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81/R/BE/19 Electrostatic Spraying and Aphids - S. Beans

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81/R/BE/19

SPRING BEANS

ELECTROSTATIC SPRAYING AND APHIDS

Object: To study the effects of applying aphicides with an electrostatic sprayer on the control of black fly (*Aphis fabae*) and on the yield of s.beans - Whittlocks.

Sponsors: D.C. Griffiths, A.J. Arnold, G.R.Cayley, P. Etheridge, F.T. Phillips, B. Pye, G.C. Scott.

Design: 4 randomised blocks of 10 plots.

Whole plot dimensions: 3.20 x 9.14.

Treatments:

TREATMNT	Sprayers and aphicides:
NONE	None
EL V2 D1	Electrostatic sprayer, droplets charged 25 kV, demeton-s-methyl at 0.06 kg.
EL V2 D2	Electrostatic sprayer, droplets charged 25 kV, demeton-s-methyl at 0.12 kg.
EL V2 D4	Electrostatic sprayer, droplets charged 25 kV, demeton-s-methyl at 0.24 kg.
EL V2 P4	Electrostatic sprayer, droplets charged 25 kV, permethrin at 0.10 kg.
EL - U	Electrostatic sprayer, droplets uncharged, 'Uvitex' dye
EL V1 U	Electrostatic sprayer, droplets charged 15 kV, 'Uvitex' dye
EL V2 U	Electrostatic sprayer, droplets charged 25 kV, 'Uvitex' dye
ST - D4	Standard sprayer, droplets uncharged, demeton-s-methyl at 0.24 kg.
ST - P4	Standard sprayer, droplets uncharged, permethrin at 0.10 kg.

NOTE: Treatments were applied on 12 June, 1981 in 3.73 l of oil or water by electrostatic sprayer, in 450 l of water by standard sprayer.

Basal applications: Manure: Chalk at 7.5 t. Weedkillers: Simazine at 1.2 kg in 250 l. Benomyl at 0.55 kg in 250 l.

Seed: Minden, sown at 260 kg.

Cultivations, etc.: - Chalk applied: 2 Sept, 1980. Ploughed: 29 Dec. Spring-tine cultivated twice: 19 Feb, 1981, 20 Feb. Seed sown: 20 Feb. Weedkiller applied: 8 Apr. Fungicide applied: 18 June. Combine harvested: 9 Sept. Previous crops: W. wheat 1979, s. barley 1980.

NOTE: Leaf notching by *Sitona* was counted in June, and aphids were counted seven times during June and July.

81/R/BE/19

GRAIN TONNES/HECTARE

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

TREATMNT	
NONE	3.45
EL V2 D1	3.79
EL V2 D2	3.61
EL V2 D4	3.89
EL V2 P4	3.41
EL - U	3.00
EL V1 U	3.40
EL V2 U	3.20
ST - D4	3.89
ST - P4	3.67
MEAN	3.53

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

TABLE	TREATMNT
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SED	0.287

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

STRATUM	DF	SE	CV%
BLOCK.WP	27	0.406	11.5

GRAIN MEAN DM% 87.2

SUB PLOT AREA HARVESTED 0.00195