

sure that no insect should pass the band, he discovered an excellent sticky matter, *bramuta-leim*, which is now generally used on the Continent. This *leim*, however, is rather expensive for large plantations—it costs two marks (2s.) per pound at Home. Printers' ink, or a mixture of tar and train oil, will perhaps answer the same purpose if renewed from time to time. The bands, about six or eight inches wide, are of coarse brown wrapping-paper. To resist the influence of rain, and to prevent their absorbing too much of the sticky matter, they are first painted over with fine glue, and in this way will last a long time. The paper rings are bent over a little at the lower end to prevent the tar from running down the stem, and fastened round the trees a few feet above the ground, as the grub likes to go up as high as possible. The fastening must be done at the upper side of the band, by a string, in such a manner as to allow the insects to crawl under the lower part. The sticky matter is then put round the ring just below the string, and if the band fits to the bark close at its upper part, which is the main consideration, no insect will be able to get up the tree. The bands must be opened from time to time and put on again after the grubs, &c., are killed, which are either under the ring or fastened on the sticky matter outside. Of course the tar or printers' ink must be renewed as often as necessary to prevent the insects from crawling over the paper. The rings must be put on the apple-tree, plum, pears, and quinces included, if necessary, as soon as the fruit is formed, and left on the tree till the crop is gathered. Besides this it will be necessary to collect all worm-eaten fruit and destroy the maggots. All shoots, high grass, or anything by which the grubs may reach the tree above the ring must be removed. Old trees harbour a multitude of insects under their rough bark. This bark should be scraped, the scrapings carefully collected and burnt, and the trees and bigger branches washed with soft soap and water or lime. The greatest danger consists in sending old used boxes to the orchards. The grubs are imbedded in nooks and corners of the boxes, and brought in this way all over the country. The little moth itself is not able to fly very far.

Mr. Hale considered in 1884, in the month of April, the blight was increasing, but has no doubt that the band is the best remedy, and was successful in his own case. It is to be placed round the tree about a foot below the lowest limb. Lamps lighted in saucers of kerosene may be used with advantage in the proper season to attract the moths. The cracks and bark of individual trees also should be examined for the maggot.

The above remedies have been tried successfully. It is not so bad as it was. On the whole the visitation tends to greater care of the trees and so to a greater crop.

As to the cost of treating two thousand trees, this is a sort of estimate: Say 7s. for paper, and twine, 3s.; two men a day and a half each. When lamps are used in the moth season, fifty-two lamps, a quart of kerosene per night; but no good on moonlight nights. At first paid 10s. a week for trimming and lighting; now done by themselves, taking two hours each night to trim and light them.

As to bands, has known eighty taken out of the band of an old tree. Mr. Hale took out seven while the Bishop was there.

*Mr. Lowe*: In answer to the question as to the best remedy, "Have tried various remedies, and consider the following the best: As soon as the leaf is off the tree, well syringe with a solution of caustic soda, and follow up with three or four applications of alkaline salt in the fruiting season, and the result will be clean crops."

*Mr. Rout (Stoke)*: The codlin-moth has been very destructive to the fruit in an old orchard of mine; and, in order to destroy some of the eggs and larvæ last winter, I scraped the bark off the trunks of the trees most affected, and dressed the same with some fresh lime slacked with chamber lye, used while warm, which I found very effective in destroying the larvæ and eggs, many thousands being destroyed; added to which those that fell to the ground were incorporated into some gas-lime spread round the tree-stems, and afterwards dug into the soil. The expense was small, and I think the remedy was effectual as far as it went.

*Question*: Do you advocate legal compulsion in reference to any of the above remedies?

*Mr. Hale*: Compulsion should be used to compel the use of bands. The duty of using these should be advertised once a year, and all bands be on and looked after by the police within a week, to be opened every fifteenth day. There is no necessity to make any new department.

*Mr. Lowe*: The question of legal compulsion is too deep for me to express an opinion upon. I consider it requires a great deal of discussion. I believe the blights are diminishing where they have been attacked in the manner that I have described.

*Question*: What is your practical opinion as to the value in this respect of small birds?

*Mr. Wiesenhausen*: In Germany, as well as in France, the protection of small birds is under the special care of the Government. Besides heavy fines, there are the standing rules that the children in the State schools are reminded not to interfere with the nests and the eggs of the birds. In both countries the great number of birds are considered to be far more beneficial to the crops than otherwise.

*Mr. Newman*: Having lived in the neighbourhood of Epping Forest, London, for over twelve years, I had the opportunity of watching the effect of the destruction of small birds, which at one time was carried on to a very large extent. As the birds were destroyed the blight of various kinds increased to an alarming extent, and was so noticeable that a small measure was hurried through Parliament called the Small Birds Preservation Act, and heavy fines were to be imposed on those destroying birds at certain seasons, and which was working with good effect some time before I left England. My decided opinion is that we need a much greater variety of small birds, with fewer sparrows, with some of a larger growth, such as the rook and sparrow-hawk. The small birds would not only enliven our fields and hedges with their various songs, but would well pay their footing by devouring the various insects and grubs that infest our fields and gardens. As cultivation of gardens and agriculture in its various forms extend, this important matter will have to be decided on to restore the balance of nature.