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94/W/CS/375 Take-all Epidemics - W. Wheat

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94/W/CS/375

TAKE-ALL EPIDEMICS

Object: To determine whether severe take-all (*Gaeumannomyces graminis*) can be caused by artificial inoculum in winter wheat and to determine the distribution of such infection within the crop - Woburn, Butt Close I.

Sponsors: G. L. Bateman, D. Hornby.

The third year, w. wheat

For previous years see 92 & 93/W/CS/375

Design: 3 randomised blocks of 6 x 2, plus 2 extra plots.

Whole plot dimensions: 2.5 x 6.0.

Treatments: All combinations of:-

1. **SOW DATE[92]** Date of sowing in autumn 1991:

(E) Early
(L) Late

2. **INOCULTN[92]** Weight (kg) of inoculated oat seed applied by combine drill in autumn 1991 and spring 1992:

	Autumn (E)	Autumn (L)	Spring
(0)	Nil	Nil	-
(1)	200	200	-
(2)	400	400	-
(3)	600	600	-
(30)	600	600	Nil
(3S)	600	600	500

plus 2 extra plots, systematically arranged with treatments (0) and (2).

NOTES: (1) **INOCULTN[92]** (0), (30): Nil occurs where the empty drill was drawn across the plots.

(2) Some of the inoculation rates were incorrectly recorded in 1992 and 1993. These should be corrected using the above rates.

Experimental diary:

16-Sep-93 : B : Ploughed.

18-Oct-93 : B : Rotary harrowed, Mercia, undressed, drilled at 325 seeds per m².

14-Mar-94 : B : 34.5% N at 116 kg.

28-Apr-94 : B : 34.5% N at 464 kg.

09-May-94 : B : Ally at 30 g with Oxytril CM at 1.0 l and Halo at 1.5 l in 200 l.

30-May-94 : B : Cyclone at 1.0 l with Mistral at 0.5 l in 200 l.

14-Jun-94 : B : Hostathion at 0.84 l in 200 l.

15-Aug-94 : B : Combine harvested.

NOTE: Plant samples for take-all assessment were taken at the end of June.

94/W/CS/375

GRAIN TONNES/HECTARE

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

INOCULTN[92]	(0)	(1)	(2)	(3)	(30)	(3S)	Mean
SOW DATE[92]							
(E)	3.66	2.92	3.89	3.81	3.46	4.10	3.64
(L)	3.28	4.64	4.38	4.51	4.40	3.38	4.10
Mean	3.47	3.78	4.13	4.16	3.93	3.74	3.87

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

SOW DATE[92]	INOCULTN[92]	SOW DATE[92] INOCULTN[92]
0.235	0.407	0.576

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	22	0.705	18.2

GRAIN MEAN DM% 86.1

PLOT AREA HARVESTED 0.00132