

## ENTOMOLOGY

Mr. L. MORRISON

*Hessian Fly*.—Seasonal observations were continued, but once again the area studied was too restricted to be of full value. This was especially so this season, since the distribution of Hessian fly was very uneven.

*Insect Fauna of Red Clover*.—The investigation was continued with special reference to the red clover thrips, and indicated that this pest is not of any economic significance.

*Porina Investigations*.—Further progress was made in determining the effect of different levels of temperature and humidity on the period of incubation and percentage hatch of eggs of Porina moths.

## FARM MACHINERY RESEARCH

Mr. A. W. RIDDOLLS

*Small Seeds Harvesting*.—During the 1948–49 harvest trials were made of harvesting white-clover seed to obtain a comparison of yields of seed per acre obtained when a medium to light crop was cut with a 6-ft.-cut mower fitted (a) with standard outside swath board only and (b) with two swath boards of special design. The resulting windrows were picked up and threshed with a header harvester. The results of these trials, which were made on a series of sixteen randomized plots, have now been analysed. These show an average yield with method (b) that is 37 per cent. greater than with method (a), and this confirms the results of similar trials made in 1947–48. These results indicate that, in medium to light crops of white clover, yields will be significantly increased by the use of the two outside swath boards of special design, compared with the single outside swath board. Twenty-nine further trials were made on damage to white-clover and red-clover seed by varying header harvester drum speed and drum clearance. Although damage of up to 10 per cent. was recorded, and a trend to greater damage with closer drum setting and higher speed was shown, inconsistencies were noted, which indicate that a specially built experimental machine is required. This would allow all possible factors in seed damage to be varied rapidly, and also allow a large number of samples to be taken in a short time.

*Mechanical Ditch-cleaning*.—The tractor-mounted ditch-cleaning machine, built and tested in 1948, has been completely redesigned and rebuilt as a result of experimental work carried out with the original machine, and trials with the new machine are proceeding.

## MICROBIOLOGY

Mr. H. T. WENHAM

*Bacteriology*.—A survey of the occurrence of potentially pathogenic bacteria in farm milk samples is continuing and 286 samples from 168 different suppliers have been tested.

The study of lysis of acid-fast and other pathogenic bacteria in the lymph of wax moths is now in its third year. Of particular interest is variatability noted in the digestion of cells of *Mycobacterium* with loss of some ability to retain acid-fast stains.