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## Yields of the Field Experiments 2000

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### **00/R/CS/494 Take-all, Phialophora and Seed Treatments - W. Wheat**

#### **Rothamsted Research**

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00/R/CS/494

TAKE-ALL, PHIALOPHORA AND SEED TREATMENTS

**Object:** To test a fungal antagonist of take-all (*Gaeumannomyces graminis*) and determine its interaction with a take-all-selective fungicide - Stackyard.

**Sponsors:** G.L. Bateman, R.J. Gutteridge, J.F. Jenkyn.

The third year, w. wheat.

For previous years see 98-99/R/CS/494.

**Design:** 4 randomised blocks of 18 plots.

**Plot dimensions:** 3.0 x 10.0.

**Treatments:** Selected combinations of:-

1. **Y1998** Treatment to 1998 crop:
  - (-8) None
  - (P8) *Phialophora* inoculum to seedbed
  - (T8) Take-all inoculum to seedbed
2. **Y1999** Treatment to 1999 crop:
  - (-9) None
  - (P9) *Phialophora* inoculum to seedbed
  - (T9) Take-all inoculum to seedbed
3. **Y2000** Treatment to 2000 crop:
  - 0 None
  - P0 *Phialophora* inoculum to seedbed
  - S0 Seed treatment fungicide; fluquinconazole at 75 g a.i./100 kg
  - PS0 *Phialophora* inoculum and seed treatment fungicide; fluquinconazole at 75 g a.i./100 kg

**Experimental diary:**

- 02-Sep-99 : B : : Shallow (10 cm) ploughed.  
04-Sep-99 : B : : Rolled.  
04-Oct-99 : T : P0,PS0 : *Phialophora* inoculum applied.  
          : T : -0,P0 : Combination drilled, Hereward, tr. undressed, at 380 seeds/m<sup>2</sup> with the Accord drill.  
          : T : S0,PS0 : Combination drilled, Hereward, tr. fluquinconazole, at 380 seeds/m<sup>2</sup> with the Accord drill.  
06-Oct-99 : B : : Rolled.  
12-Nov-99 : B : : tm)Lexus 50 DF at 20 g in 200 l.  
          : B : : tm)Stomp 400 SC at 2.5 l in 200 l.  
          : B : : tm)Toppel 10 at 250 ml in 200 l.  
07-Mar-00 : B : : 34.5% N at 232 kg.  
19-Apr-00 : B : : 34.5% N at 435 kg.  
24-Apr-00 : B : : tm)Opus at 0.5 l in 100 l.  
          : B : : tm)Unix at 0.5 kg in 100 l.  
          : B : : tm)BASF 3C Chlormequat 720 at 2.2 l in 100 l.

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**Experimental diary:**

12-May-00 : B : : tm)Ally at 30 g in 200 l.  
 : B : : tm)Starane 2 at 0.5 l in 200 l.  
 22-May-00 : B : : Opus at 0.75 l in 100 l.  
 27-Jun-00 : B : : Folicur at 0.25 l in 100 l.  
 29-Jun-00 : B : : Hand rogued wild oats.  
 10-Aug-00 : B : : Combine harvested.

Previous crops: S. wheat 1998, w. wheat 1999.

**NOTE:** All plots were sampled in April and June to assess root and stem base diseases.

**GRAIN TONNES/HECTARE**

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

	Y2000	-0	P0	S0	PS0
<b>Y1998</b>	<b>Y1999</b>				
(-8)	(-9)	5.98	5.47	6.80	6.60
	(P9)	5.29	5.11	6.86	6.43
	(T9)	+	+	+	+
(P8)	(-9)	5.76	+	6.69	+
	(P9)	+	5.43	+	+
	(T9)	4.45	+	5.45	+
(T8)	(-9)	6.02	+	7.17	+
	(P9)	6.12	6.50	6.91	+
	(T9)	+	+	+	+

+ TREATMENT COMBINATIONS NOT TESTED

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

Y1998  
 Y1999  
 Y2000  
 0.404

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	51	0.572	9.4
GRAIN MEAN DM%	82.1		
PLOT AREA HARVESTED	0.00237		