

During this season a material sold as Vistolene was tried in a strength of 1 part in 100 parts of water on the P. Barry trees. The dates of the sprayings were 21st October, 10th November, and 1st and 7th December, while one tree was sprayed with the Black Leaf and oil mixture each week on the same dates as were the block of younger trees. The first two sprayings with Vistolene had some effect, the treated trees showing considerably less infestation than neighbouring unsprayed trees, though not nearly so free as the tree which received the weekly treatment. The Vistolene had little effect after the middle of November, however.

#### CONCLUSIONS.

The results suggest that by the use of nicotine the pear-midge can be kept in check during October and the first two weeks of November sufficiently to permit of the early twig-growth becoming established and to enable the trees to set a fair covering of leaves. This is certainly an advantage, especially when dealing with young growing trees. Some of the treated trees, planted in 1922, are now over 6 ft. in height, contrasting favourably with untreated trees of like varieties, which have made little growth in the same time. Insufficient experiments were made to demonstrate whether with adult trees the destruction of buds by the midge could be delayed sufficiently to enable the fruit to set, and to allow of the establishment of the leaves necessary to the nutrition of the fruit-bud.

The Keiffer variety appears to be attacked by the midge just as much as other varieties, but, being of early habit, the buds have set and the leaf crop is established before the midge has become prevalent. After the middle of October the new growth on the Keiffer is infested. Growth is checked, but not the fruit crop. With later-blossoming varieties, such as Bon Chretien and Beurre Bosc, the difficulty arises that measures taken to combat the midge must also tend to discourage the visits of bees, and thus pollination may be interfered with. Spraying should be suspended while the blossom is fully open.

From the middle of November till late in February nicotine loses its effect. During the seasons under consideration wet weather may have been responsible for this failure—at least in November; but the effect of the increasing temperature on a volatile substance like nicotine has to be considered. Again, it has been shown by Miller that, after the hatching-out of the second infestation between 1st and 10th November, the midge remained on the wing for the remainder of the month. This must greatly increase the difficulty of protection. This raises the question of the frequency of spraying. During October the results when the spray was applied weekly were little better than when applied at intervals of three weeks, but in the latter part of November it appeared that a weekly spraying was insufficient. It is proposed next spring to apply fortnightly sprays during October, weekly in the first half of November, and thereafter bi-weekly sprays, by way of experiment. From the commercial point of view bi-weekly spraying can hardly be regarded as practical.

In regard to the composition of the spray, the nicotine salt is the active agent, and the most suitable "carrier" has not been determined. On the whole the miscible oil appeared to give the most lasting results. If ordinary oil be used it is advisable to use a strength