

# Farmers' Perception, Knowledge, and Control Attitudes of Rodents Infesting Cereal Growing Areas in Morocco

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## Abstract

Rodent pests are significantly threatening agricultural cropping systems by affecting the food security and income of small-holder farmers in cereal-growing areas. This study aimed to investigate farmers' perception, knowledge, and attitudes toward rodents infesting cereal crops (wheat and barley) and management methods in Morocco. A KAP survey was conducted for the first time using a structured questionnaire to collect data from 100 farmers from two regions (Rabat-Salé-Kenitra, and Fes-Meknes). The results showed that more than 70% of the farmers experienced rodent infestation in their fields, and the most prevalent species were *Mus musculus* (28%) and *Rattus rattus* (26%). Other species were also reported from the survey including *Meriones shawi*, *Rattus norvegicus*, and *Gerbillus campestris*. The farmers' perception of rodents was mostly negative, with the majority of the respondents considering rodents as pests that cause wheat damage (e.g., spoiling, chewing, and eating) and economic losses. The study found that farmers

used various control methods to reduce rodent infestation, including the use of rodenticides (77%), traps (53%), and cultural practices (up to 67%). However, it was reported that these methods are only effective if done continuously. The results also showed that age, education, and experience influenced farmers' perception, knowledge, and control attitudes toward rodents. Younger, more educated, and experienced farmers had a better understanding of rodent damage trends and were more likely to adopt suitable pest management practices. On the other hand, yielding patterns of cereal crops were significantly linked to rodent species, some farmers' characteristics, and management settings. The study revealed that farmers' negative perception of rodents led to their limited and unoriented management outputs, adopted against rodents. Thus, there is a need for educational programs to enhance farmers' knowledge of rodent ecology and the use of Ecologically Based Rodent Management (EBRM) practices to achieve sustainable rodent control in cereal-growing areas of Morocco.

**Keywords:** Cereal, EBRM, Farmers, KAP, *Mus musculus*, Rodent

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