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INSECTICIDAL EFFECTS OF PLANT EXTRACTS OF SOME MEDICINAL PLANTS AGAINST *SITOPHILUS ZEAMAISE* MOSTCHULSKY ON STORED MAIZE

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The maize weevil, *Sitophilus zeamaise* is a common pest of Sri Lanka, although it is found in all cereal grains and cereal productions. The objective of this study is to investigate the effect of some medicinal plants against *Sitophilus zeamaise* on stored maize by using contact bioassay and repellency bioassay in the laboratory conditions. The above bioassays have advantages of being rapid, inexpensive, and technologically simple (no aseptic conditions or sophisticated equipments are needed). Further, phytochemical analysis was performed to ensure that the presence of alkaloid, flavonoids, tanin and saponin. The MeOH extract of (50 mg) plants were dissolved in 50 ml of MeOH and then applied to clean, disinfested maize grains and kept overnight under the fan for evaporation of MeOH. Then *Sitophilus zeamaise* insects were introduced to the above maize grains and mortality was recorded every 24,48,72,96 hours for ten days. Out of the 10 species of medicinal plants examined for Insecticidal effects, five species (*Averrhoa bilimbi, Ocimum selloi*, *Ailanthus altissima* and *Eugenia caryophylata*) showed more than 80% mortality after 10 days. Methanol extract of *Annona muricata* showed the maximum mortality of 100% within 7 days with maize weevil whereas *Ricinus communis* and control showed 0% mortality throughout the experiment. Repellency bioassay was done by using a Y shaped glass tube to determine the repellence activity of medicinal plants. *Ocimum selloi* showed maximum (57.80 ± 21.2) repellency for the maize weevil and *Ailanthus altissima* and *Eugenia caryophylata* showed significant repellence (46.67 ± 17.6) for the insects. These preliminary results suggest that the medicinal plants could be exploited for the isolation of insecticidal compounds.

Keywords: *medicinal plant extracts, Sitophillus zeamaise, Insecticide, secondary metabolites, contact, repellence*