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82/R/RA/1 Electrostatic Spraying - Winter Oilseed Rape

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82/R/RA/1

WINTER OILSEED RAPE

ELECTROSTATIC SPRAYING

Object: To compare the effects of electrostatic and conventional sprayers on disease control and on yield of w. oilseed rape - Long Hoos VI/VII 3.

Sponsors: G.R. Cayley, C.J. Rawlinson, D.C. Griffiths, A.J. Arnold.

Design: 3 randomised blocks of 10 plots.

Whole plot dimensions: 2.54 x 6.10.

Treatments: All combinations of:-

1. SPRAYER Spraying machine and rate of applying prochloraz:

CNVNTL 4	Conventional sprayer, applying 500 g
ELECTR 1	Electrostatic sprayer, applying 125 g
ELECTR 2	Electrostatic sprayer, applying 250 g
ELECTR 4	Electrostatic sprayer, applying 500 g

2. SPRADATE Dates of spraying:

9NV	9 November, 1981
9NV+5AP	9 November and again on 5 April, 1982

plus one extra treatment not sprayed:

EXTRA	
NONE	None (duplicated)

NOTE: Treatments were applied in 4.3 l water by electrostatic sprayer and in 410 l water by conventional sprayer.

Basal applications: Manures: 'Nitro-Chalk' at 220 kg at sowing and at 670 kg in February. Weedkillers: 3, 6 - Dichloropicolinic acid at 0.07 kg with benazolin ethyl ester at 0.42 kg and propyzamide at 0.35 kg in 340 l.

Seed: Primor, sown at 6.7 kg.

Cultivations, etc.: - Spring-tine cultivated, N applied, seed sown: 3 Sept, 1981. Weedkiller applied: 5 Nov. N applied: 10 Feb, 1982. Cut and swathed: 22 July. Stationary combine threshed: 28 July. Previous crops: Mixed cereals 1980, fallow 1981.

NOTE: Phoma and light leaf spot were assessed on several occasions throughout the season. Growth analysis measurements were taken in spring. Insect populations and pod shattering were assessed during the season.

82/R/RA/1

GRAIN (90% DRY MATTER) TONNES/HECTARE

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

SPRAYER SPRADATE	CNVNTL 4	ELECTR 1	ELECTR 2	ELECTR 4	MEAN
9NV	1.47	1.53	1.37	1.41	1.45
9NV+5AP	1.85	1.54	2.00	1.75	1.78
MEAN	1.66	1.54	1.68	1.58	1.62

NONE 1.17

GRAND MEAN 1.53

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

TABLE	SPRAYER	SPRADATE	SPRAYER SPRADATE
SED	0.099	0.070	0.140

SED FOR COMPARING NONE WITH ANY
ITEM IN SPRAYER.SPRADATE TABLE IS 0.121

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

STRATUM	DF	SE	CV%
BLOCK.WP	19	0.172	11.2

MEAN DM% 88.8

PLOT AREA HARVESTED 0.00155