

Research Paper :

Efficacy of some insecticides and neem formulations against brown plant hopper, *Nilaparvata lugens* Stal in rice

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SUMMARY

Efficacy of four insecticides and four neem formulations against brown plant hopper, *Nilaparvata lugens* Stal was evaluated during Kharif 2006-2007. It was observed that as chemical insecticide, monocrotophos was most effective in reducing the pest population, being 28.26, 24.73, 21.60 and 18.06 BPH/5 sweeps after 24, 48, 72 and 120 hours of application, respectively, as compared to all other treatments and control. As neem formulations, the application of neem product, neemarin was also proved effective against BPH having 31.53, 30.33, 28.73 and 28.26 population /5 sweeps, respectively in comparison to other neem products and control provided 42.46, 44.26, 46.60 and 48.60 population.

Key words :

Brown plant hopper, *Nilaparvata lugens*, Efficacy, Neem products

Rice is a staple food of the people in India. Large scale cultivation of high yielding, high fertilizer responsive rice varieties coupled with assured irrigation have increased the severity of insect pests in India. The rice plant is subjected to attack by more than 100 species of insects, 20 of them can cause economic damage. The brown plant hopper, *Nilaparvata lugens* is one of the most serious pests of rice (Mohan *et al.*, 1991). Several species are serious pests of rice in many areas. They frequently occur in numbers and are enough to cause complete drying of the crop or "hopper burn", the more alarming species is brown plant hopper.

Since, indiscriminate and incessant use of conventional insecticides causes mammalian hazards and side effects like pest resurgence of insect to insecticides, secondary pest outbreaks, side effects on other live forms, hence, some plant derivatives were assessed which have no residual toxicity.

MATERIALS AND METHODS

The investigations was carried out during Kharif 2006 with the objective to determine the efficacy of certain neem products and insecticides in form of emulsifiable concentrate on rice against *Nilaparvata lugens*. The experiment was conducted at New Dairy Farm, Kalyanpur, C.S.A. University of

Agriculture and Technology, Kanpur.

The experiment was laid out in Randomized Block Design having nine treatments and three replications, the plot size being 5 x 5 m and distance between plot to plot and replications kept 0.5 and 1.0 m, respectively. The variety used was Basmati 1.

Name of insecticides, Neem formulation and their concentration		
Name of insecticides	Formulation	Concentration (%)
Monocrotophos	40 EC	0.04
Endosulfan	35 EC	0.07
Malathion	50 EC	0.05
Quinalphos	25 EC	0.25
Neemarin	300 ppm	2
Achook	300 ppm	2
Nimbicidine	300 ppm	2
Nembicidane	300 ppm	2

Preparation of spray material:

The spray material was prepared by directly mixing of desired quantity in water (600-1000 lit/ha). The desired quantity of insecticides and neem formulations were measured with the help of measuring cylinder and mixed in water required to spray.

Observations recorded:

All treatments were applied 45 days after

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