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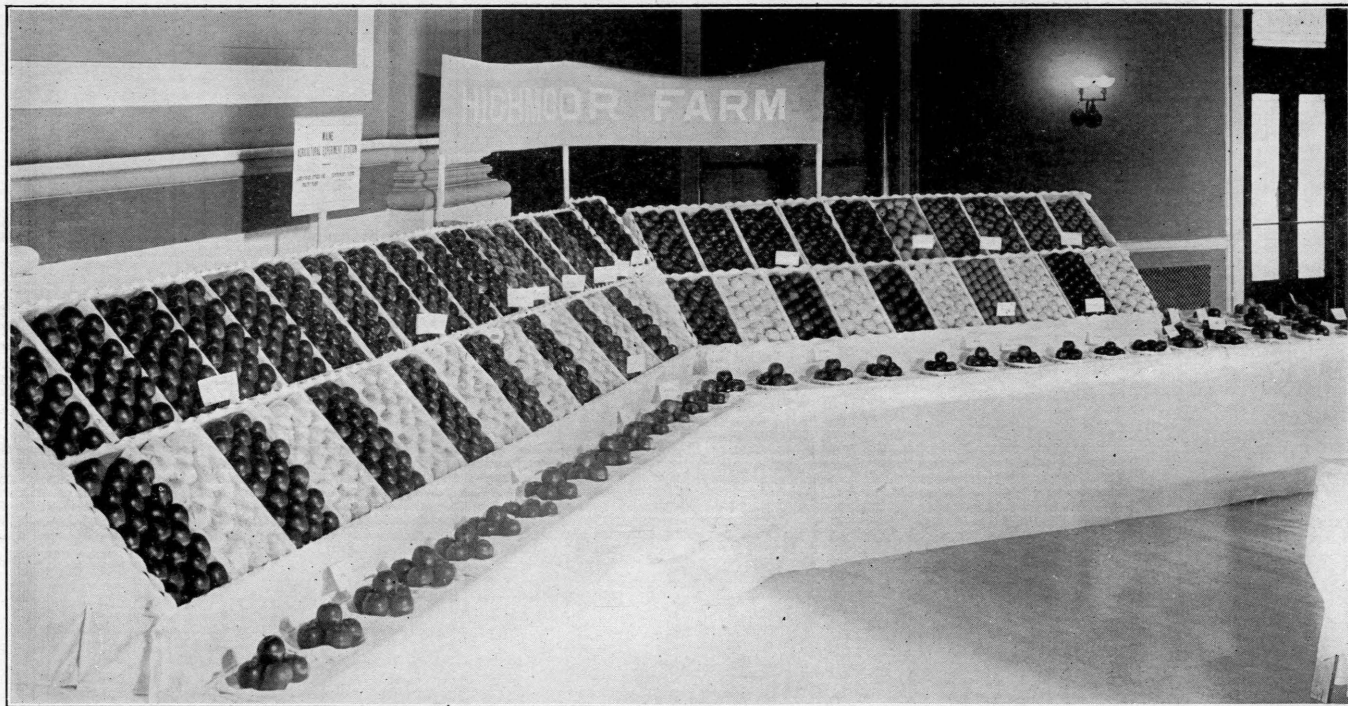
BEING THE

REPORTS

OF THE VARIOUS

PUBLIC OFFICERS AND
DEPARTMENTS

FOR THE YEAR 1917



Highmoor Exhibit.

AGRICULTURE OF MAINE

SIXTEENTH ANNUAL REPORT

OF THE

COMMISSIONER OF AGRICULTURE

OF THE

STATE OF MAINE

1917



WATERVILLE

SENTINEL PUBLISHING COMPANY

1918



DEPARTMENT OF AGRICULTURE.

*To His Excellency, Carl E. Milliken, Governor of Maine, and
Council:*

I herewith submit the sixteenth annual report as Commissioner of Agriculture of the State of Maine, for the year 1917, in compliance with Chapter 34, Section 9, Revised Statutes 1916.

JOHN A. ROBERTS, *Commissioner.*

Augusta, December 31, 1917.

MAINE DEPARTMENT OF AGRICULTURE.

JOHN A. ROBERTS*Commissioner*

STAFF.

FRANK S. ADAMS, Bowdoinham*Chief Bureau of Markets*
HERBERT M. TUCKER, Yarmouthville
.....*Chief Bureau Animal Industry*
BROOKS BROWN, Dover*Dairy Inspector*
A. M. G. SOULE, Augusta*Bureau of Inspection*
LEVI S. PENNELL, Portland
.....*Deputy Sealer Weights and Measures*
EDWARD E. PHILBROOK, Portland,
.....*Field Agent Gypsy Moth Work*
FRANK H. DUDLEY, Auburn*Horticulturist*
SAMUEL H. EATON, Oxford*Assistant Horticulturist*
ERLON L. NEWDICK, Sanford, *Chief Bureau Seed Improvement*
GUY C. PORTER, Houlton, *Assistant Bureau Seed Improvement*

CHIEF CLERK.

KATHERINE L. KEENE, Skowhegan.

CLERKS AND STENOGRAPHERS

ANNE B. GOWER, Augusta.
BERNICE W. WHITE, Augusta.
LILLIAN D. MASSIE, Wilton.
MARY E. CLOUGH, Winthrop.
ALICE M. MURPHY, Augusta.
ALMA S. BOARDMAN, Augusta.

ANNUAL REPORT OF THE COMMISSIONER OF AGRICULTURE.

Owing to extraordinary climatic conditions, farm crops have been unusually far below the average, with the exception of hay. To meet the increased demands for food, occasioned by the world's war, farmers had planted a larger acreage, but owing to heavy rains at seeding time, they were unable to carry out their plans in full. There was great difficulty in securing plenty of good seed for planting, owing to the extremely unfavorable weather at harvest time the previous year. Shortage of labor also rendered the situation still more difficult. Heavy rains, early frosts and blight have cut down the total output of farm crops to an extent not experienced for many years.

The high cost of seed, fertilizer and labor, in connection with a crop not much above fifty per cent, has made the net income of most farmers very small, while, in many cases, there has been an actual loss, and, in some instances, a large loss. There are, however, some things arising out of this unusual condition of affairs that may work out to the advantage of producers.

CORN.

Maine was at one time a large producer of Indian corn, but late years the acreage has been small. This is due, in part, to its cheap production in the west, and, in a larger part, to the fact that sweet corn has taken its place, due to its fine quality, surpassing that of any other state, without exception. Of the Indian corn raised in the state, much the larger part is used for ensilage and, undoubtedly, this is the most economical way of handling it; however, with the present difficulty in obtaining corn from the west, it would seem advisable for farmers to raise a larger acreage of Indian corn that should be used in the grain for the feeding of hogs, swine and horses.

Sweet corn packing has become a great industry in the state. It is a valuable crop, not only for canning, but also from the fact that the stover, including cobs and husks, make fine ensilage and should not be allowed to go to waste.

Whether one should plant yellow corn or sweet corn, must be determined after the consideration of many factors, the principal one being the comparative prices paid for the two crops. While this Department is an advocate of the planting of sweet corn as largely as possible, it seems, under the present unusual conditions, every farmer should make special effort to increase his planting of yellow corn. He should realize that, to secure a full crop, corn should be well fertilized, intensively cultivated and should only be planted on land thoroughly drained and adapted to quick growth. He should also give greater attention to the selection of his seed.

CEREALS.

The acreage of cereals this year was larger than usual, but the crop was smaller, owing to heavy rains. Considerable wheat was sown in central Maine. Several new flour mills have been put into operation in the state. The average crop of cereals has been very light, not over fifty per cent of a normal crop.

We believe that farmers should give wheat another trial, as its failure this year was due more to unfavorable weather conditions than anything else. Remember that wheat demands a rich, well-drained soil and fine tilth and that planting it on poor land, wet or dry, will result in failure.

HAY.

The crop of hay was nearly as large as that of 1916, which was a record crop. Considerable of the 1916 crop was still on hand at the beginning of haying and many farmers had insufficient storage room. With a full crop throughout a large part of the country and poor transportation facilities, the outlook for sale was not good. This fact, coupled with labor shortage, led to the leaving of many fields of well-grown grass uncut.

The best way to sell hay in Maine is to feed it to livestock, and we note that more young stock is being kept than in late previous years.

POTATOES.

The crop promised well, but was, finally, nearly cut in two by blight. Maine stands first among the states in yield per acre, and is usually among the first five in total yield. This year she fell below in both.

The extreme high cost of fertilizer and scarcity, and high price of labor, are working to reduce next year's planting.

In many other states there was a record crop, and if transportation facilities were good, the price would drop to a point so low as to be disastrous to Maine farmers.

APPLES.

Apple trees blossomed full, but wet, cold weather prevented a full set. The crop was probably 50 to 60 per cent of normal. Owing to cold weather, trees were two weeks late in blossoming. The result was that fruit was small in size, and an unusually large percentage was green in color. The price varied from \$2.00 to \$3.50 for average lots. Fancy lots brought \$4.00 or \$5.00 and even more.

Seven men were employed in inspection work during the shipping season.

Most dealers try to grade and pack in accordance with the law. A few have been a source of trouble to the inspectors. Several have paid fines, many others have signed agreements to abide by the law hereafter, while a few cases are still pending.

To make the inspection thorough, there should be twice as many inspectors as can be employed with the present appropriation.

SILOS.

Comparatively few silos have been built during the year 1917. This fact does not indicate any loss of interest, but results from greatly increased cost of construction and the difficulty in finding suitable labor.

Maine already has a large number of silos, but not enough.

No stock raiser can afford to be without one, in these days, when grain feeds are so expensive.

The Maine Farm Land Loan Commission is authorized to loan funds to build silos, to parties who can give first mortgage on land.

LIVESTOCK.

Livestock Husbandry constitutes the most important line of work on Maine farms today.

The unlimited demand and the high price for all kinds of meats, eggs and dairy products, is turning the activity of Maine farmers more and more to increasing and improving their herds and flocks. They can hardly devote too much thought and attention to those productions which our people need for food.

The state needs more high-bred animals of individual merit, animals that will produce meat or milk at the smallest cost, animals that can transmit this power of economical production to their off-spring.

There are many breeders' associations in the state. I will have to say that too many of them have become indifferent, and not doing what they are in duty bound to do to breed in the state and introduce from out of the state more animals of high merit.

Under the State Land Loan Law which becomes operative January 1, 1918, money may be obtained from the state for the purchase of high-class animals, at five per cent interest, on giving satisfactory first mortgage security on their land. This law opens the way for farmers desiring better stock and are without capital to secure such animals as they want.

DAIRY INTERESTS.

The state has now about 160,000 milch cows and 110,000 other cattle, mostly heifers. During the year ending April 1, 1917, there was an increase of 9,000. While the increase is not large, it is a movement in the right direction. Dairy men are breeding a higher class of animals and are giving much more attention to economical feeding. The price of milk failed to keep pace with the constantly rising cost of grain feeds until the situation became desperate. Whereupon, the New England Milk Producers' Association was reorganized throughout New England. The organization in this state was aided in a large measure by members of this Department. There are now 130 locals, with a membership of several thousand. By cooperative work, the price of milk has been lifted to a point somewhere near its cost.

Dairying is the most important farm industry in the state. It provides work and means of support for many thousands of our most worthy citizens. Its products are an absolute necessity. If there is any industry that ought to be encouraged and supported by the state, it is this same industry.

The producers of milk ask only a small profit above the cost of production. They *must* have that, or the business will decline.

SWINE.

The number of swine has decreased in the last five years. The main cause for the decrease is the sale of milk. Formerly, the cream was sold and the milk was fed at home.

The high price of pork is leading many to return to the business, and the movement is strengthened by the introduction of self-feeders.

SHEEP.

For the year ending April 1, 1917, the number of sheep in the state showed an increase of about four per cent, according to reports of town assessors. The high price of wool and mutton is leading to renewed activity in the sheep industry over the whole eastern and northern sections of the country. Sheep are now too high in price for farmers to buy many. One would better begin with a few and work up. Ewe sheep and lambs fit for breeding should not be sold for meat; such might be collected at centers and auctioned, probably at good prices. The bad dog is a great hindrance to sheep raising. In the year 1916, the number of sheep killed by dogs and wild animals (mostly the former), was 1895.

The present law should be amended to protect good dogs, as well as sheep, and to bring to summary punishment dogs that prey upon sheep and other domestic animals.

POULTRY.

During the last year the poultry businesses of the state has been cut in two. While eggs and poultry have brought a good price, it has not compared at all with the unprecedented price of grain.

Poultry men should consider the advisability of raising more of their feed.

The legislature of 1917 made an appropriation of \$1,000 to encourage the poultry industry, especially the utility side, by way of shows.

Four large exhibitions have been held, the Maine State Poultry Association at Portland, the Western Maine Poultry Association at Norway, the Freeport Poultry Association at Freeport, the Bangor Poultry Association at Bangor. The exhibits were high in quality and of large size.

Maine has many poultry enthusiasts and, no doubt, the industry will revive on change of conditions.

FAIRS.

There are three State Fair Associations receiving a fixed stipend from the state, and about fifty county and local associations that receive their proportional part of an appropriation made for that purpose. With three exceptions, the Department has been represented at each one of these fairs.

The show of livestock, while not so large at many of them as in past years, was of fine quality, probably the best ever shown in the state. There was a fine display of fruit and other crops at fairs held late in the season. Many fairs are held too early to allow of good displays of farm crops. The state and large county fairs would do well to make their dates after September 15.

The display of fancy and utility articles and works of art, made by the ladies, is becoming a large and interesting feature, and is worthy of further encouragement.

No liquor selling has been noticed by us at the fairs this year, and very little evidence of drinking. Gambling, also, has been kept well off the ground, managers being almost universally on the watch. There is, however, a bunch of men and women going about from fair to fair with cheap shows and small games of uncertain quality, that are a distinct detriment to fairs and should be eliminated. The small rent paid by them fails to compensate for the distinct loss in moral effect.

I recommend that, unless the managers of fairs cease to allow on their grounds such useless and objectionable features, the law be changed in a way to get rid of such features.

The following letter was mailed to each Fair Association prior to the date of holding the exhibition in 1917:

"I desire to call your attention to the laws of the State of Maine, which provide that each agricultural society receiving a stipend from the state, and all agricultural societies receiving aid from the state by special act of the legislature, shall cause the prohibitory liquor law to be enforced on all grounds over which they have control, and not allow any immoral shows, gambling in any form, or games of chance on said grounds.

"This law is explicit and the intention of it was to provide clean fairs. It is open to anyone to make complaint against a fair on account of conditions existing during its exhibition. Those having charge of a fair should be in a position to show that they took reasonable steps to prevent violation of the law.

"JOHN A. ROBERTS, *Commissioner.*"

Maine fairs have been favored with good weather, and the attendance has been large.

The Maine Pomological Society brought together a large and fine exhibit of fruit at the annual exhibition in Portland, November 6-8. The exhibit was a distinct credit to the fruit growers of the state. I believe the value would have been enhanced, had a speaker on orchard problems of wide reputation been procured for the evening of the banquet.

The conference at Newport, December 4-9, of the Maine Dairymen's Association, Maine Seed Improvement Association and the Maine Breeders' Association was not so largely attended as was expected.

The meeting was held in the country with the belief that many more farmers would attend than if held in a city. The result was not as anticipated. However, there was an average attendance, the exhibits were of fine quality, considering the unfavorable season, and the papers read were of exceedingly great value.

In connection with the conference, the Boys' and Girls' Agricultural Clubs of the state made an exhibition of crops and canned fruits, which was of great credit to them and greatly increased the value of the meeting.

SEED IMPROVEMENT.

The work of improving seed has been carried along as best we could under very trying conditions. The weather of 1916 was so rainy that it was difficult to obtain a supply of even fair seed for the 1917 planting. High grade seed was very scarce. Again, this season has been the worst known for a long period, reducing the crop of corn and cereals at least one-half, much of that being of poor quality.

The work of inspection of fields of grains and potatoes has been carried along with the hope of having a fair amount of certified seed for use in the state.

The high price of table stock, and the difficulty of shipment to southern points, have led to the sale of a portion of the certified seed for table purposes.

With a return of normal seasons, this work will prove of great advantage to our people.

INSPECTION.

The Bureau of Inspection is doing an important work in improving the sanitary conditions surrounding the manufacture and distribution of food products, and in maintaining the standard of foods.

The guarantee made by fertilizer, food, seed, insecticide and fungicide manufacturers and dealers, can only be maintained by a strict and constant inspection.

Efforts are made, occasionally, by a very limited number, to run goods into the state in defiance of our laws, but they are usually found out and brought to account in the courts.

BUREAU OF MARKETS.

This Bureau was organized in 1913. Under the law it works in conjunction with the Farmers' Union, Fruit Growers' Exchange and other organizations. Maine is in advance of other New England states in farm organizations.

The Farmers' Union is, at present, made up of 110 community unions, two service unions and a state wide union. They are all business bodies, organized under the corporation laws of the state, with capital stock, owned for the most part

by farmers. The purpose is to strive for better grading of farm products in order to secure larger prices, to assist in saving in the purchase of supplies and to eliminate waste.

The Fruit Growers' Exchange is state wide and very successful in its work, and is made up of about 20 locals.

The New England Milk Producers' Association was organized in the spring of 1917. It now has 130 locals, with a membership of several thousand. Its purpose is to secure a more satisfactory price for milk and cream, to cut out wasteful methods in production and handling, and to save in the purchase of necessary feeds. This Department has done what it could in the work of organization, and is now working with the locals for a larger success.

The Bureau is trying to open up home markets for farm products. It is also trying to place before farmers the crop production of the country, and market prices of Maine crops and products.

WEIGHTS AND MEASURES.

During the last six years the law of the state governing weights and measures, and the duties of local sealers, as well as the powers of the state sealer, have been coordinated, and there is now no excuse for short weights or measures, if the law is carried out by the proper officials.

The state has National Standards at the State House, and the towns and cities have standards that have been compared with the National Standards within five years.

As nearly all the towns and cities had their standards approved in 1913, they will be required to send them in in 1918 for test.

EASTERN STATES INDUSTRIAL AND AGRICULTURAL EXPOSITION AT SPRINGFIELD, MASS.

The Department made an exhibit of Maine crops at the annual exhibition of the Eastern States Industrial and Agricultural Exposition at Springfield, Mass. The exhibit was in charge of Major E. E. Philbrook who was aided by E. L. Newdick and Brooks Brown of the Department.

The exhibit was complimented on all sides and well repaid for the small expense of setting it up.

We feel highly grateful to Pres. J. L. Brooks and other officials, also to A. W. Lombard and others of the Massachusetts Department of Agriculture, for very many courtesies.

INSTITUTES.

About 300 addresses have been made by members and representatives of this Department. Upwards of 15,000 citizens, mostly farmers, have been listeners. Most of these addresses have been given in grange halls. I believe no grange has made any charge for the use of its hall, or for heat, light or janitor service. We desire all Patrons to know that we appreciate this generosity on their part. We are also indebted to the officers of granges for their time in advertising and doing other necessary work.

Nearly all the addresses have been by Maine speakers, and a large percentage of these, by every-day farmers who are able to talk from actual experience.

INSECT PESTS AND FUNGUS DISEASES.

The brown-tail moth has nearly disappeared from the state and is now found only in a limited way.

The gypsy moth now covers the whole southern part of the state, from the New Hampshire line to the Penobscot river, and is especially plentiful in York and Cumberland counties where it is a great menace to fruit and forest trees. It is in this section that most of the work in 1917 has been done. Every effort is being made to keep them in check until parasites and fungous diseases can be bred and developed sufficiently to overcome them.

Further reference is made to the report of Major E. E. Philbrook, who has had the matter in charge, and who has had the cooperation of the United States Department of Agriculture.

Special effort has been made to bring about a condition whereby fruit growers may obtain nursery stock that is cleaner and of better quality, and it also has been a part of the work of the Bureau of Horticulture to have roadsides and gardens cleaned.

up of Black Knot and other pests that are a source of great danger to the fruit interests of the state.

PUBLICATIONS.

Quarterly bulletins have been published by Brooks Brown, Dairy Inspector; a bulletin on "Practical Suggestions Regarding Food Values and the Proper Selection of a Nutritious and Economical Diet," by A. M. G. Soule, Chief of Bureau of Inspection; a bulletin on "The Apple, Tree and Fruit," by Frank H. Dudley and S. H. Eaton, Chief and Assistant, Bureau of Horticulture; a bulletin on "Timely Topics for Maine Dairy-men," by F. S. Adams, Chief of Bureau of Animal Industry; a bulletin containing the "Laws of Maine Relating to Agriculture;" a bulletin on "A Few of the Most Injurious Insect Pests and Fungous Diseases of the State of Maine," by Frank H. Dudley; a bulletin on "Crown Gall and Hairy Root," by the same author; a catalogue of "Maine Farms for Sale;" "Opportunities in Maine;" a "List of Breeders of Pure Bred Stock;" "Laws of Maine Governing the Department of Weights and Measures," by Levi S. Pennell, Deputy Sealer; "Hints to Housekeepers and Purchasers," by the same author; and a Report of the Commissioner of Agriculture, Hon. Wm. T. Guptill, for the year 1916.

Other publications are, Report of the Maine Dairymen's Association and Maine Seed Improvement Association; Report of Maine State Pomological Society; Report of the State Horticulturist; Report of the Bureau of Inspection; Report of Bureau of Weights and Measures.

Several thousand letters have been written to individuals and organizations, and a large number of circular letters distributed among parties interested.

This report is brief, owing to conditions brought about by the war.

I desire to express my great appreciation for the loyal support and efficient work of all members of the Department, including clerks and stenographers.

I am very deeply indebted to the many agricultural organizations and institutions throughout the state, as well as to individuals for hearty cooperation.

REPORT OF CHIEF OF BUREAU OF SEED IMPROVEMENT.

To Hon. John A. Roberts, Commissioner of Agriculture:

I respectfully submit to you my report of the work of the Bureau of Seed Improvement for the year 1917.

It seems proper at this time to call attention to the fact that this is the first year that a Bureau of Seed Improvement has been maintained in the Department of Agriculture. The placing of Seed Improvement work in its proper position was made possible by the last legislature which passed the following act:

Public Laws, Chapter 141. An act to provide for the Improvement and Certification of Seed produced in the state. Be it enacted by the people of the State of Maine, as follows: Improvement and Certification of Seeds. Annual Appropriation.

"The Commissioner of Agriculture is hereby authorized to expend the sum of three thousand dollars annually for the improvement and certification of seed produced in the state, either for planting in the state, or for shipping to other states or countries, by employing experts and suitable assistants and by paying such expenses therewith as the Commissioner may approve." Approved March 30, 1917.

The work now carried on by the Bureau was formerly done by the Assistant Dairy Instructor, but it took so much of his time that a change was found necessary. Upon assuming the duties of the office, I found that the greater work was the inspection and certification of potatoes. Most of the 1916 crop had been disposed of, but I, personally, did the shipping inspection on that which was delivered after I took office, in order to acquaint myself with the grade of the crop. At this time I became firmly convinced that a shipping inspection was

absolutely necessary to make the blue tag, as placed on the container, carry its full value. This inspection is necessary, not because of the dishonesty of the grower, but rather because of his apparent indifference toward a standard grade and elimination of diseased or injured stock.

Early in the summer, through personal contact and by correspondence, I took up the matter of growing certified crops with those who had been growing them in the past and with several farmers whom I was told might be interested. I spent nine days in Aroostook county, visiting many farms with Guy C. Porter, assistant in this Bureau. We found that those who had grown certified seed were ready to do so again, but the cost of inspection seemed to keep many new growers from taking up the work. Right here, let me say that I do believe a slight reduction in the cost of inspection can be made, which will interest many growers. There is no one branch of agriculture which needs encouragement more than the growing of the very best seed, unless it be the livestock industry.

After a preliminary inspection, 401 acres of potatoes and 27 acres of grain were entered for certification. Of this amount, 324 acres of potatoes and 15 acres of grain passed the two field inspections, this being about the same acreage as last year. The potato yield this year is not as high as usual, due to the poor growing season. June was a very wet month and planting was done when the ground was not in condition. Excessive rains prevented cultivation at the proper time and in many cases, on low ground, the seed did not germinate, but was drowned out.

The continued wet of the summer made the spread of plant diseases a very easy matter, as the spores reproduce and spread much more rapidly under such conditions. Early in August the Late Blight began to show and spread rapidly. This disease is the worst potato enemy we have, and, coupled with the early frost of September, cut the yield in the state at least eight million bushels, which meant a loss of several million dollars to the farmers. Although many farmers sprayed faithfully with Bordeaux mixture, they seemed to be unable to prevent the Late Blight from spreading, once it got started. Some of the factors to be considered in getting the best results from the use of Bordeaux mixture are: 1, proper mixing of the ingredients; 2, early application because Bordeaux mixture is

a preventive rather than a cure; 3, the use of two or three nozzles to a row; nozzle to be set at an angle and mixture applied under high pressure. The last mentioned, regarding Bordeaux, is a little aside from my subject, but is worthy of consideration by every potato grower.

The poor growing season, of course, had its effect on grains and all crops, as well as potatoes. We are called upon to inspect oats being grown for certified seed, but this year, in nearly every case, a poor stand was noted. The seed did not show more than 60 per cent germination and, after starting, did not make good growth. I will say that, after visiting several fields, I saw only one that seemed to be first-class. Taking this as a means of computing percentage, the oat crop of 1917 is way below normal and good seed for 1918 will, undoubtedly, be scarce.

We inspected a few fields of yellow corn and, while we did not accept them for certification, they were in much better condition than the oats, as to their growth and degree of maturity.

Shortly after the completion of our field inspection work, early in September, we were asked by the U. S. Department of Agriculture, through Prof. Stuart of the Bureau of Plant Industry, to assist him in making a harvest and bin inspection of potatoes in Aroostook county, the object being to select the best stock available and get the grower to hold it for a time and see if a market could not be secured in the South. This was, in a way, a war emergency measure, in that it tended toward increased production. About 30,000 bushels of choice stock was listed by this Bureau and the growers were granted a certificate showing, as near as an inspection of this sort could, just what the condition of their stock was, kinds of disease present and probable percentage. This is the first step in potato inspection by the U. S. Department of Agriculture, but I believe it is the intention, another season, to start earlier and do a plant inspection as well. This will make the government system the same as ours, and, if done free by them, we cannot hope to compete with our system which costs the grower \$2.50 per acre. If, in the future, the potato inspection is taken over by the government, this Bureau will be able to devote all its time to grain and other crops which need more attention than they received this year.

The shipping of certified seed is now going on and requires the presence of an inspector in Aroostook the most of the time. Outside of Aroostook, but very little shipping is done, as yet. This is due, in part, I believe, to the fact that the price for local consumption is better than is being offered for seed for Southern use.

Outside of the certification of seed, this Bureau has endeavored, by all the means at its command, to keep in touch with the seed situation, so as to be able at all times to acquaint prospective buyers with those who had seed for sale. The demand of the government for increased acreage last spring brought an unprecedented demand for seed and found the supply short. The result was, the farmers paid a high price for seed stock and, in many cases, could not secure what they wanted. It is my opinion that this same condition will occur again if drastic steps are not taken to conserve the supply for 1918.

In view of the fact that this is the first year that a stipulated sum of money has been available for Seed Improvement work, the question may be asked, why was not more accomplished than was done in 1916? I think I can answer this, in part, by referring to the policy adopted by you last spring, namely, war emergency work was paramount to all other. With this in mind, and with your consent, I have acted as executive secretary of the State Committee on Food Production and Conservation since its inception in April, 1917.

This work, which I have been more than glad to do, has occupied a greater part of my time as well as the time of a part of the office force which you put at the disposal of the Committee. I have, however, been able to link the work of the Committee with that of the Bureau of Seed Improvement in such a way that I feel the Department of Agriculture has not been neglected. For example, by means of a State Committee a Seed Saving Campaign has been conducted and is not finished yet, the results of which are already apparent because many inquiries for seed are coming in all the time and many farmers have promised to secure their seed early. Nearly all the granges have set apart one night for a good seed meeting, and in several counties the county agent has held meetings. The Department of Agriculture has also sent out many speakers on the subject of seed for 1918. In summing up, I think it reason-

able to say that, never before was there such an agitation for the use of better seed than there is now.

As a matter of information, I would like to report that, cooperating with the Committee of Food Production, this Bureau has started an investigation on the success or failure of wheat growing in Maine in 1917 and expects to have valuable data to present in a short time. From knowledge now at hand, I believe it safe to say that a big drive tending to increased production of wheat is almost a necessity, in view of present war conditions.

In closing, I will say that the work of the Bureau of Seed Improvement is increasing and offers a field for a large amount of work which will be productive of good results, for the importance of better seed cannot be over-estimated. I do not believe in the adoption of many new projects along seed breeding lines, or much scientific investigations during the period of the war, but rather to hold to the practical distribution of seed and be prepared for any war emergency work that the Bureau may be called upon to do.

I wish to express my thanks for the cooperation which I have received from you and the other members of the Department. I also wish to thank the members of the State Committee on Food Production and Conservation for many favors. Believing firmly in the work of the Bureau as an important factor in the agricultural life of the state, I respectfully submit this report.

E. L. NEWDICK,

Chief, Bureau of Seed Improvement.

REPORT OF STATE DAIRY INSPECTOR.

To Hon. John A. Roberts, Commissioner of Agriculture:

I respectfully present my report as Dairy Inspector for the year 1917.

I assumed the office and duties of State Dairy Inspector, February 5, 1917. Since that date, the greater part of my time has been taken up with the collection of milk and cream samples for analysis, and the inspection of dairies.

During the year, 52 cities and towns were visited, several two or more times, and 757 samples of milk and cream were taken. At this point, it would seem to be well to describe briefly the method of inspection as I have endeavored to carry it out. It is, without question, an utter impossibility for one, or even two men, to make a complete inspection of all the dairies in Maine during the course of one year.

When samples were found to be "dirty" or "very dirty," I examined, if possible, the barns, dairy and equipment, of the person or persons producing and handling the milk. At that time, I made such suggestions as I thought might cause an improvement in the supply. Within a short time more samples were taken. If these samples were not "dirty" or "very dirty," I took it for granted that the conditions governing the handling of the milk had been improved. If, however, the samples proved to be "dirty" or "very dirty," I made another inspection. If conditions indicated that the party was making an effort toward improvement, the inspection was continued along educational lines, but if the indications were that he was making no effort toward improvement, drastic action was taken.

For obvious reasons, no regular route was followed in the collection of samples. Complaints have taken first place and were investigated promptly. Next in order came those places

where, in the past, milk was found to be below the required standard. The rest of the cities and towns in the state were visited as often as possible.

I have visited over 250 farms supplying milk to 9 cities and 25 of the larger towns. This practice has, I believe, resulted in improved conditions in many cases and greater emphasis should be placed on this branch of the work.

In addition to the above, some of the creameries and many milk depots have been inspected. I have found that they are, with a very few exceptions, in excellent sanitary condition.

During the spring and early summer, numerous complaints were received from creamery patrons who felt they were not receiving a correct butter-fat test. By request, I investigated these complaints and collected samples from a number of dealers at the shipping stations. These samples were taken every day that milk was shipped during the first fifteen days of July. The results showed slight variations from the creamery tests.

During the year, 13 men have been prosecuted for violation of the dairy laws. Some of the prosecutions were for dirty milk, others for skimmed, watered and below standard milk and cream. Three parties pleaded guilty, eight pleaded not guilty but were found guilty and fined. Two cases were nol prossed. In one of the cases nol prossed the party went out of business before the case was tried. In the other case which was nol prossed, additional samples showed the milk to be perfectly satisfactory. One party was warned for selling renovated butter without labeling the package as such, as is required by Sec. 9, Chap. 130, of the Revised Statutes. Two violators of Sec. 7, Chap. 130, of the Revised Statutes, were notified to comply with said section, which is as follows:

“Oleomargarine. No person shall by himself, his clerk, servant or agent, furnish oleomargarine in any hotel, restaurant or boarding-house, or at any lunch counter, to a guest or patron thereof, instead of butter, without notifying said guest or patron that the substance so furnished is not butter.”

Toward the last of March, I spent several days investigating the methods of inspection and collection of milk and cream samples in and around Boston. This was done without expense to the state.

The first two weeks of June were devoted to the taking of records in several counties for the milk survey which was carried on at that time.

As your representative, I visited the Presque Isle, Machias and Fryeburg fairs. Conditions were noted and reports made. Professor Corbett of the University of Maine, with me, acted as judges of Dairy Products at the Central Maine Fair.

At your request, I assisted Major E. E. Philbrook with the State of Maine exhibit at the Eastern States Exposition and Dairy Show in Springfield, Mass.

During the middle of October, I attended the annual meeting of the International Association of Milk and Dairy Inspectors, held at Washington, D. C., at which time I was elected a member of this Association.

About the first of November, I was appointed Acting Secretary of the Maine Dairymen's Association, to take the place of Dr. Leon S. Merrill who, because of his many other duties, resigned. At the annual meeting held December 8, in Newport, I was elected secretary for the ensuing year.

In order to arouse and encourage local milk inspection, a conference of local inspectors was held in the State House, November 27. At this time, the Department expressed its willingness to assist local inspectors at all times and requested their cooperation in this important work. The principal speaker was A. W. Lombard of the Massachusetts Department of Agriculture and President of the International Association of Milk and Dairy Inspectors. I desire to take this opportunity to express my appreciation to Mr. Lombard for his able address and assistance in the organization of our State Association. Although the attendance was small, a great deal of enthusiasm was manifested and much good, no doubt, has resulted. A temporary state organization was formed, with James H. Heald of Portland, president; A. B. Andrews of Auburn, secretary and treasurer; Brooks Brown, chairman of the membership committee. Several new members have been added since the meeting.

The sentiment of this meeting and also the meeting of the International Association was emphatically in favor of the pasteurization and thorough inspection of all market milk. This was from a public health standpoint. As an illustration of the importance of pasteurization, permit me to cite the case of the

city of Toronto where 99.5 per cent of all the milk is pasteurized, and the other 5 per cent is certified. The mortality per 1,000 children in this city is the lowest of any city in the world. I believe this to be of great significance.

Quarterly bulletins have been issued, as required by law. In the past, it has been customary to give all sediment tests from "very slightly dirty" to "extremely dirty." Because of the confusion and misunderstanding caused by this system, I have omitted publishing "very slightly dirty" or "slightly dirty" sediment analysis. This is, I think, much fairer to the producer. He, of course, has been given the complete analysis. The analyses showing milk to be "dirty" or "very dirty" were printed only when two samples had been taken from the same party at different times and both found to be in one of the above mentioned classes.

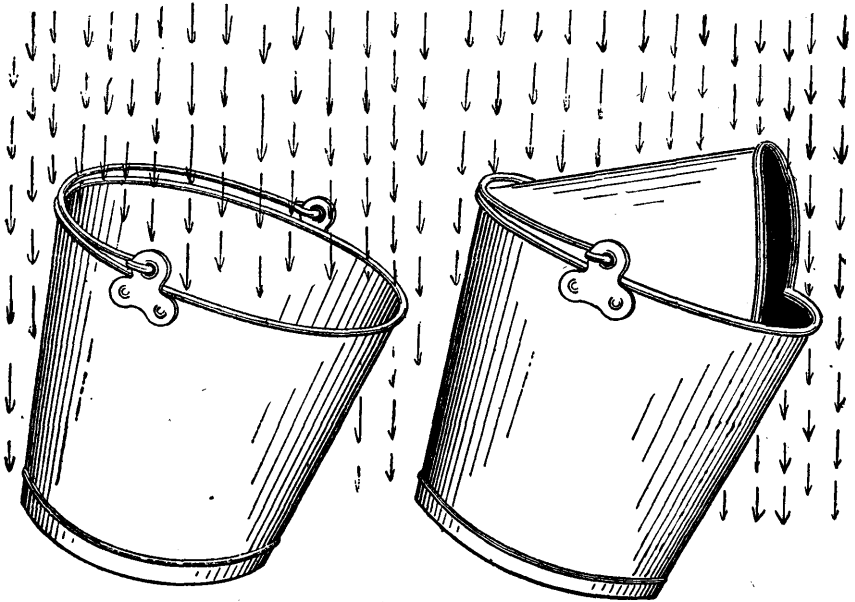
Because of the great expense connected with the production of milk during the past year, suggestions pertaining to better sanitation have necessarily been made only after the statement that no increased cost would result.

In the May bulletin was an article entitled "Suggestions for the Man Who Desires to Sell Clean Milk." The following are some of the suggestions mentioned at that time and which I have advocated during the entire year:

"If the ordinary farmer will keep his cows as clean as he does his horses—and there is certainly more reason for having them well groomed—then one big source of contamination has been eliminated. This will take about five minutes per day, per animal, providing suitable bedding is used. Dry sawdust is very efficient and, in most cases, as economical as anything used for this purpose. The udder and teats should be washed and wiped dry, just previous to milking. This operation takes about a minute per cow, per milking. The milker should wash and thoroughly dry his hands at this time. He should not even pass his hand over a cow, horse, or any other animal until all the cows have been milked, thus avoiding chances of contamination.

"The feeding of hay and ensilage after milking, instead of before, adds nothing to the expense of production, but results in better milk.

"The hooded pail is the next requisite in the production of sanitary milk. The hood protects the milk from most of the dust and dirt which might fall into the pail during the process of milking. Its cost is but slightly more than that of the open pail, yet the protection afforded is worth many times the difference in price. The man who honestly desires to put out as pure a product as possible at a minimum cost cannot afford to be without this pail.



Open and hooded milk pails. A hooded pail will keep much dirt out of the milk. The hood can be put on by any competent tinsmith for a small price.

"As soon as the milk is obtained from the cow, it should be taken immediately to the milk room or house, as the case may be. Here it should be strained through a thin layer of absorbent cotton placed between two pieces of cheese cloth. Next, it should be cooled to 50° Fahrenheit, or lower, if possible.

"The utensils should be washed in cold water, then hot water and finally sterilized with boiling water or steam. Next, they should be inverted in a well-lighted, well-ventilated place and allowed to drain. Direct sunlight is one of the best exterminators of bacteria.

"After the milk bottles and cans have been washed and allowed to drain, they should be left in an inverted position, until filled with milk. In case it is not convenient to leave them in such a position, they should be covered with a paper or several layers of cheese cloth to keep out the dust. The milk bottle caps should be kept in a jar, or box, free from dust and other means of contamination.

"During the summer months, ice should be packed around the bottles and cans while in the delivery cart. This will retard the growth and development of the bacteria."

The taking of split samples has been practiced for a very long time and it has seemed to be necessary, as the samples are shipped by express and the greatest care is not experienced in handling them en route. There has been considerable complaint from dealers in regard to this method. I recently began to take pint samples in the original package and, by careful packing, have obtained excellent results. Samples from quart bottles and cans will have to be split, but pints will be taken in the original package.

In conclusion, I wish to express to you my sincere appreciation for the help and kindly advice which you have given me. The members of the Department, clerical force, court officials, and local milk inspectors have rendered courteous assistance at all times.

Respectfully submitted,

BROOKS BROWN,

Dairy Inspector.



Showing Dusting Method in use in an orchard in Buckfield, Maine. Dust as a substitute for liquid spray was used for the first time in Maine in the season of 1917. (See page 28.)

REPORT OF STATE HORTICULTURIST.

*To the Hon. John A. Roberts, Commissioner of Agriculture,
Augusta, Maine:*

I herewith submit the seventh annual report of the State Horticulturist for the year 1917.

The orchards of Maine showed a good bloom, but on account of the cold, wet spring, apples did not do well. Ben Davis apples were particularly shy in some sections. The commercial apple crop is estimated at about fifty-five per cent of a full crop, or about 330,000 barrels against 415,265 barrels for 1916. These figures are for apples actually transported over public conveyances. There is no record of those sent out of the state by team or auto, or consumer within the borders of the state. The Federal Government estimate of the 1917 crop is 1,213,000 barrels.

Apples have sold this season for varying prices. Orchardists selling in the early summer received per barrel, only \$2.00 and \$2.25, later \$2.75, and in some sections, the prices rose to \$3.00 and \$3.25.

September 14, I formed a Fruit Growers' Association at Winterport. Up to that time, the orchardists of that district had not disposed of their crop, but within a few weeks their Wolf River apples were sold for \$4.25, f. o. b. This price was made possible in so short a time by their becoming members of the Fruit Growers' Exchange, the central organization of the fruit growers' associations.

There are at the present time twenty of these associations in this state, most of them allied with the Exchange. Three of these I have formed the past season. A brief history of the fruit growers' associations might be of interest at this time. The Oxford Bears Fruit Growers' Association, the first to be organized, was formed by this Bureau, June 26, 1911, and since that time the horticulturists have formed others and encouraged the

work of all these associations. It soon became apparent that a central organization was necessary, and, as a result, the Maine Fruit Growers' Exchange was organized in Auburn, June 25, 1915, its purpose being the supervision of all the associations, as well as to sell the products of the orchards in the most economical manner, and to purchase at wholesale what was needed for use in the orchards.

DUSTING.

Dusting fruit trees, has been tried out in this state for the first time during the past season and bids fair to become universally used. This method is not new, however, as it has been used in the Southwest for several years. This has been much used in hilly districts where a heavy load would be burdensome. It is also used in sections where water is scarce. Several eastern states have been experimenting with this process for a few years past, and some of them have very interesting data on the subject. For a timesaver, there can be no comparison, as with a well-equipped outfit there is no stopping of the machine or horses from the time the hopper is filled until it is emptied, or the orchard sprayed.

In one orchard in New York state thirty trees were dusted in thirteen minutes at a total cost of \$2.12, or at a cost per tree of \$.071. The materials used were sulphur, 40 per cent; lead arsenate, 10 per cent; hydrated lime, 50 per cent; all reduced to a very fine powder.

Some other mixtures used are sulphur, 80 per cent, and lead arsenate, 20 per cent; also sulphur, 40 per cent; lead arsenate, 10 per cent, and gypsum, 50 per cent, the latter mixture being used principally as a filler and costs about \$1.00 less per hundred pounds. Finely ground tobacco is also used as a dust for destroying aphids.

FRUIT SHOWS.

The state was represented by the Horticulturist at the combined exhibitions of the American Pomological Society, New England Fruit Show and the Massachusetts Horticultural Society, held at Horticultural Hall, Boston, October 31 to Novem-

ber 4. The different sections of the United States were represented by the particular fruit of that location.

From Georgia and Alabama came several varieties of pecans. Virginia and North Carolina sent persimmons and a fine collection of apples. Rhode Island's exhibit of boxed and barreled fruit was very attractive. Perhaps one of the finest exhibits came from Connecticut, consisting of boxed apples. Massachusetts was represented by a goodly amount of fine apples, both barreled and boxed, and also an attractive exhibit of pears. The exhibits from Vermont and New Hampshire, while not as large, made a fine appearance.

Maine was represented by a commercial exhibit consisting of barreled apples, and, in addition to this, apples in boxes, plates and hundred lots, which were entered in competition with other New England states, and which brought to our state several prizes.

Apples were not the only fruit shown, as grapes from many parts of New England were a delight to look upon, and the canned fruits showed that the New England housewife was practising conservation.

Canada, not to be outdone, sent a fine exhibit of apples, many of them having been raised from seedlings of the McIntosh and Northern Spy.

The addresses on various topics, delivered by men of wide experience, were instructive and inspiring to those privileged to listen to them.

At the annual exhibition of the Maine Pomological Society, held at Portland, November 6, 7, 8, a splendid exhibit of apples in barrels, boxes and on plates, was shown. Some of the boxed apples sold for \$2.65 per box. There was a fine assortment of pears.

A feature of interest, particularly to the ladies who attended, was a large variety of canned fruits and vegetables, which made a fine showing.

The Frost Insecticide Co. of Arlington, Mass., had on exhibition a power sprayer and a grader, also insecticides.

During the fall, members of this Bureau, in their official capacity, attended many agricultural fairs. The Horticulturist was called upon to judge the fruit at the following fairs: State Fair, Lewiston; Windsor Fair, Windsor and Sagadahoc County

Fair, Topsham. The Assistant Horticulturist, Mr. Eaton, judged fruit at Somerset Central Fair, Skowhegan and the Kennebec County Fair, Readfield.

EXHIBIT AT NEWPORT.

Since the lettering on the tags in the picture on the opposite page is indistinct, a description of the specimens and pictures may be necessary.

In the lower left hand corner, under glass, are two specimens of evergreens, a pine and a spruce, infested with Pine Weevil. Note the dead appearance of the tops. A description of this pest is given on page 45 of this report.

The center of the screen is occupied by a photograph of fruit trees infected with Crown Gall and Hairy Root which were among those destroyed last spring by order of this Bureau.

The upper left hand corner shows a picture of trees ruined by Black Knot, and directly beneath is a specimen of Black Knot on limb of plum tree.

In the opposite corner is shown a group of mountain ash trees. A healthy tree is seen to be inoculated with canker by using upon it a saw, which had been previously used upon a cankerous tree and had not been disinfected. Below this picture are several specimens of limbs affected with this disease.

A picture in the lower right-hand corner shows the danger of crotched limbs and below it the remedy—two screw-eyes, which, inserted in opposite limbs and held with wire, will prevent splitting.

To the left is shown a photo of a Dust Sprayer in action. (See frontispiece.)

Specimens showing improper pruning, also limbs affected with borers, San Jose, Scurfy and Oyster Shell Scale are displayed.

On the table beneath, enclosed in glass, are specimens of various insect pests and fungous diseases, also parasites which destroy the Gypsy and Brown-tail Moths.

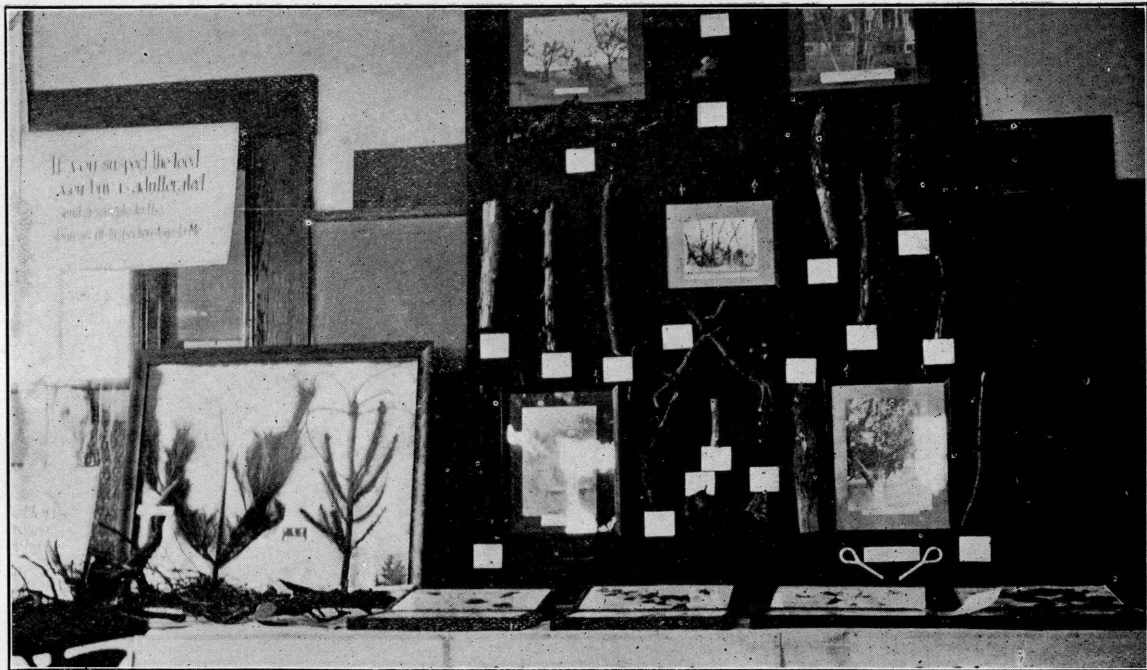


Exhibit of Diseased Specimens and Insect Pests that have occupied some of our time the past season. Shown at Newport, Maine, Dec. 4-8, 1917.



LECTURES AND BULLETINS.

We have lectured this season before thirty-one granges and meetings of orchardists, with a total attendance of eighteen hundred. While thus engaged, we were often called upon to lecture on spraying. The need arose for definite directions on spraying, therefore, I prepared a Spray Calendar, and had several hundred printed for immediate use. This calendar gives, in tabulated form, four sprayings: Dormant, Pink Bud, Calyx, and Fruit and Foliage. Under each head information was given, "When to Spray," "What to Spray With," "What to Spray for." Under this last heading the names of the insects and diseases killed by each spraying were given.

Feeling that there was a demand for information concerning insect pests and fungous diseases, as well as the best methods of combating these, we prepared a special bulletin entitled "A Few of the Most Injurious Insect Pests and Fungous Diseases of the State of Maine." This bulletin was issued in the month of May and covers well the subject matter. In this bulletin was published a revised, illustrated Spray Calendar, showing the appearance of the tree at spraying time. This proved to be a timely bulletin as, apparently, there never was a season when insect pests were so numerous.

The multitude of insects is partially accounted for by the cutting off of the native trees and bushes on which the insects live. Therefore, for their existence they must seek the cultivated trees and crops. Finding them more to their liking, they multiplied exceedingly fast.

In June, we wrote the regular quarterly bulletin for the Department, the title being, "The Apple, Tree and Fruit." Quoting from the Kennebec Journal of July 6:

"The June number of the bulletin of the Maine Department of Agriculture, issued quarterly from the office of the Commissioner of Agriculture, John A. Roberts, is devoted to 'The Apple, Tree and Fruit,' an interesting article from the pen of the State Horticulturist and Assistant Horticulturist. The issue has 48 pages and covers the subject carefully, interestingly and thoroughly. It has half a dozen full page illustrations, including the frontispiece, besides numerous smaller cuts, all dealing with the subject matter. It will be a valuable addi-

tion to the available authentic information for the orchardists of Maine.

"The table of contents shows a wide range of apple topics—so many that it seems that hardly any point can be left uncovered. The subjects include the following:

"The apple, tree and fruit; location of orchards; varieties; fillers; age of trees; pruning of young trees; pruning of large trees; care on arrival; spraying; spray calendar; mist spray; cultivation of young orchard; cultivation of the old orchard; fertilization; pollenization; thinning; budding; grafting; production of a few orchards; Maine's production for six years; conclusion.

"This is followed by a copy of the Maine laws on apple packing and grading, making a fund of information that should be in the hands of everyone interested in any way in orcharding, or the products of the orchard."

The bulletin mentioned also contains a revised, illustrated Spray Calendar, as well as the history of the apple from prehistoric times to the present day.

SMALL FRUITS.

Although the planting of small fruits has steadily increased for several years, not half of its possibilities have been attained. Nor has it been given the amount of attention which so amply repays the care. Many times the amount of this fruit could be disposed of than is now raised. Especially is this true of raspberries which will not stand up well under long shipments, thus eliminating from competition the southern product. With the everbearing varieties of both raspberry and strawberry, we are now able to enjoy small fruits for a much longer period than in years past.

INSPECTION OF NURSERIES.

In order to facilitate the work of inspection in Carleton Orchards and state nurseries, I prepared a full list of them, divided by counties. In carrying out this branch of work I was assisted by S. H. Eaton, Assistant Horticulturist, who inspected nearly half of them. More careful inspection has been necessary this year on account of the White Pine Blister Rust

which is a serious menace throughout the southern part of the state. The alternate hosts of this are the currant and gooseberry bushes which have been carefully examined for signs of this disease. A full description of this disease may be found in the Insect Bulletin, published by this Department this year.

The Pine Weevil which infests the tops of the pine and spruce has also been found in nurseries where evergreens are grown. No certificate has been given until the nursery was cleaned of this pest. Crown Gall has been found on raspberry bushes in nurseries. These nurseries have been doing business for several years, thereby spreading the disease from place to place. Nurseries so infected are not only not given a certificate to sell, but the movement of plants from such places has been prohibited.

A few cases of Raspberry Root Borer have been found, and in one nursery all plants so infested were removed and burned, but where there were only a few infestations found, special attention was called to the fact that no roots so infested should be sent out.

NURSERIES THAT HAVE HAD STATE INSPECTION FOR THE YEAR 1917.

NAME.	Location.	Acreage.	
Adams, Charles E.	Bangor	2 acres	5,000 Evergreens
Allen, Mrs. Thomas	Bangor	1-20 acre	500 Perennials 100 Shrubs 15 Evergreens
Bridges, G. B.	West Hancock	1-5 acre	2,500 Strawberries
Chaput, J. P.	Auburn	6-10 acre	7,800 Raspberries
Chase, Homer N. & Co.	Buckfield	4 acres	6,000 Apple 100 Pear 500 Raspberries
Coffin, Jesse	Brunswick	$\frac{1}{2}$ acre	3,000 Evergreens
Conant, W. H.	Buckfield	1 $\frac{1}{2}$ acre	19,500 Raspberries
Craig, R. J.	Woodfords	1 acre	Strawberries
		$\frac{1}{2}$ acre	6,500 Raspberries
		$\frac{1}{2}$ acre	Currants
Davenport, E. M.	Hebron	1-10 acre	1,000 Raspberries
Dudley, Frank H.	Auburn	1-5 acre	100 Shade trees 50 Roses 75 Perennials 60 Shrubs 20 Evergreens
Eastman, A. A.	Dexter	1-5 acre	1,000 Raspberries 2,000 Currants 2,000 Gooseberries Rhubarb
Eaton, S. H.	Oxford		135 Ornamentals 1,000 Golden Glow
Estes, Charles S.	Upper Gloucester	3-10 acre	Strawberries
Eveleth, Robert	New Gloucester	$\frac{1}{2}$ acre	3,250 Raspberries
		$\frac{1}{2}$ acre	Strawberries
Fernald, W. Linwood	Eliot	4 acres	200,000 Herbaceous Perennials 5,000 Shrubs 500 Roses 500 Vines

NAME.	Location.	Acreage.	
Goddard, L. C.	Portland	1-10 acre	300 Shrubs 200 Roses 12 Evergreens 15 Ornamentals 500 Perennials
Hamlet, Mrs. F. M.	Old Orchard	$\frac{1}{2}$ acre	3,250 Raspberries
Hancock Co. Nursery Co.	Surry	$\frac{1}{2}$ acre	400 Apple trees 2,000 Raspberries 4,000 Strawberries 50 Roses 125 Shrubs
Hoyt, William	Ripley	$\frac{1}{2}$ acre	Perennials
Hussey, J.	Oakland	$\frac{1}{2}$ acre	100 Roses 200 Shrubs 50 Evergreens 300 Peonies 200 Phlox 20 Plums 500 Raspberries
Inmann, A. E.	Silvers Mills	$\frac{1}{2}$ acre	1,000 Blackberries
		1-10 acre	6,500 Raspberries Blackberries Strawberries
Jackson, H. A.	Gorham	1-5 acre	
		15 acres	2,500 Shrubs 2,000 Raspberries 1,000 Ornamentals 300 Apple 150 Pear 20 Cherry 6 Plum 3,000 Vines
Jerrow, John M.	Augusta	4 acres	500,000 Evergreens Pears Apples Plums Cherries Roses Ornamentals
Jordan Nursery Co., A. F.	Portland	1 $\frac{1}{2}$ acre	3,000 Shrubs 500 Evergreens 75 Trees 100 Blackberry 300 Apple 25 Pear 25 Plum
Kirk, Edward	Northeast Harbor	1 $\frac{1}{2}$ acre	900 Shade trees 600 Shrubs 240 Roses 600 Evergreens 150 Hedging
Lapham, E. A.	Pittston	1-12 acre	12,000 Perennials
Lily Pond Nursery	Rockport	1-20 acre	1,083 Raspberries 75 Roses 12 Shrubs 6 Evergreens
Loder, A. J.	Bangor	1-40 acre	50 Shrubs 20 Roses
Lombard, T. M.	Auburn	1-40 acre	100 Currants Strawberries Raspberries
		1-5 acre	
		1-10 acre	
McCabe, E. T.	Bangor	1-10 acre	150 Shade trees 80 Fruit trees 200 Shrubs 75 Roses 50 Blackberries 200 Raspberries
McCabe, John C.	Bangor	2 acres	12 Currants 100 Fruit trees 800 Shade trees 400 Shrubs 50 Roses 200 Hedges 25 Evergreens

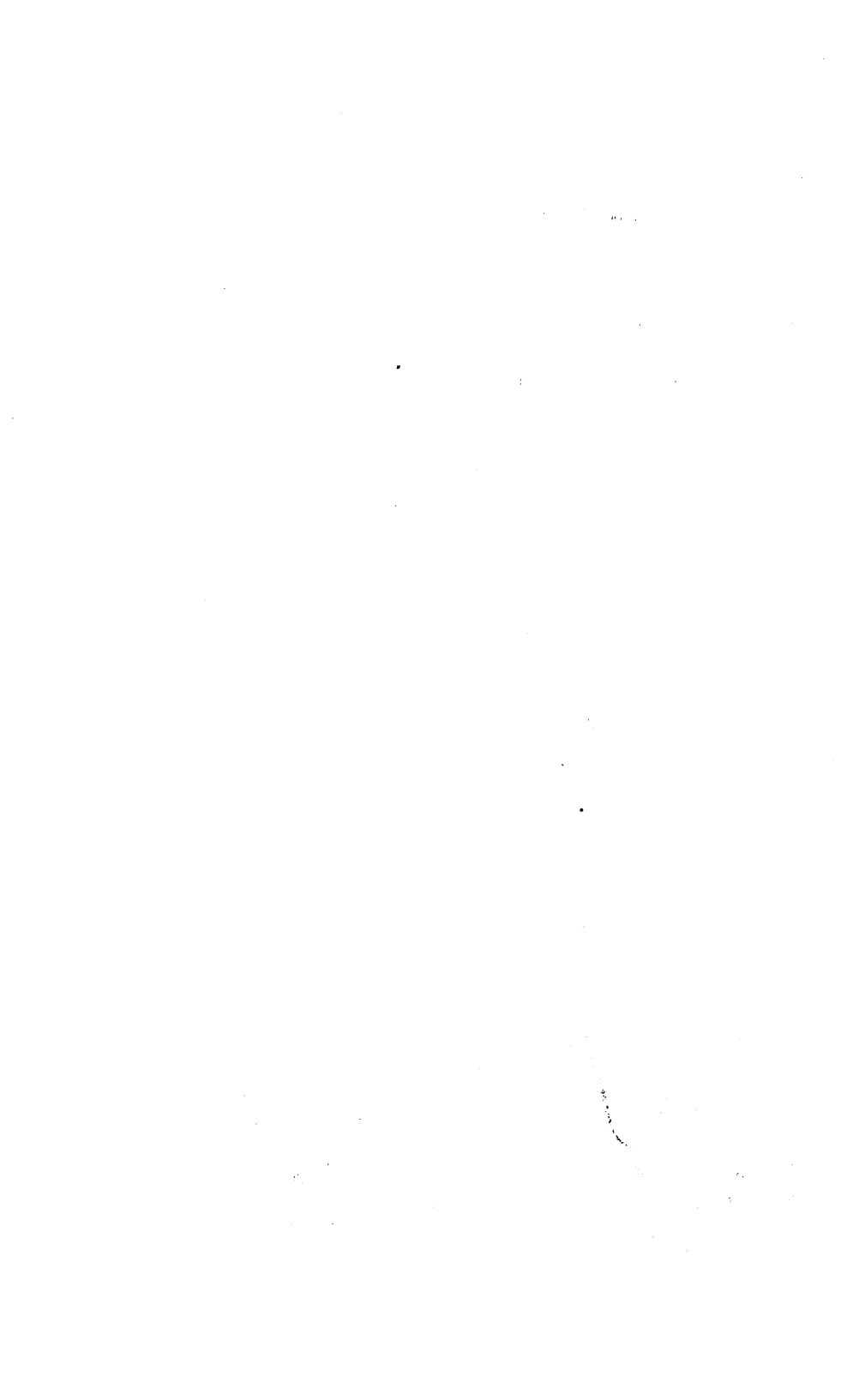
NAME.	Location	Acreage.	
McCabe, R. F.	Bangor.	1-10 acre	25 Fruit trees 100 Shrubs 100 Shade trees 300 Hedgings
McCausland, H.	Lewiston.	1 acre	13,000 Raspberries
Macomber, E. R.	Portland.	1-8 acre	100 Raspberries 150 Apple 200 Shrubs 12 Cherry 12 Plum 12 Gooseberry 25 Currant 25 Ornamental trees 5,000 Perennials
Mahoney, George L.	Saco.	5 acres	150,000 Evergreens 4,500 Shrubs 1,000 Ornamental trees 200 Phlox 200 Peonies
Martin, John.	Bangor.	1-40 acre	25 Azalias 25 Shrubs 50 Perennials
Maxim, H. F.	Locke's Mills.	17 acres	221,000 Raspberries
Merrill, Charles.	Auburn.	1-20 acre	Strawberries
Merrill, Mrs. H. L.	Auburn.	$\frac{1}{2}$ acre	6,500 Raspberries
Miller, William.	Bar Harbor.	1-5 acre	10,000 Perennials 300 Roses 200 Shrubs 12 Shade trees 200 Shrubs 36 Roses 6 Ornamental trees 150 Raspberry 200 Blackberry 5 Evergreens
Minot Co., J. W.	South Portland.	1-8 acre	Apple Plum Pear
Mitchell Nursery Co.	Waterville.	1 $\frac{1}{2}$ acre	100 Shrubs Raspberry Blackberry Strawberry
Morse, Fred H.	Freeport.	$\frac{1}{2}$ acre	30,000 Perennials 8,000 Evergreens 15,000 Shrubs 1,000 Shade trees 1,000 Fruit trees 2,000 Hedge
Mount Desert Nurseries.	Bar Harbor.	50 acres	19,500 Raspberry Strawberries 500 Apple
Palmer, C. R.	Dexter.	1 $\frac{1}{2}$ acre $\frac{1}{2}$ acre	5,000 Norway spruce Strawberries
Pejepscot Paper Co. Nursery.	Topsham.	1-40 acre	6,500 Raspberries Blackberries
Perkins, Charles S.	East Vassalboro.	1 acre $\frac{1}{2}$ acre $\frac{1}{2}$ acre	1,000 Rhubarb 200 Perennials 30 Evergreens 12 Shrubs
Perley, C. A.	Winthrop.	1-40 acre	Strawberries 6,500 Raspberries 5,000 Strawberries 1,000 Blackberry 700 Raspberry 65 Gooseberry 41 Currants
Pleasant View Farm.	Rockport.	1 acre $\frac{1}{2}$ acre	10,000 Raspberry 200 Perennials 200 Shrubs 100 Roses 15 Azalias
Plummer, H. L.	Gorham.	$\frac{1}{2}$ acre	3,000 Perennials 1,000 Azalias 250 Roses 100 Shrubs
Pollard, D. A.	Auburn.	$\frac{1}{2}$ acre	
Roak, G. M.	Auburn.	1-10 acre	
Saunders, Ernest.	Lewiston.	1-10 acre	

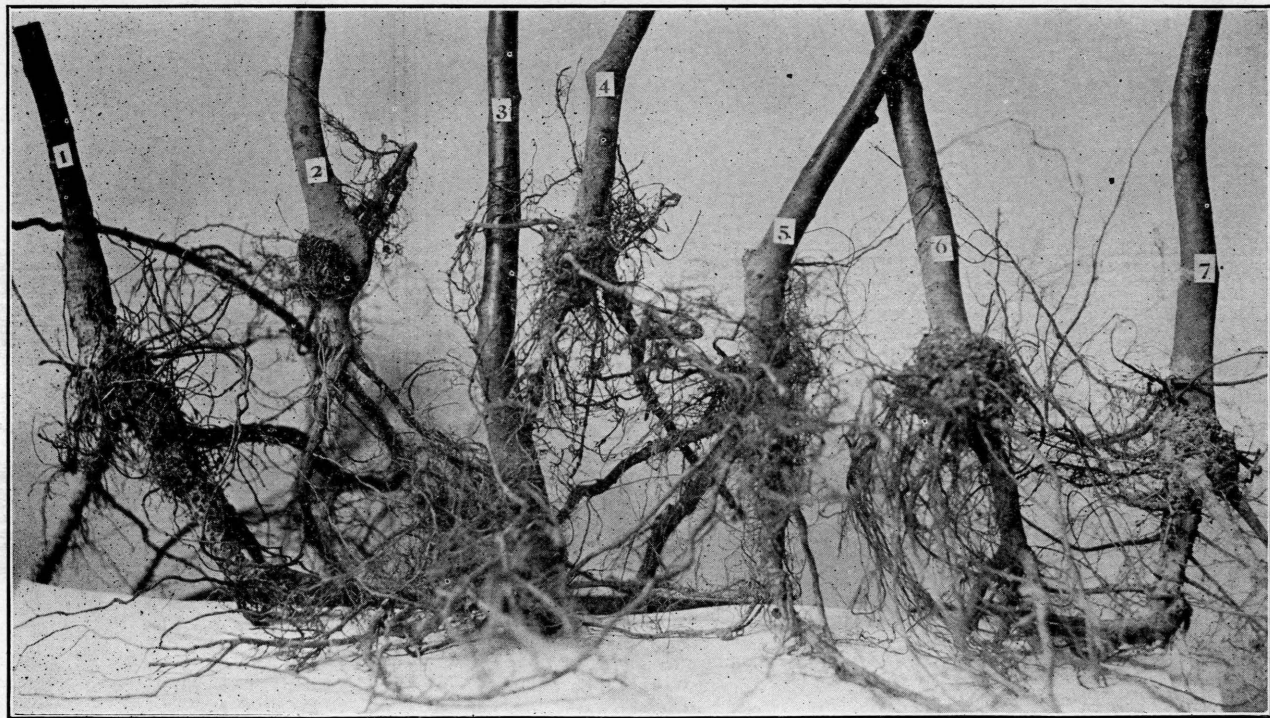
NAME.	Location.	Acreage.	
Seckenger, Adams.....	Bangor.....	1-40 acre	100 Roses 20 Azalias 6 Evergreens Shrubs Roses Perennials
Smith, T. W. A.....	Biddeford.....	1-16 acre	
State Forest Nursery....	Orono.....	1 acre	650,000 Pine 10,000 Spruce 50 Butternuts 100 Black Locust 500 Poplars
Steele, Joseph F.....	Auburn.....	3-10 acre 1-10 acre	3,900 Raspberry Strawberry
Stevens, Mrs. David A....	Presque Isle.....	1-40 acre	50 Peonies Perennials Shrubs
Strand, S. H.....	Topsham.....	$\frac{1}{2}$ acre 1-6 acre $\frac{1}{2}$ acre	4,000 Apple trees Strawberries
Strout's.....	Biddeford.....	1-40 acre	6,500 Raspberry 150 Shrubs 400 Roses 500 Perennials 200 Shrubs 100 Roses 150 Hedgings 75 Peonies 25 Vines
Swift, Mrs. Julia M.....	Farmington.....	$\frac{1}{2}$ acre	6 Shade trees Raspberry Strawberry Gooseberry Currants
Twitchell, Dr. G. M.....	Monmouth.....	$\frac{1}{2}$ acre	
Wallace, A.....	Portland.....	1-40 acre	1,000 Perennials 200 Shrubs 75 Roses 12 Ornamental trees
Wooster, E. W.....	Washington Jct.....	2-5 acre 1-5 acre	5,000 Strawberry 2,000 Raspberry
York, H. Q.....	New Sharon.....	$\frac{1}{2}$ acre	3,250 Raspberry Strawberry

The inspection service this year has been extended to both public and private grounds of the cities and villages. There has been great need of this, as places otherwise immaculately cared for have trees dying from the effects of Scurvy and Oyster Shell Scale. Trees are also being damaged by aphides. Since inspection, many of these trees have been properly sprayed and will continue to be sprayed until the pest is exterminated. Other trees are to be sprayed in the spring.

By request of this Bureau, Black Knot has been cleaned up to some extent all over the state. If allowed to remain, there would be great danger of spreading the disease. The Lesser Apple Worm breeds in Black Knot, so if it is not destroyed, it greatly endangers the product of our orchards. Work along this line is to be continued and enlarged upon in 1918

In order that the imported nursery stock may be thoroughly inspected, the State Horticulturist is appointed collaborator





The roots of these trees were infected with Crown Gall and Hairy Root.
A few of the many diseased roots taken from carload condemned at Augusta, June 8, 1917.

with the Federal Horticultural Board at Washington, and the duties of that position are, to see that each and every package coming into the state from foreign countries is given a good inspection and a report made on same. The stock must bear an inspection tag from the country from which it is shipped, and it is also inspected at the port of entry. On account of the war, the shipments have been unusually small the past season. Only three shipments have arrived: One of 2,500 roses; another, 19 lilacs and 14 phlox; another, 420 deciduous shrubs and trees, and 537 herbaceous roots.

On Friday, June 8, I inspected a car of nursery stock from Dansville, N. Y., which consisted of apple, pear, plum and cherry. All of these varieties I found infected with Crown Gall and Hairy Root. Some time was spent in seeking out the infected trees that had already been sold, and having them destroyed. The remaining lot, estimated at about 4,000 trees, was condemned and burned. Since the men who were selling this stock readily disposed of it until stopped by the Department, it is evident that many people in Maine are not familiar with the appearance of trees thus infected. Trees were sold from this lot on which were galls, raised one inch and fully two and one-half inches in diameter. There were many smaller galls, but large enough to be easily seen. Other trees showed plainly the Hairy Root. Therefore, it seemed wise to inform the orchardist and would-be purchaser of trees, concerning the dangerous nature of this disease. As soon as possible, with the usual rush of work and the additional work caused by the distribution of the diseased trees which had to be found and destroyed, I issued a special bulletin on "Crown Gall and Hairy Root."

QUARANTINE ON CURRANT AND GOOSEBERRY BUSHES.

On account of currants and gooseberries being the alternate hosts of the white pine in White Pine Blister Rust, the Forest Commissioner has made the following proclamation:

"By virtue of the authority vested in me by Section 6 of Chapter 178 of the Public Laws of 1917, I hereby place an embargo on the shipment into, and forbid all persons, partnerships, associations or corporations to bring into the State of

Maine any Gooseberry or Currant Plant, or five-leaved pine, commonly known as White Pine, without obtaining a permit from the Forest Commissioner under penalty of being prosecuted under Section 6 of Chapter 176 of the Public Laws of 1917.

"Given under my hand this twenty-first day of September, in the year of our Lord, One Thousand Nine Hundred and Seventeen, at Augusta, State of Maine."

(Signed) FORREST H. COLBY,

Commissioner.

NURSERY COMPANIES THAT HAVE DELIVERED ORDERS IN THE STATE OF MAINE DURING THE YEAR 1917.

	NAME.	Address.	No. of Shipments.	
			Spring.	Fall.
1	Allen Nursery Co.	Rochester, N. Y.	1	-
2	American Forestry Co.	Framingham, Mass.	1	-
3	Arcadia Rose Co.	Newark, N. Y.	1	-
4	Bacon, W. & A.	Boston, Mass.	3	-
5	Balentine, John	Roxbury, Mass.	1	-
6	Barnes Bros.	Yalesville, Conn.	3	1
7	Bay State Nursery	North Abington.	18	2
8	Bloodgood Nursery.	Flushing, N. Y.	1	-
9	Boxford Nursery Co.	Boston, Mass.	1	-
10	Breck, Joseph & Son	Boston, Mass.	2	-
11	Breck-Robinson Co.	Lexington, Mass.	17	[4
12	Brown Bros. Co.	Rochester, N. Y.	5	-
13	Brown Nursery Co., F. W.	Rose Hill, N. Y.	4	-
14	Bryant & Ordway Co.	Boston, Mass.	2	-
15	Burr, C. R. & Co.	Manchester, Conn.	18	-
16	Central New York Nurseries.	Geneva, N. Y.	3	-
17	Charleton Nursery Co.	Rochester, N. Y.	2	-
18	Charleton, John & Sons.	Rochester, N. Y.	1	-
19	Chase Bros. Co.	Rochester, N. Y.	61	1
20	Chase, Charles H.	Rochester, N. Y.	2	-
21	Chase, R. G.	Geneva, N. Y.	4	-
22	Chase, Homer N.	Geneva, N. Y.	27	4
23	Cobb, W. F. & Co.	Geneva, N. Y.	40	-
24	Coffin, J.	Brunswick, Maine.	1	-
25	Collins, Arthur & Son.	Moorestown, N. Y.	1	-
26	Conrad & Jones Co.	West Grove, Pa.	4	1
27	Dane, E. B.	Brookline, Mass.	1	-
28	Denton, Williams & Denton.	Dansville, N. Y.	1	-
29	Dingee & Conrad Co.	West Grove, Pa.	2	-
30	Dehn & Berstoft.	Greenwich, Conn.	1	-
31	Dreer, H. A.	Philadelphia, Pa.	18	1
32	East Bridgewater Dahlia Gardens.	E. Bridgewater, Mass.	1	-
33	Elizabeth Nursery Co.	Elizabeth, N. J.	1	-
34	Elliott Nurseries.	Pittsburg, Pa.	3	-
35	Elm City Nursery Co.	New Haven, Conn.	2	-
36	Empire State Nursery Co.	Waterloo, N. Y.	1	-
37	Fairview Nurseries.	Rochester, N. Y.	5	-
38	Farmer, L. J.	Pulaski, N. Y.	9	1
39	Farmer Seed & Nursery Co.	Faribault, Minn.	1	-
40	Farquhar, R. & J.	Boston, Mass.	39	2
41	Farr, Bertrand H.	Wyomissing, Pa.	2	-
42	First National Nurseries.	Rochester, N. Y.	18	-
43	Fish, C. R. & Co.	Worcester, Mass.	3	-

	NAME.	Address.	No. of Shipments.	
			Spring.	Fall.
44	Fottler, Fiske & Rawson Co.	Boston, Mass.	12	-
45	Framingham Nurseries.	So. Framingham, Mass.	11	3
46	Frazier, Sam.	Genesee, N. Y.	1	-
47	Fruit Growers' Nurseries.	Newark, N. Y.	11	4
48	Gardner Nursery Co.	Osage, Iowa.	7	1
49	Gillett, Edward.	Southwick, Mass.	3	-
50	Glenn Bros.	Rochester, N. Y.	5	-
51	Graham Nursery Co.	Rochester, N. Y.	2	-
52	Greaton, C. H.	Providence, R. I.	1	-
53	Gray Co., Thomas J.	Boston, Mass.	2	-
54	Green's Nursery Co.	Rochester, N. Y.	195	3
55	Grover, F. E. & Co.	Rochester, N. Y.	4	-
56	Guaranty Nursery Co.	Rochester, N. Y.	6	-
57	Gurney, H. H. & Co.	Geneva, N. Y.	26	-
58	Hall, L. W. & Co.	Rochester, N. Y.	2	-
59	Hammond Nursery Co.	Geneva, N. Y.	1	-
60	Harman Nursery Co., M. H.	Geneva, N. Y.	23	4
61	Harrison & Son, J. G.	Berlin, Md.	3	-
62	Hawkes Nursery Co.	Rochester, N. Y.	2	-
63	Henderson Co., Peter.	Philadelphia, Pa.	4	2
64	Hill Nursery Co., D.	Dundee, Ill.	1	-
65	Home Nurseries.	Dansville, N. Y.	2	-
66	Hooker Bros.	Rochester, N. Y.	11	-
67	Horne, A. P. & Co.	Manchester, N. H.	6	-
68	Horticultural Nurseries.	Dansville, N. Y.	10	-
69	Hosford, F. H.	Charlotte, Vt.	4	-
70	Howe-Campbell Nursery Co.	Rochester, N. Y.	2	-
71	Hussey, J. C.	Oakland, Maine.	1	-
72	Jackson & Perkins.	Newark, N. Y.	2	-
73	Jordan, Marsh Co.	Boston, Mass.	1	-
74	Keene Forestry Association.	Keene, N. H.	1	-
75	Kelley Bros.	Dansville, N. Y.	31	1
76	Kellogg Co., R. M.	Three Rivers, Mich.	8	-
77	King, B.	Tewksbury, Mass.	1	-
78	King Bros.	Dansville, N. Y.	6	-
79	Knight & Boswick.	Newark, N. Y.	14	-
80	La Pointe Nurseries.	Geneva, N. Y.	6	-
81	Little Tree Farms.	Framingham, Mass.	7	-
82	Lovett, J.	Little Silver, N. J.	1	-
83	McCabe, John C.	Bangor, Maine.	4	-
84	McCabe, E. L. & Co.	Rochester, N. Y.	1	-
85	McCarthy, N. F. & Co.	Boston, Mass.	1	-
86	McGregor Bros.	Springfield, Ohio.	2	-
87	Mather, J. M.	Lynn, Mass.	1	-
88	Mills Seed Co.	Washington, Iowa.	4	-
89	Mitchell & Co.	Waterville, Maine.	1	-
90	Moon, William H.	Moonesville, Pa.	1	-
91	Moore, W. C. & Co.	Newark, N. Y.	11	-
92	New England Nurseries.	Bedford, Mass.	32	4
93	Northeastern Forestry Co.	Cheshire, Conn.	7	-
94	Palisade Nurseries.	Sparkill, N. Y.	1	-
95	Pequod Nursery Co.	Meriden, Conn.	3	-
96	Perry Nursery Co.	Rochester, N. Y.	5	-
97	Peterson, George H.	Fair Lawn, N. J.	3	-
98	Pierson, A. N.	Cromwell, Conn.	3	1
99	Pomona Ten-Cent Nurseries.	Dansville, N. Y.	27	-
100	Porteous, Mitchell & Braun.	Portland, Maine.	1	-
101	Reilly, John H. & T. P.	Dansville, N. Y.	5	-
102	Reilly, William J.	Dansville, N. Y.	7	-
103	Rice Brothers.	Geneva, N. Y.	8	-
104	Rice, T. W.	Geneva, N. Y.	2	-
105	Richland Nurseries.	Rochester, N. Y.	2	-
106	Roesch, Lewis.	Fredonia, N. Y.	2	-
107	Rowan Wholesale Nurseries.	Dansville, N. Y.	5	-
108	Rupert, W. P. & Son.	Seneca, N. Y.	9	-
109	Saltzer Seed Co., John A.	LaCrosse, Wis.	1	-
110	Sheerin's Nurseries.	Dansville, N. Y.	1	-
111	Sherwood, Elmer.	Odessa, N. Y.	5	-
112	Skidmore, L. S.	Rockport, Mass.	2	-
113	Smith, W. & T.	Geneva, N. Y.	8	-
114	Southworth Pros.	Peverly, Mass.	1	-
115	Spring Hill Nurseries.	Tippicanoc, Ohio.	2	-
116	Stark Bros. Nursery Co.	Louisiana, Mo.	18	2

	NAME.	Address.	No. of Shipments.	
			Spring.	Fall.
117	Stark Nurseries, Wm. P.	Stark City, Mo.	22	-
118	Storrs & Harrison Co.	Painesville, Ohio.	4	1
119	Stuart, C. W. & Co.	Newark, N. Y.	23	-
120	Sweet, George A.	Dansville, N. Y.	2	-
121	Taylor, H. S. & Co.	Rochester, N. Y.	3	-
122	Thurlow, T. C. & Sons.	West Newbury, Mass.	4	-
123	Tidewater Plant Co.	Franklin, Va.	1	-
124	Tingle, Leomon G.	Pittsville, Md.	1	-
125	Totty, Charles H.	Madison, N. J.	1	-
126	Tuttle, A. M.	Melrose Highlands, Mass.	1	-
127	Van Dusen Nurseries.	Geneva, N. Y.	7	-
128	Vaughn's Nurseries.	W. Springfield, Ill.	1	-
129	Vicks, James & Sons.	Rochester, N. Y.	8	-
130	Vincent & Sons.	White Marsh, Md.	1	-
131	Wagner Park Nursery Co.	Sidney, Ohio.	1	-
132	Walsh, M. H.	Woods Hole, Mass.	2	-
133	Wayside Gardens.	Mentor, Ohio.	2	-
134	Wells Wholesale Nurseries.	Dansville, N. Y.	6	-
135	West Side Nursery Co.	Worcester, Mass.	21	10
136	Western New York Nurseries.	Rochester, N. Y.	4	-
137	West Hill Nurseries.	Fredonia, N. Y.	3	-
138	Whiting Nurseries.	Geneva, N. Y.	7	-
139	Whitten, C. E.	Bridgman, Mich.	1	-
140	Wiley, H. S. & Sons.	Cayuga, N. Y.	5	-
141	Winfield Nursery Co.	Winfield, Kans.	1	-
142	Woburn Rose Conservatories.	Natick, Mass.	2	-
143	Wood, Allan L.	Rochester, N. Y.	25	-
144	Woodlawn Nurseries.	Rochester, N. Y.	2	-
145	Wyman Nurseries.	Rochester, N. Y.	2	-

From the reports on nursery stock received, we are able to present the following table, which shows the approximate number of trees, small fruits and ornamentals shipped into this state during the year 1917, the number, in most varieties, being greatly in excess of 1916. In some cases an estimate had to be made as total cost only was given.

Apple trees	12,971
Pear trees	1,332
Plum trees	1,323
Cherry trees	927
Peach trees	275
Quince trees	23
Raspberry plants	14,561
Blackberry plants	2,238
Strawberry plants	27,261
Currant bushes	1,128
Gooseberry bushes	937
Grapes	278
Asparagus	2,062
Rhubarb	166
Ornamentals	34,461

NURSERY AGENTS.

The law in regard to licenses of nursery agents was amended at the last session of the legislature. The law as it now stands is as follows:

“Section 7 (as amended by the P. L. 1917, c. 214). No person, firm or corporation, excepting those growing all the nursery stock they sell, shall engage in, continue in, or carry on the business of selling or dealing in nursery stock, or solicit purchases of nursery stock within this state, either as owner thereof, or as agent of such owner, without first obtaining a license to carry on and conduct such business in this state. The form of license shall be prescribed by the state horticulturist, and the licenses shall be issued by him upon proper application therefor, and shall be in force for one year from date of issue. The license fee shall be five dollars a year for agents, dealers, salesmen or solicitors. The license shall be issued in the name of the dealer, solicitor, salesman or agent, as the case may be, and no license shall be assigned or transferred. Licenses of salesmen, dealers, agents or solicitors shall show the name and location of nursery and place of business of the nurserymen or tree dealers whom they represent or from whom they purchase their stock. Each separate agent and each separate store acting under a general agent or store must have a license as provided in this section. Fees obtained from such licenses shall be paid into the state treasury and added to the appropriation of the bureau of horticulture, and shall be used exclusively for the inspection of nursery stock introduced into the state from outside the state. Such license may be revoked at any time for failure to comply with the aforesaid requirements, or for such other causes as may in the opinion of the commissioner of agriculture be sufficient, Any violation of this section shall be punishable by a fine of not less than ten, nor more than fifty dollars for each offense.”

NURSERY AGENTS LICENSED IN 1917.

AGENT FOR:

Adams, Carlton	Boothbay	Chase Bros. Co.	Rochester, N. Y.
Atwood, W. H.	Lisbon	F. E. Grover & Co.	Rochester, N. Y.
Bagley, James E.	Thomaston	Charles H. Chase	Rochester, N. Y.
Barker, George	Presque Isle	Whiting Nursery Co.	Boston, Mass.
Beaulieu, Xavier	Presque Isle	Wyman Nurseries	Rochester, N. Y.
Bolton, F. O.	Cornish	H. H. Gurney & Co.	Geneva, N. Y.
Campbell, Fred W.	Charleston, R. 1,	Chase Bros. Co.	Rochester, N. Y.
	Box 4		
Carll, Colby C.	Freedom, R. F. D. 2	W. F. Cobb Co.	Franklin, Mass.
Carpenter, Frank	Houlton	Graham Nursery Co.	Rochester, N. Y.
Coburn, W. R.	Guilford	Chase Bros. Co.	Rochester, N. Y.
Cole, Gardner W.	Raymond	Chase Bros. Co.	Rochester, N. Y.
Colson, Manley W.	Monroe, R. 3,	Fairview Nurseries	Rochester, N. Y.
	Box 52		
Dakin, E. J.	Wilton	Brown Bros. Co.	Rochester, N. Y.
		Chase Bros. Co.	Rochester, N. Y.
		Harrison Nurseries	Berlin, Md.
		Elmer Sherwood	Odessa, N. Y.
		M. H. Harmon Nursery	Geneva, N. Y.
Davis, A. C.	South Paris	Guaranty Nursery Co.	Rochester, N. Y.
Dolan, W. H.	Waterville	Chase Bros. Co.	Rochester, N. Y.
Dyer, Alden	Ellsworth	Homer N. Chase Co.	Geneva, N. Y.
		The R. G. Chase Co.	Geneva, N. Y.
		Chase Bros. Co.	Rochester, N. Y.
		Hooker Bros.	Rochester, N. Y.
Foss, S. O.	Auburn	Chase Bros. Co.	Rochester, N. Y.
Foster, George R.	Lisbon Falls	W. F. Cobb Co.	Franklin, Mass.
Fox, A. N.	South Berwick	Reilly Bros.	Dansville, N. Y.
Furbush, E. W.	Greene	Guaranty Nursery Co.	Rochester, N. Y.
		Chase Bros.	Rochester, N. Y.
Gauthier, S. S.	Keegan	H. H. Gurney Co.	Auburn, Maine
Gilman, H. W.	South Berwick	Chase Bros. Co.	Rochester, N. Y.
Gordon, Wilson M.	Winn	H. H. Gurney Co.	Rochester, N. Y.
Gott, J. M.	Wayne	H. S. Taylor & Co.	Rochester, N. Y.
Gould, Hannah E.	Gray	H. S. Taylor & Co.	Rochester, N. Y.
Grant Co., W. T.	Lewiston	Chase Bros. Co.	Rochester, N. Y.
Green Bros. Co.	Belfast	Chase Bros. Co.	Rochester, N. Y.
Hale, H. H.	South Bluehill	Chase Bros. Co.	Rochester, N. Y.
Harper, Edw. G.	East Holden	Chase Bros. Co.	Rochester, N. Y.
Heath, John W.	Fryeburg	Chase Bros. Co.	Rochester, N. Y.
Hewes, Mrs. C. U.	Vanceboro	Chase Bros. Co.	Rochester, N. Y.
Hunt, U. M.	Strong	C. R. Burr & Co.	Manchester, Conn.
Hussey, J. C.	Oakland	W. & T. Smith Co.	Geneva, N. Y.
		Universal Nurseries	Geneva, N. Y.
		H. E. Merrill	Geneva, N. Y.
		G. F. Fordon & Son	Geneva, N. Y.
		John Charlton & Son	Geneva, N. Y.
		R. G. Chase Co.	Geneva, N. Y.
		T. W. Rice	Geneva, N. Y.
Jellison, E. S.	Biddeford	Kelly Bros.	Dansville, N. Y.
		Framingham Nurseries	Framingham, Mass.
		T. W. Rice	Geneva, N. Y.
		West Side Nurseries	Worcester, Mass.
		Breck-Robinson Co.	Boston, Mass.
		New England Nursery	Bedford, Mass.
Kendall & Whitney	Portland	Company	Rochester, N. Y.
Knight, B. J.	Camden	Chase Bros. Co.	Rochester, N. Y.
Kresge Co., S. S.	Lewiston	Peter Bohlender & Sons	Tippecanoe City, O.
		H. S. Taylor & Co.	Rochester, N. Y.
Leighton, I. M.	Portland	Chase Bros. Co.	Rochester, N. Y.
Libby, Lot	Dexter	Hooker Bros.	Rochester, N. Y.
Lothrop, Lester	Richmond	Chase Bros. Co.	Rochester, N. Y.
McCabe, George L.	Bangor	W. & T. Smith	Geneva, N. Y.
McCabe, John C.	Bangor,	Chase Bros. Co.	Rochester, N. Y.
	R. F. D. 4	Brown Bros. Co.	Rochester, N. Y.
		L. W. Hall Co.	Rochester, N. Y.
		John Charlton & Sons	Rochester, N. Y.
		James Vick's Sons	Rochester, N. Y.
		Jackson & Perkins	Newark, N. Y.
		W. & T. Smith Co.	Geneva, N. Y.
McCabe, Robert F.	Bangor	Chase Bros. Co.	Rochester, N. Y.
	53 Bowdoin St.	Elwanger & Berry	Rochester, N. Y.
		John C. Charlton & Sons	Rochester, N. Y.
		W. & T. Smith	Geneva, N. Y.
McCormick, Charles	Kingman	Elmer Sherwood	Odessa, N. Y.
		Flower City Nursery	Rochester, N. Y.
		Company	

NURSERY AGENTS LICENSED IN 1917.—Continued.

AGENT FOR:

Macomber, E. R.	Woodfords	Breck-Robinson Jackson & Perkins	Lexington, Mass. Newark, N. Y.
Mercier, A. J.	Rumford	C. W. Stuart	Newark, N. Y.
Miller, William	Bar Harbor	Bay State Nurseries Mt. Desert Nurseries	N. Abington, Mass. Bar Harbor, Maine
Norton, A. D.	Farmington	Empire State Nursery	Waterloo, N. Y.
Osborne, W. S.	Gardiner	Chase Bros. Co.	Rochester, N. Y.
Peck Co.	Lewiston	H. S. Taylor & Co.	Rochester, N. Y.
Phillips, W. H.	Ellsworth	Homer N. Chase	Auburn, Maine
Pinkham, C. W.	Union	W. & T. Smith	Geneva, N. Y.
		W. F. Cobb Co.	Franklin, Mass.
		C. W. Stuart Co.	Newark, N. Y.
Porteous, Mitchell & Braun	Portland	Arcadia Rose Co.	Newark, N. Y.
Prescott, Emery	Etna, R. F. D. 1	Chase Bros. Co.	Rochester, N. Y.
Prock, G. A.	Lincolntonville	C. W. Stuart & Co.	Newark, N. Y.
Pullen, Charles C.	Thomaston	Whiting Nursery Co.	Boston, Mass.
Purington, J. M.	Somersworth, N. H.	Rice Bros. Co.	Geneva, N. Y.
Purinton, W. S.	Portland	M. H. Harman Nursery	Geneva, N. Y.
Roak Co., Geo. M.	Auburn	Bay State Nursery	N. Abington, Mass.
		Jackson & Perkins	Newark, N. Y.
Roberts, James A.	E. Waterboro	H. N. Chase & Co.	Auburn, Maine
Robertson, L. C.	Mechanic Falls	Chase Bros. Co.	Rochester, N. Y.
		C. W. Stuart Co.	Newark, N. Y.
		W. F. Cobb Co.	Franklin, Mass.
Seavey, Jedidiah Senior, John C.	Bucksport, R. 1 Sanford	Chase Bros. Co.	Rochester, N. Y.
		Storrs & Harrison	Painesville, Ohio
		Wm. C. Moore Co.	Newark, N. Y.
		D. H. Henry	Geneva, N. Y.
		Henry F. Mitchell	
Sherman, H. L.	Gorham, R. 2	Chase Bros. Co.	Rochester, N. Y.
Smith, Albert Selden	Winthrop, R. 21	LaPointe Nursery Co.	Geneva, N. Y.
Smith, Alfred J.	So. Portland, R. 8	H. N. Chase Co.	Auburn, Maine
Spear, Charles T.	Rockland	Western N. Y. Nurseries	Rochester, N. Y.
Sproul, Fred T.	Windsorville	Chase Bros. Co.	Rochester, N. Y.
Staples, Albert D.	Orland	C. W. Stuart Co.	Newark, N. Y.
		Fairview Nurseries	Rochester, N. Y.
Sterry, Walter	Oakland	Chase Bros. Co.	Rochester, N. Y.
Tash, George W.	New Vineyard	Elmer Sherwood Co.	Odessa, N. Y.
Tibbetts, J. B.	Stetson	Chase Bros. Co.	Rochester, N. Y.
Victory, A. W.	Houlton	H. H. Gurney Co.	Auburn, Maine
Webber, Harrison W.	Mt. Vernon	Chase Bros. Co.	Rochester, N. Y.
White, A. K.	Richmond	M. H. Harman Co.	Geneva, N. Y.
Williams, Fairfield	Solon, R. 1	H. H. Gurney Co.	Auburn, Maine
Wilson, John H.	Saco	C. W. Stuart & Co.	Newark, N. Y.
Wood, E. L.	Unity	Hooker Bros.	Rochester, N. Y.
Woolworth Co., F. W.	Portland	Arcadia Rose Co.	Newark, N. Y.
		Home Nursery Co.	Dansville, N. Y.
		H. S. Taylor & Co.	Rochester, N. Y.
Wright, C. E.	So. Portland	Chase Bros. Co.	Rochester, N. Y.

I

Barrels of Apples Shipped from Sept. 1, 1916 to August 1, 1917

	Barrels	Boxes	Transferred to M.C.R.R.
Maine Central R. R.....	340,713		
Grand Trunk Ry.....	53,080		
Boston & Maine R. R.....	12,294		
Eastern Steamship Co.....	7,300	1,600	
Sandy River & Rangeley Lakes R. R.....	7,187		7,187
Georges Valley R. R.....	5,648		5,648
Bangor & Aroostook R. R....	5,654		3,776
Bangor Railway & Electric Co.	5,501		5,501
Bridgton & Saco River R. R..	5,384		5,384
Wiscasset, Waterville & Farm- ington Ry.....	2,709		2,709
	<hr/>	<hr/>	<hr/>
	445,470	1,600	30,205
Total transferred	30,205		
	<hr/>		
Actual total shipment ..	415,265	1,600	

II.

*Barrels of Apples Shipped from Twelve Largest Shipping
Points from Sept. 1, 1916 to Aug. 1, 1917.*

	Barrels.
Auburn	20,620
North Jay	16,252
Monmouth	15,785
West Paris	14,813
South Paris	13,188
Wilton	12,026
Buckfield	10,951
Greene	10,483
Winthrop	10,420
Norway	10,313
Skowhegan	8,458
Oxford	4,888



Cherry-tree Ugly Nest.

INSECTS AND DISEASES OF FRUIT AND TREE.

Cherry-Tree Ugly-Nest Tortricid (*Cacoecia cerasivororana*) lives upon the choke-cherry and sometimes upon the cultivated cherry. This pest has been plentiful the past season and can be seen beside the highway and along the fences, from the first to the fifteenth of July, twisting grasses and bushes together, destroying all foliage, and has, in some instances, infested orchards. It is therefore imperative that this pest be controlled for the next season, as it is very destructive, and could, in a few days, do hundreds of dollars worth of damage to our orchards.

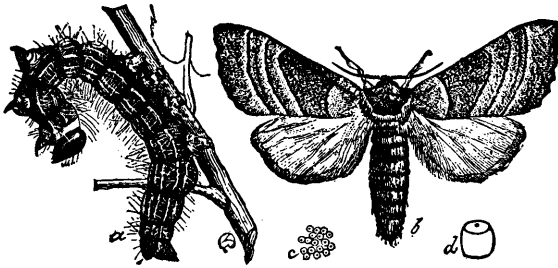
The larvae, which are yellow, active creatures, fasten together all the leaves and twigs of a branch and feed upon them, an entire brood occupying a single nest. The larvae change to pupae within the nest, and the pupae, when about to transform, work their way out and hang suspended from the outer portion of the nest, clinging to it only by hooks at the tail-end of the body. Here they transform, leaving the empty pupa-skins projecting from the nest. The moths vary in size, the wing expanse ranging from four-fifths of an inch to nearly one and one-fifth inch. The wings are bright ochre-yellow, the front pair marked with irregular brownish spots and numerous transverse bands of pale leaden blue.

All nests should be cut and burned as soon as found, and all foliage sprayed with arsenate of lead (paste), two to three pounds to 40 gallons of water.

White-Pine Weevil (*Pissodes strobi*). The fact that the White-Pine Weevil is becoming a serious menace to this state has been emphatically impressed upon us during the past summer. As this weevil has done thousands of dollars worth of damage to our evergreen trees, a description of it and directions for its extermination should be given wide-spread publicity. It is a beetle about three-sixteenths of an inch in length and of a rusty brown color. The larva, when hatched, bores into the tender top of the tree and eats downward, destroying one or two years growth, killing the entire top of the tree.

The insect may be found in all stages of development under the bark, during the latter part of April the larvae being the most numerous. The larva is much like an Apple Tree Borer in form, white in color with pale reddish head.

Constant watchfulness will be necessary to drive this pest from our state. If a tree is observed to be dying at the top, examination should be made, and, if conditions are found to be as above stated, the tops should be cut immediately, well below the infested part and burned. If this is not done this year, next year the pest will be greatly increased.



Yellow-necked Apple-tree Caterpillar.
(Cut loaned by Mass. Dept. of Agriculture.)

Yellow-Necked Caterpillar. When young, the larvae are brown in color, striped with white, but, as they mature, they become darker in color, with yellow stripes. The caterpillars attain full growth in six weeks, when they are about two inches long. The head is large and black. The next segment, called the neck, is dull orange, a black stripe extending down the back, and three stripes of the same color alternate with four yellow stripes on each side. The eggs are white and are deposited on the underside of the leaf in nearly straight rows, and number from seventy-five to one hundred. When young, the caterpillars may be found in clusters on the under side of the leaf on which they feed, but later, they devour the entire leaf, except the main rib. When disturbed, they rise at both ends at right angles with the center of body by which they cling.

Apple Curculio. The damage done by the Apple Curculio the past season has been considerable. This insect is somewhat smaller than the Plum Curculio, and its long beak protrudes horizontally, and cannot be folded under the body as can that of the Plum Curculio.

The Apple Curculio has four prominent brown humps toward the hinder part of the body. Including its snout, it is about

one-fourth inch in length. The body is of a dull brown color, shaded with rusty red. The anterior of the wing-covers are grayish. The Curculio passes the winter in the beetle state.

The punctures made in the young apple, by this insect in feeding, are about one-tenth of an inch deep and broad at the base. These holes have a black margin as though made with a hot needle. Those made by the female in which to deposit eggs are deeper and closed. In many apples, as soon as the larva hatches, it burrows to the heart of the fruit; in larger apples, it feeds on the pulp, causing great injury and deformity of fruit.

To control this insect, two or three applications of arsenate of lead are necessary, the first being the Codling-moth Spray, and the second, six or ten days later, being the most important spray. The third spray should be applied two weeks later, if injury has been great in years past. The Curculio not only punctures the skin, but feeds on the apple, so that, if the fruit is well covered with poison, many are killed. Picking up and destroying all fallen fruit will be a great aid in destroying this pest.

The Green Apple Aphis. Upon inspection, it has been discovered that the green apple aphis has done a great deal of damage the past season to young apple trees and to the new growth on older trees. This is partially accounted for by the bad weather conditions in the spring.

A full description of this pest will be found in our Insect Bulletin.

The Lesser Apple Worm (*Enarmonia prunivora*). The channels just under the skin of the apples in cold storage, which make the fruit unmarketable, are the work of the larvae of the Lesser Apple Worm. This, however, is sometimes mistaken for the ravages of the Codling-moth. The larva is smaller than the Codling-moth, being only one-third of an inch long, and works much later.

The early form of injury is a small hole eaten out of the apple at the calyx end. The Lesser Apple Worm also breeds in the Black Knot on plum and cherry trees, therefore, it behooves us to cut and burn all Black Knot, whether on wild or cultivated trees. This pest can be exterminated by Calyx Spray and Fruit and Foliage Spray.

Fruit Spot. The Fruit Spot, also known as *Cylindrosporium pomi*, occurs on several varieties of apples, the spots varying in color on the different species. On the Yellow Bellflower and Tolman Sweet the spots are of a bright carmine color and about the size of a pin head or slightly larger, and later in the season are somewhat browned. These spots, however, also occur on Baldwins, only colored somewhat differently from the above. At first, they are dark green on the lighter portions of the apple and are much reddened on the darker part. There are several times as many spots to be found on the calyx end of the apple as on the stem end. The final color of the spot is brown to black, and the spot is more or less sunken. The discolored portion extends into the flesh of the apple only a fraction of an inch.

The Fruit Spot lives over winter on fallen apples, therefore, it will be seen that all such fruit should be destroyed.

To eradicate this disease, use Calyx Spray and Fruit and Foliage Spray. (See Spray Calendar.)

San Jose Scale. San Jose Scale is more widely scattered throughout the state than has been heretofore mentioned. Realizing the danger of this pest from past experience in Massachusetts, where the scale has been very destructive, on taking up the duties of my office in February, 1917, I immediately made inquiries concerning infestations of it.

In one orchard in Lewiston, where the scale was reported, I found several trees dying from its effects, hundreds of feet from the tree first infested. In the town of Norway, where one infestation was reported, I found another on a linden tree, four years set, which undoubtedly had the scale on it when shipped from the nursery. In Cornish, I found an infestation of the pest which had been multiplying for six years and where little had been done to check it. Four infestations of San Jose Scale were found in Augusta and were of three, two and one year standing. Nothing had been done to check it, as the owners did not know what the pest was.

In answer to a call from Gardiner to look after evergreens, Mr. Eaton was sent there and found, with other pests, San Jose Scale on flowering quince bushes beside the walk leading to the house. The scale must have been on the bushes when shipped,

and they had been nine years set. I afterwards visited the place and gave directions to have bushes cut and burned.

In Hallowell, I found a weeping elm badly infested with the scale. The tree had been three years set. The infestation in Limington has been cleaned up this season by cutting and burning, as has one of the bad infestations in Eliot. On the grounds of one of the fine residences in Rockland, I found on an American elm an infestation of four years' standing. A mountain ash tree in Presque Isle was so badly infested, just under the limbs where the pest hovered for protection, that the spots were dwarfed and sunken. This is too far north for the pest to thrive to any marked degree.

These and all other places infested with San Jose Scale have been given my personal attention, full directions for exterminating the pest have been given, and, where needed, drastic measures have been resorted to. With as many infestations as have been found this season—and undoubtedly some not found as yet—the hunt is to be continued next year. If it had not been for our inclement winters, Maine's orchards would have been ruined by this pest, as have some of the orchards of the other New England states.

A full description of this scale may be found in our bulletin published in May, 1917, entitled, "A Few of the Most Injurious Insect Pests and Fungous Diseases of the State of Maine." A remedy may be found in this report. (See Spray Calendar).

On account of nursery stock shipped into this state from New York nurseries infested with San Jose Scale, these shipments covering a period of nine years, one firm having sent infested stock for the past four years, I made a trip to New York to see the state inspector and nurserymen, and confer with them concerning the pest. I was assured that from now on we would receive clean stock.

At the same time, we discussed the matter of nursery stock infected with Crown Gall and Hairy Root being shipped into the state, and we are not to receive any more such stock from New York state.

Scurfy Scale. Scurfy scale has been found to be prevalent in many places in the state. It has been found in Augusta, on fifteen or twenty private grounds, and requests have been made

that these infestations be destroyed. Some of the finest estates were badly infested, and, through lack of knowledge of the pest which for years had been allowed to go unchecked, the trees were being severely damaged.

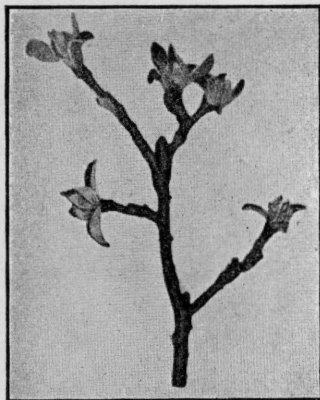
An infestation of the scale was found in a nursery in Eliot. It must have been on the stock when shipped into the state some three or four years ago, and has been increasing ever since. The scale was found on trees in Hallowell, Belfast and Lewiston. All have been sprayed, and the spraying will be continued until the scale has disappeared.

The Scurfy Scale may be distinguished readily from the Oyster Shell Scale, it being broader and pointed at one side. It is of a grayish white color, flat and about one-tenth of an inch in length. The eggs are deposited under the scale and hatch the latter part of May. The scale becomes fully developed by the middle of September. It multiplies rapidly and affects the mountain ash, flowering quince, apple and pear trees. This can be exterminated by use of Dormant Spray of lime-sulphur, one part to ten parts of water.

Canker. It is evident that in the future more attention should be paid to canker on fruit trees than has been paid in the past. It matters not whether it is on the limb, crotch, or side of tree. If the bark is scarred in any way, paint should be applied to keep it from becoming infected. A remedy may be effected by cutting the edges of the Canker infection with a sharp knife and scraping the wood clean. Then paint it with a solution made by adding two ounces of blue vitriol (copper sulphate) to one gallon of water. Be sure to disinfect the saw or knife used with this same solution. Then give the wound one or two coats of white lead and oil to keep out the weather. This may be colored to conform with the color of the bark.

SPRAY CALENDAR

for Apple Trees



1

DORMANT SPRAY*When to Spray:*

Any time after leaves drop in the fall until buds burst in the spring. (When it is at least 10 degrees above freezing.)

What to Spray With:

Lime-sulphur solution, 1 to 10 and miscible oil such as Scalecide may be used alternate years. Arsenate of Lead 2 to 3 lbs. to 35 gallons of water.

What to Spray For:

Oyster Shell Scale.
 San Jose Scale.
 Blister Mite. If prevalent, spray
 Scab after buds burst.
 Aphis, if a miscible oil is used.



2

BUD SPRAY*When to Spray:*

When buds commence to open and grow pink is just the right time.

What to Spray With:

Arsenate of lead, 2 to 3 lbs. and lime-sulphur solution, 1 to 35 gallons. (For Aphis, 1-3 pint of "Black Leaf 40" and 1 1-2 lbs. of hard soap in solution with above.)

What to Spray For:

Apple Scab.
 Black spot.
 Canker-worms.
 Bud-moths.
 Blister Mite.
 Aphis or tree lice.

CUTS USED BY COURTESY OF THE DEPARTMENT OF AGRICULTURE,
DOMINION OF CANADA.



3

CALYX SPRAY

When to Spray:

Just after the blossoms have fallen. Never when in bloom, as it would kill the farmer's friend, the bee.

What to Spray With:

Arsenate of lead, 2 to 3 lbs. and lime-sulphur solution, 1 to 40 gallons. (For Aphis, 5-12 pint of "Black Leaf 40" and 1 1-2 lbs. of hard soap in solution with above.)

What to Spray For:

Lesser Apple Worm.
Codling-moth.
Apple Scab.
Black spot.
Aphis.
Apple Cuculio.
Plum-Cuculio on Apple.

(Get Baume specific gravity or dilution of lime-sulphur solution from your dealer.)

Do not spray in wet weather as it may cause burning of foliage and fruit. If powdered Arsenate of Lead is used only 1-2 the above amount is required.

For Cuculio on Apple also spray as for calyx spray, two weeks later.



4

FRUIT AND FOLIAGE SPRAY

When to Spray:

Should be applied three or four weeks later than the Calyx Spray, especially if it has been wet the first part of June.

What to Spray With:

Arsenate of lead, 2 to 3 lbs., lime-sulphur solution 1 to 40 gallons.

What to Spray For:

Lesser Apple Worm.
Apple Scab.
Late brood of Codling-moth.

The following specimens were sent to this office for analysis :

1. *Polyporus betulinus*, which is of parasitic origin.
2. Larva of leaf eating beetle, Chrysomelid genus *Cassida*.
3. Peony leaves infected with drooping disease, *Sclerotinia paeonia*.
4. Larva of Antique Tussock Moth, *Notolophus antiqua*.
5. Cranbus larva, or Grass Caterpillar.
6. Grape worm, *Pyrophila pyramidoides*, covered with eggs of parasite.
7. Parasitized Red Humped Caterpillar, a very destructive insect when parasite *Linneria Guigardi* is not present.
8. Cut leaf maple leaves infected with *Rhytisma Acerinum*.
9. A milkweed beetle, *Doryphora clivicolla*.
10. Moth of Salt Marsh Caterpillar, *Estigmene acroea*.
11. Pear leaf infected with Leaf Blotch, *Entomosporium maculatum*.
12. Specimens of bark and limbs of pine infected with scab, a diseased condition not considered dangerous.
13. Section of limb of pear tree infected with scab.
14. Moth of *Tolype Velleda*, the larva of which feeds upon the apple, poplar and syringa.
15. *Calligrapha scalaris*, the larva living on foliage of basswood, linden, elm, and alder, but of no economic importance.
16. Spotted Tiger Moth, *Halisidota maculata*.
17. Larva of Puss Moth, *Cerura Woolly Bear Caterpillar*.
18. Yellow-necked Caterpillar or Handmaid.

There were also several specimens of apples sent in to be named.

CARLETON ORCHARDS.

Maine has 58 Carleton orchards scattered throughout 15 counties. Most of these have been inspected during the year and careful directions given for the treatment of same. Strict attention should be given to this line of work.

One contestant withdrew on account of serious mice injury to his trees. Last winter, apple trees in many parts of the state were girdled by mice which did thousands of dollars worth of damage. This might have been prevented by use of

tarred paper. The paper should be wrapped around the trees in the fall to a height of two feet. This wrapping should be removed in the spring, or fine screening might be used and left on the tree the year around.

I wish at this time, my dear sir, to express my appreciation for suggestions offered and for the generous support rendered by you in all matters pertaining to this Bureau for the year 1917.

Respectfully submitted,

FRANK H. DUDLEY,
State Horticulturist.

To the Hon. John A. Roberts, Commissioner of Agriculture:

I respectfully submit my report as Chief of Apple Inspection.

The inspection of apples this year has been done by six or seven men, each working in a different section of the state. I believe the inspection is resulting in a better pack. We have endeavored to show the proper way apples should be graded and branded. We find that the packer, as a rule, is desirous of following the law. We have been encouraged in our efforts by the kind words and friendly attitude of a large percentage of growers and dealers. To these, I wish to express my sincere thanks.

A large amount of fruit has been shipped to the middle west, and this has been a great help to orchardists, as shipments across the water have not been allowed.

Owing to the rainy weather, at the time when trees should have been sprayed, it was difficult to spray effectively, with the result that there were many wormy and scabby apples this fall and quite a large amount of fruit that could not be packed as "Fancy," or "No. 1." In some lots they could pack only about one-half the apples in either of these grades. The remaining apples were packed as "No. 2," or "Unclassified."

If we are to compete successfully with apples sent to our eastern markets from other sections, we should pack our apples so that the purchaser will find the contents of the barrel or box fully up to the grade that it is branded.

By this method, we will be in a position to secure further orders for fruit at good prices, and if we are able to maintain

a high standard, we will soon be in a position to hold the market.

I want to say a few words in regard to facing a barrel of apples. It should represent the pack of apples contained in the barrel. It is faulty to pack apples poor in quality and then, when the barrel is nearly full, face it with large, handsome fruit. What does the purchaser think when he opens the barrel and finds the apples in that condition? Will he have a desire to order more of the same brand?

This fall, our attention has been called to apples that were considered not packed up to the standard of what they were branded. These cases have been investigated with the purpose of enforcing the Maine Apple Law. It is very important that this law should be upheld as it means a great deal to the Maine orchardist. The apple law says that No. 1, or Class 1, shall consist of well-matured apples of one variety of normal shape and good color for the variety, not less than two and one-quarter inches in diameter.

In some cases of apples inspected, we found quite a percentage of small, undersized apples that did not come up the grade they were marked. Packers have been summoned to a hearing and, in some cases, paid a fine; in other cases, have signed a written promise to pack hereafter in accordance with the law, while a few cases are still pending.

I have seen some fine apples packed in Maine this fall. They were a credit to the grower and to the packer. High grade fruit properly packed and branded is what we want in Maine, so that we will be known, wherever apples are used, as growers and packers of first-class fruit.

The condition of the inside of the barrels has been called to my attention in regard to their not being clean, also to the fact that leaves are mixed in with the apples. Such conditions are violations of the law and must be avoided.

Barrels should be well made, strong and clean. The first impression of the prospective customer counts a great deal in the sale of an article. They are attracted by the appearance of high-colored fruit when properly displayed. Is it not important to have the container attractive in appearance? In most of the commodities that are going to the markets, notice the neat, attractive way they are put up. It is my opinion that,

if apples are good sized, high in color and free from imperfections, so that they would grade up to the Maine law as "Fancy," it would be advisable to pack them in boxes. This fall, the greater part of our apples have been shipped in barrels.

When apples are being packed, if there is any question as to the grade of the fruit, it is better to put the apples into a lower grade, instead of taking a chance of putting them into a higher grade.

In my work of inspection, I have noticed the condition of the apples when they have been pressed too hard into the barrel.

In some cases, they are crushed so badly that they are very unattractive to the would-be purchaser. The crushed apples will not keep well, and, if allowed to remain long in the barrel, the result will be that the sound fruit will become affected and, by the time it reaches the home of the customer or purchaser, will be in a bad condition. In packing, the barrel should be rocked frequently to settle the apples into place, thus preventing slackness in the barrel which usually results in their being bruised or crushed in transportation. Many barrels of apples are packed in cellars where the light is not the best, and, no doubt, apples get by the packers that are not intended for either "Fancy," or "No. 1." If packing is to be done in cellars, they should be well lighted.

As a matter of convenience, cards have been printed for the use of growers who ship only in small lots, and do not have stencils for branding their barrels.

I recommend that better care be taken of our orchards by pruning, cultivating, fertilizing and spraying.

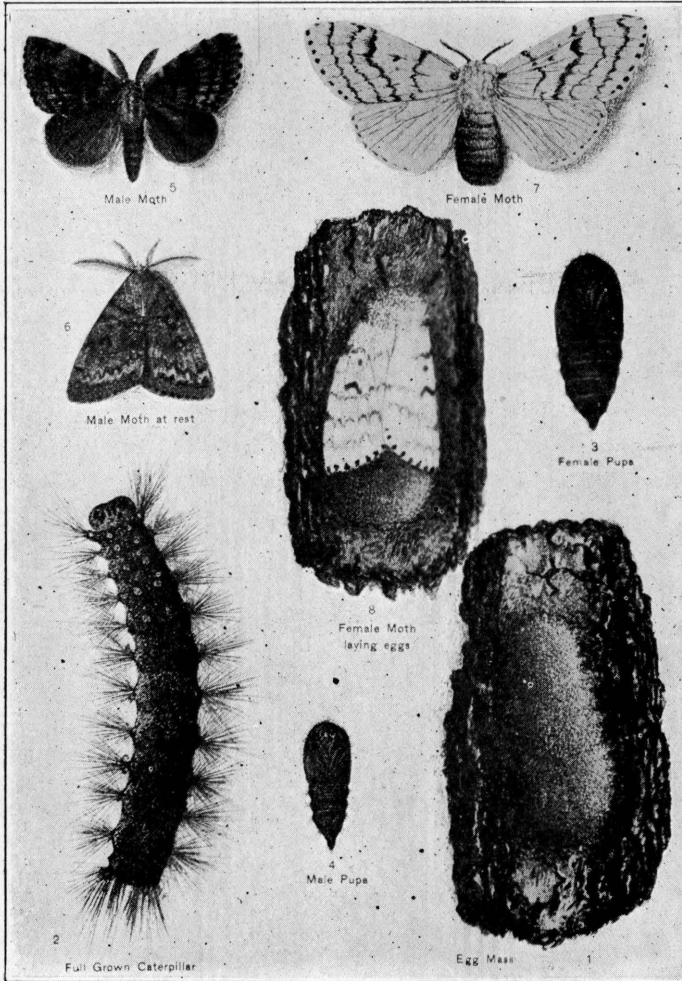
I trust that our efforts will result in a better pack of Maine apples for the future, as then we shall have aided in the development of orcharding, one of Maine's greatest resources.

In closing, I want to thank you for your kind encouragement and excellent advice which has been of great assistance to me in my work in the Department of Agriculture

Respectfully submitted,

S. H. EATON.

Chief of Apple Inspection.



Life History of Gypsy Moth.
 By F. W. Rane, Mass. State Forester.

REPORT OF SPECIAL FIELD AGENT,
GYPSY MOTH WORK.

Hon. John A. Roberts, Commissioner of Agriculture:

I have the honor to herewith submit my annual report as Field Agent, in charge of gypsy moth work for the year 1917.

The following report indicates, in a general way, the work which has been done during the past year. It shows conclusively the amount of protection which other sections of the state are receiving, as a result of the gypsy moth work which is being done in the western part of the state.

A large part of the funds expended in towns and cities has been used for the protection of shade and ornamental trees, it having been found impossible to carry on extensive work in woodlands, owing to the extreme cost of these operations.

The beauty and attractiveness of most towns and cities depend on the trees. These not only make the region attractive and a desirable place in which to live, but also adds money value to the property.

American cities and towns are coming more and more to realize the importance and value of shade trees, and any steps that can be taken for their protection, or to prevent injury from insects, is most desirable.

THE WORK OF THE YEAR.

Owing to the lateness of the appropriation, which caused delay in starting the work in the field, it was impossible to cover more than a small portion of the infested region, but an attempt was made to destroy as many egg clusters as possible in the towns of Kittery, York, Wells, South Berwick, Kennebunk, Saco, Biddeford, Scarborough, Portland, Westbrook, Gerham, Falmouth, South Portland, Lewiston, Auburn, Lisbon Falls, Bath, West Bath, Brunswick, Topsham, Powdoinham,

Bowdoin, Augusta, China, Chelsea, Vassalboro, Waterville, Berwick, North Berwick, Yarmouth and Freeport.

Crews were started on April 1, and the scouting continued until the eggs hatched. As soon as the eggs hatched and caterpillars began to crawl, spraying was begun and continued until the middle of August, with excellent results. In the spraying operations, we used six tons of arsenate of lead, and millions of caterpillars were destroyed.

As soon as the brown-tail moth had pupated, I began the burlapping of the trees. These burlaps were very carefully attended by the men during the caterpillar season: 97,000 trees were burlapped and 988,000 caterpillars were taken from under the burlap bands and destroyed.

During the scouting operations, 1,675,780 egg clusters were found and destroyed in the towns mentioned. In the work, 500 gallons of creosote were used in painting the egg clusters.

From August 25, the men were given a vacation until October 10, when the scouting work was again taken up and is now being carried on, and will continue until the eggs hatch in the spring.

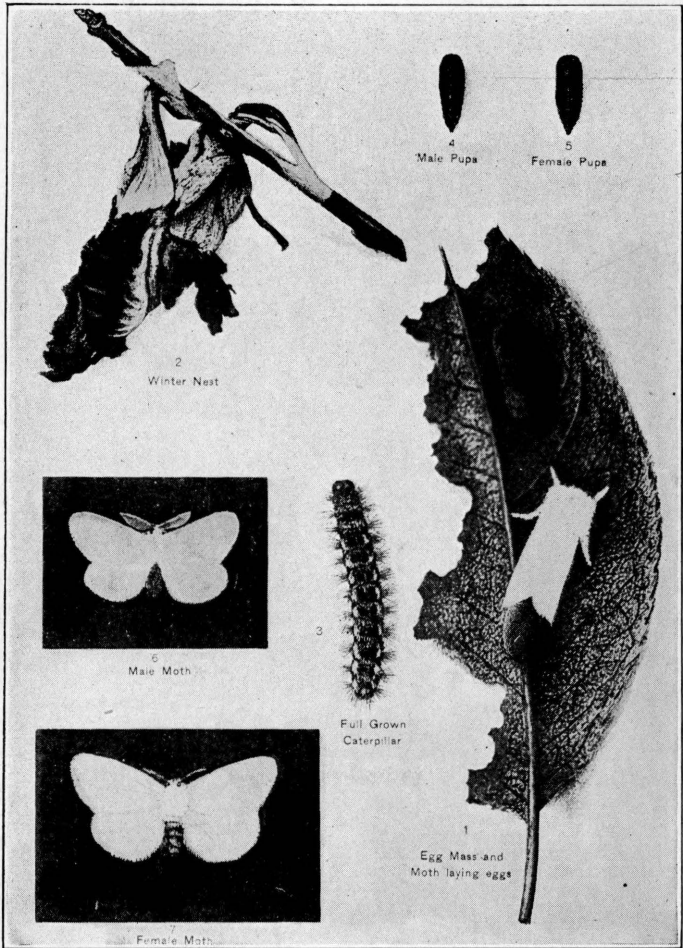
EQUIPMENT.

The state has added to its equipment this year, a Dodge automobile in which I have traveled over 12,000 miles and have been able to cover a great deal of the infested section with gratifying results; also four small power machines for spraying roadsides and low trees. These machines have given perfect satisfaction and we have been able to cover a great deal of territory.

At the present time, we have in the spraying equipment, one 10 horse-power sprayer, four 1 1-2 horse-power sprayers and eight 50-gallon barrel sprayers. In addition to this equipment, many towns have power machines with which they are doing a good work in caring for the street trees in their section.

CORRESPONDENCE.

In addition to the field work, a great deal of correspondence has been carried on by the Field Agent. During the year, 1,200 letters have been received and answered, all of which related to the proper methods of handling the gypsy moth, and many of them reporting new infestations. In such cases, an



Life History of Brown-tail Moth.
By F. W. Rane, Mass. State Forester.

inspector or myself visited the person making such report, with the purpose of educating the party in the proper methods of taking care of the pest. By this method, we have enlisted the support and assistance of a great many people, and I believe this service is the best that can be rendered to our citizens, as it helps them to take care of their shade trees and orchards in the best manner possible. During the past year, I have sent to many granges, and to many of our citizens who have had a desire to know more in detail of the life history of the gypsy moth, colored post cards, illustrating in natural colors and size the various transformations in the life history of the gypsy moth, the brown-tail moth and the Calosoma beetle. These cards have served to clearly set forth the character of each insect. Besides giving their natural color, the cards contained a brief description of each insect.

In the case of the Calosoma beetle, the object of printing the card was to familiarize everyone with the insect, so as to give it protection. It is an insect imported for the purpose of assisting in the destruction of the gypsy moth.

LECTURES.

During the year, I have been called to lecture before several societies such as granges, schools and churches. All of these lectures were illustrated with lantern slides, showing the life history of the gypsy moth, as well as the methods used in the field for the extermination of same.

FINANCIAL STATEMENT.

Appropriation for 1917	\$35,000 00
<i>Expenditures.</i>	
Wages of field force	27,963 38
Travel expenses, Field agent and four inspectors	1,235 17
Supplies for field work	5,530 76
Printing and binding	14 28
Insurance, laboratory buildings, supplies and auto	105 95
Freight and express	53 40
	\$34,902 94
Total expenditures	
Balance unexpended	97 06
	\$35,000 00

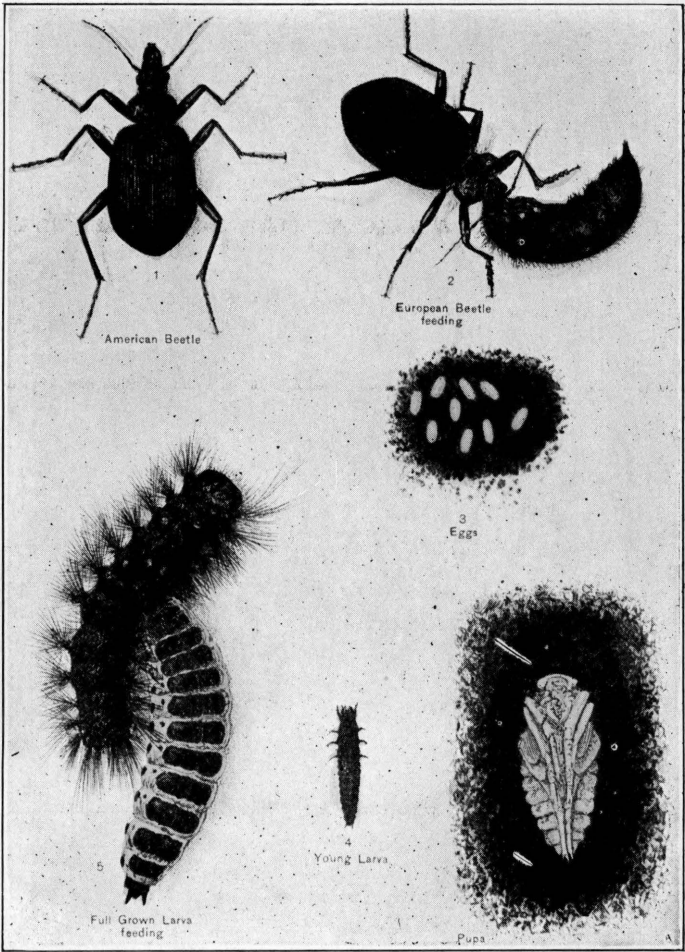
PARASITE WORK.

In the year 1913, the Department established at Portland, a laboratory for breeding parasites. Since that time, a large amount of parasitized material has been received and, as a result, several natural enemies have become firmly established in the state and are assisting in bringing about the control of both the brown-tail and gypsy moths.

The enemies which have become established and are at present destroying the largest number of caterpillars of both species are a beetle (*Calosoma sycophanta*), predatory to both insects. *Apanteles lacteicolor*, a minute four-winged wasplike parasite, which attacks small caterpillars of both species, and the *Compsilura concinnata*, a tachina fly, which is also a parasite of both species and attacks many native injurious caterpillars. Throughout the territory badly infested in the western part of the state, a marked decrease in the number of caterpillars has been noticed during the year. This is due, in a large measure, to the work of the *Calosoma* beetle, and the wilt disease which attacks the caterpillars and causes a heavy mortality among them.

The introduction of parasites of the gypsy moth in this state has been conducted cooperatively with the United States Bureau of Entomology, and this year, at the suggestion of Mr. A. F. Burgess, the agent in charge, the state laboratory was discontinued and arrangements were made for the parasite work to be carried on at the government laboratory at Melrose Highlands, Mass. This was done so that the work could be carried out in a systematic way, for the developing of better methods for the use of all concerned, and to bring about the dispersion of the various parasites over the section infested.

In addition to the work already done by the state, many new colonies of the *Calosoma* beetle and the *Compsilura concinnata* have been established by the United States Bureau of Entomology, as well as the introduction of a new egg parasite (*Anastatus bifasciatus*). Several hundred colonies of this parasite have been planted in the infested section and are a valuable addition to the enemies of the gypsy moth already established.



Calosoma Sycophanta, Life History.
By F. W. Rane, Mass. State Forester.

GENERAL.

No one need fear retarding or interfering with these parasites by general extermination of their hosts in orchards, as the sites selected for the colonization of the parasites have been selected in sections where the moth colonies will afford abundant food for their support until they become strong and well established.

From the information obtained as to dispersing, the results of the season's work have been most encouraging, and it will be the policy to breed and distribute parasites more extensively the coming season.

ACKNOWLEDGMENTS.

I am pleased at this time to acknowledge the help and advice relative to parasite work received from the government agent, A. F. Burgess, which has been freely sought and as freely given. To the Chief Inspector, M. H. McIntyre, as well as the foremen and members of the force, I am glad to acknowledge my obligations for their loyalty to the Department, and their efficiency, to which in no small measure is due whatever success may be obtained in the work. And to you, Mr. Roberts, allow me to express at this time my sincere thanks for your kind cooperation in all matters pertaining to the work.

CONCLUSION.

Infestation by the brown-tail moth is less severe than it has been for several years. A great reduction of winter webs have been noted by the field forces, and, if natural enemies continue as effectively as they are at present, this insect can be controlled with small expense.

The gypsy moth infestations have been reduced during the past year. The territory infested remains about the same, and the improved methods which have been employed have shown good results.

At the present time in Maine, there are infested with the gypsy moth, seven thousand six hundred and fourteen square miles, and sixteen thousand seven hundred and eight square miles with the brown-tail moth.

EDWARD E. PHILBROOK,

Special Field Agent.

REPORT OF DEPUTY STATE SEALER OF WEIGHTS AND MEASURES.

To Hon. John A. Roberts, Commissioner of Agriculture:

As Deputy State Sealer of Weights and Measures, I respectfully submit to you the fifth annual report of the work done by this Department.

At the last session of the legislature there were quite a few amendments to the weights and measures law which, I think, were very beneficial to the local sealers. One was, that they were not subject to removal every time a new board of municipal officers came into power. Therefore, I think they will take more interest in their work.

The past year I have been able to visit more towns than ever before on account of having automobiles in the Department, whereby we could reach the smaller towns. I have found that the local sealers, as a rule, have attended to their duties, and that those who have held the office of sealer for two or three years are doing good work.

It is hoped that the time will soon come when the fee system will be done away with and the sealers paid by the cities and towns, a salary equivalent to the amount of fees they would receive. Then they will feel at liberty to visit all places where scales and measures are used, whenever they may see fit to do so. As it is now, the public feels that after having paid for testing once a year, it should not be called upon the second time. The public is not to blame, either, since this makes a double tax. Where it pays its city or town tax, it should be entitled to have the work done free.

I would recommend that all dry measures be abolished and all commodities be bought and sold by weight.

In September, I attended a meeting of the State Sealers of New York, which was very instructive in many ways, one of

which was in regard to the weight of a loaf of bread which, I have always contended, should be not less than sixteen ounces for a whole loaf, eight ounces for a half loaf and thirty-two ounces for a double loaf, and that all bread put on the market should be wrapped, except tea rolls, biscuits and fancy loaves.

Late in the summer, in taking up the matter with you, I concluded to have a meeting of the local sealers in this state. It was decided that October 31 would be a good time for the meeting, therefore, notices were sent to the local sealers to that effect. Arrangements were made for the meeting, but some of the speakers who were expected to attend were unable to be present. We were very fortunate in having with us F. S. Holbrook, of the National Bureau of Standards, Washington D. C.; John C. Connors, of the W. & L. E. Gurley Co., Troy, N. Y.; Daniel J. Moynihan, of the Moneyweight Scale Co.; Daniel C. Palmer, of the Standard Scale Co.; A. P. Wells, of the Detroit Scale Co. The remarks made by these gentlemen are included in our report. Mr. Connors gave a demonstration to the local sealers in regard to the manner of testing scales, which was very much appreciated.

At this meeting the local sealers perfected their organization known as the Maine State Sealers Association and elected officers for the coming year, as follows:

D. J. MOONEY,	<i>President.</i>
CHARLES J. JACK,	<i>Vice-President.</i>
ALICE M. MURPHY,	<i>Secretary.</i>
A. VANDENKERCKHOVEN,	<i>Treasurer.</i>

Among other activities was the investigation of the coal situation in Portland, with particular reference to the sale of this commodity in small quantities. Such investigation showed that conditions existed which needed remedying. By a consistent weighing of several bags which were claimed to weigh eighteen pounds each, it was revealed that in several instances they were short in weight. The necessary evidence having been obtained, Frederick L. Small, owner of the Eureka Fuel Company, was brought before the municipal court, charged with violating Section 24, Chapter 48, of the Revised Statutes, with the result that a plea of "guilty" was entered and a fine of twenty-five dollars and costs imposed by the court. This coal

was being retailed by the storekeepers for eighteen cents per bag, or at the rate of twenty dollars a ton to the poorer class of citizens who were not in financial circumstances to purchase otherwise. We think the penalty was just.

In connection with the report of this office, you will find a tabulated report from local sealers, representing four hundred and three towns. This gives, I think, valuable information in regard to the good work which they are performing.

In conclusion, I wish to thank the Governor and Council for the many courtesies extended me, and you, especially I wish to thank for your good advice and hearty cooperation in all matters pertaining to this office.

Respectfully submitted,

LEVI S. PENNELL,

State Deputy Sealer.

SUMMARY.

COUNTIES	NUMBER TESTED.								NUMBER CONDEMNED.								ADJUSTED.		
	Scales.	Weights.	Dry measures.	Liquid measures.	Yard sticks.	Automatic pumps.	Milk jars.	Milk cans.	Other measures tested.	Scales.	Weights.	Dry measures.	Liquid measures.	Yard sticks.	Automatic pumps.	Milk jars.	Automatic pumps.	Scales.	Weights.
Androscoggin Co.....	1,294	1,517	140	305	30	138	1,464	-	-	28	6	6	12	-	1	18	6	-	-
Aroostook Co.....	1,218	1,405	96	458	142	292	1,209	-	-	36	6	2	26	17	13	43	-	-	-
Cumberland Co.....	2,779	4,051	271	819	102	187	55	277	3 coal baskets	148	24	9	20	10	3	4	-	-	8
Franklin Co.....	445	395	33	164	63	88	43	-	-	5	-	1	3	5	-	-	-	-	-
Hancock Co.....	749	890	188	577	61	157	140	-	60 coal baskets	14	1	1	12	10	9	-	-	6	-
Kennebec Co.....	1,027	1,813	137	423	69	165	4	-	-	29	31	7	2	3	4	-	-	-	-
Knox Co.....	684	1,442	197	445	93	112	746	-	-	9	5	5	6	3	1	2	-	-	-
Lincoln Co.....	440	804	54	197	65	71	20	-	-	6	2	1	2	3	2	-	-	-	20
Oxford Co.....	759	465	107	336	55	171	501	-	-	2	4	1	4	2	1	-	-	-	5
Penobscot Co.....	1,241	2,540	544	323	118	276	-	-	-	28	9	10	2	2	4	-	-	4	-
Piscataquis Co.....	329	641	33	127	48	67	100	-	-	4	4	3	4	3	3	12	-	-	-
Sagadahoc Co.....	282	544	139	212	11	7	430	-	-	26	3	1	4	3	-	-	-	-	-
Somerset Co.....	696	1,169	113	235	59	112	1	-	-	22	12	5	15	5	2	1	3	-	88
Waldo Co.....	440	619	29	235	22	114	-	-	-	2	7	-	1	1	-	-	-	-	-
Washington Co.....	712	1,034	303	447	70	143	-	-	-	15	-	3	1	2	-	-	-	-	-
York Co.....	1,326	2,664	332	334	103	267	8,600	-	-	11	1	6	-	2	-	-	-	-	-
	14,421	21,993	2,716	5,637	1,111	2,367	13,313	277	63 coal baskets	391	121	61	126	73	52	80	16	10	121

REPORT OF CHIEF OF BUREAU OF ANIMAL INDUSTRY.

To Hon. John A. Roberts, Commissioner of Agriculture:

I herewith present my first annual report as Chief of the Bureau of Animal Industry.

By an act of the last legislature, the Bureau of Animal Industry was established and the office of the State Dairy Instructor was abolished, thus broadening the scope of this Department to include not only dairy, but beef cattle, sheep, swine and poultry. This was a much-needed change and will, I believe, be a means whereby much can be accomplished to aid and improve the livestock upon the farms of Maine.

THE WORK OF THIS BUREAU THE PAST YEAR.

About a year ago there was started an organization of milk producers in the Eastern states called the New England Milk Producers' Association. This movement came none too soon to save the dairy business, not only of Maine, but of New England.

This Department has given every assistance possible, from the first, to this movement, believing that there was nothing we could do of more vital importance to the dairy interests of the state, and the results thus far obtained warrant our continuing to cooperate with the New England Milk Producers' Association until the slogan, "better prices for better milk," shall have been heard and heeded by every dairyman in Maine.

We have now 126 locals of this association with about 3,000 members. With the constantly increasing price of concentrated dairy feed and the scarcity and high price of farm labor, it has been a constant fight, even in organized form, to increase the price of milk to correspond. Without this concentration of

effort along this line, I have no doubt the dairy business would have been in a bad way long before this. But, thanks to the work that has been done by the Milk Producers' Association and this Department, the outlook for dairying is very good, in spite of the high prices of cows, feed and labor.

THE COST OF PRODUCING MILK.

Last June, the Boston Chamber of Commerce asked the various states of New England, through their Public Safety Committee, to finance a survey to ascertain the cost of producing milk. The request was granted by our Governor and, with the cooperation of the University of Maine and the assistance of the Horticultural Department, this survey was made.

The figures thus obtained from the several states have proved of far-reaching benefit and has shown, as nothing else could, how unprofitable the dairy business really was. Many farmers were very much surprised at the showing, not having taken all the items involved into the cost of milk. In this case all labor was accounted for, even if performed by the hired man, the owner, the son, or even the wife of the owner. Horse labor, taxes, interest on investment, depreciation of stock and equipment, pasture costs, building costs and miscellaneous costs, as well as feed, were all taken into consideration.

The period covered by this survey was one year, from May 1, 1916 to April 30, 1917, and was completed before prices had reached their maximum. Thirteen counties were included in this survey and from seven to 43 herds taken in each county, according to the importance of the dairy business in that county. The report was made from records from 2,563 cows on 220 farms, the average number of cows in each herd being 12. This survey represents conditions on the larger farms, as 12 cows is considerably above the average on all the farms of Maine. This survey also shows the average production to have been 5,244 pounds of milk; and it cost to produce this milk, .058 cents, while the average price received was .0466 cents, or a loss of .0114 cents on every quart, or an average loss of \$27.96 per cow. These figures should be carefully considered by not only the producer but the dealer and the consumer.

VARIATIONS OF THE BABCOCK TEST.

During the spring and summer, there developed among the dairymen of the state a great deal of dissatisfaction over the butter-fat test on milk and cream, as returned by the various creameries in the state. So many complaints came to this office that we decided, if possible, to determine how far these complaints were justified.

On July 1, Brooks Brown, State Dairy Inspector, took on thirteen patrons of one of our larger creamery companies, going either to their farm or place of shipment each day their milk was shipped and carefully poured several times each can of milk or cream and then took a sample with a small dipper. Preservatives were used in each bottle and a composite sample thus obtained was sent to the Maine Experiment Station for analysis for butter-fat. This was done for the full fifteen-day period, from July 1 to 15, inclusive. The result of this work is shown in the following table, which appeared in Bulletin Number 3 of this Department, last September :

TABLE NUMBER ONE.

	Orono Test	Creamery Test	Difference Creamery	
No. 1	5.0	4.6	.4	Less
No. 2	4.6	4.2	.4	Less
No. 3	4.2	3.8	.4	Less
No. 4	2.9	3.0	.1	More
No. 5	4.2	3.7	.5	Less
No. 6	3.2	4.0	.8	More
No. 7	4.3	3.8	.5	Less
No. 8	5.2	5.5	.3	More
No. 9	4.3	3.9	.4	Less
No. 10	4.7	4.5	.2	Less
No. 11	14.4	12.0	2.4	Less
No. 12	15.0	14.6	.4	Less
No. 13	6.2	5.5	.7	Less

This shows a wide variation between the creamery test and the Experiment Station test—so much so that it caused wide-spread comment. At that time it was impossible for Mr. Brown to leave his regular inspection work and continue

taking these samples, for it required one's whole time for the entire half-month period. On October 1, I secured the services of a competent man who was recommended by the University of Maine. He worked a month and a half, taking three sections among patrons of three different creamery companies. The result of this survey is shown in the following tables:

TABLE NUMBER TWO.

	Orono Test	Creamery Test	Difference Creamery	
No. 1	3.516	3.4	.116	Less
No. 2	4.23	3.8	.43	Less
No. 3	4.0	4.0		
No. 4	5.1	4.7	.4	Less
No. 5	3.45	3.4	.05	Less
No. 6	4.05	4.1	.05	More
No. 7	3.22	3.3	.08	More
No. 8	3.9	3.7	.2	Less
No. 9	4.166	3.8	.366	Less
No. 10	3.75	3.7	.05	Less
No. 11	3.95	3.7	.25	Less
No. 12	3.77	3.7	.07	Less
No. 13	3.42	3.6	.18	More
No. 14	4.35	3.9	.45	Less
No. 15	3.833	3.5	.333	Less
No. 16	4.1	3.8	.3	Less
No. 17	3.8	3.3	.5	Less
No. 18	4.25	4.0	.25	Less

TABLE NUMBER THREE

	Orono Test	Creamery Test	Difference Creamery	
No. 1	4.35	4.2	.15	Less
No. 2	5.2	5.3	.1	More
No. 3	5.6	5.3	.3	Less
No. 4	4.3	4.3		
No. 5	4.6	4.6		
No. 6	5.3	5.1	.2	Less

No. 7	4.525	4.4	.125	Less
No. 8	4.2	4.4	.2	More
No. 9	5.3	5.1	.2	Less
No. 10	5.95	4.6	.35	Less
No. 11	4.575	4.6	.025	More
No. 12	4.125	4.3	.175	More
No. 13	4.5	4.45	.05	More
No. 14	4.8	4.8		
No. 15	5.5	5.3	.2	Less
No. 16	5.4	5.3	.1	Less
No. 17	4.8	4.6	.2	Less
No. 18	4.85	4.6	.25	Less
No. 19	4.8	4.6	.2	Less
No. 20	20.5	19.6	.9	Less

TABLE NUMBER FOUR.

	Orono Test	Creamery Test	Difference Creamery	
No. 1	4.6	4.4	.2	Less
No. 2	4.6	4.6		
No. 3	4.55	4.3	.25	Less
No. 4	4.1	4.0	.1	Less
No. 5	4.4	4.4		
No. 6	4.6	4.6		
No. 7	4.45	4.4	.05	Less
No. 8	4.3	4.2	.1	Less
No. 9	4.5	4.2	.3	Less
No. 10	3.77	3.6	.17	Less
No. 11	4.85	4.9	.05	More
No. 12	4.8	4.6	.2	Less
No. 13	3.6	3.6		
No. 14	4.7	4.3	.4	Less
No. 15	20.9	18.2	2.7	Less
No. 16	5.4	4.6	.8	Less
No. 17	4.4	4.2	.2	Less
No. 18	5.4	5.0	.4	Less
No. 19	4.6	4.3	.3	Less
No. 20	4.8	4.8		

The later samples show much less variation than those taken last July, and, in many instances, do not show a greater variation than we would naturally expect. A few samples, however, still show a considerable difference between the creamery and the Experiment Station test. We believe our work along this line has been of great benefit, since it has furnished a comparison that could not be questioned. We believe the creamery men are trying to sample and test correctly, but in the rush of receiving at the stations, carelessness is often reported and, I believe, it will be a good idea in the future for this Department to continue this work occasionally.

COW TEST ASSOCIATIONS.

The work of the cow test associations in the state has not progressed as well as it should on account of the shortage of competent men to conduct them. There are two, the Central Penobscot and the Waterville Dairy Testing Associations, that are in a thriving condition. There are others that are already to do business but are unable to find a tester.

MEETINGS ATTENDED.

I have personally attended over ninety meetings since I came into the Department on March 1, and many requests have had to be refused. The need and opportunity for effective work is great along animal industry lines and, in these times of war, should receive every assistance possible.

Respectfully submitted,

H. M. TUCKER,
Chief, Bureau of Animal Industry.

REPORT OF CHIEF OF BUREAU OF MARKETS.

To Hon. John A. Roberts, Commissioner of Agriculture:

I herewith present my first annual report as Chief of the Bureau of Markets.

The first eight months of the year, I was Chief of the Bureau of Animal Industry and, as H. M. Tucker, who is now Chief of that Bureau, was Assistant during that time and is familiar with the work of the Bureau, he will make a detailed report of the activities of that Bureau for the past year, while I will confine my report to the Bureau of Markets.

The Bureau of Markets was established by the legislature in 1917, by the following act:

“The Commissioner of Agriculture is hereby authorized to expend the sum of three thousand five hundred dollars annually hereafter, in the study of methods and cost of marketing farm products and purchasing farm supplies by employing agents and experts who shall work in conjunction with the Farmers’ Union of Maine, the Fruit Growers’ Association and other farm organizations.”

The Bureau of Markets was, in a way, the outcome of the growth of the Farmers’ Union of Maine, and the success of the Farmers’ Union has fully justified the act.

The Farmers’ Union was started in the winter of 1911-12. In June, 1912, the Central Organization was established for the purpose of selling farm produce and buying supplies for the farmers. The organization at that time was weak, financially. Doing a small business, it was found difficult to buy from the wholesale jobbers, having no money to hire a manager. In the winter of 1913, through the efforts of the friends of the Union, the legislature passed an act creating the Bureau of Markets, an appropriation to pay the salary and expenses of

the Chief of the Bureau, who, at that time, was the Manager of the Farmers' Union and that occupied nearly all his time.

The Farmers' Union has had a strong, healthy growth, unparalleled in the history of farmers' organizations in Maine. It has risen from a few straggling organizations in 1912, scattered over the state, to an organization of one hundred six locals with a membership of about six thousand.

The Union is now well financed and able to pay the manager. This gives the head of the Bureau of Markets time for other activities.

When I became Chief of this Bureau, September 1, it was in the middle of the harvest season in this country. Believing that the matter of most importance at that time was to get information in relation to the production and markets of Maine's principal commercial crops, viz., potatoes, apples and hay, to obtain this information I sent letters of inquiry to the Departments of Agriculture in all the states, getting their estimates of these crops, and the market prices in the several cities of these states. This information I gave to the public through the press, and circular letters to the different farmers' organizations, also conditions and prices of livestock from sections of the country where there is a shortage of hay. This practice we are going to follow in the future, trying to get all the information possible in relation to markets and prices.

We also send to the papers once a week, an abridged market report from the Daily Market News Letter, of the market crop produced in this state.

As the act of the legislature in creating this Bureau makes it the duty of the Chief to work in conjunction with the Farmers' Union, the Fruit Growers' Association and other farm organizations, I wish to speak of these organizations somewhat in detail.

We have now, in Maine, the Farmers' Union, the Fruit Growers' Exchange, the New England Milk Producers' Association and several successful grange stores. The Farmers' Union has been a success from the start in handling farm supplies, and has proven a great saving to its members, the business done in grain alone last year amounting to over one million dollars. A saving of ten per cent would amount to one hundred thousand dollars. Other farm supplies that the Union

is handling are fertilizers, insecticides, fungicides, sugar, seeds, silos, ensilage cutters, paints and oils, and the directors have recently made a deal with a wholesale grocery firm to furnish the Unions with groceries at wholesale, and the Central Association has employed a man who will give his whole time to this business. The Union has also established a distributing office in Boston, to handle farm produce, and the office seems to be doing a good business.

The Fruit Growers' Association is an organization to market apples. It consists of twenty locals and a prospect that several more will be organized this winter. There is also a Central Organization called the Fruit Growers' Exchange. Some of these associations have been very successful in selling the products of its members. One of the strong features that has made these organizations successful has been a well-developed system of standardizing, grading and establishing a market brand which insures uniformity of quality, and means a standard that will be understood readily by both producer and consumer. When it comes to each individual grading and packing his own fruit, you will have almost as many standards and grades as there are individual growers. Cooperation is absolutely necessary to bring about uniformity in grading and packing. This uniformity gives the buyer confidence in a certain brand and insures a good market.

The act of the legislature creating this office speaks of the Farmers' Union, the Fruit Growers' Association and other farm organizations. One farm organization that has come into existence since this act was passed is probably the largest farmers' organization in New England,—the Milk Producers' Association, not yet a year old. Its first year has certainly been a busy one and enters upon the new year with a great record of accomplishments.

Previous to the organization of the New England Milk Producers' Association, no farm product was sold under such a system of disorganization, or, I might say, lack of system, as dairy products, some of the contractors having as many as eight or ten different methods and prices, using whatever method seemed to their advantage in the different localities. Through the efforts of this Association the business has been standardized as much as is possible at the present time. Through the

publicity bureau, a campaign has been started to educate the consuming public on the value of milk as a food, whereby the price has been increased more than seventy-five per cent.

Whether these organizations are going to be a success depends entirely on the farmers of Maine. We have been waiting for somebody to do these things for us. We have been saying, "Why do they not do certain things?" The time has come to change that and say, "Why do we not do these things?" and see that they are done. This means, give these organizations our hearty support, financially, and every other way. Many farmers' organizations have failed for not being well financed. The New England Milk Producers' Association is starting on a new year and a new method of dues. See to it that you who are members sign the agreement for your dues. There is nothing that makes for success like an association well financed.

As Chief of the Bureau of Markets, I shall do all I can to assist the organizations that already exist, and help organize new ones in localities where they seem to be needed. I do not believe that we, as farmers, need any business organization of a new name or purpose. The organizations that already exist are broad enough in their form of organization and declaration of purposes to do most any commendable thing to assist the farmers of Maine in selling their products or buying their supplies. Let us give the organizations that already exist our best efforts instead of forming new ones.

The buying of farm supplies is a much more simple undertaking than the selling of farm products, because the trade is much more willing to exchange goods for money than it is to part with money for goods. This trouble cannot be entirely solved by a combination of farmers, because it is not altogether an agricultural question. If some of the economic waste between the producer and consumer is to be eliminated, the consumer must help. This means some form of a consumers' organization to buy the product that the farmer offers for sale through his Association.

I think that the Bureau of Markets should work the hardest on the selling end, as this seems to be the weak link in the chain of organizations. With this end in view, I am trying to get all the information possible in relation to the farmers' organizations in this country, and then apply it to Maine conditions as

much as possible. I want to give what I believe to be a few general principles which will apply to farmers organizations under all conditions.

The trouble with marketing farm products is, that, until recently, although efforts have been given to increase production, no attention has been given to the distribution and selling of the products. Cooperation along right principles seems to be the remedy for this.

First. There should be an agreement setting forth the relation between the members and Association. This agreement is sometimes provided for by a signature to a by-law as a contract between the members or by a written contract between each member and the organization. Without such an agreement the organization lacks stability.

Second. Farm products should be graded in accordance with a specified standard. The manager should be employed by the board of directors. He should give bonds with a Surety Company equal to the stock in trade. He should secure all the information possible as to crops and market conditions. He should have in charge the grading, packing and labeling of the products of the members, and should have control of the brands and labels. He should have charge of the marketing of all the products that the members of the Association have for sale. In short, it needs the best man who can be secured. On this, more than any other one thing, depends the success of the organization. In order to secure and retain the services of a first-class man, the directors of the Association must be willing to pay a good salary for the efficient service rendered.

Third. If the organization is a stock company and operated for profit, after the expenses are paid and a proper sum set aside for the depreciation of the property belonging to the Association, the balance of the season's profit may be divided as follows: (1) The stockholders should receive interest on the par value of the stock, usually six per cent. (2) One-half the balance should be set aside to increase the working capital, or to finance future improvements. (3) The balance divided among the members in proportion to the value of purchases or shipments. Profits divided on this basis rather than on the amount of capital invested. In this respect, cooperative associations differ from ordinary business investments.

Fourth. Duties of members, all things necessary to the success of a cooperative enterprise. The cooperation of its members is most essential. The disloyal member is one of the chief elements of failure in cooperative organizations. The best safeguard is to have the members bound by a contract to deliver his output to the association in compliance with the rules and regulations, or, if he fails to do so, to pay a certain sum in lieu of liquidated damages and forfeit his interest in the Association. For failure to do so, this contract will practically eliminate those who would not be loyal.

Fifth. One of the most serious problems is that of financing these cooperative associations. None of these organizations has a paid-in capital stock sufficient to meet the expenses of the business, and it is almost impossible for cooperative marketing associations to secure loans without certain of the directors and members assuming a personal liability. Keep the stock in trade well insured and the manager and treasurer under bonds, using part of the profits every year for a working capital, so that the associations will have capital enough later for their business, and then release the directors and members of the responsibility of this personal liability.

In conclusion, I wish to say that the road to successful cooperation of selling farm products seems to be a long, hard one, but I feel encouraged by the success that has been achieved here in Maine during the past two or three years.

I have attended, during the year, as a speaker, 16 Grange meetings, with an average attendance of 98; 24 dairy meetings, with an average attendance of 40; 14 Market Institutes, with an average attendance of 36; 9 Farmers' Unions, with an average attendance of 50; 17 Livestock Breeders' Associations, with an average attendance of 26; other meetings, 6, with an average attendance of 164.

I have also been on the Committee of Food Production and Conservation, giving considerable time to the work, attending 24 meetings devoted to this, and intend to do everything possible to assist until the end of the war.

Respectfully submitted,

FRANK S. ADAMS,
Chief, Bureau of Markets.

REPORT OF THE CHIEF OF THE BUREAU OF
INSPECTION ON THE ENFORCEMENT OF THE
PURE FOOD LAW.

To the Hon. John A. Roberts, Commissioner of Agriculture:

I respectfully submit to you my report of the work covered by the Bureau of Inspection for the year 1917.

In general, the work of the Bureau consisted in the enforcement of the law as outlined in Chapter 36, Revised Statutes of 1916, regulating the sale of the following commodities: Agricultural seeds, commercial feeding stuffs, commercial fertilizers, drugs, foods, fungicides and insecticides; also, in the enforcement of the net weight law, thus preventing, as far as possible, adulteration and misbranding, and rendering considerable protection to the consumer. As outlined by the statute, the other duties of the Bureau included the annual registration of commercial feeding stuffs, commercial fertilizers, fungicides and insecticides, by collecting and filing manufacturers' certificates at this Department, and receiving and accounting for the registration fee for each and every brand of the above mentioned commodities coming under the registration requirements; all necessitating considerable correspondence.

The activities, begun in 1916, along new lines of food-factory inspection, were continued with special reference to sardine factories, corn canning factories and, in fact, any concern where food was canned or manufactured for sale. Early in the year, through the cooperation of the federal Bureau of Animal Industry, a rather complete and elaborate inspection was made of practically all the slaughter-houses in the state and, during the whole period of inspection work, the finest kind of support was received from the federal Department.

The work along food lines was particularly active, every endeavor having been made to successfully cooperate with the federal Bureau of Chemistry, the College of Agriculture, the College Extension Work and, since its inauguration, the Food

Administration. As was the experience in numerous other states, and of the authorities at Washington charged with the enforcement of the pure food law, it was found that the work of inspection demanded considerable attention inasmuch as (because of the high prices and disturbed conditions) the temptation to adulterate and substitute for financial reasons was great; in order to check this, and to act in behalf of the consumer, an especially vigilant watch was kept on all food products. Early in the spring, the fertilizer, seeds, and insecticide inspection was carried on and numerous samples were taken; feeding stuffs inspection was also begun and continued for about half the year, while a regular general inspection was conducted continuously in the larger cities where, owing to the changes in ownership in some establishments, and the advent of new industries, such inspection was deemed necessary.

In spite of the disturbed conditions and the chaotic state of our food supply, it is a pleasure to report that in general the rules and regulations, made under the authority of the statute, were accepted without controversy on the part of the dealers or manufacturers whose products came within the requirements of the law.

Without attempting to enumerate or name separately the cities and towns visited and inspected, the number, and population embraced by such places, may be of interest and present some idea regarding the scope of the work and the people profiting thereby:

Number of cities and towns inspected	264
Total population	631,075

SEED INSPECTION

In order to cover the state and collect samples of agricultural seeds during the season of 1917, three inspectors were employed especially for the purpose, while other inspectors, whose duty it was to look after other particular lines of work, were instructed to report violations of the law with regard to agricultural seeds; thus a rather complete inspection was maintained. The results of the analyses of the samples, as a rule, were satisfactory. As in previous years, it was found that most of the dealers were thoroughly acquainted with the regulations

regarding the sale of such seeds as timothy, red top and clover, but very uncertain as to the regulations relative to dispensing seed oats, barley and corn, which, under the statute providing for their regulation, come within the requirements of the law necessitating a statement as to their percentage of purity.

Number of towns inspected	139
Number of samples	276
Number of hearings arranged	3

FEEDING STUFFS

The feeding stuffs inspection for the year 1917 was carried on rather actively with the exception of two months, namely, July and August, at which time there are usually but few feeds on the market.

The work was attended, in most instances, by the usual fine spirit of cooperation on the part of the manufacturers and dealers.

One inspector, detailed particularly for the purpose, was engaged in the collection of samples and was also on the lookout for unregistered brands and, in almost every instance, matters pertaining to the registration of feeding stuffs were adjusted without the necessity of formal hearings.

A special endeavor was made, by means of correspondence with the dealers, to secure samples, particularly samples of cottonseed meals, in order to gain a more complete index as to the nature of the products they were dispensing.

Working under a collaborating official's commission for the federal Department, this Bureau enjoyed the finest kind of cooperation with the federal Bureau of Chemistry, which added greatly to the efficiency of the inspection work.

In the administration and enforcement of the law, an attempt was made to realize fully the delicate and difficult situation which the handlers of grain, and the feed manufacturers, have had to face during the last eight months, at least, on account of the world's war, and to offer to them every possible assistance in the conduct of their business.

A rather larger number of samples was collected than ever before and, in most cases, the results of the analyses have shown the products to be in conformity with the guarantees.

One unpleasant occurrence during the season was regretted: It became necessary to recommend seizure proceedings on three carloads of cottonseed meal and this, together with the recommendations for twelve interstate cases, marked the activities of our collaborating work with the federal Bureau.

The following table outlines the work as to the number of samples collected, hearings arranged, prosecutions recommended, etc.:

Brands of feeding stuffs registered	538
Samples taken	651
Hearings arranged	57
Interstate cases recommended	12
Seizures	3

FERTILIZER INSPECTION

For the fertilizer inspection, four special inspectors were employed. Samples were obtained according to the usual approved directions—such directions having been published in previous reports of this Bureau. The inspectors were instructed to obtain samples not only from storehouses and agents but, as far as possible without too great expense, to take samples from goods in the hands of individual farmers; and whenever a request for sampling was received, such request was honored and received our prompt attention and investigation. All samples thus obtained were marked with the inspector's number and sent to the laboratory without information as to the name of brand, the manufacturers, or the guaranteed analysis and not until the report of the analysis was received at this Department, were any data of this nature indicated to the Experiment Station.

Owing to the lateness of the receipt of the reports of analyses, there still remain some unsettled cases and, as in the previous year, the marked deficiency seemed to be in the available phosphoric acid. The companies manufacturing the goods from which such samples were obtained have been, or will be, asked to explain such variations.

The investigation of the fertilizer situation and the interpretation of the analyses of fertilizer samples during the past season were most interesting. Realizing that fertilizing ingredi-

ents were secured from many different sources, and under more varied conditions than existed before the war, in the adjustment of fertilizer cases we have asked the manufacturers to tell us what their source of nitrogen has been; the information thus gained has tended to influence us somewhat in making adjustments.

One particularly gratifying feature noted in the course of our fertilizer inspection work during the past year was the increase in correspondents' samples received at the Department. Under the statute, any person within the state may send to the Commissioner of Agriculture, for the purpose of analysis, samples of commercial fertilizers sold or offered for sale within the state, providing said samples have been drawn exactly in accord with the printed directions distributed by the Bureau of Inspection and are submitted to this office accompanied by a certified statement, signed by a witness, to the effect that the samples have been taken as provided by the regulations, and also an analysis fee of ten dollars for each sample submitted. When a sample is received under the above conditions, it is immediately forwarded to the Experiment Station and not until the report of analysis has been returned to the correspondent do we know the name of the brand, the manufacturers, or the guaranteed analysis; when this information has been received at the Bureau of Inspection, the results of the examination are checked with the guaranteed analysis on the package and in the manufacturer's certificate, and, if the analysis made by the Experiment Station is deemed of public importance, the fee is returned to the person who sent the sample. Such action is then taken under the law as may be deemed necessary by the Bureau. The custom of sending in correspondents' samples is doing more than any other one thing to inspire confidence on the part of the farmers, and it is hoped the practice may be continued.

Number of brands registered	328
Number of towns inspected	66
Number of samples drawn	594
Hearings arranged	29

FUNGICIDES AND INSECTICIDES INSPECTION

Special work on the inspection of fungicides and insecticides was conducted during two of the spring months, for the purpose of collecting such samples as were deemed necessary to determine the quality of the products sold, with particular reference to those used in the production of crops, such as Bordeaux mixture, arsenate of lead, lime sulphur solution, Paris green, etc. No attempt was made, however, owing to the increased cost of insecticide materials, to make an extensive collection of samples other than of those products used for repelling insect pests infesting garden crops.

It was also the duty of the inspector to collect information regarding unregistered brands and, without the formality of hearings, it was called by letter to the attention of violators that they were selling unlegalized products and the desired end thus accomplished, namely, the registration of the brands in question.

Again, as has been previously reported, the recommendation is made that, along with the analyses of samples collected, it seems desirable that some check work be done, either by the Department of Agriculture or the Experiment Station, in order to determine by practical application the actual value of fungicides and insecticides as to their worth and merit for assistance in the production of crops or for repelling or mitigating the attacks of insects.

Number of brands registered	256
Towns inspected	79
Samples collected	30
Hearings arranged	38

DRUG INSPECTION

Rather complete inspection work was performed during the past season and practically every drug store was visited by an inspector who was assigned this particular line of investigation. Fortunately, we were able to secure the services of a registered pharmacist who, benefitting by a number of years of practical experience, was well qualified to perform such inspection work; his work consisted not only in the inspection of drug stores and the collection of samples, but—working along educational lines

—he marked and reported the conditions and general sanitation of soda fountains when found in drug stores, noting in particular the condition of glasses, utensils, and employees. This inspection was also extended to stores other than drug stores, where ice cream and soda were dispensed and, during the latter part of the season a collection of drug samples was made, including some of the easier manufactured drugs such as Sweet Spirit of Nitre, Spirit of Camphor, etc. For the first time in a number of years, a rather complete collection was made of the different headache powders offered for sale throughout the state. The reports of analyses on these samples have not been fully completed at the present writing.

Taking into consideration the multiplicity of regulations and the inspections that druggists have to undergo, owing to difficult regulations emanating from the Department of Internal Revenue, and numerous war measures, it is a pleasure to report that our relations with the druggists were cordial and a spirit of cooperation was continually in evidence.

Number of Towns inspected	75
Number of samples collected	123

FOOD INSPECTION

During the last year, or since April, at least, the value of the food and drug law was realized more than ever before as a prevention of fraud and sophistication. Owing to the greatly increased prices of foodstuffs and the extensive propaganda advocating the substitution of cheaper articles of diet, the temptation was, and still is, to carry substitution even to adulteration; this trend, however, was checked to a large degree through the existence of the statute and its vigilant enforcement. Until disabused of the idea, the opinion seemed prevalent that unusual leniency and a disregard for the enforcement of the food laws would be the policy of the executive officers during the unsettled conditions brought about by the war. On the contrary, however, it was the belief of the executives that a more rigid inspection, if possible, than in normal times was essential to the needs of the consuming public and, consequently, when reports of violations were received, every endeavor was made to carefully define the position of the executives and the great

necessity for insisting upon the observance of not only the statute, but the rules and regulations created under its authority, in war as well as in peace; and to this end the work of food inspection was pursued. In the administration of the food laws, as well as those regulating the sale of other commodities, the attempt was made to "temper justice with mercy," as it was fully realized that business conditions were greatly disturbed.

Number of towns inspected	153
Number of samples collected	389
Number of hearings arranged	117

Grocery Stores and Markets: In this class of trade, an investigation was made as to the proper labeling of all articles of food. Particular emphasis was laid upon the subject of sanitation and, wherever conditions warranted, the deputies made the necessary recommendations regarding the cleaning up of the premises, or the rearrangement of articles displayed for sale, in order that proper protection might be afforded food of all kinds, as outlined in the statute.

Clams and Oysters: As in other years, a collection of samples of clams and oysters was gathered and an effort made to remedy the conditions attending the sale of this class of food. In spite of the prosecutions of the previous year, and the great amount of work done along educational lines, the practice of soaking clams still continues. Samples recently obtained having shown evidence of adulteration, prosecutions will probably be necessary in some of the cases now remaining unsettled. With the increase in price and the possibilities for adulteration of this class of food which, at best, does not have a particularly high nutritive value, there seems to be a great need for taking definite steps to check this nefarious practice.

Hotels and Restaurants: As usual, an inspection of hotels, restaurants, lunch rooms and lunch carts was made; many of these places in the larger cities were visited as often as twice each month and, by the use of the regular inspectors' report blanks, the general condition of each concern was recorded as to cleanliness; a careful investigation was made of the kitchens and dining-rooms, the light and ventilation noted; also the condition of the dishes and utensils, the refrigerators and cool-

ers, and the health of the employees. The protection afforded food between serving hours was a subject that was also rather thoroughly studied by the inspectors.

Bakeries: Inspection work among the bakeries of the state was followed out along the usual lines, and recommendations for improvements made wherever it was deemed necessary. In many instances, this work has been of a quite delicate nature, owing to the increased prices of raw materials and the numerous federal regulations put in force governing the sale of bakery products.

Bottling Establishments: But few samples of bottled sodas or carbonated beverages were taken, more attention having been given to sanitation. The installation of soakers for the sterilization of bottles was constantly urged. Much good could probably be accomplished by the drafting of rules and regulations, similar to those of other states, to the effect that only sterilized containers may be used for food products of this nature. The great importance of such a regulation is realized when it is understood that without it bottles may be returned, refilled, and shipped back to the consumer without any sterilizing process, thereby affording great possibilities for communicating disease. Again, without a uniform rule regarding sterilization, an unfair competition may exist between those dealers who have taken pains to put out a sanitary product at considerable expense, and those whose products are liable to be condemned.

Slaughter-house Inspection: While more or less inspection work has been done in the past in the abattoirs throughout the state, the most complete investigation ever undertaken was performed during the year. As a result of a conference with the Chief of the Bureau of Animal Industry at Washington, we were fortunate in securing the cooperation of that Bureau, and a trained veterinarian was detailed to work with our inspector. Along with a general inspection of the slaughtering establishments, the attempt was made by the federal inspector to list and check the parties holding exemption certificates entitling them to ship meat and meat products interstate. As a result of the investigation, it seemed that this concerted effort to make a complete inspection was warranted. The sanitary conditions of several establishments were found to be far from satisfactory; many of the buildings were old and dilapidated

and the floors, in some cases, were made of rough lumber and without drainage; the walls were rough and the utensils (tables, racks, etc.), made of rough lumber and extremely hard to keep clean. In some instances, hogs were found feeding on the offal underneath the slaughtering floor, and the pens deep with filth. In a few buildings an adequate water supply was furnished, there were cement floors, and the walls were sheathed or, in some cases, painted on the inside. Sufficient time was taken in all instances to make definite recommendations for changing the conditions, wherever such changes were necessary; that is, to install cement floors, drainage, water supply, or to discontinue the practice of feeding offal to hogs quartered either in or under the establishments where the slaughtering took place. The inspectors reported that in general their visits were welcomed by the proprietors of the slaughter-houses, who readily agreed to carry out their instructions. The good intentions of the proprietors were also evidenced by letters received since the performance of this inspection, outlining that the specifications of the inspectors were adopted, and inviting a return visit. It is hoped that much good resulted from this work, and this line of inspection will be vigorously continued during the coming season.

Food Factories: Special endeavor was made to make as complete an inspection as possible of all food factories, particularly those engaged in the three leading industries of Maine: Corn, blueberry and sardine canning. Our attention has also been given to the numerous establishments that have sprung up over the state during the year for the canning of clams, mince-meat, apples and fish products, with special reference to the nature of the raw materials used, and the sanitation in connection with proper washing facilities, the location and condition of the toilets, and customary business practices; as a result, marked improvements have been noted, especially in the sardine industry, due in no small degree to the excellent work done by the National Cannery Association through their Sardine Section. While we are gratified with the results already obtained, there is still chance for improvement in all branches of the canning industry, and much educational work still remains to be accomplished.

NET WEIGHT LAW

In the enforcement of this particular phase of the statute; war conditions were also in evidence, and more than ever before the public seemed to need the safeguarding of the law in order to insure correct weight, measure, or count. As a result of our activities, several prosecutions occurred.

COOPERATIVE WORK

The cooperation of the federal Bureau of Chemistry with this Department was most complete, and at several times throughout the year joint inspections were performed on different lines of work, particularly clam and oyster industries, sardine and blueberry factories, resulting in the recommendation of several federal cases. This Bureau also benefitted greatly by information received from the office of the State Cooperative Food and Drug Commissioner at Washington, D. C., in the form of "reports of seizure" cards, monthly clearing house letters, etc.

BULLETINS FOR DISTRIBUTION

As this report has purposely been made concise, and merely touches upon the various activities of the year, it seems fitting to announce that more detailed information regarding the samples of foods, drugs, feeding stuffs, fertilizers, fungicides and insecticides, collected by the Bureau of Inspection, is published in the form of Official Inspections, designated by index numbers. The rules and regulations emanating from this Bureau are available in the form of reports and regulatory announcements, and the following list may be of interest:

- Official Inspections No. 66—Opened Shell Fish
 67—Cream and Milk
 68—Fungicides and Insecticides
 69—Cream and Milk
 70—Vinegar
 71—Cream and Milk
 72—Feeding Stuff Inspection
 73—Seed Inspection
 74—Fertilizer Inspection
 75—Fungicide and Insecticide Inspection

- Official Inspections No. 76—Ice Cream—Evaporated Milk
 77—Flavoring Extracts and Spirits
 78—Clams, Oysters and Scallops
 79—Commercial Feeding Stuff 1915-
 16
 80—Commercial Fertilizers 1916
 81—Commercial Agricultural Seeds
 1916
 82—Miscellaneous Drug Preparations
 83—Maine Packed Blueberries, Corn
 and Sardines
 84—Commercial Feeding Stuff 1916-
 17
 85—Commercial Fertilizers 1917
- Bulletin No. 424—Drug Standards
 425—Food Standards
 1—Vol. XVI—Practical Suggestions Regarding
 Food Values and the Proper Se-
 lection of a Nutritious and Eco-
 nomical Diet
- Laws of Maine regulating the sale of:
 Agricultural Seeds
 Feeding Stuff
 Fertilizers
 Drugs
 Foods
 Fungicides and Insecticides
- Regulatory Announcement No. 125—Ice Cream
 126—Protection of Foods
 127—Net Weight
 130—Shell Fish
 135—Dressed Poultry

In conclusion, permit me to express my appreciation of the assistance you have rendered to me throughout the year in the way of advice and suggestions that have tended to bring about a stronger and more efficient organization of inspection. I also wish to extend my thanks to all federal and state officials—and particularly to the deputies and clerks of this Bureau—who have aided me in the work pertaining to this office.

Respectfully submitted,

A. M. G. SOULE,
Chief, Bureau of Inspection.

REPORT OF PROCEEDINGS
OF THE
STATE DAIRY CONFERENCE AND ANNUAL
MEETINGS
OF THE
MAINE DAIRYMEN'S ASSOCIATION
MAINE SEED IMPROVEMENT ASSOCIATION
AND
MAINE LIVESTOCK BREEDERS' ASSOCIATION

ODD FELLOWS' HALL, NEWPORT.

DECEMBER 4-8, 1917.

TUESDAY EVENING, DECEMBER 4.

Meeting opened by Hon. John A. Roberts, Commissioner of Agriculture. Invocation by Rev. J. W. Reynolds, Newport.

The Address of Welcome was given by W. S. Townsend, Chairman of the Board of Selectmen of Newport, to which a response was given by R. L. Copeland of Brewer.

Dr. Leon S. Merrill, Orono, Federal Food Administrator for Maine, gave an address on "The Present Food Situation."

BUSINESS MEETING OF MAINE DAIRYMEN'S
ASSOCIATION

The annual business meeting of the Maine Dairymen's Association was opened at 9.00 A. M. on Wednesday, December 5, 1917, by the president, Herbert M. Tucker, who gave the annual address, as follows:

ANNUAL ADDRESS OF THE PRESIDENT.

The year that has passed since we met at our last annual convention has been one of many changes. The continuance of the war has been responsible for the constantly increasing price of concentrated feed and the decrease of farm help, even at a greatly increased price. These things have helped in one way because they have made farmers think more about their dairy business and plan means whereby they might conduct it in a way that would yield a profit.

The past season, in some respects, has been very favorable to dairymen because it has been cool and wet, so that cows at pasture have done remarkably well on much less grain than usual. The hay crop was also very abundant. A year ago at this time we were just hearing about the proposed organization of the New England dairy interests and that has been developed in the organization of the New England Milk Producers' Association. Comparatively few Maine dairymen fully realize either the scope or the importance of this great move. We now, since the survey conducted by the state for the Boston Chamber of Commerce, have the figures to prove that most of the dairymen of the state were conducting their business at a loss.

Since the year covered by this survey, ending April 30, 1917, the constantly increasing scarcity and high price of both grain and labor have made conditions much worse, and the New England Milk Producers' Association coming as it did, just at the time it was most needed, proved a God-send. I hate to think of the condition our dairymen would have been in, in this crisis, had it not been for this organization. Shall we, as dairymen of Maine, stand behind and uphold by our membership and by our untiring effort this New England Milk Producers' Association? Because of the lack of interest and short-sightedness and the willingness on the part of many to "Let George do it" and pay the bills, while they get all the benefits, the work of this Association is bound to be handicapped. No thinking man can question the good that has already been done, or the opportunity there is for still greater benefits. If a thing is worth doing at all, it is worth doing well; and in this case I am so thoroughly convinced of the benefits we have received in the past and will continue to receive, that I would not be afraid to guarantee to

any doubtful ones in this state that they would receive, with a higher interest than they ever received on any investment they ever made, every dollar paid into this Association.

This evening is going to be devoted entirely to the work of this organization and will be handled by those best qualified to explain in every detail the past work and future plans.

The world's livestock conditions during the remainder of the war, and after its close, are matters that should receive our grave attention. Already it is estimated that 28,000,000 cattle, 54,000,000 sheep and 32,000,000 hogs have been slaughtered in Western Europe. The world's supply of animal products was already strained to meet the demands of consumption before the war began. Now, with lessened production in the warring countries and the inaccessibility of the supply from other countries, the responsibility and the opportunity of American farmers is plainly evident. After the war, the European governments will have to purchase stock to replenish their herds. They will want the best and particularly with regard to dairy stock. The northeastern part of the United States will doubtless be called upon to part with all the good breeding stock that can be spared. These facts should be brought home to every stock-keeper in Maine and every means used to induce the keeping and careful development of every well-bred dairy calf. The call for them will be great and the price will be extremely good for anything showing quality. We have an abundance of hay here in Maine this year; we shall very much need the manure for fertilizing our crops next spring. What a wonderfully good thing it would be if there were good stock enough in Maine to consume every pound of Maine hay this winter.

At the last session of the Maine legislature, a bill was introduced, looking to the standardization of milk. In Massachusetts, when the Holstein cow is much in evidence, it is often-times found necessary to keep a few Jersey or Guernsey cows in the herd to grade the milk to standard requirements. Here in Maine, the law calls for milk containing 3.35 per cent butter-fat. There are sections in Maine where most of the herds kept are those that give a rich quality of milk, because Maine for many years has been a cream-producing state. On many farms, also, it is the practice to separate a part of the milk so as to obtain skim milk enough to feed certain calves or pigs and to

turn the cream thus separated back with the other milk, often bringing the per cent up to eight or even ten per cent. This makes it extremely hard for the creamery to so mix the milk that it will not oftentimes be considerably above the standard; and all fat in milk, that is sold as milk, above the standard, is thrown away, as far as receiving any pay for it is concerned. The bill mentioned was killed in the last legislature because, I believe, it was not fully understood and I think we, as the Maine Dairymen's Association, ought to consider the advisability of having such a bill enacted and, if advisable, as I believe it is, we should get behind it and use the influence of our association to bring about its passage at the next session of the legislature.

On the whole, with the present organization of producers, the study that has been made regarding the cost of production and the publicity of results, more economical production brought about by a closer study of his business and the wonderfully good outlook for a market of all dairy animals of quality, should put new courage into the heart of every Maine dairyman. And with new courage should come greater effort, in an organized and united manner, to continue every line of work looking to still greater improvement.

It was voted, that the address of the president be referred to the committee on resolutions.

The records of the last annual meeting were read by the secretary.

REPORT OF THE SECRETARY

To the Members of the Maine Dairymen's Association:

A joint meeting of the executive committees of the Maine Seed Improvement Association, Maine Dairymen's Association and Maine Livestock Breeders' Association was held at the Agricultural Department, State House, Tuesday, May 15, at 10 o'clock A. M., and reports were given.

Meeting called to order by President Tucker of the Dairymen's Association, who outlined the purposes of the meeting.

Mr. W. S. Townsend of Newport, presented the invitation from his town, in detail, outlining size of halls, hotel accommodations, and other items of interest.

Discussion, followed by Dr. Leon S. Merrill, F. S. Adams, L. E. McIntire, Frank Lowell, H. M. Moulton and G. C. Porter.

Voted, to accept the invitation extended by W. S. Townsend, to hold our next annual meeting in Newport.

Motion by Dr. Leon S. Merrill.

Voted, that a committee be chosen, consisting of one member from each society and one representative from the Department of Agriculture, to attend to the advertising for the annual meeting. The following were chosen: John A. Roberts, L. S. Merrill, H. M. Moulton, E. L. Newdick.

At this point a tentative program was presented, suggesting what the associations could do in cooperation with the boys' and girls' club work, in offering prizes for demonstrations, judging and exhibits.

R. P. Mitchell explained the tentative program as outlined by himself and E. L. Newdick.

The following motion received a passage: That a committee on program be continued and final arrangements of same to be governed by report of executive committees, as to how much money they will appropriate for boys' and girls' club prizes.

Voted, that the annual meeting be held the week beginning December 3, 1917.

Voted, that space allotted to machinery be sold and fee for same be used to advertise the annual meeting.

Voted, that a program committee be appointed, consisting of the following: H. M. Moulton, Dr. Leon S. Merrill, John A. Roberts, E. L. Newdick.

Voted, to leave subject of banquet to program committee.

Adjourned to executive session.

Respectfully submitted,

BROOKS BROWN,

Secretary.

REPORT OF TREASURER

RECEIPTS

1916			
Dec.	8,	Balance from 1916	\$117 50
		26 membership dues	26 00
1917			
Jan.	7,	Money received from W. T. Guptill a part being donation from the Augusta Chamber of Commerce	50 00
	13,	Cash received from Leon S. Merrill for 49 membership dues	49 00
Dec.	4,	Interest	7 15
			<hr/>
			\$249 65

EXPENDITURES

1916			
Dec.	8,	Six complimentary banquet tickets	\$ 6 00
		One-half of expenses printing banquet tickets and menu	1 88
		Paid orchestra at the annual banquet	9 50
1917			
Feb.	13,	Paid membership dues in the Federation of Agricultural Associations	4 00
		Paid Leon S. Merrill, expenses making arrangement for annual meeting, 1916	17 13
Aug.	5,	Paid A. E. Hodges, expenses as visiting committee to College of Agriculture	4 65
Dec.	3,	Paid C. M. White, Treasurer, Maine Seed Improvement Association	20 72
		Unexpended balance	185 77
			<hr/>
			\$249 65

Of the unexpended balance a Liberty Bond was purchased with \$100, and the remaining sum, \$85.77, was deposited in a bank.

Respectfully submitted,

F. S. ADAMS,

Treasurer.

Voted, that this report be accepted and placed on file.

H. M. Tucker referred to the vote passed at the last annual meeting, that a committee be appointed by the president to confer with E. L. Bradford and other contractors, or milk dealers, regarding prices and conditions pertaining to the dairy interest, and stated that it was not carried out because of the fact that it was passed very near the close of the meeting and no appointment was made at that time and very soon thereafter the New England Milk Producers' Association and the Turner Center Marketing Association took up these questions very thoroughly. It was thought best not to duplicate the work, therefore no committee was appointed.

The following committees were appointed by the Chair: Committee on Resolutions, F. S. Adams, C. R. Leland, L. C. Holston. Committee to nominate officers for the ensuing year, Dr. C. D. Woods, C. H. Fuller, A. E. Hodges.

REPORT OF STANDING COMMITTEE ON HERD BOOKS.

A number of years ago a standing committee of one was appointed to obtain and place in the University of Maine Library, where they would be available, not only for the faculty and students of the University but for the public, and particularly the members of this association, all of the herd books of different dairy breeds and, so far as they could be obtained without cost, the herd books of the beef breeds. The committee last reported in 1912.

The following herd books are now shelved in the University of Maine Library:

- American Aberdeen-Angus Breeders' Association Herd Books V. 1-26; except vols. 9-15;
- American Ayrshire Breeders' Association Herd Books V. 1-21 (1911);
- American Galloway Breeders' Association Herd Books V. 8 (1897), 12 (1902)-18;
- American Guernsey Cattle Club. Herd Registers V. 1 (1884)-16 (1906), 19-31;
- American Hereford Cattle Breeders' Association American Hereford Records V. 1 (1880)-42;
- American Jersey Cattle Club. Herd Registers V. 1 (1886)-92;
- American Polled Durham Breeders' Association Herd Books V. 2 (1904)-4;
- American Shorthorn Cattle Association Herd Books V. 12 (1873), 45 (1900)-91;
- Brown Swiss Cattle Breeders' Association Swiss Record V. 1 Supplements 1 and 2;
- Dutch Belted Cattle Association Herd Books V. 1 (1886)-10;
- Holstein Breeders' Association Herd Book V. 1-5 (1885), 7 (1886)-9;
- Holstein-Friesian Association Herd Book V. 1-35;
- Holstein-Friesian Association Advanced Registers V. 13-27;
- Red Rolled Cattle Club of America. V. 13 (1901)-24;
- Royal Jersey Agricultural & Horticultural Society. Jersey Herd Books. V. 1-23.

For the most part, these books have been obtained without cost to the association. When an appropriation of \$100 was made by the association in 1911, to assist in obtaining complete sets of the more important dairy breed herd books, it was thought that the Royal Jersey herd books would have to be purchased. The Maine Agricultural Experiment Station was fortunate in obtaining a set complete to 1913, without cost; these are shelved with the others in the library.

The Ayrshire Breeders' Association herd books were the only ones that had to be purchased, consequently, less than half of the \$100 appropriated was expended. It will cost \$10

to obtain the herd books of that association needed to bring the set up to date and it is possible that a few of the last volumes of some of the other breeds will have to be purchased in order to make the sets complete. The committee, therefore, recommends that \$25 be appropriated for the purchase of herd books to complete sets, and that as much of this as shall be found necessary, be expended by the committee, on the approval of the president of the association.

CHARLES D. WOODS,

Committee.

Voted, that the report of the committee on herd books be accepted, and the recommendations adopted.

A brief verbal report on the breeding investigations, conducted by Dr. Raymond Pearl, was given by Dr. Chas. D. Woods, for the committee, as follows:

As you all know, this work which was undertaken by the committee, appointed by the Maine Dairymen's Association, has depended for its effectiveness upon the efforts of Dr. Pearl. We understand, without any reflections on the other two members of the committee, that he has had the guidance of it all. It is a great compliment to the Maine Experiment Station and at the same time a great disadvantage to the Maine Experiment Station and to this association, that last June, Mr. Hoover asked Dr. Pearl—and the asking was of course a requisition—to come to Washington and take charge of the Statistical Division of the Food Administration. He has been in Washington since last June and, as he needed assistants whom he knew had judgment and ability, he took with him four other persons connected with the Station; so we lost, through the Hoover Administration, five people and it necessarily crippled our work very much. We are particularly at a disadvantage in the loss of Dr. Pearl and Dr. Surface. If it were not that Dr. Pearl is such a very unusual man, so that he overshadows, in a way, all of us, it would have been evident that Dr. Surface was far above the average of men. As both of them were away, it seemed to be impracticable to carry out the program announced by this committee a year ago in Augusta. Some of the things that were promised at that time are going forward, but when

the magnitude of the work which Dr. Pearl has undertaken is realized, and the fact that he has not been able to get back to Orono and will not be able to get back even for an hour in the next few months, it will be readily seen that it has been impossible to push the work forward. The war has taken precedence of all the work of the Maine Experiment Station. The experimental work that was started in cross-breeding is being continued to some extent, but the analysis of the very unique mass of data which was obtained through cooperation with over 200 of the best breeders of the state, still remains uncompleted, and it will probably have to wait for several months. Of course the material would not be lost if Dr. Pearl could not give it his attention—we would get the best out of it we could. But as he will be absent only during the remainder of the war, we are holding these things until he can take them up again.

Dr. Woods also called attention to the information that had been procured by Dr. Pearl, relative to the relations of daughter to dam, so that, by the study of advanced registry records, it has become possible to compare animals of the same breed of different ages and different times of lactation accurately, and referred the dairymen to Bulletin 161, published by the Station in June, which contains a report of the progress of animal husbandry investigations in 1916, and to the circular issued by the Station on the Breeders' Daughter Dam Test. Portions of this circular were read by Dr. Woods, and a discussion of the subject followed.

The report of the committee on Federation of Agricultural Associations was presented, as follows:

Voted, that the report be accepted and placed on file.

The nominating committee presented the following names for officers for the ensuing year: President, L. C. Holston, Cornish; Vice-president, J. A. Ness, Auburn; Secretary, Brooks Brown, Augusta; Treasurer, F. S. Adams, Bowdoinham; Trustee, L. E. McIntire, East Waterford; Member Experiment Station Council, F. S. Adams, Bowdoinham; Delegates to Federation of Agricultural Associations, L. C. Holston of Cornish; A. S. Pope of Manchester; Visitor to College of Agriculture, W. C. Stetson, Waterville.

The report of the committee was accepted, and the officers nominated were duly elected.

REPORT OF COMMITTEE ON RESOLUTIONS.

Whereas, the Maine Dairymen's Association, in annual convention, in recognizing the demands for conservation of animal fats, as requested by our Federal and State Food Administrators, is emphatically opposed to the curtailment of the use of skim milk in bread making; be it therefore

Resolved, That it would be extremely detrimental to the dairy industry and at the same time reduce in large degree the food value of bread, and for these reasons we strongly recommend that all skim milk needful be used in the manufacture of war bread.

Resolved, That we are in favor of a law for the standardization of milk and that a committee be appointed to investigate and recommend to the next legislature a statute leading to such standardization.

Resolved, That, realizing the necessity for maintaining the present supply of dairy products and number of livestock which are so essential to the maintenance and well-being of our Nation, its forces, and our allies, we are fully in accord with the work of the State and Federal Food Administration, and in pledging our support we ask in return that insofar as is within its power, the Federal Food Administration will extend its cooperation and assistance in insuring just returns for our products and in protecting the livestock interests of the state.

Resolved, That we fully recognize and endorse the superior work accomplished by the New England Milk Producers' Association for the dairymen of Maine during the past year, and urge our entire membership to do everything possible to further the aims and objects of this organization.

Resolved, That the association expresses its appreciation for the generous treatment accorded its members by the people of Newport, in our entertainment for the meeting, to the railroads for reduced fares, to those who so generously offered special prizes for exhibits and all those who have so ably assisted in making the meeting successful.

F. S. ADAMS,
C. R. LELAND,
L. C. HOLSTON,

Committee.

Voted, that the report of the committee be accepted and placed on file.

It was also voted that the resolution in regard to the use of milk in war bread be telegraphed to the National Food Administrator and to the State Food Administrator. E. L. Bradford explained that the urgency of the matter was due to the fact that the proposition in regard to war bread was to go into effect the 10th of the month.

F. S. Adams moved that the president be authorized to appoint a committee in the interests of the standardization of milk. Mr. Tucker suggested that this matter be left with the president, and the appointment made later, to which Mr. Adams agreed.

A letter from the Waterville Chamber of Commerce, extending a cordial invitation for the association to hold its next annual meeting at that place, was read by the president. It was voted that this be referred to the executive committees of the Maine Dairymen's Association, Maine Livestock Breeders' Association and Maine Seed Improvement Association.

Respectfully submitted,

BROOKS BROWN,

Secretary.

REPORT OF THE SIXTH ANNUAL MEETING OF THE
MAINE FEDERATION OF AGRICULTURAL ASSO-
CIAIONS AT ORONO, MARCH 7-8, 1917.

The schedule of three sessions, as decided upon at the previous meeting of the Federation, worked out most satisfactorily at this year's annual convention. After the president's address and the reports of officers and delegates at the Wednesday afternoon session, committees were appointed to report at the business meeting the next morning. This left the evening session free for the dedication of the tablet in the Agricultural Hall of Fame and gave ample time for the work of the committees and the completion of Federation business at the Thursday morning session.

Besides reviewing briefly the work of the Federation for the past year, President Holston suggested the appointment of a Publicity Bureau to consider and act upon the various matters referred to the Federation by members and others, and to keep before the public the work of the various associations. In accordance with the suggestion, a permanent committee of three members was appointed to study the question of publicity, to make recommendations to members, and to report to the next annual convention of the Federation.

Of special interest to the members of our association is the work of the Federation in retaining the work of dairy inspection in the hands of the Department of Agriculture. This work has in the past been conducted largely on an educational basis; a practice amply justified by the steady improvement in the quality of Maine dairy products. To put this inspection on a penal basis by transferring it to the Attorney General's office would result in undoing much of the work already accomplished and needlessly antagonizing the dairymen of the state. Through the influence of the Federation, the Governor was persuaded to allow the work of milk inspection to remain in the Department of Agriculture.

The question, taking the appointment of the Commissioner of Agriculture out of politics, was again debated by the Federation but no bill for that purpose was presented to the legislature. Though the need of such a measure was clearly recognized by all concerned, the whole matter was dropped on account of inability to devise any fair and practicable method of election.

The evening session was devoted to the dedication, in the Agricultural Hall of Fame, of a tablet to the memory of Prof. Walter Balentine. As Dr. W. H. Jordan was unable to be present, his address was read by Dr. L. S. Merrill and the tablet unveiled by Dr. R. J. Aley.

That it may more fully understand the needs and desires of its members, the Federation especially urged that the various associations definitely instruct their delegates on subjects which they wish considered at the annual convention of the Federation.

Respectfully submitted,

ALTON S. POPE,

H. M. TUCKER,

Delegates.

BUSINFSS MEETING MAINE SEED IMPROVEMENT ASSOCIATION

ANNUAL ADDRESS OF THE PRESIDENT

RALPH L. COPELAND

In presenting this, my second annual address, as President of the Maine Seed Improvement Association, I have taken the opportunity to show, as I see them, not only the advantages and benefits of this move to the state, but also the failures or lack of progress.

From an agricultural standpoint, the past season appears to be the most disappointing and discouraging that the farmers of Maine have experienced for many years. This, too, when unusual effort, pains and persistency was employed, to induce Mother Earth to yield her greatest returns.

This is the third year that unusual and unfavorable weather conditions have prevailed, also the third year of this great

world-wide military conflict, with no present prospect of its termination. It has been suggested that these weather conditions have been caused by atmospheric disturbances, brought about through the excessive use of high explosives. If there is any truth in this supposition, as it appears there might be, would it not be well to assume that the same conditions will prevail for another season and plan our next year's operations accordingly.

It becomes more and more evident, as time goes on, that food will be the determining factor in winning or losing the war, consequently it is the duty of every patriotic citizen to produce and conserve every pound of foodstuff possible. There is no line of effort that will further or help the cause more than producing or securing good seed. Success or failure of the crop is generally determined by the quality of seed, especially in an unfavorable season.

While more and more interest is being taken in the subject of seed improvement on the part of the average farmer, the amount of certified seed produced in this state is decreasing, and, I believe it is a part of our duty, as officers and members of this association, to seek the cause and remedy.

A few years ago, there was born in this state a lusty agricultural youngster, and it was named Seed Improvement. Under the wise care and nurture of the State Department of Agriculture, it grew rapidly until it was claimed that it should stand alone. It was then told by the Department that from that time on, it must be self-sustaining. The result was what should have been expected—a weakling. Our membership has fallen from 98 to 46, the number of acres of certified seed potatoes from 1,288 acres in 1915 to 324 in 1917, the number of acres of small grain from 28 to 15. And now for the cause and remedy, as it appears to the writer.

Unfavorable weather conditions, we all understand, was one of the principal factors, as superior seed can only be produced under right conditions.

Seeking to make the association self-sustaining, before certified seed had established a reputation in the seed market, so that the producer could ask and receive enough more to make it pay to grow it, is another factor; and right here is the secret of the whole movement. To endure, it must be made profitable, both to the grower and to the buyer or user.

In any forward movement the people move slowly. You have to keep hammering away at it. The officers of this association have neither the time nor the money to do the necessary propaganda work to put the association on a sound successful working basis. I believe our state officials have usually done all that they could to advance the work of seed improvement with the means at their disposal.

We ought to have a state stipend sufficient to cover the cost of inspection and certification of all seed offered that is in large enough lots to be of any consequence, and the same to be done by practical men competent to do the work. Many sensible farmers look with disfavor at boys who, having spent a short time at the University and having little or no practical experience, come into their fields to inspect crops, and judge the work of the association by them, not realizing, perhaps, the difficulty of securing competent inspectors for so short an engagement.

I will take this occasion to say a word of appreciation of the Maine Experiment Station. Their work in variety tests and new and improved seed, also plant and fungus diseases and remedies is of inestimable value to the state. The Station displays at our annual meetings are a liberal education along those lines in themselves, to anyone who cares to learn. It has been stated, by those who have made a study of the subject, that the losses sustained by the farmers of this country, through the use of poor seed, amount to more than the losses from all other sources combined. This shows the great importance of the movement and also the importance of government aid and supervision.

It is acknowledged that the use of pure seed not only improves the quality but increases the yield of our crops; and when we think of the immense acreage devoted to the growing of foodstuffs and realize what a small percentage of the seed used is pure, then we can form some idea of the great work that lies before this association.

If the man who makes two blades of grass grow where only one grew before is a public benefactor, then the grower of pure seed is also a public benefactor and when he advertises and sells his seed, he has the satisfaction of knowing that he is not only enriching himself, but his brother farmers as well.

REPORT OF SECRETARY OF MAINE SEED IMPROVEMENT ASSOCIATION.

Mr. President, Officers and Members of the Maine Seed Improvement Association:

I wish to submit the following as my report as secretary of this Association since March 6, 1917, the date upon which I was elected by the Executive Board.

My first duty was to carry out the shipping inspection of the certified seed remaining unsold of the 1916 crop. This did not take long, as most of the crop had been handled by my predecessor. The next duty was the arranging of some definite program for my season's work, but at this point came an interruption which prevented me from doing as I originally intended.

The declaration of war with Germany brought immediate demands on workers in agricultural lines and your secretary was called upon to be secretary of the State Committee on Food Production and Conservation, a position which he was glad to accept and do his part. This necessitated extra work and I found it practically impossible to go into the field and give my time to seed improvement work. I have believed, and do now, that a call to perform war emergency work should be given preference. Guy C. Porter, my assistant, agreed with me when I suggested to him that I did not believe we could expand much under present conditions. However, we undertook the regular potato inspection work early in the summer and have carried through the field inspection on 324 acres of potatoes and 15 acres of grain. The total number of acres of potatoes entered was 401 and 27 of grain. Right here, let me say that later on during this meeting I would like a ruling as to whether I shall be permitted to certify seed oats that have yielded less than 50 bushels per acre this season. The number of acres entered, though small, required soliciting on the part of Mr. Porter and myself, a condition which, in my mind, should not exist and would not if our certified seed was better understood in the states south of us which purchase their seed in Maine.

There is an increased demand each year for this stock, as proven by one of our growers who has had twenty calls this season for certified seed. It is my purpose to make an exhaustive inquiry and ascertain just where our seed is being sold and what results are being obtained, for in the end the results

are what count and will react toward a greater demand. After all is said and done, potato inspection depends on the financial gain made by the grower.

As regards inspection and certification of other crops, more work must be done in the field and I had planned to give much of my time to this work, had not the emergency condition, under which we are all working, arose.

In my work this year I have had an advantage over my predecessors, due to the fact that the last legislature made an appropriation of \$3,000 for seed improvement work, to be used in paying the salary of an official and assistants and traveling expenses. It has been possible for me to use a part of this money to hire field inspectors, as the money collected for this work does not come in until about this time and the appropriation was very necessary. This \$3,000 will pay for a lot of field work when a return to normal conditions makes it possible. There has been paid through this office for inspection work since March 6, \$648.60 and there is about \$225 still on the books, due on field inspection. This sum will be increased by the fee on the shipping inspection. All this money collected as fees, as you know, reverts automatically to the State Treasury.

Shortly after the completion of our field inspection, the State Department of Agriculture was called upon to assist the United States Department in performing what was termed a tuber inspection, to ascertain the source of several thousand bushels of seed potatoes in Maine. I personally took charge of this work and went into Aroostook county and visited several fields which were being dug, also made a bin inspection in several storage houses. The result of this was that the United States Department granted a certificate to the grower, stipulating, as far as possible, the results of the tuber inspection. No charge was made to the grower for this work, and the point which I want to make at this time is, that if the Government is going to continue to give a free inspection in this state, it will probably be impossible for us to do state inspection and charge our present fee. Just what policy the United States Department will adopt for the future, I do not know, but believe that an inspection which is free to the grower will never be a success. We have all seen too many free things started and quickly ended. If I am correctly informed, the Government policy, another

season, will be to carry out a plant inspection as well as the final tuber inspection; in other words, their system will be practically the same as ours. Maine has been a pioneer in seed inspection and certification, and in my position I shall watch closely the result of the work accomplished by the Government. It may be for our interest to encourage their work in potato inspection, and thereby gain by bending our efforts more closely to certification of other crops. About all we can do now is to await another season and shape our policy according to the conditions as we find them at that time. I will, however, make this statement from a personal standpoint: I am loth to relinquish our system until I am firmly convinced that our blue tag is not accomplishing its purpose, and I firmly believe its value is increasing each year.

This subject of Government inspection I have brought to your attention because I believe that you, as members of the Seed Improvement Association, are interested in it. Looking to the future, I believe I can safely say that, with the knowledge already gained from this season's work, I can accomplish more another year in field inspection work if I can only get the right kind of men to work. This problem is always a perplexing one, because every available man does not make a good field man.

In closing, I want to thank the officers of the Association for the support I have received from them, and in the future I will do my best to carry out any program suggested by you.

Respectfully submitted,

E. L. NEWDICK,

Secretary.

Voted, that the report of the secretary be accepted.

REPORT OF TREASURER.

RECEIPTS.

	Cash on hand, last report\$142 14
1916		
Dec. 11,	Received from E. A. Rogers, secretary	26 00
1917		
Mar. 24,	Received from E. L. Newdick (1917 dues)	1 00
Apr. 5,	Received from E. L. Newdick for E. E. Phillbrook's dues..	1 00

14,	Received from E. L. Newdick for Robert Chandler's dues..	1 00	
	Interest on time deposit to Feb. 3, 1917	1 12	
		<hr/>	\$172 26

EXPENDITURES.

1916			
Dec.	6,	R. L. Copeland, expense, Ex. Com. meeting, etc.....	\$ 12 40
	8,	A. E. Hodges, expense, Au- gusta, Ex. Com. meeting, Oc- tober	1 75
		F. S. Adams, expense, ban- quet, 1916	7 88
		Frank Lowell, expense, Ban- gor, Ex. Com. meeting	8 15
29,		Guy C. Porter, Inspection work of Hovey & Hussey, May, 1916	32 00
1917			
Feb.	5,	Harry M. Woods, expense, Ex. Com. meeting, Augusta, Jan- uary 9, 1917	3 03
Mar.	8,	Harry P. Lowell, engraving Bell-Merrill cup, 1916	1 43
		Federation Agricultural Asso- ciations, 1916-1917, dues ...	4 00
Apr.	15,	A. E. Hodges, Ex. Com. meet- ing, Orono, March 8	4 65
		R. L. Copeland, Ex. Com. meeting, Augusta and Orono	12 06
Dec.	3,	R. L. Copeland, expense, Au- gusta, October 6	6 14
		C. M. White, expense, Au- gusta, October 6	1 65
		Cash on hand, December 3, 1917	77 12
		<hr/>	\$172 26

Respectfully submitted,

C. M. WHITE,

Treasurer.

Voted, that the report of the treasurer be accepted.

Voted, that a committee to nominate officers and a committee on resolutions be appointed by the Chair. The following appointments were made:

Nominating Committee, C. R. Leland, W. G. Hunton, E. E. Philbrook.

Committee on Resolutions, C. M. White, M. D. Jones, George N. Worden.

- MR. NEWDICK: I would like to hear a little discussion as to how we can put our shoulders to the wheel and push the work along. It is quite a problem and I think we could have wide discussion which should mean something to the future.

MR. LOWELL: I would like to hear some suggestions from Mr. Newdick, to start the discussion.

MR. NEWDICK: I will be frank and say, I do think that personal contact is what counts and, if the secretary of your Association had been able to go into the field this year and come into more personal contact with the farmers, there would have been more interest at this time. I am wondering if there is not some other course open to us, in view of the fact that that could not be accomplished this last season. I believe that, after going through this work one year, I can handle the work that has been put upon me from outside sources and this, too. I think there can be other forces brought to bear to increase our membership and our interest in the Association. There was never a time in the history of the State of Maine when so much seed work was being done as today. The county demonstration work in this line, to my knowledge, has never been done before, and I think it is meeting with popular approval. It is a work which should have been done a good while ago. I think we ought to have a seed improvement society which is really big and strong, and why we cannot have it is what I would like explained. If I am the man who is wrong, I would like to know it. Whatever is wrong, I would like to have it threshed out and find out whether it is lack of interest on the part of the farmer or where the trouble is.

MR. ADAMS: I think climatic conditions have had as much to do with the lack of interest in seed production in the last few years as any one thing. A short crop means high prices for table stock. Table potatoes were so high last year and a part of this year that seed stock has not sold any higher, and the

average producer is not going to the trouble and expense of producing seed stock unless there is something in it financially. It comes down to a financial proposition. The same is true of grains. It has not been possible to come up to the standard of 50 bushels to the acre in our part of the state this year. No matter how good seed the farmer has, he cannot get 50 bushels of oats to the acre. I would be in favor of suggesting that the standard of yield per acre be cut down on oats. The secretary says there is nothing like personal contact. Personal contact and financial success will tell the story. Our secretary has been enlisted and has done a mighty good work as secretary of the Committee on Food Production and Conservation. It is a critical time in the history of the country. If there ever was a time when we ought to try to produce good seed and increase our crops it is now, not only for our own profit but for a patriotic reason. We are out of sugar now and we will be out of something else by and by. The crops from the West have to go across the water. If any part of the country goes hungry it will be New England first, if we do not raise better crops, and the foundation of better crops is better seed. I will suggest that one way to encourage the farmers to raise more certified seed is to cut down the expense, or else advertise more outside, so that we can get a better price. Unless we can get a decidedly better price for seed stock than for table stock we are not going to have very much certified seed. Perhaps another season, climatic conditions will rectify some of the troubles.

Question. How much advance is there in the price of certified seed?

Answer. I do not think there was any difference last year. I guess table stock was fully as high, if not higher. This year, table stock started in high. Potatoes have been selling at \$1.50 to \$2.00. Oats are high, also. The farmer is not going to raise many certified oats at \$1.00 when feed oats are worth 90 cents. Perhaps we haven't advertised enough. I think we should have a committee appointed and, if there is something wrong, let them make an investigation and suggest ways and means to rectify whatever may be wrong.

COMMISSIONER ROBERTS: I understand it to be a fact that many who raise certified seed have sold their seed for table stock, and of course our people are not going to the trouble and

expense of raising certified seed, and then sell it for table stock. It seems to me there is a weak point. If this Association undertakes to inspect seed and certify it and then allows it to be sold for table stock we shall never have an organization that amounts to anything. I do not know what sort of a rule you can make, but I believe there is a market for the seed. We get quite a few letters from out of the state, some from Southern states, asking about certified seed. Men come into the office occasionally and inquire about it. This year, men have run across this blue tag in buying seed, and we have had quite a good many letters from the Southern states, saying that Maine seed is better than the seed they get anywhere else and they want Maine seed. It is my belief that all the seed that is certified *can* be sold as seed and *should* be sold as seed. Those who go to this trouble and expense should put a price on their seed above that of table stock; otherwise it is not of much use to try to do anything.

DR. WOODS: I do not know that I have anything special to suggest in connection with this matter of the importance of seed certification. No one can have looked about at all without seeing the great value of it. It is almost a necessity to our own state. For instance, last spring it was impossible to get any quantity of seed that we would want to recommend for the farmers to use. Today, I doubt if anybody could buy a carload of Maine grown oats anywhere that would be recommended for seed, and we will need to use a good many carloads of oats this coming spring. I do not know where they can be procured, and it would seem as though this Association ought to be able to do some work in this line. I recognize that it has been impossible for our secretary, with the other things that were importunate for him to do, to devote much time to this work, but I still believe that the lines along which we started and along which we have been trying to work are the proper ones. If it is not possible for the secretary to do this work personally, I am not at all sure but that we ought to make an effort to get men to go into the field, and utilize them. We ought also to make it possible to work with the great organization which has come into the state since our Association was formed; through the county demonstration work it may be possible to keep in touch with men who are growers. I do not care so much about the certification for

seed potatoes for the export seed; I am not so much interested in the growing of seed for sale outside of the state as for sale in the state. We need in this state a large amount of good seed, and that there is a demand for it is evidenced by the fact that, without any advertising whatever, we dispose of all the seed we can grow at our two farms. In fact, I have had to hold the seed back until the demand of next spring. I feel sure that we can, as a Seed Improvement Association, accomplish a great deal along our original lines if we will only work at it persistently.

MR. COPELAND: Mr. Roberts spoke of seed that was certified being sold for table stock. The unusual conditions brought that about, and if we ever get back to normal conditions it seems to me that would rectify itself. In my report you noticed that I recommend free inspection, in a way. I think there should be some restrictions to that. I think a man whom we thought could grow seed to sell should be approached and the proposition put up to him that he should have free inspection and certification, with the provision that he should endeavor to grow something to put upon the market and to make it some object for the Government to inspect the seed. If he were growing only a small amount, half an acre or so for his own amusement, the Government could hardly afford to inspect and certify it. There should be some rules governing the inspection. I have made somewhat of a study of the methods employed in Ontario, Canada, from their reports, and I find that the Government is very liberal, indeed, with a man who is seeking to grow certified seed. According to the reports which I have, he is under no expense whatever. I believe that, until the value of certified seed is established in the markets and in the minds of the farmers of the state, this work should be liberally supported by the Government. It has been suggested that success depends upon whether it can be made profitable or not.

MR. PORTER: It has been my experience, in working with the farmers in Aroostook county, that a few years ago, when seed improvement work was first taken up there, the average farmer expected that when he had had his seed certified he would also have it sold. When he gets his seed certified and then the winter passes by and he fails to sell his seed stock he is discouraged and does not wish to take up the work the following year. The variety of potatoes that has been certified more extensively than any

other is the Cobbler. Many of the men whose fields of Cobblers were certified and passed inspection in good shape, at the field inspection, found that when they dug them this fall the tubers were entirely unfit to be shipped as certified seed. Because of unfavorable weather conditions they were out of shape. Most Cobblers grew too long this year to pass the tuber inspection, and for this reason the growers did not have the third inspection and those Cobblers did not go out as certified seed. Now there is a little feeling of soreness among some of those farmers, because of the fact that they are compelled to pay for inspection from which they can derive no benefit. It seems to me there might be some middle ground between the President and the Secretary, relative to their ideas; that possibly an inspection might be carried forward and the men who actually sold potatoes as certified seed and got a little premium should pay for their inspection, but, if owing to conditions beyond their control, some were unable to sell their potatoes as certified seed, the state should bear at least a part of that expense. I know it has been uphill work this year to get the farmers interested. The most of the potatoes that were certified in Aroostook county were grown by some of the large seed dealers and they realized the value of that blue tag. It has a value to them and it would have a value to the small farmer if he had some way of bringing his seed to the attention of the southern growers, but he lacks the means. The large seed dealer who is already in touch with them emphasizes the fact that he has had his seed certified and reaps the benefit, but the man who starts in and has to pay even a small sum for nothing is a little sore.

MR. LOWELL: When these prices for inspection were fixed, 50 cents per acre for entry and \$2.00 per acre for the two inspections, I understood that the entry fee of 50 cents every one should pay, but if the potatoes failed to pass inspection it should not cost the man who owned the field anything. I understood that that was the way the vote was passed. I am not sure that I made the motion, but I know I had something to say about it and that was my idea. I recollect one instance, the first year. There was a man in Augusta who entered some potatoes and a part of them, at least, failed to pass inspection and I told our Secretary that I thought the money should be returned to him. He had already paid for the inspection work and I thought that,

under the action taken by the executive committee, the money should have been returned to him, and I believe that is the right idea. In regard to the idea of free inspection, the first thought that came to me was, that perhaps we had better cut out the 50 cents entry fee, and then, if a man had his potatoes inspected and they failed to pass on the field work or at the time of digging, if he had paid in anything his money should be returned to him. I believe it is wrong to keep the money of a man who gets nothing out of it. As Mr. Porter says, that man feels kind of sore. I think our secretary has the money to do it with now, and if it is necessary to take any action in order to have the money returned to those who derive no benefit from the inspection, I should be in favor of taking some action instructing him to do it.

MR. COPELAND: I will say that my opinion in regard to this matter is, that these rules under which we are now working were created and adopted by the executive committee, and I presume, as they were created by them, they could be changed and readjusted as they saw fit. Dr. Woods made the remark that their seed is nearly all disposed of. Now, it is plain to see that they have already established a reputation, and it holds true in my own case. I cannot begin to supply the amount of seed for which I have a demand. I account for it in this way: If a reputation is established, as is the case with the Experiment Station and, perhaps, with myself and Brother Lowell, the seed produced will find a ready market on account of its quality, that quality being recognized.

MR. LOWELL: The man who buys should feel that he is getting his money's worth. With everything I sell I claim to tell a man just what it is, and the results will back it up. I believe the work of this Seed Improvement Association should be carried forward with perhaps a little change in regard to the price of the inspection work. Cut out the entry fee first, and then, if a man who enters a field knows that it will not cost him anything if his crop does not pass inspection, perhaps he would be more ready to go into it. And then, as Brother Adams said, we should advertise. The man who has inspected seed for sale should get considerably more than the man who sells table stock. The past year, a considerable part of our 1916 crop was

sold before February 20, at \$6.00 a barrel. When we were shipping them in the spring we could have gotten considerably more than that. In giving our price for potatoes we always calculate to keep ahead of the market and, as a result, this year when potatoes came up in the Boston market and we could sell table stock right in our market for \$2.00 a bushel we had to raise on our price. We had offered seed at \$5.00 per barrel, fall delivery, and \$6.00 in the spring, and the barrels to ship them in this year will cost us 25 cents each.

I do not know what it is best to do, but it seems to me we should take some action in regard to the fee. I should think 50 cents an acre might be right, and no entry fee.

MR. ROBERTS: Mr. Porter has brought up a matter which is beginning to be called to the attention of the Department. I know of one case where the fees of a man have been returned to him because his seed could not be certified. I do not know how much of that seed there is, but I presume there will be money enough this year so that the fees might all be returned in those cases. But looking forward to next year, the condition is like this: The appropriation is \$3,000, and that has to pay the salary of your secretary and his traveling expenses, and it has to pay his stenographer and incidental expenses for a full year, and that will take practically all of the \$3,000. It has not taken it all this year, partly from the fact that we did not get the appropriation until quite late in the year and partly from the fact, as the secretary has stated, that he has been confined a great deal in the office, to do other work. But if he puts in a full year of work in 1918, as proposed, it would really absorb practically all of that \$3,000, and if you pass a vote to allow a rebate and there is a great amount of that, the question will be, where are you going to get your money to make that rebate with? I am just calling the attention of the Association to that fact. I believe this year the matter can be covered, because there is money enough. In the case to which I referred, the matter was presented to me and I said right off that the fees should be returned because the man had really got nothing for his certification. But if the state is to pay all those bills, of course we would have to have an additional appropriation for it. I do not mention this in opposition to the plan at all, but simply to state

the actual condition. The fees are supposed to pay for the inspection. This appropriation does not pay the actual fee for inspection, under ordinary conditions; there would not be money enough to do it.

MR. LOWELL: We would simply lose the money on those fields that failed to pass inspection; on those that did pass we would get something.

MR. ROBERTS: If we inspected 100 acres and got in \$250 and had to pay back half of that, where would we get the money? If we get it out of what is paid in, the fee is too large. If you send your inspectors out and pay them \$250, you will not have anything to pay back. Of course, if that amount is larger than is necessary, the proper thing to do is to cut it down to the actual cost.

DR. WOODS: As I understand it, this inspection fee which is paid is not used for the purpose of inspection at all, but is turned automatically into the State Treasury so that the point raised by the speaker does not count. If it is possible for the executive committee to change this, so that the money paid in could be held by them as a matter of trust and used towards the actual inspection, and then, if the inspection is not worth while, the money could be returned to the man without in any way infringing upon the state appropriation of \$3,000. Perhaps it would be well to do this. The committee would have to take this matter up pretty carefully with the Attorney General and the Auditing Department, to see if the matter could be arranged so there would be no financial difficulties.

MR. ROBERTS: I do not see how that is going to benefit. Supposing the Association has 100 acres and pays \$250 for the inspection and that goes directly to the State Treasury, it can be drawn out by the consent of the Governor and Council. The fees are turned into what is called the Contingent Fund and it is understood, and the Governor has repeated it frequently, that this money, while it is turned into that fund, is available for the purpose for which it is supposed to be used. It is only necessary to have an order of the Governor and Council to secure it.

MR. COPELAND: I am very glad to hear this explanation. It has been a mystery to me why we could not use this money as

we saw fit. The fund was created by us and I wondered why we could not use it as we thought best for the interests of the Association. This explains it somewhat. Now in regard to the rules, we did not make any provision for any rebates at the time the rules were adopted and anything along this line I think could be better handled by the executive committee. The suggestions we make here today, I believe, will be very helpful to the executive committee.

MR. NEWDICK: Speaking of reputations on seed, I have here a letter from one of our men. I sent him a card, asking him how many barrels of certified seed he had on hand, how many he had sold and where his market was, and received the following:

"Replying to yours of recent date, I sold my certified seed potatoes through the _____ Company, and I do not know where they will go. I have had inquiries from men in Virginia, Tennessee, Connecticut and Massachusetts. I wish I had all the certified seed I could have sold."

That man had 20 acres. I am still of the opinion that, if we had put in what time was necessary in Aroostook county, or any part of Maine, we could have gotten 1,000 acres, but we could not get the men. I raked the state to get a man of whom I could say, "Here is my Chief Inspector and I can bank on him." You know as well as I do that every available man is not the right man to put into the field. When we got a man it was late, but we did the best we could at that season of the year. I think it may be possible another season to get all the acreage we can handle.

In regard to this matter of rebates, it is nothing more or less than free inspection; at least, it is pretty near to free inspection. Dr. Woods spoke of the calls for seed from his two farms. If people would not look to the Experiment Station farms for good seed I do not know where they would look. I am glad he has the reputation.

In relation to the matter of free inspection, I had some contact with it this fall in the Government work. Their proposition was based on free inspection altogether, this year. The first thing that comes to my mind is this: To whom are you going to give the free inspection? Who is going to say? There are

100 farmers and so many miles of territory. One man has just as much right to inspection as another. If you are working with Government or State money, I do not see how you are going to draw the line. You can make rules, saying a man shall have 25 or 30 acres before he is entitled to free inspection, or something like that, which may work; but when you are working on a broad basis, with Government and State money, a free project I think is a trembly affair. But if this Association decides that a free inspection should be carried out, I will go into the field and do the best I can. I am still of the opinion, however, that anything that will not bear its own weight, will not come up with a fee large enough to maintain it, is not what it should be. I am new in this work, it is only my second year, and if older heads believe a free inspection should be attempted and are willing to put their time into formulating rules for putting a free inspection into the field, I shall be only too glad to attempt it; but I still insist that I think a fee should be put on, not only to cover the cost but to give it a value to the man who wants it.

MR. ADAMS: To get this free inspection, doesn't the grower have to sign some agreement as to what he shall do with the crop?

MR. NEWDICK: This brings up the marketing end. Yes, the Government did make this proposition, that they would ask the grower to hold those potatoes for a certain length of time. They asked me to go into the field with that understanding and I refused, because I do not believe we have a right to ask any man who is in business to hold his crop two months or three months, or for two days. If he has a chance to make a sale I think he ought to be in a free position to make it. I do not believe it is right to ask a man to hold his crop for the Government to go South and start an advertising campaign, depending on him. I think he should be free to sell the minute he gets a good chance.

MR. ROGERS: I don't see how you are going to work free inspection. There are some things that I wish we could get down to, as an Association. In my opinion, we never have started just right. Perhaps I am judging mostly from my own experience. I have tried for years to breed up a strain of potatoes by individual selection. I can start with individual potatoes that, at the end of three years, will produce 500 to 600 bushels per

acre, and there are others that were apparently as good when I started that will not produce more than 50 or 60 bushels; and in three to five years diseases will exist so that I will have to start over again. That is the condition we are certainly facing in the southern part of the state, and you can never get anywhere in that way. A few years ago I had potatoes free from net-necrosis. Last year they had a little and this year I dare not sell them in the market, because of this disease. Two years ago I got some Delawares in the Northern part of the state and this year they show net-necrosis. Last spring I got some Green Mountains, as fine as you could ask for, but at the end of three years they will be diseased and I shall be out again. The point I wish to make is, that I have got to have some sources of supply for my own seed. There are potatoes in this state, on a few farms, that are free from disease, and will do finely for seed, and that is where we should start. Get potatoes free from disease, in sections where disease is not prevalent, and then, have it arranged so that those who want to grow certified seed to sell outside of the state can have a source from which to renew their seed whenever they wish. I did not have any potatoes to sell for seed this year, because, as a member of the Seed Improvement Association, I had absolutely refused to sell any seed without a blue tag on it; that I could stand behind, and I have not been able to stand behind a certificate, and have not put the blue tag on anything I have sold.

As far as a fee is concerned, I wouldn't undertake to do inspection work and have it free. You cannot discriminate. You must take everybody, up to the limit. The Department would not know where it was if it undertook to rebate and do this work free. If the inspection is not worth paying for it is not worth having. If we cannot get results that will warrant us in paying out \$2.50 per acre, I do not want anything to do with it. I am perfectly willing to pay for what I get. You cannot do that free and make a success.

MR. PORTER: I would suggest that perhaps it might be possible for us to pay. I think, with Mr. Newdick and the others, that we should pay for the inspection work, but there is always a feeling of uncertainty among the farmers as to whether their stock will be sold for an advanced price or not, and there is

always a feeling of certainty that they must pay the inspection, anyway. So it is sometimes hard to get the small farmer, or the average farmer, interested, and he is the man we want. I would suggest that perhaps it might be possible for us to change our plan in the matter of fees. Instead of having 50 cents for entrance fee, and then \$1.00 for each of the field inspections and 5 cents per sack for the final inspection, perhaps it would work out better if we charged the 50 cents entrance fee, and then 7 cents for the last inspection rather than 5, if that would amount to the same thing. Then the man who was actually selling certified seed at a premium could easily pay the 7 or 10 cents rather than pay for something that was of no benefit to him. If he actually gets the benefit, he is able and willing to pay. That would simply change the method of raising the money.

MR. ROBERTS: With your system, wouldn't it be necessary for the farmer to promise to sell his potatoes for seed if they passed the inspection?

MR. PORTER: I do not think it would be possible to get any man to tie down to the sale of his potatoes for any particular purpose. He is going to sell his potatoes where he can get the most money.

MR. ROBERTS: I have in mind where you are going to get the money. If you hire your inspectors and the most of the men whose fields are inspected sell for table stock you will not get any money; and the very fact that you increase the cost of tuber inspection is an incentive to sell for table purposes.

MR. PORTER: That is true, but take it under present conditions. Six weeks ago the farmer who was really studying market conditions in the United States was ready to sell his potatoes, whether he sold them for table stock or for seed. He may have made a mistake, but you would have had to make a pretty big offer for certified seed above the then prevailing table stock prices to make him hold them until the present time.

MR. ROBERTS: I am not advocating that. I mentioned the fact that there is a weakness in your system. If we have the inspection we must have the money, unless we call on the state for the money, and if we call on the state we have to take in everybody and treat them all alike.

MR. ROGERS: I know what it is to try to do this work and not know where you are at. It puts a burden on your secre-

tary that he should not be obliged to carry. When I was in the work I asked Mr. Guptill several times to name some amount of money which we could have, but he never gave me an answer. I did not know whether we were going to have any money, or how much. I want you to understand that the secretary cannot do any work that is a credit to himself or to you if he has to work under those conditions. I do not want to see any other secretary work under those disadvantages. When it came to the final inspection I could not have anything. I had to be personally responsible for the money for that final inspection. You cannot do business in that way. The secretary must know that the money is coming in to do this work. I do not see any other way than that those who have the work done should pay the bills and take their chances. We have to run risks on everything. I am certain I would take my chances if I knew that I had seed to plant that was all right. I would take my seed and pay my fee, and sell my potatoes where I could get the most out of them. This year we have been getting \$2.00, and I would not hold them a minute for seed prices, whether I had paid the fees or not.

MR. COPELAND: We have the worst difficulty in not having a precedent to go by. I think it would be an excellent plan to write to the Ontario Seed Association and find out what they have done. I do not think we could formulate any rules today in this open meeting, but we will have to leave the matter with those who have it in charge.

DR. WOODS: A matter that bears on this rebate, but which is outside of our line of discussion, is the method employed in the advanced registry work, for cattle. The man who has his cattle tested for advanced registry pays the expense. If his cows do not make good he has no come back, and, so far as I know, there is no holding up of advanced registry work because a man cannot have his money refunded. This is simply an analogy that the committee might keep in mind if they discuss a change in these rules.

MR. NEWDICK: I would just like to mention the policy I have carried out this fall. It is practically in keeping with what we are talking about. My inspection blanks show just how many acres were inspected of the first inspection and of the second inspection. If some acres were dropped, those blanks

show it. I have not rebated all that money because I did not know how I was coming out, but I have cut down on the bill which was sent to the grower. In one instance I rebated the whole amount. That was due to a long letter of explanation, a long protest that was entered. In every instance where there has been any amount of seed turned down I have at least cut the bill in two. I saw there was some money available, and from a personal standpoint I think that was the only thing I could do; and it seems to me that that is not an entirely unworkable proposition—to rebate as far as your money holds out.

The following officers were elected: President, Guy C. Porter, Houlton; Vice-president, N. H. Rich, Charleston; Secretary, E. L. Newdick, Augusta; Treasurer, C. M. White, Bowdoinham; Members of Executive Committee, A. E. Hodges of Fairfield, Henry H. Brock of Alfred; Member of Experiment Station Council, W. G. Hunton, Cherryfield; Delegates to Federation of Agricultural Associations, L. C. Holston of Cornish, R. L. Copeland of Brewer; Visitor to College of Agriculture, H. M. Tucker, Augusta.

REPORT OF COMMITTEE ON RESOLUTIONS.

The Maine Seed Improvement Association, in annual session assembled, believing our first thought should be as to what use this Association can make of its organization and the knowledge gained through past years' experience for the good of our State and Nation, therefore, be it

Resolved, That we believe the idea can best be carried out by the adoption of the following recommendations:

First, that the Executive Committee of this Association maintain a closer touch with the Chief of the Bureau of Seed Improvement, Department of Agriculture, and assist in framing a policy for 1918 that will be state wide in its influence for improved seed.

Second, that an increased crop production under present labor conditions depends more than ever before upon improved seed, and that this principle should be impressed upon the public as never before.

Third, that in view of the threatened scarcity of all farm seeds, it is recommended that farmers secure their seed early

for next spring's planting, and that the secretary should continue to lend all possible assistance in any campaign for the betterment of the seed situation in the state.

Fourth, that this Association heartily endorses the policy and work of the Food Administration.

Fifth, that wherever seed improvement meetings are held by county organizations, our Association should continue to render every possible assistance, such as furnishing exhibit crates, etc., and that the cooperation of such organizations be solicited in behalf of exhibits for our annual meeting.

Sixth, that in view of the shortage of feed stuffs and transportation facilities, members of the Association and farmers everywhere should produce more grains another year, and also be it

Resolved, That we earnestly thank the town of Newport for the cordial and efficient manner in which it has provided for the entertainment of our Association, and the railroads for their cooperation in making our conference a success.

Respectfully submitted,

C. M. WHITE,
M. D. JONES,
G. N. WORDEN,
Committee.

Voted, that the report of the committee on resolutions be accepted.

The following communication was presented by C. M. White:

“ELLSWORTH, ME., Dec. 4, 1917.

“To the Officers and Members of the Maine Seed Improvement Association:

“The Hancock County Farm Bureau wishes to extend to the Maine Seed Improvement Association its hearty thanks for the invaluable assistance rendered at the time of our County Seed Improvement Meeting on November 15, by way of the loan of exhibition crates which contributed largely to the success of the meeting. S. L. Burns, In Charge Crops, Hancock County Farm Bureau.”

BUSINESS MEETING OF THE MAINE LIVESTOCK BREEDERS' ASSOCIATION.

In the absence of the president of the Association, Dr. H. M. Moulton, the eighth annual meeting of the Association was called to order, at 9 A. M., by F. S. Adams, a former president. With Mr. Adams acting as chairman, the Association proceeded to business.

The records of the last annual meeting were read by the secretary and approved.

The secretary, E. W. Morton, stated that, as he had been serving in that capacity only three months, during which time his principal duty had been to make arrangements for this annual meeting, he had no special report to present at this time.

REPORT OF THE TREASURER.

RECEIPTS.

1916		
Dec. 5,	Amount on hand	\$176 34
14,	Received from N. C. Sherwood ..	11 75
		<hr/>
	Total receipts	\$188 09

EXPENDITURES.

1917		
June 20,	Paid L. S. Merrill, Secretary, Maine Federation of Agricultural Associations ..	\$ 4 00
Dec. 6,	Amount on hand	184 09
		<hr/>
		\$188 09

Respectfully submitted,

A. H. ELLIS,
Treasurer.

The committee, appointed at the last annual meeting to bring before the legislature the matter of more just reimbursement for pure bred animals condemned for tuberculosis, was called upon to report. Mr. Tucker, for the Committee, stated that it had held one conference and found that the trouble was not so much with the law as with the rules and regulations put out by the Livestock Sanitary Commissioner. It was thought that, under the new administration, a new Livestock Sanitary Commissioner would be appointed and in that event there would be no doubt that the matter would be remedied, therefore nothing was done. As no new Commissioner had been appointed, the committee felt that perhaps it had been negligent in the performance of its duty.

The matter was discussed at some length by members of the Association and Mr. Bearce, the Livestock Sanitary Commissioner. It seemed to be the prevailing opinion among the members that the rules and regulations in this regard were unjust and arbitrary.

Voted, that this committee on legislation be continued.

Committees were appointed as follows: Committee on Nomination of Officers for the ensuing year, C. L. Pike, C. L. Jones, L. C. Holston; Committee on Resolutions, A. H. Ellis, W. B. Kendall, E. W. Morton.

The following officers were presented by the nominating committee and duly elected by the Association:

President, A. E. Hodges.

Vice-presidents:

Androscoggin, C. I. Gilbert.

Aroostook, W. R. Christie.

Cumberland, C. E. Cobb.

Franklin, G. M. Luce.

Hancock, Charles M. Whitcomb.

Kennebec, R. O. Jones.

Knox, George E. Nash.

Lincoln, William Taylor.

Oxford, A. D. Cummins.

Penobscot, E. M. Atkins.

Piscataquis, S. R. Woodward.

Somerset, L. G. Trafton.

Sagadahoc, W. M. Dingley.

Waldo, S. A. Piper.

Washington, Mrs. B. B. Mansfield.

York, Herbert Coffin.

Secretary, E. W. Morton.

Treasurer, A. H. Ellis.

Executive Committee: W. B. Kendall, C. R. Leland, J. A. Ness, L. E. McIntire.

Delegates to Maine Federation of Agricultural Associations: C. L. Pike, Alton S. Pope.

Member of Experiment Station Council: L. C. Holston.

Visitor to College of Agriculture: Herbert B. Bailey.

REPORT OF COMMITTEE ON RESOLUTIONS.

Resolved, That the Maine Livestock Breeders' Association, realizing the necessity for maintaining the present supply of dairy products and numbers of livestock, which are so essential to the maintenance and well-being of our Nation, its forces, and our allies, is fully in accord with the work of the State and Federal Food Administration, and in pledging our support we ask in return that, in so far as is within its power, the Federal Food Administration will extend its cooperation and assistance in insuring just returns for our products and in protecting the livestock interests of the state.

Resolved, That the Association reaffirms its objections to the present rules of the Livestock Sanitary Commissioner, relative to the reimbursement for pure bred animals condemned for tuberculosis.

Resolved, That the Association expresses its appreciation for the generous treatment accorded its members by the people of Newport, in the entertainment of the Association for this meeting.

A. H. ELLIS,
W. B. KENDALL,
E. W. MORTON,

Committee.

It was voted that this report be accepted, and that the resolutions be placed upon the records.

The matter of the place at which the next annual meeting should be held was left with the executive committee.

STATISTICS OF AGRICULTURAL SOCIETIES.

OFFICERS OF AGRICULTURAL SOCIETY

NAME OF SOCIETY.	President.	P. O. Address.	Secretary.	P. O. Address.	Treasurer.	P. O. Address.
Maine State Agricultural Society...	B. J. Libby.....	Oakland.....	J. L. Lowell.....	Auburn.....	T. F. Callahan.....	Lewiston.
Eastern Maine State Fair.....	H. A. Chapman.....	Bangor.....	S. T. White.....	Bangor.....	James A. Dunning.....	Bangor.
Central Maine Fair.....	S. E. Whitcomb.....	Waterville.....	R. M. Gilmore.....	Waterville.....	F. D. Robinson.....	Waterville.
Maine State Pomological Society...	George A. Yeaton.....	Norway.....	E. L. White.....	Bowdoinham.....	T. E. Chase.....	Buckfield.
Maine State Poultry Association...	George P. Coffin.....	Freeport.....	A. L. Merrill.....	Auburn.....	W. Edw. Scott.....	Portland.
Androscoggin County.....	John Look.....	North Jay.....	Charles D. Dyke.....	Livermore Falls.....	George W. Dyke.....	Livermore Falls.
Androscoggin, Greene Town Fair Association.....	W. L. Mower.....	Greene.....	W. O. Philbrook.....	Greene.....	J. C. Wood.....	Greene.
Androscoggin, Leeds.....	A. L. Thomas.....	North Leeds.....	H. W. Lincoln.....	Leeds Center.....	W. B. House.....	Leeds Center.
Aroostook, Northern Maine Fair Association.....	J. F. Guiou.....	Presque Isle.....	E. T. McGlauffin.....	Presque Isle.....	John E. Bishop.....	Presque Isle.
Aroostook, Houlton.....	Nathaniel Tompkins.....	Houlton.....	Andrew J. Saunders.....	Houlton.....	Robert M. Lawlis.....	Houlton.
Aroostook County Fair Association			R. R. Ryder.....	Caribou.....	John Clark.....	Caribou.
Cumberland County.....	C. W. Chaplin.....	Gorham.....	F. E. Moulton.....	Gorham.....	H. C. Palmer.....	Gorham.
Cumberland Farmers' Club.....	A. W. Stanley.....	Cumberland Ctr.....	Willard Wilson.....	Cumberland Ctr.....	Willard Wilson.....	Cumberland Ctr.
Cumberland, New Gloucester and Danville.....	C. L. McCann.....	New Gloucester.....	J. P. Witham.....	New Gloucester.....	George C. Jordan.....	Upper Gloucester.
Cumberland, Freeport Poultry Association.....	A. Q. Carter.....	Jefferson.....	George P. Coffin.....	Freeport.....	L. E. Curtis.....	Freeport.
Cumberland, Bridgton.....	Fred S. Hanson.....	Bridgton.....	Howard W. Jones.....	Bridgton.....	Joseph T. Bardsley.....	Bridgton.
Franklin County.....	C. M. Hobbs.....	West Farmington.....	George D. Clark.....	Farmington.....	C. H. Pierce.....	Farmington.
Franklin, North.....	Bion Wing.....	Phillips.....	J. I. Harnden.....	Phillips.....	Howard Ross.....	Phillips.
Hancock County.....	F. P. Merrill.....	Bluehill.....	N. L. Grindell.....	South Penobscot.....	M. R. Hinkleley.....	Bluehill.
Hancock, Eden.....	Charles L. Shand.....	Bar Harbor.....	Julien Emery.....	Salisbury Cove.....	Charles F. King.....	Eden.
Kennebec, Cochenewagan.....	H. H. Witherell.....	Monmouth.....	W. E. Reynolds.....	Monmouth.....	Charles Berry.....	Monmouth.
Kennebec County.....	E. E. Peacock.....	Readfield.....	E. E. Peacock.....	Readfield.....	F. A. Walker.....	Readfield.
Kennebec, South.....	Leslie B. Hisler.....	Windsorville.....	Arthur N. Douglass.....	Gardiner, R. F. D. 9.....	Jasper S. Gray.....	Windsorville.
Knox, North.....	E. E. Thurston.....	Union.....	H. L. Grinnell.....	Union.....	George C. Hawes.....	Union.
Lincoln County.....	George D. Pastorius.....	Damariscotta.....	J. A. Perkins.....	Nobleboro.....	H. E. Winslow.....	Damariscotta.
Lincoln, Bristol.....	Everett W. Sproul.....	Bristol.....	J. Wilbur Hunter.....	Damariscotta.....	E. B. Woodward.....	Damariscotta.
Oxford County.....	W. J. Wheeler.....	South Paris.....	W. O. Frothingham.....	South Paris.....	W. O. Frothingham.....	South Paris.
Oxford, West.....	C. W. Farrington.....	Fryeburg.....	B. Walker McKeen.....	Fryeburg.....	Alvin D. Merrill.....	Fryeburg.
Oxford, North.....	Young A. Thurston.....	Andover.....	J. F. Talbot.....	Andover.....	Matthias Mooney.....	Andover.
Oxford, Western Maine Poultry Association.....	H. E. Lovejoy.....	Norway.....	E. P. Crockett.....	South Paris.....	D. H. Bean.....	South Paris.
Penobscot, West.....	E. M. Atkins.....	Dexter, R. F. D. 3.....	E. E. Colbath.....	Dexter, R. F. D. 3.....	F. C. Barker.....	Exeter, R. F. D. 1

Penobscot, North	C. M. Lombard	Springfield	I. R. Averill	Pretiss	J. C. Butterfield	Springfield
Penobscot, Orrington	Chas. H. Chapman	South Brewer, R. F. D. 1.	F. Elmer King	South Brewer, R. F. D. 1.	-	South Brewer, R. F. D. 1.
Penobscot, Bangor Poultry Ass'n.	J. P. Webster	Bangor, Webster Ave.	E. D. Baker	Bangor, Box 162	E. D. Baker	Bangor, Box 162
Piscataquis County	C. W. Hayes	Foxcroft	John A. Wiles	Foxcroft	A. J. McNaughton	Foxcroft
Sagadahoc County	L. T. Skelton	Bowdoinham	E. C. Patten	Topsham	I. R. Morrell	Brunswick
Sagadahoc, Richmond Farmers' and Mechanics' Club	U. G. Patten	Gardiner	N. H. Skelton	Richmond	E. H. Stewart	Richmond
Somerset County	Mark Gray	Anson	J. Frank Withee	Macison	Walter G. Hilton	Anson
Somerset, East	F. S. Burrill	Hartland	E. A. Webber	Hartland	E. A. Webber	Hartland
Somerset, Central	L. E. Jacobs	Skowhegan	S. H. Pradbury	Skowhegan	J. W. Fogler	Skowhegan
Somerset, Four County Fair Ass'n.	A. H. Burse	Pittsfield	John C. Gordon	Pittsfield	William L. Pushor	Pittsfield
Somerset, Embden	Fred C. Ward	Solon	Chester K. Williams	North Anson	George H. Delling	North Anson
Somerset, Harmony Grange Fair Association	R. E. Gould	Harmony	P. B. Chadbourne	Harmony	Helen Bailey	Harmony
Somerset, Solon	Chester Grant		Joseph Matson	Solon, Box 18	John McCall	
Waldo and Penobscot	F. A. Littlefield	Monroe	F. H. Putnam	Monroe	G. A. Palmer	Monroe
Waldo, New Belfast Fair	Harry E. Bangs	Belfast	H. C. Buzzell	Belfast	T. Frank Parker	Belfast
Waldo, Unity Park Association	J. H. Campbell	Plymouth	Edwin T. Reynolds	Unity	Edwin T. Reynolds	Unity
Waldo, Tranquility Grange Fair Association	J. S. Mullen	Lincolnville	L. C. Rankin	Lincolnville	J. H. Peavey	Lincolnville
Washington, West	R. M. Allen	Columbia Falls	W. S. Coffin	Harrington	G. G. Freeman	Cherryfield
Washington, Machias Valley	William G. Means	Machias	Frank S. Ames	Machias	George B. Boynton	Machias
Washington, Calais Fair Association	Fred Pickard	Calais	William J. Ryan	Calais	E. E. Higgins	Calais
York, Shapleigh and Acton	Simon N. Ricker	Emery Mills	George T. Crediford	Shapleigh	Geo. H. Twombly	Emery Mills
York, Cornish	Fred P. Chick	Cornish	Leon M. Ayer	Cornish	Charles Bradeen	Cornish

ANALYSIS OF EXHIBITIONS.

NAME OF SOCIETY.	Number of horses and colts.	Number of thoroughbred bulls and bull calves.	Number of thoroughbred cows, heifers and heifer calves.	Number of grade cows, heifers and heifer calves.	Number of oxen and steers.	Number of animals for beef.	Number of cattle shown in herds.	Total number of neat stock.	Number of sheep.	Number of swine.	Number of poultry (coops).
Maine State Agricultural Society.....	130	65	260	86	210	48	236	669	300	72	1,500
Eastern Maine State Fair.....	-	29	91	-	6	-	-	126	145	30	250
Central Maine Fair.....	33	112	258	6	110	47	189	533	255	20	-
Maine State Pomological Society.....	-	-	-	-	-	-	-	-	-	-	6 00
Maine State Poultry Association.....	-	-	-	-	-	-	-	-	-	-	-
Androscoggin County.....	18	4	25	20	22	6	-	77	33	16	18
Androscoggin, Greene Town Fair Association...	3	6	27	9	10	-	15	52	15	10	18
Androscoggin, Leeds.....	25	4	-	27	24	-	-	55	10	30	10
Aroostook, Northern Maine Fair Association...	92	43	97	12	-	-	68	152	89	61	175
Aroostook, Houlton.....	82	45	97	9	4	-	50	155	20	19	50
Aroostook County Fair Association.....	24	4	9	4	-	-	-	17	-	2	134
Cumberland County.....	73	8	6	34	124	6	37	178	105	11	76
Cumberland Farmers' Club.....	24	12	10	6	36	-	-	54	6	-	50
Cumberland, New Gloucester and Danville.....	28	12	40	40	14	-	15	106	7	35	18
Cumberland, Freeport Poultry Association.....	-	-	-	-	-	-	-	-	-	-	550
Cumberland, Bridgton.....	70	-	5	15	35	10	25	65	12	-	-
Franklin County.....	84	35	137	97	300	96	118	665	217	4	210
Franklin, North.....	65	10	20	110	86	14	64	240	30	-	165
Hancock County.....	14	4	3	23	42	-	-	72	6	1	8
Hancock, Eden.....	-	-	4	-	-	-	-	4	6	5	13
Kennebec, Cochenewagan.....	17	12	45	3	12	-	-	72	4	18	13
Kennebec County.....	31	14	39	20	68	12	20	153	-	14	75
Kennebec, South.....	13	10	13	36	120	5	10	184	-	3	9

OFFICERS OF AGRICULTURAL SOCIETIES.

Knox, North.....	22	15	27	42	124	4	30	212	31	1	17
Lincoln County.....	37	6	11	23	48	4	20	92	-	4	19
Lincoln, Bristol.....	6	-	-	10	16	2	-	28	-	3	1
Oxford County.....	102	34	88	76	114	10	72	322	33	9	148
Oxford, West.....	63	21	84	110	210	40	68	465	14	-	40
Oxford, North.....	24	4	24	31	44	4	15	107	30	24	20
Oxford, Western Maine Poultry Association.....	-	-	-	-	-	-	-	-	-	-	461
Penobscot, West.....	40	26	88	63	44	3	72	224	98	24	100
Penobscot, North.....	8	1	-	12	-	-	-	13	-	-	1
Penobscot, Orrington.....	7	2	-	7	-	-	-	13	-	-	2
Penobscot, Bangor Poultry Association.....	-	-	-	-	-	-	-	-	-	-	803
Piscataquis County.....	22	8	50	23	12	-	36	93	4	12	3
Sagadahoc County.....	60	40	195	86	60	18	48	399	120	40	182
Sagadahoc, Richmond Farmers' and Mechanics' Club.....	9	1	4	13	14	-	-	32	6	1	4
Somerset County.....	25	7	18	49	50	10	11	134	6	-	12
Somerset, East.....	33	5	15	31	14	6	21	71	24	11	157
Somerset, Central.....	22	17	60	50	28	20	-	175	69	9	126
Somerset, Four County Fair Association.....	16	19	48	32	28	10	25	137	103	6	165
Somerset, Embden.....	14	10	26	14	5	-	50	55	7	-	-
Somerset, Harmony Grange Fair Association.....	13	2	30	60	6	-	-	98	12	19	8
Somerset, Solon.....	14	-	-	12	8	-	5	22	10	-	-
Waldo and Penobscot.....	25	13	39	48	34	14	36	161	36	1	33
Waldo, New Belfast Fair.....	-	2	15	12	2	-	18	31	-	8	55
Waldo, Unity Park Association.....	68	7	12	26	20	24	38	89	9	12	5
Waldo, Tranquility Grange Fair Association.....	12	1	-	4	4	-	3	12	6	1	6
Washington, West.....	14	12	22	20	8	-	6	62	32	4	19
Washington, Machias Valley.....	16	3	7	5	11	-	-	26	8	23	39
Washington, Calais Fair Association.....	7	3	10	2	-	-	-	18	-	3	-
York, Shapleigh and Acton.....	-	-	-	2	58	-	-	60	-	-	12
York, Cornish.....	7	5	22	43	88	4	20	162	-	3	20
	1,512	695	2,081	1,463	2,273	417	1,445	6,942	1,918	569	6,394

ANALYSIS OF AWARDS.

NAME OF SOCIETY.	Amount of premiums awarded trotting bred stallions.	Amount of premiums awarded trotting bred brood mares.	Amount of premiums awarded draft stock stallions.	Amount of premiums awarded draft stock brood mares.	Amount of premiums awarded family horses.	Amount of premiums awarded gentlemen's drivers.	Amount of premiums awarded matched carriage horses.	Amount of premiums awarded colts.	Amount of premiums awarded horses for draft.
Maine State Agricultural Society	\$120 00	\$30 00	\$130 00	\$18 00	-	\$50 00	\$35 00	\$112 00	\$135 00
Eastern Maine State Fair	100 00	100 00	75 00	-	\$35 00	40 00	-	-	250 00
Central Maine Fair	23 50	17 00	60 50	46 00	15 00	25 00	10 00	-	187 00
Maine State Pomological Society	-	-	-	-	-	-	-	-	-
Maine State Poultry Association	-	-	-	-	-	-	-	-	-
Androscoggin County	14 00	10 00	-	-	-	15 00	-	21 00	25 00
Androscoggin, Greene Town Fair Association	-	-	-	-	-	-	-	1 50	22 00
Androscoggin, Leeds	-	-	-	-	-	2 00	-	-	30 65
Aroostook, Northern Maine Fair Association	40 00	28 00	140 00	88 00	28 00	12 00	18 00	277 50	240 50
Aroostook, Houlton	24 00	20 00	118 00	36 00	43 00	5 00	-	151 00	62 00
Aroostook County Fair Association	-	-	27 00	18 00	-	-	-	18 00	15 00
Cumberland County	16 00	-	-	-	-	25 00	-	58 00	75 00
Cumberland Farmers' Club	-	3 00	-	-	-	-	-	2 00	53 13
Cumberland, New Gloucester and Danville	7 00	3 00	-	-	5 00	5 00	3 00	9 00	22 00
Cumberland, Freeport Poultry Association	-	-	-	-	-	-	-	-	-
Cumberland, Bridgton	18 00	6 00	15 00	-	6 00	-	7 00	18 00	-
Franklin County	12 00	9 00	-	9 00	13 00	15 00	-	45 00	144 00
Franklin, North	5 25	9 00	-	4 50	-	6 00	4 00	18 75	20 00
Hancock County	5 00	4 00	-	-	-	-	2 00	18 00	-
Hancock, Eden	-	-	-	-	-	-	-	-	-
Kennebec, Cochnewagan	-	1 25	3 00	75	-	-	-	1 75	21 60
Kennebec County	-	5 00	5 00	8 00	5 00	5 00	6 00	7 00	12 00
Kennebec, South	-	-	-	-	-	-	-	13 00	-
Knox, North	6 00	-	5 00	2 00	3 00	2 50	2 50	16 00	45 00

Lincoln County	-	-	5 00	2 00	3 00	10 00	5 00	17 00	24 00
Lincoln, Bristol	-	-	-	-	-	-	-	-	-
Oxford County	21 00	23 00	12 00	12 00	-	25 00	-	67 00	167 00
Oxford, West	23 00	23 00	8 00	21 00	-	-	19 50	24 00	40 00
Oxford, North	4 00	8 00	4 00	12 00	-	4 00	-	12 00	40 00
Oxford, Western Maine Poultry Association	-	-	-	-	-	-	-	-	-
Penobscot, West	7 00	-	4 00	6 00	10 50	8 00	5 00	17 50	109 00
Penobscot, North	1 50	-	3 00	3 00	-	1 50	-	-	-
Penobscot, Orrington	-	-	-	-	-	4 50	-	6 00	3 00
Penobscot, Bangor Poultry Association	-	-	-	-	-	-	-	-	-
Piscataquis County	-	-	5 00	7 00	3 00	3 00	-	5 00	55 00
Sagadahoc County	27 00	10 00	20 00	10 00	8 00	-	-	50 00	150 00
Sagadahoc, Richmond Farmers and Mechanics Club	2 00	1 00	1 00	1 00	3 00	50	-	1 50	20 00
Somerset County	5 00	5 00	3 00	3 50	5 00	6 00	3 00	9 50	18 00
Somerset, East	11 00	12 00	5 00	9 00	-	14 00	-	31 00	21 00
Somerset, Central	-	-	-	7 00	5 00	18 00	-	13 00	113 00
Somerset, Four County Fair Association	-	-	5 00	-	-	26 00	5 00	9 00	72 50
Somerset, Embden	-	-	-	-	-	-	-	-	25 00
Somerset, Harmony Grange Fair Association	-	-	-	-	-	2 00	-	2 50	10 00
Somerset, Solon	-	-	-	-	-	-	-	7 00	14 00
Waldo and Penobscot	-	-	-	-	6 00	-	-	6 00	116 00
Waldo, New Belfast Fair	-	-	-	-	-	-	-	-	25 00
Waldo, Unity Park Association	11 00	6 00	12 00	8 00	16 00	8 00	16 00	20 00	35 00
Waldo, Tranquility Grange Fair Association	-	3 50	-	2 00	-	2 00	2 50	2 75	5 00
Washington, West	-	-	-	-	-	15 00	-	35 00	64 00
Washington, Machias Valley	-	-	9 00	4 50	13 70	-	1 80	18 90	4 50
Washington, Calais Fair Association	8 00	-	-	6 00	-	8 00	-	12 00	-
York, S'apleigh and Acton	-	-	-	-	-	-	-	-	-
York, Cornish	-	4 00	-	-	-	4 00	-	16 00	-
	\$511 25	\$340 75	\$674 50	\$343 25	\$226 20	\$367 00	\$145 30	\$1,170 15	\$2,488 88

OFFICERS OF AGRICULTURAL SOCIETIES.

ANALYSIS OF AWARDS—Continued.

NAME OF SOCIETY.	Amount of premiums awarded thoroughbred bulls and bull calves.	Amount of premiums awarded thoroughbred cows, heifers and heifer calves.	Amount of premiums awarded grade cows, heifers and heifer calves.	Amount of premiums awarded herds.	Amount of premiums awarded working oxen and steers.	Amount of premiums awarded matched oxen and steers.	Amount of premiums awarded trained steers.	Amount of premiums awarded beef cattle.	Amount of premiums awarded town teams.	Amount of premiums awarded oxen and steers for draft.
Maine State Agricultural Society.....	\$230 00	\$760 00	\$150 00	\$334 00	\$84 00	\$72 00	\$20 00	\$164 00	\$225 00	\$367 00
Eastern Maine State Fair.....	192 00	413 00	105 00	455 00	-	-	-	-	-	-
Central Maine Fair.....	431 50	875 00	9 50	296 00	54 50	112 00	10 00	126 00	97 50	210 00
Maine State Pomological Society.....	-	-	-	-	-	-	-	-	-	-
Maine State Poultry Association.....	-	-	-	-	-	-	-	-	-	-
Androscoggin County.....	8 00	36 00	32 00	-	7 00	18 00	-	12 00	-	18 00
Androscoggin, Greene Town Fair Association.....	3 00	15 00	1 55	-	-	-	-	-	-	6 00
Androscoggin, Leeds.....	2 00	3 20	3 00	-	5 00	3 00	2 00	-	-	17 20
Aroostook, Northern Maine Fair Association.....	332 00	756 00	65 00	134 00	-	-	-	-	-	-
Aroostook, Houlton.....	201 00	479 00	27 00	161 00	-	14 00	-	-	5 00	-
Aroostook County Fair Association.....	11 00	25 50	10 50	-	-	-	-	-	-	-
Cumberland County.....	24 00	44 00	94 25	41 00	23 00	28 00	24 00	14 00	30 00	189 00
Cumberland, Farmers' Club.....	4 00	16 00	11 00	5 00	25 00	25 00	-	9 00	27 00	45 75
Cumberland, New Gloucester and Danville.....	19 00	92 00	41 00	25 00	6 00	-	2 00	-	-	-
Cumberland, Freeport Poultry Association.....	-	-	-	-	-	-	-	-	-	-
Cumberland, Bridgton.....	-	8 50	12 00	10 00	19 00	13 00	5 00	8 50	36 00	75 00
Franklin County.....	76 50	281 00	97 00	29 50	125 00	108 00	5 00	63 00	180 00	53 00
Franklin, North.....	6 65	7 15	30 75	33 00	3 00	10 60	1 50	4 50	35 00	30 00
Hancock County.....	14 00	6 00	45 00	-	-	58 00	-	-	-	-
Hancock, Eden.....	-	-	4 50	-	-	-	-	-	-	-
Kennebec, Cochnewagan.....	4 30	11 30	1 10	21 00	5 00	5 50	-	-	-	5 00
Kennebec County.....	18 00	44 00	21 00	19 00	33 00	11 00	8 00	28 00	25 00	27 00
Kennebec, South.....	24 50	20 25	32 75	13 00	25 25	24 50	3 00	8 25	42 00	19 00
Knox, North.....	27 50	27 75	19 50	29 00	31 25	18 50	-	2 00	51 00	31 00

Lincoln County.....	13 00	14 50	17 00	8 00	7 50	18 00	-	2 00	20 00	46 00
Lincoln, Bristol.....	-	-	4 00	-	5 25	-	-	1 00	-	-
Oxford County.....	166 00	190 00	196 00	136 00	146 00	69 00	-	42 00	106 00	305 00
Oxford, West.....	75 00	140 00	75 00	150 00	96 50	98 00	9 00	40 00	100 00	160 00
Oxford, North.....	18 00	75 00	60 00	18 00	75 00	-	-	5 00	9 00	10 00
Oxford, Western Maine Poultry Association..	-	-	-	-	-	-	-	-	-	-
Penobscot, West.....	70 50	174 00	75 75	64 00	55 00	17 00	15 00	7 00	10 00	-
Penobscot, North.....	1 50	-	10 75	-	-	-	-	-	-	-
Penobscot, Orrington.....	6 00	-	5 75	4 00	-	-	-	-	-	-
Penobscot, Bangor Poultry Association.....	-	-	-	-	-	-	-	-	-	-
Piscataquis County.....	22 50	27 50	16 50	12 00	-	6 00	-	-	-	12 00
Sagadahoc County.....	200 00	740 50	220 00	110 00	70 00	30 00	7 00	30 00	60 00	214 00
Sagadahoc, Richmond Farmers' and Mechanics' Club.....	75	1 85	4 00	-	1 20	2 70	-	-	-	6 00
Somerset County.....	7 50	13 00	28 25	6 00	8 00	10 50	1 00	8 50	15 75	30 00
Somerset, East.....	22 00	54 00	51 50	12 00	14 00	-	3 00	15 00	-	14 00
Somerset, Central.....	51 00	93 00	99 50	-	19 00	17 50	-	32 00	36 00	78 00
Somerset, Four County Fair Association.....	76 00	140 00	55 50	60 00	22 00	22 00	-	23 00	35 00	35 00
Somerset, Embden.....	18 00	12 00	6 00	14 00	5 00	-	-	-	-	-
Somerset, Harmony Grange Fair Association..	2 00	-	28 00	-	-	2 00	1 50	-	10 00	-
Somerset, Solon.....	1 50	-	7 00	-	-	3 00	-	-	-	-
Waldo and Penobscot.....	11 00	130 00	37 00	64 00	28 00	35 50	10 00	58 00	-	103 00
Waldo, New Belfast Fair.....	7 00	13 00	15 00	27 00	5 00	-	-	-	-	25 00
Waldo, Unity Park Association.....	18 00	25 00	20 00	45 00	20 00	22 00	7 00	25 00	10 00	30 00
Waldo, Tranquility Grange Fair Association..	2 00	-	3 00	3 00	-	-	2 00	-	-	-
Washington, West.....	105 00	117 00	130 00	10 00	36 00	-	-	-	-	-
Washington, Machias Valley.....	12 00	16 20	9 85	-	-	-	16 30	-	-	39 50
Washington, Calais Fair Association.....	32 00	68 00	14 00	20 00	-	-	-	-	-	-
York, Shapleigh and Acton.....	-	-	3 00	10 00	3 00	10 00	11 00	-	35 00	10 00
York, Cornish.....	20 00	87 00	80 00	16 00	141 00	54 00	4 00	14 00	76 00	73 00
	\$2,586 70	\$6,052 20	\$2,085 75	\$2,394 50	\$1,203 45	\$938 30	\$167 30	\$741 75	\$1,294 25	\$1,924 12

OFFICERS OF AGRICULTURAL SOCIETIES.

ANALYSIS OF AWARDS—Concluded.

NAME OF SOCIETY.	Amount of premiums awarded sheep.	Amount of premiums awarded swine.	Amount of premiums awarded poultry.	Amount of premiums awarded grain and root crops.	Amount of premiums awarded fruit and flowers.	Amounts of premiums awarded bread and dairy products.	Amount of premiums awarded honey, sugar and syrup.	Amount of premiums awarded agricultural implements.	Amount of premiums awarded household manufacturers and needle-work.	Amount of premiums awarded objects not named above.	Total amount of premiums and gratuities awarded.
Maine State Agricultural Society..	\$530 00	\$210 00	\$460 00	\$120 00	\$176 00	\$67 00	\$16 00	-	\$105 00	\$150 00	\$4,870 00
Eastern Maine State Fair.....	489 00	64 00	297 25	206 00	206 00	200 00	9 00	-	247 10	388 05	3,760 45
Central Maine Fair.....	610 00	57 00	851 25	67 50	112 00	205 00	23 25	-	381 25	215 86	5,129 11
Maine State Pomological Society..	-	-	-	-	1,096 50	-	-	-	-	-	1,096 50
Maine State Poultry Association..	-	-	1,302 16	-	-	-	-	-	-	-	1,302 16
Androscoggin County.....	22 00	14 00	12 00	24 50	27 90	8 25	-	-	38 20	15 00	377 85
Androscoggin, Greene Town Fair Association.....	3 25	1 00	4 00	10 60	10 35	10 50	-	-	2 85	12 00	103 60
Androscoggin, Leeds.....	5 50	5 65	5 25	23 50	8 00	6 50	10 00	-	5 90	15 50	153 85
Aroostook, Northern Maine Fair Association.....	311 00	205 50	181 00	107 75	155 75	31 00	5 00	-	243 60	407 05	3,806 65
Aroostook, Houlton.....	45 00	50 00	204 00	76 50	69 80	21 85	10 00	-	171 95	129 75	2,124 85
Aroostook County Fair Association	-	10 00	109 50	-	16 50	6 00	12 50	\$31 75	48 45	26 25	385 95
Cumberland County.....	119 00	6 00	120 50	85 00	43 40	39 00	32 50	-	102 55	65 00	1,298 20
Cumberland Farmers' Club.....	11 00	-	44 75	8 50	15 65	7 25	50	-	47 80	56 00	417 33
Cumberland, New Gloucester and Danville.....	4 00	18 00	6 00	24 70	17 30	13 60	3 50	-	62 80	45 00	433 90
Cumberland, Freeport Poultry Association.....	-	-	445 25	-	-	-	-	-	-	4 50	449 75
Cumberland, Bridgton.....	16 00	-	-	26 00	-	9 75	-	18 00	21 50	116 75	465 00
Franklin County.....	146 00	6 00	113 80	25 25	47 95	42 75	1 25	-	96 25	69 65	1,813 90
Franklin, North.....	11 25	-	66 00	14 10	4 45	3 50	4 15	-	36 24	8 25	377 59
Hancock County.....	6 00	2 00	7 50	44 40	13 25	10 20	28 65	-	20 00	105 50	389 50
Hancock, Eden.....	5 00	4 50	12 80	45 20	29 30	3 45	-	-	25 30	10 00	140 05

Kennebec, Cochnewagan	1 50	3 00	8 00	33 00	21 00	4 00	-	-	10 00	28 75	190 80
Kennebec County	-	12 00	21 00	65 50	48 00	14 00	-	-	47 50	43 00	538 00
Kennebec, South	-	5 00	7 50	31 50	18 65	5 30	1 00	-	54 30	-	348 75
Knox, North	9 50	3 00	15 00	60 00	49 40	4 50	7 50	-	30 95	119 10	618 45
Lincoln County	-	6 75	25 50	41 00	30 30	7 50	3 25	-	47 15	8 00	381 45
Lincoln, Bristol	-	-	3 75	11 25	8 65	2 90	-	-	25 25	18 60	80 65
Oxford County	38 00	34 00	204 50	65 50	311 25	23 75	19 25	33 00	108 65	427 00	2,947 90
Oxford, West	28 30	-	35 80	10 20	21 00	12 00	5 00	20 00	76 00	240 00	1,550 30
Oxford, North	24 00	20 00	12 00	20 00	12 00	15 00	10 00	-	35 55	25 00	527 55
Oxford, Western Maine Poultry Association	-	-	606 84	-	-	-	-	-	-	-	606 84
Penobscot, West	97 00	25 00	38 00	52 65	50 85	11 00	12 25	-	102 25	250 63	1,294 88
Penobscot, North	-	-	50	50 00	75 00	5 00	-	-	-	25 00	176 75
Penobscot, Orrington	-	-	1 00	6 15	16 45	-	1 25	-	54 70	7 00	115 80
Penobscot, Bangor Poultry Ass'n	-	-	852 18	-	-	-	-	-	-	-	852 18
Piscataquis County	4 00	7 00	1 50	12 25	12 50	6 25	7 75	-	20 80	70 75	317 30
Sagadahoc County	210 00	45 00	260 50	200 25	40 00	50 00	20 00	-	73 65	230 00	3,085 90
Sagadahoc, Richmond Farmers' and Mechanics' Club	75	75	1 20	12 80	11 45	3 95	25	-	20 70	1 50	99 85
Somerset County	5 00	-	4 20	7 10	8 05	2 50	50	-	26 65	2 10	242 60
Somerset, East	17 50	31 00	93 75	50 00	15 00	2 00	85	-	33 25	9 85	541 70
Somerset, Central	154 50	5 00	87 00	66 50	18 25	29 75	3 50	-	82 00	17 00	1,045 50
Somerset, Four County Fair Ass'n	150 50	19 00	196 00	24 50	9 25	34 50	-	-	45 00	195 00	1,259 75
Somerset, Embden	5 00	-	-	-	-	-	-	-	-	4 00	89 00
Somerset, Harmony Grange Fair Association	5 00	5 00	3 50	-	-	1 25	1 25	-	-	11 50	85 50
Somerset, Solon	1 00	-	-	-	-	-	-	-	-	85	34 35
Waldo and Penobscot	47 00	5 00	32 25	40 00	55 00	14 00	1 50	-	95 00	36 50	930 75
Waldo, New Belfast Fair	-	3 00	75 00	-	-	-	-	-	-	50 00	245 00
Waldo, Unity Park Association	5 00	5 00	8 00	32 00	14 75	10 50	18 50	6 00	95 75	135 00	684 50
Waldo, Tranquility Grange Fair Association	2 50	2 00	4 00	8 10	15 60	1 00	-	-	15 95	26 25	103 15
Washington, West	106 00	10 00	18 00	25 50	34 00	4 50	1 75	-	114 80	-	826 55
Washington, Machias Valley	10 20	25 15	60 24	59 82	66 53	9 25	1 50	-	74 15	56 95	510 04
Washington, Calais Fair Ass'n	-	10 00	55 00	41 90	51 00	10 25	-	-	96 75	57 10	490 00
York, Shapleigh and Acton	-	-	7 75	48 00	52 75	6 00	-	-	115 25	-	311 75
York, Cornish	-	8 00	39 00	2 00	2 00	2 50	19 50	-	34 45	4 00	700 45
	\$3,256 25	\$943 30	\$7,021 47	\$1,986 97	\$3,112 78	\$873 80	\$292 65	\$108 75	\$3,193 19	\$3,940 54	\$50,730 13

OFFICERS OF AGRICULTURAL SOCIETIES.

FINANCES.

NAME OF SOCIETY.	Amount received from State.	Receipts for membership.	Receipts from loans.	Receipts from entry fees for trotting purses.	Receipts from all other sources.	Total receipts.
Maine State Agricultural Society.....	\$2,500 00	\$40 00	\$500 00	\$1,709 00	\$14,556 37	\$19,305 37
Eastern Maine State Fair.....	1,750 00	-	3,000 00	3,108 00	30,725 80	38,583 80
Central Maine Fair.....	2,500 00	-	-	1,271 75	16,294 62	20,066 37
Maine State Pomological Society.....	1,584 67	116 00	-	-	2,931 77	4,632 44
Maine State Poultry Association.....	549 71	71 00	-	-	-	620 71
Androscoggin County.....	109 67	-	-	-	1,164 18	1,273 85
Androscoggin, Greene Town Fair Association.....	42 54	-	-	-	236 16	278 70
Androscoggin, Leeds.....	43 38	-	-	-	224 73	268 11
Aroostook, Northern Maine Fair Association.....	1,939 93	35 00	-	1,819 00	21,781 63	25,575 56
Aroostook, Houlton.....	809 30	1,910 00	1,200 00	247 50	10,539 64	14,706 44
Aroostook County Fair Association.....	216 65	-	-	1,265 00	4,255 19	5,736 84
Cumberland County.....	522 54	40 00	-	560 00	4,547 48	5,670 02
Cumberland Farmers' Club.....	196 13	17 00	-	360 00	2,315 98	2,889 11
Cumberland, New Gloucester and Danville.....	135 07	20 00	-	277 50	1,176 50	1,609 07
Cumberland, Freeport Poultry Association.....	159 64	21 50	-	231 00	178 93	591 07
Cumberland, Bridgton.....	161 17	-	-	915 00	2,330 61	3,406 78
Franklin County.....	719 87	857 00	-	8,467 07	8,467 07	10,043 94
Franklin, North.....	145 93	300 00	525 00	175 00	553 55	1,699 48
Hancock County.....	158 62	-	-	161 00	2,273 47	2,593 09
Hancock, Eden.....	69 29	-	-	30 00	1,210 05	1,309 34
Kennebec, Cochenewagan.....	63 53	-	-	-	228 70	292 23
Kennebec County.....	-	3 00	-	-	435 00	438 00
Kennebec, South.....	156 23	-	-	10 00	1,483 40	1,649 63
Knox, North.....	184 76	-	-	10 00	2,821 45	3,016 21
Lincoln County.....	137 88	20 00	1,500 00	-	1,585 10	3,242 98

Lincoln, Bristol.....	24 93	50	-	-	247 59	273 02
Oxford County.....	1,141 01	23 00	-	772 50	7,062 83	8,999 34
Oxford, West.....	690 90	198 00	1,100 00	380 00	3,560 61	5,929 51
Oxford, North.....	78 70	20 00	-	175 00	847 87	1,121 57
Oxford, Western Maine Poultry Association.....	231 72	9 00	6 17	-	600 34	847 23
Penobscot, West.....	382 97	54 00	-	300 00	4,067 21	4,804 18
Penobscot, North.....	61 75	1 00	-	400 00	1,500 00	1,962 75
Penobscot, Orrington.....	50 37	-	-	52 00	748 25	850 62
Penobscot, Bangor Poultry Association.....	282 80	30 00	-	293 40	190 25	796 45
Piscataquis County.....	91 77	-	-	153 00	1,124 60	1,369 37
Sagadahoc County.....	1,223 36	30 00	1,880 25	910 00	5,989 63	10,033 24
Sagadahoc, Richmond Farmers' and Mechanics' Club.....	28 42	100 00	50 05	-	3 00	181 47
Somerset County.....	76 39	-	70 00	7 50	543 71	697 60
Somerset, East.....	339 23	80 00	-	23 75	1,097 35	1,540 33
Somerset, Central.....	419 18	20 00	-	101 00	4,080 18	4,620 36
Somerset, Four County Fair Association.....	567 19	-	2,600 00	262 00	5,288 66	8,717 85
Somerset, Embden.....	37 51	-	-	-	69 75	107 26
Somerset, Harmony Grange Fair Association.....	-	-	-	-	160 00	160 00
Somerset, Solon.....	15 50	-	-	-	40 00	55 50
Waldo and Penobscot.....	419 28	-	-	160 00	3,239 39	3,818 67
Waldo, New Belfast Fair.....	-	1,055 00	-	144 50	1,446 13	2,645 63
Waldo, Unity Park Association.....	312 88	-	-	125 00	1,325 00	1,762 88
Waldo, Tranquility Grange Fair Association.....	43 63	-	-	-	82 01	125 64
Washington, West.....	359 82	-	500 00	134 01	3,262 96	4,256 79
Washington, Machias Valley.....	234 23	-	431 78	168 50	3,361 27	4,195 78
Washington, Calais Fair Association.....	289 57	-	-	637 50	2,649 13	3,576 20
York, Shapleigh and Acton.....	136 44	169 00	-	-	60 00	365 44
York, Cornish.....	309 00	-	-	412 00	2,249 27	2,970 27
	\$22,705 06	\$5,240 00	\$13,363 25	\$17,761 41	\$187,214 40	246,284 12

FINANCES—Concluded.

NAME OF SOCIETY.	Amount expended in improvements.	Amount expended in trotting purses.	Expenses during the fair.	Amount expended for all other purposes.	Total amount paid out including premiums and gratuities.	Value of property belonging to the society.	Amount of liabilities.
Maine State Agricultural Society	\$200 00	\$3,370 00	\$4,607 38	\$5,781 53	\$18,528 91	\$63,884 00	\$17,000 00
Eastern Maine State Fair	11,800 10	5,718 33	9,028 06	3,960 68	34,267 62	25,000 00	-
Central Maine Fair	1,647 66	2,905 00	8,800 66	300 00	19,782 43	1,544 07	3,912 25
Maine State Pomological Society	-	-	-	2,583 41	3,679 91	-	-
Maine State Poultry Association	-	-	1,148 98	-	2,451 14	1,800 00	500 00
Androscoggin County	177 43	409 50	100 00	57 50	1,122 28	1,000 00	-
Androscoggin, Greene Town Fair Association	-	-	82 84	-	186 44	-	-
Androscoggin, Leeds	-	-	91 30	-	245 15	-	-
Aroostook, Northern Maine Fair Association	5,852 82	3,400 00	6,021 32	1,043 79	20,124 58	5,500 00	1,400 00
Aroostook, Houlton	71 49	3,166 25	4,132 12	7,307 28	16,801 99	12,800 00	7,350 00
Aroostook County Fair Association	208 32	2,700 00	3,093 68	-	6,387 95	30,658 54	16,000 00
Cumberland County	800 00	2,000 00	1,106 03	131 75	5,335 98	7,000 00	-
Cumberland Farmers' Club	81 04	900 00	189 59	1,412 49	3,000 45	1,500 00	300 00
Cumberland, New Gloucester and Danville	35 00	502 50	131 65	848 32	1,951 37	-	-
Cumberland, Freeport Poultry Association	9 75	-	128 86	33 00	621 36	300 00	-
Cumberland, Bridgton	606 06	1,500 00	185 00	-	2,756 06	3,500 00	-
Franklin County	1,075 89	962 50	3,856 41	-	7,708 70	20,000 00	-
Franklin, North	-	415 00	100 00	700 00	1,592 59	2,500 00	2,522 75
Hancock County	220 65	950 00	985 58	-	2,545 73	2,000 00	-
Hancock, Eden	100 00	255 00	700 77	55 22	1,251 04	2,500 00	405 00
Kennebec, Cochnewagan	33 32	-	31 54	52 06	307 72	-	-
Kennebec County	50 00	60 00	220 00	71 00	939 00	700 00	495 00
Kennebec, South	148 95	176 25	323 25	284 72	1,281 92	1,000 00	700 00
Knox, North	100 00	530 00	550 00	1,031 31	2,829 76	1,500 00	200 00
Lincoln County	2,108 45	178 00	198 39	758 14	3,624 43	3,000 00	1,500 00
Lincoln, Bristol	-	-	76 16	179 65	336 46	1,000 00	100 00

Oxford County	1,113 81	1,867 50	1,923 53	993 06	8,845 80	15,000 00	900 00
Oxford, West	350 00	1,035 00	400 00	150 00	3,485 30	8,000 00	-
Oxford, North	50 00	500 00	150 00	-	1,227 55	2,000 00	200 00
Oxford, Western Maine Poultry Association	10 00	-	140 00	132 91	889 75	500 00	-
Penobscot, West	673 80	820 00	599 09	202 97	3,590 74	6,000 00	3,500 00
Penobscot, North	100 00	750 00	1,650 00	-	2,676 75	3,000 00	-
Penobscot, Orrington	-	153 00	90 00	552 75	911 55	1,200 00	800 00
Penobscot, Bangor Poultry Association	-	-	285 86	-	1,138 04	-	-
Piscataquis County	-	450 00	52 00	35 00	854 30	4,000 00	3,500 00
Sagadahoc County	679 90	2,000 00	1,991 00	2,276 44	10,033 24	10,000 00	2,680 25
Sagadahoc, Richmond Farmers' and Mechanics' Club	-	-	62 00	-	161 85	-	-
Somerset County	7 63	261 00	78 60	107 57	697 40	800 00	680 00
Somerset, East	-	407 25	549 14	584 00	2,082 09	2,500 00	2,000 00
Somerset, Central	80 63	911 00	1,472 02	1,948 10	5,457 25	8,000 00	3,300 00
Somerset, Four County Fair Association	1,865 37	776 62	1,185 86	3,561 37	8,648 97	7,162 41	2,600 00
Somerset, Embden	-	-	16 50	14 17	119 67	5 00	7 41
Somerset, Harmony Grange Fair Association	10 00	2 00	81 35	-	178 85	-	-
Somerset, Solon	-	-	-	-	34 35	-	-
Waldo and Penobscot	-	550 00	679 92	2,587 29	4,747 96	4,000 00	1,400 80
Waldo, New Belfast Fair	1,390 63	590 00	150 60	446 23	2,822 46	1,500 00	25 00
Waldo, Unity Park Association	100 00	800 00	350 00	-	1,934 50	-	171 72
Waldo, Tranquility Grange Fair Association	15 00	-	25 00	-	143 15	2,000 00	-
Washington, West	87 94	511 00	920 65	171 88	2,518 02	1,926 00	2,750 00
Washington, Machias Valley	156 57	1,123 00	766 95	906 32	3,462 88	50 00	1,178 80
Washington, Calais Fair Association	336 74	862 50	2,371 96	-	4,061 20	5,000 00	1,500 00
York, Shapleigh and Acton	-	-	42 62	-	354 37	1,700 00	-
York, Cornish	38 16	800 00	645 22	743 50	2,927 33	4,500 00	335 00
	\$32,393 11	\$45,268 20	\$62,569 44	\$42,005 41	\$232,966 29	\$277,530 02	\$79,913 98

OFFICERS OF AGRICULTURAL SOCIETIES



Floral Display at Pomological Exhibit at Portland

ANNUAL REPORT

OF THE

State Pomological Society

1917

MAINE STATE POMOLOGICAL SOCIETY

OFFICERS FOR 1917

PRESIDENT

G. A. YEATON Norway

VICE-PRESIDENTS

H. P. SWEETSER Cumberland Center
D. S. CLEMENT Winthrop

SECRETARY

E. L. WHITE Bowdoinham

TREASURER

T. E. CHASE Buckfield

EXECUTIVE COMMITTEE

THE PRESIDENT, FIRST VICE-PRESIDENT,
SECRETARY AND TREASURER, *ex officio*
F. H. MORSE Waterford
E. F. HITCHINGS Orono
H. L. KEYSER Greene

TRUSTEES FOR 1918

Androscoggin County—ARCH D. LEAVITT, Turner
Cumberland County—E. W. DOLLOFF, Standish
Franklin County—J. E. COLLINS, Farmington
Hancock County—C. L. MORANG, Ellsworth
Kennebec County—CLEMENT & TAYLOR, Winthrop
Knox County—FRANK H. LENFEST, Union
Lincoln County—W. C. FORD, Whitefield
Oxford County—W. H. CONANT, Buckfield
Penobscot County—ERNEST PAGE, East Corinth
Piscataquis County—LYMAN K. LEE, Foxcroft
Sagadahoc County—R. A. DOUGLASS, Bowdoinham
Somerset County—W. C. ROBINSON, North Anson
Waldo County—C. C. CLEMENTS, Winterport
Washington County—MILLARD H. WISWELL,
East Machias
York County—C. E. FELCH, Limerick

MEMBERS OF THE SOCIETY

LIFE MEMBERS.

Allen, W. H.	Buckfield	Hayes, William	Gardiner
Andrews, Charles E.	Auburn	Heald, U. H.	Paris
Atherton, Wm. P.	Hallowell	Herrick, A. A.	Norway
Atkins, Charles G.	Bucksport	Hinds, W. C.	Winthrop
Averill, David C.	Temple	Hitchings, E. F.	Orono
Barrows, Greenhouse Co.	Gorham	Hoyt, Mrs. Frances	Winthrop
Bennoch, John E.	Orono	Jones, Elwyn	Dryden
Bickford, Lewis I.	Dixmont Center	Jackson, F. A.	Winthrop
Bisbee, George E.	Auburn	Keene, Charles S.	Turner
Bisbee, Stanley	Rumford Falls	Keyser, Howard L.	Greene
Blaisdell, A. L.	Winterport	Lang, Ivan E.	Augusta
Blossom, O. E.	Turner Center	Lapham, E. A.	Fittston
Bowman, H. G.	Hebron	Leavitt, L. C.	322 West St., Biddeford
Briggs, John	Turner	Lee, Lyman K.	Foxcroft
Brown, F. Howard	Marlboro, Mass.	Lincoln, E. L.	Wayne
Burleigh, Miss Clara M.	Vassalboro	Litchfield, J. H.	Auburn
Butler, Charles M.	Wiscasset	Littlefield, Harry W.	Brooks
Butler, Alonzo	Union	Lombard, Thurston M.	Auburn
Butman, J. W.	Readfield	Lord, J. Merrill	Kezar Falls
Chadbourne, C. L.	North Bridgton	Luce, Willis A.	Mabton, Wash.
Chandler, Mrs. Lucy A.	Freeport	Macauley, T. B.	Montreal, Can.
Chase, Henry M., 103 Federal St.	Portland	Martin, John J.	270 Center St., Bangor
Chase, Homer N.	Auburn	McAllister, Zaccheus	West Lovell
Chase, Thomas E.	Buckfield	McCabe, George L.	North Bangor
Clement & Taylor	Winthrop	McLaughlin, Mrs. Edna G.	Exeter
Conant, A. A.	Hebron	McLaughlin, Henry	Bangor
Conant, E. E.	Hebron	Merrill, H. H.	Hebron
Conant, George I.	Hebron	Merrill, Oliver F.	Gardiner
Conant, H. L.	Hebron Station	Merrill, Rupert B.	Gardiner
Conant, W. H.	Buckfield	Millspaugh, L. H.	Winthrop
Conant, W. G.	Hebron	Minot, Clarence M.,	426 Summer St., So. Portland
Corbett, Herman	Farmington	Mitchell, Frederick H.	Turner
Crowell, Mrs. Ella H.	Skowhegan	Mitchell & Co.	Waterville
Crowell, John H.	Farmington	Moody, Charles H.	Turner
Cummings, Marion L.	Hebron	Moody, J. F.	Hebron
Dana, Woodbury S.	Westbrook	Moore, William G.	Monmouth
Dawes, S. H.	Harrison	Moor, F. A.	Waterville
Dearborn, Hall C.	Hampden Highlands	Morse, F. H.	Waterford
DeCoster, Virgil P.	Buckfield	Morse, W. J.	Orono
Dennison, Mrs. Cora M.	Harrison	Mosher, C. M.	Wilton
DeRoche, Peter	Bradentown, Fla.	Newell, G. E.	Turner
Dirwanger, Joseph A.	Portland	Page, E. E.	East Corinth
Douglass, C. S.	Douglass Hill	Page, F. W.	Augusta
Dunham, W. W.	North Paris	Palmer, George L.	Kents Hill
Emerson, Charles L.	South Turner	Parsons, Howard G.	Turner Center
Farnsworth, B. B.	Portland	Patten, Mrs. E. C.	Topsham
Felch, Charles E.	Limerick	Prince, Edward M.	West Farmington
Fish, Mrs. Benjamin	Winterport	Pope, Charles S.	Manchester
Flint, John M.	West Baldwin	Pulsifer, D. W.	Poland
French, H. C.	Rumford Center	Richards, John T.	Gardiner
Gardiner, Robert H.	Gardiner	Richardson, Herbert A.,	82 Best St., Woodfords
George, C. H.	Hebron	Ricker, A. S.	Turner
Goddard, Lewis C.	Woodfords	Ricker, Fred P.	Turner
Goding, M. T.,	50 St. Lawrence St., Portland	Roak, George M.	Auburn
Grover, Franklin D.	Bean	Robinson, W. C.	North Anson
Gulley, Alfred G.	Storrs, Conn.	Rogers, Mrs. Jeannette	North Newburg
Gurney, F. E.	Hebron	Sawyer, Andrew S.	Cape Elizabeth
Hackett, E. C.	West Gloucester	Sawyer, Charles F.	Hebron
Hall, Mrs. H. A.	Brewer	Saunders, Ernest	Lewis' on
Hardy, E. E.	Farmington	Seavey, Mrs. G. M.	Auburn
Hardy, Walter M.	Brewer		

Skillings, C. W.	North Auburn	Verrill, H. E.	Hebron
Smith, Frederick O.	New Vineyard	Verrill, Harry M.	Portland
Smith, V. N.	Buckfield	Vickery, James.	Portland
Stanley, H. O.	Winthrop	Walker, Charles S.	Peru
Staples, George W.	904 Main St., Hartford, Conn.	Walker, Elmer V.	Oxford
Stilphen, Asbury C.	Gardiner	Waterman, Willard H.	East Auburn
Strout, Charles S.	Biddeford	Waugh, F. A.	Amherst, Mass.
Supt. Maine Sanatorium Farm.	Hebron	Weston, Joseph.	Gardiner
Sweetser, F. R.	Cumberland Center	Wheeler, Charles E.	Chesterville
Taylor, Miss L. L. (Lakeside)	Belgrade	White, Charles M.	Bowdoinham
Thomas, William W.	Portland	White, Mrs. Annie.	Bowdoinham
Thomas, D. S.	North Auburn	White, Edward L.	Bowdoinham
Thurston, Edwin.	West Farmington	Whitman, L. E.	Hebron
Townsend, Mrs. B. T.	Freeport	Woods, Charles D.	Orono
True, John W.	New Gloucester	Wright, Frederick.	Bath
Twitchell, George M.	Auburn	Yeaton, George A.	Augusta
		Yeaton, Samuel F.	West Farmington

ANNUAL MEMBERS FOR 1917.

Adams, F. S.	Bowdoinham	Jordan, Ira.	Milbridge
Additon, E. E.	Greene	Keene, E. M.	Hebron
Bowers, J. W., Dr.	732 Congress St., Portland	Macomber, A. C.	Dryden
Brunberg, A. E.	Camden	Merrill, Leon S.	Orono
Buck, O. C.	Hebron	Milliken, E. C.	Portland
Davis, Howard.	Portland	Mosher, C. M.	Wilton
Dolloff, E. W.	Standish	McIntire, M. H.	So. Berwick
Dolley, Walter.	Old Orchard	Pierce, Arthur W., Care of J. M. Stevens, Woodfords	
Dudley, F. H.	Auburn	Philbrook, E. E.	Portland
Dunn, Charles, Jr.	So. Portland	Rines, J. Henry.	Portland
Eaton, S. H.	Oxford	Roberts, J. A.	Norway
Elder, George K.	Lewiston	Robertson, R. E.	Westbrook
Hamlin, Frank W.	Gardiner	Shaw, Ralph.	Standish
Hobbs, George S.	Portland	Smith, R. L.	Portland
Hutchinson, E. E.	Hebron	Stanley, Neil Dow.	R. 3, Pittsfield
Irish, I. C., Dr.	Bowdoinham	Thompson, Arthur E.	Intervale
Jones, Elwyn.	Dryden	Thompson, Fred B.	Standish

ANNUAL MEETING
OF
MAINE STATE POMOLOGICAL SOCIETY
COUNCIL CHAMBER, CITY HALL, PORTLAND,
NOVEMBER 6-8, 1917.

The meeting was called to order by the President and the following reports were heard:

SECRETARY'S REPORT.

A meeting of the Executive Committee was held in Augusta, Jan. 9, to close the work for 1916.

The work for 1917 was mapped out. A conference was scheduled for Farmers' Week at Orono, which proved a very profitable meeting, the address being helpful and instructive.

The Board of Trustees was appointed by the Executive Committee and work planned for them to do.

A committee was appointed to invest our permanent funds in some bond.

At the Committee meeting held in Orono, it was voted to hold a conference under the direction of Arch. D. Leavitt at Turner, April 6. It rained in torrents all day and only a few attended.

At the Committee meeting held in Lewiston, April 6, the plans were made for our annual meeting in November.

The premium list was revised and made ready for the printer, at the Committee meeting held in Portland, July 10 and other matters were considered in connection with the annual exhibition.

The Committee was called together, Sept. 15, to appoint someone to take over Mr. Sweetser's work, he having taken up war work.

The Orchard Meetings held in Winterport and East Corinth were helpful and results have come from both meetings.

The work of the Society for the past year has been surrounded by unusual conditions and the coming year promises to be, at least, not much better. It will demand patience and hard work by every member to keep the Society work progressing. Only by working with calmness can we expect to overcome these conditions and agriculture demands the best that we have—more now than at any time of our history.

Respectfully submitted,

E. L. WHITE,

Secretary.

REPORT OF TREASURER.

DISBURSEMENTS.

Order			
No. 1	Paid	E. F. Hitchings, executive committee expenses	\$4 95
2	"	D. S. Clement, speaker	6 50
3	"	W. H. Conant, speaker	12 69
4	"	E. F. Hitchings, executive committee expenses	8 10
5	"	J. P. Hutchinson Co., treasurer's bond	5 00
6	"	A. T. Crooker, rent of hall for meeting.....	6 00
7	"	W. H. Conant, speaker	8 70
8	"	E. L. White, six months' salary.....	75 00
9	"	E. L. White, expenses	41 91
10	"	F. K. Jack, postage	17 40
11	"	F. H. Morse, executive committee expenses..	25 65
12	"	E. F. Hitchings, executive committee and speaker	15 90
13	"	T. E. Chase, six months' salary and expenses	20 88
14	"	Mechanics Savings Bank, Auburn, transfer to fund	230 00
15	"	H. P. Sweetser, executive committee expenses	14 90
16	"	W. W. Chenoweth, speaker.....	23 72
17	"	Maine State Bookbinding Co., binding reports	10 60
18	"	G. A. Yeaton, expenses	35 54
20	"	H. L. Keyser, executive committee expenses..	7.08
21	"	W. H. Conant, speaker, Field meetings.....	29 33
23	"	E. F. Hitchings, executive committee expenses	9 09
24	"	S. H. Ross, (Bastian Bros. Agent) for buttons	47 70
25	"	L. B. Raynes, stenographer at Field meetings	27 00
26	"	Wallace S. Ladd, printing.....	5 66
27	"	Wallace S. Ladd, printing (2 bills).....	13 11
28	"	F. C. Sears, judge, annual meeting.....	40 81
29	"	Wilfrid Wheeler, judge, annual meeting....	33 19
30	"	W. H. Wolff, judge, annual meeting.....	30 45

Order		
No. 31	" Waterville Sentinel Pub. Co., printing.....	31 47
32	" F. H. Morse, executive committee and speaker	23 25
33	" Clement & Taylor, apples bought.....	17 00
34	" H. G. Bowman, apples bought.....	8 00
35	" H. L. Keyser, expenses, annual meeting....	8 50
36	" W. G. Conant, apples.....	70 00
37	" F. E. Gurney, apples.....	5 00
38	" Elwyn H. Jones, apples.....	2 50
39	" Geo. C. Owen, on vouchers, expenses annual meeting	52 80
40	" Geo. C. Owen, on vouchers, expenses annual meeting	25 90
41	" Annabelle M. White, clerk, annual meeting..	10 15
42	" State of Maine (2 bills)	9 03
43	" Premiums	513 50
44	" Premiums, boxes and barrels	583 00
45	" E. F. Hitchings, printing	50 00
46	" Congress Square Hotel, officers, judges, etc.	78 30
47	" John F. White, labor, annual meeting.....	7 50
48	" Sydney F. Brown, labor, annual meeting....	12 50
49	" The Chase Orchards, apples.....	29 00
50	" E. F. Hitchings, judge.....	49 34
51	" E. L. White, salary.....	75 60
52	" E. L. White, expenses	47 07
53	" T. E. Chase, salary and expenses.....	18 27
54	" T. E. Chase, executive committee expenses..	4 47
55	" G. A. Yeaton, expenses	54 63
56	" G. F. Dunham, freight and trucking.....	5 81
57	" Merrymeeting Grange, storage	1 00
58	" Liberty Bond (Investment of permanent fund, \$990 from deposits in savings banks, \$10 from order 59, transfer of 1917 life membership fees)	1,000 00
59	" Transfer to permanent fund (\$10 paid) balance	70 00
60	" Portland Chamber of Commerce, annual dues	25 00
	Total disbursements	\$3,694 85
	Cash on hand	14 49
		<hr/> \$3,709 34

RECEIPTS.

1917.			
Jan. 23,	Balance on hand at end of 1916 business, including \$230 due for transfer		\$856 57
Mar. 1,	Received from state treasurer		397 13
July 7,	Received interest on bank stock (permanent fund)		16 00
30,	“ interest on bonds (permanent fund)....		22 50
Sept. 6,	“ from state treasurer		273 47
Nov. 19,	“ from sale of plate apples		7 65
Nov. 19,	“ from Portland Chamber of Commerce		805 00
Nov.	“ principal of permanent fund from sav- ings banks		990 00
Nov.	“ interest on permanent fund, from sav- ings banks		225 02
Nov.	“ from annual membership dues.....		36 00
Nov.	“ from life membership fees (for transfer)		80 00
Total receipts to date			<u>\$3,709 34</u>
Total disbursements			<u>3,694 85</u>
Balance on hand			\$14 49
Permanent fund is invested, as follows:			
Four shares Farmington National Bank stock.....			\$400 00
Two bonds of Stockton Springs Water Co.....			970 00
One \$1000 Liberty Bond			1,000 00
On deposit in Savings Bank.....			70 00
			<u>\$2,440 00</u>

Respectfully submitted,

T. E. CHASE,

Treasurer.

W. H. Conant, representative of the Society on the Experiment Station Council, gave a short report of the work conducted along these lines at the Experiment Station. It was voted that Mr. Conant's report be published in condensed form in the Press.

ANNUAL REPORT OF MEMBER OF EXPERIMENTAL STATION COUNCIL.

In making this report of the extensive experiments in Orchard work, now being carried on at Highmoor Farm, it is not my purpose to go into detail covering all these experiments, but more especially to call your attention to certain phases of the work now being carried on by the Station, which should be of particular interest to every fruit grower in the State of Maine.

Through the work of hand pollination, very important evidence has been secured, relative to the self-sterility of some varieties, particularly the Ben Davis. Out of over 200 self-pollinated clusters of the Ben Davis blossoms, only two apples set, and these did not grow to maturity, while 75 per cent of the Ben Davis flowers which were cross-pollinated, set fruit.

The results thus secured indicate that the Ben Davis variety at least is practically self-sterile.

This information should be of value to many fruit growers in the state, since a great many large plantings of this variety have been made, which are not producing satisfactory yields of fruit.

It also has an important bearing upon the management of the Highmoor Orchards, since, in the larger orchards, there are over 1,800 Ben Davis trees practically in a solid block, and during the blooming period there is very little chance for pollen from other varieties to get into the orchard, and doubtless is the main reason why these orchards are not bearing their maximum crop. In order to overcome this difficulty, a plan was approved by the Council, at its summer meeting in August, 1916, to topwork a part of the trees in Ben Davis orchard No. 2, to other varieties. This work was begun in the spring of 1917, using varieties of high commercial value carrying a strong pollen as top stock.

With a yearly record of the yield of fruit from this block of trees, it is possible to secure very interesting and valuable data in a few years, from this experiment.

The experiment in orchard fertilization with cultivation, which has been carried on for several years without very definite results, will be continued, but on a smaller scale, the plot being divided, one-half being cultivated and fertilized, as heretofore, and the other half to remain in sod, using the same amount of fertilizer on the sod, and cutting the grass twice a year, allowing this to decay under the trees. This experiment of tillage versus sod mulch, under the same soil conditions, should give interesting facts relative to the yield and quality of fruit, also the cost of producing a barrel of apples under the different systems.

Besides an extensive experiment on the mutual influence of stock and scion, in which nearly all the important commercial varieties grown in the state are used and the experimental breeding work, careful records are kept of every individual tree in the orchards. This data includes notes on the general vigor and appearance of the trees, the time and amount of bloom, the set of fruit, the June drop, amount and kind of injury, etc.

In addition, the actual weight of apples picked from each tree and the measured amount of wood growth are recorded. In the course of time this data should give us very valuable information.

Respectfully submitted,

W. H. CONANT,

Member Station Council.

The next business to come before the Society was the election of officers for the ensuing year. Charles Cummings, Sidney Brown and Frank Taylor were appointed a committee to receive and count ballots. The following officers were elected:

C. C. Clement, Winterport,	President.
A. C. Macomber, Wilton,	First Vice-President.
Sidney F. Brown, Sumner,	Second Vice-President
E. L. White, Bowdoinham,	Secretary.
T. E. Chase, Buckfield,	Treasurer.

Mr. W. C. Robinson of North Anson was elected a member of the Executive Committee, to take the place of Mr. F. H. Morse.

Mr. Wilson H. Conant was re-elected a member of the Experiment Station Council. It was voted, that the name of Mr. Conant be included on the letter head of the Society.

Mr. H. L. Keyser of Greene was elected Vice-President of the American Pomological Society.

Mr. John A. Roberts was elected Vice-President of the New England Fruit Show.

The following were elected delegates to the Federation of Agricultural Associations: W. H. Conant, George A. Yeaton, E. L. White.

It was voted that a Committee be appointed to confer with the Department of Agriculture, relative to the packing law, whereupon a motion to adjourn was in order and the meeting closed.

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