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78/R/B/5 Controlled Drop Application of Tridemorph - Barley

Rothamsted Research

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78/R/B/5

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 - Gt. Knott III.

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

Design: 3 randomised blocks of 10 plots.

Whole plot dimensions: 4.27 x 18.3.

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 3 June, 1978):

1	Standard, 525 g
1/2	Half standard, 263 g
1/10	Tenth standard, 52.5 g

NONE plus one extra plot not sprayed

NOTES: (1) CDA sprayer applied tridemorph in 21 l.
(2) Hydraulic sprayer applied tridemorph in 337 l.

Basal applications: Manures: (20:14:14) at 440 kg, combine drilled. Weedkillers: Mecoprop plus bromoxynil and ioxynil ('Brittox' at 2.5 l in 220 l).

Seed: Wing, sown at 160 kg.

Cultivations, etc.:-- Ploughed: 29 Nov, 1977. Spring-tine cultivated: 11 Mar, 1978. Spring-tine cultivated, seed sown: 15 Mar. Weedkillers applied: 19 May. Combine harvested: 25 Aug. Previous crops: Potatoes 1976, barley 1977.

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

78/R/B/5

GRAIN TONNES/HECTARE

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

TRI RATE SPRAYER	1	1/2	1/10	MEAN
CDA 1	5.98	6.26	5.82	6.02
CDA 2	6.15	6.25	5.98	6.13
HYDRAUL	6.31	5.88	5.97	6.05
MEAN	6.15	6.13	5.92	6.07

NONE 5.62

GRAND MEAN 6.02

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

TABLE	SPRAYER	TRI RATE	SPRAYER TRI RATE & NONE
SED	0.128	0.128	0.221

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

STRATUM	DF	SE	CV%
BLOCK.WP	18	0.247	4.1

GRAIN MEAN DM% 84.5

PLOT AREA HARVESTED 0.00390