

are attempting to encourage the development of Percheron horses in that area. We also have a herd of Holstein cattle, which has been improved from time to time in the hope that we may be able to assist in the improvement of dairy herds in that section.

We are also carrying on active experiments in potato production, particularly the development of disease-resistant varieties of potatoes.

These are the chief activities, and there will not be any reduction made in any of them this year; in fact, they may be enlarged slightly. On the other hand there will be the necessity of cutting down in connection with horticulture at that point in order to maintain our financial position there relative to some other places.

So far as the building is concerned, I should have dealt with that last night when Doctor Swaine was here, but he will be here when we take up item 33, science service buildings. I can, however, say now with a little more confidence than at the beginning of the discussion this evening that the intention is to try to find sufficient funds in our votes this year to complete the closing-in of that building and getting it in shape where it can be of some use.

Mr. HANSON (York-Sunbury): Thank you. I also asked about the expenditure last year for the Fredericton station and the vote this year. I should like to have the information on record.

Mr. GARDINER: It was \$52,325 last year, and this year it is \$49,545, a slight reduction.

Mr. HANSON (York-Sunbury): Thank you.

Mr. GRAYDON: Have there been any notable developments in horticulture at the central experimental farm during the past year?

Mr. GARDINER: Some interesting experiments have been carried on this year, particularly developments in connection with vegetables and in the manner of using what would otherwise be wasted fruits. In that connection investigations relating to horticulture have been carried on, which are of considerable benefit to the industry in different parts of the country.

Mr. GRAYDON: Have there been any special developments in flower growing?

Mr. GARDINER: No, there has been nothing particular done in that regard this year.

Mr. WRIGHT: Have any experiments been carried on to determine the most economical size of farm in the west? Is it a half section, a section or two sections?

[Mr. Gardiner.]

Mr. GARDINER: I cannot say that experiments have been carried on, but a study has been made of that subject by the economics branch under Doctor Booth in order to try to determine what is the most economical unit both east and west. Of course, anyone farming in the west knows that a unit as applied to one area could not necessarily be applied to another area.

Mr. WRIGHT: What have been Doctor Booth's findings?

Mr. GARDINER: There are no definite findings that could be applied generally, but generally speaking the family sized farm in eastern Canada, particularly Ontario and Quebec, has been found to be about 100 acres. Some have more and some have less. In many parts of the west the family sized farm is half a section, and in some other parts three quarters of a section.

Mr. ROSS (Souris): Professor Hopkins carried on experiments to determine the economical unit. I have the data in my office, but speaking from recollection I think he found the two-section farm in the prairie provinces, with motorized equipment, to be the most economical unit.

Mr. GARDINER: I think his investigations were carried on to determine the relationship between certain sized farms and certain specialized machinery for the operation of farms. If you are going to operate a farm with a certain type and quantity of machinery, you require a certain size of farm in order to operate economically. If you put on a half-section farm the full line of equipment which you could use on a two-section farm, your overhead would probably be too high. It was that kind of investigation which was being made.

Mr. FAIR: In view of the fact that grain prices have been extremely low for the last ten years, is the central experimental farm at Ottawa or are any western experimental stations conducting an investigation into the average cost of raising wheat and other coarse grains at the present time?

Mr. GARDINER: Yes. Experiments are being carried on in the matter of cultivation. I remember that when I visited the Swift Current farm last summer, in going by the experimental plots I was told by Mr. Thompson, who is in charge of that farm, the results of the experiments which were being carried on in connection with different types of operations. The experiments there bore out, I believe, the experiences of most farmers in that section of the country. They indicated that certain types of machinery produce