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80/W/B/1 Winter & Spring Barley Mildew Sensitivity to Ethirimol

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80/W/B/1

WINTER & SPRING BARLEY

MILDEW SENSITIVITY TO ETHIRIMOL

Object: To study the effects of dressing barley seed with ethirimol on the subsequent sensitivity of mildew and on the yield of w. and s. barley - White Horse.

Sponsor: D.W. Hollomon.

Design: W. barley: 4 blocks of 4 plots split into 2
S. barley: 4 blocks of 4 plots

Whole plot dimensions: 8.53 x 8.53.

Treatments:

To WINTER BARLEY All combinations of:-

Whole plots

- | | |
|-------------|---|
| 1. SEEDRESS | Seed dressing to w. barley: |
| WO | None |
| WE | Ethirimol |
| 2. FUNG SB | Fungicide applied to adjacent plots of s. barley: |
| S OT | No fungicides to one adjacent plot, tridemorph to the other adjacent plot |
| S ET | Ethirimol seed dressing to one adjacent plot, tridemorph to the other adjacent plot |

Sub plots

- | | |
|-------------|---|
| 3. POSITION | Position of w. barley plots in relation to s. barley plots testing seed dressing (S O & S E below): |
| N WEST | North west |
| S EAST | South east |

To SPRING BARLEY All combinations of:-

- | | |
|-------------|--|
| 1. SEEDRESS | Seed dressing to s. barley: |
| SO | None |
| SE | Ethirimol |
| 2. FUNG WB | Fungicide applied to both adjacent plots of w. barley: |
| W O | None |
| W E | Ethirimol seed dressing |

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- NOTES: (1) Plot dimensions were 8.53 x 8.53 and plots were arranged in sets of three - a central s. barley plot with flanking plots of w. barley. Sides of sets of three plots were separated by 'plots' of s. barley of the same dimensions sprayed with tridemorph, ends of plots were separated by strips of s. barley 9.14 wide sprayed with tridemorph.
- (2) Tridemorph was applied at 0.53 kg in 280 l.

Basal applications: Manures: (10:23:23) at 260 kg, combine drilled for w. barley, 'Nitro-Chalk' at 380 kg to all plots, (0:20:20) at 280 kg, combine drilled for s. barley, additional 'Nitro-Chalk' at 180 kg to w. barley. Weedkillers: Mecoprop at 2.5 l with isoproturon at 1.5 kg in 280 l to w. barley. Mecoprop, bromoxynil, and ioxynil ('Brittox' at 3.5 l in 280 l) to s. barley.

Seed: W. barley, Hoppel sown at 170 kg.
S. barley, Wing sown at 160 kg.

Cultivations, etc.: - Deep-tine cultivated: 18 Sept, 1979, 19 Sept. Rotary cultivated: 25 Sept, 4 Oct. W. barley sown : 5 Oct. Heavy spring-tine cultivated for spring sowing: 18 Feb, 1980, 24 Mar. Mecoprop with isoproturon applied to w. barley: 19 Feb. N applied to all plots: 25 Mar. Spring-tine cultivated with crumbler attached, s. barley sown: 26 Mar. N applied to w. barley: 8 Apr. 'Brittox' applied to s. barley: 8 May. Tridemorph applied: 19 May. W. barley combine harvested: 1 Aug. S. barley combine harvested: 21 Aug. Previous crops: W. oats 1978, w. wheat 1979.

NOTE: The incidence of mildew (*Erysiphe graminis*) was measured during November and April for w. barley and during May and June for s. barley.

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WINTER BARLEY

GRAIN TONNES/HECTARE

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

FUNG SB	S OT	S ET	MEAN
SEEDRESS			
WO	5.09	4.90	4.99
WE	4.72	5.00	4.86
MEAN	4.90	4.95	4.93
POSITION	N WEST	S EAST	MEAN
SEEDRESS			
WO	4.94	5.05	4.99
WE	4.99	4.73	4.86
MEAN	4.96	4.89	4.93
POSITION	N WEST	S EAST	MEAN
FUNG SB			
S OT	5.09	4.71	4.90
S ET	4.84	5.06	4.95
MEAN	4.96	4.89	4.93
FUNG SB	S OT	S ET	S EAST
POSITION	N WEST	S EAST	N WEST
SEEDRESS			S EAST
WO	5.14	5.03	4.74
WE	5.05	4.39	4.94
			5.06
			5.06

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

TABLE	SEEDRESS	FUNG SB	POSITION	SEEDRESS FUNG SB
SED	0.364	0.364	0.162	0.514
TABLE	SEEDRESS POSITION	FUNG SB POSITION	SEEDRESS FUNG SB POSITION	
SED	0.398	0.398	0.563	
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
	SEEDRESS			0.229
	FUNG SB	0.229		
	SEEDRESS.FUNG SB			0.324

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

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.727	14.8
BLOCK.WP.SP	12	0.458	9.3

GRAIN MEAN DM% 83.2 SUB PLOT AREA HARVESTED 0.00243

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SPRING BARLEY

GRAIN TONNES/HECTARE

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

FUNG WB SEEDRESS	W O	W E	MEAN
SO	4.78	4.83	4.80
SE	5.41	5.02	5.22
MEAN	5.09	4.93	5.01

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

TABLE	SEEDRESS	FUNG WB	SEEDRESS FUNG WB
SED	0.195	0.195	0.276

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

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.391	7.8

GRAIN MEAN DM% 82.4

PLOT AREA HARVESTED 0.00243