

Thousands Visit Experimental Farm During 1956 Varied Program Features Experimental Farm Year

The following report prepared by Mr. R.C. Parent, Superintendent and the Staff of the Charlottetown Experimental Farm shows some of the major activities carried on during the year 1956.

The Experimental Farm at Charlottetown, was established in 1909 and for 47 years, has been an important factor in helping solve production problems of the Canadian farmer. While problems dealing with Prince Edward Island Agriculture are of first importance, a number of projects of a country-wide nature are dealt with and many results from our research studies have been widely applied.

The following review is intended to give a picture of the major activities for the year just ending.

STAFF NOTES

Graeme Boswell has been granted leave of absence to pursue his studies toward his Ph. D degree in Soil Chemistry at Macdonald College. He expects to return to duty at the Experimental Farm in early summer.

James Nicholson has returned from Cornell University where he received his degree of M.Sc. in Animal Nutrition, and has completed part of his requirements for his Doctor's degree. Mr. Nicholson expects to resume his post graduate studies in a year or two.

Roy Boswell joined the Farm staff as a Technician in the Soil Laboratory, on June 5th, and Andrew Humphrey joined the staff of the Soil Laboratory as an employee of the Provincial Department of Agriculture, on October 22nd.

The testing of soils for farmers is a joint project of the Experimental Farms Service and the Provincial Department of Agriculture. The appointment of the two men mentioned above makes it possible to handle an increased number of soil samples.

R.B. MacLaren was promoted from Technical Officer to Research Officer.

STAFF NOTES

Dr. E.S. Archibald, former director of the Experimental Farms Service, was honored when he was asked to plant a tree on the beautiful grounds of the Farm.

PUBLICATIONS

In co-operation with the other Maritime Experimental Farms, a Bulletin "Experimental Farm Highlights in the Atlantic Provinces", was published during the year and distributed at Field Days to farm groups, and interested individuals. Similar bulletins have been published annually since 1953.

They present brief summaries of the results of current investigations being carried on by the Canada Experimental Farms in the Atlantic Provinces. Copies are available on request.

A progress report, giving more complete details of the Farm's activities, will be published in 1958 and will give the results of investigations for the years 1953-1957 inclusive.

Members of the staff assisted in the preparation of two bulletins entitled, "A Protection Guide for Vegetables and Small Fruits" and "Chemical Weed Control Guide" which were published by the Provincial Department of Agriculture.

The bulletins, "Ornamental Trees, Shrubs and Woody Climbers", and "The Production of Tree Fruits in Prince Edward Island" were revised by Mr. G.C. Warren, Horticulturist at the Farm.

A technical paper entitled, "Digestibility of Various Rations of Steers as Influenced by the Length of Preliminary Feeding Period" written by J.W. G. Nicholson and Associates, at Cornell, was published in the Journal of Animal Science, Vol. 15 - 1956. Mr. Nicholson's Master's Thesis, prepared for Cornell University, is entitled, "Distillers' Dried Molasses Solubles as a Source of Unidentified Factors in Ruminant Nutrition".



EXPERIMENTAL FARM STAFF Left to right front row: G.B. Whiteside, Gordon Warren, R.C. Parent, Frank Tinney. Back row left to right: Dick Stirling, Norman Black, Keith LeLacheur, James Nicholson, Warren Burns, Bruce MacLaren.

CONSTRUCTION

The most important development in this field was the construction of a 45 foot addition, as well as a 107 foot ell, to the main dairy barn. In the first addition, 30 individual calf pens will be constructed and these will be used for special calf feeding experiments. In the ell, provision has been made for the housing of 4 horses and for 12 bull pens. The latest in steel pens and safety equipment has been incorporated in this set-up. The complete installation will be finished early in the new year.

Another important new building added during the year was a prefabricated steel machinery storage. This building is 50 feet x 102 feet, and represents a greatly needed addition to the Farm property.

A small yard was paved adjoining the loose housing pole barn at the Upton Farm. This is a necessity in the loose housing scheme for Prince Edward Island where mud can be a nuisance and a problem, especially in the spring and fall months.

ANIMAL HUSBANDRY

More animals are being wintered at the Experimental Farm this year than ever before. At the time of writing this report the number of 132 of which 12 were identical twins purchased for special experiments, 12 were young Ayrshire steers which will be used for research purposes and 36 were Hereford steers imported from Western Canada. The remaining 72 head compose the purebred Ayrshire herd and are also used in breeding and feeding trials. To accommodate this increase in the size of the herd, new facilities are being provided for horses, bulls and calves. The main dairy barn has been remodelled to provide stalls for 41 milk cows, 12 more than formerly.

The carload of Hereford steers imported were purchased at the cattle sale in Walsh, Alberta. The purpose in bringing in these Western steers was to obtain enough animals of similar age, breeding, previous management and size to correlate these characteristics as measured in calves with actual production of the animals later on. The Ayrshire bulls to be used in this project will be stationed at Charlottetown where semen will be collected, processed and shipped by air express to other Farms. It is hoped that some local breeders of purebred Ayrshire cattle will wish to co-operate in this project as large numbers of animals are needed to make progress. Breeders who do co-operate will receive semen at a small charge for inseminating the cows and are assured of the use of a highly selected group of bulls. More information is available at the Experimental Farm.

SELKIRK WHEAT

Yield trials at the Experimental Farm during the past three years show that Selkirk wheat is at least equal to Acadia, the variety now most commonly grown on Prince Edward Island. Considering the superior rust resistance of Selkirk, its better milling quality and the fact that most growers prefer a bald wheat, it is possible that this variety will replace Acadia on much of the wheat acreage in the Province.

Parkland, A New Barley Variety

Parkland, a new six-rowed barley, is receiving considerable publicity in Western Canada. Its yield compares very favourably with that of Charlottetown No. 30 but it is inferior in lodging resistance. Herta, a two-rowed Swedish variety, was licensed for sale in Canada in 1956 and will be grown fairly extensively in Western Canada in 1957. This variety has performed very well in test plots on Prince Edward Island

and is available especially on many large farms.

Various sources of organic matter such as alder mud, kelp and seaweed, straw and compost were tested against a standard rate of manure per acre. Also, manure using straw as bedding, manure using shavings as bedding and manure produced in a pen barn were included in this test.

In the results to date, the various types of manure are giving better yields than other sources of organic matter. Seaweed has given good results, especially in the hay crops. Manure produced in a pen barn was included as it is stored under a roof and well-tramped by the animals during most of the year. This practice should produce excellent quality manure. However, there have been no great differences in yield between this material and manure hauled out daily and plied in the field.

CHEMICAL WEED CONTROL

Another increasingly important problem on which the Field Husbandry Division worked in 1956 is chemical weed control. Much of this work was done in co-operation with the Illustration Station Division and spray plots on grain and pasture crops were laid out at several locations. A number of sprays have been applied this fall at the Charlottetown Farm in an attempt to control ox-eye daisy in timothy hay. While it has been stated that good farming practices in general should control weeds, chemicals are very useful in this respect and plans for the future include more of this type of work.

Variety Testing of Corn, Alfalfa and Red Clover - The Forage Division conducted variety tests on corn hybrids, alfalfa and red clover in 1956. The corn test was planted at the usual time in early June, but growth was slow and none of the hybrids reached a suitable stage of maturity for good silage before frost.

In the alfalfa test, Rhizoma was again the stand-out variety of the eleven red clover varieties, in which both seed yield and forage production were recorded, was completed this year. We now have three years of reliable data on this project and figures on the average production will be available shortly to these interested.

Ottawa Red, Dollard and a cross of these two varieties named Lassie have given the best forage yields, throughout the test. Seed yields have been very irregular, however.

PASTURES

In pasture investigations, a project was established this spring on the Charlottetown Farm to compare two types of grazing by dairy cattle, namely, fresh dairy and rotational. Milk production records and yields of grass from the pastures are being recorded.

This work has been carried on in co-operation with the Animal Husbandry Division. Also in co-operation with the Animal Husbandry Division is a large pasture project seeded this year. This project is designed to give the legume Birdsfoot Trefoil a fair test under our conditions, and a pasture mixture in which Birdsfoot Trefoil is the chief legume is being compared with a mixture having Red Clover and Alfalfa as legumes. The pastures produced will be grazed for a number of years and gains for grazing animals, as well as grass production, will be recorded.

ILLUSTRATION STATION

Experiments of a fact-finding nature were conducted on six illustration stations in Prince Edward Island and two illustration stations in the Magdalen Islands in 1956. Illustration Station farms are so located that they represent areas and soil types not covered by the Experimental Farms with which they are associated.

Stations are presently located on farms owned and operated by T. Albert Hicken, Alliston; Hugh E. Macdonald, Monticello; William E. Johnstone and Son, Long River; Robert Woodside and Son, Knutsford; John W. MacKenzie and Son, Rose Valley; Zenon Callant, Urbainville; Edward Bouffard, Bloisville; Grindstone Island and Alberic Lapierre, Portage du Cap; Amherst Island, Magdalen Islands.

WOOD LOT MANAGEMENT

In co-operation with the Forestry Division, Provincial Department of Agriculture, wood lot management studies were pursued during the year at the Alliston, Rose Valley, Long River and Urbainville Illustration Stations.

Severe damage to wood lots followed the January ice storm and necessitated the removal of many broken and fallen trees from compartments where selective cutting measures had been instituted.

AGRICULTURE

The Apiarist at the Experimental Farm, in co-operation with the Provincial Department of Agriculture, supervised the importation and distribution of 1,020 two-pound packages of bees which were purchased by 110 bee-keepers. This represents a 10 per cent increase in the number of package bees imported.

At the Experimental Farm, three important bee projects were taken this year, namely: 1. Studies on the value of the antibiotic Fumidil B for the control of nosema in bees. 2. The testing of hybrid strains of queens received from the Ontario Agricultural College Apiary at Pelee Island. 3. The value of bees as pollinators for cucumbers. Further studies are required before definite recommendations can be made.

CEREAL CROPS

Although the seeding of cereal crops was rather late this year, a long growing season with favourable amounts of moisture and sunshine gave Island growers one of the best grain crops on record. Tilling was heavy and heads were well filled.

Three new oat varieties, Garry, Shefford and Rodney, drew the attention of many farmers and few who tried them were disappointed. Garry, a medium-early maturing oat, was probably most favourably received. This variety has excellent resistance to rust, satisfactory lodging resistance under moderately high conditions of fertility and is consistently good in yield. The early maturity and thin-hulled kernel of Shefford are its main assets.

Unfortunately, if Shefford is not harvested slightly before it becomes fully ripe, a large number of kernels may be lost through shattering. As has been pointed out on previous occasions, Rodney is extremely susceptible to "Black stem" disease of oats.

Usually, summer storms cause serious breakage of these rotted stems and, as a result, this variety has a very poor yield record over the past few years. The absence of such storms during the current growing season meant that most crops of Rodney were in good condition when harvested and yields were higher than expected. It is a late maturing, rust resistant variety with an attractive kernel. Seed of Garry and Shefford was multiplied at three illustration stations within the Province.

POLLINATION STUDIES WITH CUCUMBERS

and will be studied on a larger scale this coming summer.

Parasites have done a very effective job of destroying the barley joint-worm in areas which were severely infested five or six years ago. In many such areas growers reported excellent barley crops this year.

With new greenhouse facilities breeding program has been under way. Improved lodging resistance and higher yielding, early maturing varieties of both oats and barley are projects which are receiving particular attention.



POLLINATION STUDIES WITH CUCUMBERS

DAIRY CATTLE BREEDING

The Charlottetown Experimental Farm is co-operating with other Experimental Farms across Canada in what is probably the most extensive and carefully controlled research project in dairy cattle breeding ever undertaken anywhere. The purpose of this project is to gather information on the inheritance of all factors of economic importance in Dairy Cattle.

DAIRY CATTLE BREEDING

Each rotationally grazed area used as a comparison to the fresh daily grazing provided enough forage to last the groups of cows one to two weeks before it became necessary to move them to the next area. Electric fences were used to restrict the cows to one day's grazing on the experimental areas. A type of post was devised which made moving the fields quite easy and required very little time.

Cull Potatoes and Grass Silage Compared - A feeding trial is being conducted with milking cows this winter in which cull potatoes are being compared with grass silage as a succulent roughage. This same feeding trial is being conducted at the Experimental Farm, Fredericton, New Brunswick, and the results should be of interest to farmers with quantities of cull potatoes to utilize as livestock feed.

NEW VARIETIES PRAISE THEIR WORTH

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VEGETABLE TESTING

As usual, extensive tests with vegetables were conducted, and this season, special emphasis was given to varieties for freezing. Mr. George Wright, of the Provincial Department of Agriculture, co-operated with us in this work.

Among the crops tested for yield and freezing quality were: Asparagus, spinach, cabbage, cauliflower, brussel sprouts, broccoli, bush beans, pole beans and peas. Determinations are also being made on the heat units required to mature crops in this area.

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