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76/R/B/6 Effects of Mildew Sources on Disease Control - Barley

Rothamsted Research

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76/R/B/6

SPRING BARLEY

EFFECTS OF MILDEW SOURCES ON DISEASE CONTROL

Object: To study the effects of nearby sources of mildew on control by fungicides applied at a range of times - Drapers.

Sponsors: J.F. Jenkyn, A. Bainbridge.

Design: 3 randomised blocks of 3 plots split into 6.

Whole plot dimensions: 22.9 x 29.9.

Treatments: All combinations of:-

Whole plots

1. MILDSRCE Mildew source:

NONE	None (seed treated ethirimol, crop sprayed tridemorph, on 27 May, 1976, 7 June,
EARLY	Early (tridemorph only on 27 May, 7 June)
FULL	Full (no mildew control)

Sub plots

2. MILDCONT Times of applying mildew control:

ED	Ethirimol seed dressing
	Tridemorph spray on:
T S 1	18 May
T S 2	21 May
T S 3	27 May
T S 4	2 June
T S 5	7 June

NOTE: The whole plot treatments were applied to a strip of crop 6.5 m wide at the ends of all sub plots. There were no discards between sub plots (0.6 m fallow paths only). Whole plots and the sides of sets of six sub plots were separated by strips of crop 17 m wide, seed treated ethirimol, crop sprayed tridemorph at 0.53 kg in 450 l on 27 May.

Basal applications: Manures: Chalk at 7.5 t. (20:14:14) at 380 kg, combine drilled. Weedkillers: Dicamba with mecoprop and MCPA ('Banlene Plus' at 5.6 l in 220 l).

Seed: Julia, sown at 160 kg.

Cultivations, etc.: Chalk applied: 16 Sept, 1975. Heavy spring-tine cultivated: 20 Oct. Ploughed: 12 Nov. Spring-tine cultivated: 9 Mar, 1976. Seed sown: 11 Mar. Weedkiller applied: 11 May. Combine harvested: 22 July. Previous crops: Potatoes 1974, barley 1975.

NOTES: (1) Seedling counts were made and mildew assessed on two occasions.
(2) Five plots in one block were affected by gravel bands, those with treatment combinations

MILDSRCE	EARLY	EARLY	FULL	FULL	FULL
MILDCONT	T S 5	T S 4	E D	T S 3	T S 5

Estimated values were used in the analysis.

76/R/B/6

GRAIN TONNES/HECTARE

SUB PLOTS

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

MILDCONT MILDSRCE	E D	T S 1	T S 2	T S 3	T S 4	T S 5	MEAN
NONE	4.72	5.16	4.87	4.56	4.46	4.53	4.71
EARLY	3.66	3.94	3.75	3.94	3.62	3.77	3.78
FULL	4.11	4.66	4.66	4.50	4.13	4.24	4.38
MEAN	4.16	4.58	4.42	4.33	4.07	4.18	4.29

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

TABLE	MILDSRCE	MILDCONT	MILDSRCE MILDCONT
SED	0.309	0.173	0.413
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
MILDSRCE			0.300

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

STRATUM	DF	SE	CV%
BLOCK.WP	4	0.378	8.8
BLOCK.WP.SP	25	0.368	8.6

GRAIN MEAN DM% 85.8

SUB PLOT AREA HARVESTED 0.00163

WHOLE PLOTS

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

MILDSRCE	NONE	EARLY	FULL	MEAN
	5.00	3.54	3.66	4.07

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

TABLE	MILDSRCE
SED	0.398

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

STRATUM	DF	SE	CV%
BLOCK.WP	4	0.487	12.0

GRAIN MEAN DM% 85.4

PLOT AREA HARVESTED 0.00624