

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 1983

[Full Table of Content](#)



83/R/B/9 Electrostatic Spraying and Mildew - S. Barley

Rothamsted Research

Rothamsted Research (1984) *83/R/B/9 Electrostatic Spraying and Mildew - S. Barley* ; Yields Of The Field Experiments 1983, pp 270 - 271 - DOI: <https://doi.org/10.23637/ERADOC-1-44>

83/R/B/9

SPRING BARLEY

ELECTROSTATIC SPRAYING AND MILDEW

Object: To compare the effects of electrostatic and conventional sprayers on mildew (*Erysiphe graminis*) control and on the yield of s. barley - Geescroft.

Sponsors: A.J. Arnold, G.R. Cayley, P. Etheridge, D.C. Griffiths, F.T. Phillips, B.J. Pye, G.C. Scott.

Design: 4 randomised blocks of 10 plots.

Whole plot dimensions: 3.0 x 13.0.

Treatments: All combinations of:-

1. SPRAYER Spraying machines:

CNVNTIAL	Conventional
ELECT NA	New electrostatic A
ELECT NB	New electrostatic B
ELECT O	Older electrostatic

2. TRIADIME Rates of applying triadimefon fungicide(g):

31
125

plus two extra treatments

EXTRA	
NONE	None
ELECT C1	New electrostatic C, given triadimefon at 31 g.

NOTES: (1) All the electrostatic sprayers had spinning cone nozzles. A and the older type were mounted vertically but differed in electric charge, 7.5 and 30 kV respectively. B and C both were mounted at an angle of 30° to the vertical and also differed in charge, 7.5 and 30 kV respectively.

(2) Fungicide was applied on 13 June, 1983, in 380 l by conventional sprayer, in 8.3 l by electrostatic sprayers.

Basal applications: Manures: 'Nitro-Chalk' at 500 kg followed by 250 kg. Weedkillers: Glyphosate at 1.4 kg in 120 l. Dicamba, mecoprop and MCPA (as 'Herrisol' at 5.0 l) in 250 l.

Seed: Koru, sown at 160 kg.

Cultivations, etc.: - Glyphosate applied: 28 Oct, 1982. Ploughed: 22 Dec. Spring-tine cultivated twice: 11 Mar, 1983. Seed sown: 15 Mar. First N applied: 15 Apr. 'Herrisol' applied: 24 May. Second N applied: 26 May. Combine harvested: 8 Aug. Previous crops: Potatoes 1981, w. wheat 1982.

NOTE: Samples for chemical analysis were taken immediately after treatment. Mildew was assessed seventeen days later.

83/R/B/9

GRAIN TONNES/HECTARE

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

TRIADIME	31	125	MEAN
SPRAYER			
CNVNTIAL	6.15	6.34	6.24
ELECT NA	5.95	6.74	6.34
ELECT NB	5.92	6.67	6.29
ELECT O	6.09	6.48	6.28
MEAN	6.03	6.56	6.29

EXTRA	NONE	ELECT C1	MEAN
	5.91	5.93	5.92

GRAND MEAN 6.22

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

TABLE	SPRAYER	TRIADIME	SPRAYER TRIADIME & EXTRA
SED	0.260	0.184	0.368

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

STRATUM	DF	SE	CV%
BLOCK.WP	27	0.521	8.4

MEAN DM% 87.4

PLOT AREA HARVESTED 0.00359