

Research Paper :

## Habitat management of borers in corn



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### SUMMARY

An attempt has been made to study the effect of finger millet and marigold as trap crop in maize. Finger millet can be used as a trap crop to manage *S.inferens* and marigold could be used as trap crop for *H.armigera* in corn. It is necessary to spray the trap crops with insecticides to prevent the spread of the insect pests to the main crop thereby reducing the insecticide load on the environment. Trap crops also encourage the abundance and activity of natural enemies. These pull strategies will help the farmers by not only reducing the insect damage but also by providing additional income.

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### Key words :

Corn, Habitat management, *H. armigera*, *S. inferens*

Corn is one of the important cereal crops for food, nutritional security and farm economy. In the end of manuscript and source of basic raw material for various industries viz., starch, food sweeteners, bio-fuel, cosmetics etc.

Corn is infested by about 139 insect pests and only a dozen of these are quite serious and require control measures (Siddiqui and Marwaha, 1993). Of the different insects, stalk/stem borers are the principal pests in all the top 25 corn growing countries of the world. Losses due to *Sesamia inferens* during winter varied from 25.7 to 78.9% (Chatterji *et al.* 1969). Godbole (1983) reported that Endosulfan 0.1% spray at 10 days after germination followed by Endosulfan 4 G in whorl @ 5kg/ha was effective in reducing the borer infestation.

Though cob damage due to *Helicoverpa armigera* has been reported but decrease in grain yield is only a minor one (Darvas *et al.*, 2011). Keszthelyi *et al.* (2011) reported 14.03 per cent weight loss in grains and 13.74 per cent weight loss in cobs of sweet corn. Loss of corn due to *H.armigera* has been estimated to be 262 kg/ha and if larvae damage early silks, pollination will be reduced resulting in even greater yield reductions. In most years, it is a case of forsaking the top of cob to larval damage (Anonymous,2010).

In recent years, habitat management techniques, which aim at increasing plant biodiversity through intercropping and mixed cropping, have gained increased attention in stemborer management. Plants emitting semiochemicals and those which are attractive for egg laying by stemborer moths were selected and employed as trap crops (pull) to draw pests away from the main crop (Khan *et al.*, 2010). Several reports on utilisation of Napier grass in push-pull strategy against stem borer in corn are available and effectiveness of marigold as trap crop has been studied in tomato, pigeonpea and cotton.

So far no report is available regarding the use of finger millet and marigold in corn therefore in the light of this background, an attempt has been made to study the influence of finger millet and marigold as trap crops in corn.

### MATERIALS AND METHODS

Field experiments were conducted for two seasons during winter 2009 and 2010 at Maize Research Centre, Rajendranagar, Hyderabad utilizing HQPM-1 (Single cross quality protein corn hybrid developed from HAU, Karnal in 2006).Plot size was 6m x 6m. Corn was sown on ridges at a spacing of 75 cm x 20 cm. Two rows of trap crop were planted

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