

WHEAT RESEARCH INSTITUTE.

(REPORT FOR YEAR ENDING 31ST MARCH, 1934.)

Advisory Committee : Professor H. G. Denham (Chairman), Mr. C. H. Hewlett, Mr. James Carr, Mr. W. W. Mulholland, Mr. P. R. Talbot, Mr. R. K. Ireland, Mr. W. S. Pratt, Mr. R. J. Lyon, Mr. C. E. Boon, Mr. T. Mason, Mr. C. Cowan, Mr. A. G. Cannons, Mr. Fleetwood, Mr. J. W. Hadfield. Director of Research : Dr. F. W. Hilgendorf.

On the 31st December, 1933, the Institute completed the term for which it was constituted by the original Act of Parliament passed in 1927. In view of the expiry of the Act, the opinions of farmers, millers, and bakers were sought as to whether the work of the Institute should be continued and whether they were willing to continue to pay the levies of 1½d. per ton of wheat or flour. This was agreed to by every branch of the Farmer's Union in the wheatgrowing districts, by every miller except two, and by every Baker's Association, except two in one particular district. The position was, therefore, placed before the Hon. Minister, and an Act was passed authorizing the collection of the levies for a further five years. The amount of the levy was varied by giving authority to collect up to 2½d. per 50 bushels of wheat or ton of flour, on the understanding that the increase would not be made unless the interests involved agreed.

On renewal of the Act the various interests were invited to recommend to the Council persons to represent them on the Advisory Committee, for the ensuing five years. Only two changes were made in the Committee of fourteen.

WHEAT-BREEDING.

The programme of wheat-breeding to make wheats of high quality suited for New Zealand conditions has been continued according to plan. The high yielding New Zealand varieties crossed with high-quality Canadians, have, except in one case (White Fife × Tuscan) not proved satisfactory, and so a considerable number of back crosses have been made. Certain varieties from Iraq and China have shown high quality in small trials, and these have been used as parents for crosses. These crosses and their offspring accounted for some 13,000 plots in the experimental field.

The search for high-quality wheats that yield well under New Zealand conditions has met with a considerable amount of success in the cross-bred wheat that is called Cross 7. This cross was made nine years ago, and it has been thoroughly tested over several years. As the result of forty trials in three years, it can be stated that it will yield practically as well as Tuscan, will give 2 per cent. more flour and a 10 per cent. better loaf. About 200 bushels of the cross was produced in 1934, and next year the variety will be placed on the market for general distribution. It is expected that its introduction will largely obviate the importation of Canadian flour that has been common during the past few years.

About three thousand varieties from all over the world have been tested in the plots. Among these a series of varieties from Portugal have proved high yielders, early ripeners, and good loaf-makers. They appear specially suitable for Southland, and some trials of them have been established in that area.

These trials and those of Cross 7 above referred to were conducted by the Department of Agriculture, whose invaluable assistance the Institute gratefully acknowledges.

LORD BLEDISLOE'S PRIZES.

His Excellency the Governor-General inaugurated a competition at the Christchurch Summer Show for wheats of high quality and the loaves baked from them. The competition drew over forty entries, and elicited a great deal of interest. The Institute expresses its gratitude to His Excellency for his assistance in its work.

LABORATORY WORK.

The testing of wheats and flours so as to allow millers to make the best use of the wheats available in New Zealand has been continued on a large scale. Wheats milled totalled 2,314, the flours baked totalled (counting duplicates) 10,666. The effect of this work is to allow millers to make satisfactory blends of the wheats they buy, so as to give the bakers flour of constant quality, and the consumer a better loaf. The grower also benefits in that the best use of New Zealand wheats checks the tendency to import Canadian and Australian flours. This work may therefore be regarded as the central point of the laboratory work, and so it absorbs most of our time and effort.

Some 525 samples were tested for moisture in the 1933 harvest, chiefly for farmers wishing to know if their wheat was ready for the header harvester. In the 1934 season the number tested was about eight hundred, this being due partly to the increased number of headers, and partly to the rainy harvest season.

Jumbuck wheat, whose merit as a baking wheat was disclosed by the Institute's testing of individual lines in millers' stores, has been extensively grown in the past season, especially in the Manawatu and Rangitikei districts, and its inclusion in millers' blends should be reflected in improved flour-quality.

Samples of millers' grists of home-grown wheats were obtained from all the wheatgrowing countries of the world, from their harvests of 1933 or 1934. These have been milled and baked in comparison with New Zealand millers' grists, and the trial has proved that New Zealand wheat is as good as, or better than, that of most other lands. The only general exceptions are spring-grown Canadian wheat, and wheats from the drier parts of Australia.