SHORT COMMUNICATION

OF CERTAIN NEW INSECTICIDES TO DAMSEL FLY POPULATION IN RICE ECOSYSTEM

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Abstract: Damselfly is a dominant predator in rice fields. Indiscriminate use of insecticides leads to environmental pollution, annihilation of natural enemies rendering to secondary pest resurgence. To find out the influence of certain new insecticides Alika 247 ZC@33g.a.i./ha is safer for Damselfly and application of Furadan 3G@1000 g.a.i/ha, Dursban 10G@1250 g.a.i./ha and Phorate 10G@100 g.a.i/ha were found harmful to damselfly.

Keywords: Damselfly, Newer insecticides

INTRODUCTION

Chhattisgarh is popularly recognized as rice bowl of the country. As rice is the principle crop of the state and about 69.70 % of net sown area is covered under *Kharif* rice. The area under rice crop in Chhattisgarh is 1262997 ha (Anonymous, 2007a). The total production of rice in the state is 8309916 metric tones with an average productivity of 1323 Kg/ha, which is very low as compared to the national average of 2263 Kg/ha. About 96 percent of total area under rice in the state is concentrated in low and very low productivity groups of the state (Sastri et al., 2006). Damselfly is a dominant predator in rice fields. Indiscriminate use of insecticides leads to the environmental pollution, annihilation of natural enemies rendering to secondary pest resurgence, subsequent loss in yield and increased cost of pesticides (Ganesh kumar and Velusamy, 1996). Hence, there is a need for continous evalution of insecticides for identifying their effectiveness against major pests and safety to natural enemies. Keeping the above facts in view, we assessed safety of certain new insecticides to damselfly in rice ecosystem.

MATERIAL AND METHOD

Field experiment was carried out at IGKV Research Farm, Raipur during *Kharif* 2006-07. The materials used and techniques adopted for this study is illustrated in this chapter.

The paddy crop grown for experimental purpose was given nutrition through the chemical fertilizer @ 80:60:40 NPK kg/ha. All the insecticidal treatments were applied twice during the crop season. The first application was given as prophylactic treatment at 30 days after transplanting. The second insecticidal treatment application was given at the maximum tillering stage of the crop i.e.50 DAT. The increasing trend of insect infestation was observed at 50 DAT observations.

The populations of natural enemies present in the crop ecosystem were counted in each hill after insecticidal spraying for all the treatments. Damselfly is one of the major predators found to be associated in the paddy crop ecosystem. This information will be helpful in understanding the safety of insecticides for natural enemies of the insect pest.

Table 1. Population of Damsel fly found to be associated under different insecticidal treatment during kharif - 2006

Treatment	Formulation g a.i/ha	Mean percentage of Damsel fly on ten plant
T1 : Durban 10 G	1000	10.50 (3.31)
T2 : Durban 10 G	1250	10.50 (3.30)
T3 : Furadon 3 G	1000	9.75 (3.19)
T4 : Ethiprole 40% + Imidacloprid 40%	100	10.75 (3.35)
T5 : Alika 247 SC	33	12.00 (3.52)
T6 : Alika 247 SC	44	10.50 (3.31)

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T7 : Decis 10 EC	15	10.75 (3.35)
T8 : RIL -043	400	10.50 (3.31)
T9 : Kingdoxa 14.5 SC	30	10.50 (3.31)
T10 : Spinosad-45 SC	45	10.50 (3.32)
T11 : Spinosad-45 SC	56	11.50 (3.46)
T12:Monocrown 36 WSC	500	11.50 (3.46)
T13 : Phorate 10 G	1000	11.75 (3.49)
T14 : Untreated control	-	14.25 (3.84)
SE (m) + CD(5%)		0.10 0.29

Figures in Parenthesis are square root transformed values.

RESULT AND DISCUSSION

This chapter deals with the brief description of results obtained under different objectives of this study.

Damsel fly

Minimum damsel fly population were recorded with Furadan 3 G @ 1000 g a.i/ha (9.75) which was statistically at par with Dursban 10 G @ 1250 g a.i/ha (10.5) and Dursban 10 G @ 1000 g a.i/ha (10.5) followed by Phorate 10 G @ 1000 g a.i/ha (11.75). The maximum damsel fly population 14.25 on per ten plant was observed with the untreated control plot. The application of Alika 247 SC @ 33 g a.i/ ha was found statistically at par with the untreated control.

It may be stated that the application of Furadan 3 G, Dursban 10 G and Phorate 10 G were harmful to Damsel fly. The application of Alika 247 SC @ 33 g a.i/ ha was found safer for Damsel fly.

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