ROTHAMSTED RESEARCH

Yields of the Field Experiments 1979

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79/W/B/2 Winter and Spring Barley Mildew Sensitivity to Ethirimol - Barley

Rothamsted Research

Rothamsted Research (1980) *79/W/B/2 Winter and Spring Barley Mildew Sensitivity to Ethirimol - Barley ;* Yields Of The Field Experiments 1979, pp 292 - 294 **- DOI: https://doi.org/10.23637/ERADOC-1-45**

79/W/B/2

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 winter and spring barley - Warren Field I.

Sponsor: D.W. Hollamon.

Design: Winter barley: 4 blocks of 4 plots split into 2
Spring 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 winter barley:	
	WO	None
	WE	Ethirimol
2. FUNG SB	Fungicide applied to adjacent plots of spring barley:	
	S OT	No fungicides to one adjacent plot, tridemorph to the other
	S ET	Ethirimol seed dressing to one adjacent plot, tridemorph to the other

Sub plots

3. POSITION	Position of winter barley plots in relation to spring barley plots testing seed dressing (S O & S E below):	
	NORTH	
	SOUTH	

To SPRING BARLEY All combinations of:-

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

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79/W/B/2

NOTES: (1) Plot dimensions were 8.53 x 8.53 and plots were arranged in sets of three - a central spring barley plot with flanking plots of winter barley. Sides of sets of three plots were separated by 'plots' of spring barley of the same dimensions sprayed with tridemorph, ends of plots were separated by strips of spring barley 9.14 wide sprayed with tridemorph.
(2) Tridemorph was applied at 0.53 kg in 250 l.

Basal applications: Manures: (0:20:20) at 310 kg, N at 100 kg as 'Nitro-Chalk'. Weedkillers: Mecoprop with bromoxynil and ioxynil ('Brittox' at 2.5 kg in 250 l). Bromoxynil with ioxynil ('Oxytril CM' at 0.7 kg in 250 l).

Seed: Winter barley, Hoppel sown at 170 kg.
Spring barley, Wing sown at 160 kg.

Cultivations, etc.:- Heavy spring-tine cultivated: 11 Sept, 1978. Deep-tine cultivated: 18 Sept. PK applied: 30 Oct. Disced twice: 13 Nov, 14 Nov. Winter barley sown: 15 Nov. Heavy spring-tine cultivated for spring sowing: 17 Apr, 1979. Spring-tine cultivated with crumbler attached: 18. Apr. Spring barley sown: 19 Apr. N applied to all plots: 20 Apr. 'Brittox' applied to winter barley: 15 May. 'Oxytril CM' applied to spring barley: 5 June. Tridemorph applied: 18 June. Winter barley combine harvested: 15 Aug. Spring barley combine harvested: 21 Aug. Previous crops: Potatoes 1977, winter wheat 1978.

NOTE: Leaf samples were taken for mildew (Erysiphe graminis) measurements during June.

SPRING BARLEY

GRAIN TONNES/HECTARE

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

FUNG WB / SEEDRESS	W 0	W E	MEAN
S0	5.37	5.28	5.32
SE	5.58	5.59	5.58
MEAN	5.47	5.43	5.45

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

TABLE	SEEDRESS	FUNG WB	SEEDRESS FUNG WB
SED	0.216	0.216	0.306

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

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.432	7.9

GRAIN MEAN DM% 81.4

PLOT AREA HARVESTED 0.00243

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WINTER BARLEY

GRAIN TONNES/HECTARE

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

FUNG SB	S OT	S ET	MEAN
SEEDRESS			
WO	5.75	5.71	5.73
WE	5.92	5.91	5.91
MEAN	5.83	5.81	5.82

POSITION	NORTH	SOUTH	MEAN
SEEDRESS			
WO	5.76	5.70	5.73
WE	5.66	6.16	5.91
MEAN	5.71	5.93	5.82

POSITION	NORTH	SOUTH	MEAN
FUNG SB			
S OT	5.78	5.89	5.83
S ET	5.64	5.98	5.81
MEAN	5.71	5.93	5.82

FUNG SB	S OT		S ET	
POSITION	NORTH	SOUTH	NORTH	SOUTH
SEEDRESS				
WO	5.96	5.53	5.56	5.87
WE	5.59	6.24	5.73	6.09

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

TABLE	SEEDRESS	FUNG SB	SEEDRESS FUNG SB
SED	0.196	0.196	0.277

TABLE	SEEDRESS* POSITION	FUNG SB* POSITION	SEEDRESS* FUNG SB POSITION
SED	0.229	0.229	0.324

* ONLY WHEN COMPARING MEANS WITH SAME LEVEL OF POSITION

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

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.392	6.7
BLOCK.WP.SP	12	0.336	5.8

GRAIN MEAN DM% 84.1

SUB PLOT AREA HARVESTED 0.00243

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