

The Horticultural Experiment Station at Vineland in the centre of the Niagara fruit belt is the most important station in Canada for work upon the special problems of the fruit and vegetable grower. Considerable success is attending the effort to breed improved varieties of such fruits as peaches, cherries, pears, grapes, strawberries and raspberries, as well as important vegetables. Extensive tests of cultural methods for fruits and vegetables are also carried out.

The Ridgetown Experimental Farm in the southwestern peninsula and the New Liskeard Demonstration Farm in Northern Ontario devote particular attention to the crops and problems peculiar to farming in their respective districts.

Manitoba.

Manitoba Agricultural College, Winnipeg.—The agronomy department conducts numerous experiments with a view to the improvement of forage crops and cereal crops, and is also conducting a soil survey and making numerous researches on Manitoba soils. It is also carrying on numerous co-operative experiments with farmers to determine the varieties of grain, grasses and clovers suitable to various sections of the province and is studying the factors affecting the quality of farm crops.

The work in forage crop improvement has for its object the production of plants suitable under Manitoba conditions for hay, pasture and fodder. The major investigations are being conducted with alfalfa, red clover, sweet clover, brome grass, meadow fescue and corn.

In cereal crop work the aim is the improvement of cereal crops, flax, peas and buckwheat for use in the various districts of Manitoba. Especial attention is being given to the development of rust-resistant wheat, cold-resistant oats, and barbless awned barley.

The soils work has consisted of making a soil survey of the portion of the Red River valley west of the Red river and south of Winnipeg. In this district the soil appears fairly uniform, but when profiles are taken considerable variations exist, accounting for the good crops in one section and poor crops in another. Work is being undertaken to determine methods of improving the poor areas. Important laboratory studies are being made on these soils to determine the fundamental reasons for crop differences. An experimental field is also operated on the college farm, where various tillage, fertilizer, and rotation experiments are conducted.

In crop management, most of the effort is being put on barley, since this crop is of growing importance. Varieties, environment and agricultural practices are being studied to arrive at the best method of producing good malting barley. In addition to this a co-operative project is being undertaken in an endeavour to produce and market malting barley suitable for the British trade. The results of work with other farm crops are being published in popular form from time to time as fast as the data can be collected and conclusions drawn.

The department of chemistry, in conjunction with the National Research Council, is making an exhaustive study of the effects of heat drying, of weathering and of frost on wheat. Samples are grown under controlled conditions, and milling, baking and chemical tests are made. Samples are also drawn from grain in the trade and tests made.

The departments of botany, engineering, animal husbandry, poultry husbandry and dairy husbandry are also carrying on numerous investigations.