

**Studies on Cowpea Varietal Resistance to the  
Cowpea Flower and Pod Borer, *Maruca  
Testulalis* (Geyer) (Lepidoptera  
Pyralidae).**

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## **Abstract:**

Several varieties of cowpea, *Vigna unguiculata* s.sp. *unguiculata* (L.) Walp., were screened for resistance to the cowpea flower and pod borer, *Maruca testulalis* (Geyer) using free-choice field trials, cohort tests in large screened cages and no-choice tests in the screenhouse and the laboratory. The damage potential of *M. testulalis* on Ife Brown cowpea was also studied using controlled infestations in order to establish a baseline infestation level that could be used to differentiate resistance effectively in no choice tests.

The study on the damage potential showed that successful establishment of the first in star larvae could only be obtained and sustained throughout the crop growth at the flower bud stage. At this stage, infested plants showed significantly reduced numbers of flowers and pods as well as seed yield. Two first in star larvae per plant was the lowest infestation that produced such significant differences between infested plants and the control. Thus, it is suggested as an adequate level for differentiating susceptible and resistant varieties in no choice tests employing Ife Brown as a standard.

The free choice field trials showed significant differences in the degree of susceptibility of the varieties screened. Using overall susceptibility indices that considered some parameters associated with pest attack and which could affect flowering, podding and seed yield, TVu 1896 A/G, Sese, EW/1 and H64-3 were found to be moderately resistant to flower damage; while 2Ak and TVu 1896 A/G were shown to be moderately resistant to pod and seed damage.

The field resistance was confirmed by the cohort and no-choice tests. TVu 1896 A/G and H51-1 were found to be resistant to pod and seed damage while TVu 946 and 2Ak were moderately resistant. Non-preference for oviposition and larval feeding appeared responsible for the resistance observed. Antibiosis manifested in form of reduced weight and size, and lengthened pupal period was also observed.

**Keywords:** Cowpea/ *M. testulalis*/ degree of susceptibility/oviposition/ larval feeding/ dehydrogenase

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