

AGRICULTURE

Range of Experiments.—Ranging over the whole of the wide fields of agriculture, arboriculture and horticulture, the work of the Farms has included experiments and studies relating to the breeding and feeding of farm live stock, the production of butter and cheese, field crops, natural and artificial fertilizers, cereals, grasses and other forage plants, fruits, vegetables, plants, trees, plant diseases and injurious insects. The Farms are also bureaux of information to which agriculturists resort for the solution of difficulties in farm work. The experiments carried out at the Central and branch Farms and Stations have been fully described in the annual reports of the Director and of his staff.

In addition to the farms and stations included in Table 30 there are seven small substations at Salmon Arm, British Columbia, at Fort Vermilion, Grouard and Beaver Lodge in Alberta, and at Forts Smith, Resolution and Providence, in the Northwest Territories.

Scientific Organization.—The more strictly scientific side of the work is carried on at the Central Experimental Farm at Ottawa, and is organized in thirteen divisions as follows: (1) Field Husbandry; (2) Animal Husbandry; (3) Horticulture; (4) Cereals; (5) Chemistry; (6) Forage Plants; (7) Botany; (8) Poultry; (9) Tobacco; (10) Economic Fibre; (11) Illustration Stations; (12) Apiculture; (13) Extension and Publicity. What was formerly the Entomological Division became in 1914 the separate Entomological Branch of the Department of Agriculture.

Results Achieved.—Only brief mention is possible of the more striking results already achieved, with some indication of the work now being carried on. In the field of general agriculture, the importance of 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 Prairie Provinces. Experiments continued for 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