

MAINE STATE LEGISLATURE

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PUBLIC DOCUMENTS

OF THE

STATE OF MAINE

BEING THE

REPORTS

OF THE VARIOUS

PUBLIC OFFICERS
DEPARTMENTS AND
INSTITUTIONS

FOR THE TWO YEARS

JULY 1, 1932--JUNE 30, 1934

AGRICULTURE OF MAINE

TWENTY-SIXTH REPORT

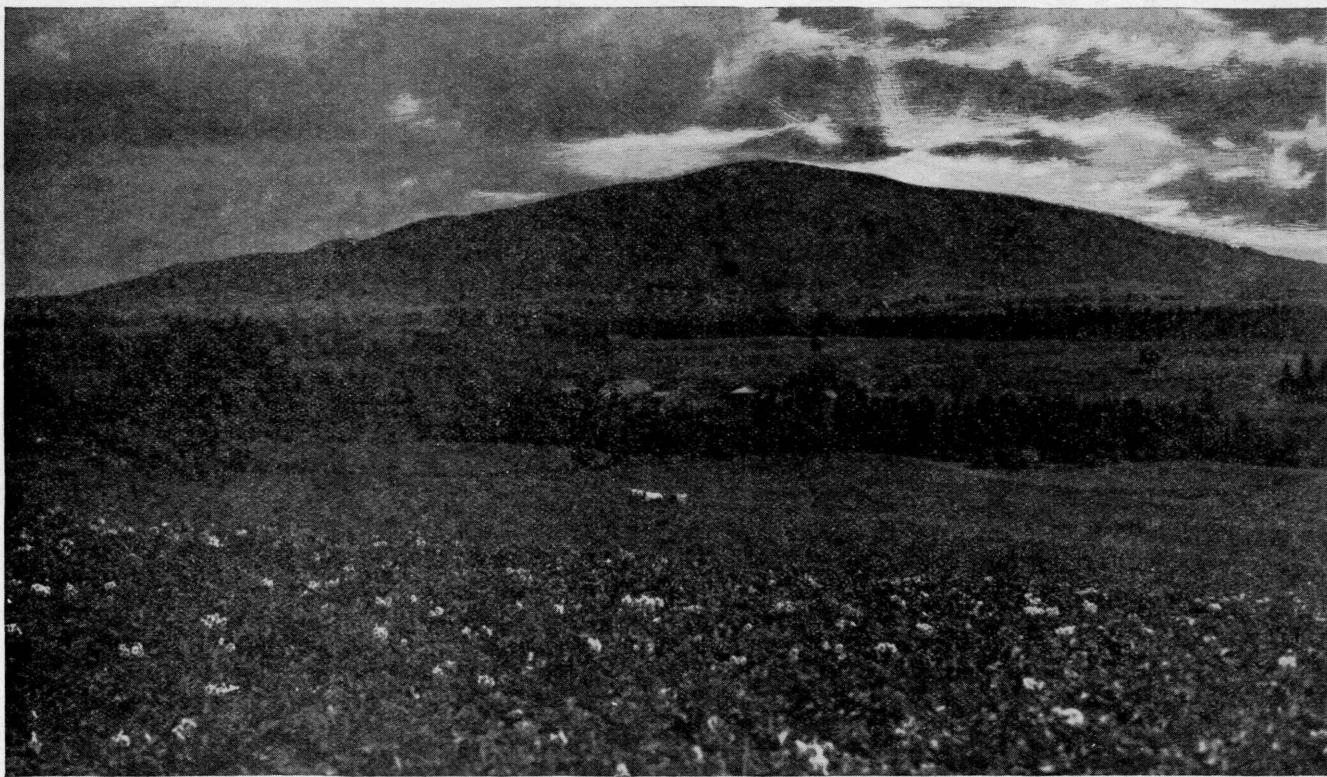
OF THE

Commissioner of Agriculture

OF THE

STATE OF MAINE

July 1, 1932 to July 1, 1934



There is hope in the future for Maine's fertile acres.

DEPARTMENT OF AGRICULTURE

*To His Excellency, Louis J. Brann, Governor of Maine,
and Council:*

In accordance with the provisions of Chapter 39, Section 11, of the Revised Statutes of Maine, I am submitting herewith a report of the work of this Department for the period July 1, 1932 to July 1, 1934. Believing that a mere enumeration of activities carried on one or two years, or even six months, previous to the printing of this document, must have lost much of its interest and value, I have reduced our statistical report and record of service performed, to a minimum, using space so released to record matters of more general and permanent interest, that have engaged the attention of our various Divisions and Bureaus during this biennium.

Respectfully submitted,

F. P. WASHBURN,
Commissioner.

Augusta, Maine, July 1, 1934.

MAINE DEPARTMENT OF AGRICULTURE

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F. P. Washburn, Perry

Deputy Commissioner

Vacant

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Assistant, Division of Inspection

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Clayton P. Osgood, Fryeburg

Assistant Dairy Inspector

Luther H. Lawrence, Augusta

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Field Agent, Gypsy Moth Work

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Field Agent, Seed Certification

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Geneva H. Williams

Augusta

Frances Brown

Augusta

Grace E. Casey

Augusta

Activities of the Department of Agriculture 1933-1934

The story of the work of the Department of Agriculture is largely written in the reports of the various Divisions and Bureau Heads appended hereto. In the Administration Division, however, are carried on certain activities not elsewhere covered which may be briefly reported as follows:

Total of farmers' meetings attended	597
Persons present at these meetings	42,400
Number of Agricultural Fairs receiving State Stipend, 1932	35
Number of Agricultural Fairs receiving State Stipend, 1933	32
Attendance at all such Fairs, 1932	190,378
Attendance at all such Fairs, 1933	176,720
Total Appropriations for Dept. of Agriculture, 1932	\$216,572.36
Total Appropriations for Dept. of Agriculture, 1933	\$160,751.00

Work of the Department has been shaped to meet these appropriations and the various fees and license receipts which we are, by law, allowed. A portion of the unexpended balance of 1933 was used for a State wide survey of the winter injury to Maine orchards.

Added to the functions of the Department by legislative action since our last Report, have been an Act relating to the transportation of poultry, requiring registration and licensing of all carriers of live poultry, Chapter 159, P. L. 1933, an Act requiring the licensing of operators of milk gathering stations, Chapter 210 and an Act relating to damage to poultry by dogs and wild animals, Chapter 115. All of which have added materially to both field and office work.

Advertising, The Next Step

By F. P. WASHBURN, *Commissioner*

However trite it may sound, it is nevertheless true, that we are living in a world of startling change. New ideas are being exchanged for old. New methods are replacing those that are unwieldy or outworn. None of us can rest on our oars, content with what we have accomplished in the past. We must take advantage of every innovation if we are to survive in the highly competitive and highly complex life that lies before us.

In no field of endeavor is all this more true than in our oldest, and greatest, industry—agriculture.

It was not so long ago that farming was the most peaceful of pursuits. Before our civilization became the concentration of millions of people in the relatively small area we know as cities, nearly every man was a farmer to some extent. Farming then was not a business, nor an occupation, it was simply a chore—a means of providing food for the immediate family. Huge produce markets were unknown because there were few, if any, buyers.

Soon, however, the picture changed. Millions of farm-raised people moved to the big centers of industry that were springing up throughout the nation. There they married, raised families, and lost their contact with the earth and the privilege of raising their own food.

This situation created a new industry for those who had lingered on the farms. Vast markets were opened up for all the produce they could raise over and above their needs.

Farming then moved into the first of its great changes—quantity production.

This period was marked by the planting of more and more acreage; by the invention of new and better machinery, by new and richer fertilizers, by the increasing of the yield as the farmer sought to satisfy the ever-increasing demand.

Then came another change as supply, at last, approximated demand. Buyers found that they could pick and choose. Potatoes from one section became favored because of their high quality. Apples from another section were chosen because of their superior color or flavor.

Thus was agriculture confronted with another hurdle—that of improving quality. Faced with this second great change, agriculturists substituted the best possible seed for just seed; improved the quality of their flocks and herds; consented willingly to inspection of premises.

Still, the lot of the farmer was not an extremely happy one. Competition became increasingly keener. He was still at the mercy of the law of supply and demand as it moved in a vicious circle. Demand, he thought, was a fixed factor, but one that could be stimulated at will. This could be done, it was thought, by following the lead of other industries and advertising.

Thus came into being the third great agricultural step, advertising. The history of agricultural advertising, short as it is, is truly inspiring. For example we may take the experiences of the orange growers of the country.

Many of us can remember when oranges were what we called a “holiday” fruit. They were in the larders of our average homes only on occasions such as Thanksgiving and Christmas. The orange growers, in consequence, were few in number and economically insignificant. They depended on a small, and strictly seasonal demand.

One day a California grower imparted a new and startling idea to his neighbors. Why not pool their crops and their resources, he said, invent a trade name, sort their product carefully, pack it attractively, and advertise?

Surely, he argued, if cigarette companies and soft drink concerns, to mention but two, could stimulate a demand for their products, why couldn't orange growers do the same? Anyhow, why not give the idea a trial?

We all know the results of that idea; of how millions of Americans now consider a daily glass of orange juice a dietary necessity; of how the trade name “Sunkist” became synonymous with good oranges throughout the country; of how the orange growing industry sprung from obscurity to the status of big business. In short, orange advertising not only proved highly successful, but it also proved that demand of foodstuffs could be stimulated at will, and as conditions warranted.

It also had an unlooked for affect. Florida, it will be remembered, is also an orange producing state. When the California advertising campaign broke out in the public prints, the Florida growers were placed in the unenviable position of having a product for which there was no demand. The public demanded

the advertised California product. In self defense, the Floridians decided to advertise. Faced with the barrage of advertising from both states, the public reacted by buying more and more oranges.

Just what lesson can we in Maine learn from this example? Have we anything to advertise? Are we producing in sufficient quantities to make advertising profitable? Is the quality of our products satisfactory? Can we stimulate an increased demand for any of our products? Will we lose business to competitive states if we do not advertise?

First, let us consider production. Maine produces nearly one-sixth of the marketable potatoes grown in the United States. We lead every state in the production and distribution of seed. According to the U. S. Census, our yield per acre has increased as follows:

1880—113 bu. per acre
 1900—126 bu. per acre
 1930—292 bu. per acre

In dairy products, our production has increased from 362 gallons of milk per cow in 1890 to 541 gallons per cow in 1930.

In 1885 we raised commercially, 5,000 bushels of blueberries. Our average production for the last five years has been 218,000 bushels per year.

These are just three examples. Nearly every other commodity we raise or pack has increased in value proportionately.

In improving quality, Maine agriculturists are rapidly forging to the front.

Our apples are now being packed in U. S. grades with the varieties being brought up to date. Our orchardists are planning to plant between 30,000 and 40,000 trees of the popular varieties to replace those that were winter-killed in 1933-1934.

Practically all of our potatoes are now U. S. No. 1 grade and are unequalled in edibility. Modern methods of branding and packing are rapidly displacing old methods throughout the state.

Our large blueberry and sardine industries are now under rigid State inspection insuring a uniform and desirable product. Twelve sweet corn canneries were State inspected this year with others asking for the same service.

As regards dairy products, Maine was the first State in New England to become a modified accredited area. Maine ice cream has the highest required percentage of butter fat in New England.

And so on through our whole line of marketable goods. Unquestionably, we have quantity and quality. We have products that are eminently worthy of being advertised.

At present our position is analogous to that of a man who bought a store, stocked it generously with the best of goods and then boarded up the windows so that no one could tell what he had for sale.

No one can argue that we are not losing valuable business to other sections of the country that are advertising their products. Just this fall, with Maine farmers having on hand a record potato crop, potatoes from the far away State of Idaho were on sale within our State. Next year Idaho will spend \$100,000 in advertising to further popularize her potatoes. This is just one instance, in one branch of farming, that shows how our farmers are losing ground to the advertising states.

Summed up, our Maine products are unequalled in quality. Our production is sufficient to justify widespread advertising. Experience has shown that agricultural advertising has been the salvation of other agricultural states.

I firmly believe, then, that this is the next step that we must take to assure us of a just measure of prosperity. We must advertise our products widely, efficiently and at once.

Report of Division of Animal Industry

To Hon. Frank P. Washburn, Commissioner of Agriculture:

I herewith present my report of this division covering the two-year period July 1, 1932 to July 1, 1934, and the activities now contemplated for future work.

The reports of Clayton P. Osgood, Dairy Inspector, and Charles H. Crawford, Sheep Specialist, are appended.

Bovine Tuberculosis

The work accomplished along this line has continued to show a smaller percentage of reactors from year to year, and for the fiscal year closing June 30, 1934, the percentage of reactors including all tests made in the State was only eighteen hundredths of one per cent, (0.18%). The testing of county areas once in three years for re-accreditation is being continued, and as time and funds have in the past, and will in the future permit, we are testing these county areas 100%. During the past two years all of the cattle in Knox, Lincoln, Sagadahoc, Androscoggin, Kennebec and Piscataquis Counties have been tested, and at this writing Cumberland County is being tested in this manner. The Federal Bureau has recently ruled that if all of the cattle in a modified accredited area are tested and less than twenty-five hundredths of one per cent (0.25%) disease is found, a retest of the area will not be required for six years instead of three.

Glanders

No cases of glanders have been found during the past two years. Several suspects have been reported which have been investigated, and in most cases tested, but in no case has a reactor been found.

Hog Cholera

This disease is still with us although it is so well understood today and those engaged extensively in the hog business realize that there is no other way to be safe than to immunize by the serum and virus treatment, that the actual losses are comparatively small. A new method of immunization is in the experi-

mental stage at the present time, that may prove an advance step in hog cholera control. Instead of using a comparatively large dose of hog cholera virus (containing living organisms of the disease) and then counteracting this with a larger shot of hog cholera serum, the new method is more in the nature of a vaccination, and calls for the use of a small quantity of an attenuated virus or a weakened strain of the living organism of hog cholera, no serum being used. This gives the disease in a very mild form that seems, according to present reports, to give a lasting immunity. If future tests prove this to be true the prevention of hog cholera will be greatly simplified, also more lasting and less expensive. We are looking forward with interest to further developments of this method.

Bang's Disease or Contagious Abortion

This is no new disease and although there is no record of its first appearance there is no doubt but that it has existed for several hundred years at least. Just how the present per cent of infection compares with that of ten years ago is only a matter of guesswork. The writer's first experience with this disease was over forty years ago. The money loss caused by it has without doubt far exceeded the loss caused by tuberculosis. It is very seldom that a cow that drops a calf prematurely will prove much good as a dairy animal until she freshens again with a fully developed calf, so the owner has to keep the animal for a year or more at a loss. The nature of the disease is such that in most cases a false hope is built up that an animal has fully recovered when she again breeds and carries her calf full time but as a matter of fact she still carries the Bang's bacillus organism in her blood and will show a positive reaction when the agglutination test is applied. Many so-called remedies have been put on the market for the cure of this disease by unscrupulous or ignorant people and farmers have wasted many hard earned dollars in this manner. During the last few years a general awakening to the importance of eradicating the disease has been shown by sanitary officials, health officers, the public and cattle owners. Sanitary officials and cattle owners are interested because, in many states, they require that all cattle imported into their states must show a negative test to Bang's disease, and some require a certified chart to accompany the animal. Other states go even farther and demand that the entire herd from which the

animal came must show a negative test; consequently if Maine is to maintain her standing as an export State she must be able to furnish the kind of cattle that other states require. We have been selling from eight to ten thousand head of cattle yearly, and this makes a sizeable revenue for Maine farmers. Health officers and the general public are interested in the eradication of this disease because of the increased number of undulant fever cases that are being reported, and while not all of these cases are traceable to milk, yet it has been definitely proven that the organism that causes undulant fever in humans is apparently the same as the Bang's bacillus, and in most instances cases of undulant fever can be traced to milk from Bang's diseased herds.

While there has been considerable done in several states to eradicate Bang's disease, yet until recently no indemnity has been paid for reactors, consequently few good cows have been slaughtered, but have been sold to spread disease in other herds.

Last August the Federal Bureau notified this office that Maine had been apportioned \$19,000 for the eradication of Bang's disease, and that all reactors must be slaughtered and the Bureau would pay an indemnity not exceeding \$20 for a grade and \$50 for a pure bred animal plus the salvage, provided the appraised value equaled, or exceeded that amount. At the special session of the Legislature held November 13, 1934, a bill was enacted authorizing the State, through the Department of Agriculture, to coöperate with the Federal Bureau and to pay an indemnity equal to the Federal indemnity; so at the present time the limit of the combined indemnities is \$40 for a grade and \$100 for a pure bred plus the salvage, provided the appraisal is enough to cover these amounts; but in no case can the indemnity and the salvage combined exceed the appraisal. After the salvage has been received by the owner and deducted from the appraisal, the balance not exceeding the indemnity limit, will be paid equally by the State and Federal Bureau. At this writing 606 cattle have been bled and tested under this plan and 18% reacted. One veterinarian has been appointed for full time work and others will be appointed for part time work. The testing of the blood samples will be done at the State laboratory here at Augusta. The drawing of the blood and laboratory test will be done free of charge, but to get the benefit of this free service and indemnity for reactors, the owner must sign the Federal agreement and live up to its terms. Agreements will be sent to

all that apply to the Division of Animal Industry, Department of Agriculture, or they can be obtained from the county agents.

That the State of Maine is up against a long, hard pull to eliminate Bang's disease from its cattle population is very evident, yet it is a situation that must be met.

Poultry Killed by Dogs and Wild Animals

One of the more recent duties placed upon this Division of the Department of Agriculture is the final approving of claims for poultry killed by dogs and certain wild animals. The selectmen in each town must by law investigate these claims and make recommendations for payment. The owner is required to report losses immediately to the selectmen so that they can investigate while the evidence is fresh. In some cases it is necessary to write back for further details, but in most cases the investigation by the selectmen is carefully made. However in a majority of cases the price has to be adjusted as the policy of this Division is to pay the wholesale market price on the farm for the kind of poultry killed. During the fiscal year ending June 30, 1933, the State paid \$4457.41 for 5294 head of poultry, or an average of 84c per bird. For the fiscal year ending June 30, 1934, the State paid \$5979.95 for 8604 head or an average of 69½c per bird. The greater percentage of these birds were killed by foxes and in many localities foxes have become a general nuisance. My accounts show that in the two years prior to July 1, 1934, foxes have cost the State in poultry claims alone \$7517.00, and from July 1 to Dec. 15, of the present year \$4328.56 has been paid for poultry killed by them with many claims not yet adjusted. In certain towns a bounty on foxes instead of protection would be the sensible course. Since July 1, 1934, there has been a much larger volume of poultry claims than has ever before been received, and I predict that this year's figures will reach \$8000, but many poultrymen and women would be put entirely out of business were it not for this help, and in many cases the poultry is kept by the wife and the family practically depends on the income from this source for its needs. For this reason I would recommend the extermination of foxes when they are too numerous rather than discontinue this aid, and by doing this, much State money would be saved.

Licensing Poultry Dealers

The last regular session of the Legislature enacted a law requiring all dealers in live poultry to be licensed and to display license plates on each side of the vehicle used in transporting poultry giving the poultry license number. These dealers are also required to make out sales slips in duplicate giving all information regarding each transaction and sign as buyer, leaving the original copy with the seller. This was intended, and is helping to prevent dishonest dealing. If poultry owners would cooperate with this division and take the trouble to weigh their poultry before selling it, as well as make sure as to the count, so that when they make a complaint it could be proven, I would then be in position to revoke more licenses than I have in the past. In the fiscal year 1932-33 two licenses were revoked, and the past year, 1933-34, three have been revoked. I stand ready at any time to call a hearing on good evidence of dishonest dealing or any violation of a Statute law, and if the allegation is sustained at the hearing the license will be revoked.

Animal Parasites

During the past two years a rather serious condition has developed among horses in several parts of the State. In some sections practically all of the horses had died or were in the last stages of emaciation and weakness. Not until I solicited and received the assistance of Dr. J. F. Witter, animal pathologist of the University of Maine, was the true cause of this trouble discovered. By taking samples of fecal matter it was discovered that animal parasites or worms, were responsible for these conditions. At least ten different varieties of parasites were found in the samples examined. In some cases where animals were killed for autopsy worms were found in such massive numbers that the intestines were literally alive with them, hook worms being the most prominent variety. If anyone is having trouble with horses that are in an unthrifty condition and they do not respond to good feed, write to Arthur L. Deering, Director of the Extension Service, University of Maine, and ask for Bulletin No. 212 on Controlling Animal Parasites in Horses.

Following is shown the activities of this division along the lines of live stock sanitary work in tabulated form:

July 1, 1932 to July 1, 1933

	<i>Cattle</i>	<i>Reactors:</i>
Tested by coöperative men and accredited veterinarians.....	75,895	193
Tested for interstate shipment.....	8,668	8
Total number cattle tested and reacted.....	84,563	201
Percentage of reacting cattle.....		0.24%
Amount paid for condemned cattle.....		\$8,047.80
Amount received and turned into Treasury for salvage.....		\$1,110.53
Number of cattle brought in on permit from other states and Canada.....		342
Number of cattle permits issued.....		141
Number of horses brought in on permit.....		860
Number of horse permits issued.....		95
Number of swine brought in on permit.....		3870
Number of swine permits issued.....		1008
Number of cattle tested for Bang's disease.....		2298
Number of cattle reacted.....		94
Percentage of reacting cattle.....		4.09%

July 1, 1933 to July 1, 1934

Tested by coöperative men and accredited veterinarians.....	81,860	154
Tested for interstate shipment.....	10,007	8
Percentage of reacting cattle.....		0.18%
Amount paid for reacting cattle.....		\$3,481.82
Amount received and turned into Treasury for salvage.....		\$1,295.75
Number of cattle brought in on permit from other states and Canada.....		362
Number of cattle permits issued.....		150
Number of horses brought in on permit.....		2961
Number of horse permits issued.....		157
Number of swine brought in on permit.....		4046
Number of swine permits issued.....		774
Number of cattle tested for Bang's disease.....		2482
Number of cattle reacted.....		198
Percentage of reactors.....		7.97%

Respectfully submitted,

H. M. TUCKER,

Chief, Division of Animal Industry

To *H. M. Tucker, Chief of the Division of Animal Industry:*

I submit, herewith, my report for the Bureau of Dairy Inspection for the two-year period ending June 30, 1934.

The work has been carried on as outlined by Statute, and we have taken on one important line of work, the licensing and bonding of milk distributors as required by Chapter 210 of the Public Laws of 1933.

Seventy-three milk distributors have been licensed and bonded by this Bureau and one hundred and fifty-four thousand dollars have been deposited with the Commissioner of Agriculture as a guarantee of payment of debt to the milk producers selling to distributors. Very little difficulty has been encountered and I am pleased to report nearly a hundred per cent compliance at this time.

About the usual amount of check-testing and inspection of samples in creameries has been carried on. Some change has been made in the method of doing this for we now are taking daily samples of producers' milk instead of checking the composite samples.

More attention has been given the past two years to the collecting of milk and cream samples and the inspection of dairies. This is due partly to the fact that we now have a complete analysis made of all samples purchased. The following tables show the results of samples taken the last two years:

	1932-1933		1933-1934	
	1644		2276	
Total number of samples				
Butter Fat 4% and over	1062	64.59%	1384	60.8%
3.25% to 4%	482	29.32%	724	31.8%
Below standard	100	6.08%	168	7.4%
Sediment Clean	132	8.02%	155	6.9%
Very slight	547	33.28%	956	42. %
Slightly dirty	720	43.8 %	848	37.3%
Dirty	245	14.9 %	317	13.8%
Bacteria per c.c. Below 10,000	453	27.6%	454	19.9%
10,000- 25,000	323	19.6%	392	17.2%
25,000- 50,000	280	17. %	407	17.8%
50,000- 75,000	123	7.7%	154	6.9%
75,000-100,000	79	4.8%	112	4.9%
100,000-200,000	118	7.1%	199	8.8%
200,000-300,000	77	4.6%	130	5.8%
300,000-400,000	35	2.1%	79	3.4%
400,000-500,000	31	1.9%	49	2.1%
Over 500,000	125	7.6%	300	13.2%

50,000 bacteria per c.c. by the official A.P.H.A. plate count method has been set as a tentative standard for acceptable milk. It is gratifying to see that for the year 1932-1933, 64.2% or 1,056 of the samples contained less than 50,000 bacteria per c.c.

Three thousand six hundred and fifty-seven inspections of dairies have been made during the past two years and probably as many more reinspections and calls have been made on milk dealers to help them with their troubles, which might be with dirty milk or too many bacteria.

Considerable time has been spent in the last year in helping to organize local associations of milk dealers. I believe this has brought about a better understanding between dealers in different towns. All help possible has been given in an attempt to stop price cutting in different markets, but I fear most of it has been of no avail.

In closing this report, I wish to take this opportunity of thanking Commissioner Washburn for his counsel and help during the past two years.

Respectfully submitted,

C. P. OSGOOD,
State Dairy Inspector

I have already entered a summary of the work as carried on by the Bureau of Dairying for the past two years. This covers, essentially, the routine work as required by Statute. However, I feel that with the general changing in the dairy industry and especially in the conditions which have become prevalent during the past two years, a brief report of these might be of some value.

The dairy industry like all other industries is, and has been, going through a period of over-production. A large surplus of dairy products are being thrown on the market. Much help has been given by the Federal Government by the purchasing of these surplus dairy products and the distribution of them to the needy. This has partially stabilized the market for short periods of time.

Over-production has been brought on chiefly by a steady increase in the cow population of the United States. During the period from 1920 to 1929, the increase in production and consumption were about the same. After 1929, we find that there was a much faster increase in the number of cows than

was needed to supply the demand. This, combined with a lowering of consumption, is the reason for a large surplus of butter and other manufactured dairy products being piled up in the market and bringing prices to the lowest level in history.

These low prices have caused producers to look for better markets for their milk. There are many instances where the milksheds in different markets overlap and are also, adjacent to territories where milk has been bought for manufacture. In these instances, there is considerable movement and agitation among producers to sell their milk to the dealer with the lowest surplus. And the dealer by buying his milk for a flat price and by controlling his surplus can pay a higher price than other dealers and far above what manufacturing plants can pay. Yet, this flat price has been sufficiently low to enable the dealer to cut retail prices on the market and still make a profit. All these conditions combined have brought about a chaotic situation in the dairy industry, such as never has been seen before.

The Agricultural Adjustment Act, passed by Congress, has given the Government power to regulate and control production of all farm commodities. It is only fair to say that much has been accomplished during the past two years. The greatest drawbacks have been the selfish interests of some of those affected by the Act, and the lack of coöperation between dealers and producers.

The general feeling in Maine and New England has been that we should be allowed to work out our own problems. As I have mentioned above, the cow population has increased steadily until it is the highest this country has ever known, but during this time, the cow population has decreased decidedly in New England, and this, of course, means less production. This is the reason for the feeling that we should not be penalized for the over-production in the Western States.

The dairy industry in New England has declined to a stage where we are now producing only about enough milk to supply the fluid demand. There was a time when New England produced nearly enough dairy products to supply our demand for not only milk, but butter as well, and a considerable amount of cheese and condensed milk was manufactured for consumption here and outside of New England.

Gradually we began to buy our butter from the Middle West, until today, practically none is manufactured in New England. Not so many years ago, the first shipments of cream were re-

ceived in the Boston market. At first, this was shipped in to be used in ice cream during a short season of the year. The volume of cream shipped in has increased steadily until from thirty to sixty per cent of the cream, depending upon the season of the year, is now received from Michigan, Minnesota, Missouri, Wisconsin and other dairy states. This cream has been coming in at a very low price and has affected, directly, the price obtainable here for native cream. It is now a question as to how long it will be before we will have the competition of Western milk in case the the bars should be let down by the enforcement officials in Massachusetts. Fast trains, insulated glass tank cars, and low freight rates from the Central West all seem to favor a move of this nature.

The Boston market is now operating under a Federal Agreement, set up by the Agricultural Adjustment Act. This is similar in scope and function to all Federal Agreements operating in practically all the major markets at the present time. Federal control has by no means solved all the problems in any market, but I do think it has been a great help in all of them.

Space does not permit me, at this time, to give a history of the reaching of an agreement in the Boston market. However, I will try to explain briefly, the workings of the Federal Marketing Agreement set-up as it affects milk being shipped from Maine to Boston.

Over-production, a surplus of milk, the ability of some dealers to purchase their milk at a lower price than some others through keeping their surplus down, and price cutting or chiseling, have all been factors which have tended to weaken the price in all markets. The Federal Government is trying to give each producer his share of the fluid milk supply, and his share is based on his supply during the past years.

Control officials have computed the total volume of milk produced in the Boston milkshed, as well as the amount sold for fluid consumption, which is called base milk. Figures have been compiled of the production by all individual dairymen throughout this area. The percentage of the total production sold as base milk determines the percentage or share of each individual dairy to be sold as base. At first, the average production for the months of September, October and November were taken and bases were worked out for this period, but now bases are computed on the total yearly production. Allowances have been made for farms producing below the normal amount in any

of these periods. For example, in a case where a whole herd might have been slaughtered because of disease such as tuberculosis or Bang's disease. Here bases have been properly adjusted to meet the average production of the farm.

To stabilize the market at the sales end, milk has been pooled, that is, a dealer carrying practically no surplus is required to pay to the Federal pool, money to make up for the dealer carrying a high surplus of milk. The object being, first, to give all producers the same price for their milk and second, to prevent any dealer from having an advantage in owning his milk at a lower price.

This is the only way in which the situation could have been handled. Much dissatisfaction is heard on all sides about this rating system. It is true, that in some cases, individuals have not received their share of the fluid milk rating. Any producer who feels that he has not received a proper rating should notify the Federal Market Milk Administrator and his rating will be adjusted if just cause is found. All requests to the Market Milk Administrator should be accompanied by the check stubs for the past year or a statement from the manager of the plant to which the milk was shipped, showing the exact amount of each shipment.

Now that the Federal Government is controlling all marketing of milk and cream, the demand on every hand is for higher prices. Without a general understanding of marketing conditions, not only in New England but elsewhere, it seems that this should and could be done. Statistics show that even with the prices at the level which they are, the consumption of canned milk has shown a steady increase. The price of surplus milk is governed entirely by the price of butter on the Boston and Chicago market. Much of the cream which is coming into New England at the present time was formerly manufactured, but even with the price for cream so low, the market has been very favorable compared with the prices received for milk manufactured and sold as butter or canned milk. Raising the price of butter, in spite of the tariff, would have brought huge volumes in from New Zealand, Great Britain and other countries. The buying of butter, by the Federal Government, has during different periods stabilized the markets at as high a level as possible without entirely demoralizing it by importation of these products.

The trend in Maine during the past few years has been entirely toward shipping milk until now, only a few scattered plants are

buying farm separated cream. Plants have been closed, until today, three or four plants receive practically all the milk that is shipped out. This has necessitated trucking milk distances of from thirty to sixty miles. Yet this has seemed like an economical move and has been brought about by the use of tank cars for shipping milk and the low volume of milk received at many country plants.

Not so many years ago, many plants, as I have mentioned, were receiving farm separated cream and the dairymen had their skim milk to feed to young livestock at home. In these cases, the money received from raising and selling dairy cows was no small part of the farm income.

As I see it, dairymen are faced with two alternatives. One is to cut production to the demand as it exists for fluid milk and have all cream and manufactured dairy products shipped in from outside or to build up the dairy industry to a point where we can supply not only fluid milk, but cream as well. I believe there are many dairymen who would be just as well off by selling cream and raising livestock, with the fluid milk market as it is today. I refer to the ones who are scattered over a large territory and have high trucking charges to pay. At any rate, this situation is something which should be given careful study.

During the past few months, there has been considerable agitation for a Milk Control Board or Commission, similar to the ones found in other states. Already, legislation of this nature has taken place in Vermont, Massachusetts, Rhode Island and Connecticut and in ten or twelve other states. Control of this nature has by no means solved the whole problem in any state, but it has been helpful in practically every state, in getting a higher price for the producer. The set-up varies in different states. In Rhode Island the Milk Control Board is working advantageously in coöperation with the Federal Government through the Agricultural Adjustment Act. In Washington, this law ostensibly gives to the State Director of Agriculture, similar authority to regulate inter-state business in agricultural commodities, as was conferred upon the Federal Secretary of Agriculture to regulate inter-state business in Agricultural commodities by the Federal Agricultural Adjustment Act.

A close study of the laws of these states show that the Commission is vested with very broad powers. In Maine, the feeling seems to be that a Milk Commission can be of help in many markets, but there is a hesitancy on the part of some of the

larger dairymen to give to any group of men too much authority. There is only one market in Maine which has any of the problems of the major markets in other states, and there is need of careful study before anything is done here. In practically all the small cities and towns of the State, we have local associations of milk dealers who, in most cases, produce their own milk. Control here would be fairly well accomplished without any complicated marketing agreement. The power to establish prices to be paid by the dealers to the producers and by the consumers to the dealers, seems to be about all the authority which should be vested in a Milk Control Board. All dairymen will be given an opportunity to express their views on this before the Committee on Agriculture, if a bill is presented to the Legislature.

It should be borne clearly in mind that the most perfect machinery working in the world can be of little value unless the people using it have the will to make it work. Producers and distributors have shown in a number of instances that they can make agreements and licenses useful in improving conditions. Coöperation on their part will assure progress.

Mr. H. M. Tucker
Chief, Division Animal Industry

I herewith submit my biennial report for the years 1933-34.

Demonstrations along the lines of better care, feeding, and management of farm flocks have been given, also the latest and best methods of eliminating parasitic troubles.

Demonstrations in proper shearing, handling, and tying up wool for the market have been given, also in castrating and docking lambs.

Considerable time has been devoted to a better breeding campaign by correspondence and personal visits to farms, also by actually purchasing and selling both pure bred rams and ewes.

In all cases where beginners wish to start a pure bred flock, personal attention has been given to selection of breeding stock and also advice given in the necessary care, feed, and management and in some cases finding a market for the surplus lambs.

As a result of demonstrations in the proper way of producing, shearing, and handling wool to get the highest market price, the percentage of loss by shrinkage in scouring has been reduced

from an average of 47% to about 40%, and the percentage of rejections from 30% to 10%. The rejections include all dirty, chaffy, burry, short, cotted, and dead wools.

The question of cleaner and better wool for higher prices suggests much more work among the sheep owners, and in many cases personal visits to the pens that proper changes in methods of feeding and feeding racks can be advised. Clean wool is not only more attractive to the buyer but demands a higher price.

Burry wool is very objectionable and reduces the selling value materially, as such wool must be carbonized before it can be used in better fabrics.

Short and cotted wool is grown on the undernourished, parasitic, and infested sheep and is undesirable for any purpose, reducing the market value of the entire lot.

Dead wool is taken from sheep after death, and because the life and elasticity dies with the host, is undesirable for manufacturing.

Raising and fitting lambs for the market is receiving more consideration each year, and to enable Maine sheep men to get the full benefits resulting from a steadily increasing demand for lamb for home consumption the question of breeds and breeding for rapidly growing lambs, also early maturing, is deserving much attention and if properly carried on will result in a material increase in demand and price. Better breeding deserves much more attention, and if followed up will not only increase the farm income but will result in a greater interest because of a more attractive flock.

Drouth conditions throughout the stock-producing sections of the United States have caused a sharp decrease in the number of sheep and this decrease will not be fully replaced for several years, leaving the Eastern market open for an increased supply of Maine grown lambs and wool.

While the wool market has been rather on the decline since early in 1933, and stocks of wool held by dealers show an increase as compared with the usual supplies at this season, we can confidently expect more activity in the wool manufacturing industry which will naturally cause an increase in both demand and price.

The buying public already indicates a greater degree of confidence in returning activity in all lines by buying more liberally.

If Maine farmers who are interested in sheep will give careful consideration to the bright prospect that is beginning to appear, and will improve the opportunity now existing by purchasing

more sheep at the prevailing low prices, and by discarding the undesirables and replacing them with high producers, they will be ready to make a profit with the return of increasing prices and demand.

If Maine farmers desire to save their farms and homes they must get back to a more evenly balanced program of farming by raising more of the necessities, balancing the farm income by keeping a flock of good sheep as well as other livestock, produce more home grown grain rather than to purchase their requirements at greater costs, produce more homegrown fertilizer, reduce acreage, hire less, and own what they have at the close of the year.

Sheep require less expensive equipment, less cash investment, and little care during the summer season when the farmer's time is more valuable. The cash income is assured, twice each year, with the gambling element entirely eliminated.

Dogs are a serious menace in some sections of our State but with coöperation by city and town officials, and diligent care by the farmer, much trouble and loss can be averted. The Statutes of our State provide much protection when properly used by those interested. In many towns and communities sheep have been slaughtered by dogs to the extent of several hundred dollars, which is most discouraging to sheep owners, and when repeated attacks occur the farmers are forced to discontinue the sheep business entirely.

In nearly all cases when two or three sheep-killing dogs are killed, the damage to the flocks ceases entirely until a new crop of dogs appear.

In some sections bears are a serious menace to the sheep men, in many cases entire flocks being destroyed and others ruined by frequent attacks, until the farmers become discouraged and often quit sheep entirely.

It is unfortunate that both sheep and bears enjoy the same localities. Farmers living in the outlying sections often find that sheep fill a place in their farm program that cannot be otherwise occupied, because of long hauls of farm produce to market. In such communities grazing lands are easily and cheaply obtained and the cash income from sheep supplies the major income. The only desire of sheep men in these sections is that they be accorded reasonable protection from sheep-killing bears.

Summary

Continuing the project of better care, feeding, and management is worthy of the time and expense necessary, also demonstrations and advice on better wool production should be continued. A campaign for better breeding and a wider use of pure bred sires, as well as proper crossing of breeds, is worthy of the time and expense.

Although there has been a marked decrease in losses because of the various parasitic diseases there still is much to be accomplished by a continuation of that work.

External parasites "ticks and lice" are still the cause of much annoyance to sheep, and their presence cause much loss in production. Sheep men should be made aware of the losses occurring daily, most of which could be averted by properly dipping in suitable weather, and the use of Dri-Kil powder that can be applied during the winter months, both being inexpensive but effective when properly applied.

As Secretary and Manager of the Maine Sheep and Wool Growers' Association I am pleased to report an increased growth in membership each succeeding year, and although the sheep population has been somewhat reduced during the past two years because of short hay crops and to obtain cash for taxes, etc., the amount of wool pooled by the members remains normal and indicates an increase in the future.

The Association is on a safer and sounder financial basis which is gratifying to both management and directors. Although the period of depression has compelled us to adopt a cash payment plan for the past two years we are planning to return to a strictly coöperative plan of pooling the wool this season.

Adjustments of claims for damage to sheep, cattle, and other domestic animals by dogs, bears and other wild animals require much time in an attempt to have such losses verified by reasonable evidence and on a basis of just values.

A general misunderstanding of the intent and purpose of the Statutes, providing such adjustments, causes some dissatisfactions and often unnecessary delay in approving claims for payment, much of which could be averted by personal inspection and conferences with both claimants and city or town officials.

Respectfully submitted,

C. H. CRAWFORD
State Sheep Specialist

Biennial Report, Division of Plant Industry

Hon. Frank P. Washburn, Commissioner of Agriculture:

The following is a summary of the activities of the Division of Plant Industry, covering the period from July 1, 1932, to July 1, 1934.

Seed Certification

	Entered A.	Passed A.	Bu. Certified	Bu. Sold
1932-33 Mountains . . .	5417	4256	1,302,336	651,453
Cobblers	5067	4462	1,276,132	960,342
Sp. Rose	852	742	220,374	142,884
All Others	390	390	121,758	43,849
Total	11,726	9,850	2,920,600	1,798,528
1933-34 Mountains . . .	5489	4181	1,477,983	726,192
Cobblers	6748	6293	1,840,849	1,254,063
Sp. Rose	1152	1056	366,077	212,809
All Others	745	508	167,887	57,555
Total	14,134	12,038	3,852,796	2,250,619

The above figures indicate the volume of seed potatoes certified and sold during the fiscal period involved. The number of acres entered is governed largely by the sales price of the previous season. The past year shows the largest number of sales that were ever made, thereby reducing the cost to growers. A total of 824,048 barrels were shipped to twenty-three states, and for the first time we used a million blue tags in one season. We have annually a large amount of excellent seed, but no medium through which to advertise our product.

The foundation stock problem is receiving proper attention by our Experimental Station, and good results are evident. The stock grown under cages at Highmoor Farm is helping tremendously. In addition to this source, we have a few growers in Aroostook County who are offering very high grade foundation seed from their tuber-unit fields.

Each year it becomes more necessary to be strict in the matter of grading. This is brought about by keen competition from other states, as well as commercial organizations within

our own. As a State Department we realize our responsibility to the industry as a whole, and plan to maintain a reasonable grade, fair to our growers and to those to whom we sell. Our seed men are planting their potatoes nearer together, thereby making the seed more uniform and reducing the number of large potatoes. The eighteen thousand, eight hundred, ninety-six acres entered for inspection this year is the largest since 1928.

Insect Control

The small crew engaged in Gypsy and Brown-Tail Moth work could attend to only emergency calls because of the extensive Gypsy Moth colony. The three spraying machines have worked to capacity during the short season in which this work can be done. The towns and cities have coöperated in all cases by purchasing arsenate of lead, and we have furnished machine and labor. It is possible to do fourteen or fifteen towns a year, in addition to many bad infestation^s where it is imperative to get rid of the pest for special reasons, such as camp sites, boys and girls camps, and other public gathering places. During this two-year period there has been a tremendous increase in the Gypsy Moth population, but we believe this is a peak year in the life cycle, and that the next few years will show an improved condition. The severe winter of 1933-34 did not result in the usual winter kill due, no doubt, to the very deep snow.

The situation regarding the Brown-Tail Moth is slightly different. The severe winter, plus the work of one thousand, six hundred men for ten weeks, shows a much smaller Brown-Tail infestation than has been evident for several years. The project referred to above was C.W.A. No. 391, and was handled by this office. The money expended was \$219,000, and more than nine million webs were cut.

The Japanese Beetle traps were used the past two seasons to determine the spread of the Japanese Beetle. Two thousand, four hundred traps were used in nineteen towns, which show that there were small colonies located as follows: Auburn, Augusta, Lewiston and Waterville. As the presence of this insect has only been known for a few years the present colony is small, and we do not believe that there is any grave danger as yet. Work will be continued to determine the severity of the infestation, and study will be made as to methods of control.

The European Corn Borer has shown an increase during the past two seasons. It is believed that more men and time will

have to be put in on this insect in order to properly safeguard our canning industry. Each season a quarantine has been maintained, and a strenuous fall-plowing campaign has been waged. It is likely that prosecutions will have to be made in isolated cases, but we have avoided them up to this time.

To Summarize: the Gypsy Moth appears to have become almost native, but lacks the native parasite, therefore we must classify it as a permanent insect from now on. The Brown-Tail is more bothersome at times, but indications are that the extreme cycles come only once in twelve to fifteen years. The Japanese Beetle is not important commercially as yet. The European Corn Borer, however, demands work and study.

Other Activities

Some of the other activities of our Division are lectures before Granges and for different organizations, the State Dairy and Seed Show, membership on the Rural Rehabilitation Advisory Board, handling of Federal Project No. 31, Brown-Tail Moth extermination and assisting in the apple tree removal campaign. With a staff of about twenty, including field men, we have been called upon to aid in many phases of Department work, and we are always glad to assist.

As a Division, we appreciate your support and help, and wish to thank you. To all the agricultural agencies we pledge our allegiance, and thank them for their coöperation.

E. L. NEWDICK
Chief of Division

Certification of Seed Potatoes

By E. L. NEWDICK

The average yield of 16,006 acres of Maine Certified Seed Potatoes for 1934 was 376 bushels.

The average yield for the entire State, both seed and table stock was 333 bushels per acre.

The average yield for the United States was 113 bushels per acre.

It seems reasonable to ask the buyers of seed to consider well these figures.

Field inspection and certification of seed potatoes was started in Maine in the summer of 1914. The Maine Seed Improvement Association fostered the movement and helped in its guidance for many years. The State Department of Agriculture was allied closely, however, due to the fact that the Secretary of the Association has always been chosen from the Department of Agriculture. Adopting suggestions made by the U. S. Department of Agriculture and the Maine Agricultural Experiment Station working with the above agencies the first set of regulations were drawn and work started.

The first year 679 acres were entered for inspection and 222 acres finally passed. The writer was privileged to be one of the inspectors. Maine thus became one of the first states to have this type of work. Wisconsin, we believe started the same year.

In its early days it went through a period such as might be expected from any new proposition of such a large magnitude. The bright spots together with the dark days helped to strengthen the movement, however, and in January, 1917, the Legislature provided for establishment by law of the Bureau of Seed Improvement within the State Department of Agriculture and provided \$3,000 for the work. Thus certified seed potato inspection became a governmental function, and has so remained. From time to time it has been found necessary to make additions to the original act until it apparently has reached a point where all the legal requirements are available. In the early days there existed a tremendous lack of knowledge regarding potato diseases, all this has changed as the Plant Pathologist has kept pace with

the times until today we have a definite working knowledge of most potato diseases. In addition tuber unit planting has made roguing so much easier that there are now many successful growers of foundation stock. There is no difficulty in proving the superiority of certified seed over that of uncertified. On the whole, however, we suspect that the greatest value has come to our State not in the sales made outside, but in the improvement of our potato crop as a whole.

The following summary shows the status of the work:

Year	Total Acres Entered	Total Acres Passed	Total Sales bbls.
1922.....	4,024	1,189	43,768
1923.....	13,056	6,228	276,280
1924.....	25,417	14,699	604,079
1925.....	18,311	7,065	419,397
1926.....	11,289	6,655	512,123
1927.....	18,332	10,781½	694,819
1928.....	26,360	16,846	645,028
1929.....	15,529	10,799	555,094
1930.....	13,096¾	9,370½	518,819
1931.....	15,344	14,204½	700,923½
1932.....	11,681	9,850¾	654,010½
1933.....	14,134½	12,039¾	824,048
1934.....	18,896½	16,006¾	

NUMBER BUSHELS CERTIFIED BY VARIETIES

Year	Total Production	Total Gr. Mts.	Total Cobblers	Total Sp. Rose	Total All Others
1928.....	5,094,128	2,052,163	2,171,939	775,495	5,094,128
1929.....	3,998,902	1,834,170	1,487,612½	483,199½	193,920
1930.....	2,741,493	1,222,683	1,006,434	409,039¼	103,336¾
1931.....	3,944,036	1,627,400	1,739,922	513,739	62,975
1932.....	2,920,600	1,302,336	1,276,132	220,374	121,758
1933.....	3,852,796	1,477,983	1,840,849	366,077	167,887
1934.....	6,003,258	2,569,433	2,684,215	489,110	262,500

YIELD PER ACRE BY VARIETIES

Year	Gr. Mts.	Cobblers	Sp. Rose	Others
1928.....	299¾	308	294¼	302
1929.....	390	349	357	404
1930.....	308	280½	280½	291½
1931.....	321	337	310	329
1932.....	306	286	297	312
5 yr. ave.....	325	312½	307¾	327½
1933.....	353½	292½	346½	330
1934.....	388	361	390	375

An analysis of the above figures shows that the total sales have run rather more even than has the total acres entered. This indicates that there is a group who have a seed trade and apparently another group who changed in membership from year to year. The acreage passed as compared with the total entry indicates clearly a better quality of stock being offered, than in the early days of the work. The yield per acre figures ought also to be a good selling point for certified seed. It is very high as indicated by a comparison with table stock figures in various states.

Methods

A staff of ten trained men, one of whom acts as chief inspector is maintained at all times. Inspection of the growing plants begins as early in July as plant diseases show and the following regulations are used in the inspection work.

1. *Time of inspection:*
 1. As early as possible to identify diseases.
 2. From the time of blossoming to just before the vines mature.
 3. After the crop is graded.
2. *Isolation:* Fields entered for certification which are nearer than 250 feet to other potatoes carrying more than a passing allowance will have a sufficient number of rows disqualified to make up the required distance. In addition to this, the two rows adjoining must be removed in order that the line of separation can be maintained without difficulty. The rows so set off on the good field must be harvested separately and are not eligible for certification.
3. *Roguing:* Fields entered for certification may be rogued at any time. All diseased plants must be removed from the field. Tubers from diseased plants, if of grade size, must likewise be removed. All plants indicated by the inspector shall be rogued at the inspector's discretion following each inspection.
4. *Spraying:* Fields damaged by early or late blight or tip burn, so that disease identification becomes impossible will be rejected.

5. *Cultural Conditions*: Fields showing poor cultural conditions may be disqualified. These conditions include failure to control weeds or the presence of plants lacking in vigor from any cause.
6. All applications for inspection must be mailed to the State Department of Agriculture not later than June 15.

Standards for Field Inspections

The eastern states now have approximately the same standards for the two field inspections. It is agreed that it is advisable to adopt uniform standards. It will be observed that no mention is made of weak hills in the adopted standards. This is considered unnecessary since these are taken care of under the general requirements indicated above.

	<i>First Inspection</i>	<i>Second Inspection</i>
Leaf Roll	2%	1%
Mosaic	3%	2%
Spindle Tuber	2%	2%
Yellow Dwarf5%	.5%
Total Virus	5%	3%
Blackleg	2%	1%
Wilt	2%	1%
Total of above diseases	6%	4%
Giant Hills		1%
Varietal Mixture	1%	.25%

1. Maine certified seed potatoes shall equal or exceed U. S. Grade No. 1.
2. The inspector present at this inspection will be instructed to put up such seed stock as he would like to receive if he were the buyer.

At no time can it be said that inspection work in a particular field has stopped. Two field reports are made to the office, but as many inspections are made as is necessary. Following the field inspections a digging inspection is made at which time the grower is notified if any of the stock cannot reasonably be made to grade as certified. At this inspection a record is made as to where the potatoes are stored, thus the inspector must know more about the potatoes in his district than anyone else can

hope to. Shipping starts during digging and no blue tags are issued except to inspectors. These tags are numbered and the inspector held responsible for the issuance of them. The shipping season lasts until the following June. Each inspector is provided with transportation so that he may make as many calls as he needs to secure efficiency in his work.

Costs

The work is entirely self-supporting. The growers pay a field inspection fee based upon its actual cost to the State Department of Agriculture. In addition to this a shipping inspection fee is charged for each barrel sold. This has varied over a period of years, but during the season of 1933-1934 a per acre cost of 80c and a shipping cost of 1 $\frac{3}{4}$ c per barrel of 165 pounds, the lowest price at which the work was ever done, due to the large volume of business. A cash plan of work was established in 1930 and has since been maintained.

Marketing

Outside of an annual trip to the south and an occasional trip to other parts of the United States by a representative of this Department, there has been no advertising done to push Maine certified seed. Someone may suggest that more than two million bushels sold last year will speak for themselves. This is true to an extent, but until a tremendous campaign is put on, reaching into every seed buying state, to the number of about twenty-three, we cannot hope to find a sale for the product of many more acres. This office maintains for distribution a complete list of growers and this season has already put out more than 300.

Plant Diseases

The inspection service depends entirely upon the Maine Agricultural Experiment Station for its information on plant diseases. We take no part in recommendations as to crop growing believing this to be the function of the Extension Service. Our work has entirely to do with inspection and certification, we believe this to be enough responsibility for one organization.

To Our Customers

Our suggestion is that if you want to buy certified seed, contact the Maine Department of Agriculture, State House, Augusta, Maine, and ask for a list of certified seed growers. Next, ask for



the field inspection records of certain men, after you are reasonably sure that you are going to have the seed from one of their fields. We recommend buying on field inspection records, whether then being too exacting about type and general appearance of tubers. This varies with the season. We will help you make a contact in Maine, if you will give us the facts of your particular case.


New Growers

Any one who is interested in growing certified seed in Maine should write this office for an application blank. This should be signed and returned before June 15th of the year in which the work is to be done. The inspector will leave a field report after each inspection starting in July. He will also be prepared to inspect your stock for shipment and when you are ready a few days notice should be given before starting to grade.

Blue Tag

The whole story of certified seed is built around the use of the blue tag, face and reverse sides of which follow:

	Maine Department of Agriculture DIVISION OF PLANT INDUSTRY		
	Variety <u>GREEN MOUNTAIN</u>		
The seed in this package is from fields inspected and passed by the Maine Department of Agriculture CROP OF 1934			
	<u>JOHN DOE</u>		Grower
No. 390481 <i>Final inspection made by</i>	<u>PRESQUE ISLE</u>		Address
	<u>S. R. TAYLOR</u>		

	MAINE CERTIFIED SEED POTATOES CROP OF 1934	
	Crop inspected twice in field and tuber inspection at time of shipping. FRANK P. WASHBURN, <i>Commissioner of Agriculture</i>	
	Shipped to <u>A. R. STONE</u>	
	<u>NORFOLK, VIRGINIA</u>	
	Date <u>11-4-34</u>	

Seed is not certified according to our law until the blue tag is placed on the container. It, therefore, becomes very necessary to guard the use of this tag. This is done by placing on it several outstanding markings. Each tag is numbered, as you will note and a record kept showing to whom the tag is issued. Each tag is signed and dated by the inspector, the grower's name and address are also shown as well as the variety of the potatoes in the package. By this means the consumer is protected and the office is given a careful check on its organization. Our intentions are to have our inspection system work in such a way that by asking for the blue tag one may receive protection. We make no guarantee either expressed or implied, but do say that we are using every effort known to modern science to make Maine seed potatoes second to none.

Report of the Bureau of Horticulture

To E. L. Newdick, Chief, Division of Plant Industry:

I herewith submit my report for the Bureau of Horticulture covering the period from July 1, 1932 to July 1, 1934.

We coöperated with the Extension Service of the Farm Bureau, in encouraging the planting of young orchards. The annual apple tree pool for 1932 amounted to 10,000 trees. In the year 1933 there were two pools conducted, the first amounted to about 3,000 trees, and the second to about 6,000 trees. The second pool was conducted because we realized that a large number of trees had been lost by the severe cold of that winter, the price was low, and there was evidence of a scarcity of trees for planting in the spring of 1935.

With the coöperation of Commissioner Neil Violette, of the Forestry Department, the C.C.C. camps removed 53,565 trees from neglected orchards which were abutting our commercial orchards and acting as a breeding place for Gypsy Moth, Brown-Tail Moth and other harmful insects and diseases.

The Western Maine Fruit Growers Convention was conducted in Auburn in January 1933 and 1934, the attendance being exceptionally large. At the 1933 meeting there were well over 400 in attendance.

We made 500 inspections of nurseries and greenhouses each year. We have tried to render every possible assistance to our nurserymen by giving them the most up-to-date information concerning the quarantine regulations in other states. We have also given any special inspections necessary to enable them to meet these requirements.

Assistance was rendered the Fish and Game Department in making estimates of the damage caused to orchards by deer, partridge and pheasants.

At the request of the Fruit Growers of Maine a survey was conducted to estimate the amount of damage suffered from the severe cold of the winter of 1933-34. The survey consisted of 879 calls, which included 430,285 bearing apple trees and 78,742 non-bearing apple trees, showing that there were losses of 38% of the bearing trees, and 6% of non-bearing apple trees.

Hundreds of insect and disease troubles were identified, and proper treatment prescribed to those who sent samples or re-

quested aid. Also a number of soil samples were analyzed and recommendations made for improvement.

Many calls have been received for beautification of the home grounds and parks. Illustrated lectures were given on this subject, and rough plans drawn when requested. A plan for landscaping the Sanatorium at Fairfield was drawn up and submitted to the superintendent.

During the month of December each year instructions for making Christmas decorations were given. Over a thousand people were taught to make candlepieces, wreaths, streamers, etc., from the abundance of native material available in our woods.

The State Horticulturist and his assistant, continually gave lectures at Granges during the winter months.

Respectfully submitted,

STANLEY L. PAINTER

State Horticulturist

To E. L. Newdick, Chief, Division of Plant Industry:

I herewith submit a detailed report of one of the activities of the Bureau of Horticulture, namely the State Apple Tree Pool. This pool has been conducted annually for the past eight or ten years for the purpose of securing the very best stock available for the fruit growers of Maine.

In the spring of 1934, two pools were conducted, the first pool being our regular annual pool and the second being conducted because of unusual circumstances. During the winter of 1933-34, unusually cold weather, beginning in early November and lasting until March, resulted in a very heavy mortality of the fruit trees of Maine. The State Horticulturist, while in New York State selecting the trees for the first pool, found that the supply of available nursery stock for the spring of 1935 would be greatly limited because of the following reasons:

(1) Due to the severe cold of the winter of 1933-34, the nurseries had lost a considerable number of young trees. Also other fruit-growing sections of the country had suffered greatly. This would automatically make a larger demand on the nurseries, with a smaller supply available.

(2) The nurseries had greatly reduced their planting, due to the financial depression through which this Country was passing.

(3) The supply of seedling stock available for budding purposes was also greatly reduced, due to growing and financial conditions.

With these things in mind and knowing that the loss of bearing trees in Maine would be very large, we recommended to the growers that they increase their plantings that spring, and take advantage of the very low price then available, and for this reason a second pool was conducted for those desiring to make use of the opportunity. In the first pool there were purchased 3,000 trees, and in the second, 7,000, bringing the total purchased in the spring of 1934 to 10,000.

The loss of trees became more evident as spring advanced and showed signs of being much greater than was anticipated by any one of the growers. They became so alarmed that the Pomological Society requested the Commissioner of Agriculture to do whatever was in his power to help them. A meeting was called for June 4, in Auburn, at which about 250 growers were present.

The purpose of the meeting was to secure some general idea as to what form of assistance was desired by the growers. It was hoped by those present that some financial aid could be secured from the Federal Government to help remove these injured trees and to help in replacing them the following spring.

Governor Louis J. Brann was also present at this meeting and assured the fruit growers of his entire support in obtaining assistance for them, providing that sufficient cause could be shown for such assistance.

As a result, a request was made that a survey for the purpose of determining the extent of winter injury be made by the State Department of Agriculture, and that the F.E.R.A. be interviewed to determine what help, if any, could be secured.

During the first 20 days of July this survey was conducted by the Bureau of Horticulture. There were 10 enumerators employed for taking records in the field. The office crew consisted of two employees who recorded the records as fast as they were received from the field. The State Horticulturist supervised this work and made daily visits to each enumerator, check-

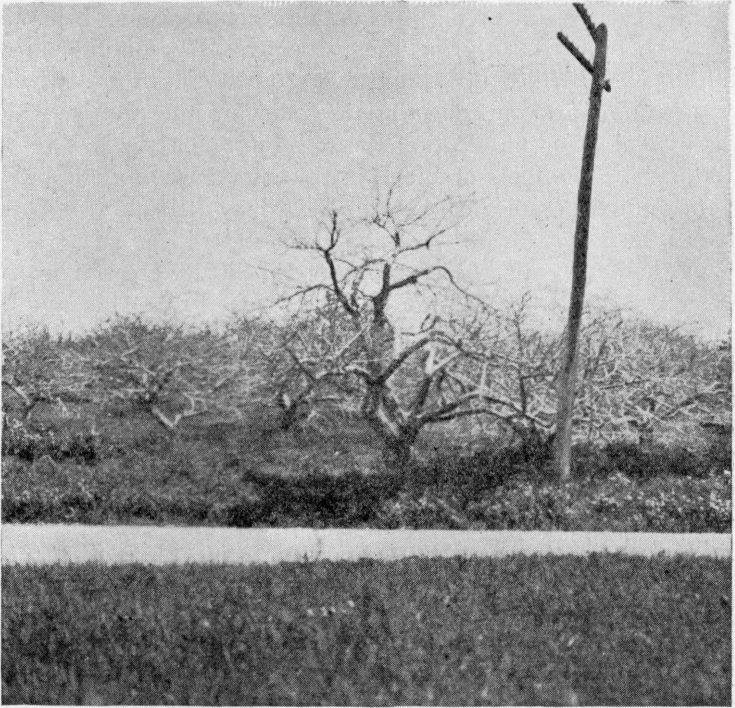
ing his records and giving him detailed instructions on how to find each orchard. During these 20 days, 879 commercial orchardists were called upon, and over 30,000 miles were traveled by the enumerators in collecting the following information, which was available for publication the day on which the last record was made. The facts obtained in this survey were made public at the annual Pomological Society Field Day at Highmoor Farm, August 1st.

Of these 879 calls, there were recorded 430,285 trees of bearing age and 78,742 trees of non-bearing age. From this number 166,474, or 38%, of the bearing trees, and 4,476, or 6%, of the non-bearing trees were either killed outright, or so severely injured that there were no hopes of their recovery as a commercial tree. The following chart and picture give a typical example of the great damage suffered by the orchards of Maine.

Survey of Winter Injury in Maine—1934

Variety	Bearing Trees			Bore 1932	Bore 1933	Years Old
	Total	Condemned	Not Condemned			
Baldwin	1000	850	150	X	X	50
Ben Davis	300	100	200	X	X	50
McIntosh	150	0	150	X	X	12
R. Delicious	15	0	15	X	X	12
R. I. Greening	25	12	13	X	X	50
Spy	10	0	10	X	X	30
Cortland	75	0	75	X	X	8
Snow Apple	25	0	25	X	X	35
Total	1600	962	638			

Out of this large number of orchardists called upon, there were 229 orchardists who did not plan to replant their orchards under any conditions whatsoever. A hundred of the growers were going to replant their orchards, whether they received any assistance or not. The remaining 550 growers would only replant their orchards providing they received assistance of some kind, and in many cases they would be absolutely unable to replant

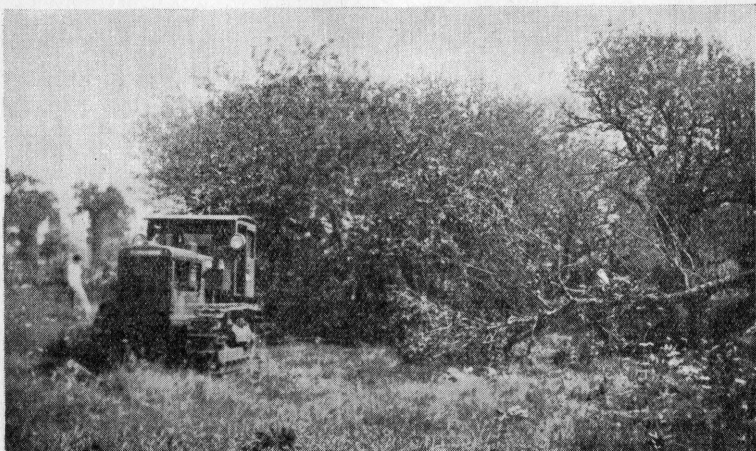


Orchard Killed by Severe Cold

unless they received some assistance. When this survey was completed it was very evident that the apple industry of Maine would be very slow to recover, and possibly never be able to attain its former size unless it received some assistance; whereupon a committee interviewed Governor Louis J. Brann and John McDonough, the Director of the F.E.R.A., who promised assistance to the growers.

The F.E.R.A. then set aside \$100,000 for the removal of condemned trees. Trees were pulled out, roots and all, with ten-ton tractors. They were then cut up into a convenient size and the brush piled by men who were upon the relief rolls in the towns in which the work was being done.

This work was all done without cost to the growers. The money came in two appropriations. The first appropriation was \$50,000. Under this setup 101,312 trees were pulled, the wood cut into a convenient size to be handled and the brush piled. There was then set aside \$50,000 for the pulling or cutting of



Ten-Ton Tractor Pulling Trees

trees on the property of those recommended by the Department of Agriculture and the Extension Service. This list was made up of commercial growers who planned to reset in the spring of 1935, and could not do so until the dead trees had been removed. 31,306 trees were either pulled or cut at this time.



Equipment and Crew Used in Removal of Trees

(Note: heavy chain and cable used)

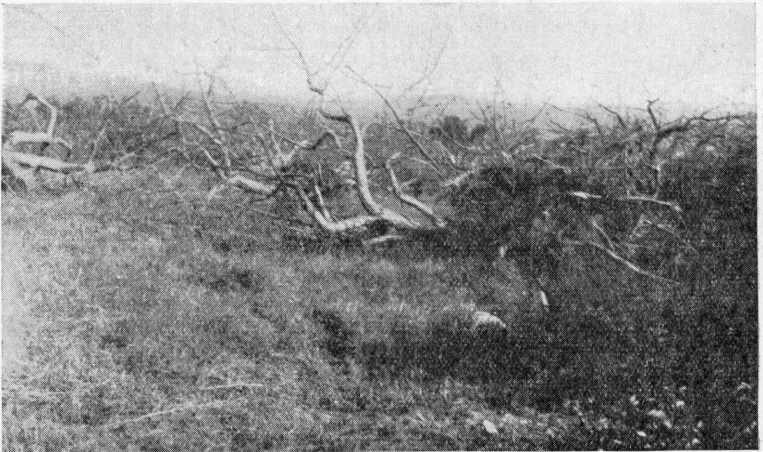
Under the two set-ups there was a grand total of 132,618 trees pulled or cut by the F.E.R.A., with a total expenditure of \$96,468.29, leaving a small balance yet to be expended for this



A Tree Removed by Ten-Ton Tractor

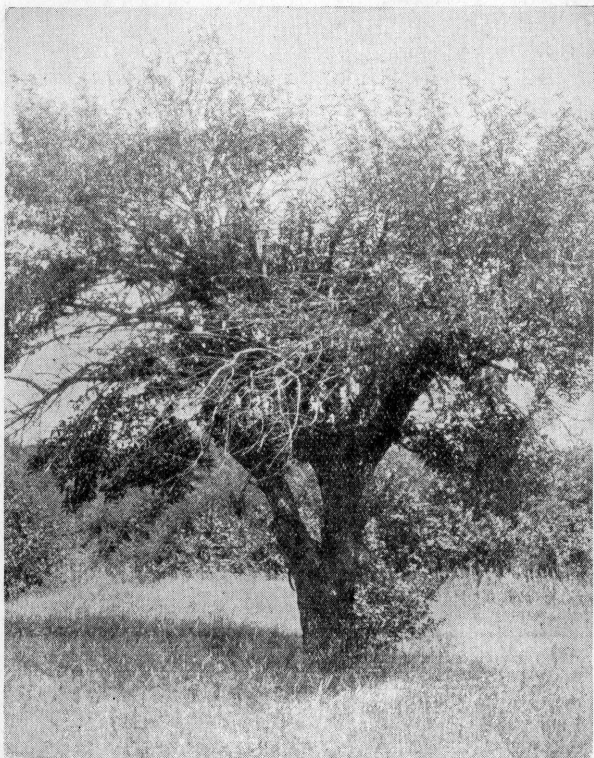
purpose. The second form of assistance rendered to growers by the F.E.R.A. was the loaning of money to those desiring to purchase trees for the planting in the spring of 1935. This money was to be loaned to the growers by the Rehabilitation Corporation on personal notes bearing no interest. About 100 growers have taken advantage of this loan which involves approximately \$10,000.

We owe a great deal to Governor Brann and to the F.E.R.A. for their great assistance in helping the orchardist to rejuvenate the apple industry in Maine.



Uprooted Orchard

Another form of tree removal, which has benefited the fruit industry and increased the setting of new trees, is that done by the C.C.C. camps. These camps spent the first part of 1934 in removing neglected trees from near commercial orchards which were acting as a breeding place for Gypsy Moth, Brown-Tail Moth and other harmful insects. There were 53,563 trees removed by these camps.

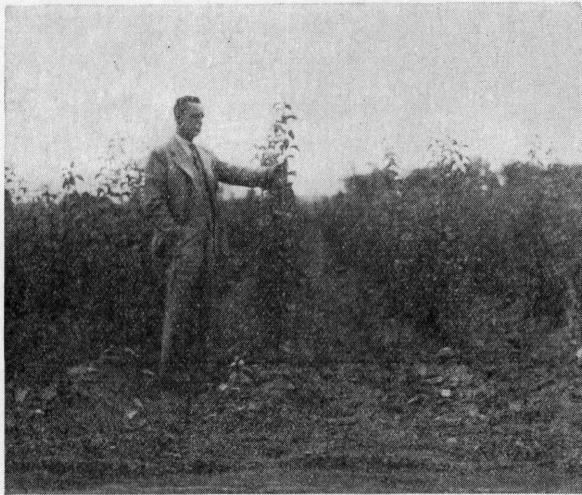


Type of Tree Removed by the C. C. C. Camps

Realizing that there would be a great demand for nursery stock in the spring of 1935, both from this section and from many other fruit growing sections of the United States, which had suffered great losses as well as Maine, due to the severe cold, and that the supply of stock in the nurseries would be very limited, the State Horticulturist, with a representative from the Extension Service, made an extensive trip through the nursery sections of the United States, and reserved for the fruit growers of Maine, the best stock available for next spring's planting.

Upon returning to Maine, a personal visit was paid by these men to each grower who indicated his desire of securing trees through the pool in 1935. An explanation was made of the exact situation concerning the stock that was available at the nurseries, with advice as to the varieties and age to purchase, and the method by which the growers might obtain trees through loans from the F.E.R.A. Orders for spring, were taken at this time.

The pool closed November 1. Upon accurate tabulations of the orders received, it was found that the pool would be larger than anticipated by any one. In order to definitely assure the supply of stock, and because of the great number of trees and



Stock Reserved for the 1935 Pool

the large sum of money involved, the Horticulturist made the second trip to the nurseries, when orders were definitely placed and arrangements made for selecting the trees.

At the present time there are 39,000 trees ordered for the 1935 pool. This is the largest number of trees ever bought through the State Apple Tree Pool. The orders consist chiefly of McIntosh, Red Delicious and Cortland. Approximately 60% of the trees ordered are McIntosh, 15% Delicious and 15% Cortland. The remaining 10% is made up of 44 other varieties of apples and some peaches, plums, pears and cherries.

The quality of trees secured through the State Apple Tree Pool, is the very best obtainable, for the trees are selected by the State Horticulturist from the first grade stock in the nurseries before they are shipped.

Disregarding the quality of trees secured by this method of selection, we also have a great advantage in the saving of money, in as much as the price being paid in the pool this year is \$35.00 and \$40.00 a hundred, while the price asked by the nurseries in their catalogues, is \$60.00 a hundred.

Respectfully submitted,

S. L. PAINTER,
State Horticulturist

Biennial Report, Division of Markets

To the Hon. F. P. Washburn, Commissioner of Agriculture:

To investigate existing methods of marketing farm products, purchasing farm supplies and to secure improvement therein continues to be the aim of this Division. An increasing sentiment in favor of better grading practices for farm products is noticeable. This is revealed by a growing approval of official grades. Distress prices for potatoes has resulted in agitation for a true branding law which will require all shipments to be marked as to their real quality. The soundness of voluntary Shipping Point Inspection is again proven by the 100% adoption of this service by the Maine Potato Growers Inc., for their best brand. Apple inspections to meet export requirements have had two-fold results. They have enabled producers to relieve surfeit on domestic markets by movement beyond our borders. The improvement in grading of export shipments has directly taught the grading crews to do better work for the domestic markets. This principle of shipping point inspection will be carried into a new field the coming canning season. Promotional work by the Extension Service of our College of Agriculture in coöperation with the U. S. Bureau of Agricultural Economics has demonstrated the value of grading sweet corn on the ear in order to determine the quality of the canned product. Official grading will now be carried on by the Division of Markets, analysis of data by the College of Agriculture.

The official roadside sign for identifying strictly farmers' markets shows a healthy growth to a total of 28 signs this year compared with 14 two years ago. New official grades have been promulgated for topped turnips and maple syrup.

The value of market news is evidenced by an increase in the mailing list for Maine markets to slightly over 1200. The co-operative plan with the U. S. D. A. for the special potato market news at Presque Isle continues unchanged. Collection of blueberry, dairy and general crop and livestock statistics has now become a routine service, adjustments being made from time to time to care for changing conditions. Analysis of the financial conditions of coöperative organizations is a service of the Division continued for many years that is still welcomed by the management of the coöperatives.

Demonstrations and exhibits are used wherever practicable to carry the message of better marketing methods. Lectures have been delivered at 105 different meetings with a total attendance of 7,418 persons. Personal correspondence amounted to over 3,000 letters, exclusive of circular letters, bulletins and general information sent out during the two year period. A notable increase has been noted in the request for the annual list of farms for sale. Particularly noticeable is the demand for medium to small farms.

The work has been carried on with a personnel varying from five during the summer to as many as eighteen during the apple and potato shipping season. The branch office at Caribou cares for the potato inspection work, which is largely self-supporting from fees.

Abundant Opportunities

Marketing

Over thirty years ago Uncle Solon Chase of Greenback Fame said, "My Northern Spy orchard is a farm that was abandoned more than twenty-five years ago. I decided I would raise an apple orchard on this land where I live. I live right among rocks and hills. . . . You plant Northern Spys on a gravelly knoll and keep the "harrar" going and you will get enough of them." (Thirty-five years later)—"My son Isaac and his wife Jennie and a young Frenchman picked ten barrels of apples in two hours from a Northern Spy tree." Thus in homely language does one of the shrewdest sons of the Maine soil describe a most noteworthy success in the orchard industry in our State. Interesting it is to note that originally Uncle Solon set out a number of different varieties. During the time, however, when he was travelling from one end of this country to the other giving his "sermons" on "too much hog in the dollar," while conducting the Greenback campaign severe weather occurred during the winter. The results are identical with those suffered in Maine during the winter of 1933-34 and many trees of certain varieties were killed. Uncle Solon, however, set his "harrar" going and soon discovered that the trees which had survived were mostly of the Northern Spy variety. Taking this as a cue Uncle Solon proceeded to reset and graft many of the trees and sprouts which were left into the Northern Spy variety with the result that he lived to harvest many thousands of barrels of fine quality apples which were marketed at remunerative prices. It is a striking

example of taking the opportunities at hand which in this case were rough, rocky, hilly land, apple trees and the grafting iron along with persistent use of the "harrar" and making the best of them. Practical application of this homely common sense to present day conditions may well bring forth equally satisfactory results.

Notwithstanding the success which Uncle Solon was having with his Northern Spy orchard, we find in the reports of the Pomological Society of those years that there was great anxiety and concern in regard to the marketing of Maine farm products. It was complained that California apples were being marketed in our own cities and that Maine apples, even though of better color and flavor, in many instances were going at very low prices. The complaint was made by some that if only a uniform standard of quality could be set up for our apples that many of our difficulties would disappear. Others complained that second-hand, untidy barrels of varying sizes were used which immediately discounted the returns on export apples and so you can almost imagine yourself in a meeting of fruit growers today and hear much the same talk.

Back in 1912 to 1915 over one hundred Farmers Unions were organized. The principal business of many of these was the selling of potatoes for their grower members. Not many attempts had been made at different marketing programs before the annual meetings of the Union were filled with discussions of how the potatoes might be graded more uniformly in order that the higher market quotations might be realized. The great problem here was to teach the men fifteen or twenty different loading points, how to put up a reasonably uniform quality. Of course, the answer which they sought was some uniform standard by which the defects could be interpreted alike by the different men and thereby remove this hindrance to the success of the marketing program.

And so the story continues in regard to Maine farm products. Since 1910, we have seen the production of dairy butter on farms of our state reduced from 13,000,000 pounds annually to 8,000,000 pounds. If you were to make a call on several of the grocers in your town and ask them why they did not handle more nearby dairy butter, rather than so much Land O'Lakes product, they would tell confidently that it was because of lack of quality and uniformity in the general run of dairy butter.

In another of our largest income producers for Maine farmers, a similar situation is found. Egg production and the quantity of eggs sold remains practically unchanged for the last twenty years. With the large increase in city population there should have been increased production, but we find our poultry men complaining bitterly because chalk white eggs from the Pacific Coast are being found in retail stores throughout the land. Oftentimes the prices for these western eggs are equal to or higher than that asked for the local product.

Should you attend representative group meetings of farmers in Maine this winter, you would quite likely listen to many conversations carrying much the same description of conditions. In fact this might easily be true of any group meetings that may have been held during the last quarter of a century. Now it is not the principle of this paper to minimize the seriousness of the situations which these discussions bring out. It is rather to see if some of the homely philosophy of Uncle Solon Chase may not be as soundly applied to present conditions as to those which existed thirty or forty years ago.

All through the difficulties in marketing our potatoes, apples, eggs or other farm products at that time ran the complaint that if only we could have standard grades of quality, many of our troubles would disappear. We now have these grades for practically every farm product in which Maine is interested. It was complained that even if a farmer did put up his products properly a few grasping individuals would put up poor quality products under misleading brands or trademarks. This naturally worked to the demoralization of the whole deal. Today there are ample provisions for the establishment of trademarks and brands for use on quality products. Along with this provision there are also means for protecting those who use them against unfair and misleading statements on the part of those who will not adhere to quality grades. We used to complain that market information was hard to secure in regard to prices. Today government market news reports giving accurate and reliable information may be had for the asking.

It is, of course, the ideal to be wished for, that everyone connected with the production and marketing of farm products should improve their methods at the same time. This, however, is impossible from a practical viewpoint. Human nature is such that we do not all see alike and consequently it is perfectly easy for people to be sincere and still not agree with improved mar-

keting practices. In fact it may perhaps be best that it is this way. Otherwise if all producers should agree and actually did market only the best quality, there would be one level of prices and the advantages of proper grading practices would be lost sight of. Further it is doubtful if the best results could be obtained by marketing only the best qualities because there are usually proper and profitable uses for all grades of farm products. The injury comes when misrepresentation is used in selling the off grade lots.

Why, then, is it not time that we set ourselves in earnest to the task of using some of Uncle Solon Chase's homely philosophies and really try to use some of the means which we find ready to our hand to improve our marketing methods. It should be ever borne in mind that one-third of the consuming population of the United States is located within forty-eight hours' transportation time from our Maine farms. We may now secure U. S. standard grades of quality for use in putting up our farm products. These grades are so simply written that they are understandable and may be applied without fear of unconsciously misrepresenting a product sold. The State Department of Agriculture, Extension Service and other agencies are willing to demonstrate the practice of grading. The use of these grading practices makes the market reports valuable. Oftentimes shippers complain that they did not receive top prices for their products. When, however, it is remembered that top prices are always paid for top quality, then it is often found that no attempt was made to grade the products in conformity to the requirements of the top grade. The use of market quotations then become increasingly valuable as the practices of proper grading are more closely followed.

Through legislation already passed enabling the Commissioner of Agriculture of Maine, to set up trademarks and brands, producers may identify their better quality of products. Use of these trademarks is entirely dependent upon whether or not the producer or shipper is willing to maintain the quality which the trademark represents. In other words, it is a purely voluntary proposition to be engaged in, only by those producers who wish to identify a really *quality* product. Special advantages may be secured from this method of identifying well graded products through advertising. The consumer will react favorably to a persistent campaign of advertising, provided she finds that the product identified through the advertisement meets with her

ideas of quality. These preferences of the consumer, the producer is able to meet, by combining in his marketing practices the means of better grading, proper identification and the use of market reports to determine in which cities his products will meet with ready sale.

It is only through common sense application of the means at hand that we may hope to secure improvement in our conditions. Even as Uncle Solon Chase discovered through observation and experience that Northern Spy apple trees combined with rocky, hilly land and the liberal use of the "harrar" produced excellent fruit so may we by the common sense application of the best marketing facilities available, improve the situation on our Maine farms.

Respectfully submitted,

C. M. WHITE,

Chief, Division of Markets

Report of the Chief, Division of Inspection

To the Hon. Frank P. Washburn, Commissioner of Agriculture:

I respectfully submit herewith my report covering the work of the Division of Inspection from July, 1932, to July, 1934.

The work of this Division has consisted in the enforcement of the laws regulating the sale of agricultural seeds, commercial feedingstuffs, commercial fertilizer, drugs, foods, fungicides and insecticides; the enforcement of the weights and measures law, and the regulating, grading and packing of apples.

Seed Inspection

The results of the analyses of the samples collected by inspectors together with samples from dealers may be found in Official Inspection No. 150.

	1933	1934
Number of samples collected	123	128
Hearings arranged	14	12

Feedingstuffs Inspection

The following table briefly outlines the scope of the work with feedingstuffs:

	1933	1934
Number of samples collected from September, 1932, to May 1933	1068	
Number of samples collected from September, 1933, to June, 1934		1079
Number of brands registered	1152	1201
Number of hearings arranged	159	146

The results of analyses of the samples taken may be found in Official Inspection Nos. 148 and 152.

Fertilizer Inspection

In 1933 and 1934, samples of practically every registered brand of fertilizer were collected and analyzed, endeavor being made to obtain as many samples as possible from the farmers having fertilizer on hand.

The following table briefly outlines what was accomplished:

	1933	1934
Number of brands registered	293	322
Number of samples collected	377	345
Number of hearings arranged	32	39

The results of the analyses of the samples collected may be found in Official Inspections Nos. 149 and 153.

Fungicide and Insecticide Inspection

The fungicides and insecticides most generally employed for repelling and mitigating the attack of insect pests have been collected and analyzed.

The table below briefly outlines the scope of this work:

	1933	1934
Number of brands registered	277	285
Number of samples collected	82	51
Number of hearings arranged	9	3

The results of analyses of samples may be found in Official Inspections No. 150.

Food Inspection

The work of food inspection has been conducted as usual by the collection of samples, by hearings and by visiting and inspecting hotels, restaurants, grocery stores, markets, bottling establishments, canning plants and all places where food is manufactured or offered for sale.

	1933	1934
Number of samples collected	275	481
Number of hearings arranged	18	22
Number of non-alcoholic beverage licenses issued	149	142
Number of sardine licenses issued	24	22
Number of cases of sardines packed	957,374	1,199,603

Drug Inspection

The inspection of drug stores and the collection of samples has been carried on in the usual manner by an inspector who is a registered druggist.

	1933	1934
Number of samples collected	189	95
Number of hearings arranged	15	12

The results of the analyses of the samples of foods and drugs collected have been published in Official Inspections Nos. 147 and 151.

COLLABORATION WITH VARIOUS FEDERAL AGENCIES

Much of the time of the officers of the Division of Inspection has been occupied with collaborating work with various Federal agencies. It has been interesting to note in a term of twenty years experience how the various branches of the Federal government have been gradually given authority to assist and coöperate in a definite way with the various branches of State government. This has been especially true of the Division of Inspection in the Maine Department of Agriculture. With the passage of the Federal Food and Drugs Act of 1906, and the inauguration of machinery to enforce the pure food law, regulations were established for definite coöperation and collaboration with various State governments. The very nature of the work assigned to the Division of Inspection, namely, safeguarding the food supply of the people of the State of Maine, has brought very definitely to our attention the necessity, the help and the assistance that has been enjoyed from various Federal agencies, in the control and distribution of various kinds of foods.

Maine is unique in the production of soft shelled clams, blueberries and sardines, and the very character of these products, the environment and the situations surrounding their production have necessitated and brought about in a natural enough way some plan of general control.

Shell Fish

The taking and shipping of shellfish into Massachusetts is a problem in itself. A Massachusetts Statute requires that in order to legally distribute and sell shellfish within the borders of that State there must be on file in the office of the Commissioner of Health of that State a certificate issued by the food control officials of the State where the shellfish had origin, attesting to the sanitary conditions of the flats and beds where such shellfish were taken, and the quality of the shellfish thus sold and distributed. This certificate must also bear the stamp of approval of the U. S. Public Health Service. Therefore, in order to make possible the marketing of clams, mussels and quahaugs that are taken on the coast of Maine and shipped beyond the borders of the State, it has been necessary for the Division of Inspection to make a sanitary survey of all beds and flats where such shellfish are taken, and inspect and examine the conditions under which

such shellfish are prepared for shipment, and issue certificates to shippers. Here we are engaged in the definite work of collaboration with the U. S. Public Health Service, the State Department of Health in Massachusetts, and the U. S. Food and Drug Administration, a situation not authorized by any Maine Statute, but necessary as above stated in order to assist the people of Maine in marketing a product that could not otherwise be sold beyond the borders of the State if these regulations were not followed by inspection and certification.

Blueberries

Up to 1930 most of the shipments of fresh blueberries to Boston, New York and other markets had been made from Knox County, and for the most part from a small area around Rockland, Rockport, Camden and Union. Under skillful management a coöperative marketing organization had succeeded in successfully marketing considerable quantities of fresh blueberries. The attention of the U. S. Food Administration was first definitely directed to shipments of canned blueberries on account of insect infestation in 1920. As a result of this activity and very definite collaboration of this Department with U. S. Food and Drug Administration and the U. S. Bureau of Entomology, great improvement was made in this product in the six years from 1924 to 1930. With the increase of fresh blueberry shipments the attention of the Federal government was more or less definitely directed to this form of distribution. In the seasons of 1933 and 1934 greater quantities of fresh berries were shipped from other sections of the State, other than Knox County, where blueberries are produced in quantities for commercial marketing, namely Hancock and Washington Counties. In order to assist in marketing this product it was necessary to set up a system of inspection to determine the quality of the berries and secure if possible, immunity from seizure in the markets beyond our borders, when the Bureau of Entomology in their investigation of the blueberry fly in Washington County recommended as a remedial measure to prevent infestation of blueberries by the blueberry fly, dusting of blueberry bushes and growing areas, with calcium arsenic. The plan recommended by the U. S. authorities has been almost universally adopted by all blueberry growers, and we hope this Division has assisted materially in working with blueberry growers and packers in the application of insecticides, to prevent infesta-

tion. But as with the spraying of larger fruits such as apples, pears and peaches, so here, a danger was discovered in marketing blueberries with a residue of dust poison. So it has become necessary to determine the quality of berries that have been in contact with arsenical dust owing to the perishable nature of the product. With the necessity for immediate examination and early reports, field laboratories with chemists in charge were established at points where blueberries were shipped in commercial quantities at Rockport, Rockland, Cherryfield and Harrington. These field stations were in operation throughout the blueberry season. At these field stations it has been possible to make tests of berries that have been fly infested and also for berries contaminated by arsenical dusting or spraying. With this surveillance of blueberry distribution it has been possible to prevent the shipments of berries either fresh or canned, carrying objectionable quantities of dust or spray residues.

The program will evidently continue to be one of the major activities for a long time. The tolerance established by U. S. authorities for 1934 are as follows: for arsenic 0.01 grains of arsenic trioxide per pound; for lead 0.019 grains per pound; for flourine 0.01 grains per pound.

With apples as well as blueberries that have been offered for interstate shipment and known to have had contact with dangerous spray or dust residues, a surveillance has been maintained and in keeping with our program of collaboration with the U. S. Food and Drug Administration.

Sardines

The Legislature of Maine has definitely placed with the Maine Department of Agriculture the supervision of the packing of sardines. Before this definite authority was granted Federal officials from the U. S. Food Administration spent much time in Maine in coöperation with inspectors from the Division of Inspection. Within the four years past, our collaboration has been as full and complete, but apparently Federal authorities have not regarded it necessary to devote as much time to sardine inspection.

Within two years new Federal agencies created for relief purposes and engaged in the preparation and distribution of food, naturally enough brought the Division of Inspection in contact with them and the endeavor has been made to coöperate very fully with these agencies.

The U. S. Emergency Relief Administration brought to Maine, twenty-nine thousand head of drought stricken cattle in the summer and autumn of 1934. After pasturage in Maine for two months or more they were slaughtered and the meat from these cattle canned for relief purposes. About nineteen thousand head were slaughtered in Maine slaughter houses and canned in the food factories. Inspectors from the Division of Inspection supervised this slaughtering and canning.

The U. S. Emergency Relief Administration also engaged in packing sardines at Eastport for relief purposes. This packing was done under license provisions and under the supervision of Division inspectors.

To summarize: We feel that the endeavor has been made to very fully and completely collaborate with all U. S. agencies, old and new, that have engaged in the control or production of food.

Recommendations

We recommend that there should be some authority given by the Legislature to issue a certificate to shippers of shellfish beyond the borders of the state, and especially to Massachusetts, to properly authorize what is now being done without authority, as the result of a Massachusetts Statute. We recommend that there should be some legal requirement as to the filing of a certificate by shippers and diggers of shellfish, as to their source. We do not recommend a license for every clam digger, but some arrangement should be made to determine where such shellfish are recovered in order to assist this Department in the duty that has been assigned by Statute of another State.

The Maine Legislature in 1929 passed a law to regulate the quality of sardines packed in the State of Maine. Among other items, this Statute ordered that the oil used in sardines packed in Maine should "be a vegetable or cottonseed oil of a grade not below that of 'Prime Summer Oil.' "

We believe that the time has come when it would be of great assistance and material advantage to the whole sardine industry to require that the oil used by packers of Maine sardines shall be an oil of a grade not below that of "Prime Winter pressed oil." We recommend asking the Legislature of 1935 to make this requirement of quality, a part of the sardine law.

With the increase in quantity of fresh blueberry shipments and such change in the whole plan of marketing blueberries fresh

and frozen, it would be of great advantage to packers, growers and shippers, as well as to officials of this Department, if some system of certification and inspection could be authorized by Statute.

Conclusion

In conclusion I wish to express my appreciation for the help and coöperation of many Federal agencies, the officials of the Maine Extension Service, the Maine Agricultural Experiment Station, and to you and your wise counsel and helpful attitude in the administration of affairs assigned me.

Respectfully submitted,

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

Report of the Deputy Sealer of Weights and Measures

To the Hon. Frank P. Washburn, Commissioner of Agriculture:

As Deputy State Sealer, I herewith submit to you a report of the work done in this Bureau covering the period from July 1, 1932, to July 1, 1934.

This work includes the testing of new equipment, purchased by the various towns for the use of their local sealer; visiting the local sealers and assisting them in their work; re-weighing package goods; testing heavy duty scales, oil pumps, bottles, gasoline pumps and vehicle tanks.

In my duty of enforcing the provision of the weights and measures law, I have called on the various municipal officers to see that they have appointed sealers, and that they have furnished them with suitable equipment for doing the work. I also have visited with the sealers throughout the state and inspected their work. I have examined commodities that were being offered for sale and tested them for correct weight, measure or count. There are, at the present time, two hundred and fifty sealers of weights and measures who are serving in the cities and towns. In many cases one sealer is appointed to serve for several towns. These sealers make an annual report of the work done by them to this office.

The past two years I have devoted a great deal of time to the testing of heavy duty scales, as the sealers in many of our cities and towns are not properly equipped to do this work. I find that when wagon scales are used for weighing auto trucks, in many instances, they are being overloaded. Wagon scales are so constructed that when a truck load is weighed it is not evenly distributed on the four corners of the scale, as 80% of the load is on the rear axle. The Scale Men's Association recommends that in weighing an auto truck load on a wagon scale the weight of the load on the truck should not exceed two-thirds of the capacity of the scale. A number of the wagon scales had to be condemned as they were not within the allowed tolerance, but these scales were sent to the factory to be re-built. Our Bureau this year added three thousand pounds of test weights to the equipment for the purpose of testing heavy duty scales. This will enable me to assist the local sealers in their work of testing wagon and auto truck scales.

The Legislature of 1933 enacted a law providing for the marking and sealing of milk containers by the manufacturers, and application may be made by the manufacturers for authority to mark and seal their containers under regulations promulgated by the State Department of Agriculture.

The Government test car, which is of eighty thousand pounds capacity, has been in our State this past year for the purpose of testing the railroad track scales. I accompanied C. R. Letzkus, Scale Supervisor of the U. S. Bureau of Standards, Department of Commerce, Washington, D. C., who was in charge of this car, and assisted him in testing the Boston and Maine, Maine Central, and Bangor and Aroostook Railroad track scales, and industrially owned track scales. For the most part we found the scales to be within the allowed tolerance, which is two-tenths of one per cent. In some cases minor adjustments were made by Mr. Letzkus. Only one track scale was condemned.

The sale of gasoline and fuel oil has doubly increased. Fuel oil and gasoline is distributed in vehicle tanks, and if the gasoline and oil is sold through meters or canned out to the consumer in cans, the meters or cans shall be tested by the sealers of weights and measures. These vehicle tanks are composed of from two to five compartments, and if these compartments are used as measuring devices, they shall be tested by the sealers of weights and measures, and an indicator shall be provided within the dome of each compartment showing the capacity, and the capacity shall be marked on the outside of each compartment. If split loads are sold from a tank that is not equipped with a meter the gasoline or oil must be delivered in tested cans. During this period I have assisted the sealers throughout the State in doing this work.

Even though the use of fuel oil has increased, we still have our problems with wood and coal. Coal and coke must be sold by weight and there are two thousand pounds in a ton. The municipal officers in the cities and towns in the State appoint public weighers, and these weighers must give slips, signed by the weigher, to each customer showing the gross, tare, and net weight of every load delivered. Coal and coke put up in packages must have the net weight marked on the outside of each package. If a customer fails to receive a slip signed by a weigher showing the gross, tare, and net weight of every load of coal or coke delivered, he shall notify the local sealer, or this office. This law was made effective for the purpose of protecting the public

and the coal dealer and when taken advantage of and a diligent check is made, most so-called unfair practices are eliminated. The sealer has it within his power to render a great service not only to the retail coal merchant but to the coal and coke buying public as well.

A cord of wood, whether in four foot length, fitted, or otherwise, shall contain one hundred and twenty-eight cubic feet. When ordering coal or wood, the customer should specify a definite amount, as there are no regulations governing the sale of wood or coal sold by the basket or by the load.

Absolute honesty in weights and measures is very important in instilling confidence in the buying public. There was a time when a sealer would come into a store and want to test the scales, the merchant felt that he was being imposed upon when the sealer charged the fees for his service, but this attitude and feeling was due to no one personal or individual fault, but rather to a lack of education and appreciation of the real work that the weights and measures Bureau had done and is still doing.

I find, however, that the merchants are coöperating much better with the local sealers and that the merchant is glad to have his weighing and measuring devices tested. It has been very gratifying to me to note the interest taken by the local sealers in the weights and measures work, and a great deal of progress has been made.

A summary of the work done by the local sealers is hereby appended.

I want to thank you for your wise counsel and assistance to me in carrying on this work.

Respectfully submitted,

J. H. AUSTIN,
Deputy State Sealer of Weights and Measures

STATE REPORT OF WEIGHTS AND MEASURES FOR THE YEAR 1932

COUNTIES	NUMBER TESTED AND SEALED											NUMBER CONDEMNED													
	Scales	Weights	Dry Measures	Liquid Measures	Yard Sticks	Gasoline Pumps	Milk Jars	Kerosene Pumps	Molasses Pumps	Taxi Meters	Measuresgraphs	Vehicle Tanks	Scales	Weights	Dry Measures	Liquid Measures	Yard Sticks	Gasoline Pumps	Milk Jars	Kerosene Pumps	Molasses Pumps	Taxi Meters	Measuresgraphs	Vehicle Tanks	
Androscoggin . . .	1114	578	20	327	10	567	5	315	19	0	0	16	16	5	0	0	0	9	0	0	0	0	0	0	0
Aroostook	1471	1067	34	522	71	599	928	181	48	0	2	2	20	13	0	0	0	9	2	1	0	0	0	0	0
Cumberland	3396	1685	109	995	220	1423	516	343	46	92	20	52	185	7	0	0	0	79	0	12	0	11	2	2	2
Franklin	433	329	26	108	13	284	20	99	13	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Hancock	664	502	23	262	48	378	690	120	43	0	0	3	5	0	0	0	0	6	0	0	0	0	0	0	0
Kennebec	1780	1905	265	621	196	831	0	221	70	0	18	25	63	69	11	28	5	25	0	8	3	0	2	5	5
Knox	864	640	22	1092	28	415	1907	72	33	0	1	10	7	15	6	12	0	4	7	0	0	0	0	0	0
Lincoln	424	654	2	245	18	217	16	95	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oxford	799	447	13	107	23	518	2	90	8	0	1	4	22	5	0	0	0	16	0	2	0	0	0	0	0
Penobscot	1372	1467	132	290	49	871	5735	275	53	0	1	1	41	19	4	3	0	20	0	4	0	0	0	0	0
Piscataquis	288	282	12	81	32	211	25	39	17	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Sagadahoc	368	274	0	17	5	169	0	19	0	0	0	2	2	18	0	0	0	2	0	0	0	0	0	0	0
Somerset	643	526	14	142	44	498	433	89	10	0	0	9	22	18	0	9	2	26	0	6	0	0	0	0	0
Waldo	450	810	15	164	19	228	0	129	70	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
Washington	625	735	42	217	32	358	473	121	52	0	2	1	7	0	0	0	0	0	0	0	0	0	0	0	0
York	1458	275	32	1166	38	861	705	209	23	0	2	9	44	11	0	17	0	59	0	3	0	0	0	0	0
Total	16149	12176	761	6356	846	8428	11455	2417	512	92	47	134	441	180	21	69	7	256	9	36	3	11	4	7	

STATE REPORT OF WEIGHTS AND MEASURES FOR THE YEAR 1933

COUNTIES	NUMBER TESTED AND SEALED											NUMBER CONDEMNED													
	Scales	Weights	Dry Measures	Liquid Measures	Yard Sticks	Gasoline Pumps	Milk Jars	Kerosene Pumps	Molasses Pumps	Taxi Meters	Measuresgraphs	Vehicle Tanks	Scales	Weights	Dry Measures	Liquid Measures	Yard Sticks	Gasoline Pumps	Milk Jars	Kerosene Pumps	Molasses Pumps	Taxi Meters	Measuresgraphs	Vehicle Tanks	
Androscoggin	1437	1683	38	374	54	590	6	440	25	5	6	20	101	39	6	0	0	23	0	0	0	0	0	0	
Aroostook	1542	931	17	574	71	536	586	191	47	0	2	8	21	11	0	2	1	7	3	4	0	0	0	0	
Cumberland	3166	1185	88	765	144	1346	5	271	40	40	13	51	112	4	0	6	0	59	0	6	0	2	0	0	
Franklin	392	291	15	128	13	292	20	65	14	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0
Hancock	719	530	6	319	45	384	625	144	28	0	0	1	11	0	0	4	0	14	0	0	0	0	0	0	
Kennebec	1700	1602	93	581	207	701	156	318	53	0	25	29	49	60	11	28	10	23	0	7	1	0	2	4	
Knox	858	693	31	766	34	373	2098	61	30	0	0	18	5	15	1	8	3	2	18	0	1	0	0	0	
Lincoln	455	705	6	230	10	220	722	96	8	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	
Oxford	783	598	30	128	20	459	4	95	12	0	0	12	8	22	0	0	0	18	0	1	0	0	0	0	
Penobscot	1245	1235	60	384	44	748	5761	292	70	0	1	7	11	9	0	2	0	41	0	4	1	0	0	0	
Piscataquis	234	187	8	52	12	195	0	30	4	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
Sagadahoc	366	114	0	20	5	155	0	20	3	0	0	2	4	7	0	3	4	0	0	0	0	0	0	0	
Somerset	682	507	11	100	31	502	0	80	15	0	2	7	31	13	0	5	1	11	0	0	0	0	0	0	
Waldo	441	646	0	135	7	188	0	112	67	0	0	2	2	0	0	0	0	3	0	0	0	0	0	0	
Washington	629	551	58	235	33	323	751	132	54	1	0	2	6	0	0	0	2	0	0	0	0	0	0	0	
York	1398	345	35	764	29	759	2730	182	15	0	1	12	49	8	1	2	1	21	0	2	0	0	0	0	
Total	16047	11803	496	5555	759	7771	13464	2529	485	46	50	172	416	188	19	60	20	228	21	24	3	2	4	4	