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رسالة مقدمة من

شيماء عيد عبد الغنى إبراهيم

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لاستكمال متطلبات الحصول علي درجة الماجستير
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قسم العلوم الزراعية
معهد الدراسات والبحوث البيئية
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2010

ASSESSMENT OF ENVIRONMENTAL HAZARDOUS AND MOLECULAR CHARACTERIZATION BY SOME PLANT EXTRACTS FOR CONTROLLING OF *SPODOPTERA LITTORALIS* (BOSID.).

BY

SHIMAA EID ABDEL -GHANY IBRAHEEM

B.Sc. Agric. Sci. (Genetics.), Ain Shams University, 2002

A Thesis Submitted in Partial Fulfillment
of
The Requirements for the Master Degree
in
Environmental Sciences

Department of Environmental Agricultural Sciences
Institute of Environmental Studies and Research
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صفحة الموافقة على الرسالة

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ABSTRACT

Shimaa Eid Abdel-Ghany Ibraheem. Assessment of environmental hazardous and molecular characterization by some plant extracts for controlling of *Spodoptera littoralis* (Bosid.). Unpublished M.Sc. thesis in Environmental Agricultural Sciences, Institute of Environmental Studies and Research, Ain Shams University, 2010.

This experiment was conducted on the 2nd larval instar of *Spodoptera littoralis* (Bosid), in order to investigate the effect of two botanical extracts (Castor oil and Gossypol) on different biological and biochemical aspects of the 2nd larval instar. The data obtained from the present study revealed that the Castor oil extract proved more effective on larval mortality, fecundity, egg hatching, adult emergency, pupation, and sex ratio when applied on the 2nd larval instar than Gossypol. Both of the two botanical extracts affected the sex ratio of the produced adults, where a shift to male side was recorded. It is worthy to note that the treatments with both botanical extracts have greatly influenced the genetic background of the resulted first generation individuals and henc malformations have been also noticed in the individuals of the second generation. The degree of malformation was higher in the first generation than that of the second one. Total protein, lipid and carbohydrate were affected in all the stages studied. The biochemical data showed a distinguishable pattern between treatments and control. Molecular genetic fingerprinting was carried out using 10 random primers. The obtained data suggested that the primer C13 was the most powerful primers in regarding generating specific unique band.

Key word

*Spodoptera littoralis***,** Castor oil, Gossypol, biological and biochemical aspects, plant extracts, Molecular characterization**,** DNA**.**

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