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## Yields of the Field Experiments 1991

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### 91/R/BW/2 Sowing Dates, Aphids and Bydv - W. Barley

#### Rothamsted Research

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91/R/BW/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, 1990
14 SEPT	14 September
24 SEPT	24 September
4 OCT	4 October
17 OCT	17 October

2. **APHICIDE**                      Aphicide:

NONE	None
CYPERMET	Cypermethrin at 25 g in 300 l on 6 Nov, 1990

**NOTES:** (1) All **SOWDATE** treatments were rotary cultivated on 31 July, 1990, ploughed on 8 Aug and rotary harrowed on the day of sowing. **SOWDATE** 5 SEPT was rotary harrowed again on 5 Sept.

(2) The experiment was netted against birds during June and July.

**Basal applications:** Manure: 'Nitram' at 460 kg. Weedkillers: Paraquat at 0.40 kg ion with a wetting agent, 'Vassgro' at 0.06 l, in 200 l. Diflufenican at 0.10 kg and isoproturon at 1.0 kg in 300 l. Fungicides: Fenpropimorph at 0.75 kg in 300 l. Prochloraz at 0.40 kg with tridemorph at 0.26 kg in 200 l. Propiconazole at 0.12 kg in 200 l.

**Seed:** Magie, sown at 140 kg.

**Cultivations, etc.:-** Paraquat with wetting agent applied: 3 Sept, 1990. Fenpropimorph applied: 14 Nov. Diflufenican and isoproturon applied: 21 Nov. N applied: 26 Mar, 1991. Prochloraz with tridemorph applied: 23 Apr. Propiconazole applied: 23 May. Combine harvested: 5 Aug. Previous crops: W. wheat 1989, w. barley 1990.

**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.

91/R/BW/2

GRAIN TONNES/HECTARE

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

APHICIDE	NONE	CYPERMET	Mean
<b>SOWDATE</b>			
5 SEPT	6.31	7.09	6.70
14 SEPT	7.73	8.09	7.91
24 SEPT	8.17	8.94	8.55
4 OCT	7.74	7.82	7.78
17 OCT	7.44	7.65	7.54
Mean	7.48	7.92	7.70

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

SOWDATE	APHICIDE	SOWDATE APHICIDE
0.202	0.128	0.286

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	27	0.404	5.2
GRAIN MEAN DM%	85.6		
PLOT AREA HARVESTED	0.00204		