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79/R/BE/13 Comparison of Fungicides - Beans

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79/R/BE/13

SPRING BEANS

COMPARISON OF FUNGICIDES

Object: To study the effects of a range of fungicides and methods of application on the incidence of diseases and on the yield of spring beans - Long Hoos V 4.

Sponsors: G.A. Salt, J. McEwen, D.P. Yeoman.

Design: Single replicate of 38 plots.

Whole plot dimensions: 2.03 x 2.13.

Treatments: All combinations of:-

1. FUNGICIDE	Fungicides:			
AL TRI	Aluminium tris (ethylphosphonate) 'Aliette'			
BENOMYL	Benomyl			
DL METH	DL-methyl N- (2, 6 dimethylphenyl)-N (2 methoxy-acetyl) alaninate. 'Ridomil'			
THIABEND	Thiabendazole			
2. APP TIME	Application times:			
	Seedbed (as seed dressing)	5 June (as foliar spray)	3 July (as foliar spray)	
S	Applied	None	None	
EF	None	Applied	None	
LF	None	None	Applied	
S+EF	Applied	Applied	None	
S+LF	Applied	None	Applied	
EF+LF	None	Applied	Applied	
S+EF+LF	Applied	Applied	Applied	
plus four extra treatments:				
EXTRA				
NONE	None (four plots)			
STICKER	Methyl cellulose sticker only to seed (two plots)			
BE TH S	Benomyl + thiram seed dressing + sticker (two plots)			
THI HI S	Thiabendazole high rate seed dressing + sticker (two plots)			

NOTES: (1) Rates of application were as follows (a methyl cellulose sticker was used for seed dressings; foliar sprays were in 500 l for the early and 1000 l for the late application)

Treatment	Seed dressings g a.i. per kg seed	Foliar sprays kg a.i. per ha
'Aliette'	4.0	3.4
Benomyl	8.8	1.0
'CGA48998' ('Ridomil')	0.4	0.3
Thiabendazole	1.8	1.0
Thiabendazole high rate	6.0	-
Benomyl	3.0	-
Thiram	3.0	-

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(2) Seed was sown by hand in rows 51 cm apart, seed spaced 5 cm apart in the row.

Basal applications: Chalk at 2.9 t. Weedkillers: Trietazine and simazine (as 'Rental SC' at 2.9 kg) in 340 l. Insecticides: Permethrin at 0.15 kg in 340 l, pirimicarb at 0.14 kg in 340 l.

Seed: Minden.

Cultivations, etc.: Chalk applied: 31 Oct, 1978. Ploughed: 22 Jan, 1979. Spring-tine cultivated and rolled: 18 Apr. Seed sown: 19 Apr. Weedkillers applied: 1 May. Permethrin applied twice: 26 June, 4 July. Pirimicarb applied twice: 9 and 26 July. Harvested by hand: 13 Sept. Previous cropping: Potatoes 1977, barley 1978.

NOTE: Plant counts were made in May and June, and root disease was assessed in July and August.

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GRAIN TONNES/HECTARE

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

METHOD	S	EF	LF	S+EF	S+LF	EF+LF	S+EF+LF	MEAN
FUNGCIDE								
AL TRI	4.41	4.83	4.34	4.16	4.27	4.10	4.26	4.34
BENOMYL	4.22	4.15	4.23	4.34	4.31	4.35	4.04	4.23
DL METH	3.64	4.00	3.70	4.39	4.13	3.89	3.79	3.94
THIABEND	4.15	3.83	3.82	3.96	3.75	4.22	3.46	3.88
MEAN	4.10	4.20	4.02	4.21	4.11	4.14	3.89	4.10
EXTRA	NONE	STICKER	BE TH S	THI HI S		MEAN		
	4.08	3.84	4.54	3.74		4.06		

GRAND MEAN 4.09

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

TABLE	FUNGCIDE	METHOD	FUNGCIDE METHOD
SED	0.225	0.297	0.595

SEDS INVOLVING EXTRA PLOTS

NONE V THE REMAINDER 0.365
 BETWEEN THE REMAINDER 0.421
 NONE V FUNGCIDE.METHOD 0.471
 ANY OF REMAINDER V FUNGCIDE.METHOD 0.516

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

STRATUM	DF	SE	CV%
WP	6	0.421	10.3

GRAIN MEAN DM% 85.4

PLOT AREA HARVESTED 0.00015