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78/R/BE/6 Comparison of Sprayers - Beans

Rothamsted Research

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78/R/BE/6

SPRING BEANS

COMPARISON OF SPRAYERS

Object: To study the performance of an electrostatic spraying system on distribution of spray material and on yield of beans - Gt. Harpenden II.

Sponsor: A.J. Arnold.

Design: 3 randomised blocks of 6 plots.

Whole plot dimensions: 2.67 x 9.14.

Treatments:

SPRAYER	Sprayer used to apply permethrin:
NONE	None (duplicated)
E C C	Electrostatic sprayer, spraying charged particles with controlled current
E C N	Electrostatic sprayer, spraying charged particles with normal current
E U	Electrostatic sprayer, spraying uncharged particles
F U	Standard farm sprayer, spraying uncharged particles

NOTES: (1) Electrostatic sprayer applied permethrin at 84 g in 34 l.
(2) Farm sprayer applied permethrin at 84 g in 340 l.
(3) Permethrin was applied as a water-based spray. A planned comparison of oil and water-based sprays was not achieved.
(4) Sprays were applied on 11 July, 1978.

Basal applications: Manures: Chalk at 7.5 t.

Seed: Minden, sown at 200 kg.

Cultivations, etc.: - Chalk applied: 12 Oct, 1977. Ploughed: 11 Nov. Spring-tine cultivated: 9 Mar, 1978. Heavy spring-tine cultivated, seed sown: 11 Mar. Tractor hoed: 19 May and 8 June. Combine harvested: 25 Sept. Previous crops: Barley 1976 and 1977.

78/R/BE/6

GRAIN TONNES/HECTARE

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

SPRAYER	NONE	E C C	E C N	E U	F U	MEAN
	5.69	5.72	5.97	5.74	6.04	5.81

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

TABLE	SPRAYER
SED	0.541 MIN REP 0.468 MAX-MIN

SPRAYER
 MAX-MIN NONE V ANY OF REMAINDER
 MIN REP ANY OF REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP	11	0.662	11.4

GRAIN MEAN DM% 83.9

PLOT AREA HARVESTED 0.00244