

Impact of crop-crop diversity on pod-borer (*Helicoverpa armigera*) of pigeonpea (*Cajanus cajan*).

#### Abstract

An experiment was conducted during rainy (kharif) season 2003 and 2004 at Hyderabad to study the impact of crop-crop diversity on incidence of pod-borer [*Helicoverpa armigera* (Hubner)] on pigeonpea [*Cajanus cajan* (L.) Millsp]. The incidence of major pod-borer *H. armigera* varied temporally across cropping systems and significant fluctuation was noticed even at peak level of population (13-16 weeks after sowing). Intercropping also caused significant variation in pod and grain damage by pod-borers *Maruca vitrata* (Geyer), *Exelastis atomosa* (Walsingham) and *Melanagromyza obtusa* (Malloch). The intercrops, viz sorghum (*Sorghum bicolor* L.), groundnut (*Arachis hypogaea* L.) and blackgram (*Vigna mungo* (L.) Hepper) reduced the pod damage by *H. armigera*, *M. vitrata*, and *M. obtusa* significantly. The grain damage by lepidopteran borers was less in pigeonpea + sorghum (15.15%), pigeonpea + groundnut (22.26%) and pigeonpea + blackgram (20.49%) intercropping systems. These effective cropping systems registered highest pigeonpea equivalent yields that was in the range of 0.97-1.11 tonnes/ha. Further these systems were more efficient agronomically in terms of land equivalent ratio (1.04-1.31), aggressivity (1.03-1.49), competitive ratio (1.77-1.97) and relative crowding coefficient (4.08 - 9.59). Economic analysis showed these intercropping systems to be more profitable than the sole pigeonpea.

KEYWORDS: ). Intercropping also, caused significant ,variation ,pod and grain ,damage by pod-borers.