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

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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 m². Rotary harrowed.
- : **T** : **TRT1998** T8: Inoculum applied at 20 g per m². Rotary harrowed.
- : B : Rotary harrowed, Axona, undressed, drilled at 400 seeds per m².
- 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