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80/R/WW/5 Winter Wheat Integrated Pest Control

Rothamsted Research

Rothamsted Research (1981) *80/R/WW/5 Winter Wheat Integrated Pest Control* ; Yields Of The Field Experiments 1980, pp 234 - 235 - DOI: <https://doi.org/10.23637/ERADOC-1-31>

80/R/WW/5

WINTER WHEAT

INTEGRATED PEST CONTROL

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

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

Design: 3 randomised blocks of 5 plots.

Whole plot dimensions: 19.2 x 13.7

Treatments:

TREATMNT	Chemical and biological treatments:
NONE	None
BENOMYL	Benomylat 0.56 kg in 360 l on 8 May, 1980
DIMETHOA	Dimethoate at 0.34 l in 600 l on 11 June
PIRIMICA	Pirimicarb at 0.14 kg in 600 l on 11 June
ENTOMOPH	Biological control of aphids by the release of 86 <i>Metopolophium dirhodum</i> per square metre on 11 June and 15 <i>Sitobion avenae</i> per square metre on 12 June, both species infected with <i>Entomophthora aphidis</i> .

Basal applications: Manures: (10:23:23) at 250 kg, combine drilled. 'Nitro-Chalk' at 560 kg. Weedkillers: Isoproturon at 2.1 kg with mecoprop at 2.5 l in 220 l.

Seed: Flanders, not dressed insecticide, sown at 200 kg.

Cultivations, etc.: - Heavy spring-tine cultivated: 23 Aug, 1979. Ploughed: 13 Sept. Rotary harrowed: 4 Oct. Seed sown: 6 Oct. Weedkillers applied: 29 Feb, 1980. N applied: 8 Apr. Combine harvested: 20 Aug. Previous crops: S. wheat 1978, w. oats 1979.

NOTE: Ground surface insects were counted weekly between April and August and aerial insects weekly between May and July. Soil insects were counted in June. Aphid numbers, infection with *Entomophthora* and aphid parasite numbers were assessed in June and July.

80/R/WW/5

GRAIN TONNES/HECTARE

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

TREATMNT	NONE	BENOMYL	DIMETHOA	PIRIMICA	ENTOMOPH	MEAN
	8.24	8.53	8.54	8.61	7.89	8.36

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

TABLE	TREATMNT
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SED	0.193

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

STRATUM	DF	SE	CV%
BLOCK.WP	8	0.237	2.8

GRAIN MEAN DM% 83.4

PLOT AREA HARVESTED 0.00293