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73/R/BS/7 - Control of Cereal Aphids & Bydv - Spring Barley

Rothamsted Research

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73/R/BS/7

SPRING BARLEY

CONTROL OF CEREAL APHIDS AND BYDV

Object: To study the effects of controlling cereal aphids on the incidence of barley yellow dwarf virus (BYDV) and on yield of barley - Summerdells II.

Sponsor: R.T. Plumb.

Design: 4 randomised blocks of 12 plots.

Whole plot dimensions: 6.40 x 24.4. **Area harvested:** 0.00390.

Treatments: All combinations of:-

1. Phorate as granules to seedbed (kg a.i.)	PHDRATE
None	0.0
2.5	2.5
5.0	5.0
2. Menazon spray in early June (1 'Saphi-Col')	MENAZON (1)
None	0.0
0.7	0.7
3. Menazon spray in early July (1 'Saphi-Col')	MENAZON (2)
None	0.0
0.7	0.7

NOTE: Phorate was applied as 10% granules and menazon in 370 l.

Basal applications: Manures: 440 kg (20:15:15) combine drilled. **Weedkiller:** MCPA, mecoprop and dicamba ('Banlene Plus' 5.6 l in 220 l).

Seed: Julia, dressed with ethirimol, sown at 160 kg.

Cultivations, etc.:- Deep-tine cultivated twice: 1 Dec, 1972.

Phorate granules distributed and all plots spring-tine cultivated:

16 Mar, 1973. Seed sown: 17 Mar. Weedkiller applied: 15 May.

Menazon treatments applied: 8 June and 9 July. Combine harvested:

13 Aug. Previous crops: Barley 1971, beans 1972.

T3/R/BS/7

NOTE: Counts of plants with virus symptoms, of numbers and species of aphids and percentage parasitised were made at intervals throughout the season. 1000 grain weights were determined.

Standard error per plot.

Grain, tonnes/hectare: 0.175 or 2.8% (33 d.f.)

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TABLES OF MEANS

GRAIN: TONNES/HECTARE

	MENZAON (1)		MENZAON (2)		Mean
	0.0	0.7	0.0	0.7	
PHORATE					
0.0	6.26	6.20	6.23	6.23	6.23
2.5	6.26	6.44	6.41	6.29	6.35
5.0	6.36	6.31	6.40	6.27	6.33
	MENZAON (1)				
	0.0		6.36	6.23	6.29
	0.7		6.34	6.30	6.32
Mean			6.35	6.26	6.30
MENZAON (1)		0.0		0.7	
MENZAON (2)	0.0	0.7	0.0	0.7	
PHORATE					
0.0	6.34	6.17	6.12	6.28	
2.5	6.30	6.23	6.51	6.36	
5.0	6.43	6.28	6.37	6.25	

STANDARD ERRORS OF DIFFERENCES

PHORATE	MENZAON (1)	MENZAON (2)	
0.062	0.050	0.050	
PHORATE	PHORATE	MENZAON (1)	PHORATE
MENZAON (1)	MENZAON (2)	MENZAON (2)	MENZAON (1)
			MENZAON (2)
0.087	0.087	0.071	0.124

Mean D.M. % 85.3