

EVALUATION OF SOME CHEMICAL AND MECHANICAL METHODS TO CONTROL RODENT POPULATION UNDER FIELD CONDITIONS IN UPPER EGYPT AREA.

Metwaly, A.M.¹; K.H. Abdel-Gawad²; M.A. Ahmed¹ and H.S.K. Ahmed¹

1- Agric. Zoology and Nematology Dept., Fac.of Agric., AL-Azher Univ., Egypt.

2- Agric. Zoology, Plant Protection Dept., Fac.of Agric., Assiut Univ., Egypt.

ABSTRACT

The rodent infestation in pods of broad bean, plant/m² of wheat as well as cobs/m² of maize and sorghum at different sampling dates and distances in both chemical and mechanical control methods were discussed.

It is obvious from the obtained results that control of rodents in broad bean, wheat, maize and sorghum fields by mechanical means as well as application of Supercaid and Phosphide zinc either singly and in combination was very effective than non-application. Mechanical control by (handling destroying of burrows and erased the wasted materials) was more effective in controlling rodents than chemical methods. The mechanical control for rodents under the field condition was more effective than the mechanical methods. The mechanical method may be arranged according to their effectiveness, destroying of burrows and erased the wasted materials. The application of Phosphide zinc singly was the superior in controlling rodents, while Supercaid only had the lowest effect. Whereas, using both rodenticide together achieved a moderate effect.

INTRODUCTION

The control and management of rodent populations and their parasites associated with rodent diseases leads to reducing an infectious disease. Thus, great efforts should be done to develop rodent control programs. Control methods not only fulfill the requirement of protecting crops, but also in a safe efficient and economic manner. The chemical control of rodents has been practiced for more than three decades. The use of anticoagulant rodenticides began from 45 years ago. Previously the use of acute toxicant had been relatively less effective, due to poison shyness, behavioral resistance and the lack of specificity. On the other hand, the chronic poisons (anticoagulants) exhibited more selectivity and un-developing poison shyness. Although many rodent species developed resistance to some anticoagulants such as Warfarin, the efficacy of anticoagulant rodenticide should be checked periodically (Ahmed, 2007).

Al-Wakeel (2000) indicated that single dose anticoagulant Brodifacoum and Bromadiolone gave higher effect against *R. norvegicus* causing 90.7 and 95.3% population reduction, respectively comparing with 90.6 and 88.9 to for Chlorophacinone and Diphacinone multi dose anticoagulant. On the other hand, *A. cahirinus* showed anticoagulant tolerance either for single or multi-dose anticoagulant as Brodifacoum and