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## Yields of the Field Experiments 1998

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### 98/W/CS/435 Ryegrass, Wheat Volunteers and Disease - W. Wheat

#### Rothamsted Research

Rothamsted Research (1999) *98/W/CS/435 Ryegrass, Wheat Volunteers and Disease - W. Wheat* ; Yields Of The Field Experiments 1998, pp 82 - 83 - DOI: <https://doi.org/10.23637/ERADOC-1-52>

98/W/CS/435

**RYEGRASS, WHEAT VOLUNTEERS AND DISEASE**

**Object:** To study how different populations of cereal volunteers and ryegrass sown as a cover crop affect the survival of cereal diseases - Woburn, School Field.

**Sponsors:** J.F. Jenkyn, R.J. Gutteridge.

The fourth year, w. wheat.

For previous years see 95-97/W/CS/435

**Design:** 4 randomised blocks of 10 x 2 plots.

**Whole plot dimensions:** 6.0 x 10.0.

**Treatments:**

1. **COV CROP** Crop, seed rate and soil inoculation in 1995:
  - (R) Ryegrass at 30 kg
  - (RW) Ryegrass at 30 kg + wheat at 50 seeds per m<sup>2</sup>
  - (RI) Ryegrass at 30 kg + soil inoculated with *Phialophora graminicola*
  - (RWI) Ryegrass at 30 kg + wheat at 50 seeds per m<sup>2</sup> + soil inoculated with *P. graminicola*
  - (M) Mustard at 300 seeds per m<sup>2</sup>
  - (MW1) Mustard at 100 seeds per m<sup>2</sup> + wheat at 4 seeds per m<sup>2</sup>
  - (MW2) Mustard at 100 seeds per m<sup>2</sup> + wheat at 9 seeds per m<sup>2</sup>
  - (MW3) Mustard at 100 seeds per m<sup>2</sup> + wheat at 50 seeds per m<sup>2</sup>
  - (MW4) Mustard at 100 seeds per m<sup>2</sup> + wheat at 200 seeds per m<sup>2</sup>
  - (MW5) Mustard at 30 seeds per m<sup>2</sup> + wheat at 400 seeds per m<sup>2</sup>
  
2. **PLOUGH** Time of ploughing in 1995:
  - (PE) Early (12 May)
  - (PL) Late (17 Aug)

**Experimental diary:**

- 11-Sep-97 : B : Ploughed. Rolled.
- 25-Sep-97 : B : Rotary harrowed.
- 26-Sep-97 : B : Rialto, dressed Sibutol, drilled at 350 seeds per m<sup>2</sup>.
- 28-Sep-97 : B : Rolled.
- 25-Nov-97 : B : Stomp 400 SC at 2.0 l with Javelin Gold at 2.0 l and Cyperkill 10 at 0.25 l in 200 l.
- 06-Feb-98 : B : Ashlade Nu Trace at 2.5 l in 200 l.
- 12-Feb-98 : B : 34.5% N at 145 kg.
- 25-Feb-98 : B : Vytel Manganese at 2.0 l in 200 l.
- 31-Mar-98 : B : 34.5% N at 377 kg
- 01-Apr-98 : B : Phosyn Manganese at 2.5 l with Profol Copper at 0.25 l in 200 l.
- 27-Apr-98 : B : Alto 100 SL at 0.6 l with Tripart Brevis at 2.0 l, Phosyn Manganese at 2.0 l and Profol Copper at 0.25 l.

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**Experimental diary:**

21-May-98 : B : Ally at 15 g with Cheetah Super at 0.5 l, Starane 2 at 0.5 l and Chiltern Cropoil at 1.0 l in 200 l.  
 31-May-98 : B : Opus at 0.8 l in 200 l.  
 12-Jun-98 : B : Folicur at 0.3 l with Bavistin DF at 0.3 kg in 200 l.  
 02-Aug-98 : B : Roundup Biactive at 4.0 l in 200 l.  
 14-Aug-98 : B : Combine harvested.

**NOTE:** Plant samples were taken in June to assess root and stem base diseases.

**GRAIN TONNES/HECTARE**

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

PLOUGH	(PE)	(PL)	Mean
<b>COV CROP</b>			
(R)	8.01	8.30	8.15
(RW)	7.13	6.90	7.02
(RI)	7.57	7.30	7.44
(RWI)	7.16	7.39	7.28
(M)	6.90	7.24	7.07
(MW1)	7.29	7.33	7.31
(MW2)	7.00	7.30	7.15
(MW3)	6.59	7.37	6.98
(MW4)	6.70	7.68	7.19
(MW5)	7.86	7.12	7.49
Mean	7.22	7.39	7.31

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

COV CROP	PLOUGH	COV CROP PLOUGH
0.346	0.155	0.490

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	57	0.693	9.5
GRAIN MEAN DM%	88.1		
PLOT AREA HARVESTED	0.00460		