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## Yields of the Field Experiments 1979

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### 79/R/WW/8 Integrated Pest Control - W. Wheat

#### Rothamsted Research

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79/R/WW/8

WINTER WHEAT

INTEGRATED PEST CONTROL

Object: To study the effects of chemical and biological pest control treatments on the incidence of pests and beneficial insects and on yield of winter wheat - Stackyard.

Sponsors: W. Powell, R. Bardner, G.J.W. Dean, C.A. Edwards, J.R. Lofty, K.E. Fletcher, J.W. Stephenson, A. Dewar, N. Wilding, R.T. Plumb.

Design: 3 randomised blocks of 4 plots.

Whole plot dimensions: 19.2 x 19.2.

Treatments:

TREATMNT	Chemical and biological treatments:
NONE	None
APHICIDE	Aphicide - Pirimicarb at 0.14 kg in 550 l on 26 June, 1979
BIOLOGIC	Biological control of aphids by the release of 14 <i>Sitobion avenae</i> and 12 <i>Metopolophium dirhodum</i> per square metre, both species infected with <i>Entomophthora aphidis</i> , on 22 June, 1979
MULTCHEM	Multiple chemical treatments: Aldicarb at 5 kg to the seedbed on 17 Oct, 1978 Metaldehyde at 31 kg on 31 Oct Omethoate at 0.2 kg in 280 l on 15 May, 1979

Basal applications: Manures: (10:23:23) at 250 kg, combine drilled. 'Nitro-Chalk' at 500 kg. Autumn weedkiller: Chlortoluron at 5.6 kg in 220 l. Spring weedkiller: Mecoprop at 2.5 kg in 220 l.

Seed: Flanders, undressed, sown at 190 kg.

Cultivations, etc.: - Ploughed: 12 Oct, 1978. Disc harrowed: 16 Oct. Rotary harrowed: 18 Oct. Seed sown: 19 Oct. Autumn weedkiller applied: 20 Oct. N applied: 27 Apr, 1979. Spring weedkiller applied: 15 May. Combine harvested: 30 Aug. Previous cropping: Wheat 1977, spring oats 1978.

NOTE: Aphid counts were made weekly between June and early August and *Entomophthora* infection was assessed. Slugs and stem boring insects were counted and the incidence of barley yellow dwarf virus assessed. Polyphagous predators and aphid-specific predators and parasites were sampled regularly between late May and early August.

79/R/WW/8

GRAIN TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

TREATMNT	NONE	APHICIDE	BIOLOGIC	MULTCHEM	MEAN
	7.21	7.14	7.03	7.44	7.20

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

TABLE	TREATMNT
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SED	0.241

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

STRATUM	DF	SE	CV%
BLOCK.WP	6	0.296	4.1

GRAIN MEAN DM% 84.3

PLOT AREA HARVESTED 0.00410