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RESEARCH ARTICLE

EFFICACY OF INSECTICIDES AGAINST BLISTER BEETLE (*MYLABRIS PUSTULATA*) IN PIGEONPEA AT NAGALAND

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ABSTRACT

Studies on the "Efficacy of insecticides against Blister beetle (Mylabris pustulata) in Pigeonpea at Nagaland" were conducted during the year 2017-18, at the Experimental farm Entomology, SASRD, Nagaland University, Medziphema, Nagaland. The field experiment was laid out in Randomized Block Design (RBD) with 3 replications. Plot size was maintained at 4.05 m × 2.4 m with inter spacing of 1 m in between plots. Row to Row and plant to plant spacing was maintained at 45cm×30cm. 7 treatments (6 insecticides and 1 untreated control) were used for the study on genotype UPAS--120. Results of the insecticidal treatments were found to be significant. After the 1st and 2nd spray, the highest percent reduction of Blister beetle was recorded on Lambda-cyhalothrin 5 EC treated plot of 83.16% followed by Flubendiamide 480 SC (76.04%) and Indoxacarb 15.8 EC treated plot (72.33%). The lowest percent reduction of Blister beetle after both the sprays was recorded on NSKE 5% treated plot of 47.63%. Overall, all the Insecticidal treatments showed superiority over untreated control in reducing the beetle population.

INTRODUCTION

Blister beetle (*Mylabris pustulata)* is a polypagous pest attacking amany flowers including pulses, malvacious and cucurbitaceous crops. pigeonpea is the most preferred host for development and survival of this pest (Balikai, 2000 and Duairaj, 2000). Adult beetles feed on different floral parts including petals, anthers, stigma and ovaries resulting in no pod formation. This pest has a direct impact by damaging the foliage and feeding on crops or indirectly suppressing the population of pollinators (Ghoneim, 2013). Due to its feeding habit and adaptation it becomes very difficult to manage this pest. Therefore, Crop protection with chemicals is desirable and unavoidable part of integrated pest management (Mohyuddin *et al*., 1997).

MATERIALS AND METHODS

The experiment was conducted during the *Kharif* season 2017-2018, at the Experimental farm of Entomology, SASRD, Nagaland University, Medziphema, Nagaland to study the "Efficacy of insecticides against Blister beetle (*Mylabris pustulata*) in Pigeonpea at Nagaland". The Experiment was designed in RBD with 7 treatments including control and replicated thrice. Plot size was maintained at 4.05m × 2.4 m with inter spacing of 1 m in between plots. Row to Row and plant to plant spacing was maintained at 45cm × 30cm. The genotype used for the study was UPAS-120. The treatments evaluated included Deltamethrin 2.8 EC @12.5 g a.i./ha, NSKE 5%, Flubendiamide 480 SC @30 g a.i./ha, Cypermethrin 25 EC @25 g a.i./ha, Lambda-cyhalothrin 5 EC @25 g a.i./ha Indoxacarb 15.8 EC @ 73 g a.i./ha, and Untreated control. The treatments was Applied during the flowering stage. The incidence of insecticides was observed on randomly selected tagged plants and population of blister beetle was counted. Observation was made one day before spay as pre- treatment and after 3 and 7 days post treatment. The % reduction over control was calculated and the data was subjected to ANOVA (Gomez and Gomez, 1983)

RESULTS AND DISCUSSIONS

The result of the insecticidal treatments was found to be significant. After the 1st spray, the highest percent reduction of Blister beetle was recorded on Lambda-cyhalothrin 5 EC

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treated plot of 82.19 at 3 DAS and 83.77 at 7 DAS respectively, followed by Flubendiamide 480 SC (76.68 at 3 DAS and 83.37 at 7 DAS). Similar tends of percent reduction on Blister beetle population was observed after the 2nd spray with highest percent reduction in Lambda-cyhalothrin 5 EC treated plot (77.78 % at 3 DAS and 88.89% at 7 DAS) followed by Flubendiamide 480 SC and Indoxacarb 15.8 EC.

Efficacy of insecticides for the management of Blister beetle in pigeon pea at Nagaland, 2017-18

Treatments	First spray			Second spray			Cumulative Mean reduction (%)
	Pre-treatment count	Per cent reduction		Pre-treatment count	Per cent reduction		
		3 DAS	7 DAS		3 DAS	7 DAS	
Deltamethrin 2.8 EC @12.5 g a.i./ha	5.56	65.56* (54.10)	77.78 (61.93)	1.00	47.22* (43.25)	63.89 (53.25)	63.61
NSKE 5%	5.89	53.70 (47.14)	69.84 (57.23)	1.44	46.67 (43.08)	68.33 (56.14)	47.63
Flubendiamide 480 SC @30 g a.i./ha	6.33	76.68 (62.11)	83.37 (66.35)	1.11	61.11 (56.75)	82.22 (69.39)	76.04
Cypermethrin 25 EC @25 g a.i./ha	6.11	69.42 (56.70)	79.40 (63.28)	1.33	66.67 (60.00)	72.22 (58.46)	53.92
Lambda-cyhalothrin 5 EC @25 g a.i./ha	6.22	82.19 (65.06)	83.77 (66.47)	1.56	77.78 (71.75)	88.89 (78.25)	83.16
Indoxacarb 15.8 EC @ 73 g a.i./ha	5.78	69.28 (56.35)	80.61 (64.28)	1.33	69.44 (56.46)	70.00 (57.29)	72.33
Untreated control	5.22	18.68 (24.78)	49.07 (44.39)	2.89	7.69 (9.57)	13.25 (17.60)	10.69
SEm ±	0.49	5.09	6.15	0.40	3.31	7.74	
CD (P=0.05)	1.51	15.70	18.94	1.23	9.61	23.84	

*Figures in parentheses are arc sin percentage transformed values, NS indicates Non-significance, DAS: Days after spraying

After both the sprays, the highest cumulative mean percent reduction of Blister beetle was recorded on Lambda-cyhalothrin 5 EC treated plot of 83.16% followed by Flubendiamide 480 SC (76.04%) and Indoxacarb 15.8 EC treated plot (72.33%). The lowest percent reduction of Blister beetle after both the sprays was recorded on NSKE 5% treated plot of 47.63%. All the Insecticidal treatments showed superiority over untreated control in reducing the beetle population

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