ROTHAMSTED RESEARCH

Yields of the Field Experiments 1979

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79/R/B/11 Controlled Drop Application of Tridemorph - Barley

Rothamsted Research

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79/R/B/11

SPRING BARLEY

CONTROLLED DROP APPLICATION OF TRIDEMORPH

Object: To compare controlled drop application with conventional spraying on the deposition of spray material, control of mildew and on the yield of spring barley - Claycroft.

Sponsors: F.T. Phillips, A.J. Arnold, P. Etheridge.

Design: 3 randomised blocks of 11 plots.

Whole plot dimensions: 4.27 x 24.4.

Treatments: All combinations of:-

1. SPRAYER	Sprayer and drop density:
CDA 1	Controlled drop application sprayer, standard drop density
CDA 2	Controlled drop application sprayer, twice standard drop density
HYDRAUL	Hydraulic sprayer
2. TRI RATE	Rates of applying tridemorph (on 12 June, 1979):
1	Standard, 525 g
1/2	Half standard, 263 g
1/4	Quarter standard, 132 g
EXTRA	plus two extra plots
NONE	Unsprayed
CDA R 1	Controlled drop application sprayer, reduced drop density, applying standard rate tridemorph

NOTES: (1) CDA sprayer applied tridemorph in 19 l.
(2) Hydraulic sprayer applied tridemorph in 340 l.

Basal applications: Manures: (20:14:14) at 440 kg, combine drilled. Weedkillers: Bromoxynil with ioxynil (as 'Oxytril CM' at 2.1 kg) and mecoprop at 1.6 kg in 220 l.

Seed: Wing, sown at 160 kg.

Cultivations, etc.:- Subsoiled, tines 100 cm apart and 45 cm deep: 31 Oct, 1978. Ploughed: 2 Nov. Spring-tine cultivated: 16 Apr, 1979. Seed sown: 17 Apr. Weedkillers applied: 1 June. Combine harvested: 26 Aug. Previous crops: Beans 1977, wheat 1978.

NOTE: Observations were made on patterns of spray deposition using very small quantities of permethrin as a chemical marker.

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79/R/B/11

GRAIN TONNES/HECTARE

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

TRI RATE / SPRAYER	1	1/2	1/4	MEAN
CDA 1	6.14	6.11	5.69	5.98
CDA 2	5.75	6.21	5.89	5.95
HYDRAUL	6.01	5.94	6.05	6.00
MEAN	5.96	6.09	5.88	5.98

EXTRA	NONE	CDA R 1	MEAN
	5.63	6.16	5.89

GRAND MEAN 5.96

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

TABLE	SPRAYER	TRI RATE	SPRAYER TRI RATE & EXTRA
SED	0.144	0.144	0.249

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

STRATUM	DF	SE	CV%
BLOCK.WP	20	0.305	5.1

GRAIN MEAN DM% 81.5

PLOT AREA HARVESTED 0.00520

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