Acreage withdrawn at first inspection.....	10.00	1.37
Acreage rejected at second inspection.....	0.50	0.07
Total acreage rejected, two inspections.....	0.50	0.07
Acreage rejected at third (tuber) inspection.....	....	....
Acreage, withdrawn and rejected, three inspections.....	10.50	1.44
Acreage passing three inspections.....	718.67	98.56

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PRODUCTION AND DISTRIBUTION
NEW JERSEY CERTIFIED CROP OF WHITE POTATO SEED

	1932	1931	1930
Acres of seed certified.....	718.67	851.5	518
Total yield (field run) in baskets.....	134,239	182,669	79,465
Total yield (field run) in bushels.....	83,899	114,168	49,666
Average yield per acre in baskets.....	186.8	214.5	153.4
Average yield per acre in bushels.....	116.7	134.1	95.8
Bags certified seed sold.....	8,261	21,007	7,898
Bags sold locally.....	986	476	13,521*
Bags sold elsewhere in state.....	7,268	20,518	7,845
Bags shipped out of state.....	7	13	53
Delaware		1	.....
Pennsylvania .....			.....
New York		2	3
Washington, D. C.....		10	.....
South Carolina			50
Virginia	7		.....
Bags untagged (tags not allowed; old sacks used)	3,476	855	450
Bags sold locally	1,513	255	.....
Bags sold elsewhere in state.....	1,953	600	450
Total bags of seed shipped.....	11,737	21,862	8,348
Bags of seed unsold Dec. 1st.....	10,227	9,108	5,450*
Baskets of seed retained for own use.....	34,393	36,891	24,039
Bushels of seed retained for own use.....	21,495	23,057	15,024

*Five-eighths-bushel baskets in 1930 instead of 150-pound bags.

INSPECTION RESULTS BY COUNTIES, 1932

	Cumberland	Salem	Burlington	Camden	Total
Acres entered.....	425.17	275.00	24.00	5.00	729.17
Number of growers.....	40.00	21.00	1.00	1.00	63.00
Average number of acres per grower	10.63	13.10	24.00	5.00	11.57
Acres rejected first inspection*.....	1.00	8.00	1.00	.....	10.00
Per cent rejected first inspection*..	.23	2.91	4.16	.....	1.37
Acres rejected second inspection*..	.50	.....	.....	.....	.50
Per cent rejected second inspection* .	.12	.....	.....	.....	.07
Acres rejected third inspection*....	.....	.....	.....	.....	.....
Per cent rejected third inspection* .....	.....	.....	.....	.....	.....
Acres rejected total*	1.50	8.00	1.00	.....	10.50
Acres certified	423.67	267.00	23.00	5.00	718.67
Per cent certified.....	99.65	97.09	95.84	100.00	98.56

*Included withdrawals.

VARIETAL DISTRIBUTION OF REJECTIONS AND WITHDRAWALS

Variety	Acres entered	Acres Rejected and Withdrawn			Acres Certified
		First Inspection	Second Inspection	Third Inspection	
Irish Cobblers.....	672.00	10	.5	..	661.50
Green Mountains.....	3.50	..	..	..	3.50
Red Skins.....	53.67	..	..	..	53.67
Totals	729.17	10	.5	..	718.67

RASPBERRY CERTIFICATION

Three nurserymen requested inspection service in order that they might meet the certification requirements of a certain state in the interstate shipment of raspberry plants. Sixty acres of red raspberries were field-inspected and 55.5 acres were certified. Some plants of the Latham and Viking varieties were rejected because they showed excessive amounts of mosaic. A total of 27.5 acres of the plants inspected were of the St. Regis variety, 26 acres were of the Latham variety and 2 acres were of several varieties.

GRAIN CERTIFICATION

In order to create a supply of seed of approved varieties of grains (varieties which have proven by field tests over a period of years to be adapted to New Jersey conditions and to have a greater yield potential than other varieties), grain certification was started in the growing season of 1932. This work was carried on as a joint project with the Agronomy Department of the New Jersey Agricultural Experiment Station. Only grains of approved varieties or strains could be entered and the certification covered trueness to variety and relative freedom from seed-borne diseases. Five fields, comprising 49 acres of Kanota oats; two fields comprising 10 acres of Keystone oats; and one field, comprising 11 acres of Bon Ami barley were field-inspected. Thirty acres of Kanota oats and 11 acres of Bon Ami barley were accepted. The remainder of the acreage was rejected for excessive amounts of smut and mixtures. A total of 775 bushels of Kanota oats and 250 bushels of Bon Ami barley were sealed and tagged with a lead and wire seal after passing bin and grade inspections and germination tests.

Nine growers of field corn of five varieties had fields inspected while the corn was growing and had the grain inspected after harvesting, shelling and grading. Six hundred and fifty-two bushels were tagged and sealed as follows: 62 bushels of Mercer White Cap for one grower, 278 bushels of Somerset Leaming for three growers, 152.5 bushels of Reid's Yellow Dent (Crosshaw Strain) for two growers, 70 bushels of Hulsart Yellow Dent for one grower, and 89.5 bushels of Lancaster Sure-crop for one grower.

Six fields containing 35 acres of wheat of the Poole and Leap's Prolific varieties were field-inspected for six growers. Bin and graded grain inspections will follow harvesting and threshing.

Although the quantity of certified grain seed sold during the first year of certification was not great, it is felt that the demand will grow as the product becomes better known. In the case of New Jersey, a considerable increase in yield may be obtained through the use of certified grain seed, largely because of the fact that no concerted attempt has been made in the past to promote the use of adapted strains and varieties, as has been done in many of the mid-western states for some time. Much money is spent each year by New Jersey farmers for varieties and strains of grain seed which are not adapted to New Jersey conditions and which result in low yields, although the seed may be of good quality in the state from which it came.

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TOMATO SEED CERTIFICATION

The history of tomato seed certification is as follows:

Year	Acres Certified	Growers
1921	128.0	16
1922	199.0	23
1923	219.0	32
1924	327.0	40
1925	582.0	58
1926	456.0	71
1927	871.0	74
1928	743.0	68
1929	703.0	63
1930	1,414.5	94
1931	1,434.0	155
1932	675.0	110

The 1932 acreage was distributed as follows:

Variety	Acres
Bonny Best	34
Marglobe	562
J. T. D.	61
Baltimore	18
Total	<u>675</u>

The tomatoes certified for seed purposes were grown in Burlington, Mercer, Gloucester, Camden and Salem counties. The marked acreage reduction from the previous year was due primarily to a heavy carry-over of seed.

NURSERY INSPECTION SERVICE

The plant inspection activities of the bureau for the fiscal year ending June 30, 1933, included nursery inspections, domestic and foreign nursery stock inspections, the issuance of special certificates, special request inspections, the certification of stock consigned to Canada, Christmas tree inspections and the certification of narcissus bulbs in compliance with federal regulations.

FOREIGN AND DOMESTIC STOCK INSPECTIONS

The following tables summarize the work done by the bureau in inspecting nursery stock shipped into New Jersey from other states and from foreign nations:

FOREIGN STOCK INSPECTIONS

Fall of 1932.....	.....
Spring of 1933.....	<u>127 cases</u>
Total	<u>127 cases</u>

DOMESTIC STOCK INSPECTIONS (ORNAMENTAL)

	Cases	Cars	Bales
Fall of 1932.....	123	3	43
Spring of 1933.....	<u>270</u>	<u>5</u>	<u>307</u>
Totals	393	8	350

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DOMESTIC STOCK INSPECTIONS (FRUIT)

	Cases	Cars	Bales
Fall of 1932.....	9	..	3
Spring of 1933.....	53	2	19
Totals.....	<u>62</u>	<u>2</u>	<u>22</u>

NURSERY INSPECTION

The annual inspection of nurseries was begun in June and finished in September, except in the case of a number of new nurseries, which were inspected after that month. In nurseries where growing stock is found to be infested with insects and diseases that are injurious, the owners are requested to destroy or spray the infested plants. Later a reinspection is made and, if the bureau's recommendations have been followed, a certificate is issued. Certificates are issued when possible on September 1 of each year and are valid until the following September.

Seven hundred and ninety-one nurseries and dealers' establishments were inspected and certified, and certificates were issued as follows:

General	587	Fruit	3
Rose	16	Roots	2
Privet	1	Greenhouse	22
Perrenial	21	Dahlia	15
Berry	11	Orchid	2
Peony	1	Asparagus	2
Bulb	5	Dealers	103
Total		791	

NEW ENGLAND STOCK INSPECTIONS

A total of 1,368 cases, 3 carlots and 9 loads of nursery stock shipped into New Jersey from the quarantined gipsy moth area of the New England States were inspected. Each plant was individually examined.

SPECIAL CERTIFICATES

Special certificates were issued to private citizens and to nurserymen who wished to ship nursery stock to other states and to foreign countries. A certificate was issued at the time of packing if the stock in question was found to be free from injurious insects and plant diseases. Eighty-seven of these certificates were issued.

SPECIAL REQUEST INSPECTIONS

Each year, numerous requests are received for advice on the control of various insects and on nursery and horticultural problems. In most cases they necessitate visits to the persons requesting aid. Sixty-three of these visits were made during the year ending June 30, 1933.

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CANADIAN STOCK INSPECTION

In compliance with Canadian regulations, 103 inspections were made of stock consigned from New Jersey to Canada.

CHRISTMAS TREE INSPECTION

A total of 13,467 Christmas trees shipped into New Jersey from the slightly infested gipsy moth area of the New England States were examined for gipsy moth infestations. No infestations were intercepted.

NARCISSUS BULB INSPECTION

The inspection of narcissus bulbs destined for places outside of New Jersey is made necessary by the provisions of a federal quarantine. The inspection work is summarized as follows:

Total number of bulbs inspected—1,379,950
 Total number of shipping certificates issued to growers—563
 Total number of bulbs sterilized—665,300

INSECT AND DISEASE INFESTATIONS OCCURRING IN NEW JERSEY
 NURSERIES DURING THE YEAR ENDING JUNE 30, 1933.

Insect Pests	Number of Nurseries
Shot-hole Borer.....	1
Cedar Rust.....	4
Azalea Lace Bug.....	2
Lilac Borer.....	7
Bag Worm.....	20
Rhododendron Lace Bug.....	44
Fire Blight.....	1
Euonymus Scale.....	36
Boxwood Leaf Miner.....	17
Pine Shoot Moth.....	6
Juniper Web Worm.....	12
Willow Gall.....	1
Peach Borer.....	2
San Jose Scale.....	18
European Elm Scale.....	12
Pine Leaf Scale.....	11
Juniper Scale*.....	103
Tulip Lecanium.....	2
Scurfy Scale.....	3
Rose Scale.....	2
Oyster Shell Scale.....	63
Poplar and Willow Borer.....	5
White Pine Weevil.....	1
Spruce Gall Aphid.....	12
Total	385

*This insect is difficult to control.

EUROPEAN CORN BORER

As a result of the lifting of the federal quarantine on account of the European corn borer on July 15, 1932, numerous states promulgated quarantines against New Jersey and other states where the European corn borer is known to exist. This necessitated the furnishing of inspection services to dahlia and other plant growers of New Jersey who do a wide shipping business. During the year this service was supplied by the Japanese beetle inspection force. The following table shows the extent and value of such shipments from New Jersey:

State	Chrysanthe-mum	Astor	Holly-hock	Rhu-barb	Dahlia	Dahlia Clumpi	Zin-nia	Beans	Total	Value
Arizona*	90	....	....	....	309	....	....	....	399	\$142.07
Arkansas	17	5	6	24	153	....	....	....	205	42.60
California*	1,226	21	....	....	234	....	....	....	1,481	503.83
Colorado*	57	12	....	....	36	....	....	....	105	82.10
Florida	272	79	....	1	81	....	....	....	436	74.15
Georgia*	1,061	5	....	262	1,724	....	....	....	3,052	594.91
Illinois	1,675	86	39	4	2,284	4	10	3,197	7,299	7,694.85
Indiana	4	....	....	....	233	....	....	....	237	118.05
Iowa	352	46	1	....	725	....	....	....	1,124	335.61
Kansas	342	17	6	2	196	....	....	....	563	153.43
Kentucky	531	33	9	4	716	....	12	....	1,305	586.60
Louisiana*	275	....	....	....	265	100	....	....	640	240.50
Mississippi	321	8	....	....	631	....	....	....	960	302.63
Missouri	906	81	31	3	975	....	....	....	1,996	665.17
Nebraska	167	17	13	2	55	....	....	....	254	91.45
New Mexico	78	104	....	2	81	....	....	....	265	79.21
Oklahoma	406	25	2	....	186	....	....	....	619	184.66
Oregon*	195	25	....	....	184	....	....	....	404	185.25
South Carolina..	586	39	....	6	422	....	24	....	1,077	345.32
South Dakota ..	8	14	6	....	20	....	....	....	48	13.71
Tennessee	562	62	5	....	533	....	....	....	1,162	444.40
Texas	714	19	....	2	286	....	....	....	1,021	218.63
Utah*	54	3	12	....	22	....	....	....	91	36.35
Virginia	2,808	392	20	133	1,314	....	104	....	4,771	1,418.62
Washington	250	3	....	....	152	....	....	....	405	201.44
Wisconsin	620	21	109	....	800	....	....	....	1,550	662.01
Totals	13,580	1,117	259	445	12,617	104	150	3,197	31,469	\$15,417.55

*States requiring federal certificates.

BEE INSPECTION SERVICE

With the exception of an apparent need for some emphasis on the marketing of honey to encourage beekeepers to give disease control closer attention, the work of bee inspection presented no new aspects during the fiscal year.

APIARY INSPECTIONS

Funds available made possible the employment of two additional part-time bee inspectors. One served in parts of six counties, largely where no inspection had been done for some time, from July 1 to August 31, 1932,

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and in Essex County from June 1 to 15, 1933. The other served in rural territory, partly in Hunterdon, Morris and Warren counties, from May 1 to June 30, 1933. Because of the possibilities of profitable commercial honey production in this territory, much effort has been made to render it safe for beekeeping.

During the fiscal year, 835 apiaries containing 7,452 colonies of bees were examined. One hundred and forty-three colonies were in boxes, kegs, etc., and 254 in hives with combs in such a condition that their removal for inspection was impossible. This shows that about 5 per cent of all the colonies looked at were in such a condition that a satisfactory inspection could not be made. This condition is a serious handicap to bee disease elimination and should be remedied by legislation.

All calls for help in solving bee problems were attended to promptly. All known colonies of bees within two miles of queen-rearing apiaries were thoroughly examined and any bee disease that was found was promptly eliminated in order that the entrance of disease into such apiaries might be prevented. The failure of beekeepers to carry out instructions of the department for the elimination of American foulbrood made it necessary to destroy 209 colonies of bees infected with this disease.

MICROSCOPIC DIAGNOSIS

The microscopic diagnosis of samples of dead bee brood continued to play an important part in the bee disease control work. Thirty-five such samples were received during the year. Four of these samples showed the presence of *B. pluton*, the organism which causes European foulbrood; 18 of *B. larvae*, the organism which causes American foulbrood, and 13 proved upon examination to contain neither of these germs. Microscopic diagnosis, in many cases, serves the same purpose as a personal inspection of a hive and is much less expensive. The large number of samples submitted indicates an increased interest on the part of beekeepers in keeping diseases under control.

QUEEN-REARERS' CERTIFICATES

Four queen-rearers' certificates were issued during the year, all to Mr. Albert G. Hann, of Glen Gardner. Certificates were issued July 26, 1932, and April 27, 1933, for his Glen Gardner apiary and July 27, 1932, and April 28, 1933, for his Pittstown apiary. One lot of six colonies of bees was certified for movement into Pennsylvania.

EDUCATIONAL ACTIVITIES

While there is ample provision for the exercise of police power in the bee disease control law, far better results are secured when the beekeeper is taught the identification of bee diseases and measures for their elimination. Also, a readier movement of honey at paying prices greatly stimulates better

beekeeping. For these reasons, considerable emphasis is placed on the educational phases of the bee disease control work, particularly during that part of the year when bee handling is impossible.

Five field meetings for beekeepers were held during the year. At each of these, some of the more important bee manipulations were demonstrated as were various pieces of beekeeping apparatus. The places, dates and attendance at these meetings were as follows: Chester, July 8, 1932, 45; Pattenburg, August 11, 1932, 90; Point Pleasant, August 26, 1932, 40; Stillwater, June 3, 1933, 58 and Mount Holly, June 15, 1933, 20.

An exhibit of bees and beekeepers' appliances was staged at the Trenton Fair, September 5-10, 1932, and at the Trenton Armory during Agricultural Week, January 23-27, 1933. A lecture on bees and honey was given at a Rotary Club meeting in Salem on September 21, 1932; at the Pennington and Titusville grammar schools in November, 1932, with 300 attending, and at a meeting of the Essex County Beekeepers' Society, in Newark, December 1, 1932.

A lecture on bees and honey accompanied by motion pictures was given at 28 grange meetings attended by a total of 1,311 persons. The granges at which this lecture was given were Aura, Anthony, Barbertown, Blackwood, Centre Grove, Clarksburg, Colts Neck, Cologne, Crosskeys, Dayton, Farmingdale, Flemington, Freehold, Grandin, Harmersville, Hopewell, Keyport, Marlton, Mount Bethel, New Market, Pennington, Ringoes, Rocksburg, Salem, Swedesboro, Washington, Woodstown and Wyckoff.

Outstanding beekeeping manipulations were discussed before groups of beekeepers at twelve county seats. The total attendance at these meetings was 233. The counties so served were Atlantic, Cumberland, Bergen, Essex, Gloucester, Hunterdon, Middlesex, Monmouth, Morris, Somerset, Union and Warren.

CERTIFIED HONEY

A grade for New Jersey-produced honey was established by the State Board of Agriculture. The grade is known as *New Jersey Certified*. Provision was made for beekeepers whose apiaries are certified by the Bureau of Plant Industry to be free of disease, to affix to each package of honey from such apiaries an official grade label. This label bears the outline of New Jersey and should have sales value to the user.

THE GIPSY MOTH

ASSEMBLING CAGE WORK

The assembly cage work is a very valuable phase of gipsy moth control work. It is used in conjunction with scouting work as a check, or is used independently, to determine if infestation exists. A small tin can with an open top is nailed to a tree, and a wad of cotton which has been saturated

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with attractant is placed in it. This attractant consists of from 15 to 30 abdominal tips from virgin female moths, preserved in benzol, zylol, xylene or other satisfactory preservatives. Tree tanglefoot is applied to the tree in the immediate vicinity of the can. Male moths, which fly freely, are attracted to the tree by the odor of the attractant, and may be caught in the tanglefoot. The cages are examined regularly during the flight of the male moths, and are collected at the end of the season.

During the months of July, August and September, the gipsy moth crew was engaged in assembling cage work. Nineteen hundred and ten cages were distributed in six counties. No adult male gipsy moths were caught as a result of this work.

CAGES PUT OUT, BY COUNTIES

County	No. of Cages	County	No. of Cages
Ocean	257	Mercer	203
Monmouth	525	Hunterdon	369
Burlington	219	Warren	337
		Total	1,910

QUARANTINE WORK

Owing to a serious infestation in the Wilkes-Barre section of Pennsylvania, it was thought advisable to check the nursery stock, forest and quarry products, and other material coming into New Jersey from Pennsylvania over the Delaware River bridges. Accordingly, arrangements were made with the New Jersey and Pennsylvania Free Bridge Commission whereby its officers tending the bridges on all routes from Milford, Pa., south to Frenchtown, N. J., assisted the bureau by obtaining the names and addresses of all operators of automobiles, trucks and other vehicles carrying any material on which gipsy moth egg masses or larvae might be present. On receipt of this information the bureau sent a letter to those concerned and when the reply was received, provided the material originated anywhere near the infested area, the shipment was inspected. A large percentage of the shipments intercepted consisted of fire wood, originating just over the river, and no inspection of it was necessary. No sign of the gipsy moth was found as a result of this work.

Total Shipments Intercepted

175

Number Necessary to Inspect

11

SCOUTING WORK

Scouting work is one of the most important phases of the gipsy moth suppression project and is necessary to the success of the project. So far no method except scouting has been devised to determine positively if infestation is present. By scouting is meant the searching for egg masses, larvae,

etc., over any given territory. During intensive scouting, practically everything above the ground is examined. Trees are climbed, loose bark removed, cavities examined, rocks and debris on the ground turned and inspected, etc. When an infestation is discovered, the trees in the infested area are marked with white paint, and in case it is deep in a wooded area white arrows are used to mark the colony from the nearest roadside. The exact location of the colony is marked on a blueprint map, and information is added indicating the number of egg masses or moths at other stages of development, the size of area infested, whether it is woodland or open, and what work is to be done.

Because of the infestation in Pennsylvania and the possibility of egg masses or larvae being brought into New Jersey by automobiles and trucks and deposited along the highways, scouting work was conducted on two of the trunk routes from the Wilkes-Barre and Scranton sections of Pennsylvania into and through New Jersey. During October and November, property abutting upon Route No. 6 between the Delaware bridge and Hackettstown, and upon Route No. 28 between Phillipsburg and Clinton was scouted for a reasonable distance from the roads. No sign of the gipsy moth was found during this period.

At the conclusion of the roadside scouting work, follow-up work was started as planned in the Township of Mendham, at the scene of the old infestations. This work continued during December, January, February and March. Nothing was found until early in February, when a single egg mass was found in Randolph Township on the Mendham line near Mount Freedom. Immediately scouting was started in a circle, with the site of the new colony as the center, to locate the parent colony. The bureau had nearly completed the scouting it had planned to do when it found a colony in Mendham Township on the Morris Township line. This colony was found early in April and, since hatching was expected at any time, the bureau confined its efforts to the immediate area in order to destroy, if possible, all egg masses before the larvae emerged. Very little scouting work was done after April 11, the date the colony was found. Follow-up work was done at the scene of an old colony in Piscataway Township with negative results.

RESULTS OF SCOUTING WORK

Township	Acres Scouted	Miles Roadside	Fruit Trees	Shade Trees	Infestations Found	New egg Masses	Old egg Masses
Route No. 6...	6.25	18.00	2,279	16,474	0	0	0
Route No. 28..	43.00	14.75	4,177	16,960	0	0	0
Mendham	264.50	5.33	925	11,593	1	117	19
Randolph	358.00	.00	0	0	0	0	0
Piscataway	96.25	5.00	1,270	5,695	0	0	0

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CLEAN-UP WORK

Clean-up work consists of the removal of dead trees and those with cavities, creosoting egg masses, spraying, destroying larvae by hand methods, and tanglefooting the trees at an infestation to prevent the larvae from ascending them and to thus retard wind dispersion of the infestation. All egg masses which could be found were creosoted. The work was rather slow, since all but a few of the egg masses were beneath large rocks, and as many of these as could be handled were turned. Only seven of a total of 117 egg masses found were on trees above the ground. Before the eggs hatched, tree tanglefoot was applied to the trees at the infestation, and before the foliage had matured to the point when spraying was possible, representatives of the bureau patrolled the area beneath the tanglefoot, shrubbery, etc., and killed the small larvae. Spraying was started June 1 and a very thorough job was done. Fish-oil was used as an adhesive. After spraying the bureau patrolled the infested area until the end of the month and did not find any living larvae.

RESULTS OF CLEAN-UP WORK*

Town	Egg Masses		Trees Banded	Acres Sprayed	Larvae Killed
	New	Old			
Mendham	117	19	372	59.75	3,531

*Prompt and substantial cooperation was received in the clean up work from the Bureau of Plant Quarantine of the United States Department of Agriculture, through A. F. Burgess and H. L. Blaisdell. Material for destroying the egg masses, tree banding material, hose, a high-power spraying outfit with operator, arsenate of lead, fish-oil, etc., were furnished by that bureau.

JAPANESE BEETLE SUPPRESSION

The central idea of the Japanese beetle suppression work carried on during the year was that suppression, through the employment of a considerable number of mechanical traps, is a promising channel of attack on the Japanese beetle problem. The trapping experiment in Salem County constituted the major suppression activity.

SPRAYING

No attractant spraying work involving the use of green lead arsenate, syrline and geraniol was done. Results of previous experiences indicate that such work is costly and very erratic in its effectiveness. It will, therefore, be abandoned until appraised with more promise.

Soap contact sprays were applied in a few instances where the destruction of early apples and peaches appeared imminent. Contact sprays (1½ to 2 per cent actual soap) will probably afford considerable relief in many local cases of an uncontrolled invasion of Japanese beetles. Nevertheless, direction of effort toward the minimizing of these invasions must become a primary endeavor.

TRAPPING

The electrical trap used by the department in the previous year was not assembled for further trial. A commercial electrical trap which operates on 110 volts was connected for trapping. The captures were far below those of the mechanical trap. It is quite likely that the geraniol in the bait was oxidized to its corresponding aldehyde by the ozone evolved by the high potential wires. The aldehyde of geraniol is worthless as an attractant.

The parts of the mechanical trap used during the summer of 1932 involved a few minor departures from the so-called "standard" trap. These changes were made on the strength of information realized during the previous two years, principally at the Japanese Beetle Laboratory, of the United States Department of Agriculture, at Moorestown.

SALEM COUNTY EXPERIMENTAL AREA

Inasmuch as mechanical traps appear to be the most effective suppression agency, an area in Salem County was selected for a trapping experiment. The purpose and general plan of the experiment as outlined in a program of work for 1932 were followed.

Details of the Experiment

In the spring of 1932, a representative of the department visited the farms in the trapping area to ascertain the willingness of the farmers to cooperate in the experiment. The conditions of this cooperative arrangement were, briefly, that the department would furnish the traps, place them on the farm, provide bait and killing solution, and a chart for notation of the quantities of beetles captured, while the farmer would empty the beetle receptacles as required, stir the bait daily, replace the used bait with fresh bait and make notations on the charts of the captures. The department representative interviewed 326 farmers and engaged the cooperation of 325 farmers. The area covered was approximately 75 square miles.

At the time of the delivery of the traps to his farm, the farmer was provided with sufficient bait to bait each of his traps four times, and with a gallon of killing solution to be emptied into 25 gallons of water in a 50-gallon barrel.

Progress of the Experiment

The 2,100 traps used in the Salem County area were not baited at the time of delivery to and placement on the various farms. An attempt was made to so regulate the initial baiting and the subsequent rebaitings that the maximum benefit from four baitings would be realized. On June 29, the appearance of beetles in damaging numbers seemed to be close at hand. Accordingly a letter of instruction dated June 29 was sent to the cooperators directing them to bait their traps. Rebaiting notices were sent out on July 9, July 18 and July 28. Each baiting consumed about one-third pound of bait per trap.

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The first noteworthy emergence of beetles occurred on July 5. This date corresponds quite closely with the initial heavy emergence date of 1931. In two small screened control plots near Elmer, the total adult emergence was noted, and in the accompanying table a comparison with the number of beetles trapped in a Federal experiment at Woodstown is presented. The beetles in the screened cages were collected July 1, 7, 14 and 19. The intervals were periods of accumulation. No beetles emerged after July 19. No attempt will be made at this time to make deductions from these data.

A TIME COMPARISON OF EMERGENCE AND TRAPPING DATA

Date	Beetle Emergence Screened Plot	Beetles Trapped Woodstown
July 1	61	.....
July 2
July 3
July 4
July 5
July 6
July 7	83	.....
July 8	995,290
July 9	750,000
July 10	850,000
July 11	725,000
July 12	1,319,000
July 13	1,047,000
July 14	101	902,000
July 15	1,043,000
July 16	779,000
July 17	771,330
July 18	1,009,000
July 19	13	639,000
July 20	200,000
July 21	254,000
July 22	375,000
July 23	848,000
July 24	566,000
July 25	357,000
July 26	236,000
July 27	122,000

Within a week after the initial heavy emergence of beetles on July 5, the one-gallon beetle receptacle demonstrated itself to be entirely inadequate in capacity for trapping in an area of heavy infestation. Traps are known to have become filled to the top of the funnel (6 quarts total) in one hour. One trap caught 27 quarts in one day, necessitating five emptyings. Even though many of the traps were given attention twice a day, they became filled to overflowing almost regularly.

During the spring of 1932, attention was directed to finding a practical way of killing beetles after they are removed from traps. Kerosene was recognized as a satisfactory contact insecticide and a weak formaldehyde solution as a medium which would retard beetle decomposition. Of necessity, these determinations were made with the few beetles available during the late winter and early spring.

The prescribed recommendation for killing beetles caught in the trapping experiment required a 50-gallon barrel to be one-half full of water. To the water was added 1 quart of concentrated formaldehyde and then 3 quarts of kerosene was added as a surface layer. The kerosene, being lighter than the formaldehyde solution, floated on the surface. However, in preparing this recommendation, the density of the beetle body with respect to the specific gravity of the killing solution was overlooked. Consequently, beetles added to the killing solution immediately arose to the surface. In fact, the addition of 10 or 15 quarts of beetles to a barrel already having a heavy surface layer of beetles created a condition in which most of the newly added beetles were buoyed above the level of the killing solution.

Most of the farmers soon discovered the impracticability of the recommendation. Using their own equipment and ingenuity, many adopted the method of emptying the captured beetles into an old 40-quart milk can and pouring about one quart of gasoline over the mass. The lid was promptly replaced and the gasoline vapor killed the beetles in about 10 minutes. Further work done indicated that one pint of gasoline is sufficient to kill 40 quarts of beetles in a closed container in about 10 minutes. The gasoline vapor is highly inflammable and the utmost precaution must be exercised during the killing operation.

During the early part of August, the beetle captures as well as the beetle population declined rapidly. By August 10 the trappings had fallen to such a low mark that most of the traps were removed from the field to storage places.

Results of the Experiment

As previously stated, the first heavy emergence of beetles occurred July 5. Immediately thereafter the defoliation work of the beetles became evident, particularly on sweet corn, fruit trees and grapevines. In accordance with a previously expressed prediction, the rate of defoliation appeared to be somewhat slower than during the previous year. It must be understood, however, that while this defoliation was in progress heavy beetle captures were being made. Nowhere in the trapped area were beetle congregations resembling a swarm of bees observed. Many such beetle clusters were observed during the previous year.

No new economic food plants were reported. The small leaved linden (*Tilia cordata*) again appeared to be the most preferred food plant. Linden trees in Elmer and Daretown were defoliated by July 10. The beetles even returned to these trees about August 5 to destroy the second crop of leaves which had been produced by that time.

Approximately 2,100 traps were placed in the Salem County trapping area. Of these, 102 were placed in Elmer and 27 in Daretown, and the remainder were placed on farms. The total capture aggregated 530,645,000 beetles, equivalent to a volume of 40,208 gallons or 5,026 bushels. This

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volume of beetles would be sufficient to fill 804 50-gallon barrels. The average capture per trap for the season was 75 quarts. An illuminating analysis of the mass of trapping data is quite impossible because of the unmethodical manner of capture notations followed by about 15 per cent of the co-operators.

A grub survey of the trapped area and some land immediately contiguous to it was made cooperatively with the Federal Japanese Beetle Laboratory, at Moorestown, and the Federal Japanese Beetle Quarantine Office at White Horse. This work was done under the direction of Dr. Henry Fox of the laboratory staff. The results and survey locations are presented in the accompanying table.

JAPANESE BEETLE GRUB SURVEY
SALEM COUNTY, OCTOBER, 1932

Map Location	Crop Beetle	During Flight	Crop at Time of Survey	No. of Diggings	Minimum	No. Grubs per Average	Sq. Ft.	Maximum
1	Pasture		Pasture	26	1	14.2		37
2	Field Corn		Corn Stubble	25	0	3.1		19
3	Field Corn		Corn Stubble	50	0	6.0		18
4	Pasture		Pasture	50	0	14.9		38
5	Pasture		Pasture	49	2	14.5		37
6	Field Corn		Corn Stubble	50	0	4.0		29
7	Field Corn		Corn Stubble	49	0	6.6		25
8	Pasture		Pasture	50	1	20.0		48
9	Pasture		Pasture	25	1	10.8		23
10	Field Corn		Corn Stubble	25	1	7.0		23
11	Field Corn		Corn Stubble	50	0	9.1		48
12	Pasture		Pasture	50	0	6.5		38
13	Pasture		Pasture	23	0	11.0		77
14	Field Corn		Corn Stubble	25	0	3.7		19
15	Pasture		Pasture	24	0	6.7		14
16	Field Corn		Corn Stubble	27	4	20.5		35
17	Pasture		Pasture	50	0	11.2		41
18	Hay Field		Hay Field	25	0	12.7		31
19	Fallow		Late Potatoes	26	1	7.7		17
20	Early Potatoes		Rye Cover Crop	25	1	9.7		27
21	Field Corn		Corn Stubble	40	0	22.9		58
22	Pasture		Pasture	25	0	22.9		54
23	Fodder Corn		Corn Stubble	5	5	23.0		40
24	Alfalfa		Alfalfa	15	0	1.0		4
25	Pasture		Pasture	100	2	14.6		51
26	Pasture		Pasture	50	2	16.6		53
27	Field Corn		Corn Stubble	50	0	2.4		7
28	Pasture		Pasture	25	0	5.5		16
29	Field Corn		Corn Stubble	24	0	3.9		14
30	Pasture		Pasture	23	0	8.2		42
31	Pasture		Pasture	25	0	2.5		11
32	Field Corn		Corn Stubble	25	7	23.2		53
33	Pasture		Pasture	25	1	11.1		26
34	Pasture		Pasture	25	0	20.1		72
35	Pasture		Pasture	16	0	16.1		57
36	Field Corn		Corn Stubble	50	2	17.0		55
37	Pasture		Pasture	50	2	32.8		84
38	Fallow		Late Potatoes	10	1	6.0		12
39	Field Corn		Corn Stubble	40	1	11.0		33
40	Pasture		Pasture	25	0	2.6		17
41	Field Corn		Corn Stubble	24	1	5.6		20
42	Pasture		Pasture	25	0	8.6		33
43	Pasture		Pasture	25	0	3.9		28
44	Field Corn		Corn Stubble	25	6	16.1		36
45	Asparagus		Asparagus	27	0	2.6		13
46	Field Corn		Corn Stubble	25	0	1.7		9
47	Pasture		Pasture	50	3	12.3		28
48	Pasture		Pasture	25	0	17.1		43
49	Peppers		Peppers	25	0	2.2		12
50	Tomatoes		Tomatoes	25	0	2.8		9
51	Asparagus		Asparagus	25	0	1.2		4
52	Field Corn		Corn Stubble	25	0	3.8		18

1,698

		Percentages
First Instar	12	.0006
Second Instar	2,195	11.6
Third Instar	16,786	88.4

Observation of Beetle Responses

The Japanese beetle trap has been classified as a device which should not be relied upon for plant protection. The Elmer infestation provided an excellent opportunity to procure detailed experience on this subject. Accordingly, six arbor-supported grape vines were selected for observation. A trap was placed near each of three of these vines; the other three did not have traps near them. In each case, the foliage was heavily covered with hydrated lime on July 2. Later applications were made as needed. In conformity with the former belief, the traps did accelerate the rate of defoliation, the three vines without traps survived the beetle feeding period with only minor damage, while the vines with traps nearby showed much defoliation. Each of the traps averaged a three-quarter daily beetle capture during the period of defoliation. This defoliation was progressive in spite of the captures. It appeared that the trap served as a strong supplemental attractant to the natural attractants of the grape vines. It also appeared that capture was, for the most part, preceded by feeding.

A farm near Shirley yielded information which indicated the possible use of trap crops in connection with Japanese beetle suppression work. On the farm was a one-acre plot of fodder corn which had been sown about the middle of May. The plants were waist high by the middle of July. The owner directed attention to the fact that Japanese beetles were congregating on this corn at an alarming rate, even though the traps had been placed a short distance (300 feet) away. Five of the traps were moved to the corn plot. The captures were heavy. A capture of 30 quarts in five traps in 45 minutes was a witnessed accomplishment. The population of beetles on the corn did not seem to diminish in spite of the heavy captures. The older corn leaves soon became shredded as a result of beetle feeding. However, the continuous unfolding of new leaves from the axes of the plants provided a constant and adequate supply of succulent food for the insects.

Within two weeks after the first heavy beetle emergence, many of the co-operating farmers realized that the beetles accumulated along fence rows after orchards had been severely damaged. As the orchard captures declined, many of the traps were moved to such fence rows. The captures were gratifying and the feeding was confined largely to worthless plants.

OCEAN COUNTY EXPERIMENTAL WORK

In the spring of 1932, attention was directed to the larval infestation occurring in lawns and golf course fairways in the vicinity of Lakewood and Toms River. In most instances these infestations represented such a concentration of beetles that treatment of the turf appeared necessary. An experiment was therefore devised to determine whether or not the mechanical trap could be employed to lure the beetles away from such turfed areas and possibly encourage the females to lay their eggs in soil not supporting a

much valued crop. Accordingly, traps were placed on property of the Lakewood Country Club, on the lawns of Georgian Court College, on the lawns and golf course of the Rockefeller estate, all at Lakewood, on the fairways of the Cranmore Country Club, at Toms River, and on the fairways of the Pinewald Country Club, at Pinewald. The captures in each instance were very satisfactory. In the opinion of respective caretakers, the traps definitely reduced the beetle population during the season of beetle flight.

Grub surveys made during the fall of 1932 indicated in most instances a reduction in the average grub population per square foot as compared with the grub population as revealed in a survey made the previous spring. It is quite likely that traps will provide a means whereby some country clubs can avoid the tedious and costly operation of applying lead arsenate to fairways.

INCIDENTAL TRAPPING LOCATIONS

The Department of Agriculture has received many inquiries regarding the advisability of placing traps in back yards, for the protection of plants growing there. Although such a practice was never encouraged, no definite information was available on the subject. For that reason, 48 traps were distributed on private properties in Pennington and about 65 traps on properties in Trenton and vicinity. In most of the instances investigated, the destructive work of the beetle was accomplished in spite of the fact that a trap was baited and exposed for captures.

The conclusions arrived at are quite in accordance with those independently established in South Jersey; namely, that protection of susceptible plants should not be sought through the agency of a trap.

RESUME OF TRAPPING WORK

The trapping and observational work conducted during the summer of 1932 provided information which leads to the following conclusions:

1. Preferred food plants are the primary centers of beetle attraction. The trap is decidedly secondary.
2. Traps removed some distance from food plants are a very minor attraction.
3. Traps placed near preferred food plants provide an attraction supplemental to the natural attraction provided by these plants. With such an association, the food plant continues temporarily (until the feeding desires have been gratified) as the primary attractant, after which its attraction is probably subordinated to that of the trap.
4. Feeding is apparently linked with large beetle captures. The desirability of having traps close to food plants is therefore indicated. The food plants should be non-economic.
5. Traps and fence-row vegetation, or, better still, traps and specially planted trap crops constitute satisfactory trapping associates.

6. If protection is sought for susceptible plants, this should be gained through the employment of recommended sprays. In the commercial spraying program, traps should receive only passing consideration.

SPRING GRUB SURVEYS

A grub survey of the locations surveyed the previous fall was made during early May. Generally speaking, the grub population appeared to have undergone little change in the interim. A second spring survey made during the first week in June (about one month after the first spring survey) revealed a population reduction of approximately 50 per cent. This reduction may be ascribed to two possible reasons: disease and birds. That blackbirds and starlings played a considerable part in the reduction is believed to be true because of the occurrence of many small surface holes. Farmers reported that flocks of these birds were present for several hours in these surveyed locations.

WORK DURING SPRING OF 1933

Inasmuch as the one-gallon beetle receptacles previously used proved to be inadequate in capacity, a trap with a 40-quart receptacle was designed following the trapping season of 1932. Since it was desired to use liquid bait in the traps, a perforated cylinder was placed at the intersection of the baffles in the funnel. The liquid bait, a departure from the bran bait previously used, consisted of geraniol, eugenol and phenyl ethyl alcohol in the ratio of 10-1-1/2. This bait was dispensed from a 1 1/2-ounce circular bottle by a round cotton wick. According to the previously computed rate of volatilization, the 1 1/4-ounce volume of bait should be effective for a 45-day period, the usual duration of the adult stage of the beetle.

The suppression plan adopted for the heavily infested area of Salem and Cumberland counties was the association of the 40-quart trap with an attractant crop. A representative of the department solicited the cooperation of farmers in this area. The trapping plan stipulated that each cooperating farmer contribute the use of about 1/2 acre of land, and attend to its plowing and harrowing. The department agreed to seed the areas to early maturing corn, cover the seed and place the traps. The farmer, as in the previous year, was requested to empty the traps and note the captures on a chart. The cooperation of 175 farmers was readily secured on this basis.

The corn planted was a mixture of four varieties; namely, Minnesota No. 13, Northwestern Dent, Extra Early Northwestern Dent and Somerset Leaming. The first three varieties were procured from a seed firm in the Middle West and the Somerset Leaming was obtained from a farmer in Somerset County, New Jersey. The purpose of this mixture was to provide silks and tassels for the feeding beetles from July 1 to August 15. The seed was treated before planting with a coal tar crow repellent. It was broadcasted by

hand at the rate of one bushel per acre. The seed was covered with custom-made smoothing-pulverizing harrows. These harrows were drawn over the ground by a roadster of standard make. The equipment for a tractor used in the planting work was loaned by the Bureau of Plant Quarantine of the United States Department of Agriculture. About 30 minutes was required to seed and cover a one-half acre area. The seeding was done during the first two weeks of May.

JAPANESE BEETLE QUARANTINE WORK

(Calendar year 1932)

This section of the annual report serves to indicate the scope and extent of the quarantine work that is conducted by the Bureau of Plant Industry in cooperation with the Bureau of Plant Quarantine of the United States Department of Agriculture. Details concerning the work may be found in the files of the Bureau of Plant Industry, if needed. No mention is made here of the work involved in nursery and greenhouse scouting, field scouting etc., that is necessary each year, nor of numerous details that would make this report unduly long.

NURSERY AND GREENHOUSE SCOUTING DURING SUMMER OF 1932

Number of Establishments Scouted.....	148
Number of Scoutings	2,320

SAND, SOIL, PEAT, ETC. ESTABLISHMENTS SCOUTED

	Number of Establishments Scouted	Number of Scoutings
Sand, Soil, Marl, Peat, etc.....	97	334
Moss, Storage and Loading Points.....	11	20
Total.....	108	354

FARM PRODUCTS

Farm products inspection was accomplished for the entire state by 25 men, operating from 15 inspection points. A reduction of three men from the previous year's personnel was all that was possible in spite of the fact that there was a reduction of more than 80 per cent in the number of units certified. This can be readily explained by the fact that the infestation around certain farm produce centers was intensified, making actual inspection, or chemical or mechanical treatment necessary. All berries were chemically treated, as in previous years.

During the fall and winter of 1931, a machine was made with the hope that adult Japanese beetles could be eliminated from beans. There evolved from a great deal of experimental work, a machine consisting of cylinders, placed on an axle and capable of rotating. A hopper was made to hold the beans for introduction into the cylinder. During experimentation, by

subjecting the beans to this rotary treatment at the rate of one bushel per minute, practically all adult beetles were eliminated. Further experimentation tentatively proved that beans were not substantially harmed by being subjected to the process. These machines were used for most part at Glassboro and Cedarville. It is impossible to state how many bushels of beans were passed through the machines, but until some non-infested farms were found in the northern section of Cape May County, practically all beans shipped from Cedarville to points outside the quarantined area were so treated. In previous years, very few beans were taken to the Cedarville Auction Market from any distant points. In 1932, however, an appreciable quantity was taken there from northern Cape May County and Cumberland County farms upon which quarantine inspectors were unable to find infestation. These farms were termed "accredited" and the large buyers at Cedarville, when making up a car to go outside the quarantined area would confine their purchases to beans from "accredited" farms and, if they failed to make a full car, would have the remainder of the beans subjected to the mechanical treatment.

The records of the quarantine work indicate that only 292 beetles were removed from farm produce inspected in 1932 as compared with 1,225 removed in 1931. This can be explained by the fact that it was impossible to count the number of beetles removed from beans by machine in 1932.

The Blueberry Growers' Cooperative Association erected a fumigation house at New Lisbon. In 1932, 3,733 crates of berries were fumigated at this house. At Hammonton, 11,233 crates of berries were fumigated, making a total of 14,966 crates of berries fumigated or an increase of about 2,500 crates over the number fumigated in 1931.

One hundred and forty-one packers of small fruits had their method of packing and grading approved during the year.

FARM LAND SCOUTING

In order to enable the quarantine office to grant certification on commodities restricted by the quarantine with the least amount of inconvenience to the grower or shipper, as many farms as possible were scouted. If there was no appreciable infestation on a farm it was "accredited." In 1932, 473 farms were scouted and 125 were "accredited."

INSPECTION POINTS, PACKAGES OF FARM PRODUCTS CERTIFIED AND BEETLES REMOVED.

Place	Period Operated	Hours Per Day Open	Number of Men	Packages Certified	Beetles Removed
Bridgeton	June 15 to Sept. 17	8	*	32,574	...
Cedarville	June 15 to Sept. 17	8	5*	30,844	15
Glassboro	June 15 to Oct. 15	8	5†	29,163	...
Hammonton	June 15 to Sept. 17	8	1	22,036	277
Landisville	June 15 to Sept. 17	8	†	374	...
Malaga	June 15 to Sept. 17	8	†	229	...
Norma	June 15 to Sept. 17	8	*	530	...
Newfield	June 15 to Sept. 17	8	†	6,254	...
New Lisbon	June 15 to Sept. 17	8	1	1,930	...
Pedricktown	June 15 to Sept. 17	8	†	1,453	...
Rutherford	June 15 to Oct. 15	8	1	767	...
Swedesboro	June 15 to Sept. 17	8	†	2,367	...
Trenton	June 15 to Oct. 15	8	1	19,808	...
Vineland	June 15 to Oct. 15	8	†	8	...
Wheat Road	June 15 to Sept. 17	8	†	708	...
Totals				149,045	292

*These points were taken care of from Cedarville, where a crew of five men was stationed.

†These points were taken care of from Glassboro where a crew of five men was stationed.

PACKAGES OF FRUIT, VEGETABLES AND CUT FLOWERS CERTIFIED IN THE REGULATED AREA OF NEW JERSEY, AND NUMBER OF BEETLES REMOVED, SUMMER OF 1932

Articles	Number of Packages	Number of Beetles Removed
Corn	262	15
Lima beans	19,426	...
String beans	28,166	...
Apples	43,489	...
Peaches	37,155	...
Blackberries	8,482	100
Blueberries	2,060	...
Raspberries	6,281	177
Huckleberries	65	...
Cut Flowers	3,659	...
Totals		292

NUMBER OF BALES OF MOSS AND OAK LEAVES CERTIFIED BY EACH OFFICE FOR SHIPMENT FROM THE REGULATED AREA OF NEW JERSEY DURING THE 1932 SEASON

Office	Bales Moss	Bales Oak Leaves	Total
Glassboro	86	13	99
Trenton	243	..	243
Totals		13	342

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NUMBER OF PLANTS OF NURSERY AND ORNAMENTAL STOCK CERTIFIED FOR SHIPMENT TO VARIOUS STATES BY MONTHS, 1932

January	269,160
February	352,002
March	584,933
April	1,223,734
May	1,153,533
June	992,020
July	325,278
August	121,751
September	135,105
October	289,225
November	322,514
December	136,919
Total	5,906,174

During the year, 5,168,759 plants were certified for shipment to dealers inside the quarantined area. This figure added to the 5,906,174 plants certified for shipment to points outside the area, make a total of 11,074,933 plants certified.

CARLOADS OF EACH CLASS OF SAND, SOIL, PEAT, ETC., CERTIFIED EACH MONTH AND TOTALS

Month	Processed Materials	Molding	Marl	Clay	Glass	Peat	Totals
January	28	34	6	10	2	..	80
February	27	24	3	9	..	..	63
March	36	32	9	6	..	2	85
April	34	32	4	12	..	..	82
May	42	41	7	103	..	..	193
June	37	39	4	63	..	..	143
July	24	37	3	42	..	2	108
August	22	21	10	43	..	..	96
September	14	24	6	15	..	1	60
October	33	154	6	134	..	1	328
November	28	75	3	24	..	2	132
December	11	19	3	4	..	1	38
Totals	336	532	64	465	2	9	1,408

Note:—According to the monthly reports a total of 1,332 carloads of sand, etc. and three carloads of peat were certified. However, 5,339,642 pounds of sand and 204,453 pounds of peat were shipped in small lots. Figuring 80,000 pounds to the car for sand and 30,000 pounds to the car for peat, the figures were adjusted to include an additional 67 carloads of sand making a total of 1,399 carloads of sand and 6 additional carloads of peat, making a total of 9 carloads of peat.

CARLOADS OF MANURE CERTIFIED FOR SHIPMENT TO OTHER STATES.

State	Carloads
Massachusetts	1
Maryland	5
New York.....	3
Pennsylvania	2
Virginia	7
Totals	18

Note:—According to the monthly reports a total of 17 carloads of manure were certified. In addition, a total of 42,143 pounds were certified. Figuring 40,000 pounds to the carload, a total of 18 carloads was arrived at.

TOTAL MEN EMPLOYED AT ALL OFFICES

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec
Nursery and Greenhouse	37	32	33	34	43	53	66	63	46	37	35	34
Maintenance	4	5	5	4	5	5	5	6	4	4	3	4
Farm Products.....	..	..	..	..	..	16	25	24	1	..	..	..
Soil Treatments.....	3	2	10	10	5	..	..	..	..	..	..	..
Trapping .....	..	..	..	..	..	..	2	2	..	..	..	..
Totals	44	39	48	48	53	74	98	95	51	41	38	38

SOIL TREATMENTS WITH VARIOUS SUBSTANCES

Substance Used	Square Feet Treated
Arsenate of Lead	5,460,787
Carbon Bisulphide	18,372
Carbon Bisulphide emulsion	3,344
Naphthalene	878

JAPANESE BEETLE NEMATODE WORK

LABORATORY WORK

As described in Department of Agriculture Circular No. 211, published in April 1932, the nematode parasite of the Japanese beetle could be continuously reared artificially for from 21 to 32 generations by making use of a method devised in 1931. The method of wholesale culture described in the circular has proven extremely valuable in studies of methods of field introductions. However, as pointed out in the circular, after 21 to 32 generations had been produced on the culture medium, the mature nemas invariably died without giving birth to any more young, and new cultures had to be initiated from fresh parasitized beetle grubs. This usually involved much loss of time and energy when a conservation of both were required.

Clearly, it would be advantageous to have vigorous cultures of the parasites available throughout the year. To overcome the difficulty, which can be classified as a nutritional deficiency, innumerable experiments were run by adding various substances containing vitamins and hormones to the cultures. It is now possible to report that by the use of whole, bovine ovarian substance, the nematodes have propagated to the eighty-fourth generation and that approximately twice as many parasites are produced as formerly.

How much further these cultures will maintain themselves, it is impossible to say. Infection tests on Japanese beetle grubs showed that no loss in the parasitic potentialities of the parasite was obtained after this prolonged culture. The addition of vitamins other than those already present and proteins such as egg albumin, peptone, etc., had no effect. Testicular or orchic substance also had no effect. Beetle powder (whole Japanese beetle grubs desiccated and powdered) is still being used but, as yet, it is not possible to make any statement regarding this substance. Dr. R. W. Glaser, of the Rockefeller Institute for Medical Research, at Princeton, who cooperates with the Department of Agriculture in studying the nematode, is inclined to believe that he has supplied the parasites with a necessary reproduction hormone. The gonads are the only glands of internal secretion common to both vertebrates and invertebrates, and for this reason bovine, whole ovarian substance was tried on the nematodes rather than extracts or powders from the pituitary, pancreatic or adrenal glands.

During the year the laboratory was also busy in the routine examination of large numbers of dead grubs sent in by an assistant from various field experiments.

FIELD WORK

Studies of small field plots in which the nemas were introduced in the spring of 1931 were continued. The parasites survived the winter of 1931-32 and the winter of 1932-33. If healthy Japanese beetle grubs are introduced into these plots during the spring or autumn they are practically all parasitized and killed within two or three weeks. Sedimentation tests showed that this soil is now loaded with the second stage invasive form of the specific nematode.

Two large field experiments initiated in 1931 and 1932 respectively were studied during the year, but proved discouraging. Only two or three isolated parasitized grubs were found. These plots had been sprayed from a power sprayer with a water suspension of the nemas. This method of introduction may not be adequate; on the other hand, the results may be due to the fact that, unfortunately, the beetle population in these two areas became depleted through other factors.

Another large field experiment initiated during May, 1933, and known as the "Johnson Farm" experiment, yielded encouraging results. The plot was heavily infested with beetle grubs and the parasites were introduced by burying small samples of the cultures at intervals of every few yards. In three weeks there was obtained a 13 per cent mortality and the dead grubs were loaded with *Neoaplectana*, as determined by culturing and identifying all material microscopically. Since a large-scale infection was established in this territory in so short a time, the Bureau of Plant Industry anticipates interesting mortality results in the fall of 1933 and the spring of 1934. The method of spraying the parasites on the surface of the soil may work yet, if

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the various factors conducive to establishment can be determined, but the method of burial certainly now looks more promising because the nemas are immediately placed into their natural cool, moist environment and they have rapid access to their hosts which abound in the soil.

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Official Proceedings of the Eighteenth Annual State Agricultural Convention

TRANSACTION OF BUSINESS

The eighteenth annual State Agricultural Convention was called to order in the Assembly Chamber of the State Capitol, Trenton, N. J., by Elmer H. Wene, president of the New Jersey State Board of Agriculture, at 9:45 o'clock Tuesday morning, January 24, 1933. The Rev. D. D. Rossell, of Columbus, chaplain of the New Jersey State Grange, pronounced the invocation.

William B. Duryee, state secretary of agriculture, called the roll of delegates. Delegates whose names are marked with a single asterisk (*) were absent and were not represented by alternates; those whose names are unmarked were present. Two asterisks (**) indicate a vacancy for which no delegate was certified.

DELEGATES TO STATE AGRICULTURAL CONVENTION

FROM COUNTY BOARDS OF AGRICULTURE

Name	Address	Term	County
William F. Schirmer.....	Egg Harbor City, Alternate for		
Frank Makarius.....	Risley	2 Years...	Atlantic
H. O. Packard.....	Hammonton	1 Year...	Atlantic
Henry Behnke.....	Hackensack, R.D.....	2 Years...	Bergen
Arthur Lozier.....	Hackensack, R.D.....	1 Year...	Bergen
George T. Reid.....	Mount Holly.....	2 Years...	Burlington
Arthur E. Griffith.....	Burlington	1 Year...	Burlington
Howard H. Bell.....	Mount Ephraim.....	2 Years...	Camden
Howard F. DeCou.....	Merchantville	1 Year...	Camden
Judson Corson.....	Palermo	1 Year...	Cape May
Norman Taylor.....	Cape May, R.D.....	1 Year...	Cape May
Robert Ewing.....	Greenwich, Alternate for		
Howard Sheppard.....	Cedarville, R.D.....	2 Years...	Cumberland
F. L. Ott.....	Bridgeton, R.D.-5.....	1 Year...	Cumberland
*Gilbert Squire.....	Livingston	2 Years...	Essex
Herbert Francisco.....	West Caldwell	1 Year...	Essex
T. Wood Wyne.....	Thorofare	2 Years...	Gloucester
Wilson McClure.....	Sewell, R.D.-3.....	1 Year...	Gloucester
George A. Veltman.....	33 Garrison Ave., Jersey City.....	2 Years...	Hudson
**.....			Hudson
Charles Burd.....	Pittstown	2 Years...	Hunterdon
R. S. Schomp.....	Stanton	1 Year...	Hunterdon
Weldon Shivers.....	Trenton, R.D. 1.....	2 Years...	Mercer
Russell Applegate.....	Robbinsville	1 Year...	Mercer
**.....			Middlesex
Spencer Perrine.....	Cranbury	1 Year...	Middlesex
Archie Height.....	Freehold, R.D.....	2 Years...	Mummuoth

Name	Address	Term	County
Roscoe C. Clayton	Freehold, R.D.	1 Year	Monmouth
Scott Parks	Chester	2 Years	Morris
E. W. Stroud	Flanders	1 Year	Morris
**			Ocean
Erwin Clement	Lakehurst	1 Year	Ocean
Walter Sikkema	Paterson, R.D.-2	2 Years	Passaic
Arthur Butt	Clifton, R.D.-1	1 Year	Passaic
Albert Kessler	Woodstown, R.D.	2 Years	Salem
F. C. Pettit	Woodstown, R.D.-2	1 Year	Salem
Harry W. Kline	New Brunswick, R.D.-6	2 Years	Somerset
P. P. Van Nuys	Bellemead, Alternate for		
A. Schieferstein	Somerville	1 Year	Somerset
Mrs. W. W. Roy	Box 73, Newton	2 Years	Sussex
Clinton Harden	Newton, R.D.-1	1 Year	Sussex
Charles H. Brewer	Rahway, R.D.-2	2 Years	Union
Hart S. Van Fleet	Roselle Park	1 Year	Union
Frank Pursel	Alpha, R.D.	2 Years	Warren
*Walton B. Kostenbader	Delaware, R.D.	1 Year	Warren

FROM POMONA GRANGES

Name	Address	Term	County
Martin Decker	Egg Harbor City	1 Year	Atlantic
David Wortendyke	Allendale	1 Year	Bergen and Passaic
**		1 Year	Burlington
Frank Shivers	Haddonfield	1 Year	Camden
August W. Fund	Livingston	1 Year	Central District
Reid Chambers	Eldora	1 Year	Cape May
Paul Jeffers	Cedarville	1 Year	Cumberland
Earl M. Thompson	Mickleton	1 Year	Gloucester
Theodore H. Dilts	Three Bridges	1 Year	Hunterdon
C. Lester Rue	Windsor	1 Year	Mercer
James Barr	New Brunswick	1 Year	Middlesex and Somerset
Carl B. Schanck	Freehold, R.D.-3	1 Year	Monmouth
William Smick	Woodstown	1 Year	Salem
John Middleton	Port Jervis, N.Y., R.D.-1	1 Year	Sussex
Gilbert Hartung	Phillipsburg, R.D.-2	1 Year	Warren

FROM OTHER ORGANIZATIONS

- American Cranberry Growers' Association—James D. Holman, Whitesville, 2 years; Theodore H. Budd, Pemberton, 1 year.
- New Jersey State Horticultural Society—Newlin B. Watson, Greenwich, 2 years; John H. Barclay, Jr., Cranbury, 1 year.
- New Jersey State Poultry Association—Henry Rapp, Jr., Farmingdale, 1 year; John H. Weed*, Vineland, 1 year.
- New Jersey State Grange—Walter H. Whiton, Neshanic, 1 year; Henry M. Loveland, Bridgeton, 1 year.
- New Jersey Agricultural Experiment Station—Jacob G. Lipman*, New Brunswick, 1 year.
- New Jersey State College of Agriculture—James Neilson*, New Brunswick, 1 year.
- Holstein-Friesian Cooperative Association—P. P. Van Nuys, Bellemead, 1 year.
- New Jersey Guernsey Breeders' Association—Joseph W. Miller, Princeton, 1 year.
- New Jersey Alfalfa Association—John V. Bishop, Columbus, 1 year.

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New Jersey State Potato Association—James Ewart, Cranbury, 1 year.
 Cooperative Growers' Association of Beverly—Paul H. Burk, Beverly, 1 year.
 New Jersey Beekeepers' Association—Richard D. Barclay, Riverton, 1 year.
 E. B. Voorhees Agricultural Society—J. Paul Jennings, Verona, 1 year.

President Wene appointed the following committees:

COMMITTEE ON CREDENTIALS

Earl M. Thompson, Mickleton
 Henry Rapp, Jr., Farmingdale
 Russell Applegate, Robbinsville

GOVERNOR'S ESCORT

Henry M. Loveland, Bridgeton
 Theodore H. Budd, Pemberton
 Joseph W. Miller, Princeton

ELECTION OF OFFICERS

President Wene announced that two members of the State Board of Agriculture were to be elected at the convention to succeed Andrew R. Scully, of Neshanic, and former State Senator Emmor Roberts, of Moorestown, whose terms were to expire June 30, 1933. He announced that at a meeting the previous night he had appointed a nominating committee, in accordance with a decision of the delegates. The committee was composed of Erwin Clement, of Lakehurst, chairman; T. Wood Wyne, of Thorofare; Charles Burd, of Pittstown; Roscoe C. Clayton, of Freehold, and John H. Barclay, of Cranbury.

Mr. Clement reported that the nominating committee had selected Staats C. Stillwell, of Freehold, and Richard D. Barclay, of Riverton, as candidates for the board. Nominations from the floor were called for, but none were made. Upon a motion regularly made and seconded, the convention declared nominations closed. It was voted, upon a motion regularly made and seconded, that the secretary cast the ballot. Accordingly, Secretary Duryee cast a ballot in favor of Mr. Stillwell and Mr. Barclay, who were declared elected by President Wene.

RESOLUTION

The following resolution was passed by the convention, which instructed the secretary to forward a copy of it to Alva Agee, former state secretary of agriculture:

"Remembering with gratitude the pioneer work done by our former Secretary of Agriculture, Alva Agee, in organizing the activities of the Department of Agriculture and the Extension Service in this State, and

"Remembering his personal interest in the welfare of all of the farmers of New Jersey, and the aid given to us by him,

"We, the delegates to the State Agricultural Convention, extend to him our heartiest greetings and best wishes for health and happiness for many years to come."

AWARDING OF CITATIONS

President Wene announced that the State Board of Agriculture had decided to confer citations for outstanding contributions to agriculture upon Robert V. Armstrong, of Augusta, and Henry W. Jeffers, of Plainsboro.

In awarding the citation to Mr. Armstrong, Mr. Wene said:

"Mr. Armstrong—

"You are a leader in agriculture in New Jersey. The record gives evidence of the extraordinary service you have given to your own county of Sussex and to the State as well. Twenty-one years ago you conceived the idea of extension service in New Jersey and, as the result of your labors, the first county agricultural agent started work in your county in 1912. The farmers of Sussex County have recognized your qualities of leadership by electing you president of their county board of agriculture for seventeen consecutive years, during which period your sound judgment and influence have been of immeasurable value.

"The record further shows that you fostered the organization and development of the Dairymen's League Cooperative Association and proves that you have been the only president of your county unit. In conferring this citation upon you today, the State Board of Agriculture pays some measure of tribute to your qualities of leadership and to your courage and indomitable will in the face of extraordinary difficulties. The service you have so freely given to agriculture in New Jersey at much personal sacrifice is in itself more than sufficient for the recognition we are now pleased to extend to you."

In conferring the citation upon Mr. Jeffers, Mr. Wene said:

"Mr. Jeffers—

"In presenting you with this certificate we are not unmindful of the high place you occupy in the world-wide field of dairy husbandry and dairy technology. You are a pioneer in the development of practices that have made milk a safe, wholesome and protective food for children and for all ages of humanity. Untold and inestimable human benefit has followed your continued labors in this field.

"I repeat, we are not unmindful of the honor that such work has brought to you and through you to your adopted state. In asking you to come here today, however, to receive this expression, we are thinking in terms of your contributions to agriculture in New Jersey in many and varied ways. You were a member of the State Board of Agriculture upon its organization and served for 12 years with distinction and with an unswerving purpose to direct the work of the Department of Agriculture in the practical service of the farmers in New Jersey. Since the expiration of your term of office you have been called upon to give, and have freely given, of your counsel and help in meeting changing conditions.

"The State Board of Agriculture wishes to publicly commend you for your outstanding contribution to agriculture and for the high standard of citizenship which you exemplify. We bid you God-speed in the many years of work and service that lie ahead to New Jersey and to humanity everywhere."

COMMITTEE ON CREDENTIALS

Earl M. Thompson, chairman of the committee on credentials, reported that the committee had found that 63 delegates were present, and that it had examined their credentials and found them correct.

ADJOURNMENT

The convention was adjourned by President Wene at 12:10 P.M.