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# Yields of the Field Experiments 1981

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## 81/R/B/13 Mildew Sources - S. Barley

### Rothamsted Research

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81/R/B/13

SPRING BARLEY

MILDEW SOURCES

Object: To study the effects of inter-plot interactions and mildew sources on the response of s. barley to fungicide sprays applied at different times - Summerdells II.

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

Design: Series I: 3 randomised blocks of 3 plots split into 8.  
Series II: 3 randomised blocks of 8 plots.

Plot dimensions: Series I sub plots: 2.13 x 9.14.  
Series II whole plots: 2.13 x 9.14.

Treatments:

To Series I, all combinations of:-

Whole plots

1. SEPRTION            Separations between sides of sub plots:
- |        |  |
|--------|--|
| NONE   | No crop, 0.61 m fallow path  |
| SINGLE | 2.13 m wide strip of mildew resistant barley, Simon, seed dressed triadimenol plus fuberidazole, 0.61 m fallow paths on each side of the Simon |
| DOUBLE | As for SINGLE except strip of Simon 4.26 m wide  |

Sub plots

2. FNG TIME(1)        Times of applying tridemorph to mildew susceptible barley, Porthos, sown on strips 2.13 m wide, 9.14 m long:
- |   |   |
|---|---|
| 0 | None  |
| 1 | 14 May, 1981                                |
| 2 | 21 May                                      |
| 3 | 28 May                                      |
| 4 | 4 June                                      |
| 5 | 12 June                                     |
| 6 | 18 June                                     |
| R | Repeated on 14 May, 4 June, 18 June, 8 July |

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To Series II:-

FNG TIME(2) Times of applying tridemorph to mildew susceptible barley, Porthos, sown on strips 2.13 m wide, 9.14 m long, strips separated from each other by further strips of Porthos, not given fungicide, 2.13 m wide with 0.61 m fallow paths on each side:

0	None
1	14 May
2	21 May
3	28 May
4	4 June
5	12 June
6	18 June
R	Repeated on 14 May, 4 June, 18 June, 8 July

- NOTES: (1) On Series I whole plots were surrounded by 9 m of variety Simon, seed dressed triadimenol plus fuberidazole.  
 (2) Series II was surrounded by 4 m of variety Porthos, not given fungicide  
 (3) Tridemorph was applied at 0.53 kg in 340 l on all occasions except occasion 3 when poor ground conditions forced the use of another sprayer which applied the tridemorph in 450 l.

Basal applications: Manures: (20:10:10) at 500 kg. 'Nitro-Chalk' at 190 kg. Weedkillers: Dicamba with mecoprop and MCPA (as 'Banlene Plus' at 5.0 l) in 250 l.

Seed: All varieties sown at 160 kg.

Cultivations, etc.: - Ploughed: 18 Dec, 1980. Spring-tine cultivated: 7 Apr, 1981. NPK applied, spring-tine cultivated: 8 Apr. Seed sown: 9 Apr. Weedkillers applied: 28 May. N applied: 6 June. Combine harvested: 2 Sept. Previous crops: S. beans, 1979, w. wheat 1980.

NOTE: Mildew was assessed frequently during the season.

#### SERIES I

GRAIN TONNES/HECTARE

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

SEPRTION FNG TIME(1)	NONE	SINGLE	DOUBLE	MEAN
0	5.55	5.36	5.25	5.39
1	5.73	5.76	5.32	5.60
2	5.63	5.82	5.66	5.70
3	5.63	5.56	6.04	5.74
4	5.80	5.89	5.85	5.85
5	5.96	5.92	5.72	5.87
6	5.53	5.82	5.63	5.66
R	6.52	6.34	6.38	6.41
MEAN	5.79	5.81	5.73	5.78

81/R/B/13 SERIES I

GRAIN TONNES/HECTARE

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

TABLE	SEPRTION FNG TIME(1)	SEPRTION FNG TIME(1)
SED	0.194	0.262
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: SEPRTION		
	0.108	0.188

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

STRATUM	DF	SE	CV%
BLOCK.WP	4	0.237	4.1
BLOCK.WP.SP	42	0.230	4.0

GRAIN MEAN DM% 85.8

SUB PLOT AREA HARVESTED 0.00195

SERIES II

GRAIN TONNES/HECTARE

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

FNG TIME(2)	0	1	2	3	4	5	6	R	MEAN
	4.89	4.87	5.23	5.27	5.21	5.32	5.15	5.42	5.17

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

TABLE	FNG TIME(2)
SED	0.301

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

STRATUM	DF	SE	CV%
BLOCK.WP	14	0.368	7.1

GRAIN MEAN DM% 85.7

PLOT AREA HARVESTED 0.00195