

PASTURE TOP-DRESSING EXPERIMENTS IN OTAGO, SEASON 1927-28.

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DURING the past few years considerable interest has been evinced in Otago in regard to the practice of top-dressing pastures. The results claimed by the application of fertilizers in different parts of the Dominion naturally caused many Otago farmers to suppose that similar results could be obtained in their province, and as a consequence the Fields Division in Dunedin has been inundated with inquiries asking for specific information as to the advisability of adopting the practice of top-dressing, and discarding the well-established practice of ploughing up old pasture and sowing down young grass.

Sufficient general information had already been collated by the instructional staff of the province to indicate that in some localities remunerative returns could be obtained from the application of certain fertilizers to pastures which had apparently outlived their usefulness, but on examination this information proved indefinite and in many cases open to doubt. It was therefore decided to inaugurate an extensive series of experiments on top-dressing, these to cover a wide area and to embrace within their scope a large number of soil-types and pastures of varying ages and condition. To this end the co-operation of the New Zealand Farmers' Union was enlisted, and as a result forty-two co-operative experimental plots devoted solely to top-dressing experiments were laid down and cut for hay during the past season. The wide distribution of these plots can be seen from the accompanying map (next page).

In arranging the scope of the experiment it was decided to adhere to a uniform plan throughout, using the drill strip method, thus allowing all results to be examined statistically. The method of laying out the plots was practically the same as that used by Mr. A. W. Hudson for the Fields Division experimental work in Canterbury, which has been fully described in the *Journal*. With the exception of three plots which were laid down during the season 1926-27 all plots received similar treatment. The plan of the experiments was comparatively simple, being to test the efficacy of phosphates both alone and in conjunction with lime, and further to acquire definite information as to the value of lime alone on pastures.

The phosphates under trial were superphosphate (44-46 per cent. grade) and basic slag (Trifolium brand, 17-20 per cent. grade). These manures were applied at a uniform rate of 3 cwt. per acre, and to ensure accuracy in this respect a drill belonging to the Department was utilized throughout. Carbonate of lime in a finely ground form was used at the rate of 1 ton per acre. The plots were dressed with the various treatments during the months of July, August, and September. Some of the dressings were therefore given at a comparatively late period, and this fact has to be taken into consideration in examining the first year's results.

At an appropriate period the plots were shut up for hay. On account of the large number of plots to be harvested it was naturally