

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED  
RESEARCH

## Yields of the Field Experiments 1992

[Full Table of Content](#)



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

#### Rothamsted Research

Rothamsted Research (1993) *92/R/CS/302 Eyespot Resistance to Mbc - W. Wheat* ; Yields Of The Field Experiments 1992, pp 56 - 57 - DOI: <https://doi.org/10.23637/ERADOC-1-47>

92/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 eighth year, w. wheat.

For previous years see 85-91/R/CS/302.

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

**Whole plot dimensions:** 12.0 x 24.0.

**Treatments:** All combinations of:-

Whole plots

1. **FUNGCIDE** Fungicides applied cumulatively 1985-92:
- |          |  |
|----------|--|
| NONE     | None   |
| CARB     | Carbendazim at 0.25 kg                         |
| PRO      | Prochloraz at 0.40 kg                          |
| CARB+PRO | Carbendazim at 0.25 kg + prochloraz at 0.40 kg |

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

**Experimental diary:**

- 28-Aug-91 : B : Straw chopped.  
03-Sep-91 : B : PK as(0:16:36) at 1040 kg.  
06-Sep-91 : B : Dolomite at 5.0 t.  
24-Sep-91 : B : Ploughed, furrow pressed.  
26-Sep-91 : B : Rotary harrowed. Mercia drilled at 160 kg, rolled.  
16-Nov-91 : B : Pinnacle at 5.0 l in 200 l.  
21-Nov-91 : T : **FUNGCIDE** CARB: Bavistin FL at 0.50 l in 200 l.  
          : T : **FUNGCIDE** PRO: Sportak 45 at 0.90 l in 200 l.  
          : T : **FUNGCIDE** CARB+PRO: Bavistin FL at 0.50 l in 200 l and Sportak 45 at 0.90 l in 200 l, applied separately.  
27-Feb-92 : B : 34.5% N at 120 kg.

92/R/CS/302

**Experimental diary:**

06-Apr-92 : B : 34.5% N at 460 kg.  
 20-Apr-92 : B : Harmony M at 0.06 kg and Starane 2 at 0.75 l in 200 l.  
 05-May-92 : T : **FUNGCIDE** CARB: Bavistin FL at 0.50 l in 200 l.  
           : T : **FUNGCIDE** PRO: Sportak 45 at 0.90 l in 200 l.  
           : T : **FUNGCIDE** CARB+PRO: Bavistin FL at 0.50 l in 200 l and  
                     Sportak 45 at 0.90 l in 200 l, applied separately.  
 29-Jul-92 : B : Combine harvested.

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

**GRAIN TONNES/HECTARE**

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

<b>EYE INOC</b>	NATURAL	W 19R 1S	W 1R 19S	R 19R 1S	R 1R 19S	Mean
<b>FUNGCIDE</b>						
NONE	5.86	5.91	5.91	6.18	5.45	5.86
CARB	5.52	5.91	5.63	5.38	5.64	5.60
PRO	6.02	5.98	5.96	5.93	6.59	6.09
CARB+PRO	7.16	6.99	6.81	6.83	6.79	6.95
Mean	6.14	6.20	6.08	6.08	6.12	6.13

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

<b>EYE INOC</b>	<b>FUNGCIDE*</b>
	<b>EYE INOC</b>
0.167	0.335 min.rep
0.145	0.290 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	3	0.412	6.7
BLOCK.WP.SP	24	0.335	5.5

GRAIN MEAN DM% 88.8

SUB PLOT AREA HARVESTED 0.00138