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79/R/WS/1 Fungicides and Grain Microflora - S. Wheat

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79/R/WS/1

SPRING WHEAT

FUNGICIDES AND GRAIN MICROFLORA

Object: To study the effects of a range of fungicides applied at a range of times on the yield, quality and grain microflora of spring wheat - Whittlocks.

Sponsor: J. Lacey.

Design: 2 randomised blocks of 24 plots.

Whole plot dimensions: 4.27 x 13.1.

Treatments: All combinations of:-

1. FUNGICIDE	Broad spectrum fungicides:		
CAPTAFOL	Captafol at 1.4 kg		
CARB+MAN	Carbendazim at 0.25 kg + maneb at 1.6 kg		
BENOMYL	Benomyl (see Note (2))		
2. APP TIME	Application times of broad spectrum fungicides:		
	3 July	11 July	3 Aug
NONE	None	None	None
E	Sprayed	None	None
M	None	Sprayed	None
L	None	None	Sprayed
E+M	Sprayed	Sprayed	None
E+L	Sprayed	None	Sprayed
M+L	None	Sprayed	Sprayed
E+M+L	Sprayed	Sprayed	Sprayed

NOTES: (1) Treatment sprays were applied in 340 l.

(2) First benomyl sprays were applied at 1.1 kg in error. The intended rate of 0.28 kg was used for both later applications.

Basal applications: Manures: (20:14:14) at 440 kg, combine drilled. Weedkillers: Bromoxynil and ioxynil (as 'Oxytril CM' at 1.4 kg) and mecoprop at 1.7 kg in 220 l.

Seed: Highbury, sown at 190 kg.

Cultivations, etc.: Deep-tine cultivated twice: 31 Oct, 1978 and 2 Nov. Spring-tine cultivated, seed sown: 20 Apr, 1979. Weedkillers applied: 4 June. Combine harvested: 6 Sept. Previous cropping: Winter oats 1977, potatoes 1978.

NOTE: Grain microflora were assessed at fortnightly intervals after heading. Thousand grain weights were measured, and grain was assessed for germination and seedling growth.

79/R/WS/1

GRAIN TONNES/HECTARE

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

APP TIME FUNGIDE	E	M	L	E+M	E+L	M+L	E+M+L	MEAN
CAPTAFOL	5.51	5.61	5.82	5.50	5.73	5.55	5.89	5.66
CARB+MAN	5.54	5.66	5.32	5.80	5.57	5.71	5.61	5.60
BENOMYL	5.82	5.54	5.33	5.92	5.86	5.35	6.13	5.71
MEAN	5.62	5.60	5.49	5.74	5.72	5.54	5.87	5.66

APP TIME NONE 5.36

GRAND MEAN 5.62

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

TABLE	FUNGIDE	APP TIME	FUNGIDE APP TIME
SED	0.129	0.197	0.341

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

STRATUM	DF	SE	CV%
BLOCK.WP	25	0.341	6.1

GRAIN MEAN DM% 83.2

PLOT AREA HARVESTED 0.00195