

# Fine Provincial Asset In Science Service Laboratory

The foundation for the header house at the Science Service Laboratory, Charlottetown, being constructed by M. F. Schurman and Co., has now been completed and workmen are preparing for the pouring of a five inch concrete slab which will be the main floor of the building.

A tunnel connecting the building with the Science Laboratory has been built. This will serve as an entrance from one building and at the same time will carry the steam pipes which will heat the header house and the two green houses which will be constructed later.

The work on the first greenhouse has not yet commenced. It will be carried out by the firm of Lord and Burnham from St. Catharines, Ontario, who are specialists in this type of construction.

The following information with regard to the work of the Science Service Laboratory is reprinted from an article in the Agricultural Institute Review, which has recently been issued in attractive brochure form, with numerous illustrations, by the Federal Department of Agriculture:

In 1915, when the seed potato industry—in which Prince Edward Island was destined to play a major role—was just beginning in this country, the Canada Department of Agriculture built a small field laboratory on the Experimental Station at Charlottetown for plant disease research. Later, in recognition of the necessity for an energetic attack upon insect problems, Island agriculture was further served by the addition of a field crop and vegetable insect laboratory in 1937. It was natural that the main emphasis on disease and insect research came to be directed towards the potato crop, and as the industry grew so did the laboratory and its services.

Then, in January, 1951, fire struck, totally destroying the original laboratory building which had been enlarged into an attractive structure, well equipped for various aspects of entomological and plant pathological research, and accommodating also the staff required for seed potato inspection. Last, too, were the entire contents of the laboratory. Plans were quickly made for a replacement, and a year later the new Science Service Laboratory was ready for occupancy. A far cry from the original 23 by 25-foot field laboratory, the new building is a two-storey-and-basement structure, 55 by 108 feet, of reinforced concrete construction with red brick facing, and equipped with the latest in laboratory apparatus and temperature-control facilities. From this research centre, Science Service workers will continue the battle against plant disease and insect problems of the province while the Seed Potato Certification inspectors will make the new laboratory their headquarters too.

### Research Program

Research on plant diseases touches all the important crops grown on the Island. Projects include studies on such minor-element deficiencies as brown heart in turnip, caused by lack of boron; magnesium deficiency of potato; and the whiptail disease of cauliflower, caused by lack of molybdenum. Other studies relate to club root of crucifers, fungicides, the use of potato vine killers, and such potato disorders as blackleg, late blight, and the several wilts and rots that attack this crop.

Because approximately 50 per cent of Canada's exported seed potatoes are produced in Prince Edward Island, and because of the high quality of Island table potatoes, the potato is the leading cash crop and its diseases have received the most attention. Some problems have been solved, others are under long-term investigation, and new ones are constantly arising. At the same time the diseases affecting other crops are not neglected. The Island is an important exporter of turnips, ranking second only to Ontario in this respect. Also there is a trend towards heavier production of horticultural crops such as beans, tomatoes, peas, cucumbers, strawberries and other small fruits, all of which are subject to destructive diseases.

Significant information has been obtained on club-root of crucifers.

It has been demonstrated that the casual organism has several races, differing in their abilities to cause infection. Also, irrespective of varietal reaction to club-root, there exists an equal degree of infection within the root hairs; nor is the intensity of infection in the root hairs associated with the extent of clubbing.

### Notable Contribution

One notable contribution made by the Laboratory to the welfare of agriculture has been a study of the effects of varying the proportion of lime in Bordeaux mixture for potato spraying. This study was begun during the period when Bordeaux mixture was being challenged by factory-prepared but more expensive fungicides. It resulted in the introduction of low-lime Bordeaux, a spray that has been adopted by growers in all the potato-growing areas of Canada. In Prince Edward Island alone this mixture, because of its effectiveness and low cost, has saved the industry many thousands of dollars annually.

This Laboratory took a leading part in investigating and promoting potato vine killers. The laboratory and field investigations into this aspect of control of tuber rot from late blight have given the growers a supplementary means of reducing losses from this disease.

It has been found that Verticillium wilt of potatoes can be controlled by treating the tubers with an appropriate fungicide. The results of these investigations have confirmed the desirability of seed treatment.

Storage rots, always of great concern to the potato industry, have necessitated extensive investigations. The problem is being attacked in the field as well as in the laboratory, and controlled low-temperature chambers permit a study of the behaviour of these and other storage disorders under a variety of environmental conditions.

### Insect Control

The research program on the biology and control of insects affecting agricultural production is carried out by the Field Crop Insect Section of the Laboratory. The major projects deal with the insects affecting potatoes and turnips, leading cash crops in Prince Edward Island. However, pests of other crops are studied whenever necessary. Studies of life history and preliminary experiments with chemical control measures are conducted in the laboratory and greenhouse during the winter months. These are augmented by field studies conducted during the summer on the plots at Upton and in farmers' fields throughout the Province.

The most important insect pests of the potato are the Colorado potato beetle, potato leafhopper and potato aphids. Satisfactory controls for these insects have been developed in the Laboratory and adopted by the growers. New insecticides are constantly being introduced. This necessitates continuous investigation in order to determine the most effective and economical control methods.

Three species of root maggots attack turnips and cause serious losses each year. They also attack related crops such as cabbage, cauliflower and radish. Up to the present, no economical chemical method of controlling these maggots has been worked out. Intensive field history surveys have indicated that some cultural factor, at present undetermined, may affect the abundance of maggots and the severity of damage they cause.

Grain crops too have their insect enemies. In recent years, barley, which is grown with oats as a mixed feed, has been attacked by the barley jointworm. This insect is causing serious losses, in some instances so severe as to practically destroy the crop. Investigations begun in 1951 have been largely confined to the study of the life history and habits of the jointworm to provide a basis for a sound control program.

The seed corn maggot which attacks a wide variety of plants has been causing serious losses to cucumbers and beans. Extensive acreages of these crops are being grown commercially and losses have run as high as 100 per cent. Experi-

ments have shown that the chemical lindane used as seed or soil treatment gives excellent results. Indications are that this insecticide will provide an economical and effective control.

### Seed Potato Certification

Seed Potato Certification in Prince Edward Island had its origin in 1916 when a few strains of Irish Cobbler and Green Mountain growers on the Island were found to be practically free of disease. Samples of these lots were sent to Long Island and New Jersey for testing and produced outstanding results there. Thus began the production of seed potatoes in Prince Edward Island, an industry that has since made a tremendous contribution to the economy of the Province.

The years 1929 to 1948 showed an increase in production from 886 acres in 1929 to an all-time high of 38,743 acres in 1948. Throughout the period Prince Edward Island growers planted more than 50 per cent of the total acreage of seed potatoes grown in Canada, a record that is still being maintained. In 1952 the growers here entered 23,109 acres for inspection, 91 per cent of which qualified for certification. Fifteen varieties were

grown, the principal ones being Sebago, Irish Cobbler, Green Mountain and Katahdin in that order. The average acreage per grower is about six acres.

### Eye-Indexing Program

The annual eye-indexing program was inaugurated following the erection of the greenhouse in 1943. Forty lots of approximately 300 tubers each are indexed each year. The growers who have taken advantage of this service have achieved very gratifying results.

Chiefly due to the efforts of the seed potato inspectors, many growers on the Island plant at least a portion of their crops in tuber units. This and other recommended practices observed by most growers are in no small way responsible for the success of the industry, although soil and climate are ideal for the production of disease-free, smooth-skinned potatoes of high quality.

The erection of the new laboratory in the "Garden of the Gull" is another major step in the development of Science Service. Its primary function is to assist the local agricultural producers with their disease and insect problems, but the effects of its scientific investigations will, as in the past, be felt far beyond the boundaries of the region that it serves.

### Duvar And Vicinity

—Miss Mary Richard left recently for Montreal after spending several weeks at the home of her father, Mr. Frank Richard.

Mr. Raymond Dolron is a patient in the Prince County Hospital. All hope to see him home soon.

Mr. and Mrs. Theodore Gallant and Paul Gallant have returned home after spending two weeks in Boston, Mass.

Mr. Terrence Gallant recently motored to Summerside to attend a joint meeting of the St. Thomas Aquinas Society and the Assomption Society.

Mr. Felix DesRoches, Eymont Bay, was a recent visitor of Mr. and Mrs. Octave Pineau.

Mr. and Mrs. Dorice Gallant and daughter, Carmel, left recently for a visit in Maine and Montreal. They were accompanied by Mr. and

Mrs. Felix Arsenault as far as Rumford and by Mr. Frank L. Arsenault as far as Saint John.

Meess. Dorice Dolron, Wilfred Pineau, also Miss Mary Dolron, were recent visitors in Summerside.

Miss Helen Pineau is employed at the home of Paul Arsenault, Bloomfield Station.

The school inspector, Mr. Frank Dolron was recently visiting Duvar school.

—The Women's Auxiliary of St. Peter's Church met at the home of Mrs. Sterling Palmer on Nov. 13 with seven members and several visitors present. Further plans were made for the pantry sale to be held during the first week of December. The annual meeting

will be at the home of Mrs. Robert Palmer. Collection was \$4.90.

The Presbyterian Ladies' Aid held their November meeting at the home of Mrs. Harold Phillips on Thursday evening, Nov. 12. Thirteen members were in attendance. It was decided to hold the annual meeting of this organization in June. Mrs. James Hardy invited the members to her home for the next meeting.

Her many friends are happy to have Mrs. Charles Keizer home after her hospitalization and join in wishing her complete recovery soon.

It is regretted that Mrs. James MacLean has been obliged to enter the Prince County Hospital, but pleasing to know that her condition is much improved.

Mrs. Ruskin Banks entered the P. E. Island Hospital on Nov. 16 for an operation. This is the second operation of this nature and after many friends wish Mrs. Banks a speedy recovery.

Miss Marie Bowness, director of Junior Red Cross had a nice visit with the pupils of Freeland School.

### Freeland and Vicinity

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on Nov. 13. The older girls in the school were quite interested in doing some sewing and attached parts of a layette to be given.

ST. PETER'S BAY W. I.  
The annual meeting of St. Peter's Bay W. I. was held on Nov. 6 at the home of Mrs. (Dr.) Burden, with an attendance of eleven members.

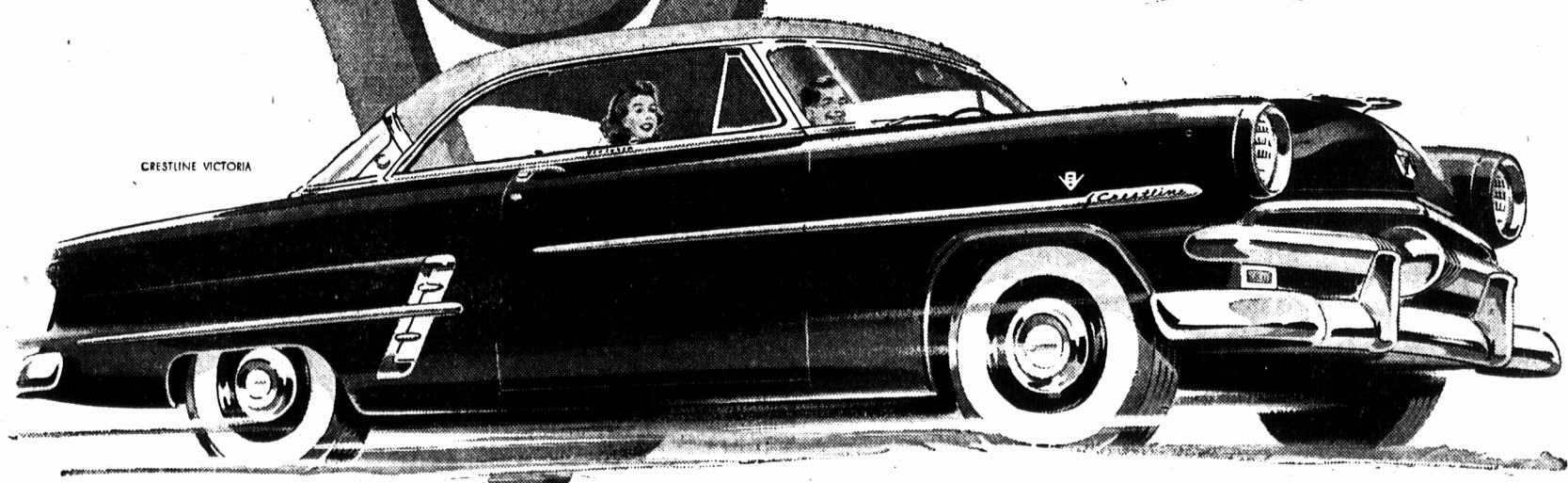
Meeting opened by members reciting Creed in unison, followed by roll call which was answered by payment of fees.

During the year there were 12 meetings with an average attendance of 11 members. All bills were paid and a nice balance left to start the new year. Roll call at December meeting an exchange of Christmas gifts.

Election of officers for the year resulted as follows: President, Mr. John MacCallum; vice-president, Miss Marion MacIsaac; secretary, Mrs. Masie MacIsaac; treasurer, Mrs. Masie MacIsaac; auditors, Miss Jean MacDonald (re-elected), Mrs. Frank Jay.

Meeting adjourned, after which a delicious lunch was served by the hostess assisted by Mrs. Jas. MacIsaac.

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### The Neighbors By George Clark



"He had lunch at his desk today. Now I have to guess at this dictation I took with his mouth full."