

AGRICULTURE.

early sowing was demonstrated by a series of experiments which lasted for ten years, 1890-99. Under average seasonal conditions, it is now recognized that seeding should be completed as early as possible. As the result of experiments on the branch Farms in the West, the practice of summer fallowing for the conservation of moisture and the destruction of weeds is widely followed in the Northwest provinces. Experiments continued over 18 years, 1893-1910, have shown over large areas in Canada the economic advantage of applying fresh as compared with rotted farmyard manure. They indicated that a given weight of manure taken fresh from the farmyard is equal in crop-producing power to the same weight of rotted manure, and that fresh manure loses in the process of rotting from 50 to 60 per cent. of its weight. The great value of clover as a fertilizer when ploughed in has also been demonstrated by continuous experiments lasting from 1894 to 1906. From the establishment of the Farms, free samples of pure seed of new and tested varieties of grain and of potatoes have been annually distributed to farmers throughout Canada, with important results in improving the harvests of the country. In the Cereal Division, notable work has been done in the production of new varieties of grain, especially wheat possessing the qualities of productiveness, an early ripening habit and good baking strength. Varieties of wheat known as Preston, Stanley and Huron are all vigorous and productive, and ripen early; but the variety that has achieved the greatest success is the Marquis, which is equal to the Red Fife in baking qualities, ripens from five to ten days earlier and is superior in productiveness. It is now rapidly superseding the Red Fife throughout the Northwest.

Other Experiments.—Experiments, carried on over a series of years by the Field Husbandry Division, show the advisability of a rotation which includes a cereal crop, a hay crop (including clover) and a root crop. Experience has also shown that the shorter the rotation the greater are the profits, and that the most profitable rotation is one of three years: corn, or other hoed crop, grain, hay. In the Division of Animal Husbandry extensive breeding experiments are in progress. It has been found that nothing in this line is more profitable to a farmer than investing in a really good pure-bred bull for the grading up of his cattle, care being taken to adhere to one breed. This is true whether as applied to horses, beef cattle, dairy cattle, sheep or swine. So far as production is concerned, the well graded-up animal has been proved to be just as profitable as the pure-bred. Important work has been done in the demonstration of effectively ventilated stables and cow barns. The Division of Horticulture carries out numerous experiments with apples, plums, cherries, grapes, small fruits and vegetables. Many varieties have in past years been tested, and promising seedlings for different latitudes have been recommended to growers. The object of the experiments with apples has been to obtain, by cross fertilization and selection, new varieties that will stand the severe winters of Quebec, of the more northern parts of Ontario and of the Northwest provinces; also varieties of better-keeping qualities. Experiments were begun in 1915 to test the possibility of growing root and vegetable seeds in