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Yields of the Field Experiments 1974

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74/R/CS/125 Varieties and Aldicarb - Oats

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74/R/CS/125

VARIETIES AND ALDICARB

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

Sponsor: T.D. Williams.

The second 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).

For previous year see 73/R/CS/125.

Design: 2 randomised blocks of 6 plots split into 2 breadthways for residual effects of aldicarb and 3 lengthways for residual effects of oat varieties.

Whole plot dimensions: 4.27 x 17.1. Sub plot area harvested: 0.00091.

Treatments: All combinations of:-

Whole plots: 1. Previous crops until 1972:

PREVCROP(72)

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), applied in 1973:

ALDICARB(73)

None
5

0
5

3. Varieties of oats in 1973:

VARIETY(73)

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

Nelson/R
Mostyn/S
W16840/R

NOTE: All sub plots were sown to variety Manod, susceptible, in 1974.

74/R/CS/125

Basal applications: Manures: (20:14:14) at 310 kg. Weedkiller: Dicamba with mecoprop and MCPA ('Banlene Plus' at 5.6 l in 340 l), paraquat at 0.56 kg ion in 220 l.

Seed: Manod, sown at 190 kg.

Cultivations, etc.: Ploughed: 17 Sept, 1973. Paraquat applied: 3 Apr, 1974. Power harrowed, seed sown and PK applied: 5 Apr. Weedkiller applied: 29 May. Combine harvested: 28 Aug.

NOTES: (1) Soil samples were taken on 29 Aug, 1974 for determination of eelworm populations.

(2) Due to an error in combining the yield from one plot -

PREVCROP(72)	BE/O/W/W
ALDICARB(73)	5
VARIETY(73)	Nelson/R

was not recorded. An estimated value was used in the analysis.

Standard error per plot. Grain: tonnes/hectare:

Whole plot:	0.285 or 12.6% (5 d.f.)
Sub plot:	ALDICARB(73): 0.254 or 11.2% (6 d.f.)
	VARIETY(73): 0.326 or 14.4% (12 d.f.)
	ALDICARB(73) x
	VARIETY(73): 0.366 or 16.2% (11 d.f.)

74/R/CS/125

TABLE OF MEANS

GRAIN: TONNES/HECTARE

PREVCROP(72)

	W/W/BE/O	W/BE/O/W	BE/O/W/W	O/W/W/W	W/W/W/BE	W/W/W/W	Mean
ALDICARB(73)							
0	1.97	2.27	2.06	2.05	2.84	2.28	2.24
5	2.12	2.19	1.82	2.54	2.50	2.51	2.28
VARIETY(73)							
Nelson/R	1.91	2.09	1.53	2.50	2.64	2.57	2.21
Mostyn/S	2.17	2.27	2.21	1.97	2.78	2.27	2.28
W16840/R	2.06	2.33	2.08	2.41	2.58	2.34	2.30
Mean	2.04	2.23	1.94	2.29	2.67	2.39	2.26
PREVCROP(72)	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(73)	VARIETY(73)						
0	Nelson/R	1.83	2.09	1.89	2.46	2.85	2.46
	Mostyn/S	1.98	2.31	2.03	1.92	2.97	2.08
	W16840/R	2.08	2.41	2.27	1.76	2.70	2.28
5	Nelson/R	1.98	2.09	1.17	2.53	2.44	2.67
	Mostyn/S	2.35	2.23	2.39	2.02	2.59	2.46
	W16840/R	2.03	2.24	1.89	3.06	2.46	2.41

STANDARD ERRORS OF DIFFERENCES

PREVCROP(72)	ALDICARB(73)	VARIETY(73)	PREVCROP(72)	PREVCROP(72)	PREVCROP(72)
			ALDICARB(73)	VARIETY(73)	ALDICARB(73)
					VARIETY(73)
0.285	0.104	0.133	0.336	0.390	0.478
Except when comparing means with same level of					
PREVCROP(72)			0.254	0.326	0.439
PREVCROP(72).ALDICARB(73)					0.416
PREVCROP(72).VARIETY(73)					0.392

Mean D.M. % 76.3