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Assessment of different fungicide against false smut of rice

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Abstract

Rice is extremely important food crop in India. Rice is the staple food for millions of people in India. Domestication of this crop invited many diseases and pest. Among them False smut disease spread in the larger area, most of the varieties are affected, needed to get it managed by the application of different group of fungicide in proper dose at appropriate time. Kresoxim methyl 44.3% SC, Propiconazole 25%, Hexaconazole 5% sc and carbendazim 50% wp proved themselves well at appropriate dose in the field condition. Kresoxim methyl treated paddy plot showed least percent spikelet and panicle infection as 1.6 and 2.6 respectively with a severity of 3.0 percent and maximum yield 49.5 q /ha observed, followed by propiconazole, hexaconazole and carbendazim.

Keywords: Fungicide against, rice, propiconazole, hexaconazole and carbendazim, False smut disease

Introduction

False smut disease of rice appears in severe form in my district Araria in 2nd climatic zone of Bihar. It is caused by fungus *Ustilaginoidea virens* (*Claviceps oryzae sativa*). It has been assumed as an economically less important disease reported from most of the rice varieties world-wide^[5]. It also causes significant losses in yield^[7, 9]. In India it has been reported from Bihar, UP, Karnataka, Orissa, A.P, Assam, and Haryana & Tamil Nadu^[8]. Heavy yield losses in different varieties have been reported^[1, 2 & 9]. As a matter of fact less attention about this disease among the farmers community. Due to this disease heavy losses of the crop (4). Upadhyay, A.L and shing, R.V have been reported that the total loss in yield occurs due to infected tillers, smutted grain/Panicle (10). The higher side of relative humidity accompanied by cloudy day, during flower initiation have been found more congenial *Claviceps oryzae sativa*^[6]. It has becoming possible threat in increase rice production as a result of outbreak. Hence the present investigations were carried out to find out the effective fungicide for control this disease.

Materials and Methods

The following fungicides viz. carbendazim 50wp, Propiconazole 25EC @ 0.1% Kresoxim methyl 44.3 wp @ 0.1% Hexaconazole 5 sc @ 0.2%, Mancozeb 75% wp @ 0.2 and copper oxychloride 50 wp @ 0.3%. Have spread and evaluated for their efficiency against *Claviceps oryzae sativae* (*Ustilaginoidea virens*) in the field condition. During the on farm trial in the year 16-17 & 18 the trial was conducted in the farmers field of Araria district in RBD design at different location. The fungi side sprayed the paddy crops thrice at booting stage (80DAT), 50% flowering stage (105DAT). Observation on false Smut infected panicle, infected spikelet /panicle and disease severity were recorded before harvesting of the crops & the yield was recorded after harvesting of the paddy crop.

Results and Discussion

A field experiment was conducted and evaluate the efficiency of different fungicide against the false Smut of paddy at ten farmers plot at Araria district in different location during on Farm trial in the year 16-17 & 17-18. The result obtained are presented in Table. It has been revealed that kresoxim methyl treated plot showed least percentage infected panicle and infected grains per panicle to the tune of 1.6% & 2.6% respectively. The disease severity was also recorded as 3.0 in this treatment. Subsequently the yield of 49.5 @ ha was also recorded with this treated plot which was just followed by Propiconazole, Hexaconazole and Carbendazim sprayed plot were recorded. It has also been agreed with the Work of^[3].

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Table 1: The result obtained are presented

Treatment	Fungicite	Dose %	% inficted Pancile/m2	% inficted/SpikeletsPancile	Disease Sevierity	Yield q/ha
T ₁	Kresoxim methyl	0.1	1.61	2.60	3.02	49.6
T ₂	Propiconazole	0.1	2.30	2.91	4.03	46.8
T ₃	Hexaconazole	0.2	3.02	3.42	4.50	45.5
T ₄	Carbendazim	0.1	3.54	3.60	5.40	42.4
T ₅	Mancozeb	0.2	4.02	4.50	6.02	37.5
T ₆	Copper Oxy chloride	0.3	5.08	6.02	7.33	36.52
Control (FP)			13.40	8.52	14.65	33.44
S.E. Mean			0.21	0.65	0.85	1.35
C.V %			7.52	25.34	21.02	5.40
CD at 5%			0.58	2.03	2.74	4.05

Conclusion

This study has been advocates that the Kresoxim methyl has more potential to central of false Smut disease of paddy in compare to other fungicide.

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