

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1984

[Full Table of Content](#)



84/R/WW/13 Electrostatic Application of Post-emergence Weedkiller - W. Wheat

Rothamsted Research

Rothamsted Research (1985) *84/R/WW/13 Electrostatic Application of Post-emergence Weedkiller - W. Wheat* ; Yields Of The Field Experiments 1984, pp 238 - 239 - DOI:
<https://doi.org/10.23637/ERADOC-1-32>

84/R/WW/13

WINTER WHEAT

ELECTROSTATIC APPLICATION OF POST-EMERGENCE WEEDKILLER

Object: To study the effects of post-emergence weedkiller applied by charged rotary atomisers on weed survival and on the yield of winter wheat - Claycroft.

Sponsor: G.R. Cayley, P. Etheridge, D.C. Griffiths, B.J. Pye, G.C. Scott.

Design: 4 randomised blocks of 7 plots.

Whole plot dimensions: 3.0 x 10.0.

Treatments: All combinations of:-

1. SPRAYER Spraying machines:

 HYDRAUL Conventional hydraulic sprayer in 200 l
 ELECT J 'Jumbo' electrostatic in 8 l
 ELECT M 'Micronex' electrostatic in 9.3 l
2. ISOPRATE Rates of isoproturon applied 1 Mar, 1984:

 1.05 Half standard rate
 2.10 Standard rate

plus one extra treatment:

EXTRA

NONE No weedkiller

NOTE: The 'Jumbo' electrostatic sprayer has electrostatically charged spinning cone nozzles, the 'Micronex' is a commercial prototype with electrostatically charged spinning disc nozzles.

Basal applications: Manures: 'Nitro-Chalk' on two occasions, at 130 kg on the first and at 750 kg on the second. Weedkiller: Paraquat at 0.42 kg ion in 250 l. Fungicides: Prochloraz at 0.40 kg and carbendazim at 0.15 kg in 250 l. Maneb at 1.6 kg and zineb at 0.17 kg with prochloraz at 0.4 kg in 500 l. Insecticide: Pirimicarb at 0.14 kg in 200 l.

Seed: Avalon, sown at 170 kg.

Cultivations, etc.: Heavy spring-tine cultivated: 12 Sept, 1983. Weedkiller applied: 20 Sept. First N applied: 26 Sept. Heavy spring-tine cultivated, rotary harrowed, seed sown: 27 Sept. Second N applied: 9 Apr, 1984. Prochloraz and carbendazim applied: 25 Apr. Maneb, zineb and prochloraz applied: 14 June. Insecticide applied: 27 June. Combine harvested: 22 Aug. Previous crops: S. beans 1982, s. wheat 1983.

NOTE: Crop and weed samples were taken immediately after spraying to assess weedkiller deposits. Weeds were assessed in April.

84/R/WW/13

GRAIN TONNES/HECTARE

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

	SPRAYER	HYDRAUL	ELECT J	ELECT M	MEAN
ISOPRATE					
	1.05	10.15	9.54	8.78	9.49
	2.10	10.75	10.26	10.58	10.53
MEAN		10.45	9.90	9.68	10.01
NONE	8.51				
GRAND MEAN		9.79			

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

TABLE	ISOPRATE	SPRAYER	ISOPRATE SPRAYER
SED	0.209	0.256	0.362

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

STRATUM	DF	SE	CV%
BLOCK.WP	18	0.512	5.2

GRAIN MEAN DM% 86.6

PLOT AREA HARVESTED 0.00234