WHEAT MANURIAL TESTS IN CANTERBURY.

SEASONS 1923–24 AND 1924–25.

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DURING the season 1923–24 the Canterbury Soils Improvement Committee conducted three manurial trials on wheat, and this season—1924–25—the Fields Division of the Agriculture Department has completed an additional seven. The results, which indicate a decided increase in yield from phosphate manuring, are given in a concise form in the following pages, but readers interested in a full account of the experiments, the results of which were treated statistically, may be referred to a bulletin which it is proposed to publish later.

MANURES USED.

The manures used were as follows, the quantity being per acre in each case:—

Season 1923–24: (1) Superphosphate (42/44), 1 cwt.; (2) superphosphate (42/44), ¾ cwt., plus dried blood, ¼ cwt.; (3) basic superphosphate, 1 cwt.; (4) basic superphosphate, ¾ cwt., plus dried blood, ¼ cwt.

In 1924–25 it was decided that in order to get a true estimate of the value of dried blood this constituent should be added to the same quantity of phosphatic fertilizer as was sown on the plots having phosphate alone. Therefore the mixtures of phosphate and blood were sown at the rate of 1 cwt. phosphate plus ¼ cwt. of blood per acre. Manures (1) and (3) were repeated unaltered.

The object in the selection of the manures used was to test the soluble phosphate—super—against the less soluble phosphate—basic super—and to ascertain the effect of nitrogen as dried blood in combination with these fertilizers. All fields contained controls, or non-manured areas, so that the increases due to manuring could be estimated.

METHOD OF SOWING.

The fertilizers were applied in long narrow strips, and repeated several times in the same field. Numerous weighings were made in each strip, enabling great reliance to be placed on the results obtained. The fertilizers were applied with great care under the personal supervision of the writers. Known areas were first drilled with a given weight of manure, and adjustments made until the drill was sowing exactly the amount required. This was done with each manure in turn, as different manures run at different rates, and the same manure will run differently under varied climatic conditions. When these drill adjustments had been made, the drilling of the plots was proceeded with.

During the growing-period observations were made from time to time. In all cases, except the Irwell plots, marked differences could