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90/R/B/2 Sowing Dates, Aphids and Bydv - W. Barley

Rothamsted Research

Rothamsted Research (1991) *90/R/B/2 Sowing Dates, Aphids and Bydv - W. Barley* ; Yields Of The Field Experiments 1990, pp 121 - 122 - DOI: <https://doi.org/10.23637/ERADOC-1-42>

90/R/B/2

WINTER BARLEY

SOWING DATES, APHIDS AND BYDV

Object: To study the relationship of aphid numbers in suction trap samples to crop populations and the incidence of barley yellow dwarf virus (BYDV) on winter barley sown on a range of dates - Highfield IV.

Sponsors: G.M. Tatchell, R.T. Plumb.

Design: 4 randomised blocks of 10 plots.

Whole plot dimensions: 3.0 x 21.0.

Treatments: All combinations of:-

1. **SOWDATE** Dates of sowing:

5 SEPT	5 September, 1989
18 SEPT	18 September
29 SEPT	29 September
9 OCT	9 October
18 OCT	18 October

2. **APHICIDE** Aphicide:

NONE	None
CYPERMET	Cypermethrin at 0.025 kg in 300 l on 6 Nov, 1989

- NOTES:** (1) All **SOWDATE** treatments were heavy spring-tine cultivated on 19 Aug, 1989, rotary cultivated on 22 Aug, rotary harrowed on 5 Sept and rotary harrowed again on the day of sowing.
- (2) **SOWDATE** 5 SEPT and 18 SEPT had fenpropimorph at 0.75 kg in 200 l on 19 Oct, 1989 as well as the basal application on 3 May, 1990.
- (3) The experiment was netted from mid-May to mid-July to prevent damage by birds.

Basal applications: Manures: (0:18:36) at 930 kg. 'Nitram' at 460 kg. Weedkillers: Glyphosate at 0.27 kg in 200 l. Isoproturon at 1.7 kg in 200 l. Bromoxynil at 0.24 kg, clopyralid at 0.05 kg with mecoprop at 2.4 kg applied with the carbendazim and prochloraz in 200 l. Fungicides: Carbendazim at 0.15 kg and prochloraz at 0.40 kg. Fenpropimorph at 0.75 kg in 300 l.

Seed: Magie, sown at 160 kg.

Cultivations, etc.:- PK applied: 30 Aug, 1989. Glyphosate applied: 4 Sept. Isoproturon applied: 23 Nov. N applied: 22 Mar, 1990. Remaining weedkillers with carbendazim and prochloraz applied: 28 Mar. Fenpropimorph applied: 3 May. Combine harvested: 20 July. Previous crops: W. oats 1988, w. wheat 1989.

- NOTES:** (1) Aphid numbers were sampled from September to May.
- (2) BYDV was assessed by enzyme-linked immunosorbent assay from November to May and by visual symptoms during May.
- (3) Components of yield were measured.

90/R/B/2

GRAIN TONNES/HECTARE

***** Tables of means *****

APHICIDE	NONE	CYPERMET	Mean
SOWDATE			
5 SEPT	4.42	5.95	5.18
18 SEPT	6.51	7.77	7.14
29 SEPT	7.29	7.75	7.52
9 OCT	7.40	7.69	7.54
18 OCT	7.02	7.42	7.22
Mean	6.53	7.32	6.92

*** Standard errors of differences of means ***

SOWDATE	APHICIDE	SOWDATE APHICIDE
0.209	0.132	0.295

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	27	0.418	6.0

GRAIN MEAN DM% 90.5

PLOT AREA HARVESTED 0.00204