ROTHAMSTED RESEARCH

Yields of the Field Experiments 1980

Full Table of Content

80/R/WS/1 Spring Wheat Fungicides and Alternaria

Rothamsted Research

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80/R/WS/1

SPRING WHEAT

FUNGICIDES AND ALTERNARIA

Object: To study the effects of a range of fungicides, and times of application, on the incidence of fungi, especially Alternaria, on the ripening grain and on the yield of s. wheat - Delafield.

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 fungicide:

NONE	None
CARB+MAN	Carbendazim at 0.25 kg plus maneb at 1.6 kg applied on 9 June 1980

2. L FUNG — Late-applied fungicide:

BENOMYL	Benomyl at 0.56 kg
PROCHLOR	Prochloraz at 0.50 kg
CAPTAFOL	Captafol at 1.40 kg
CARB+MAN	Carbendazim at 0.25 kg plus maneb at 1.6 kg
IMAZALIL	Imazalil at 0.5 kg

3. LFNGDATE — Dates of applying late fungicide:

25 JUNE
7 JULY

plus two extra treatments not given L FUNG:

L FNG 0

NONE	No early-applied fungicide (duplicated)
CARB+MAN	Carbendazim at 0.25 kg plus maneb at 1.6 kg applied on 9 June (duplicated)

NOTE: Treatment sprays were applied in 340 l.

Basal applications: Manures: (20:10:10) at 450 kg, combine drilled. Weedkillers: Dicamba with mecoprop and MCPA (as 'Banlene Plus' at 5.0 l) in 250 l.

Seed: Timmo, sown at 190 kg.

Cultivations, etc.:- Subsoiled with tines 160 cm apart and 40 cm deep: 2 Nov, 1979. Chisel ploughed twice: 4 Dec. Spring-tine cultivated, seed sown: 6 Apr, 1980. Weedkillers applied: 27 May. Combine harvested: 4 Sept. Previous crops: S. beans and kale 1978, potatoes 1979.

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80/R/WS/1

NOTES: Grain microflora, especially Alternaria, 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 *****

L FUNG / E FUNG	BENOMYL	PROCHLOR	CAPTAFOL	CARB+MAN	IMAZALIL	MEAN
NONE	4.33	4.51	4.51	4.50	4.14	4.40
CARB+MAN	4.86	4.75	4.72	4.50	4.83	4.73
MEAN	4.59	4.63	4.62	4.50	4.48	4.56

LFNGDATE / E FUNG	25 JUNE	7 JULY	MEAN
NONE	4.39	4.40	4.40
CARB+MAN	4.78	4.68	4.73
MEAN	4.59	4.54	4.56

LFNGDATE / L FUNG	25 JUNE	7 JULY	MEAN
BENOMYL	4.77	4.41	4.59
PROCHLOR	4.56	4.70	4.63
CAPTAFOL	4.60	4.64	4.62
CARB+MAN	4.56	4.43	4.50
IMAZALIL	4.44	4.53	4.48
MEAN	4.59	4.54	4.56

E FUNG	LFNGDATE / L FUNG	25 JUNE	7 JULY
NONE	BENOMYL	4.37	4.28
	PROCHLOR	4.32	4.70
	CAPTAFOL	4.50	4.52
	CARB+MAN	4.56	4.44
	IMAZALIL	4.22	4.07
CARB+MAN	BENOMYL	5.18	4.54
	PROCHLOR	4.80	4.70
	CAPTAFOL	4.69	4.75
	CARB+MAN	4.57	4.42
	IMAZALIL	4.66	5.00

L FUNG 0	NONE	CARB+MAN	MEAN
	4.44	4.92	4.68

GRAND MEAN 4.58

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80/R/WS/1

GRAIN TONNES/HECTARE

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

TABLE	L FNG 0	E FUNG	L FUNG	LFNGDATE
SED	0.285	0.127	0.202	0.127

TABLE	E FUNG L FUNG	E FUNG LFNGDATE	L FUNG LFNGDATE	E FUNG L FUNG LFNGDATE
SED	0.285	0.180	0.285	0.403

SED FOR COMPARING A MEAN IN E FUNG.L FUNG.LFNGDATE TABLE WITH A L FNG 0 MEAN IS 0.247

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

STRATUM	DF	SE	CV%
BLOCK.WP	25	0.403	8.8

GRAIN MEAN DM% 79.1

PLOT AREA HARVESTED 0.00260

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