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TI EFFICACY OF FUNGICIDES IN THE CONTROL OF RUST DISEASE OF FRENCH BEAN
CAUSED BY UROMYCES-PHASEOLI REBEN WIMB.
AU PRAKASAM V
; THAMBURAJ S
DATE 1991
LA ENGLISH
LOC INDIA
CROP BEAN
DIS UROMYCES PHASEOLI
PC PC 9143
ABS FRENCH BEAN (PHASEOLUS VULGARIS L.) IS AN IMPORTANT VEGETABLE CROP
GROWN IN INDIA AND DISEASES CONTRIBUTE CONSIDERABLY TO LOW AND
UNSTABLE YIELDS. RUST DISEASE CAUSED BY UROMYCES PHASEOLI (REBEN)
WIMB IS VERY SERIOUS DISEASE IN THE RAINFED CROP. STUDIES WERE
CONDUCTED TO EVOLVE SUITABLE SPRAY SCHEDULE FOR THIS DISEASE.
RN 5234-68-4
; 5259-88-1
; 55179-31-2
PROD VITAVAX
; BAYCOR
; PLANTVAX
INGRED CARBOXIN
; BITERTANOL
; OXYCARBOXIN
TYPE EFFICACY
; IMPACT
SOURCE OON

PC 9143

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EFFICACY OF FUNGICIDES IN THE CONTROL OF RUST DISEASE OF
FRENCH BEAN CAUSED BY *UROMYCES PHASEOLI* (REBEN) WIMB

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French bean (*Phaseolus vulgaris* L.) is an important vegetable crop grown in India and diseases contribute considerably to low and unstable yields. Rust disease caused by *Uromyces phaseoli* (Reben) Wimb is very serious disease in the rainfed crop. Studies were conducted to evolve suitable spray schedule for this disease.

The experiment consisted of 10 treatments with 3 replications and tested in Randomized Block Design, using the variety, Watex, with a spacing of 30 x 30 cm during 1989-90. Carbendazim, bitertanol, thiophanatemethyl, Oxy-carboxin, Carboxin, tridemorph at 0.1%, mancozeb and Difolatan at 0.25% were sprayed thrice; 45, 60 and 75 days after sowing. The disease intensity was recorded by following a scale chart of 0.9. In each treatment, 50 plants were randomly selected, graded for disease intensity and disease index was worked out. The yield was recorded.

The data presented in Table-1, revealed that spraying triadimefon showed the least incidence of 10.4% which was on par with tridemorph as against 78.5% in control. The other fungicides also significantly reduced the disease and increased yield when compared to control. The yield of 5.47 kg/plot (9116 kg/ha) was recorded in triadimefon, followed by tridemorph (5.040 kg/plot i.e. 8400 kg/ha) which were on par. The control plots showed a mean yield of 2.120 kg/plot (3533 kg/ha).

In the present study, it was observed that spraying 0.1 per cent of triadimefon and tridemorph recorded less incidence of *U. phaseoli* and increased the yield appreciably. Dusting sulphur was reported to be effective in checking rust infection (Rangaswami, 1979). Singh (1983) reported that spraying mancozeb, maneb, zineb or chlorothalonil at the rate of 2 kg/ha at 10 days interval effectively controlled rust. Singh and Musyimi (1984) found that 4

Table 1. Efficacy of fungicides in the control of rust (*Uromyces phaseoli*)

Treatment	Rust incidence (%)	Yield (kg/plot)
Carbendazim	19.3	4.72
Triadimefon	10.4	5.47
Bitertanol	27.1	3.72
Thiophanate-methyl	16.3	4.15
Oxycarboxin	17.5	4.92
Carboxin	19.4	4.21
Mancozeb	47.4	3.14
Difolatan	42.4	3.31
Tridemorph	14.1	5.04
Control	78.5	2.12
CD (P=0.05)	5.7	0.70

CONTROL OF RUST DISEASE OF *ASEOLI* (REBEN) WIMB

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As presented in Table-1, spraying triadimefon showed a rust incidence of 10.4% which was significantly lower than that of tridemorph as against control. The other fungicides also significantly reduced the disease and yield when compared to control. The mean yield of 5.47 kg/plot (9116 kg/ha) recorded in triadimefon, 5.04 kg/plot (9084 kg/ha) in tridemorph (5.040 kg/plot ha) which were on par. The other plots showed a mean yield of 3.533 kg/ha.

In the present study, it was observed that spraying 0.1 per cent of triadimefon and tridemorph recorded less rust incidence of *U. phaseoli* and increased yield significantly. Dusting sulphur was also found to be effective in checking rust incidence (Rangaswami, 1979). It was also reported that spraying zineb or chlorothalonil at 2 kg/ha at 10 days after sowing effectively controlled rust. Muthusamy and Musyimi (1984) found that 4

sprays either with bitertanol at 1.75kg/ha or triadimefon at 500g/ha effectively controlled rust pathogen. Zambolim *et al.* (1985) found that effective rust control was obtained from oxycarboxin and bitertanol (0.5 kg/ha). Muthusamy and Ragupathi (1986) opined that spraying triadimefon on 25 and 45 days after sowing gave good control of rust in black gram. In the present study, also spraying triadimefon showed the maximum protection against rust pathogen. Nieuwoudt (1985) and Pohronezny *et al.* (1987) showed that bitertanol was very effective against *U. appendiculatus*. In the present study, bitertanol also showed reduction in rust incidence by inhibiting *U. phaseoli*

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