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77/R/B/7 Mildew Control in a Serially Balanced Design - Barley

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77/R/B/7

SPRING BARLEY

MILDEW CONTROL IN A SERIALY BALANCED DESIGN

Object: To study the effects of fungicide sprays applied at different times and the effects of interference between plots on the incidence of mildew and on yield - Gt. Harpenden II.

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

Design: 9 'blocks' of 4 plots (+ 2 flanking plots).

Whole plot dimensions: 4.27 x 9.14

Treatments:

FUNGTIME Times of applying a single spray of tridemorph fungicide:

- | | |
|---|------------|
| 1 | On 31 May |
| 2 | On 9 June |
| 3 | On 20 June |
| 4 | On 5 July |

- NOTES: (1) Treatments were applied to 38 plots in one line on the field in an order such that each of the 36 possible sets of 3 adjacent treatments occurred exactly once (but omitting sets with the same treatment on 2 successive plots). The effects of treatments to neighbouring plots (lefthand neighbour - LHN, righthand neighbour - RHN) are estimated in the analysis.
In this experiment 'left' was west, 'right' was east.
The analysis presented assumes a Fourier curve with 4 terms, 2 sine and 2 cosine to represent positional variation.
- (2) Tridemorph was applied at 0.53 kg in 340 l.

Basal applications: Manures: (20:14:14) at 440 kg, combine drilled. Weedkillers: Dicamba with mecoprop and MCPA ('Banlene Plus' at 4.9 l in 220 l).

Seed: Julia, sown at 160 kg.

Cultivations, etc.: - Deep-tine cultivated: 22 Sept, 1976. Heavy spring-tine cultivated: 28 Sept. Ploughed: 18 Nov. Spring-tine cultivated and seed sown: 10 Mar, 1977. Weedkillers applied: 18 May. Combine harvested: 30 Aug. Previous crops: Potatoes 1975, barley 1976.

NOTE: Seedling emergence counts were made. Mildew was assessed on two occasions.

77/R/B/7

GRAIN TONNES/HECTARE

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

GRAND MEAN	6.03			
FUNGTIME	1	2	3	4
	6.19	6.07	5.91	5.95
LHN	1	2	3	4
FUNGTIME				
1		6.02	6.28	6.26
2	6.08		6.00	6.14
3	5.93	5.92		5.87
4	5.86	5.87	6.11	
RHN	1	2	3	4
FUNGTIME				
1		6.13	6.28	6.15
2	6.02		6.11	6.08
3	5.91	5.81		6.00
4	5.94	5.92	5.98	

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

TABLE	FUNGTIME	FUNGTIME LHN	FUNGTIME RHN
SED	0.076	0.224	0.225

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

STRATUM	DF	SE	CV%
WP	12	0.160	2.7

GRAIN MEAN DM% 82.3

PLOT AREA HARVESTED 0.00195