

# Exceedingly Busy Year At The Experimental Station

By R. C. Parent, Superintendent

The past year has been an exceedingly busy one at the local Experimental Station. All the major research projects were continued and a number of new ones undertaken. Among the newer ones which are attracting considerable interest is a feeding experiment using various combinations of grass, silage and hay for dairy cows. At the Upton Farm a number of soil fertility experiments have been laid down, and this property is rapidly being transformed from an abandoned farm to a well laid out research station.

Two members of the staff retired and two new appointments were made. Mr. D. C. Schurman, Senior Agronomist, retired after thirteen and a half years of service and Mr. F. A. Driscoll, Poultryman, after thirty-two years and eleven years of service. Mr. Keith LeLacheur, B.Sc., Agriculture, was named to the staff as Junior Agronomist, and Mr. Reginald Kemp, as Clerk, Grade 3.



Mr. R. C. Parent, Superintendent of the Dominion Experimental Station here.

During the year, a survey was made of the agricultural possibilities of the Magdalen Islands, and from January 1st, 1953, the Experimental Station, Charlottetown, will conduct a number of experimental farm projects chiefly through the medium of two Illustration Stations.

An area of land on the Malpeque Road was turned over to the Science Service for the purpose of building a new laboratory. The new laboratory will provide needed facilities for projects dealing with plant diseases and insect control. Some of these projects are conducted in co-operation with the Experimental Farm Service.

Early in the year the Soil Survey Report of Prince Edward Island was released for distribution and has been very favourably received.

**Prominent Visitors**

On August 28th, the Charlottetown Station was honoured by a visit from His Excellency Vincent Massey, Governor General of Canada. Like his predecessors, the Governor General planted a tree on the Station grounds to commemorate his visit to the Province and to the Station. The Governor General met the majority of the staff and shared keen interest in the various lines of work under study.

Other prominent visitors include: Mr. R. B. Bryce, Secretary of the Treasury Board of the Federal Cabinet; Dr. J. G. Taggart, Deputy Minister of Agriculture for the Federal Service; Mr. H. S. Fry, National President of the Agricultural Institute of Canada; Mr. G. Huson, director of the United Kingdom Information Office, Ottawa, and many others.

On August 12th, a garden party was held at the Station, when the Provincial Ministers of Agriculture and their deputies, from all Provinces were present, as well as agricultural officials from the various Departments in the Province. A special feature of this day was the planting of a Norway Maple on the grounds by Dr. J. A. Clark who, for thirty-nine years, was Superintendent of the Experimental Station.

More than twenty organized groups visited the Station during the summer months and, in all, upwards of 6,500 visitors from all parts of Prince Edward Island, Canada, the United States, as well as from the United Kingdom, visited the Station.

**Weather, 1952**

With the exception of some delay in spring seeding, the farmers of Prince Edward Island have had an exceptionally satisfactory season for all farm work. Haymaking and harvesting were performed under very favourable weather conditions and fall work was completed better than usual.

Lower precipitation was the only serious drawback of the season of 1952. Temperatures and hours of sunshine were both higher than in 1951. The winter, while stormy, was mild, with the lowest temperature of 5° below on January 31st. January was the only month when zero temperatures were recorded. Hours of sunshine during the spring months were below average and the rainfall during this period, while not excessive, was extended over more days and retarded spring work. The highest summer temperature was on July 24th when 89° was recorded. Temperatures during the summer were above average, with below average precipitation. Altogether, the weather conditions were such that potato yields were one third above those of 1951. Grain yields were also slightly higher, but hay and pasture crops were about average.

**Agronomy**

In 1952, soil fertility studies, which were established at the Upton Farm during the past few years, were continued. A new project was established, namely, "Formulas and Rates of Applying Commercial Fertilizer to a Three Year Rotation of Potatoes, Grain and Hay". Although some interesting trends have been noted in data obtained to date, no definite conclusions can be made until two or three cycles of the rotation have been completed.

In pasture studies, the growing of single species of grasses with Ladino clover is under investigation. Four species, namely, orchard grass, brome, timothy and meadow fescue, are being compared to an old established pasture which serves as a check. Difficulty was experienced in getting a good catch of brome, but the other species came through the winter of 1951-1952 in good condition. Timothy and meadow fescue gave excellent pasture during this past summer, closely followed by orchard grass.

In 1951 a fairly comprehensive experiment using liquid fertilizer on the oat crop as a seed treatment was conducted. In 1952 liquid fertilizer was used as a foliage spray for potatoes. In neither case was any beneficial result

to produce the highest yields recorded at the Station since row plots were adopted. Wheat varieties averaged over 40 bushels per acre and oats yields exceeded 100 bushels per acre.

The season appeared to favor early maturing varieties, perhaps because the weather in mid-August ripened the grain very rapidly and later maturing varieties did not have time to fill out as well as they would in more favourable weather.

Much of the grain crop throughout the province was seeded late, and, in many cases, poor yields were secured. In some cases seeding was reasonably early, but excessive rainfall damaged the crop materially.

Barley jointworm continues to be a serious problem in portions of Queen's and King's Counties. In an effort to locate resistant or tolerant varieties, an extensive variety test was grown at Charlottetown this year. Some 318 varieties and strains were included in the test and the results this season are at least moderately encouraging. A few strains showed very light infestation and others seemed to indicate a tolerance to the insect damage.

Acadia wheat, grown for the first time under field conditions, gave good yields and promises to be a valuable variety for Prince Edward Island.

### Forage Crops

In the Forage Division, variety tests were carried out on the following crops during 1952: Corn, Alfalfa, Clover and Timothy. These tests consisted of growing several varieties of the same crop on land areas that were as nearly identical as possible in fertility, drainage, etc., and comparing data on some characteristics, such as, yield and date of maturity, to find the most suitable variety for this area. An outstanding result of these tests was that the hybrid corn, Algonquin, and the open-pollinated variety, Longfellow, proved to be the two best silage varieties here at Charlottetown. They excelled in green weight, and in dry matter per acre. Algonquin is grown as the silage crop at the Station, as it matures a little more rapidly.

A new variety test involving six varieties of red clover was also established in 1952, but has produced no data as yet.

Various experiments with pasture mixtures were carried on, in an attempt to find the best mixture, both in production of green weight, and in hardness. Similar experiments were conducted with hay mixtures and mixtures for turf grasses.

A spray program, using 2AD A-2434-1 "Progeny Testing of Purebred Ayrshire Sires by Means of Artificial Insemination". The results of this project are considerably improved over former years, though the number of cows inseminated was down somewhat.

A project was organized during the summer and work begun in fall, to investigate combinations and rates of feeding hay and grass silage to dairy cows.

Several methods of preserving and storing grass silage are being investigated. These include storing in upright, horizontal and snow fence silos, the use of ground barley and molasses as preservatives, and storing silage chopped and unchopped.

The pole barn at Upton is now in its third year of operation, and has proven entirely satisfactory. This method of wintering young stock should be considered by all farmers because of its economy. The cost of construction is low and labour is greatly reduced.

The Ayrshire herd at the Station numbered 53 at the beginning of 1952, and now numbers 75.

**Horticulture**

The Experimental Station, at Charlottetown, is now grouped with a number of other Stations and Colleges in a test of new vegetable varieties which are supplied by plant breeders in Canada, United States and certain European countries. From these trials the originators can determine the value of the varieties submitted for the different areas in Canada. A report of these trials called "Varieties of Merit in Canadian Vegetable Trials" is published annually by the Division of Horticulture, Ottawa.

Extensive work has been carried on with cucumbers during the past five years, particularly in fertility studies and spacing trials. It is now evident that manure is important in obtaining satisfactory yields and that manure applied in the furrow will give consistently higher yields than the same amount broadcast. There appears to be only slight difference between manure and fertilizer, and fertilizer alone. However, cucumbers appear very sensitive to large amounts of fertilizer near the young feeding roots and when amounts in excess of 1000 lbs. are applied it should be broadcast rather than side-dressed. 1500 lbs. of 5-10-10 seems to be quite satisfactory for average soils.

**Illustration Station Activities**

Experiments of a fact-finding nature, involving 919 experimental plots and comprising upwards of 200 acres, were under study on various Illustration Stations representative of various soil types in the province. These field experiments are so designed that information, acquired may supplement research work now conducted by the branch experimental farms and, in turn, benefit the individual farmer.

Improvement of permanent pastures by the use of chemical fertilizers has been an active project on Illustration Stations in Prince Edward Island for a number of years. Experiments conducted during the past year illustrate the beneficial effect of a complete fertilizer when applied annually.

Pasture plots treated with 60 pounds Ammonium Nitrate, 60 pounds Superphosphate and 100 pounds Muriate of Potash annually, gave an average yield of 21.50 tons compared with 13.81 tons harvested from the unfertilized check plots. Benefits derived from light fall surface applications of well rotted manure can not be over-emphasized. At the Montserrat Illustration Station, a plot received



Shown in the above photograph is a trench silo for grass silage in the process of construction at the local Experimental Station.

stand 1 foot apart in the rows gave the highest yields. As an example, plants spaced 1 foot by 6 feet yielded, on the average, 8324 lbs. of all grades of fruit per acre while the widest spacings, 3 feet by 8 feet, yielded only 3537 lbs.

The Station co-operated in introducing two new scab resistant cucumbers, Maine No. 2 and S. R. 6 which did much to increase yield and profits in 1952.

### Late Blight Strains

Potato varieties resistant to late blight, scab and virus have been tested extensively. Unfortunately not all of the varieties, both Canadian and American, went down with late blight in 1952. This is assumed to be the result of new late blight strains which have developed and to which the new varieties appear to be susceptible.

A very comprehensive experiment entitled "Distance of Planting and Type of Set Trials with Potatoes" has been under study for three years. The results to date indicate that the largest yield of merchantable tubers are obtained from the 6 inch spacings and that the yields are progressively lower as the spacings increased. It is also apparent that whole and halved tubers are superior to regular sets in this regard.

The new bean, called Pure Gold, has been the most productive under test at the Charlottetown Station in recent years. It is a yellow, round-podded variety somewhat similar to Round Red Kidney Wax. It is considerably



Shown above is "Evana Wait and See", outstanding Ayrshire of the herd at the Experimental Station here.

later than any of the existing varieties and should prove to be of interest to market gardeners and others.

In Ontario the variety Early Clitham continued to be the most productive of early ripe fruit, although the total yield for this variety is not as high as for some others.

The new apple variety of some note is Spartan. This apple is slightly later than McIntosh and is considered by many to be of better quality. It is a deep red colour with crisp, juicy flesh. Another apple, Mantel, is ready at this Station about September 5th and is somewhat reminiscent of the Gravenstein. It has possibilities for the early market. Other promising sorts in the early season are Ottawa-275, Ottawa-276, Ottawa 271, and Ottawa-244.

The Senator Dunlop and Premier Strawberries continue to be the most adaptable and high yielding of all the varieties tested. Valentine is a useful extra early and Louise a productive late variety.

Tren continues to be the outstanding raspberry variety at the Station. The Dahlia collection at the Charlottetown Station was augmented by some 200 new varieties in the spring of 1952. These include many outstanding sorts. Our total collection now numbers approximately 350 varieties.

A good bloom was obtained in 1952 and this was achieved by weekly dustings or sprayings with DDT and two liquid fertilizer applications, one as the first plants began to bloom and another three weeks later. For the liquid application 8 lbs. of a 5-10-10 fertilizer was dissolved in 200 gallons of water. Each plant received two gallons of mixture.

**Experimental Orchard**

In co-operation with the Division of Horticulture, Experimental Station, Charlottetown, a new experimental orchard, comprising an area of 1 1/2 acres, was completely established at the Alliston Illustration Station during the year. The object of this experiment is to learn if various varieties of apples can be successfully produced on the light sandy soils typical of this section of the province by using various types of surface mulches. Mulches including black mulch, straw manure, seaweed, potato tops, litter, etc., were applied during the course of the year. Grass, growing about the trees, is to be cut and used as a common mulch in connection with this project. A 9-9-7 fertilizer formula is being utilized

in connection with this experiment. During the year 1952, 96 young trees made very satisfactory growth.

Special investigational studies comprising 27 fertilizer formulas were established for the fifth consecutive year at the New London station. All plots were established in duplicate with and without manure. Studies are being pursued on a four-year crop rotation basis featuring potatoes, grain seeded clover and timothy. Trends to date indicate the beneficial effect of barnyard manure in increasing potato yields and particularly its residual effect in improving the yields of clover and timothy hay. The necessity of utilizing a balanced fertilizer with a relatively high nitrogen content, in the vicinity of six per cent, is further indicated.

### Poultry

Research work in poultry is still concerned with two major lines of endeavour—the Feasibility of Selection Based on Progeny Testing, utilizing White Leghorns, and a project designed to evaluate the egg laying capacity of a breed, newly developed at the Central Experimental Farm, at Ottawa, and known as Broad Breasted White. This breed was developed primarily as a meat bird, Dark Cornish blood being utilized to secure extreme width and fleshing of breast. As a breed, they run somewhat less in body weight than New Hampshire or Broad Breasted Whites. They are white feathered, white skinned, and somewhat unexpectedly, carry fair egg laying capacity. The Charlottetown Station is checking productive ability and also usefulness, as a meat bird at broiler age (12 weeks), as roasters, (24 weeks) both as a pure bred and as a cross with New Hampshire Reds.

When grading returns from males and females are combined, we find Specials and A's rate from 20 to 25% higher, for Broad Breasted White and Cross Bred, than for New Hampshire. Differences are particularly noticeable at 24 weeks of age, when 66.0% of Broad Breasted White, 58.2% of crosses, but only 28.3% of New Hampshire graded Specials or "A's".

The 1,000-bird round laying house has now been in use for more than a year, and is proving very satisfactory. Observation tends to the opinion that the circular shape has its greatest value in houses of large capacity.

Two additional improved-type brooder houses were added to our equipment during the year. These houses are efficient, light in weight, and economical to construct.

### Soil Survey and Related Investigations

Field tests with different fertilizer treatments for grain and hay were continued, in co-operation with farmers, on different soil types. The results of the tests to date indicate, that with grain the greater response is obtained with nitrogen and phosphorus, with a trend for greater increases from nitrogen. With hay the results indicate that phosphorus and potash are more important, especially where legumes are concerned.

Recognizing the need for improving the organic matter content of Prince Edward Island soils and the potential value of the organic soil (Peat and Muck) deposits as a source of supply of organic material, a detailed survey of these deposits was commenced this year. Approximately 420 acres of peat soils were examined during the field season. About 215 acres consists of sedge and marsh-grass peat, up to 6 feet in thickness, with about 205 acres consisting of woody-sphagnum peat 18 inches to 6 feet or more in thickness, invariably covered with a thin stand of black spruce.

Over six hundred soil samples were collected from experimental plots, for laboratory studies, and over 450 soil samples were received from farmers throughout the Province for advisory purposes and fertilizer recommendations.

Early in the year the Soil Survey Report of Prince Edward Island was released for distribution. The report consists of a detailed description of the different soils, as mapped in the Province together with a brief discussion of their agricultural utilization. The report also contains a brief discussion of the principal factors responsible for the development of the soils of the Province. A soil map of the Province, showing the approximate distribution and extent of the different soils, is an important part of the report.

A copy of the report was sent, by the Department of Education, to each school in the Province and has proven to be an excellent reference book. To date more than 1,000 copies of the report have been distributed to farmers, libraries and interested parties.

The appreciation of the Division is extended to the Provincial Department of Agriculture, the Provincial Department of Health and Welfare, the Provincial Department of Industry and Natural Resources and the National Film Board for their co-operation in making these farmers' meetings interesting and of value to all attending.

The interest taken in Illustration Station Field Days in Prince Edward Island is evidenced by the fact that, during the past 15 years, 121 Field Days have attracted a total of 15,479 farmers. The ensiling of grasses and clovers was continued for the second successive year at stations operated by Mr. Robert Woodside and son, O'Leary and Mr. T. Albert Hicken, Alliston. At the O'Leary Station, excellent quality ensilage has been made in both the upright type of silo as well as in the temporary snow fence silo. At the Alliston station, grass and clover ensilage has been stored very satisfactorily in a pit silo formerly utilized as storage quarters for roots under the barn floor. A temporary upright silo, constructed with waterproof paper and snow fencing material, also proved very satisfactory for storing grass ensilage at the Alliston station. William E. Johnstone and Son, Illustration Station operators at New London, made use of the trench type silo for the first time this year. Upwards of 70 tons of grasses and clovers were harvested as ensilage at this Station.

**By Graeme Brooks**

MELBOURNE, Australia. (Reuters) — A joint Australian-American cattle-raising project is under way in the heart of the Australian State of Queensland, bringing a new breed of cattle to the aid of the drought-stricken cattle industry.

Over hundreds of square miles, strains of cattle which for a century have been the backbone of the Australian beef industry, are giving way to the hardy, heat-resistant, Red Santa Gertrudis breed carrying the running W brand of the King Ranch of Texas.

Sponsors of the project are two companies, King Ranch of Australia, Limited with almost equal holdings by the King Ranch of Texas, and a group of Australian cattlemen and Associated Stations, Limited, formed by the same cattlemen in association with Swifts Australian Packing Company Limited.

King Ranch Australia is operating 7,300 acres Risdon Ranch near Warwick in the green foothills of Central Queensland's great dividing range.

At the first auction of Santa Gertrudis in Australia, held at Risdon in mid-November, the 12 bulls offered brought in a total of \$31,551, with a top price of \$3555 in a single bid and Australian cattle values are about a third as high as in the U.S.

The Santa Gertrudis, developed as a "fixed" strain entirely in North America, was known in Australia as a hybrid 20 years ago. Extensive Australian experiments in crossing with Zebu and British bred cows produced occasional bulls almost identical with those from King Ranch. Their progeny thrived under the semi-tropical conditions of North Queensland.

# Africa, Seething With Unrest, Poses Problem For Western Nations

(Editor's note: Arthur Gavshon, an AP diplomatic correspondent in London and Europe, counts Africa as his some time news beat too. He is a South African national who has travelled extensively over the big brooding continent, and here he gives a size-up of its troubles ahead)

By Arthur Gavshon

LONDON — (AP) — Simmering Moslem and Negro revolts against the white man's rule today threaten to change the form of the great British and French empires in Africa.

At the same time they are endangering a key continental re-boost of the west.

Tensions have risen in two main regions: In the Africa of 40,000,000 Moslems who look suspiciously across the Mediterranean at Europe and in the Negroes' Africa that bulges below the equator down to Prime Minister Daniel Malan's bailiwick in the south.

Pierce and furious clashes against authority have taken place this year in Morocco, Tunisia, Egypt, Kenya and South Africa. Although the Moslem and Negroes want different things they have in common a quickly-rising nationalism which has set them agitating for change.

### Importance Stressed

Their nationalism could become a dagger in the heart of the Allies trying to build up barricades in the region. Africa is more than a platform for a chain of Allies strategic bombing bases facing Russia. It is a reservoir of fighting manpower and scarce materials; it could be come again, as once it was, the granary of food-short Europe.

To the outside world the dark continent was little more than a coastline on the map; then it became a hunting ground for slaves, next it was parcelled up as the property of west European powers and its people regarded as cheap workers.

Realizing this today the native peoples have begun to set a price on their co-operation.

What price are the two Africas asking?

Moslem-inhabitants of the French North African Empire that sprawl along the Mediterranean rim and the east Atlantic have begun to insist on independence. Rampaging riots, strikes and pistol-shot politics in Morocco, Tunisia and some times in quieter Algeria have kept step with the quickening beat-beat of

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the deeper turmoil pulsating through the Arab world.

### Want Equality

The Negroes of black Africa who have discovered the outside world seem to want something else again — equality with the white man. In equatorial and more southern lands independence is a rainbow even for the white man. The jungle and death-dealing diseases are the real bosses.

The black man believes equality could bring with it a sharing of the white man's science and skill and a strong partnership to beat malignant nature.

Meantime for the west which is developing new, urgent economic and strategic interests in Africa, a clear danger is arising.

Communists have started to link their own struggle against the Allies with the natives fight for independence and equality.

Already the Communist whirlwinds which sweep part of Asia have sent more than just breezes to disturb the longtime surface calm of Africa's 200,000,000 primitive peoples.

The non-whites' awakening in the two Africa's was hurried by the emergence of such lands as India, Pakistan, Jordan and backward Libya as independent nations. In particular negroes of British Africa watched enviously as Britain turned over limited self-rule to the Gold Coast on the western seaboard.

# Kelly's Cross W.I. Annual Meeting

The annual meeting of Kelly's Cross Women's Institute was held at the home of Mrs. Joseph Kelly, with nine members and two visitors attending.

The president presided and the meeting was opened by singing the Institute Ode, followed by repeating the Creed in unison. Roll call was answered by paying membership fees and two new members were welcomed. Minutes of the last annual and regular meetings were read and approved.

Reports of different committees were heard and new ones appointed. The school committee was advised to purchase drinking cups, and books for the school library, also 1,000 cod liver oil capsules.

The secretary's report on the year's work included donations to the T B League, Red Cross, Cancer campaign and treats for children at Christmas. Receipts for the year were \$473.26, expenses \$367.00, and balance on hand \$106.26. The election of officers resulted as follows: president, Mrs. John T. Molyneux; vice-president, Mrs. Joseph Kelly; secretary, Miss Vivian Trainor; corresponding secretary, Mrs. Ambrose Monaghan; auditors, Miss Agnes Trainor, Mrs. Sterling Waddell; directors, Mrs. Stephen Smith, Mrs. Clarence Curley and Mrs. Russell Nantes.

The next meeting will be held at the home of Mrs. John T. Molyneux, the roll call to be answered by each member giving an article for a grab bag. The lunch committee will be Mrs. Maurice McDonald and Mrs. Ambrose Monaghan. A delicious lunch was served by the hostess and committee in charge, and a social hour spent.

**Canoe Cove W.I. Annual Meeting**

The November and annual meeting of the Canoe Cove W. I. was held at the home of Mrs. M. B. MacKinnon. The vice-president, Mrs. Roy MacPhee, presided.

The meeting opened by repeating the Lord's Prayer and Institute Creed in unison. The minutes of the October and last year's annual meeting were read and approved. Seven members answered roll call, each paying her annual fees.

The financial report was read by the secretary-treasurer, and the year's work summarized.

The school committee reported, a new map of the world, paper cups and towels, dustbane and a new stove bought for the school, the children being treated at Christmas and school closing; also \$200 in D.I.C. bills paid for for Grade I children.

The sick committee reported visiting and treating all sick in the district. Social Welfare reports were given — three baby showers held, a Christmas box packed for a neighbor; a quilt made for a burnt out family, and treats for the older folk at Christmas.

Donations were made to the Red Cross, Cancer Fund, March of Dimes and Lady Alexander Fund. Election of officers for the ensuing year resulted as follows: president, Mrs. Colin MacFadyen; vice-president, Mrs. Harold MacKinnon; secretary-treasurer, Mrs. A. G. MacKinnon; re-elected directors, Mrs. Roy MacPhee and Mrs. John MacCannell; auditors, Mrs. Dan MacPhee and Mrs. M. B. MacKinnon.

Institute pins are to be awarded to two members who attended most regular during the year, Mrs. Roy MacPhee and Mrs. A. G. MacKinnon.

The meeting was then adjourned, followed by a delicious lunch. Early developing a polled line which Australian cattle interests are trying to propagate.

Authorities estimate more head of Australian cattle have died from thirst and hunger than have been marketed since the beginning of this latest drought. Stock movements between Queensland and the northern territory are almost at a standstill because he survivors have not enough strength left to trek to distant water.

# New Cattle Strain Tried In Australia

new Twin Hills Ranch, spread over 250 square miles in the district north of Clermont.

Roaming Risdon pastures now are \$3,000,000 worth of cattle the bulk of a consignment of 228 Santa Gertrudis brought to Australia in late winter, and another 50 or so brought out since. More are to come.

Shipping costs alone on the first batches were \$1,125 a head.

### First Auction Returns

At the first auction of Santa Gertrudis in Australia, held at Risdon in mid-November, the 12 bulls offered brought in a total of \$31,551, with a top price of \$3555 in a single bid and Australian cattle values are about a third as high as in the U.S.

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