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81/W/B/1 Mildew Study - W. & S. Barley

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81/W/B/1

WINTER & SPRING BARLEY

MILDEW STUDY

Object: To study the effects of fungicides applied to w. & s. barley on the incidence of mildew and on yield and whether these effects are influenced by neighbouring treatments - Woburn Far Field II.

Sponsor: D.W. Hollomon.

Design: W. barley: 3 blocks of 7 plots split into 2
S. barley: 3 blocks of 7 plots

Whole plot dimensions: 8.53 x 8.53.

Treatments:

To W. BARLEY: All combinations of:-

Whole plots

- | | |
|-------------|---|
| 1. SEEDRESS | Seed dressing to w. barley and one adjacent plot of s. barley, other adjacent 'plot' of s. barley sprayed tridemorph at 0.53 kg in 280 l on 30 May: |
| WBO SBO | None to w. and s. barley |
| WBO SBE | None to w. barley, ethirimol to s. barley |
| WBO SBT | None to w. barley, triadimenol + fuberidazole to s. barley |
| WBE SBO | Ethirimol to w. barley, none to s. barley |
| WBE SBE | Ethirimol to w. and s. barley |
| WBT SBO | Triadimenol + fuberidazole to w. barley, none to s. barley |
| WBT SBT | Triadimenol + fuberidazole to w. and s. barley |

Sub plots

- | | |
|-------------|---|
| 2. POSITION | Position of w. barley plots in relation to s. barley plots testing seed dressing: |
| N EAST | North east |
| S WEST | South west |

To S. BARLEY:

- | | |
|----------|--|
| SEEDRESS | Seed dressings to s. barley and to both adjacent plots of w. barley: |
| SBO WBO | None to s. and w. barley |
| SBO WBE | None to s. barley, ethirimol to w. barley |
| SBO WBT | None to s. barley, triadimenol + fuberidazole to w. barley |
| SBE WBO | Ethirimol to s. barley, none to w. barley |
| SBE WBE | Ethirimol to s. and w. barley |
| SBT WBO | Triadimenol + fuberidazole to s. barley, none to w. barley |
| SBT WBT | Triadimenol + fuberidazole to s. and w. barley |

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Standard applications: Manures: (10:23:23) at 250 kg for w. barley, (0:20:20) at 310 kg for s. barley, N at 130 kg as 'Nitro-Chalk' to all plots. Weedkillers: Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3.5 l) in 280 l to w. barley, isoproturon at 2.5 kg in 280 l to w. barley, dicamba with mecoprop and MCPA (as 'Banlene Plus' at 4.9 l) in 280 l to s. barley.

Seed: W. barley: Hoppel, sown at 160 kg.
S. barley: Wing, sown at 160 kg.

Cultivations, etc.:— Deep-tine cultivated: 24 Sept, 1980. NPK applied and spring-tine cultivated with crumbler attached for w. barley: 1 Oct. W. barley seed sown: 2 Oct. Deep-tine cultivated for s. barley: 31 Oct. PK applied for s. barley: 26 Feb, 1981. Spring-tine cultivated with crumbler attached three times for s. barley: 27 Feb, 6 Apr, 7 Apr. N applied to all plots: 20 Mar. 'Brittox' applied to w. barley: 27 Mar. S. barley, seed sown: 8 Apr. Isoproturon applied to w. barley: 22 Apr. 'Banlene Plus' applied to s. barley: 29 May. W. barley combine harvested: 28 July. S. barley combine harvested: 18 Aug. Previous crops: Grain legumes 1979, w. wheat 1980.

NOTE: The incidence of mildew (*Erysiphe graminis*) was measured during December and April for w. barley and on four occasions between May and July for s. barley.

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WINTER BARLEY

GRAIN TONNES/HECTARE

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

POSITION SEEDRESS	N EAST	S WEST	MEAN
WBO SBO	6.41	6.56	6.49
WBO SBE	7.18	6.72	6.95
WBO SBT	7.22	7.24	7.23
WBE SBO	6.72	7.50	7.11
WBE SBE	6.88	7.11	6.99
WBT SBO	6.94	7.05	6.99
WBT SBT	6.53	6.76	6.64
MEAN	6.84	6.99	6.91

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

TABLE	SEEDRESS	POSITION	SEEDRESS POSITION
SED	0.303	0.100	0.356
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
SEEDRESS			0.265

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

STRATUM	DF	SE	CV%
BLOCK.WP	12	0.371	5.4
BLOCK.WP.SP	14	0.324	4.7

GRAIN MEAN DM% 79.6

SUB PLOT AREA HARVESTED 0.00243

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SPRING BARLEY

GRAIN TONNES/HECTARE

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

SEEDRESS	
SBO WBO	5.78
SBO WBE	6.07
SBO WBT	5.78
SBE WBO	6.10
SBE WBE	6.00
SBT WBO	6.13
SBT WBT	6.16
MEAN	6.00

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

TABLE	SEEDRESS
-----	-----
SED	0.178

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

STRATUM	DF	SE	CV%
BLOCK.WP	12	0.217	3.6

GRAIN MEAN DM% 87.6

PLOT AREA HARVESTED 0.00243