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Yields of the Field Experiments 1973

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73/R/CS/125 - Varieties B Aldicarb - Oats

Rothamsted Research

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73/R/CS/125

VARIETIES AND ALDICARB

Object: To study the effects of previous cropping and aldicarb on yield and incidence of *Heterodera avenae* on three varieties of spring oats - Pennell's Piece.

Sponsor: T.D. Williams.

The first year, oats. The experiment is sited on what was previously the spring wheat series of the Cereal Disease Reference Plots (see 73/R/RN/9).

Design: 2 randomised blocks of 6 plots split into 2 breadthways for aldicarb and 3 lengthways for variety.

Whole plot dimensions: 4.27 x 17.1. Area harvested: 0.00091.

Treatments: All combinations of:-

Whole plots: 1. Previous crops:

PREVCROP

1963 1964 1965 1966 1967 1968 1969 1970 1971 1972

W	W	W	BE	O	W	W	W	BE	O	W/W/BE/O
W	W	BE	O	W	W	W	BE	O	W	W/BE/O/W
W	BE	O	W	W	W	BE	O	W	W	BE/O/W/W
BE	O	W	W	W	BE	O	W	W	W	O/W/W/W
O	W	W	W	BE	O	W	W	W	BE	W/W/W/BE
W	W	W	W	W	W	W	W	W	W	W/W/W/W

where W = spring wheat, BE = spring beans, O = spring oats

Sub plots: 2. Aldicarb (kg):

ALDICARB

None
5

0
5

3. Varieties:

VARIETY

Nelson, resistant to *Heterodera avenae*
Mostyn, susceptible to *Heterodera avenae*
Weibull's W16840, resistant to *Heterodera avenae*

Nelson
Mostyn
W16840

Basal applications: Manures: Ground chalk at 10 tonnes. (0:20:20) at 1300 kg. Weedkiller: MCPA, mecoprop and dicamba ('Tetralix Plus' at 7.0 l in 290 l).

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Seed: Sown at 190 kg.

Cultivations, etc.: Ploughed: 12 Oct, 1972. Chalk applied: 30 Oct.
Ft applied: 20 Feb, 1973. Aldicarb applied and rotary cultivated:
13 Mar. Seed sown: 14 Mar. Weedkiller applied: 21 May. Combine
harvested: 22 Aug.

NOTE: Soil samples were taken for determination of initial eelworm
population on 27 Feb, 1973 and for final population on
30 Aug.

Standard errors per plot. Grain: tonnes/hectare.

Whole plot: 0.876 or 14.5% (5 d.f.)

Sub plot: ALDICARB: 0.828 or 13.7% (6 d.f.)

VARIETY: 0.476 or 7.9% (12 d.f.)

ALDICARB x

VARIETY: 0.407 or 6.7% (12 d.f.)

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TABLE OF MEANS

GRAIN: TONNES/HECTARE

		PREVCROP						Mean
		W/W/BE/O	W/BE/O/W	BE/O/W/W	O/W/W/W	W/W/W/BE	W/W/W/W	
ALDICARB	0	5.48	6.67	5.52	5.48	6.15	3.97	5.54
	5	6.47	6.58	6.47	6.48	6.67	6.60	6.55
VARIETY								
Nelson		6.06	6.64	5.57	5.50	6.56	4.81	5.86
Mostyn		5.83	6.34	5.69	5.68	6.33	5.68	5.92
W16840		6.03	6.90	6.74	6.76	6.34	5.37	6.36
Mean		5.97	6.63	6.00	5.98	6.41	5.29	6.05
ALDICARB		0			5			
VARIETY		Nelson	Mostyn	W16840	Nelson	Mostyn	W16840	
PREVCROP								
W/W/BE/O		5.93	5.12	5.38	6.20	6.54	6.67	
W/BE/O/W		6.29	6.95	6.77	6.98	5.74	7.03	
BE/O/W/W		4.80	5.35	6.41	6.33	6.03	7.07	
O/W/W/W		4.93	5.49	6.02	6.07	5.86	7.51	
W/W/W/BE		6.35	6.04	6.05	6.78	6.61	6.62	
W/W/W/W		3.57	4.59	3.75	6.05	6.76	6.99	

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STANDARD ERRORS OF DIFFERENCES

PREVCROP	ALDICARB	VARIETY	PREVCROP ALDICARB	PREVCROP VARIETY	PREVCROP ALDICARB VARIETY
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0.876	0.338	0.194	1.054	0.959	1.147
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Except when comparing means with same levels of

PREVCROP	0.828	0.476	0.969
PREVCROP.ALDICARB			0.556
PREVCROP.VARIETY			0.892

Mean D.M. % 83.6