

Host suitability of rice weevil, *Sitophilus oryzae* L. (Coleoptera: Curculionidae) and effect of neem based pesticide for its control

The Rice weevil, *Sitophilus oryzae* (L) (Coleoptera: Curculionidae) is a major pest of stored rice in Sri Lanka causing considerable damage. The present chemical recommendation to control rice weevils in Sri Lanka is by Methyl Bromide fumigation. It is widely expected that Methyl Bromide would be out of circulation by 2005 as enforced by the Montreal Protocol Act. Hence it is important that an alternative to Methyl Bromide should be examined. Therefore, the objective of this study was to determine the host suitability of rice weevil and to determine the effect of neem based pesticide on rice weevil.

Seven treatments, paddy, brown rice, polished rice, broken rice (<1.7 mm), broken rice (>1.7 mm), rice polish and rice flour were used to determine the suitability of paddy and its products as a host.

A complete randomized design with 10 replicates was the used experimental design. Ten pairs of one-two day old adult weevils were introduced in to each treatment and pertaining data were recorded. The one-two day old adult weevils were used to determine the effect of neem based pesticides (Trade name-Habitat) on rice weevils. The mortality of adult weevils was considered as an indication of insecticidal activity.

The number of adults emerged was significantly higher on brown rice than on other products tested. No adult emergence was found on rice polish and rice flour. No mortality of the adults were observed during the experimental period in the treatments with polished rice, brown rice, broken rice, rice polish and rice flour. Seventy-percent mortality was recorded in paddy. The neem based pesticide has a considerable potential for controlling rice weevil of stored grains. The mortality percentage was 30.5 even at a low concentration of 1% of the pesticide.