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**Cooperative Extension Work in Agriculture and Home Economics
Annual Report of the Assistant Emergency Demonstration Agent
in Southern District of Aroostook County, State of Maine,
December 1, 1917-December 1, 1918**

J. H. Philbrick

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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

ANNUAL REPORT

of the

Assistant Emergency Demonstration Agent

in

Southern District of Aroostook County

State of Maine

December 1, 1917 - December 1, 1918.

J. H. Philbrick

Assistant Emergency Demonstration Agent.

College of Agriculture
of the
University of Maine
and the
U. S. Department of Agriculture
Cooperating

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GENERAL STATEMENT

October 9, 1917 I arrived in Houlton to take up the work of an Assistant Emergency Demonstration Agent for South Aroostook County. This territory includes all of the southern half of the county with the exception of Molunkus, Macwahoc and Reed Plantation south of and including Mars Hill and Westfield. It also includes Mt. Chase, Patten, Stacyville and Summit Siding in Penobscot County.

The work has been carried out along the lines of County Agent Work as started by Mr. J. L. Scribner, at present County Agent for Northern Aroostook. It has included demonstrations, extension schools, neighborhood meetings, etc. Increased production was aimed at at all times.

The word county in this report unless otherwise designated will refer to the southern part of Aroostook County as described above.

Agriculture of the County

The agriculture of the county may be divided into two general classes.

1. Potato Farming
2. General Farming

In Houlton and the towns directly north potatoes are raised almost exclusively. A three year rotation of potatoes, grain and clover is the common practice. A few farmers buy up young stock in the fall to feed during the winter, while only enough cows, pigs and hens are kept to supply the family.

Thru a section south^{west}/of Houlton which follows the railroad many potatoes are raised. The acreage being determined very

largely by the distance from the railroad. As the distance from market increases, the number of cows, sheep and pigs increases. While the acreage of potatoes in the potato section may vary from 30 to 100 acres, the acreage in sections distance from railroads will vary from 10 to 40, with a general sprinkling of stock.

General farming includes potato raising, stock raising and lumbering and is carried on in all other towns in the county. A typical farmer may raise 5 or 6 acres of potatoes which are marketed in the winter and keep a few dairy or beef cows and sheep. If too far from market to warrant marketing potatoes, he will keep a small stock and depend on lumbering for his income.

General Work.

During the year any and all kinds of work undertaken has been carried thruout the county. From the division of the agriculture, practiced in the county, as given above, it will be seen that the same kind of work will not apply to the whole county in all cases. In the future I think that the work could be carried out profitably under the following two general heads.

1. Extension Work in Potatoes
2. General Extension Work

The farmers in the potato section are interested in fertilizers, seeds, cultural methods and markets. In other words he stakes his all on potatoes and anything that will help him to raise a better crop, increases his income. The work in this section should consist of demonstrations in obtaining better seed, spraying and cultivating in summer, and a study of diseases, fertilizers and markets thru schools and meetings in the winter.

General extension work tries to meet the varied conditions in the rest of the county, such as work on potatoes, dairy feeding and testing, pig feeders, etc.

The work during the year has been general and more or less experimental in that any and all kinds of work have been carried on wherever farmers were found who would cooperate. As the County Agent was new to the county and very few farmers in general knew anything about extension work in any form, there was a double job of getting acquainted with the farmers and acquainting them with the various phases of extension work.

It has not been an uncommon thing after building a self-feeder in a community to hear the farmers say that building feeders was my business. The same is true of account books, spraying demonstrations, etc. One thing can be truthfully said of the Aroostook farmers that they are willing to try almost anything in the line of demonstrations or experiments if they think it will help them financially.

Naturally the Agent has become acquainted with a large number of farmers and what is better still the farmers are coming to understand Extension work and cooperate readily in solving their problems. We are greatly in need of some form of an organization thru which the County Agent can work.

A brief discription of the various lines of work carried on during the year follows. Some of the work has been for short periods, such as extension schools, etc; while other lines will continue thruout the year.

SOIL FERTILITY CAMPAIGN

The first work taken up last fall was the scheduling of from one to four neighborhood meetings in every town in the county. The aim was to get farmers of a community together rather than a whole town. At these meetings, the agent with the aid of a blackboard, interpreted and explained the figures on a fertilizer bag or barrel, ingredients, sources etc, the fertilizing value of clover, straw, hay and manure, losses thru different methods of handling and how to overcome them. Thirty-four meetings were held in twenty towns, with a total attendance of 412.

These meetings had two results:

1. Farmers became acquainted with extension work thru the agent and paved the way for future work.

2. Farmers understand fertilizer formulas better, can figure out why one brand or grade is better than another, and realize the value of barn yard and green manure and the loss thru improper handling.

At these meetings the three following campaigns were started.

1. Good Seed
2. Hog Feeding
3. Farm Account Books

GOOD SEED CAMPAIGN

Due to a small crop of all grains in the county in 1917 seed of all grains was in good demand. At these meetings the agent obtained the names of all farmers wanting or having seed for sale and in this way exchanged much seed, although it is impossible to determine the exact amount.

HOG FEEDING CAMPAIGN

Pigs were very scarce during the spring and early summer. A list of brood sows was obtained and small pigs supplied, whenever possible, to communities where pigs were exceptionally scarce.

The advantage of feeding pigs by the self-feeder method was explained, bulletins and blue prints given out. As a result twelve feeders have been built and five others have been copied from these. While this is a small number, they are quite well scattered over the county and many more will be built another year. Many more feeders were scheduled but not built, due in many cases to an actual loss or lack of pigs.

Every feeder which has been run on a commercial scale has netted over \$8.00 per pig on an average.

FARM ACCOUNT BOOK CAMPAIGN

At the soil fertility meetings the value and method of keeping farm account books was explained and many given out. The idea of the books was something new and many applied for them who really did not intend to keep them. In many instances farmers who have kept them faithfully say that they would not be without one now.

EXTENSION SCHOOLS

Following the soil fertility meetings three Extension Schools were held. Two in Soil Fertility and one Dairying. The two in Soil Fertility were very successful, but the one in Dairying was poorly attended. This is an index of the farmers of the county. Practically everyone is more or less interested in soils

and fertilizer due to the raising of potatoes, but while a fair number of cows are kept in the vicinity of Houlton very few are really interested in Dairying.

While the Soil Fertility schools were successful a school which would take up as many phases of potato raising as possible, would I think, interest and benefit more farmers in general than any other school.

DAIRY MEETINGS

During the month of March four community Dairy Meetings were held with the aid of E. W. Morton, Extension Dairy Specialist. At these meetings the problems of feeding, balancing rations etc, were discussed. The same thing applies to these as to Dairy Schools. The attendance and interest was fair but as was often remarked, if the subject had been potatoes, the attendance would have been twice as large.

BOYS' AND GIRLS' CLUBS

During the year 12 Boys' and Girls' Clubs have been organized in seven towns. Some of these clubs have been small but every one will close with a good percentage finishing. At the start the aim was to start as many Pig Clubs as possible. The lack of pigs has caused many boys to go into the Potato or Garden clubs. This resulted in many clubs being mixed up where there were not boys enough to form a club in each project. The scarcity of labor in the county during the past summer has decreased the membership of many clubs. It has not been an uncommon thing to find boys doing a man's work with a pair of horses thruout the summer and in reality producing much more than they possibly could thru a club.

DEMONSTRATIONS AND TESTS

The following demonstrations and tests have been conducted during the year.

Demonstrations

1. Oats
2. Spraying
3. Hill Selection

Tests

1. Lime
2. Iron Sulphate

Demonstrations

Oats: The supply of selected seed oats in the county was small and much of it was taken where produced. We were only able to secure four bushels of this seed. These oats have not been threshed, but the indications at harvesting were that they would give a substantial increase over native oats in the same field.

Spraying Potatoes: For many years there has been much discussion in the county concerning spraying. At the present time the general opinion is that it pays to spray but there are innumerable opinions as to the best time to spray, kind and amount of material to use and method of application.

Opinions vary all the way from early, frequent and light applications to a few heavy applications. Eight demonstrations have been run to bring out a comparison between spraying early and often with 5-5-50 bordeaux mixture and a few applications of as high in some cases as a 10-10-50 mixture. A comparison

has also been made between home mixed bordeaux and commercial mixtures. Many commercial mixtures are sold in the county which cost the farmer much more per acre for arsenicals and insecticides. We have tried to show that home mixed bordeaux was less expensive and if properly applied more beneficial. In two cases no comparison could be made due to a long spell of rainy weather when it was impossible to spray. The potatoes when first sprayed were over a foot high and as the demonstrations call for the first spraying when the tops are from four to six inches high no true comparison can be made. In two cases the increase was a little over nine barrels per acre in favor of the demonstration acres. On the other demonstrations the farmers followed the regulations of the demonstration so closely on their whole fields that there was very little comparison. While we were not able to get a comparison, the fact that the farmer accepted the idea of the demonstration for his whole field, will mean something to the county another year.

Hill Selection: One lot of seed hill selected by Mr. Scribner, County Agent, in the fall of 1917 was planted according to the Tuber Unit Method. These were entirely ruined by a heavy rain in July. This fall demonstrations in hill selection have been conducted on eight farms. This seed will be planted separately next spring given the same cultivation as the general field, all weak and diseased plants removed and the yield compared with that of the general field. A few barrels will be hill selected from this plot for a seed plot another year and the remaining stock used for seed in the field.

Tests

Lime: There has been much agitation over the use of lime in the county for several years. Many contending that it would not be used in a potato rotation without causing scabby potatoes. Many fields are red with sorrel and farmers admit the need of lime but are afraid to use it for the above reason. One test was conducted this year by applying various amounts of lime to land before seeding down. No results can be obtained until another year. Many farmers are planning to apply lime next spring.

Iron Sulphate: Kale and mustard are two of the worst weeds which the Arcostock farmer has to fight. In a few cases these have been eradicated by cultivation but in the majority of cases they increase rather than decrease. Iron Sulphate has been tried before in a few cases but with poor results, due to its being applied at the wrong time, usually too late. One man applied iron sulphate to one acre of oats this year with very good results and is planning to use 1500 pounds next year. Already demonstrations have been signed up in four towns and as many more will be scheduled as can be handled properly.

MILK TESTING

Many farmers are complaining that their cows are not paying for the feed they eat and are contemplating going into beef in some cases. At the present time four farmers have been persuaded to use milk scales with the understanding that I will test their milk once a month. This work will continue thru the winter at least and several other farmers will be added to the list the first of the year. This work will require a large amount of

work as compared with the results as it is practically impossible to find dairymen enough in one community to form any kind of an association. As a result the agent will have to supervise and do the testing for a small number of farmers scattered over a large territory.

TABLE OF WORK

Kind	Number	Attendance
Soil Fertility Meetings	34	412
Dairy Meetings	4	56
Extension Schools	3	305
Boys' and Girls' Clubs	12	202
Spraying Demonstrations	8	
Spray Mixing Demonstrations	2	
Oat Demonstration	1	
Pig Feeders	12 built	
Account books	86	
Hill Selection	8	
Lime Test	1	
Iron Sulphate test	1	
Herds Testing	4	

SURVEY OF YEAR'S WORK

The work for the year has been handicapped due to lack of organization. Every line of work was entirely new to 98% of the farmers cooperating. This necessitated closer follow-up work and much personal work. While several regular campaigns have been carried out I have endeavored to start work wherever farmers cooperate. For instance one farmer complained about male. After

talking it over he decided to use 200 pounds iron sulphate although he was skeptical as to results. A man was found in the next town who would carry a spraying demonstration, while in a town 75 miles distance a man wanted a pig feeder. At some period all three needed attention at the same time. Next year many of these men will carry all three demonstrations or more which means that the work will be better organized, even if no regular organization is perfected, better and larger results obtained, and more work accomplished in the same length of time. As an illustration, one man who keeps several cows was induced to sow hungarian as a pasture supplement for this fall. During the summer nothing else appealed to him. Upon calling recently and discussing feed for another year, he decided to try milk scales, testing and lime and iron sulphate another year. We are also figuring on the cost of remodeling his barn and putting in a carrier. If successful this will mean three times as many results with practically the same amount of work another year.

In brief I have tried to sow the seed of extension work in some form in every community in the county. The majority of this seed has germinated. Next year it will require a week instead of perhaps a day in each community to carry on the work.

Some time and effort has been lost in carrying on work which was not adapted to a community. Much of this will be eliminated another year. While the concrete results are not very great and some of the work and demonstrations have failed to reach the goal aimed for, I think 90% of them have helped the farmers and furthered extension work, as in many cases a spraying demonstration etc, will indirectly lead to the use of lime or pig feeders another year and vice versa.

PLANS FOR THE COMING YEAR

1. Many herds will be fed a balanced ration and milk weighed and tested.
2. Potato schools or community meetings will be conducted during the winter.
3. As many demonstrations with iron sulphate as can be looked after properly will be run during the spring.
4. Potatoes hill selected this fall will be planted and watched carefully with the object of demonstrating how to obtain better seed and the advantage of hill selected stock over field stock.
5. Spraying demonstrations will be conducted as far as possible in communities where not much spraying is carried on and where commercial sprays are used.
6. Boys' and Girls' clubs will be organized. More emphasis will be placed on the careful election of the local leader and the forming of a club adapted to the farming of the community rather than trying to get a large number of boys and girls to join a given project.
7. Poultry houses built. Two already started.
8. Silos built and the raising of oats and peas, clover etc., to fill same. Farmers have not built silos because they could not raise corn.
9. Self-feeders for hogs built and the raising of green feeds as a supplement emphasized. Too many farmers try to use straight grain.
10. Hill selection on other farms.
11. Lime in carload lots bought for communities.