

Research Paper :

Chemical Control of *Earias vittella* (Fabricius) on Okra

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International Journal of Plant Protection, Vol. 2 No. 2 : 231-233 (October, 2009 to March, 2010)

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SUMMARY

Among the different insecticides tested against *Earias vittella* (Fabricius) on okra, profenophos + cypermethrin 0.044%, chlorpyrifos + cypermethrin 0.055%, cypermethrin 0.006% and profenophos 0.05%, were found to be the most effective in reducing the fruit infestation i.e. 6.47 to 10.52%. The highest yield of healthy fruits was recorded in the treatment of profenophos + cypermethrin 0.044% (2366.6 kg/ha) followed by chlorpyrifos + cypermethrin 0.055% (2155.35 kg/ha), cypermethrin 0.006% (2127.06 kg/ha) and profenophos 0.05% (2103.91 kg/ha). The treatments with cypermethrin 0.006% gave the highest NICBR (1: 20.3) followed by profenophos + cypermethrin (1: 11.9), chlorpyrifos (1: 10.4), chlorpyrifos + cypermethrin (1: 10.2) and profenophos (1: 8.7).

Key words :

Insecticides, *E. vittella*, Okra, Chemical control

Okra is an important vegetable crop grown all over India and tropical and sub-tropical parts of the world. The crop is vulnerable to attack of many insect pests, among which fruit borer (*Earias vittella* and *E. insulana*) is the most important pest causing direct damage to the marketable fruits. It is alone reported to cause 57.1% fruit infestation and 54.04% yield loss in okra (Chaudhary and Dadheech, 1989). At present, many newer and ready mixed insecticides are available in the market and there is not much precise information available about their efficacy against okra fruit borer. Attempts were therefore made to find out the efficacy of certain new molecules against okra fruit borer under the field conditions.

MATERIALS AND METHODS

An experiment was conducted at the College Farm, College of Agriculture, Junagadh Agricultural University, Junagadh during *kharif* season of 2006 in a Randomized Block Design with three replications with a view to determine the efficacy of twelve different insecticides including the control on okra fruit borer. The okra cv. Gujarat Bhendi-2 was sown in a plot size (gross) 6.00 m x 3.60 m with a spacing 60 cm x 30 cm. Two sprayings of insecticides were carried out with the help of knapsack sprayer, first spraying was given at fruit formation stage and second at 15 days after first spray. The observations on number of healthy and infested okra fruits were

recorded from ten randomly selected and tagged plants from the net area of each plot before 24 hours of each spraying. Subsequently, the observations on infested and healthy okra fruits and yield of healthy okra fruits were also recorded at each picking. On the basis of number of damaged and healthy okra fruits, the percentage infestation was calculated and the data were statistically analyzed. Statistical analysis of data was carried out by the Fisher's analysis of variance techniques as given by Panse and Sukhatme (1985).

RESULTS AND DISCUSSION

The results obtained from the present investigation in Table 1 and 2.

Fruit infestation :

The data on per cent fruit infestation (Table 1) recorded at each fruit picking indicated that all the insecticides were significantly superior over the control for minimizing the fruit infestation due to *E. vittella*. Among the various insecticides tested, the lowest infestation (8.48%) due to fruit borer was recorded in the treatment of profenophos 40 EC + cypermethrin 4 EC at 0.044%. However, it was at par with treatments chlorpyrifos 50 EC + cypermethrin 5 EC at 0.055%, profenophos 0.05% and cypermethrin 0.006% as they registered 9.90, 12.40 and 12.61 per cent fruit infestation, respectively. The next better treatments were methomyl 0.05%, acephate 0.05% and chlorpyrifos 0.05% which

Accepted :
September, 2009