

DISTRIBUTION OF Potato Tuber Moth (*Phthorimaea operculella* Zeller) AND DAMAGE CAUSED ON POTATO TUBERS (*Solanum tuberosum* L) IN FARMERS STORES

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Abstract

Potato tuber moth complex of *P. operculella* (Zeller), *Tecia solanivora* (Povolny) and *Symmetrischema tangolias* (Geyen) has a worldwide distribution and is a major pest of potatoes affecting seed potato and ware potato in the field and store. A survey was undertaken in five major potato growing regions of Kenya to identify the pest species and determine the distribution of the pest and damage on tubers. Five thousand tubers were collected randomly from four quarters of farmers' stores from different areas and transported to the entomology laboratory at Kabete Campus University of Nairobi for storage. Destructive sampling was done on the tubers to determine the damage and moths' activity on collection and after three months of storage. Adult moths emerging after three months of storage were trapped and the species occurring in different regions identified using entomological identification keys for Lepidoterans. Mines and larvae in tubers were counted to assess damage. Damage on tubers at collection and after three months of storage was not significantly different between the five main areas where they were collected ($p < 0.05$). However, Njambini area had the least number of larvae and mines at initial assessment while Bomet and Limuru had highest number of larvae and mines, respectively. After three months of storage, Limuru had the highest number of larvae and mines in tubers while Njambini and Meru had the least number of mines and larvae. Only one pest species *Phthorimaea operculella* was identified. These results indicate continued activity of moths in the stores and that there are areas such as Njambini where PTM infestation and activity is minimal. The area could be considered for seed production complemented by some management of the pest in the store for preservation.

Key words: *Solanum tuberosum*, *Phthorimaea operculella*, PTM Larvae,