

DAMAGE ASSESSMENT CAUSED BY RODENTS TO SOME FIELD CROPS IN UPPER EGYPT.

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. ABSTRACT

The present study was carried out in fields located in al-Azhar University farm in Assiut district to determine the damage in broad bean, wheat, maize and sorghum which caused by the rodent species and the time during which damage reaches its maximum. Samples were taken at five distances from the outer field border (1.0, 10.0, 20.0, 30.0 and 40.0 meters).

The results showed that rodents attack broad bean plants from 15th January to 20th March. The highest attack by rodents was recorded during the period of the pod filling stage. The lowest damage recorded during the period from 15 to 30th January. The damage was concentrated in the broad bean plants adjacent to the field border, then decreased progressively towards the middle of the field. The lowest attack was presented in plants situated at 40 meters from the field border. Rodent attack the wheat plants from 1st April to 20th May and the maximum attack was recorded during the period in the doughy stage. During the period from 1st to 8th April through the milky stage the lowest damage in wheat plants was recorded. Damage decreased gradually towards the center of the field. The highest destruction was recorded at the field border followed by the ten meters beside the field border. The lowest damage was registered at 40 meters apart from field borders. Rodents attack maize plants from the period of 15th September till 20th October and the maximum attack was observed during the period from 13th September to 20th October. The greatest damage was concentrated in the plants near to the field border and in the first ten meters beside the field borders and lowest damage was presented in the distance more than 10 meters far away from field borders. Rodents attack the sorghum plants from 15th September to 21st October. The highest damage was clear in the plants near of the field borders and with increasing distances. The damage was gradually tended to reduce. The minimum rodent of damage was presented in plants situated at 20-30 meters from the field border.

INTRODUCTION

In Egypt, rodents problem increased in the last two decades. The main reasons are due to the diversion in agriculture system, land reclamation and construction of new cities in the desert areas and the wide usage of pesticides for controlling agricultural pests that leads to kill the natural enemies of rodents such as reptiles and wild birds. In El-Minia Governorate, Asran (1991) found that the damage caused by *A. niloticus* in wheat and maize crop started at the early growth stage and increased during the milky and dough growth stages. Asran *et al.*, (1991) found that the damage caused by rats in wheat field increased from 0.47% in December to 2.83% in April. In Fayoum Governorate, Abdel-Hamid (1997) found that wheat and maize