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## Yields of the Field Experiments 1990

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### 90/R/B/3 Spray Timings and Bydv - S. Barley

#### Rothamsted Research

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90/R/B/3

SPRING BARLEY

SPRAY TIMINGS AND BYDV

**Object:** To investigate the optimum strategy for controlling barley yellow dwarf virus (BYDV) in spring barley in relation to sowing date, aphid immigration and subsequent population development - Long Hoos I/II.

**Sponsors:** N. Carter, R.T. Plumb.

**Design:** 3 randomised blocks of 16 plots.

**Whole plot dimensions:** 3.0 x 10.0.

**Treatments:**

S P DATE	Dates of sowing and of applying pirimicarb, at 0.14 kg in 300 l on each occasion:
E 0	Sown 15 March, 1990 no pirimicarb
E D1	" " " pirimicarb applied 9 Apr
E D2	" " " " " 2 May
E D3	" " " " " 14 May
E D1 D2	" " " " " 9 Apr and 2 May
E D1 D3	" " " " " 9 Apr and 14 May
E D2 D3	" " " " " 2 May and 14 May
E D1D2D3	" " " " " 9 Apr, 2 May and 14 May
L 0	Sown 11 April, no pirimicarb
L D2	" " " pirimicarb applied 2 May
L D3	" " " " " 14 May
L D4	" " " " " 22 May
L D2 D3	" " " " " 2 May and 14 May
L D2 D4	" " " " " 2 May and 22 May
L D3 D4	" " " " " 14 May and 22 May
L D2D3D4	" " " " " 2 May, 14 May and 22 May

**Basal applications:** Manure: 'Nitram' at 350 kg. Weedkillers: Bromoxynil at 0.20 kg, ioxynil at 0.20 kg and mecoprop at 1.6 kg applied with the fungicide in 200 l. Fungicide: Fenpropimorph at 0.75 kg.

**Seed:** Klaxon, dressed triadimenol and fuberidazole, sown at 160 kg.

**Cultivations, etc.:-** Ploughed: 2 Nov, 1989. N applied: 13 Mar, 1990. Spring-tine cultivated: 14 Mar. Early-sown plots rotary harrowed, seed sown: 15 Mar. Late-sown plots rotary harrowed, seed sown: 11 Apr. Weedkillers with the fungicide applied: 14 May. Combine harvested: 14 Aug. Previous crops: S. beans 1988, potatoes 1989.

- NOTES:**
- (1) Aphids were sampled from early April until early July.
  - (2) Shoot samples were taken from some plots to identify and count shoot borers.
  - (3) BYDV was assessed visually on five occasions during May and June and leaves from some plots were tested by enzyme-linked immunosorbent assay to determine virus strains present.
  - (4) Components of yield were measured.

90/R/B/3

GRAIN TONNES/HECTARE

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

S P DATE	
E 0	5.98
E D1	5.82
E D2	5.78
E D3	6.28
E D1 D2	6.16
E D1 D3	6.17
E D2 D3	6.25
E D1D2D3	6.18
L 0	4.51
L D2	4.82
L D3	5.00
L D4	4.99
L D2 D3	4.61
L D2 D4	5.22
L D3 D4	5.07
L D2D3D4	5.37
Mean	5.51

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

S P DATE  
0.401

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	30	0.491	8.9
GRAIN MEAN DM%	88.7		
PLOT AREA HARVESTED	0.00204		