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86/R/WW/5 Persistence of Aphicides - W. Wheat

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86/R/WW/5

WINTER WHEAT

PERSISTENCE OF APHICIDES

Object: To examine the persistence of aphicides applied at three growth stages and their effect on the yield of winter wheat - New Zealand.

Sponsor: N. Carter.

Design: 4 randomised blocks of 15 plots.

Whole plot dimensions: 3.0 x 12.0.

Treatments: All combinations of:-

1. APHICIDE Aphicides (applied in 200 l):

DEMETON	Demeton-S-methyl at 0.122 kg
DIMETHOA	Dimethoate at 0.335 kg
PIRIMICA	Pirimicarb at 0.140 kg
PIR+CLO	Pirimicarb at 0.140 kg + clocythrins at 0.0075 kg
2. APH TIME Timing of aphicides:

GS 45	Booting, growth stage 45 on 11 June, 1986
GS 59	Ears emerged, growth stage 59 on 18 June
GS 71	Flowering complete, growth stage 71 on 1 July

plus one extra treatment:

EXTRA

NONE No aphicide (triplicated)

Basal applications: Manures: 'Nitram' at 600 kg. Weedkillers: Paraquat at 0.60 kg ion in 200 l. Clopyralid at 0.07 kg and bromoxynil octanoate at 0.34 kg with mecoprop at 2.5 kg, isoproturon at 2.1 kg applied with the prochloraz and carbendazim in 200 l. Fungicides: Prochloraz at 0.40 kg and carbendazim at 0.15 kg. Carbendazim and maneb (as 'Septal' at 2.5 kg) with propiconazole at 0.12 kg in 200 l. Insecticide: Cypermethrin at 0.025 kg in 200 l.

Seed: Avalon, sown at 190 kg.

Cultivations, etc.: - Heavy spring-tine cultivated: 30 Aug, 1985. Paraquat applied: 24 Sept. Heavy spring-tine cultivated, rotary harrowed, seed sown: 1 Oct. Insecticide applied: 31 Oct. N applied: 29 Mar, 1986. Remaining weedkillers with prochloraz and carbendazim applied: 30 Apr. Carbendazim, maneb and propiconazole applied: 26 June. Combine harvested: 21 Aug. Previous crops: W. wheat 1984, w. oats 1985.

NOTE: Aphids were counted at weekly intervals from early June to mid-August.

86/R/WW/5

GRAIN TONNES/HECTARE

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

APH TIME	GS 45	GS 59	GS 71	MEAN
APHICIDE				
DEMETON	11.32	11.35	11.35	11.34
DIMETHOA	11.64	11.56	11.53	11.58
PIRIMICA	11.46	11.43	11.68	11.52
PIR+CLO	11.75	11.52	11.57	11.61
MEAN	11.54	11.46	11.53	11.51

NONE 11.49

GRAND MEAN 11.51

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

TABLE	APHICIDE	APH TIME	APHICIDE APH TIME
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SED	0.196	0.170	0.340

SED FOR NONE V ANY ITEM IN APH TIME.APHICIDE TABLE IS 0.277

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

STRATUM	DF	SE	CV%
BLOCK.WP	44	0.481	4.2

GRAIN MEAN DM% 81.8

PLOT AREA HARVESTED 0.00331