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EVALUATION OF IPM MODULE AGAINST ONION THRIPS, *THRIPS TABACI* LINDEMAN

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ABSTRACT : The field study was conducted under All India network Research Project on Onion and Garlic, at Department of vegetable science, C.S. Azad University of Agriculture and Technology, Kalyanpur Kanpur (U.P.) during *Rabi* season 2010-11 to 2012-13 to recognized the effective, ecofriendly IPM modules for management of onion thrips (*Thrips tabaci* Lindeman) in onion. The treatment consisted of M_1: IPM module, M_2: Farmers' Practices and M_3: Control, laid out in CRD. The result indicated that both M_1 and M_2 not only significantly reduced the thrips population (9.59 and 7.56 thrips/ plant) but also increased total marketable yield (29.36 and 29.67 t/ ha), respectively. Higher B: C Ratio was recorded in M_1 (12.66) than M_2 (8.47). It may be concluded that adoption of IPM module not only reduces thrips infestations but also produces better yield with higher B: C Ratio in onion.

Key words : Onion thrips, *Thrips tabaci*, onion, IPM, marketable bulb yield, BC ratio.

INTRODUCTION

Onion (*Allium cepa* L.) is an important export oriented vegetable among the cultivated *Allium* in India. It is grown in *rabi, kharif* as well as late *kharif* seasons with maximum area of 60% in *rabi* alone, which play a major role in supplementing the income of small and marginal farmers of U.P. The productivity of onion is much low in India than the world average (Pandey, 2000). The national area about 1173.36 MH, production 18928.39 MT and productivity is nearly 16.13 t/ha and area under onion cultivation in U.P. is 24.47 MH, production around 413.60 MT and productivity is around 16.90 t/ha (Anonymous, 2014). Onion thrips (*Thrips tabaci* Lindeman) is the key biotic factor reducing yield. Beside direct damage to both foliage and bulbs, thrips can indirectly aggravate purple blotch and act as vector for viral diseases, like Iris yellow spot as well (Krishna *et al*, 2011). There is an urgent need to look at the options for its effective management. Srinivas and Lawande (2004) also reported that *Thrips tabaci* is now treated as the measure production constraints of onion at the national level in India. The present study was carried out to recognize the effectiveness of IPM module against onion thrips.

MATERIALS AND METHODS

The experiment was carried out under the All India Network Research Project on Onion and Garlic, at Department of Vegetable Science, C.S. Azad University of Agriculture and Technology, Kalyanpur, Kanpur (U.P.) during *Rabi* season 2010-11 to 2012-13 in CRD with three modules such as M_1: IPM module, M_2: Farmers' practices and M_3: Control, with 4 replications per module. The details of modules are as follows :

M_1: IPM module

- Planting barrier crops: outer row of maize + inner row of wheat on all 4 sides of the plot at least 7-10 days before onion planting. Wheat planted closely and maize at 25 cm interval. Avoid tall maize variety. No gaps between maize plants.
- Seedling root dip: Dip the seedlings (bottom 1/ 3rd) in Carbosulfan (2ml/l) solution for 2 hours before transplanting.
- Monitor thrips population twice a weekly interval; spray based on ETL whenever thrips population (nymphs) crosses 30/plant.
- Whenever thrips cross ETL, spray-Methomyl@240 g a.i. /ha or Neem oil (3 ml/l) + Profenofos (0.5 ml/l), or Fipronil (1ml/l), or Neem oil (3ml/l) + Carbosulfan (1ml/l).