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82/W/WW/4 Aphid Alarm Pheromone and Bydv - Winter Wheat

Rothamsted Research

Rothamsted Research (1983) *82/W/WW/4 Aphid Alarm Pheromone and Bydv - Winter Wheat ; Yields Of The Field Experiments 1982*, pp 234 - 235 - DOI: <https://doi.org/10.23637/ERADOC-1-33>

82/W/WW/4

WINTER WHEAT

APHID ALARM PHEROMONE AND BYDV

Object: To study the effects of insecticides and an alarm pheromone on aphids, barley yellow dwarf virus (BYDV) and the yield of w. wheat - Woburn Gt. Hill III.

Sponsors: D.C. Griffiths, R.T. Plumb, J.A. Pickett.

Design: 4 blocks of 5 plots.

Whole plot dimensions: 4.0 x 12.0.

Treatments:

TREATMNT	Application of insecticides or alarm pheromone:
NONE	None (duplicated)
PHER AR	'ADD' (a derivative of beta-farnesene) repeated sprays in autumn
PERMET A	Permethrin at 0.05 kg as a spray on 6 Nov, 1981
PHORA SD	Phorate as a seed dressing at 2 g per kg of seed

NOTE: 'ADD' was applied at 4.0 kg on 13 Oct, 1981, 6 Nov and 30 Nov and at 8.0 kg on 21 Oct.

Basal applications: Manures: (0:14:28) at 1000 kg. N at 30 kg and at 190 kg as 'Nitro-Chalk'. Weedkillers: Methabenzthiazuron at 1.6 kg in 280 l; isoproturon at 2.1 kg in 280 l. Fungicides: Prochloraz at 0.39 kg in 280 l; propiconazole at 0.12 kg in 280 l applied with the insecticide. Insecticide: Pirimicarb at 0.14 kg.

Seed: Aquila, sown at 190 kg.

Cultivations, etc.: - Straw burnt: 26 Aug, 1981. Discd: 27 Aug, 1 Sept. PK applied: 4 Sept. N applied: 17 Sept. Spring-tine cultivated: 18 Sept. Spring-tine cultivated with crumbler attached, seed sown: 22 Sept. Methabenzthiazuron applied: 25 Sept. N applied: 14 Apr, 1982. Isoproturon applied: 16 Apr. Prochloraz applied: 25 Apr. Propiconazole and insecticide applied: 14 June. Combine harvested: 30 July. Previous crops: Phaseolus 1980, w. wheat 1981.

NOTE: Numbers of soil fauna were estimated from pitfall traps; numbers of aphids were counted from October 1981 to May 1982 and virus assessments were made during the season.

82/W/WW/4

GRAIN TONNES/HECTARE

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

TREATMNT	NONE	PHER AR	PERMET A	PHORA SD	MEAN
	4.61	4.27	5.15	4.66	4.66

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

TABLE	TREATMNT
SED	0.744 MIN REP 0.645 MAX-MIN

	TREATMNT
MAX-MIN	NONE V ANY OF THE REMAINDER
MIN REP	ANY OF THE REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP	13	1.052	22.6

GRAIN MEAN DM% 83.7

PLOT AREA HARVESTED 0.00247