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Yields of the Field Experiments 1976

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76/R/B/10 Comparison of Sprayers - Barley

Rothamsted Research

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76/R/B/10

SPRING BARLEY

COMPARISON OF SPRAYERS

Object: To study the performance of an electrostatic spraying system on distribution of spray material and on yield of barley - Pastures.

Sponsor: A.J. Arnold.

Design: 3 blocks of 9 plots (DATE 14 MAY on 1 block; DATE 27 MAY on 2 blocks).

Whole plot dimensions: 2.13 x 9.14.

Treatments: All combinations of:-

1. SPRAYER Sprayer:

EC	Electrostatic sprayer with charged particles
EU	Electrostatic sprayer with uncharged particles

2. TRI RATE Rate of applying tridemorph (in 38 l):

0.02	0.02 kg
0.04	0.04 kg
0.17	0.17 kg

3. DATE Dates of spraying:

14 MAY	14 May
27 MAY	27 May

EXTRA plus two extra treatments:

F Standard farm sprayer applying 0.17 kg tridemorph in 340 l on 27 May (1 plot/block)
- Untreated (2 plots/block on 2 blocks, 1 plot on 1 block)

Basal applications: Manures: (20:14:14) at 380 kg, combine drilled.
Weedkillers: Paraquat at 0.42 kg ion in 220 l to barley stubble autumn 1975. Dicamba with mecoprop and MCPA ('Banlene Plus' at 5.6 l in 220 l), in spring.

Seed: Julia, sown at 160 kg.

Cultivations, etc.: - Autumn weedkiller applied: 6 Nov, 1975. Ploughed: 24 Nov. Spring-tine cultivated: 2 Mar, 1976. Seed sown: 12 Mar. Spring weedkiller applied: 11 May. Combine harvested: 27 July. Previous crops: Potatoes 1974, barley 1975.

NOTE: Mildew was assessed once. Observations were made on patterns of spray deposition.

76/R/B/10

GRAIN TONNES/HECTARE

DATE 14 MAY

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

SPRAYER TRI RATE	EC	EU	MEAN
0.02	4.51	4.77	4.64
0.04	5.06	4.69	4.87
0.17	5.51	5.03	5.27
MEAN	5.02	4.83	4.93

DATE 27 MAY AND EXTRA

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

SPRAYER TRI RATE	EC	EU	MEAN
0.02	4.95	4.58	4.77
0.04	4.72	4.73	4.73
0.17	4.64	4.59	4.62
MEAN	4.77	4.64	4.70
EXTRA	F 4.77	- 4.58	MEAN 4.65

GRAND MEAN 4.68

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

TABLE	EXTRA	SPRAYER	TRI RATE	SPRAYER TRI RATE
SED	0.176	0.133	0.163	0.231

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

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.231	4.9

GRAIN MEAN DM% 87.2

PLOT AREA HARVESTED 0.00130