

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 1977

[Full Table of Content](#)



77/W/CS/184 Cereal Cyst Nematode Study - Oats

Rothamsted Research

Rothamsted Research (1978) 77/W/CS/184 *Cereal Cyst Nematode Study - Oats* ; Yields Of The Field Experiments 1977, pp 242 - 246 - DOI: <https://doi.org/10.23637/ERADOC-1-29>

77/W/CS/184

CEREAL CYST NEMATODE STUDY

Object: To study the effects of varieties, aldicarb and formalin on cereal cyst nematode (*Heterodera avenae*), the fungus *Entomophthora* and on the yield of oats - Woburn Butt Close.

Sponsor: T.D. Williams.

The second year, oats.

For previous year see 76/W/CS/184.

Design: 4 randomised blocks of 4 plots split into 4.

Whole plot dimensions: 2.13 x 21.0.

Treatments: All combinations of:-

Whole plots

1. VARIETY(77) Varieties and resistance to cereal cyst nematode:

NELSON/R	Nelson (resistant)
TABARD/S	Maris Tabard (susceptible)

2. ALDICARB(77) Aldicarb to seedbed (kg):

0
10

Sub plots

3. FORMALIN(76) Formalin applied in 1976 (1):

0
3000

4. FORMALIN(77) Formalin applied in 1977 (1):

0
3000

Basal applications: Manures: (20:14:14) at 380 kg combine drilled. Weedkillers: Paraquat at 0.84 kg ion in 280 l. Ioxynil at 0.63 kg with mecoprop at 1.9 kg in 340 l. 2, 4-D at 0.56 kg plus dichlorprop at 2.2 kg in 340 l.

Seed: Sown at 200 kg.

Cultivations, etc.: - Paraquat applied: 10 Aug, 1976. Rotary cultivated: 21 Sept. Ploughed: 15 Nov. Spring-tine cultivated with crumbler attached: 15 Feb, 1977. Formalin applied: 16 Feb. Aldicarb applied, and these plots only rotary cultivated, all plots spring-tine cultivated: 15 Mar. Spring-tine cultivated with crumbler attached, seed sown: 30 Mar. Ioxynil with mecoprop applied: 18 May. 2, 4-D with dichlorprop applied: 2 June. Combine harvested: 3 Sept.

NOTES: (1) Plant samples were taken in May for measurements of fresh tops and root weights.
(2) Estimates were made in June of populations of *Heterodera avenae* remaining from the unhatched residues of the 1976 population.
(3) Soil samples were taken in July for counts of white females of *Heterodera avenae*.

77/W/CS/184

GRAIN TONNES/HECTARE

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

ALDICARB(77)	0	10	MEAN	
VARIETY(77)				
NELSON/R	1.89	3.55	2.72	
TABARD/S	2.21	4.06	3.14	
MEAN	2.05	3.81	2.93	
FORMALIN(76)	0	3000	MEAN	
VARIETY(77)				
NELSON/R	2.66	2.78	2.72	
TABARD/S	3.17	3.11	3.14	
MEAN	2.92	2.94	2.93	
FORMALIN(76)	0	3000	MEAN	
ALDICARB(77)				
0	2.07	2.04	2.05	
10	3.76	3.85	3.81	
MEAN	2.92	2.94	2.93	
FORMALIN(77)	0	3000	MEAN	
VARIETY(77)				
NELSON/R	2.67	2.78	2.72	
TABARD/S	3.03	3.24	3.14	
MEAN	2.85	3.01	2.93	
FORMALIN(77)	0	3000	MEAN	
ALDICARB(77)				
0	1.94	2.16	2.05	
10	3.75	3.86	3.81	
MEAN	2.85	3.01	2.93	
FORMALIN(77)	0	3000	MEAN	
FORMALIN(76)				
0	2.81	3.02	2.92	
3000	2.89	3.00	2.94	
MEAN	2.85	3.01	2.93	
ALDICARB(77)	0	10		
FORMALIN(76)	0	3000	0	3000
VARIETY(77)				
NELSON/R	1.92	1.87	3.41	3.70
TABARD/S	2.22	2.20	4.12	4.01
ALDICARB(77)	0	10		
FORMALIN(77)	0	3000	0	3000
VARIETY(77)				
NELSON/R	1.76	2.02	3.57	3.54
TABARD/S	2.12	2.30	3.93	4.19

77/W/CS/184

GRAIN TONNES/HECTARE

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

FORMALIN(76)	0		3000		
FORMALIN(77)	0	3000	0	3000	
VARIETY(77)					
NELSON/R	2.56	2.77	2.78	2.79	
TABARD/S	3.06	3.28	3.00	3.21	
FORMALIN(76)	0		3000		
FORMALIN(77)	0	3000	0	3000	
ALDICARB(77)					
0	1.95	2.19	1.94	2.13	
10	3.67	3.85	3.83	3.87	
FORMALIN(76)	0		3000		
FORMALIN(77)	0	3000	0	3000	
VARIETY(77) ALDICARB(77)					
NELSON/R	0	1.69	2.15	1.84	1.89
	10	3.43	3.38	3.71	3.69
TABARD/S	0	2.21	2.23	2.04	2.36
	10	3.91	4.32	3.96	4.06

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

TABLE	VARIETY(77)	ALDICARB(77)	FORMALIN(76)	FORMALIN(77)
SED	0.100	0.100	0.075	0.075

TABLE	VARIETY(77) ALDICARB(77)	VARIETY(77) FORMALIN(76)	ALDICARB(77) FORMALIN(76)	VARIETY(77) FORMALIN(77)
SED	0.142	0.126	0.126	0.126
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
VARIETY(77)		0.107		0.107
ALDICARB(77)			0.107	

TABLE	ALDICARB(77) FORMALIN(77)	FORMALIN(76) FORMALIN(77)	VARIETY(77) ALDICARB(77) FORMALIN(76)	VARIETY(77) ALDICARB(77) FORMALIN(77)
SED	0.126	0.107	0.178	0.178
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
ALDICARB(77)	0.107			
VARIETY(77).ALDICARB(77)			0.151	0.151

TABLE	VARIETY(77) FORMALIN(76) FORMALIN(77)	ALDICARB(77) FORMALIN(76) FORMALIN(77)	VARIETY(77) ALDICARB(77) FORMALIN(76) FORMALIN(77)
SED	0.165	0.165	0.233
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
VARIETY(77)	0.151		
ALDICARB(77)		0.151	
VARIETY(77).ALDICARB(77)			0.214

77/W/CS/184

GRAIN TONNES/HECTARE

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

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.201	6.8
BLOCK.WP.SP	36	0.302	10.3

GRAIN MEAN DM% 80.4

STRAW TONNES/HECTARE

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

ALDICARB(77)	0	10	MEAN
VARIETY(77)			
NELSON/R	1.64	2.64	2.14
TABARD/S	1.72	2.85	2.28
MEAN	1.68	2.74	2.21
FORMALIN(76)	0	3000	MEAN
VARIETY(77)			
NELSON/R	2.11	2.16	2.14
TABARD/S	2.34	2.22	2.28
MEAN	2.23	2.19	2.21
FORMALIN(76)	0	3000	MEAN
ALDICARB(77)			
0	1.68	1.67	1.68
10	2.78	2.71	2.74
MEAN	2.23	2.19	2.21
FORMALIN(77)	0	3000	MEAN
VARIETY(77)			
NELSON/R	2.04	2.24	2.14
TABARD/S	2.23	2.34	2.28
MEAN	2.13	2.29	2.21
FORMALIN(77)	0	3000	MEAN
ALDICARB(77)			
0	1.52	1.83	1.68
10	2.74	2.75	2.74
MEAN	2.13	2.29	2.21

77/W/CS/184

STRAW TONNES/HECTARE

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

FORMALIN(77)	0	3000	MEAN		
FORMALIN(76)					
0	2.10	2.36	2.23		
3000	2.17	2.22	2.19		
MEAN	2.13	2.29	2.21		
ALDICARB(77)	0		10		
FORMALIN(76)	0	3000	0	3000	
VARIETY(77)					
NELSON/R	1.57	1.70	2.65	2.63	
TABARD/S	1.79	1.65	2.90	2.80	
ALDICARB(77)	0		10		
FORMALIN(77)	0	3000	0	3000	
VARIETY(77)					
NELSON/R	1.45	1.82	2.62	2.66	
TABARD/S	1.60	1.84	2.86	2.84	
FORMALIN(76)	0		3000		
FORMALIN(77)	0	3000	0	3000	
VARIETY(77)					
NELSON/R	1.96	2.26	2.11	2.21	
TABARD/S	2.23	2.45	2.22	2.23	
FORMALIN(76)	0		3000		
FORMALIN(77)	0	3000	0	3000	
ALDICARB(77)					
0	1.46	1.90	1.59	1.76	
10	2.74	2.82	2.75	2.68	
FORMALIN(76)	0		3000		
FORMALIN(77)	0	3000	0	3000	
VARIETY(77)					
NELSON/R	0	1.32	1.83	1.58	1.81
	10	2.60	2.70	2.64	2.61
TABARD/S	0	1.60	1.98	1.60	1.71
	10	2.87	2.93	2.85	2.75

STRAW MEAN DM% 69.7

SUB PLOT AREA HARVESTED 0.00098