

Effects of Selected Plants Against Rice Weevil (*Sitophilus oryzae*)

ABSTRACT

Rice weevils (*Sitophilus oryzae*) have caused significant damage and losses in rice storage. The use of chemical pesticides to control them has had negative environmental effects and limited efficacy. To address this issue, natural plant-based insect-control alternatives were investigated. This study aimed to assess the effectiveness of (*Pandanus amaryllifolius*), kaffir lime leaves (*Citrus hystrix*), and "asam gelugor" (*Garcinia atroviridis*) in repelling, inhibiting feeding, and reducing the offspring of rice weevils. Plant samples were extracted using the soxhlet extraction method, and the crude extracts were concentrated using a rotary evaporator. The extract solutions were then tested for their effects on rice weevils. The results showed that pandan leaves were the most effective, with a repellency percentage of 46.67% and a better anti-progeny effect of 2.175%. Kaffir lime leaves had no effect on rice weevils, while asam keping only showed an anti-progeny effect of 6.525%. The study revealed that low concentrations (0.002 - 0.006 g/mL) of insecticides from pandan extracts could provide a repellency effect against rice weevils. Therefore, plant extracts from *Pandanus* can be used as botanical insecticides to manage *S. oryzae* infestations.