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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	0
5	5

3. Varieties of oats in 1973: VARIETY(73)

Nelson, resistant to <i>Heterodera avenae</i>	Nelson/R
Mostyn, susceptible to <i>Heterodera avenae</i>	Mostyn/S
Weibull's W16840, resistant to <i>Heterodera avenae</i>	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

ALDICARB(73)	VARIETY(73)	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
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) ALDICARB(73)	PREVCROP(72) VARIETY(73)	PREVCROP(72) ALDICARB(73) VARIETY(73)
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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