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## Yields of the Field Experiments 1998

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### 98/R/CS/494 Take-all, Phialophora and Seed Treatments - S. Wheat

#### Rothamsted Research

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98/R/CS/494

**TAKE-ALL, PHIALOPHORA AND SEED TREATMENTS**

**Object:** To test the effects in the field of 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.

The first year, s. wheat.

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

**Plot dimensions:** 3.0 x 10.0.

**Treatments:** Combinations of:-

1. **TRT1998** Treatment to 1998 crop:
  - 8 None
  - P8 *Phialophora* inoculum to seedbed
  - T8 Take-all inoculum to seedbed
  
2. **TRT1999** Treatment to 1999 crop:
  - 9 None
  - P9 *Phialophora* inoculum to seedbed
  - T9 Take-all inoculum to seedbed
  
3. **TRT2000** Treatment to 2000 crop:
  - 0 None
  - P0 *Phialophora* inoculum to seedbed
  - S0 Seed treatment fungicide
  - PS0 *Phialophora* and seed treatment

**Experimental diary:**

- 31-Oct-97 : B : Ploughed.
- 30-Jan-98 : B : Barclay Gallup at 2.0 l with Chiltern Cropoil at 1.0 l in 200 l.
- 12-Feb-98 : B : Parable at 2.0 l with Scythe LC at 0.5 l and Luxon Non-Ionic Wetter at 0.1 l in 200 l.
- 16-Mar-98 : B : Heavy spring-tine cultivated.
- 17-Mar-98 : B : Spring-tine cultivated.
- 18-Mar-98 : **T** : **TRT1998** P8: Inoculum applied at 20 g per m<sup>2</sup>. Rotary harrowed.
- : **T** : **TRT1998** T8: Inoculum applied at 20 g per m<sup>2</sup>. Rotary harrowed.
- : B : Rotary harrowed, Axona, undressed, drilled at 400 seeds per m<sup>2</sup>.
- 29-Apr-98 : B : 34.5% N at 380 kg.
- 05-May-98 : B : Ally at 30 g with MSS Optica at 2.0 l in 200 l.
- 04-Jun-98 : B : Corbel at 0.3 l with Opus at 0.3 l in 200 l.
- 12-Jun-98 : B : Topik at 125 ml with Chiltern Cropoil at 1.0 l in 200 l.

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**Experimental diary:**

28-Jun-98 : B : Bavistin DF at 0.3 kg with Radar at 0.25 l in 200 l.  
02-Sep-98 : B : Combine harvested.

**NOTE:** Plant samples were taken in July to assess take-all and root colonisation by *Phialophora*.

**GRAIN TONNES/HECTARE**

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

**TRT1998**

-8	7.02
P8	6.83
T8	5.81

Mean	6.63
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\*\*\* Standard errors of differences of means \*\*\*

**TRT1998**

0.099	min.rep
0.089	max-min

**TRT1998**

min.rep	P8 v T8
max-min	-8 v P8 or T8

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	66	0.313	4.7

GRAIN MEAN DM% 82.0

PLOT AREA HARVESTED 0.00229