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

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98/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 14th year, w. wheat.

For previous years see 85-93,95-97/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 1995-98:
NONE	None
CARB	Carbendazim at 0.25 kg
PRO	Prochloraz at 0.40 kg (0.50 kg in 1993, 1995-1998)
CARB+PRO	Carbendazim and prochloraz as above

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:

04-Oct-97 : B : Ploughed.
08-Oct-97 : B : Harrowed, rotary harrowed, Hereward, dressed Anchor, drilled at 380 seeds per m².
05-Dec-97 : B : Part: Unite A at 0.125 l with Unite B at 1.0 l and Adder at 1.0 l in 200 l.
13-Jan-98 : B : Completed: Unite A at 0.125 l with Unite B at 1.0 l and LI-700 at 1.0 l in 200 l.
16-Feb-98 : B : 34.5% N at 120 kg.

99/R/CS/302

Experimental diary:

16-Mar-98 : T : **FUNGCIDE** CARB+PRO: Barclay Eyetak at 1.1 l with Tripart Defensor FL at 0.5 l in 200 l.
 : T : **FUNGCIDE** PRO: Barclay Eyetak at 1.1 l in 200 l.
 : T : **FUNGCIDE** CARB: Tripart Defensor FL at 0.5 l in 200 l.
 14-Apr-98 : B : 34.5% N at 460 kg.
 27-Apr-98 : T : **FUNGCIDE** PRO: Barclay Eyetak at 1.1 l in 200 l.
 : T : **FUNGCIDE** CARB: Campbell's Carbendazim 50 % Flowable at 0.5 l in 200 l.
 : T : **FUNGCIDE** CARB+PRO: Barclay Eyetak at 1.1 l with Tripart Defensor FL at 0.5 l in 200 l.
 28-Apr-98 : B : Ally at 20 g with Cheetah Super at 0.75 l, Starane 2 at 0.7 l and Chiltern Cropoil at 1.0 l in 200 l.
 03-Jul-98 : B : Policur at 0.3 l in 100 l.
 05-Aug-98 : B : Alpha Glyphogan at 3.0 l in 200 l.
 11-Aug-98 : B : Combine harvested.

GRAIN TONNES/HECTARE

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

EYE INOC	NATURAL	W 19R 1S	W 1R 19S	R 19R 1S	R 1R 19S	Mean
FUNGCIDE						
NONE	7.49	7.79	6.67	6.44	7.41	7.22
CARB	6.55	6.57	6.57	6.45	7.03	6.62
PRO	7.99	7.76	8.06	8.42	7.77	8.00
CARB+PRO	7.88	7.98	7.76	7.43	8.11	7.84
Mean	7.48	7.52	7.27	7.19	7.58	7.42

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

EYE INOC	FUNGCIDE*	
	EYE INOC	
0.269	0.538	min.rep
0.233	0.446	max-min

EYE INOC
 max-min NATURAL v any of the remainder
 min.rep Any of the remainder

* Within the same level of **FUNGCIDE** only

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP.SP	24	0.538	7.3
GRAIN MEAN DM%	90.6		
		SUB-PLOT AREA HARVESTED	0.00138