

WHEAT RESEARCH INSTITUTE.

ANNUAL REPORT FOR THE YEAR ENDING 31st MARCH, 1937.

Advisory Committee: Dr. H. G. Denham (Chairman), Messrs. J. O. Boniface, C. E. Boon, R. T. H. Norton, J. Carr, W. W. Mulholland, P. R. Talbot, R. K. Ireland, R. J. Lyon, J. P. O'Connor, A. H. Cockayne, R. B. Tennent, J. W. Hadfield, C. S. Sapsford, W. O. Rennie, G. Fleetwood.

Director: Dr. F. W. Hilgendorf.

STAFF.

Dr. O. H. Frankel expects soon to have the permanent assistance of Mr. J. B. Hair, M.Sc., who has long worked as a temporary assistant on the wheat-breeding plots. Mr. Hullett, Chief Chemist, leaves on the 20th April for an eight months' tour in America and Europe to visit the cereal laboratories there, and especially to inquire into the technical side of marketing wheat on the basis of quality. Part of his expenses is being paid by the Wheat Committee.

Dr. J. Melville arrived from Harvard last June, and is now temporarily in charge of the laboratory, with Mr. R. V. Peryman as Assistant Chemist.

By arrangement with the Wheat Committee, Mr. H. E. Hansen was appointed travelling baker expert, and he has been kept very busy in visiting bakehouses all over New Zealand giving advice on the best way to use New Zealand flour.

WHEAT BREEDING.

The work in this section continues to expand, as is inevitable with a crop that multiplies itself.

Cross 7.—The first wheat produced by the Institute is now established in the fields of the country, and approximately 10,000 acres were sown in 1936 and 350,000 bushels harvested in 1937. Preliminary trials in commercial mills and bakehouses of the wheat harvested in 1936 were rather discouraging because neither millers nor bakers were used to a wheat of the high quality of Cross 7, but these difficulties were soon overcome, and the wheat is now regarded with enthusiastic favour by nearly every one who handles it. Farmers favour it for its yield and its convenience in harvesting; millers find that it has a good extraction and when blended suits average milling conditions; and bakers like the loaf it produces. Some extracts from the reports of bakers who tested Cross 7 flour, pure, are as follows:—

Baker "A": "I think that if flour like this were obtainable on the market the demand for Canadian would be considerably reduced."

Baker "B": "I would say that flour of Cross 7 would be very useful in a mixture."

Baker "C": "I would say that Cross 7 was equal in baking quality to ordinary commercial flour plus $7\frac{1}{2}$ per cent. Canadian."

Baker "D": "The loaves from Cross 7 were equal to commercial flour plus 10 per cent. Canadian."

The general approval is expressed by the fact that several millers were paying 2d. per bushel bonus for Cross 7 from the harvest of 1937 before any indication of its official price was made by the Wheat Committee.

Tainui.—This spring wheat evolved by the Institute has passed another season's trials with favourable results in both yield and quality. It is now being multiplied as rapidly as possible to supply the market.

More Recent Crosses.—Among more recent crosses, No. 31 shows several lines which are as good as Tuscan in growth characters and baking quality, but considerably superior in yield; and Nos. 36 and 60 show very high quality, with yield equal to Tuscan.

General Work.—Additional crosses are continuously being made, and the number of plots in the field this year totalled about 17,000. The sowing and harvesting and recording of this great number with the accuracy demanded of this type of work requires the most efficient organization and a superior type of casual labour.

LABORATORY WORK.

The number of samples of wheat milled and baked into bread for the year ending 30th November, 1936, was as follows:—

Wheats milled and baked—

For flour millers and merchants	1,563
From the Institute's wheat-breeding plots	245
From variety trials	60
For A. and P. Association competition	53

1,921

Flour samples baked—

For millers and bakers (3,621 in duplicate)	7,342
For millers and bakers (46 second set of duplicates)	92
Blending trials for wheat-breeding (656 in duplicate)	1,312
For A. and P. Association (53 second set of duplicates)	106
Lemon-juice trials (250 in duplicate)	500
Arkady trials	307
Sprouted wheat blend trials	248
Various experimental bakes	803

12,631