

June, a trial with two herds of 20 identical twins each run on 20 acres under the different systems is in progress. Results to date indicate that production differences will be small.

### Inheritance v. Environment in Herd Production

Data and procedure in experiments with identical twins exchanged between Ruakura and low- and high-producing farms in an endeavour to measure the effects of heredity compared with feeding and management were shown in the field day demonstration. A paper on the work presented to the conference will be published in the next issue of the "Journal". Conclusions demonstrated were that high average production in a herd usually indicates good feeding and management rather than breeding; that genetic differences between herds, except in butterfat test, are generally small; and that the best simple guide to breeding value is the difference

between an individual cow's yield and the herd average.

### Impact on Production

At a time when there has been some questioning of the value of farmers' conferences on the scale of Ruakura's, and after 10 years' evolution to this conference's present scope and form, it may be appropriate to try to assess the part Ruakura plays in bridging the gap between research and the application of its findings in farm practice.

Only if Ruakura could develop techniques to measure farmers' responses as accurately as it does those of its research animals, and to trace percolation of its recommendations out to farmers through the increasing number of extension personnel who regard Ruakura as an annual refresher course, could anything other than an opinion be ventured.

But that results are not inconsiderable must be indicated by the widespread broadening of the approach of

Ruakura visitors to their problems; the heightened level of their capacity to discuss a wide range of the complexities of scientific farming; and, in spite of Ruakura's disappointment at the wide disparity between the Station's production achievements and those on farms, the continuing general improvement in primary production.

The broadening educational basis of the programme forecast by Dr McMeekan and the likely expansion of scientific activities based on Ruakura indicate that the Station will continue to be a profitable venue for farmers' conferences.

## Insect Pests of Seedling Brassica Crops

EVERY year in New Zealand there are hundreds of cases of apparent germination failure in turnip, swede, and chou moellier crops. Careful examination will show that in most of these the seed has germinated well enough, only to be eaten almost immediately by the very small *Collem-bola* or springtail.

This springtail, which is widespread in the Auckland Province, is a light brown insect less than 1/16 in. long that lives on the ground and springs over the surface, moving 4 to 6 in. with each hop. It eats the two smooth cotyledons or seed leaves of germinating brassicas and can destroy a crop in this early seedling stage.

While such a crop is being sown, therefore, the area should be examined for springtails, and if they are present, they can easily be controlled by spraying or dusting within three to four days with one of the following compounds: 1½ pints of 15 per cent dieldrin per acre, ½ lb of 50 per cent dieldrin powder per acre, ½ lb of 100 per cent lindane powder per acre, 2 pints of 20 per cent lindane emulsion per acre, or 4 fl. oz. of malathion per acre.

One of the liquid preparations should be mixed with a convenient quantity (15 to 20 gallons) of water, or one of the powders mixed with superphosphate, and applied just before the seedlings emerge.

This treatment will rid the paddock of springtails for about a fortnight and enable the crop to get through the springtail-susceptible stage without damage.

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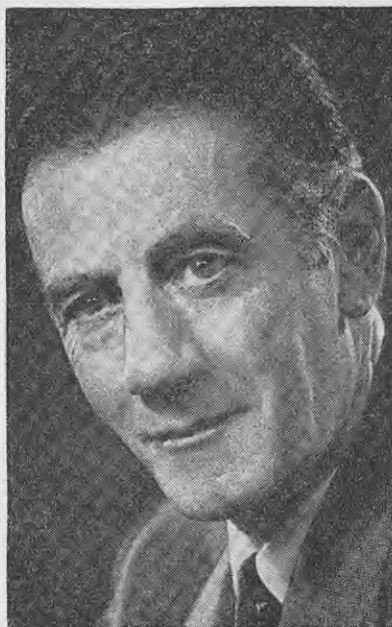
## Mr H. Anderson Retires from Department

MR H. ANDERSON, Superintendent of Fertilisers in the Department of Agriculture, has retired after 42 years in the Public Service. He joined the Post and Telegraph Department in 1918 and served with the Transport Department from 1935 to 1943.

When Mr Anderson joined the Department of Agriculture in 1943 not only was there a general shortage of fertilisers, but getting the available fertiliser to the farmer was a big problem. Mr Anderson's previous experience in the Transport Department was of considerable value in the reorganisation of lime transport and the working of the lime transport assistance scheme. He was chairman of the Lime Transport Advisory Committee.

Mr Anderson accompanied Dr G. L. Bridger, head of the Department of Chemical and Mining Engineering at Iowa State College, on his 1951 study of fertiliser production and problems in New Zealand. He was also secretary of a committee of Government officers and representatives of the fertiliser industry which was formed to assist Dr Bridger.

In 1952-53 Mr Anderson made a survey of the fertiliser requirements of the Dominion. During his service four new superphosphate works were built, three in the North Island and



Mr Anderson.

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one in the South, and he was able to give the companies much valuable advice on the potential demand for fertilisers in their districts.

Mr Anderson worked in close co-operation with fertiliser manufacturers, lime millers, and merchants. His wide experience and knowledge of commerce were invaluable to the Department and the industries concerned during a period when there was considerable expansion of lime and fertiliser production.