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81/R/WW/4 Fungicides and Microflora - W. Wheat

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81/R/WW/4

WINTER WHEAT

FUNGICIDES AND MICROFLORA

Object: To study the effects of a range of fungicides and times of application on the colonisation of fungi on flag leaves and developing ears and on the yield of w. wheat - Webbs.

Sponsor: N. Magan.

Design: 2 randomised blocks of 24 plots.

Whole plot dimensions: 4.27 x 16.2.

Treatments: All combinations of:-

1. E FUNG Early-applied fungicides:

NONE	None
CARB+MAN	Carbendazim at 0.25 kg plus maneb at 1.6 kg applied on 1 June, 1981

2. L FUNG A Late-applied fungicides:

BENOMYL	Benomyl at 0.56 kg
CAPTAFOL	Captafol at 1.4 kg
CARB+MAN	Carbendazim at 0.25 kg plus maneb at 1.6 kg
IMAZALIL	Imazalil at 0.39 kg
PROCHLOR	Prochloraz at 0.40 l

3. LFNGDATE Dates of applying late fungicide:

12 JUNE	12 June, 1981
22 JUNE	22 June

plus two extra treatments not given L FUNG:

L FUNG O

NONE	No early-applied fungicide (duplicated)
CARB+MAN	Carbendazim at 0.25 kg plus maneb at 1.6 kg applied on 1 June, 1981 (duplicated)

NOTE: Treatment sprays were applied in 340 l.

Basal applications: Manures: (0:20:20) at 310 kg, combine drilled. 'Nitro-Chalk' at 390 kg. Weedkillers: Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3.7 l) in 250 l.

Seed: Maris Huntsman, sown at 200 kg.

Cultivations, etc.: Heavy spring-tine cultivated twice: 2 Oct, 1980. Spring-tine cultivated, seed sown: 3 Oct. N applied: 8 Apr, 1981. Weedkillers applied: 10 Apr. Combine harvested: 29 Aug. Previous crops: W. wheat 1979, potatoes, 1980.

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NOTE: Grain and flag leaf microflora, especially *Alternaria* and *Cladosporium*, were assessed at fortnightly intervals after heading. Thousand grain weights were measured, and grain was assessed for germination and seedling growth.

GRAIN TONNES/HECTARE

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

LFNGDATE	12 JUNE	22 JUNE	MEAN			
E FUNG						
NONE	8.21	8.31	8.26			
CARB+MAN	8.45	8.41	8.43			
MEAN	8.33	8.36	8.34			
L FUNG A	BENOMYL	CAPTAFOL	CARB+MAN	IMAZALIL	PROCHLOR	MEAN
E FUNG						
NONE	8.39	8.27	8.25	7.99	8.38	8.26
CARB+MAN	8.40	8.32	8.59	8.24	8.59	8.43
MEAN	8.40	8.29	8.42	8.11	8.49	8.34
L FUNG A	BENOMYL	CAPTAFOL	CARB+MAN	IMAZALIL	PROCHLOR	MEAN
LFNGDATE						
12 JUNE	8.47	8.22	8.28	8.11	8.56	8.33
22 JUNE	8.32	8.36	8.56	8.12	8.41	8.36
MEAN	8.40	8.29	8.42	8.11	8.49	8.34
E FUNG	L FUNG A	BENOMYL	CAPTAFOL	CARB+MAN	IMAZALIL	PROCHLOR
NONE	LFNGDATE					
	12 JUNE	8.49	8.21	8.13	7.89	8.31
	22 JUNE	8.30	8.33	8.37	8.08	8.46
CARB+MAN	12 JUNE	8.46	8.23	8.43	8.32	8.81
	22 JUNE	8.34	8.40	8.75	8.17	8.37
L FUNG O	NONE	CARB+MAN				
	7.93	8.00				

GRAND MEAN 8.28

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GRAIN TONNES/HECTARE

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

TABLE	L FUNG O	E FUNG	LFNGDATE	L FUNG A
SED	0.172	0.077	0.077	0.121
TABLE	E FUNG LFNGDATE	E FUNG L FUNG A	LFNGDATE L FUNG A	E FUNG LFNGDATE L FUNG A
SED	0.109	0.172	0.172	0.243

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

STRATUM	DF	SE	CV%
BLOCK.WP	25	0.243	2.9

GRAIN MEAN DM% 83.7

SUB PLOT AREA HARVESTED 0.00260