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# Yields of the Field Experiments 1980

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## 80/R/O/1 Spring Oats Varieties and Stem Nematode

### Rothamsted Research

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80/R/0/1

SPRING OATS

VARIETIES AND STEM NEMATODE

Object: To study the effects of the stem nematode, *Ditylenchus dipsaci*, on resistant and susceptible varieties of oat - Fosters O & E VI W and Highfield O & E III.

Sponsor: A.G. Whitehead.

Design: On each site: 3 randomised blocks of 7 plots.

Whole plot dimensions: 2.29 x 3.05.

Treatments: On each site:

VARIETY	Varieties and susceptibility to stem nematode:
MA AB R	Manod, ex Aberystwyth, resistant
MA RO R	Manod, ex Rothamsted, resistant
OSPNEY S	Maris Osprey, susceptible
PANEMA R	Panema, resistant
PENNAL R	Pennal, resistant
PENRTH R	Peniarth, resistant
TABARD S	Tabard, susceptible

Standard applications:

To both sites: Manures: (20:10:10) at 390 kg. Weedkillers: Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3.5 l) in 220 l.

To Highfield only: Weedkillers: Dicamba with mecoprop and MCPA on two occasions (as 'Tetralex Plus', at 5.3 l on the first and at 7.0 l on the second occasion) in 220 l. Fungicide: Triadimefon at 0.13 kg in 220 l.

Seed: Sown at 190 kg.

Cultivations, etc.:-

Fosters: NPK applied, spring-tine cultivated: 28 Feb, 1980. Spike rotary cultivated, seed sown: 29 Feb. Weedkillers applied: 6 May. Combine harvested: 22 Aug. Previous crops: W. oats 1978, fallow 1979.

Highfield: NPK applied, spring-tine harrowed, spike rotary cultivated, seed sown: 4 Mar, 1980. 'Brittox' applied: 5 May. 'Tetralex Plus' applied: 19 May. Fungicide applied: 22 May. 'Tetralex Plus' applied: 4 June. Combine harvested: 28 Aug. Previous crops: W. oats 1978, s. beans 1979.

NOTE: Stem nematodes in the soil were assessed at sowing and after harvest. Infestation of plants was assessed in mid May.

80/R/0/1

FOSTERS

GRAIN TONNES/HECTARE

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

VARIETY	MA AB R	MA RO R	OSPREY S	PANEMA R	PENNAL R	PENRTH R	TABARD S	MEAN
	4.64	5.53	5.29	6.72	7.15	6.41	7.70	6.21

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

TABLE	VARIETY
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SED	0.376

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

STRATUM	DF	SE	CV%
BLOCK.WP	12	0.461	7.4
GRAIN MEAN DM%	83.7		
PLOT AREA HARVESTED	0.00039		

HIGHFIELD

GRAIN TONNES/HECTARE

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

VARIETY	MA AB R	MA RO R	OSPREY S	PANEMA R	PENNAL R	PENRTH R	TABARD S	MEAN
	2.40	4.60	4.33	4.71	4.46	4.84	5.80	4.45

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

TABLE	VARIETY
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SED	0.368

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

STRATUM	DF	SE	CV%
BLOCK.WP	12	0.450	10.1
GRAIN MEAN DM%	79.8		
PLOT AREA HARVESTED	0.00039		