In the following experiments against one of the summer broods of midge, carried out at Mr. F. G. Platts's orchard at Henderson, the granular cyanide was used. Six dosages were laid out, each involving three plots of infested soil under as many trees, making a total of eighteen trees treated. Over the treated area under each tree two emergence tents were pitched, so that six observations were made for each dosage. As a check twelve tents were pitched under untreated trees. Owing to lack of sufficient cyanide the experiments were not made more extensive.

The dosages of cyanide to each area of 200 sq. ft. were as follows, the material being spread on the ground and worked, not turned, in with a spade: (1) 2 lb., (2) 1¾ lb., (3) 1½ lb., (4) 1 lb., (5) ¾ lb., (6) ½ lb.

An examination of the emergence tents at the time when the midges were due to emerge showed that the efficiency of the cyanide divided the dosages into two groups, one comprising dosages (1), (2), and (3), and the other the dosages (4), (5), and (6). In the first group there was 100 per cent. control, and in all of the second group but little control, if any. Certainly the weakest dosages, (5) and (6), cannot be claimed to have had any effect, since the numbers of midges emerging into the tents over these plots could not be said to be any less than those in the check tents.

Owing to results between the two groups of dosages—(1), (2), (3) and (4), (5), (6)—being so decidedly positive and negative, a later attempt was made with dosages of strengths each descending by 1 oz. from 1½ lb. to 1 lb. to every 200 sq. ft. of infested ground. In this experiment, carried out to determine if there was a weaker effective dosage between (3) and (4), thirty-six observations were made, exclusive of checks. Nine dosages, each involving infested ground under two trees, were applied. On each of these eighteen plots an emergence tent was pitched, together with an emergence box. This latter, turned mouth downwards, measured 10 in. (high) by 14 in. by 20 in. (inside measurements), and was lined with black paper. On the top five holes were bored, in each of which was inserted a glass tube 1 in. in diameter and open at both ends except for a muslin cap over the outer one. A cork fitted with a narrow tube was inserted into the opposite end within the box, in order to prevent any midges from leaving the tubes once they had entered. It was hoped by this means to make counts of the midges emerging from each dosage, but the moisture which collected in the bottom of each tube interfered with this.

The results of these experiments, however, as gauged from the tents, showed that the dosage of 1½ lb. to 200 sq. ft. was the weakest effective strength that could be used for 100 per cent. control. Acting on this basis it is intended to extend the work on a larger scale, treating whole orchards under commercial conditions in order to test the efficiency of the cyanide against the hibernating midge-larvæ. A point of interest in the experiments was that though the pear-midge was controlled by the stronger dosages, the latter had apparently no effect on certain other underground insects, since there was a general emergence in all the tents of such insects as the cicada (*Melampsalta cingulata*), and several ichneumon flies and muscid flies.

The quantity of cyanide required to treat a midge-infested orchard will vary with the spread of the trees. In mature orchards where trees