

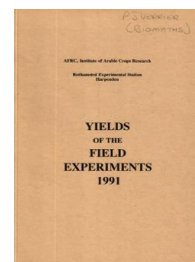
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# Yields of the Field Experiments 1991

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## 91/R/BS/1 Insecticides and Aphids - S. Barley

### Rothamsted Research

Rothamsted Research (1992) *91/R/BS/1 Insecticides and Aphids - S. Barley* ; Yields Of The Field Experiments 1991, pp 128 - 129 - DOI: <https://doi.org/10.23637/ERADOC-1-46>

91/R/BS/1

SPRING BARLEY

INSECTICIDES AND APHIDS

**Object:** To compare the effects of a range of insecticides on the control of aphids and barley yellow dwarf virus (BYDV) and on the yield of spring barley - Stackyard.

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

**Design:** 4 blocks of 5 plots, with external dummy plots and arranged to allow estimation of the effects of neighbouring plots.

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

**Treatments:**

INSCTCDE	Insecticides:
NONE	None
IMIDA SD	Imidacloprid seed dressing
DELTA SP	Deltamethrin spray applied at 5.0 g
DEMET SP	Demeton-S-methyl spray applied at 0.24 kg
PIRIM SP	Pirimicarb spray applied at 0.14 kg

- NOTES:** (1) Imidacloprid seed dressing applied as a 35% W/V formulation at 300 ml per 100 kg seed.  
(2) Spray treatments were applied in 250 l on 21 May, 1991, and in 300 l on 17 June and 2 July.  
(3) A NONE and a DELTA SP plot were inadvertently sprayed with pirimicarb on 2 July. Deltamethrin not subsequently applied to DELTA SP plot. Yields from these plots were treated as missing and estimated values were used in the analysis

**Basal applications:** Manures: Magnesian limestone at 2.0 t. 'Nitram' at 350 kg. Weedkillers: Paraquat at 0.60 kg ion in 200 l. Mecoprop at 1.2 kg with bromoxynil at 0.19 kg and ioxynil at 0.19 kg in 200 l. Fungicide: Tridemorph at 0.52 kg in 200 l.

**Seed:** Alexis, sown at 160 kg.

**Cultivations, etc.:-** Magnesian limestone applied: 31 July, 1990. Ploughed, furrow pressed: 3 Sept. Paraquat applied: 12 Mar, 1991. Heavy spring-tine cultivated: 15 Mar. Spring-tine cultivated: 22 Mar. N applied, spring-tine cultivated, rotary harrowed and seed sown: 16 Apr. Remaining weedkillers applied: 2 June. Fungicide applied: 4 June. Combine harvested: 29 Aug. Previous crops: W. wheat 1989, w. oats 1990.

- NOTES:** (1) Aphids were sampled from early May to the end of July.  
(2) Shoot samples for borers were taken in early July from NONE plots.  
(3) BYDV was assessed visually at weekly intervals from mid-June to the end of July.  
(4) Plant emergence and components of yield were measured.

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GRAIN TONNES/HECTARE

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

INSCTCDE	
NONE	6.40
IMIDA SD	6.33
DELTA SP	6.78
DEMET SP	6.44
PIRIM SP	6.47
Mean	6.48

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

INSCTCDE
0.087

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	10	0.123	1.9
GRAIN MEAN DM%	86.3		
PLOT AREA HARVESTED	0.00230		