

Research Paper :

## Performance of some IPM modules on *Spodoptera litura* and *Helicoverpa armigera* in lucerne



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### SUMMARY

The field experiment was conducted on lucerne crop at MPKV, Rahuri from November, 2007 and May, 2008 to find out effective eco-friendly IPM modules for management of lucerne pests. Among the IPM modules tested against *Spodoptera litura*, IPM II (*B.t.* 0.1 % + bird perches) was found significantly superior over other IPM modules at 7 days after treatment. Whereas, IPM I (Trap crop + *SINPV* + bird perches) and IPM III (*SINPV* + bird perches) proved to be equally effective against *Spodoptera litura* and production of green forage yield. IPM II (*B.t.* 0.1 % + bird perches) and IPM I (Trap crop + *HaNPV* + bird perches) showed less than 1 larva/m<sup>2</sup> of *Helicoverpa armigera* at 7 days after average of two treatment scheduled. IPM II recorded highest seed yield (4.05 q ha<sup>-1</sup>) of lucerne followed by IPM I and IPM III.

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**Key words :** *S. litura*, *H. armigera*, *Medicago sativa*, IPM

Lucerne (*Medicago sativa* L.) sometimes called, 'queen of forage crops,' is one of the oldest among cultivated fodder crops. Lucerne is the highest in feeding value of all commonly grown hay crops. It contains 20.2 % crude protein, 16.2 % digestible crude protein, 30.1 % crude fibre, 1240 g calcium/100 kg, 350 g phosphorus/100 kg lucerne and metabolic energy 2.17 M cal./kg (Banerjee, 1978). The quantitative losses recorded in India is about 37.7 % due to insect pests in lucerne (Shri Ram and Gupta, 1989). No work seems to have been done on any aspect of pest infesting lucerne in Maharashtra, though it is major green leguminous nutritive fodder. It is fodder with frequent cutting systems, highly persisted insecticides are undesirable. Considering the importance of the crop and losses caused by the pest, the present investigation was undertaken to manage the major pests of lucerne with IPM modules.

### MATERIALS AND METHODS

The experiment was carried out on the farm of AICRP on Forage Crops, MPKV, Rahuri, Dist. Ahmednagar (M.S.) during the

November, 2007 to May, 2008 in Randomized Block Design with fifteen replication and four treatments. The treatment details are mention below.

#### Treatment details :

T<sub>1</sub> : IPM module I :

- Seed treatment of *Trichoderma viride* (5 g/kg seed)
- Transplanting of marigold seedling 0.5 m apart around and inner border in lucerne field 1 month after sowing.
- Seedling of castor seed 3 m part around and inner border area of lucerne field at the time of sowing.
- Spraying of *HaNPV* or *SINPV* @ 250 LE/ha at the appearance of 2 larvae/sq.mt. of respective pest.
- Spraying of NSE 5 % for sucking and lepidopteran pests.
- Placement of 'T' shaped bird perches (15/ha).

T<sub>2</sub> : IPM module II:

- Seed treatment of *Trichoderma viride* (5 g/kg seed).
- Spraying of *Verticillium lecanii* (4 x 10<sup>5</sup> c.f.u./ml) for the management of aphids.

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