

## THE CHAFF-MITE.

### METHODS OF CONTROL.

A. H. COCKAYNE, Biologist, and R. WATERS, Biological Assistant.

It is only at certain times that chaff-mites belonging to the genus *Tyroglyphus* cause sufficient apparent damage to arouse any particular interest in their suppression. These mites, however, are of widespread occurrence in many agricultural products such as bran, flour, chaff, hay, cereals, grass-seeds and brassica seeds. When present in large numbers they cause great damage by actually destroying the material in which they are found. In many cases, however, the damage is not properly recognized, and no effort is made to keep the pest under control. On the other hand, especially with regard to chaff, the presence of mites in large numbers renders the fodder unacceptable to stock, and it becomes quite useless for feeding purposes. In seed-stores mites are often extremely troublesome, especially amongst turnip and rape seed.

During August of last year a very severe attack of chaff-mite occurred in the fodder belonging to the Defence Department, stored in Wellington and awaiting shipment. The mites were present in such enormous numbers, especially in the bran and chaff, that it was feared that unless some special efforts were made to control the pest the whole of the fodder would be rendered useless for shipping. The material had been in store for some months, and it appeared as though the mites had been introduced in certain lines of chaff, and had spread from them until the whole of the shed was badly affected. A careful examination of the material was made, and it was found that the main damage was being done to the chaff and bran. The hay and oats, although affected, did not appear to be depreciating at the same rate as the bran and chaff. This was due to the fact that the hay, and more especially the oats, did not offer to the mites the same facilities for securing food.

As very little was known regarding methods of mite-control that could be applied on a large scale, a series of experiments were at once carried out to determine what, in the circumstances, was the best procedure to adopt. Many of the experiments were of a negative character so far as the immediate reconditioning of the many thousands of sacks of fodder were concerned, but as they