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96/R/CS/302 Eyespot Resistance to Mbc - W. Wheat

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96/R/CS/302

EYESPOT RESISTANCE TO MBC

Object: To study the development of resistance to MBC fungicides in eyespot and the ability of resistant strains to survive, spread and infect - Meadow.

Sponsor: G.L. Bateman.

The twelfth year, w. wheat.

For previous years see 85-93,95/R/CS/302

Design: 2 randomised blocks of 4 plots split into 6 sub-plots.

Whole plot dimensions: 12.0 X 24.0.

Sub-plot dimensions: 4.5 x 6.0.

Treatments: All combinations of:-

Whole plots

1. FUNGICIDE	Fungicide applied cumulatively 1985-93 and 1995-6:
NONE	None
CARB	Carbendazim at 0.25 kg
PRO	Prochloraz at 0.40 kg (0.50 kg in 1993, 1995 and 1996)
CARB+PRO	Carbendazim at 0.25 kg with prochloraz at 0.40 kg (0.50 kg in 1993, 1995 and 1996)

Sub-plots

2. EYE INOC	Eyespot inoculum, applied in first year only:
NATURAL	Natural background population (duplicated)
W 19R 1S	Inoculated with wheat strains in proportion 19 resistant to one sensitive
W 1R 19S	As above but one resistant to 19 sensitive
R 19R 1S	Inoculated with rye strains, 19 resistant to one sensitive
R 1R 19S	As above but one resistant to 19 sensitive

NOTE: The inoculum was colonized on oat seed and broadcast in October, 1984.

Experimental diary:

- 13-Sep-95 : B : Ploughed and furrow pressed.
28-Sep-95 : B : Rotary harrowed, Hereward, dressed Panoctine, drilled at
380 seeds per m².
20-Nov-95 : B : Panther at 2.0 l in 200 l.
11-Mar-96 : B : 34.5% N at 116 kg.
03-Apr-96 : T : **FUNGICIDE** CARB+PRO: Barclay Eyetak at 1.1 l with Tripart
Defensor FL at 0.5 l in 200 l.
: T : **FUNGICIDE** PRO: Barclay Eyetak at 1.1 l in 200 l.
: T : **FUNGICIDE** CARB: Tripart Defensor FL at 0.5 l in 200 l.

96/R/CS/302

Experimental diary:

11-Apr-96 : B : 34.5% N at 463 kg.
 30-Apr-96 : B : Starane 2 at 1.0 l in 200 l.
 13-May-96 : T : **FUNGICIDE** CARB+PRO: Barclay Eytak at 1.1 l with Tripart
 Defensor FL at 0.5 l in 200 l.
 : T : **FUNGICIDE** PRO: Barclay Eytak at 1.1 l in 200 l.
 : T : **FUNGICIDE** CARB: Tripart Defensor FL at 0.5 l in 200 l.
 13-Jun-96 : B : Alto 100 SL at 0.6 l with Mallard 750 EC at 0.4 l in
 300 l.
 09-Jul-96 : B : Wild oats pulled by hand.
 06-Aug-96 : B : Combine harvested.

NOTE: Samples were taken in July to assess eyespot, brown foot rot and
 take-all.

GRAIN TONNES/HECTARE

***** Tables of means *****

EYE INOC FUNGICIDE	NATURAL	W 19R 1S	W 1R 19S	R 19R 1S	R 1R 19S	Mean
NONE	9.33	8.98	8.44	8.74	9.98	9.13
CARB	8.62	8.76	8.59	8.03	8.75	8.56
PRO	8.78	8.45	9.21	9.54	8.91	8.94
CARB+PRO	9.93	8.99	9.46	9.52	10.41	9.71
Mean	9.17	8.79	8.92	8.96	9.51	9.09

*** Standard errors of differences of means ***

EYE INOC	FUNGICIDE*
	EYE INOC
0.301	0.601 min.rep
0.260	0.521 max-min

EYE INOC

max-min NATURAL any of the remainder
 min.rep Any of the remainder

* Within the same level of **FUNGICIDE** only

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	3	0.489	5.4
BLOCK.WP.SP	24	0.601	6.6

GRAIN MEAN DM% 88.3

SUB-PLOT AREA HARVESTED 0.00138