

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 1974

[Full Table of Content](#)



74/W/P/3 Methods of Incorporating Nematicides - Potatoes

74/W/P/3 Methods of Incorporating Nematicides - Potatoes, Rothamsted Research (1975) Yields Of The Field Experiments 1974, pp 347 - 349 - DOI: <https://doi.org/10.23637/ERADOC-1-119>

74/W/P/3

POTATOES

METHODS OF INCORPORATING NEMATOCIDE

Object: To study the effects of several methods of incorporating three rates of aldicarb into the soil on the incidence of *Heterodera rostochiensis* and yield of potatoes - Woburn Butt Close I.

Sponsors: A.G. Whitehead, R.H. Bromilow.

Design: 4 randomised blocks of 16 plots.

Whole plot dimensions: 2.84 x 11.4. Area harvested: 0.00163.

Treatments: All combinations of:

1. Rates of aldicarb (kg):

ALDICARB

2.25

2.25

4.50

4.50

9.00

9.00

2. Methods of incorporation of aldicarb (all applied just before planting):

METHOD

Applied to surface and then cultivated by 'Roterra' (a rotary cultivator with blades revolving around a vertical axis) to 20 cm depth

S/RR

Half applied to surface and half to 5 cm depth*, then cultivated by 'Roterra' to 20 cm depth

SM/RR

One third applied to surface, one third to 5 cm depth*, one third to 10 cm depth* then cultivated by 'Roterra' to 20 cm depth

SMD/RR

Soil cultivated by 'Roterra' to 20 cm depth, then all aldicarb applied to surface, then rotary cultivated to 10 cm depth

RR/S/RV1

Soil cultivated by 'Roterra' to 20 cm depth, then all aldicarb applied to surface, then rotary cultivated to 20 cm depth

RR/S/RV2

together with one plot not treated with aldicarb, cultivated by 'Roterra' to 20 cm depth

ALDICARB

0.00

* Applied with a specially made applicator.

Basal applications: Manures: (13:13:20) at 1940 kg. Weedkillers: Linuron at 1.2 kg plus paraquat at 0.28 kg ion in 280 l. Fungicide and insecticide: Mancozeb at 1.3 kg plus demeton-s-methyl at 0.25 kg in 450 l. Fungicide: Mancozeb at 1.3 kg in 450 l.

74/W/P/3

Seed: Pentland Crown.

Cultivations, etc.:-

Sub-soiled, tines 140 cm apart, 50 cm deep: 22 Sept, 1973. Ploughed: 14 Nov. NPK applied: 8 Apr, 1974. All plots cultivated by 'Roterra': 23 Apr. Treatments applied, potatoes planted: 24 Apr. Weedkiller applied: 17 May. Rotary ridged: 11 June. Fungicide with insecticide applied: 19 July. Fungicide applied: 7 Aug. Haulm mechanically destroyed: 16 Sept. Sprayed with undiluted BOV at 170 l: 18 Sept. Potatoes lifted: 1-14 Oct. Previous crops: Potatoes 1972, 1973.

NOTE: Soil samples were taken in spring, before treatments were applied and after harvest, for cyst and egg counts of *Heterodera rostochiensis*.

Standard error per plot.

Total tubers: tonnes/hectare: 3.98 or 6.8% (45 d.f.)

74/W/P/3

TABLES OF MEANS

METHOD

	S/RR	SM/RR	SMD/RR	RR/S/RV1	RR/S/RV2	Mean
TOTAL TUBERS: TONNES/HECTARE						
ALDICARB						
2.25	56.5	56.3	54.9	60.6	61.3	57.9
4.50	57.8	58.3	59.4	59.9	64.1	59.9
9.00	59.8	60.4	63.9	62.0	63.2	61.8
Mean	58.1	58.3	59.4	60.9	62.9	59.9

ALDICARB 0.00 30.3

Grand mean 58.1

STANDARD ERRORS OF DIFFERENCES

ALDICARB	METHOD	ALDICARB METHOD & ALDICARB 0.00
1.26	1.62	2.81

PERCENTAGE WARE: 3.81 CM (1.5 INCH) RIDDLE

ALDICARB

2.25	97.3	96.6	97.7	97.2	96.1	97.0
4.50	96.9	96.7	97.1	97.3	96.7	96.9
9.00	96.2	98.1	96.8	96.9	96.6	96.9
Mean	96.8	97.1	97.2	97.1	96.5	96.9

ALDICARB 0.00 95.6

Grand mean 96.9