

**ECOLOGICAL AND TOXICOLOGICAL STUDIES  
ON SOME LAND SNAILS INFESTING COTTON  
AND CLOVER CROPS**

**BY**

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### ABSTRACT

Survey of terrestrial snails infesting Egyptian clover and cotton crops in Gharbia and Fayoum Governorates through the period of September to August, during the two successive seasons 2004/2005 and 2005/2006, revealed the occurrence of four land snail species; *Monacha obstructa* (Pfiffer), *Eobania vermiculata* (Muller), *Theba pisana* (Muller) and *Helicella vestalis* (Pfiffer). In both Governorates, *M. obstructa* snail was the predominant species on Egyptian clover and cotton crops, *H. vestalis* snail occurred with low numbers in two field crops. beak numbers of these snails were recorded on Egyptian clover and cotton crops during April and September, respectively. The occurrence of these land snails was varied considerably from month to another, whereas the population density of these snails reached its maximum during Winter and Spring and relatively decreased during Summer in both Governorates.

Molluscicidal effect of Methomyl, Copper sulfate, Sodium borate, CAPL-1, CAPL-2 and Sol.EC, was studied against *M. obstructa* adult. Methomyl compound exhibited the highest effect followed by Copper sulfate and Sodium borate when used as bait, dipping and residual film techniques. Boiled water extracts of Santonica, Red Pepper and Pomegranate had no effect on snails, while acetone plant extracts of Fennel, Black pepper, Santonica, Red Pepper, Pomegranate and Neem had considerably toxic effect against adults of *M. obstructa* under laboratory conditions. Fennel plant extract recorded the highest effect while Neem was the least toxic one when used as bait, residual film or dipping techniques.

In order to identify the plant extract components, the extracts were subjected to Thin layer chromatography technique. The different fractions obtained from acetone plant extracts were recorded. The extracts of Black pepper, Pomegranate, Fennel, Santonica, Red pepper and Neem contained 5, 2, 3, 2, 6 and 3 spots, respectively.

## DEDICATION

*I dedicate this work to whom my heart felt thanks; to my husband Said , my children's Ganna and Mustafa, my parents , my brother Ahmed and his wife for their patience and help and for all the support they lovely offered along the period of my post graduation.*

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<b>ARABIC SUM MARY</b>	

Lannet  
Copper sulfate  
Sodium borate

Neem

.....  
.....

Lannet  
Copper sulfate  
Sodium borate

Lannet  
Copper sulfate  
Sodium borate

Neem

-87-

Neem

Lannet  
Copper sulfate  
Sodium borate

% mortality

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