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## Yields of the Field Experiments 1979

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### 79/R/PE/1 and 79/W/PE/1 Control of Pathogens - Peas

#### Rothamsted Research

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79/R/PE/1 and 79/W/PE/1

PEAS

CONTROL OF PATHOGENS

Object: To study the effects of a range of pesticides on the incidence of pathogens and on the yield of leafless peas - Rothamsted (R) Long Hoos VI/VII 5 and Woburn (W) Far Field II.

Sponsors: A.J. Cockbain, K.E. Fletcher, E.D.M. Macaulay, J. McEwen, G.A. Salt, A.G. Whitehead.

Design: 2 randomised blocks of 16 plots.

Whole plot dimensions: 4.83 x 5.49.

Treatments: All combinations of:-

- |                   |  |
|-------------------|--|
| 1. NEMACIDE       | Nematicide:  |
| NONE              | None   |
| ALDICARB          | Aldicarb at 10 kg to the seedbed                   |
| 2. INSECTICIDE(1) | Early insecticide, to control Sitona:              |
| NONE              | None   |
| PERMETH           | Permethrin at 0.15 kg on 8 June (R), 6 June (W)    |
| 3. INSECTICIDE(2) | Late insecticide, to control pea moth:             |
| NONE              | None   |
| PERMETH           | Permethrin at 0.15 kg on 10 July                   |
| 4. FUNGICIDE      | Fungicide:   |
| NONE              | None   |
| FLUOTRIM          | Fluotrimazole (as 'Persulon' at 1.5 kg) on 24 July |

NOTE: All treatment sprays were applied in 340 l.

Basal applications:

Long Hoos VI/VII 5 (R): Weedkiller: Trietazine and simazine (as 'Rental SC' at 3.0 kg. in 340 l). Desiccant: Diquat at 0.79 kg ion in 340 l.

Far Field II (W): Manures: Magnesian limestone at 7.5 t. (0:14:28) at 340 kg. Desiccant: Diquat at 0.79 kg in 340 l.

Seed: Filby dressed thiram, sown at 220 kg, on both sites.

Cultivations, etc.:-

Long Hoos VI/VII 5 (R): Ploughed: 17 Nov, 1978. Spring-tine cultivated twice: 23 Apr, 1979, 8 May. Aldicarb applied, rotary cultivated, seed sown: 8 May. Weedkiller applied: 9 May. Desiccant applied: 28 Aug. Harvested by hand and threshed by combine harvester: 4 Sept. Previous cropping; Maize 1977, barley 1978.

Far Field II (W): Magnesian limestone applied: 15 Sept, 1978. Heavy spring-tine cultivated twice: 3 Oct, 8 Nov. PK applied, spring-tine cultivated: 18 Apr, 1979. Aldicarb applied, rotary cultivated, seed sown: 15 May. Desiccant applied: 28 Aug. Harvested by hand and threshed by combine harvester: 4 Sept. Previous cropping: Potatoes 1977, barley 1978.

NOTE: Observations on pests and diseases were made during the season. Nitrogen percentages of grain were measured.

79/R/PE/1 LONG HOOS VI/VII(R)

GRAIN TONNES/HECTARE

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

INSCTCDE(1)	NONE	PERMETH	MEAN	
NEMACIDE				
NONE	4.19	4.13	4.16	
ALDICARB	5.43	5.35	5.39	
MEAN	4.81	4.74	4.77	
INSCTCDE(2)	NONE	PERMETH	MEAN	
NEMACIDE				
NONE	4.08	4.24	4.16	
ALDICARB	5.41	5.36	5.39	
MEAN	4.75	4.80	4.77	
INSCTCDE(2)	NONE	PERMETH	MEAN	
INSCTCDE(1)				
NONE	4.74	4.88	4.81	
PERMETH	4.75	4.72	4.74	
MEAN	4.75	4.80	4.77	
FUNGCIDE	NONE	FLUOTRIM	MEAN	
NEMACIDE				
NONE	4.16	4.16	4.16	
ALDICARB	5.37	5.40	5.39	
MEAN	4.77	4.78	4.77	
FUNGCIDE	NONE	FLUOTRIM	MEAN	
INSCTCDE(1)				
NONE	4.82	4.80	4.81	
PERMETH	4.71	4.76	4.74	
MEAN	4.77	4.78	4.77	
FUNGCIDE	NONE	FLUOTRIM	MEAN	
INSCTCDE(2)				
NONE	4.77	4.73	4.75	
PERMETH	4.77	4.83	4.80	
MEAN	4.77	4.78	4.77	
INSCTCDE(1)	NONE		PERMETH	
INSCTCDE(2)	NONE	PERMETH	NONE	PERMETH
NEMACIDE				
NONE	4.05	4.34	4.12	4.14
ALDICARB	5.44	5.41	5.39	5.30
INSCTCDE(1)	NONE		PERMETH	
FUNGCIDE	NONE	FLUOTRIM	NONE	FLUOTRIM
NEMACIDE				
NONE	4.34	4.05	3.99	4.27
ALDICARB	5.31	5.54	5.44	5.26

79/R/PE/1 LONG HOOS VI/VII(R)

GRAIN TONNES/HECTARE

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

INSCTCDE(2)	NONE	FLUOTRIM	PERMETH	FLUOTRIM
FUNGICIDE				
NEMACIDE				
NONE	4.22	3.94	4.10	4.38
ALDICARB	5.31	5.51	5.44	5.28

INSCTCDE(2)	NONE	FLUOTRIM	PERMETH	FLUOTRIM
FUNGICIDE				
INSCTCDE(1)				
NONE	4.65	4.83	5.00	4.76
PERMETH	4.88	4.62	4.54	4.90

INSCTCDE(2)	NONE	FLUOTRIM	PERMETH	FLUOTRIM
FUNGICIDE				
NEMACIDE				
INSCTCDE(1)				
NONE	4.08	4.01	4.59	4.09
PERMETH	4.37	3.87	3.61	4.67
ALDICARB	5.22	5.65	5.40	5.43
PERMETH	5.40	5.38	5.47	5.14

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

TABLE	NEMACIDE	INSCTCDE(1)	INSCTCDE(2)	FUNGICIDE
SED	0.171	0.171	0.171	0.171

TABLE	NEMACIDE	NEMACIDE	INSCTCDE(1)	NEMACIDE
	INSCTCDE(1)	INSCTCDE(2)	INSCTCDE(2)	FUNGICIDE
SED	0.242	0.242	0.242	0.242

TABLE	INSCTCDE(1)	INSCTCDE(2)	NEMACIDE	NEMACIDE
	FUNGICIDE	FUNGICIDE	INSCTCDE(1)	INSCTCDE(1)
			INSCTCDE(2)	FUNGICIDE
SED	0.242	0.242	0.342	0.342

TABLE	NEMACIDE	INSCTCDE(1)	NEMACIDE
	INSCTCDE(2)	INSCTCDE(2)	INSCTCDE(1)
			INSCTCDE(2)
			FUNGICIDE
SED	0.342	0.342	0.484

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

STRATUM	DF	SE	CV%
BLOCK.WP	15	0.484	10.1

GRAIN MEAN DM% 84.0

PLOT AREA HARVESTED 0.00091

79/W/PE/1 FAR FIELD II (W)

GRAIN TONNES/HECTARE

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

INSCTCDE(1)	NONE	PERMETH	MEAN	
NEMACIDE				
NONE	3.61	3.66	3.64	
ALDICARB	4.23	4.16	4.19	
MEAN	3.92	3.91	3.92	
INSCTCDE(2)	NONE	PERMETH	MEAN	
NEMACIDE				
NONE	3.57	3.71	3.64	
ALDICARB	4.14	4.25	4.19	
MEAN	3.85	3.98	3.92	
INSCTCDE(2)	NONE	PERMETH	MEAN	
INSCTCDE(1)				
NONE	3.88	3.97	3.92	
PERMETH	3.83	3.99	3.91	
MEAN	3.85	3.98	3.92	
FUNGCIDE	NONE	FLUOTRIM	MEAN	
NEMACIDE				
NONE	3.64	3.63	3.64	
ALDICARB	4.29	4.10	4.19	
MEAN	3.97	3.86	3.92	
FUNGCIDE	NONE	FLUOTRIM	MEAN	
INSCTCDE(1)				
NONE	3.97	3.87	3.92	
PERMETH	3.96	3.86	3.91	
MEAN	3.97	3.86	3.92	
FUNGCIDE	NONE	FLUOTRIM	MEAN	
INSCTCDE(2)				
NONE	3.92	3.78	3.85	
PERMETH	4.01	3.95	3.98	
MEAN	3.97	3.86	3.92	
INSCTCDE(1)	NONE		PERMETH	
INSCTCDE(2)	NONE	PERMETH	NONE	PERMETH
NEMACIDE				
NONE	3.60	3.63	3.54	3.78
ALDICARB	4.15	4.30	4.12	4.20
INSCTCDE(1)	NONE		PERMETH	
FUNGCIDE	NONE	FLUOTRIM	NONE	FLUOTRIM
NEMACIDE				
NONE	3.72	3.51	3.56	3.76
ALDICARB	4.22	4.23	4.36	3.96

79/W/PE/1 FAR FIELD II (W)

GRAIN TONNES/HECTARE

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

INSCTCDE(2)	NONE	FLUOTRIM	PERMETH	FLUOTRIM
FUNGICIDE	NONE	FLUOTRIM	NONE	FLUOTRIM
NEMACIDE	NONE	3.59	3.55	3.69
ALDICARB	3.59	4.25	4.02	4.17

INSCTCDE(2)	NONE	FLUOTRIM	PERMETH	FLUOTRIM
FUNGICIDE	NONE	FLUOTRIM	NONE	FLUOTRIM
INSCTCDE(1)	NONE	3.95	3.80	3.99
PERMETH	3.90	3.76	4.03	3.95

INSCTCDE(2)	NONE	FLUOTRIM	PERMETH	FLUOTRIM
FUNGICIDE	NONE	FLUOTRIM	NONE	FLUOTRIM
NEMACIDE	INSCTCDE(1)	NONE	3.64	3.55
ALDICARB	PERMETH	3.54	3.54	3.59
PERMETH	NONE	4.25	4.06	4.19
PERMETH	PERMETH	4.26	3.98	4.47

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

TABLE	NEMACIDE	INSCTCDE(1)	INSCTCDE(2)	FUNGICIDE
SED	0.120	0.120	0.120	0.120

TABLE	NEMACIDE	NEMACIDE	INSCTCDE(1)	NEMACIDE
	INSCTCDE(1)	INSCTCDE(2)	INSCTCDE(2)	FUNGICIDE
SED	0.170	0.170	0.170	0.170

TABLE	INSCTCDE(1)	INSCTCDE(2)	NEMACIDE	NEMACIDE
	FUNGICIDE	FUNGICIDE	INSCTCDE(1)	INSCTCDE(1)
			INSCTCDE(2)	FUNGICIDE
SED	0.170	0.170	0.240	0.240

TABLE	NEMACIDE	INSCTCDE(1)	NEMACIDE
	INSCTCDE(2)	INSCTCDE(2)	INSCTCDE(1)
			INSCTCDE(2)
			FUNGICIDE
SED	0.240	0.240	0.340

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

STRATUM	DF	SE	CV%
BLOCK.WP	15	0.340	8.7

GRAIN MEAN DM% 83.6

PLOT AREA HARVESTED 0.00091