

# OBSERVATIONS ON SHOT-HOLE BORER IN TEA SMALL HOLDINGS

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The observations presented in this paper are those made by officers of the Tea Small Holdings Advisory Service stationed in various parts of the tea growing districts of the island and must be regarded merely as observations and not conclusions supported by data. These observations could, however, form the basis for any future experiments.

**Central Province.**—Central Province has the largest acreage of small holdings in tea (38,000 acres) at elevations ranging from 1,500 to 5,000 feet.

The pest can be considered serious up to 3,000 feet. Above 3,000 feet infestations are negligible and at 5,000 feet are almost non-existent. The worst affected areas are those around 2,000 feet.

The damage caused by shot-hole borer is branch breakage, resulting in loss of crop. A few cases of die-back due to shot-hole borer have also been noticed. There has been no evidence to show that the pest has been directly responsible for the death of bushes although there appears to be a certain correlation between shot-hole borer attack and wood-rot, which ultimately causes the death of the plants.

The following observations made on the behaviour of the beetle towards tea of different jats growing under different conditions at the same elevation might be of interest.

Attacks have been seen to be more pronounced in the case of mixed Assam jats than in China types with thinner stems. Well cultivated and manured fields suffer the worst damage while unhealthy, neglected bushes are rarely attacked. Infestation begins after the eighth month from pruning and reaches its peak during the second year, when branch breakage is also at its highest.

The pruning cycle at this elevation is normally two years and small holders generally prune the tea when borer attack is at its worst.

In a few cases extending the pruning cycle to three years has been found effective in minimising branch breakage during the following cycle; but this is not favoured by the majority of small holders due to various difficulties. With no manuring yields drop steeply during the third year. Also the type of plucking adopted by small holders makes it extremely difficult to run a field for three years.

It has also been observed that fields regularly cut across every 18 months suffer very little damage from borer attack. This observation has been found useful in making a practical recommendation as a means of lengthening the period between two low prunings. In other words, a high cut-across followed by a low rim-lung prune 18 months later was recommended and found effective in reducing borer damage. In this case the period between two rim-lung prunes would be  $3\frac{1}{2}$  years.

I would also like to give the results of a small experiment I carried out in a field which was nearly  $1\frac{1}{8}$  acres in extent. In 1948 this field gave a yield of only

240 lbs. per acre. The bushes were completely riddled with borer damage and wood-rot. There was no prospect of reviving the bushes by improving the soil conditions. It was, therefore, decided to give the tea a "kill or cure" treatment. In 1949 when the field became due for pruning, all bad branches were completely removed and the maximum height left of any bush was ten inches. Many of the bushes had to be collar-pruned to get rid of as much wood-rot as possible.

The result of this experiment was that those bushes which recovered put out excellent frames of new wood while a few succumbed to the treatment. The number of casualties was about 7 per cent. The whole field was rested for 8 months and all vacancies supplied during the subsequent years. In 1955, six years later, this field gave a yield of 800 lbs. per acre. I do not attribute this yield entirely to the treatment given, but the fact remains that bushes so treated improved considerably and became more productive.

**Sabaragamuwa Province.**—The observations made by officers in the Sabaragamuwa Province, which has an acreage of over 15,000 acres in tea small holdings, are confined to Kegalle and Balangoda districts.

Kegalle district has over 5,600 acres situated at elevations ranging from 600 to 1,800 feet. It has been reported that only about 20 per cent of the holdings are affected by shot-hole borer. Generally the pest is regarded as one that does not do any appreciable damage to tea.

In the Balangoda district, with an acreage of 3,160 acres situated at elevations ranging from 1,400 to 5,500 feet, it is reported to be causing severe damage. Attacks have been found to be worst during the dry windy months. Branch breakage is also highest during this period. Strong winds accelerate branch breakage.

**Uva Province.**—In Uva out of a total of 7,400 acres the biggest concentration of small holdings are found in Udakinda at elevations ranging from 3,500 to 5,000 feet. The damage caused to tea in small holdings by shot-hole borer is reported to be negligible.

**Southern Province.**—In the Southern Province with over 14,000 acres of tea small holdings situated at elevations of 50 feet at Galle to 3,300 feet at Morawak Korale, the damage caused to tea by shot-hole borer is reported to be negligible. It is not considered a major problem nor a pest of economic importance. Only once was it reported that widespread damage was caused to tea in a new clearing.

**Summary.**—I would now summarise these observations as follows:—

- (1) In small holdings shot-hole borer is a pest at elevations between 1,500 and 3,000 feet, almost non-existent at very low and very high elevations.
- (2) Well manured, healthy, high jat bushes are more susceptible to borer attack than poor bushes.
- (3) Branch breakage is the chief damage, resulting in loss of crop.
- (4) Breakages are heavy during the dry windy months.
- (5) Lengthening the pruning cycle to 3 years has been found effective in reducing borer damage. Where this is not possible, a cut-across followed by low rim-lung pruning 18 months later, has also been found effective.