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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
OSPREY 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	OSP	S	PAN	EMA	R	PEN	NAL	R	PEN	RTH	R	TAB	ARD	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
-----	-----
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	OSP	S	PAN	EMA	R	PEN	NAL	R	PEN	RTH	R	TAB	ARD	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
-----	-----
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		