

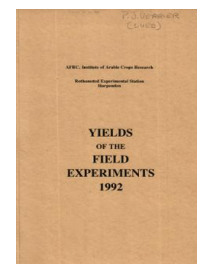
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92/R/BW/2 Sowing Dates, Aphids and Bydv - W. Barley

Rothamsted Research

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92/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:

 ERLYSEPT Early September
 MIDSEPT Mid September
 LATESEPT Late September
 ERLYOCT Early October
 MIDOCT Mid October

2. **APHICIDE** Aphicide in autumn:

 NONE None
 CYPERMET Cypermethrin

Experimental diary:

- 05-Aug-91 : B : Straw baled.
- 14-Aug-91 : B : PK as (0:16:36) at 1040 kg.
- 23-Aug-91 : B : Ploughed.
- 26-Aug-91 : B : Rolled.
- 02-Sep-91 : T : **SOWDATE** ERLYSEPT: Rotary harrowed, Magie drilled at 140 kg, rolled.
- 12-Sep-91 : T : **SOWDATE** MIDSEPT: Rotary harrowed, Magie drilled at 140 kg, rolled.
- 19-Sep-91 : T : **SOWDATE** LATESEPT, ERLYOCT, MIDOCT: Heavy spring-tine cultivated.
- 26-Sep-91 : T : **SOWDATE** LATESEPT: Rotary harrowed, Magie drilled at 141 kg.
- 10-Oct-91 : T : **SOWDATE** ERLYOCT: Rotary harrowed, Magie drilled at 141 kg.
- 24-Oct-91 : T : **SOWDATE** MIDOCT: Rotary harrowed, Magie drilled at 141 kg.
- 14-Nov-91 : T : **APHICIDE** CYPERMET: Ripcord at 0.25 l in 220 l.
- 22-Nov-91 : B : Stefes IPU at 1.0 l and Stomp 400 at 2.5 l in 220 l.
- 06-Mar-92 : B : 34.5% N at 120 kg.
- 02-Apr-92 : B : 34.5% N at 340 kg.
- 19-Apr-92 : B : Duplosan New System CMPP at 2.0 l and Vindex at 1.4 l in 200 l.
- 03-May-92 : B : Calixin at 0.50 l and Radar at 0.50 l in 260 l.
- 22-May-92 : B : Calirus at 2.0 kg and Calixin at 0.70 l in 200 l.

92/R/BW/2

Experimental diary:

08-Jun-92 : B : Netted yield areas.
 20-Jul-92 : B : Removed net from yield areas.
 23-Jul-92 : B : Combine harvested.

Previous crops: W. barley 1990 and 1991.

NOTES: (1) Aphid numbers were counted at intervals between crop emergence and the beginning of the stem elongation. Leaf samples were collected for subsequent enzyme-linked immunosorbent assay to determine levels of BYDV infection.
 (2) Plant height, thousand grain weights and number of grains per ear were determined at harvest.

GRAIN TONNES/HECTARE

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

APHICIDE	NONE	CYPERMET	Mean
SOWDATE			
ERLYSEPT	6.59	7.19	6.89
MIDSEPT	7.10	7.34	7.22
LATESEPT	8.36	8.56	8.46
ERLYOCT	8.35	8.58	8.46
MIDDOCT	8.02	7.99	8.00
Mean	7.68	7.93	7.81

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

SOWDATE	APHICIDE	SOWDATE APHICIDE
0.219	0.138	0.309

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	27	0.437	5.6

GRAIN MEAN DM% 84.4

PLOT AREA HARVESTED 0.00204 (0.00192 ERLYSEPT only)