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85/R/BE/12 Fungicides for Rust Control - S. Beans

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85/R/BE/12

SPRING BEANS

FUNGICIDES FOR RUST CONTROL

Object: To study the effects of a range of fungicides on the control of rust (*Uromyces viciae-fabae*) and on the yield of s. beans - Long Hoos VI/VII 1.

Sponsors: J. McEwen, D.P. Yeoman.

Design: 2 randomised blocks of 21 plots.

Whole plot dimensions: 2.03 x 2.13.

Treatments: All combinations of:-

1. RUSTFUNG Fungicides to control rust:

BENODANI	Benodanil at 1.1 kg
FENPROP	Fenpropimorph at 0.75 kg
MANEB	Maneb at 0.80 kg
MANCOZEB	Mancozeb at 0.80 kg
MAN+MANC	Maneb at 0.80 kg plus mancozeb at 0.80 kg
PROPICON	Propiconazole at 0.12 kg
THIRAM	Thiram at 2.50 kg
TRIADIME	Triadimefon at 0.50 kg
ZIN+TRID	Zineb polyethylene thiram disulphide at 1.60 kg plus tridemorph at 0.53 kg

 2. RFNGTIME Times of applying fungicides to control rust:

ONCE	Once on 1 July, 1985
TWICE	Twice, on 1 July, 12 Aug
- plus one extra treatment:
- | | |
|-------|---|
| EXTRA | |
| NONE | No fungicides to control rust (triplicated) |

NOTES: (1) All sprays were applied in 220 l.
(2) Irrigation was applied to lessen a post-flowering soil moisture deficit from 50 mm to 25 mm. This was necessary on only one occasion on 18 July, when 33 mm was applied.

Basal applications: Manures: Chalk at 2.9 t. Muriate of potash at 520 kg. Weedkillers: Glyphosate at 1.4 kg in 220 l; trietazine at 1.2 kg with simazine at 0.17 kg and paraquat at 0.40 kg ion in 220 l. Fungicide: Benomyl at 0.56 kg in 220 l. Insecticides: Deltamethrin at 0.0075 kg in 220 l on two occasions; pirimicarb at 0.14 kg in 220 l on two occasions.

Seed: Minden, sown at 220 kg.

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Cultivations, etc.:- Chalk applied: 11 Sept, 1984. K applied: 25 Sept. Glyphosate applied: 26 Sept. Ploughed: 15 Oct. Spring-tine cultivated, seed sown: 13 Mar, 1985. Trietazine, simazine and paraquat applied: 19 Mar. Deltamethrin applied: 2 May, 23 May. Pirimicarb applied: 20 June, 17 July. Fungicide applied: 2 July. Harvested by hand: 17 Sept. Previous crops: Potatoes 1983, s. barley 1984.

NOTES: Plant counts were made after establishment. Amounts of chocolate spot and rust were assessed from early July until maturity. Components of yield were measured at maturity.

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

RFNGTIME	ONCE	TWICE	MEAN
RUSTFUNG			
BENODANI	6.99	6.99	6.99
FENPROP	6.92	6.80	6.86
MANEB	6.42	5.69	6.06
MANCOZEB	7.30	5.97	6.63
MAN+MANC	7.67	7.17	7.42
PROPICON	5.68	5.65	5.66
THIRAM	6.15	5.94	6.05
TRIADIME	6.51	7.28	6.90
ZIN+TRID	6.91	6.42	6.67
MEAN	6.73	6.43	6.58

EXTRA NONE 5.59

GRAND MEAN 6.44

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	RUSTFUNG	RFNGTIME	RUSTFUNG RFNGTIME
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SED	0.524	0.247	0.741

SED FOR COMPARING EXTRA NONE WITH ANY ITEM
IN RUSTFUNG.RFNGTIME TABLE IS 0.605

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	22	0.741	11.5

GRAIN MEAN DM% 88.1

PLOT AREA HARVESTED 0.00015