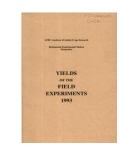
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Yields of the Field Experiments 1993



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Rothamsted Research

Rothamsted Research (1994) 93/R/CS/302 Eyespot Resistance to Mbc - W. Wheat; Yields Of The Field Experiments 1993, pp 61 - 62 - DOI: https://doi.org/10.23637/ERADOC-1-48

93/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 ninth year, w. wheat.

For previous years see 85-92/R/CS/302.

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

Whole plot dimensions: 12.0 x 24.0.

Treatments: All combinations of:-

Whole plots

FUNGCIDE Fungicides applied cumulatively 1985-93:

NONE None

CARB Carbendazim at 0.25 kg

PRO Prochloraz at 0.40 kg from 1985 to 1992, 0.50 kg in

1993

CARB+PRO Carbendazim at 0.25 kg + prochloraz at 0.40 kg from

1985 to 1992, 0.50 kg in 1993

Sub plots

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

R 19R 1S

Inoculated with rye strains, 19 resistant to one sensitive

R 1R 19S

As above but one resistant to 19 sensitive

R 1R 19S

As above but one resistant to 19 sensitive

NOTE: The eyespot inoculum was colonised on oat seed and this was broadcast in October, 1984.

Experimental diary:

13-Aug-92 : B : Deep-tine cultivated with vibrating times 60 cm apart and 45 cm deep.

08-Sep-92 : B : Ploughed, furrow pressed.

29-Sep-92 : B : Rotary harrowed, Mercia, dressed Cerevax, drilled at 380 seeds per square metre.

08-Dec-92 : T : FUNGCIDE CARB: Tripart Defensor FL at 0.50 1 in 200 1.

: T : FUNGCIDE PRO: Sportak 45 at 1.1 1 in 200 1.

: T : FUNGCIDE CARB+PRO: Tripart Defensor FL at 0.50 1 and Sportak 45 at 1.1 1 in 200 1.

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93/R/CS/302

Experimental diary:

10-Feb-93 : B : Panther at 2.0 1 in 200 1.

08-Mar-93 : B : 34.5% N at 120 kg.

15-Apr-93 : T : FUNGCIDE CARB: Tripart Defensor FL at 0.50 1 in 200 1.

: T : FUNGCIDE PRO: Sportak 45 at 1.1 1 in 200 1.

: T : FUNGCIDE CARB+PRO: Tripart Defensor FL at 0.50 1 and

Sportak 45 at 1.1 1 in 200 1.

21-Apr-93 : B : 34.5% N at 370 kg.

13-May-93 : B : 34.5% N at 120 kg.

18-May-93 : B : Starane 2 at 0.50 1 with Codacide Oil at 2.5 1 in 200 1.

25-May-93 : B : Commando at 3.0 1 in 70 1.

16-Aug-93 : B : Combine harvested.

NOTE: Eyespot and sharp eyespot were assessed on plants sampled in early July. Isolates of the eyespot fungus were identified by type (W and R) and assessed for resistance to carbendazim.

GRAIN TONNES/HECTARE

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

EYE INOC FUNGCIDE	NATURAL	W 19R 1S	W 1R 19S	R 19R 1S	R 1R 19S	Mean
NONE	7.54	7.78	7.74	7.09	7.28	7.50
CARB	7.20	7.49	7.11	7.40	7.58	7.33
PRO	6.90	7.29	7.44	7.61	7.71	7.31
CARB+PRO	7.82	7.39	7.61	8.03	7.95	7.77
Mean	7.36	7.49	7.48	7.53	7.63	7.48

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

EYE INOC FUNGCIDE* EYE INOC

0.230 0.460 min.rep 0.199 0.399 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 0.460 6.2

GRAIN MEAN DM% 86.2

SUB PLOT AREA HARVESTED 0.00137