SCREENING FOR HOST PLANT RESISTANCE TO *HELICOVERPA ARMIGERA* (LEPIDOPTERA: NOCTUIDAE) IN SELECTED CHICKPEA *(CICER AURIENTINUM* L) GENOTYPES IN KENYA.

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ABSTRACT

Helicoverpa armigera (pod borer) is a major pest of chickpea (*Cicer aurientinum*) in many areas of the world. In Kenya, it causes up to 80% yield losses of the crop. The methods of control include application of pesticides, *Bacillus thuringiensis* (Bt), Helicoverpa Nuclear Polyhedrosis Virus (HNPV) and cultural methods. Host plant resistance can be an important component of managing this pest. To increase the effectiveness of screening for resistance, a combination of techniques such as direct field screening and feeding preference bioassays need to be evaluated. The research evaluated 30 chickpea genotypes for resistance to *H. armigera*. The study consisted of two experiments. In experiment 1, field screening, was conducted in a RCBD with three replicates. The results showed that there was significant variation in *Helicoverpa* tolerance among the genotypes. Genotypes EC583318, EC583250 and EC583260 were least infested by the pod borers while ICC07105 and ICC4973 recorded the highest number of larval populations. The percent pod damage ranged from 9.15% in EC583264 to 25.4% in ICC3137. EC583260 was found to be low yielding (1051kg/ha). In experiment 2 a modified leaf feeding bioassay was used to assess the feeding preference of Helicoverpa among chickpea varieties. Leaf damage weights were determined after 12 hrs of insect feeding and preference indices (PI) computed. On the no choice test, EC583250 had a leaf damage weight of 18.16% and ICC4973 recorded 36.77%. EC583250 had the lowest PI of 1.08 and ICC 3137 had the highest PI of 1.84. Data on larval counts, percent pod damage and percent leaf damage weights were transformed using exponential transformation, $exp(x+c)$ and analyzed using ANOVA with the Genstat release 12.1 software; means were separated using DMRT at $P<0.05$. Correlation analysis using StataSE