



Yields of the Field Experiments 1987

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87/R/B/3 Anti-feedants and Bydv - W. Barley

Rothamsted Research

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87/R/B/3

WINTER BARLEY

ANTI-FEEDANTS AND BYDV

Object: To study the effects of insecticides and insect anti-feedants and their interaction with control of autumn volunteers on the incidence of BYDV - Scout N.

Sponsors: D.C. Griffiths, R.T. Plumb.

Design: 3 blocks of 2 whole plots, split into 6 sub-plots.

Whole plot dimensions: 15.0 x 30.0.

Treatments: All combinations of:-

Whole plots

- | | |
|-------------|---|
| 1. VOLNTEER | Control of volunteers prior to sowing: |
| KILLED | Control of all green plant matter |
| PRESENT | Volunteer germination and survival encouraged |

Sub plots

- | | |
|-------------|---|
| 2. SPRY INS | Sprays of insecticides and pheromone derivatives applied electrostatically in 10 l: |
| NONE | None |
| CYP | Cypermethrin at 25 g on 29 Oct, 1986 |
| POLYG R1 | Polygodial, racemic, one spray on 29 Oct |
| POLYG R2 | Polygodial, racemic, two sprays, on 15 Oct and 29 Oct |
| POLYG R3 | Polygodial, racemic, three sprays, on 3 Oct, 15 Oct and 29 Oct |
| POLYG N3 | Polygodial, normal, three sprays, on 3 Oct, 15 Oct and 29 Oct |

NOTE: VOLNTEER KILLED plots were sprayed with paraquat at 0.60 kg ion in 280 l on 9 Sept, 1986.

Basal applications: Manures: (0:18:36) at 690 kg. 'Nitram' at 460 kg. Weedkillers: Isoproturon at 2.5 kg with clopyralid at 0.07 kg, bromoxynil at 0.34 kg and mecoprop at 2.5 kg in 500 l. Fungicides: Carbendazim at 0.15 kg and prochloraz at 0.40 kg in 200 l. Propiconazole at 0.25 kg in 200 l. Desiccant: Diquat at 0.80 kg ion with a wetting agent ('Agrisal' at 0.20 l) in 200 l.

Seed: Igri, sown at 150 kg.

Cultivations, etc.: PK applied, cultivated by rotary grubber: 7 Aug, 1986. Spring-tine cultivated: 11 Sept. Rotary harrowed, seed sown: 12 Sept. N applied: 20 Mar, 1987. Weedkillers applied: 15 Apr. Carbendazim and prochloraz applied: 29 Apr. Propiconazole applied: 27 May. Diquat with wetting agent applied: 31 July. Combine harvested: 7 Aug. Previous crops: W. barley 1985 and 1986.

87/R/B/3

NOTES: (1) Aphid counts were made in early November 1986, late November and early April, 1987.
(2) VOLNTEER PRESENT plots were severely infested with blackgrass.

GRAIN TONNES/HECTARE

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

SPRY INS VOLNTEER	NONE	CYP	POLYG R1	POLYG R2	POLYG R3	POLYG N3	Mean
KILLED	6.96	7.35	7.14	7.24	7.27	7.38	7.22
PRESENT	4.75	4.19	4.71	2.43	5.10	4.25	4.24
Mean	5.85	5.77	5.92	4.83	6.19	5.81	5.73

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

Table	SPRY INS	VOLNTEER*
s.e.d.	0.657	0.930

* Within the same level of VOLNTEER only

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP.SP	20	1.139	19.9

GRAIN MEAN DM% 85.9

SUB PLOT AREA HARVESTED 0.00163