

IMPACT OF SORGHUM ON NATURAL PARASITISM OF *Helicoverpa armigera* (HUBNER) BY *Trichogramma chilonis* ISHII IN COTTON IN SOUTHERN INDIA

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Abstract

Field trials were conducted on three cotton hybrids (MECH 1, MECH 12, and RCH 2) grown alone, and with a sorghum hybrid (CSH 1) as a neighbouring crop at two villages, Ravulapally and Sankeypally, in Ranga Reddy district. Cotton hybrids grown neighbouring to sorghum had significantly higher levels of egg parasitism by *Trichogramma chilonis* than in a monocrop. The enhanced level of parasitism was due to a temporal shift in *T.Chilonis* population from sorghum to cotton during the cropping season. Parasitism on sorghum increased slowly in relation to host egg density at both the village sites and reached a peak of 70% and 60% by mid-September at Ravulapally and Sankeypally respectively. The mean clutch size on sorghum was

2.06, with a maximum of parasitoids emerged per egg. Parasitism of *Helicoverpa armigera* eggs on cotton by *T.Chilonis* reached a maximum of 68% in mid-October when grown as a neighbouring crop to sorghum and 45% as a monocrop. The mean clutch size on cotton was 2.24, with a maximum of 5 parasitoids emerged per egg. Among the three cotton hybrids tested, parasitism was significantly higher on MECH 12 either grown alone or neighbouring to sorghum. The results are discussed in terms of the dynamics of *T.chilonis* build up on sorghum and its subsequent migration to cotton as management strategy to suppress the population carryover *H.armigera* on cotton.

Key words : cotton, cropping systems, *Helicoverpa armigera*, sorghum, *Trichogramma chilonis*.

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