

Screening of cowpea genotypes for field infestation of bruchids and their control in storage

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SUMMARY

An experiment was conducted to study the impact of different cowpea genotypes, insecticides and their interaction effect on field infestation of bruchids which acts as a primary source of storage loss. Twenty one genotypes of cowpea with three replications were subjected to pre harvest spray of Quinolphos 25 EC @ 0.05 per cent and malathion 50 EC @ 0.05 per cent and one with untreated control. The harvested seeds were stored for two months and observations were recorded on bruchids population, per cent damaged seeds and per cent weight loss in seeds at monthly intervals. It was observed that Quinolphos 25 EC @ 0.05 per cent pre harvest spray was effective in maintaining minimum or zero development of bruchid population, per cent seed damage and per cent weight loss of seeds in selective genotypes such as PGCP-3, KBC-2, DCP-17, TPTC-1, TPTC-2, PCP-9711.

Key Words : Cowpea, Genotypes, Field infestation, Bruchids

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Cowpea [*Vigna unguiculata* (L). Walp] is one of the most versatile food legumes in the tropical and sub-tropical regions of the world. It enjoys a place of importance both as pulse and a vegetable crop with a good source of protein (24 %), carbohydrate (60 %) and fat (2 %) and also a good source of vitamins and phosphorous. By virtue of its nutritional composition, it offers a great scope in meeting the nutritional requirement of weaker section of population. Being nitrogen fixing legume, its important role as green manuring crop can be judged by the fact that it can fix

up to 240kg nitrogen per hectare besides leaving 60-70kg for succeeding crop. However, it suffers both qualitative as well quantitative losses due to attack of storage pests. More than 150 species of insect pests are known to attack pulse crops both in the field and in storage conditions. In India 25 species of these, are known to cause appreciable damage. Among these insect pests, bruchids [*Callosobruchus chinensis* (L.)] assume greater importance as they damage the final produce in the field as well as in the store. The genus *Callosobruchus* is very prominent in its incidence and includes a number of economically important species that attack stored pulses throughout the world. The field infestation of pulses by these pulse beetles acts as a potential source of initiation of population build up during post harvest period in stores. Hence an attempt has been made to evaluate the effectiveness of insecticides in preventing field infestation and development of pre harvest insecticidal treatment on control of bruchids during storage.

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MATERIALS AND METHODS

The experiment comprised of 21 genotypes replicated