

IF YOU HAVE LAND TROUBLE SEE YOUR SOIL DOCTOR FOR TREATMENT



The diagnostic phase. Here, an electrophometer. Knowledge of the plant nutrient levels of island soils is essential for the purpose of advising farmers about fertilizer requirements. The picture on the right has to do with the run-down phase of soil. A sample of soil and water run-off are collected from experimental plots for soil erosion studies following a rain. These experimental field plots are designed to study the effect of different cropping and cultural practices in controlling erosion.

Soil Management Key To Peak Output

BY G.B. WHITESIDE
(Soil Fertility and Soil Surveys)

The utilization and management of soils in a manner to secure maximum production consistent with the conservation of fertility is a matter of importance to all farmers. The possibility of success or failure in achieving this objective will depend to a large extent upon a knowledge of the nature of the soils concerned.

The parent material from which the soils of Prince Edward Island have been developed are mainly derived from sandstone rocks, with some clayey shale and calcareous rocks.

The character of the rock materials has given rise to soils that are not naturally high in plant nutrient minerals, and which range in texture from a sandy loam to clay loam. Surface soils are predominantly fine sandy loam in texture.

STRONGLY ACID

Owing to the nature of the climatic conditions, leaching processes have controlled soil development in the region. As a result much of the plant nutrient elements have been removed from the upper part to lower levels.

The broad effects, then, of the factors responsible for soil formation in Prince Edward Island have been to produce soils that are strongly leached, strongly acid in reaction throughout the profile and comparatively low in

natural fertility and humus content. They are not classed among the most fertile soils of Canada, but they are capable of producing very satisfactory crop yields when given good management.

To maintain a high level of productivity in Prince Edward Island soils certain basic principles must be observed: Proper land use, maintenance of a high level of organic matter content, correction of the strongly acid reaction, a plentiful supply of available plant nutrients, and protection of the soil against erosion and soil depletion under a sound cropping system.

TOPOGRAPHY IS FACTOR

While the natural characteristics of the soils and economic considerations will, to a large extent, regulate the type of agriculture followed, Prince Edward Island soils have a fairly wide range in crop adaptability. Careful thought, however, must be given to the suitability of the topography and natural drainage conditions in relation to the cultural practices required for the growing of the desired crops.

Maintaining the humus or organic matter of the soil at a high level will aid in maintaining a good physical condition. A plentiful supply of humus in the soil and a good physical condition make a soil more permeable yet more absorptive.

Owing to the naturally strongly acid reaction of Prince Edward Island soils the use of lime is essential. It is needed to correct the acidity of the soil thereby creating more favourable conditions for the growth of crops and the working population, the micro-organisms, of the soil. Limestone, however, should not be applied indiscriminately but with careful consideration to the soil requirements most favourable to the crops to be grown.

Because of their naturally low capacity to supply available plant nutrients Prince Edward Island soils will require continuing regular applications of fertility according to the need of each crop and the kind of crop rotation followed.

ROTATION IMPORTANT

The kind of crop rotation followed is an important factor in the protection of the land against erosion and soil depletion, as well as in respect to the economics of crop production. Long term experiments at the Experimental Farm have shown that although it is possible to improve the productivity of the soil and maintain high yields with a three year rotation a seven year rotation, in which the land is maintained under grass for a longer period, is more economical. Much higher amounts of applied fertility are required in the shorter rotations.

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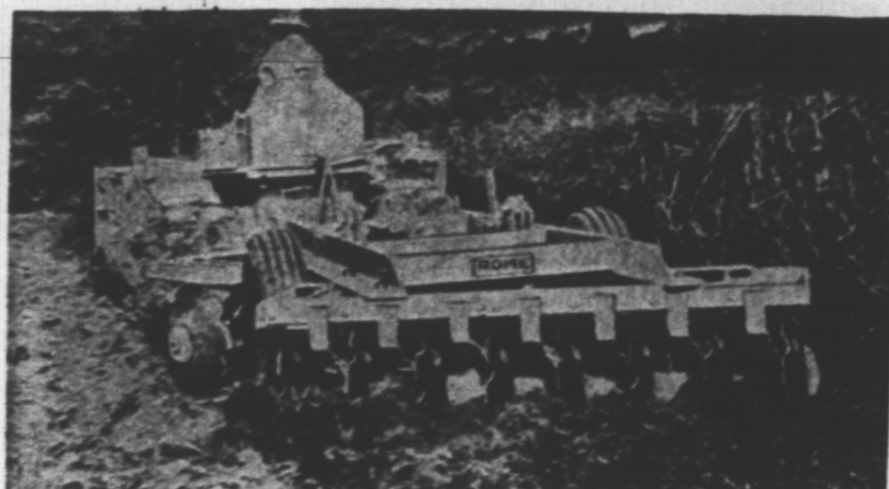
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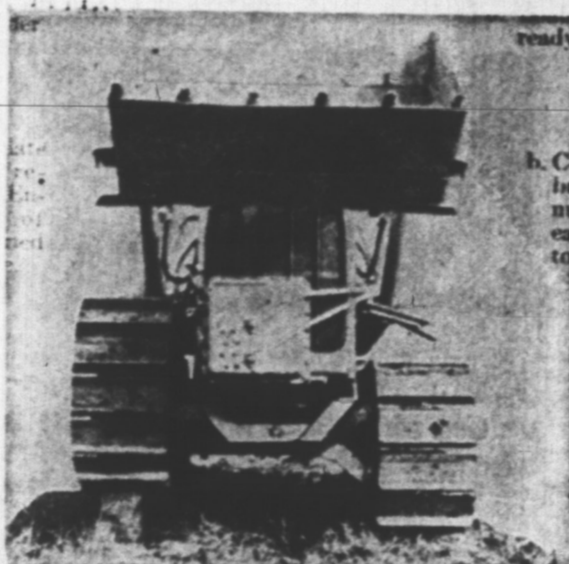
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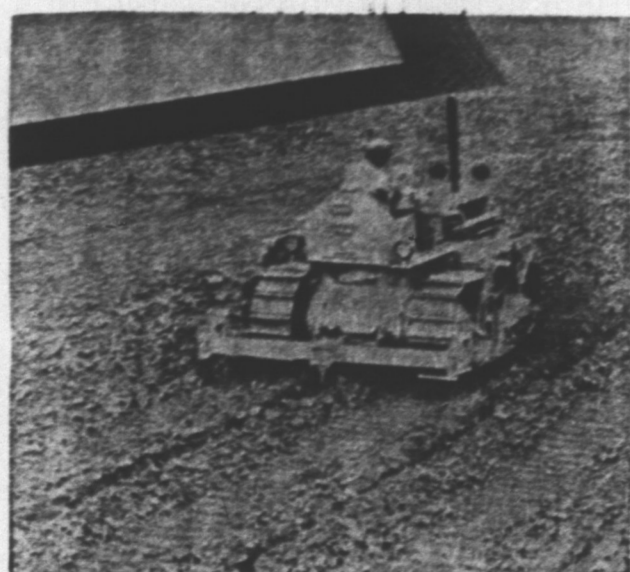
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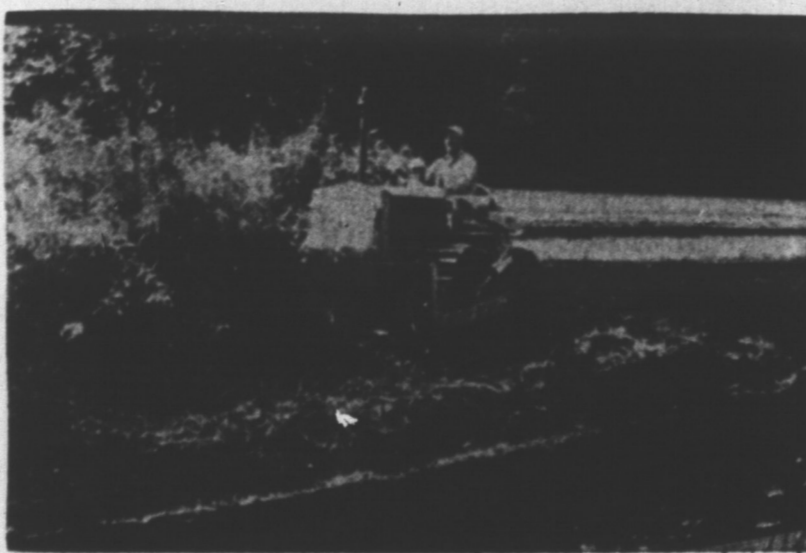
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Assistance Policies of the P. E. I. Department of Agriculture

- 1. Grants to Women's Institutes**
Grants are paid to the Women's Institutes in the Province in accordance with the number of members in each Institute.
- 2. Farmers' Institute Policy**
A grant of \$10.00 per year is paid to Farmers' Institutes on receipt of their list of members. A further grant of \$35.00 is also available under certain conditions for the purchase of approved sires.
- 3. 4-H Club Policy**
Is a Dominion-Provincial Policy and the Provincial Department of Agriculture is responsible for the organization and administration of the Clubs. Each Department pays one-third of the prize money awarded in the local Club.
- 4. Assistance to Junior Farmer Organizations**
The assistance given to Junior Farmer organizations consists of a grant to the Provincial organization, and assisting in certain projects that may be undertaken by the individual groups.
- 5. Assistance to Agricultural Students**
Assistance is granted to students in agriculture preparing for the degrees of B.Sc. (Agr.), B.Sc. (H.Ec.) and Veterinary Medicine to the extent of \$200.00 for each year. A limited number can be accommodated in each option, and prospective students must apply to the Department of Agriculture and abide by the regulations approved by the Minister. Assistance is also granted to the extent of \$1.00 per day towards the board of students taking a farm course at a recognized school of agriculture.
- 6. Grants to Breed Associations**
1. A basic grant of \$300.00 will be paid to each cattle Breed Association.
2. A further grant of \$3.00 per calf registered in the Herd Book of the Breed Association in the previous year. Grants are also paid to the Swine Breeders' Association and the Sheep Breeders' Association.
- 7. Veterinary Service Policy**
The Prince Edward Island Veterinary Service Policy commenced operation on June 5, 1951. Under this Policy subsidies are paid to practicing veterinarians to establish and maintain a practice. They agree to abide by a set scale of fees. The cost to the farmer is a \$3.00 call charge during normal working hours, \$5.00 at night, Sundays and holidays, plus the cost of drugs and materials when used.
- 8. Artificial Insemination**
The Department pays the expenses of training inseminators, and also pays for the semen which is purchased from the Central Artificial Breeding Co-operative Ltd., Fredericton, New Brunswick. \$26,000.00 is allocated for this service during the coming year.
- 9. Dairy Herd Improvement Policy**
The Department of Agriculture has again instituted a policy whereby the owners of dairy cattle may organize to have their herds tested. An Association must be composed of ten herds, and the owner must weigh the milk from each cow daily, and take samples for testing when notified. The Department will supply all forms for the keeping of records, and will do the testing and compile the records. The herd owner must provide himself with the necessary outfit, namely: Milk scale, sample dipper, and sample bottle for each cow.
- 10. Calfhood Vaccination**
This program is continued on a voluntary basis, and the Department pays one-quarter of the cost of the vaccination.
- 11. Stallion Premium Policy**
The Stallion Premium Policy for registered stallions is a Dominion-Provincial Policy, and pays \$6.00 on each foal sired by a Grade "A" stallion, and \$4.00 on those sired by a Grade "B" stallion. One-half of the bonus is paid by each Department.
- 12. Boar Bonus Policy**
A bonus of \$16.00 is paid on Class "A" boars, and \$12.00 on Class "B" boars that are in active service at time of inspection. All boars to be eligible for bonus must be from dams that have an Advanced Registry score of 85 or better.
- 28. Forestry Policy**
A planting service has been inaugurated by the Forestry Division whereby plants, and the labor for planting, were supplied land owners at a nominal charge per acre.
- 29. Farm Loan Policy**
Assistance may be granted to young farmers who have reached the age of 21 years, and have not passed their 35th birthday to purchase land, build or repair farm buildings, purchase livestock and machinery or other purposes relating to the operation of his farm. The approval of loans is under the control of a Board and security is in the form of a first mortgage on the property. The maximum loan must not exceed \$10,000 and cannot represent more than 85% of the approved value of the security offered.
- 13. Ram Premium Policy**
This is a joint Dominion-Provincial Policy, and premiums are paid at the rate of \$12.00 and \$15.00 on approved rams. One-half is paid by each Department.
- 14. Subsidy on Grade "A" Lambs**
The Provincial Department pays a premium of seventy-five cents (75c) on all Grade "A" ewe and wether lambs that are rail graded through an approved packing plant in the Maritimes.
- 15. Sheep Killed by Dogs**
The Department pays \$6.00 per sheep that the farmer loses through the ravages of dogs. The farmer must notify his nearest detachment of the R.C.M.P. who makes a survey and sends a report to this Department.
- 16. Worm Control in Sheep**
The Department pays three cents (3c) each on the purchase of phenothiazine tablets for the control of worms in sheep.
- 17. Brooder House Policy**
Assistance to the extent of one-half of the purchase price of a brooder stove, but not to exceed \$15.00, is paid poultry producers when a suitable brooder house is constructed.
- 18. Approved Flock Policy—Bloodtesting**
All poultry flocks supplying eggs to the hatcheries in this Province are bloodtested by officials of the Department of Agriculture. A small charge is made for the drawing of the blood sample, and the testing is done at the Provincial Laboratory.
- 19. Cockerel Assistance Policy**
This Policy provides assistance to the extent of \$1.00 per bird to those farmers who buy cockerels to head the approved flocks in the Province.
- 20. Package Bees**
The Department of Agriculture pays the express on package bees imported into the Province each spring by the bee keepers.
- 21. Grants to Exhibitions**
Regional Exhibitions receive a basic grant which may be increased to 80% of the prize money actually paid exhibitors, but in no case will the total grant exceed \$3,000.00. Grants are also paid to other Exhibitions and Shows within the Province, as well as to the Royal Winter Fair, Toronto, and the Maritime Winter Fair when re-established.
- 22. Limestone Policy**
A bonus of \$3.60 per ton is paid toward the freight on agricultural limestone imported into this Province. This is a Dominion-Provincial Policy, and the subsidy is paid on a 60-40 basis.
- 23. Weed Control**
A subsidy is paid on the purchase of 2, 4-D and MCP for weed control at the rate of four and one-half cents (4½) per ounce of acid content in each gallon, but in no case to exceed one-half the purchase price.
- 24. Soil Testing**
A free soil testing service is available to the farmers of the Province, and to assist in this service the Provincial Department of Agriculture maintains an Assistant at the Soil Testing Laboratory, Experimental Farm, Charlottetown.
- 25. Assistance to Potato Growers**
A certain amount of assistance is given to potato growers whose crops have been affected with certain diseases. This Policy is administered by the Potato Industry Promotion Committee, and each case is dealt with on its own merits.
- 26. Demonstration Work**
Demonstration work may take the form of fertilizer tests, or testing different varieties of clovers, grains and other material.
- 27. Farm Labour**
The Provincial Department pays one-half the transportation on seasonal farm labour which may be moved from one section of the Province to another, or brought in from another province.

Staff Members, Department of Agriculture

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