



EFFICACY OF SOME BOTINICAL EXTRACTS AGAINST TROGODERMA GRANARIUM IN WHEAT GRAINS WITH TOXICITY EVALUATION

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ABSTRACT

In an attempt to find alternative control methods for stored products insects, extracts of seven plant species (*Cassia senna*, *Caesalpinia gilliesii*, *Thespesia populnea* var. *acutiloba*, *Chrysanthemum frutescens*, *Euonymus japonicus*, *Bauhinia purpurea*, and *Cassia fistula*) were evaluated under laboratory conditions for their ability to protect wheat (*Triticum* spp.) grains against *Trogoderma granarium* insect. Moreover, gas chromatography-mass spectrometry (GC-MS) analysis was carried to identify the chemical components of the most effective plant extract against *T. granarium*. Furthermore, the safety of the most effective plant extract was evaluated with respect to biochemical and histological changes in treated rats relative to control. The results revealed that, the tested botanical extracts showed high efficiency against *T. granarium* with respect to mortality and progeny of the adults. *C. senna* was the most effective botanical extract against *T. granarium*. The GC-MS analysis of the most effective plant extract showed the presence of different bioactive compounds that is known by its insecticidal activity. The most effective plant extract showed no toxicity on treated rats relative to control with respect to biochemical and histological changes. The results suggest the ability of using these plant extracts for wheat grains protection as a safe alternative to insecticides.