THE POTENTIAL OF A PLANT EXTRACT FOR THE CONTROL OF STORED PRODUCT PESTS

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Abstract: Dry leaf petroleum ether crude extracts of *Eichhornia crassipes* (Mart) Solms administered to the fifth instar larvae of *Tribolium castaneum* (Herbst) (Coleoptera: curiculinadae) and *Corcyra cephalonica* (Staint) (Lepidoptera: Pyralidae) by a food treatment method inhibited growth and metamorphosis of both insect species. The extract was effective in preventing normal adult development. The extract was also found to prevent moulting of insects by interfering with the formation of new cuticle. The morphological abnormalities included the size of the adults; sclerotization of the integument size of the elytra; and the size of the abdomen. There was no difference between the sexes in the occurrence of abnormalities.

The application of extracts to the freshly moulted final instar larvae of *C. cephalonica* decreased cuticle deposition to only two-thirds of the body surface. Patches of melanised cuticle resembling symptoms of chitin synthesis inhibition were evident in larvae treated with 10 mg per insect. The same dosage in *T. castaneum* impeded cuticle formation of the entire posterior half of the body. An elytral aberration also resulted from treatment with lower dosages. An interesting observation was made regarding the bioactivity of this weed, related to the location from where the plants were collected.

Water hyacinth is one of the most troublesome and prolific aquatic weeds. A high growth rate coupled with an ability to absorb several nutrients and water pollutants had led to interesting proposals for its utilisation. Certainly, it is a very good candidate for the protection of stored grain from pests, as it is non-toxic to mammals.

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