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## Yields of the Field Experiments 1984

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### 84/R/BE/8 Sowing Methods and Nematode Control - W. Beans

#### Rothamsted Research

Rothamsted Research (1985) *84/R/BE/8 Sowing Methods and Nematode Control - W. Beans ; Yields Of The Field Experiments 1984*, pp 289 - 290 - DOI: <https://doi.org/10.23637/ERADOC-1-32>

84/R/BE/8

WINTER BEANS

SOWING METHODS AND NEMATODE CONTROL

Object: To study the effects of aldicarb and carbofuran, applied to the seed furrows during sowing behind a plough or behind a rotary harrow, on the control of stem nematode (*Ditylenchus dipsaci*) and on the yield of w. beans - Highfield O & E III.

Sponsor: A.G. Whitehead.

Design: 3 randomised blocks of 16 plots.

Whole plot dimensions: SOW METH DRILL 2.13 x 4.57.  
SOW METH PLOUGH 2.74 x 4.57.

Treatments: All combinations of:-

1. SOW METH            Methods of sowing:  
  
    DRILL            By drill sowing rows 30 cm apart  
    PLOUGH          From a box attached to the plough, sowing into furrows  
                            30 cm apart
2. NEMACIDE          Nematicides, applied to the seed furrow:  
  
    ALDICARB        Aldicarb  
    CARBOFUR        Carbofuran
3. NEM RATE          Rates of nematicides (kg):  
  
    1.25  
    2.50  
    5.00

plus two extra treatments:

EXTRA

- |          |  |
|----------|--|
| DRILL 0  | Sown by drill, no nematicide (duplicated)  |
| PLOUGH 0 | Sown by plough, no nematicide (duplicated) |

Basal applications: Manures: (0:20:20) at 620 kg. Weedkillers: Glyphosate at 1.4 kg in 250 l. Simazine at 1.1 l in 560 l. Fungicide: Benomyl at 0.56 kg on four occasions, in 560 l, 220 l, 280 l and 280 l respectively. Insecticide: Pirimicarb at 0.14 kg on two occasions, in 340 l and 280 l respectively.

Seed: Throws MS, sown at 290 kg.

Cultivations, etc.: - Glyphosate applied: 20 Oct, 1983. Shallow rotary cultivated, PK applied: 25 Oct. Seed sown SOW METH PLOUGH plots, treatments applied: 27 Oct. Rotary harrowed, seed sown SOW METH DRILL plots, treatments applied: 28 Oct. Simazine applied: 20 Feb, 1984. Fungicide applied: 17 Apr, 16 May, 19 June, 2 July. Insecticide applied: 13 June, 18 July. Harvested by hand: 14 Aug. Previous crops: W. beans 1982 and 1983.

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NOTE: The percentage of stems infected with stem nematode was assessed in mid-July.

GRAIN TONNES/HECTARE

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

NEMACIDE	ALDICARB	CARBOFUR	MEAN			
SOW METH						
DRILL	3.72	4.80	4.26			
PLOUGH	3.03	3.25	3.14			
MEAN	3.37	4.02	3.70			
NEM RATE	1.25	2.50	5.0	MEAN		
SOW METH						
DRILL	3.85	4.37	4.55	4.26		
PLOUGH	3.16	3.15	3.10	3.14		
MEAN	3.51	3.76	3.82	3.70		
NEM RATE	1.25	2.50	5.0	MEAN		
NEMACIDE						
ALDICARB	3.25	3.35	3.51	3.37		
CARBOFUR	3.76	4.17	4.13	4.02		
MEAN	3.51	3.76	3.82	3.70		
NEMACIDE	ALDICARB		CARBOFUR			
NEM RATE	1.25	2.50	5.0	1.25	2.50	5.0
SOW METH						
DRILL	3.29	3.55	4.31	4.42	5.18	4.79
PLOUGH	3.21	3.15	2.72	3.11	3.15	3.48
EXTRA	DRILL 0	PLOUGH 0	MEAN			
	3.74	2.99	3.37			
GRAND MEAN	3.61					

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

TABLE	EXTRA	SOW METH	NEMACIDE	NEM RATE
SED	0.369	0.213	0.213	0.261
TABLE	SOW METH NEMACIDE	SOW METH NEM RATE	NEMACIDE NEM RATE	SOW METH NEMACIDE NEM RATE
SED	0.302	0.369	0.369	0.522

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

STRATUM	DF	SE	CV%
BLOCK.WP	32	0.640	17.7
GRAIN MEAN DM%	83.7	PLOT AREA HARVESTED	0.00042