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79/R/B/10 Mildew Control in a Serially Balanced Design - Barley

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79/R/B/10

SPRING BARLEY

MILDEW CONTROL IN A SERIALY BALANCED DESIGN

Object: To study the effects of two fungicides and the effects of interference between plots on the incidence of mildew and on yield - Claycroft.

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

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

Whole plot dimensions: 3.91 x 9.14.

Treatments:

FUNGCIDE	Fungicides:
NONE	None
TRIADIME	Triadimefon
TRIDEMOR	Tridemorph (duplicated)

- NOTES: (1) Treatments were applied to 38 plots in one line on the field. The design was derived from a serially-balanced one for four treatments, in which each of the 36 possible sets of 3 adjacent treatments occur exactly once (but omitting sets with the same treatment on 2 successive plots), by equating 2 of the treatments. This results in 2 sets of 3 adjacent plots treated alike, 2 sets of 2. 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) Fungicides were applied on 18 June, 1979, tridemorph at 0.53 kg in 340 l, triadimefon at 0.13 kg in 340 l. The surrounding crop was sprayed with tridemorph at 0.53 kg in 220 l on the same date.

Basal applications: Manures: (20:14:14) at 440 kg, combine drilled. Weedkillers: Mecoprop, bromoxynil and ioxynil (as 'Brittox' at 2.5 kg in 220 l).

Seed: Julia, sown at 160 kg.

Cultivations, etc.: - Subsoiled, tines 100 cm apart and 45 cm deep: 31 Oct, 1978. Ploughed: 2 Nov. Spring-tine cultivated: 16 Apr, 1979. Sown: 17 Apr. Weedkillers applied: 18 May. Harvested: 26 Aug. Previous crops: Beans and potatoes 1977, wheat 1978.

NOTE: Leaf diseases were assessed on two occasions. 1000 grain weights were measured.

79/R/B/10

GRAIN TONNES/HECTARE

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

GRAND MEAN	6.54		
FUNGCIDE	NONE	TRIADIME	TRIDEMOR
	6.48	6.62	6.52
LHN	NONE TRIADIME TRIDEMOR		
FUNGCIDE			
NONE		6.49	6.47
TRIADIME	6.38		6.74
TRIDEMOR	6.50	6.49	6.57
RHN	NONE TRIADIME TRIDEMOR		
FUNGCIDE			
NONE		6.57	6.43
TRIADIME	6.46		6.70
TRIDEMOR	6.46	6.45	6.65

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

TABLE	FUNGCIDE	FUNGCIDE LHN	FUNGCIDE RHN	
SED	0.111	0.205	0.204	MIN REP
	0.096	0.178	0.176	MAX-MIN
		0.145	0.144	MAX REP

MAX REP FOR COMPARISONS WHERE BOTH MEANS HAVE A LEVEL
TRIDEMOR FOR ANY FACTOR
MIN REP FOR COMPARISONS WHERE BOTH MEANS DO NOT HAVE A LEVEL
TRIDEMOR FOR ANY FACTOR
MAX-MIN FOR ANY COMPARISONS NOT COVERED ABOVE

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

STRATUM	DF	SE	CV%
WP	21	0.234	3.6

GRAIN MEAN DM% 80.9

PLOT AREA HARVESTED 0.00195