B - 08

MANAGEMENT STRATEGIES FOR THE CONTROL OF THE SHOT-HOLE BORER BEETLE OF TEA (XYLEBORUS FORNICATUS EICHH., COLEOPTERA: SCOLYTIDAE)

P. Sivapalan
(Tea Research Institute of Sri Lanka, Talawakelle)

The shot-hole borer beetle has little impact on yield of tea during a current cycle of attack, but by colonizing the main primary branches, weaken the latter, which fracture readily and serve as avenues for wood-rot organisms. With the incidence of wood-rot, recovery from pruning is affected, leading to frame deterioration and ultimately to a significant drop in yield. The use of persistent insecticides was at one time thought to effectively control this insect but was later found to lead to serious secondary pest problems (Danthanarayana, 1966).

Recent studies have shown that high pest incidence in the basal sections of the main primary branches is the one that leads to serious long-term protracted debilitations (Sivapalan, 1975). A highly significant negative linear correlation was also observed between yield and borer population in primary branches (Sivapalan, 1977). By studying the yield pattern on a plantation, it is now possible to forecast the period during the year, suitable for rapid build up of pest population. A management strategy has now been developed by integrating the following practices: (1) adjusting the pruning time to prevent the overlap of the time during the year suitable for rapid pest build up and the susceptible stage of maturity of primary branches for colonization; (2) use of fungicidal wound dressings on prune cuts that have exposed galleries, to minimize the progress of rot into the main trunk; (3) replanting to be confined to only beetle resistant or tolerant clones.

References :

1. Danthanarayana, W. (1966). Shot-hole borer control. *Tea Quart.* **37**: 100-104.
2. Sivapalan, P. (1975). The dispersion of brood galleries of *Xyleborus fornicatus* Eichh. (Coleoptera:Scolytidae) in tea plants. *Bull. ent. Res.* **65**: 501-506.
3. Sivapalan, P. (1977). Population dynamics of *Xyleborus fornicatus* Eichh. (Coleoptera:Scolytidae) in relation to yield trends in tea. *Bull. ent. Res.* **67**: 329-335.