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## Yields of the Field Experiments 1988

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### 88/R/WW/10 Autumn Pyrethroid and Polyphagous Predators - W. Wheat

#### Rothamsted Research

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88/R/WW/10

**WINTER WHEAT**

**AUTUMN PYRETHROID AND POLYPHAGOUS PREDATORS**

**Object:** To assess the effects of pyrethroids on populations of non-target beneficial insects and the consequences of any such effects on summer aphid populations - Black Horse I N.

**Sponsors:** N. Carter, W. Powell.

Associate Sponsor: D. Cooper (MAFF).

**Design:** 3 blocks of 4 plots.

**Whole plot dimensions:** 8.0 x 60.0.

**Treatments:**

<b>INS BARR</b>	Insecticide and polythene barriers:
0 0	No insecticides, no barriers
0 BARR	No insecticide, with polythene barriers
DE BARR	Deltamethrin on 24 Oct, 1987, with barriers
DL BARR	Deltamethrin on 13 Nov, with barriers

**NOTES:** (1) Deltamethrin was applied at 0.0062 kg in 200 l.  
(2) The polythene barriers were erected around the plots, to prevent movement of ground insects, in early October, 1987.

**Basal applications:** Manures: Chalk at 5.0 t. 'Nitram' at 120 kg and later at 480 kg. Weedkillers: Chlortoluron at 3.5 kg in 200 l. Fluroxypyr at 0.20 kg with clopyralid at 0.07 kg and bromoxynil at 0.34 kg in 200 l. Fungicides: Carbendazim at 0.25 kg and maneb at 1.6 kg in 200 l.

**Seed:** Mercia, sown at 180 kg.

**Cultivations, etc.:-** Discd: 9 Sept, 1987. Chalk applied: 15 Sept. Heavy spring-tine cultivated, spring-tine cultivated: 24 Sept. Seed sown: 26 Sept. Chlortoluron applied: 3 Oct. First N applied: 29 Feb, 1988. Remaining weedkillers applied: 14 Apr. Second N applied: 21 Apr. Fungicides applied: 20 June. Combine harvested: 18 Aug. Previous crops: W. barley 1986, w. oilseed rape 1987.

**NOTE:** Ground insect numbers were estimated from pitfall traps from October to July. Aphid samples were taken in autumn and fortnightly from April until late July. Plant samples were taken for shoot borer estimates in April and visual assessments of BYDV made in mid-June.

88/R/WW/10

GRAIN TONNES/HECTARE

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

INS BARR	0 0	0 BARR	DE BARR	DL BARR	MEAN
	6.51	6.38	6.60	6.58	6.52

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

INS BARR  
0.095

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	6	0.116	1.8
GRAIN MEAN DM%	85.7		
PLOT AREA HARVESTED	0.00353		