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## Yields of the Field Experiments 1997

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### 97/R/WW/10 Stem Base Diseases and Fungicides - W. Wheat

#### Rothamsted Research

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97/R/WW/10

WINTER WHEAT

STEM BASE DISEASES AND FUNGICIDES

**Object:** To evaluate sampling methods and molecular diagnostics for assessing risk of stem base diseases and the effects of fungicides - Highfield IV/ Road Piece East.

**Sponsors:** G.L. Bateman.

**Design:** 4 randomised blocks of 4 x 5 plots.

**Whole plot dimensions:** 3.0 x 10.0.

**Treatments:** All combinations of:-

- |                     |             |
|---------------------|-------------|
| 1. <b>CULTIVAR</b>  | Variety:    |
| L                   | Lynx        |
| B                   | Brigadier   |
| M                   | Mercia      |
| S                   | Soissons    |
| 2. <b>FUNGICIDE</b> | Fungicides: |
| -                   | None        |
| PR                  | Prochloraz  |
| CY                  | Cyprodinil  |
| ST                  | Strobilurin |
| FL                  | Flusilazole |

**Experimental diary:**

- 27-Aug-96 : B : PK as (0:20:32) at 1400 kg.  
05-Oct-96 : B : Ploughed and furrow pressed.  
09-Oct-96 : T : **CULTIVAR** L, B, M, S: Lynx, Brigadier and Mercia, undressed, drilled at 380 seeds per m<sup>2</sup>, Soissons, undressed, drilled at 400 seeds per m<sup>2</sup>.  
28-Nov-96 : B : Auger at 2.6 l with Stomp 400 SC at 3.1 l in 200 l.  
10-Mar-97 : B : 34.5% N at 118 kg.  
03-Apr-97 : B : 34.5% N at 463 kg.  
08-Apr-97 : T : **FUNGICIDE** ST: Amistar at 1.0 l in 220 l.  
                  : T : **FUNGICIDE** CY: Unix at 1.0 kg in 220 l.  
                  : T : **FUNGICIDE** FL: Sanction at 0.5 l in 220 l.  
                  : T : **FUNGICIDE** PR: Sportak 45 at 0.889 l in 220 l.  
30-May-97 : B : Clayton Epoxicon at 1.0 l in 300 l.  
09-Jun-97 : B : Mistral at 1.0 l in 300 l.  
20-Aug-97 : B : Combine harvested.

Previous crops: W. and s. rape 1995, w. wheat 1996.

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- NOTES: (1) Because of a combine error the yield of one plot with **CULTIVAR M FUNGCIDE CY** was lost. An estimated value was used in the analysis.
- (2) Plant samples were taken in March, April, May and July to assess stem base diseases and extract DNA to identify stem base pathogens.

**GRAIN TONNES/HECTARE**

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

FUNGCIDE CULTIVAR	-	PR	CY	ST	FL	Mean
L	9.83	9.20	9.89	10.29	9.58	9.76
B	8.53	9.11	8.65	10.58	9.35	9.24
M	8.07	7.94	8.37	7.86	7.95	8.04
S	7.97	7.85	8.32	8.53	8.17	8.17
Mean	8.60	8.53	8.81	9.31	8.76	8.80

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

CULTIVAR	FUNGCIDE	CULTIVAR FUNGCIDE
0.212	0.237	0.474

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	56	0.670	7.6
GRAIN MEAN DM%	88.0		
PLOT AREA HARVESTED	0.00240		