

Title Study on the insecticidal effects of custard apple (*Annona reticulata* L.) and mindi (*Melia azedarach* L.) leaves against *Sitophilus zeamais* Motschulsky (Coleoptera: Curculionidae).

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Abstract

The insecticidal properties of custard apple (*A. reticulata*) and mindi (*M. azedarach*) leaf powder were tested against maize weevil, *S. zeamais*. The experiment was conducted under laboratory conditions using oligidic diet in the form of artificial grains. To the diet, 10 levels (0.0 to 4.5% w/w) of the dry, powdered plant materials were added. Ten adults of unsexed *S. zeamais* aged 7-15 days were added to about 120 artificial grains in a closed but aerated plastic container. Each treatment was replicated 5 times. After 7 days of oviposition, the parent insects were removed and discarded. The grains were incubated under laboratory conditions and after about 3 weeks were examined for the emergence of progeny. The emerging progeny was removed and counted daily until there were no emergences for 5 consecutive days. The parameters observed were the number of progeny, the developmental period, and the developmental index. The results showed that the presence of the plant materials in the diet significantly reduced the number of progeny, prolonged the developmental period, and reduced the developmental index. Mindi leaf in particular, showed strongly insecticidal effects against *S. zeamais*. At 2.0% of the mindi leaf powder in the diet the numbers of progeny in all 5 replicates were reduced to zero.