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

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95/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 eleventh year, w. wheat after set-aside.

For previous years see 85-93/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: |
| NONE | None |
| CARB | Carbendazim at 0.25 kg |
| PRO | Prochloraz at 0.40 kg (0.50 kg in 1993 and 1995) |
| CARB+PRO | Carbendazim at 0.25 kg with prochloraz at 0.40 kg (0.50 kg in 1993 and 1995) |

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:

- 19-Jul-94 : B : PK as (0:20:32) at 1406 kg.
- 05-Aug-94 : B : Barclay Gallup at 2.0 l with Frigate at 1.0 l in 200 l.
- 15-Aug-94 : B : Ploughed.
- 27-Sep-94 : B : Rotary harrowed, Mercia, dressed Cerevax, drilled at 380 seeds per m².
- 28-Sep-94 : B : Rolled.
- 21-Nov-94 : B : Auger at 2.5 l with Stomp 400 at 2.5 l and Decis at 200 ml in 200 l.
- 13-Mar-95 : B : 34.5% N at 118 kg.

95/R/CS/302

Experimental diary:

14-Mar-95 : T : **FUNGCIDE** CARB: Tripart Defensor FL at 0.5 l in 200 l.
 : T : **FUNGCIDE** PRO: Sportak 45 at 1.1 l in 200 l.
 : T : **FUNGCIDE** CARB+PRO: Sportak 45 at 1.1 l with Tripart
 Defensor FL at 0.5 l in 200 l.
 11-Apr-95 : T : **FUNGCIDE** CARB: 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+PRO: Barclay Eyetak at 1.1 l with Tripart
 Defensor FL at 0.5 l in 200 l.
 12-Apr-95 : B : 34.5% N at 463 kg.
 10-May-95 : B : Calixin at 0.35 l with Halo at 2.0 l in 200 l.
 16-Jun-95 : B : Halo at 2.0 l with Patrol at 0.5 l in 300 l.
 02-Aug-95 : B : Combine harvested.

NOTE: Samples were taken in July to assess eyespot.

GRAIN TONNES/HECTARE

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

EYE INOC FUNGCIDE	NATURAL	W 19R 1S	W 1R 19S	R 19R 1S	R 1R 19S	Mean
NONE	9.78	9.40	8.70	9.22	10.01	9.48
CARB	9.09	9.29	9.45	8.97	9.50	9.23
PRO	9.13	8.72	9.36	9.26	8.93	9.09
CARB+PRO	9.79	8.87	9.78	9.70	10.01	9.66
Mean	9.45	9.07	9.32	9.29	9.61	9.36

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

EYE INOC	FUNGCIDE*	EYE INOC
0.243	0.485	min.rep
0.210	0.420	max-min

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

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP.SP	24	0.485	5.2

GRAIN MEAN DM% 91.7

SUB-PLOT AREA HARVESTED 0.00137