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## Yields of the Field Experiments 1982

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### 82/R/B/2 Rhynchosporium Control in a Balanced Design - Winter Barley

#### Rothamsted Research

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82/R/B/2

WINTER BARLEY

RHYNCHOSPORIUM CONTROL IN A BALANCED DESIGN

Object: To study the effects of interference between plots of w. barley with different amounts of *Rhynchosporium secalis* - Bones Close.

Sponsors: J.F. Jenkyn, O.J. Stedman, A. Bainbridge, G.V. Dyke.

Design: A serially balanced sequence of 16 'blocks' of 5 plots with flanking plots at discontinuities necessitated by field layout.

Whole plot dimensions: 4.0 x 10.0.

Treatments:

TREATMNT	Straw inoculum and fungicide sprays:
0	None
INFSTRAW	Straw infected with <i>R. secalis</i> worked in to the seedbed
PROC A	Prochloraz on 1 February, 1982
PROC S	Prochloraz on 22 March
PROC AS	Prochloraz on 1 February and 22 March

- NOTES: (1) Prochloraz was applied at 0.4 kg, in 450 l on 1 February, in 340 l on 22 Mar.  
(2) Infected straw was applied at 575 kg worked in to the seedbed by rotary harrow.  
(3) Methiocarb was applied at 0.22 kg on 4 Dec, 1981 to one of the 'blocks' most affected by slugs. A planned application to other blocks was prevented by prolonged severe weather.  
(4) The effects of treatments to neighbouring plots (left - LHN, right - RHN) were estimated. In this experiment 'left' was North East, 'right' was South West. The analysis presented assumes a Fourier curve with 4 terms, 2 sine and 2 cosine, to represent positional variation.

Basal applications: Manures: 'Nitro-Chalk' at 160 kg followed by 370 kg.  
Weedkillers: Glyphosate at 1.4 kg in 250 l. Methabenzthiazuron at 1.6 kg in 250 l. Diquat at 0.5 kg ion in 250 l.

Seed: Maris Otter, sown at 160 kg.

Cultivations, etc.: - Glyphosate applied: 16 Sept, 1981. Ploughed: 28 Sept. Spring-tine cultivated: 8 Oct. First N applied: 14 Oct. Seed sown: 15 Oct. Methabenzthiazuron applied: 16 Oct. Second N applied: 21 Apr, 1982. Diquat applied: 24 July. Combine harvested: 26 July. Previous crops: Grass 1980, w. wheat 1981.

NOTE: Leaf diseases were assessed at intervals between December and June.

82/R/B/2

GRAIN TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

TREATMNT	0	INFSTRAW	PROC A	PROC S	PROC AS
	5.42	4.74	5.26	5.23	5.42
LHN					
TREATMNT	0	INFSTRAW	PROC A	PROC S	PROC AS
0		5.65	5.22	5.19	5.61
INFSTRAW	4.86		4.66	4.70	4.76
PROC A	5.62	5.19		5.12	5.10
PROC S	5.23	5.10	5.35		5.26
PROC AS	5.89	5.32	5.16	5.30	
RHN					
TREATMNT	0	INFSTRAW	PROC A	PROC S	PROC AS
0		5.32	5.39	5.52	5.44
INFSTRAW	4.88		4.64	4.66	4.79
PROC A	5.16	5.57		5.23	5.06
PROC S	5.20	5.26	5.01		5.48
PROC AS	5.54	5.33	5.57	5.24	
GRAND MEAN	5.21				

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

TABLE	TREATMNT	TREATMNT LHN	TREATMNT RHN
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SED	0.107	0.222	0.222

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

STRATUM	DF	SE	CV%
WP	41	0.301	5.8

GRAIN MEAN DM% 84.0

PLOT AREA HARVESTED 0.00275