

mental Farms throughout Canada have conducted experiments with manures, fertilizers, crop rotations and other means of maintaining or increasing soil fertility. This work has demonstrated that the decline in productivity which has become increasingly evident on many Canadian farm lands could be avoided and is remediable. In recent years, increasing attention has been given to problems of soil erosion. Particularly in the Prairie Provinces, under the Prairie Farm Rehabilitation Act (P.F.R.A.) program much experimental work has been done on the control of wind erosion or soil drifting. As a result, measures have been developed which, if generally applied, should prevent any recurrence of the dust storms of the 1930's. On all Branch Farms on the prairies, as well as on smaller Substations, soil drifting is at all times a subject of study. Mention should be made here of the Dominion Soil Research Laboratory, established in 1936 at the Swift Current, Sask., Experimental Station, where fundamental research on soil erosion problems is in progress. To a lesser extent, but with growing emphasis as a post-war line of investigation, water erosion of soils is being investigated. Experiments in terracing, dyking and contour cropping have been started on several Farms and Substations, and on the Central Farm an elaborate erosion research project is now in operation to determine the effects of erosion, as well as practical control measures. Expansion of this work to other points in Canada is contemplated. Altogether, the soil-conservation program of the Experimental Farms, embracing problems of fertility, erosion, drainage, irrigation, etc., should have an increasingly important bearing on post-war agricultural developments in Canada.

Basic to soil conservation, and indeed to all agricultural activities, is an inventory of the Dominion's soil resources as regards distribution, classification and properties. This is the function of the Soil Survey, in which the Experimental Farms Service is taking an increasing part. It should be noted that the principles and methods of soil surveying, as applicable to Canada, were originally developed by agricultural colleges in the three Prairie Provinces and Ontario. Subsequent participation by the Experimental Farms has been largely in support of provincial programs, with Dominion and provincial personnel working in close co-operation in the several provinces. The purpose, already well advanced, is to secure a complete inventory of all agricultural soil resources in Canada within a short period of years. To this end, the soil-survey staff of the Experimental Farms has been considerably augmented since the end of the War. In this connection, mention should also be made of vegetation surveys, hitherto developed in the Prairie Provinces for the better management of rangeland, but now being extended in the interests of better land utilization.

Plant breeding for the creation of high-quality crop varieties adapted to different conditions of soil and climate, and with resistance to drought, disease and insect pests, is a major function of Experimental Farms work. One result of this work has been the expansion of areas in which profitable crops can be grown, notably with cereals in the Northwest and with shelled corn and soybeans in Ontario. The creation of disease-resistant plants such as rust-resistant wheat, and of varieties resistant to insect attack, as in the case of the new sawfly-resistant Rescue wheat,