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INCIDENCE OF FALSE SMUT DISEASE IN SOME RICE VARIETIES AFTER SPRAYING WITH *LANTANA CAMARA* PHYTOEXTRACT

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The phytoextract of *Lantana camara* , when sprayed on some cultivars of rice during the *Kharif* season, there was significant increase in the incidence of False smut of rice.

Keywords : False smut of rice; Phytoextract; Rice .

Natural infection of False smut of rice occurs when *Ustilaginoidea virens* (Cke.)Tak. attacks the rice plant. Factors favouring infection by *Ustilaginoidea virens* include high humidity , high rainfall and cloudy days during flowering .The sclerotia overwinter or oversummer in the field . The fructifications replace the grains[1-3]. In the present communication the occurrence and incidence of False smut of rice occurred not as a result of the known factors but when foliar spray of the leaf extract of *Lantana camara* was done .The incidence of the disease occurred on eleven high yielding local cultivars .

Known amount of air dried young leaves of *Lantana camara* was defatted in a soxhlet apparatus for 36 hours. The defatted plant material was extracted with 95% ethyl alcohol in the cold , charcoalised and filtered .The charcoal was eluted several times with acetone :water (2: 1) and the combined eluates evaporated to dryness under reduced pressure. The residue was dissolved in 2 to 3 drops of absolute alcohol and the volume made up to 10 ml with distilled water .This stock solution was further diluted to obtain a concentration of 100 ppm which was used as a spray. The leaf extract was tested for any fungal contamination.

Seeds of eleven varieties of rice were procured from Rice Research Station , Chinsurah , W.B . One month old seedling raised in the nursery were transplanted in the plots measuring 1.5 m into 2m and planted at a spacing of 15 into 15 cm between and along the rows during the *Kharif* season for 2 consecutive years. The first application was done 15 days after transplantation and second at the maximum tillering stage .The plants were sprayed with the extract at the maximum tillering stage @ 500 ml per plot . A plot without spraying was maintained as control . The data on disease severity percentage and average number of sclerotia for two years (2005 – 2006 and 2006-2007) were pooled , the values transformed and analysed statistically.

The results obtained were very significant and encouraging . Incidence of False smut of rice in both the years occurred. Disease severity percentage was statistically significant in all the eleven varieties studied . Average number of sclerotia was also statistically significant (Table 1). There is increasing trend of using plant extracts against various fungal pathogens[4] . Use of phytoextracts in the management of various plant diseases is on the rise[5]. But phytoextracts can also be a very suitable medium for many other fungal pathogens . The results obtained assume special significance . In the present study leaf extracts of *Lantana camara* caused a high disease incidence of False Smut of rice in the sprayed plants .Some compounds present in the extracts of *Lantana camara* favouring the sclerotia to germinate needs to be identified.

Table 1. Effect of *Lantana camara* phytoextract on incidence of False smut disease in Rice cultivars.

Rice cultivars	Disease severeity %	Average number of Sclerotia (square root values)
IET5857	51.4	3.48
IET8022	49.4	3.07
IET16953	54.4	3.93
TN1	54.2	3.58
IET7230	43.6	3.57
IET7302	52.0	4.06
IET4094	51.2	4.01
IET4786	51.0	4.10
IET16307	46.0	2.18
IET17020	50.8	2.97
IET17671	53.6	2.03
Control	00.0	0.00
LSD(0.05)	1.73	0.56

Figures indicate the pooled data of *Kharif* 2005-2006,

2006-2007.

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