

**ECOLOGICAL STUDY OF RODENTS INFESTING
AGRICULTURAL AREAS AND NEW CONTROL APPROACHES**

BY

FATMA MOUSTAFA METWALLY MOUSTAFA

B. Sc. Agric., (Plant Protection), Ain Shams University, 1978

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Under the supervision of :

Prof. Dr. Amged M. K. Sobeiha

Professor of Chemistry & Toxicity of Pesticides., Faculty of
Agriculture, Ain Shams University.

Prof. Dr. Mahmoud E. A Tharwat

Professor of Agricultural Zoology, Plant Protection Dept.,
Faculty of Agricultural, Ain Shams Universty.

Prof. Dr. Aly H. EL- Sherbiny

Director, Central Laboratory for Agricultural Climate
Agricultural Research Center

APPROVAL SHEET

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BY

FATMA MOUSTAFA METWALLY MOUSTAFA

B. Sc. Agric., (Plant Protection), Ain Shams University, 1978

This thesis for M. Sc. degree has been approved by:

Prof. Dr. Sohail Samy Soliman.....

Prof. of Mammology, Faculty of Science, Ain Shams
University

Prof. Dr. Mohamed Said Saleh El-Zemaity

Professor of Chemistry & Toxicity of Pesticides, Faculty of
Agriculture, Ain Shams University.

Prof. Dr. Mahmoud E. A Tharwat.....

Professor of Agricultural Zoology, Faculty of Agricultural, Ain
Shams University.

Prof. Dr. Amged M. K. Sobeiha

Professor of Chemistry & Toxicity of Pesticides, Faculty of
Agriculture, Ain Shams University.

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ABSTRACT

The main objectives of the current research were to study the protection of the environment and the balance by using compounds that have no harmful effect on the none target species, with high efficiency against harmful rodents, to stop the outbreak problem which happens in some areas with ecological pressures.

Questionnaire studies of residents using a prepared questionnaire showed no significant differences between both regions, between houses with and without animal rooms, methods of control and between current and 1-6 month ago infestation. LSD test showed significant differences between day and night as a factor and night and day and between houses with birds, cats, sheep and cattle. Differences between regions, burned red bricks, hard surface, paved floor, houses without animal rooms and fairly clean houses were significant. For Kafer Hakim village shows difference between burned red bricks, sun dried bricks and unclean houses.

The roof rat, (*Rattus rattus*) and the Norway rat (*Rattus norvegicus*) were the main rats caught from Shalakan village. Norway rat had the highest number for animal room locations in all months. Location and seasonal variations showed no effect except for food store.

Laboratory studies showed that Santonic (Worm seed) "sheah" had the highest repellency effect among other soaking plant water with no significant difference.

Another laboratory study showed that the addition of carbon disulphide (10ppm) to crushed maize attracted rats to the food (the acceptability increased by 14% over control). Carbon disulphide had more attractance effect than ethyl acetate. The high trapping success was recorded in the case of traps treated with carbon disulphide.

The effect of Librax^R (0.001%) as antistomachache added to zinc phosphide (1% and 0.5%) increased food consumption and acceptability with higher mortality for 0.25%. Statistical analyses showed no

significant differences. In free choice tests, second day consumption increased by 2.72 and 1.29 fold for treated and untreated with zinc phosphide Librax^R group than the first day, respectively.

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