

sulphamate; various oils, with and without creosote; two D.N.O.C. preparations; a number of soil sterilants; and sundry salts and wetting agents. The variety of treatments is therefore practically unlimited, and it will be long before trials of all possible types and combinations have been investigated.

IRRIGATION

The year has been one of adequate rainfall in Canterbury, and consequently there has been little need for irrigation water on the established schemes at Redcliff, Levels, and Winchmore. This fact, however, has not prevented the necessary advisory services and development work of the Department from being pushed ahead in order to provide both at present and in the future sound advice on irrigation farming in Canterbury. Through the strengthening of the irrigation staff in Ashburton (the centre of Canterbury irrigation development) during the year 1945–46 there is an adequate service available to irrigating farmers on the Winchmore Scheme (64,000 acres), which is at present the only completed scheme north of the Rangitata River in Canterbury.

The main feature during the year has been the establishment of the Winchmore Irrigation Station. The area of 750 acres has been subdivided into the following units:—

- (1) An experimental and research area of 250 acres.
- (2) A demonstration mixed farm unit of 350 acres.
- (3) A demonstration experimental dairy unit of 150 acres.

The land is typical of the greater portion of the land for which it is proposed to make irrigation water available. The units are worked by the Department along lines approved by the Advisory Committee which has been set up. This Committee consists of appointees of the Public Works, Lands, Agriculture, and Scientific and Industrial Research Departments, together with farmer representatives elected by the farming community and a representative from Canterbury Agricultural College. Up to the present, despite difficulties in obtaining equipment and supplies, considerable progress has been made.

Development plans have been drawn up and approved for all three areas. Stock has been purchased, and the coming year will see the project well on the way to the objective of its function—namely, to provide present and future knowledge to the intending irrigation farmer in Canterbury. It is felt that the establishment of this area is the greatest practical step forward yet made to the successful utilization of irrigation in Canterbury. It is confidently expected that the Station will become the centre from which information regarding irrigation advice will be disseminated to the South Island schemes, both completed and contemplated.

RESEARCH STATION FOR OTAGO AND SOUTHLAND

During the year approval was obtained for the establishment of a research station in South Otago or in Southland for investigating the farm problems peculiar to the far South. A special committee was set up to advise on the location of a suitable area. An inspection of several properties has been made, but so far no decision has been made. This project is generally receiving the whole-hearted support of all members of the farming community, as a suitable research station will fill a long-felt need in this territory.