

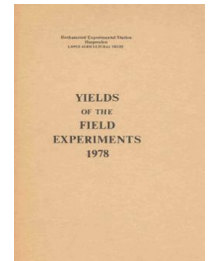
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78/R/PE/1 and 78/W/PE/1 Control of Pathogens - Peas

Rothamsted Research

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78/R/PE/1 and 78/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 V 2 and Woburn (W) Gt. Hill Bottom I.

Sponsors: A.J. Cockbain, K.E. Fletcher, J. McEwen, G.A. Salt, C. Wall, A.G. Whitehead.

Design: 3 blocks of 2 x 2 x 2. Randomisation restricted.

Whole plot dimensions: 4.19 x 5.49.

Treatments: All combinations of:-

1. NEMACIDE Nematicide:

NONE	None
ALDICARB	Aldicarb at 10 kg to the seedbed

2. INSCTCDE Insecticide:

NONE	None
TRIAZOPH	Triazophos at 0.34 l in 680 l

3. FUNGCIDE Fungicide:

NONE	None
BEN+ZIN	Benomyl at 0.56 + zineb at 1.6 kg in 340 l

Basal applications:

Long Hoos V 2 (R): Manures: (0:14:28) at 720 kg. Weedkillers: Trietazine plus simazine ('Remtal' at 2.2 kg in 340 l). Desiccant: Diquat at 0.78 kg ion in 340 l.

Great Hill Bottom I (W): Manures: (0:14:28) at 340 kg. Weedkillers: Trietazine plus simazine ('Remtal' at 1.7 kg in 340 l).

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

Cultivations, etc.:-

Long Hoos V 2 (R): PK applied: 3 Oct, 1977. Ploughed: 10 Oct. Spring-tine cultivated: 13 Mar, 1978. Aldicarb applied, power harrowed, seed sown: 6 Apr. Weedkiller applied: 24 Apr. Insecticide and fungicide treatments applied: 12 July. Haulm desiccant applied: 5 Sept. Combine harvested: 13 Sept. Previous crops: Oats 1976, spring wheat 1977.

Great Hill Bottom I (W): Spring-tine cultivated twice: 13 Mar, 1978, 15 Mar. PK applied, spring-tine cultivated with crumbler attached, aldicarb applied, spring-tine cultivated with crumbler attached, seed sown: 5 Apr. Weedkiller applied: 19 Apr. Insecticide and fungicide treatments applied: 13 July. Combine harvested: 11 Sept. Previous crops: Wheat 1976, barley 1977.

NOTE: Pea moth was monitored throughout the season at both sites and pea moth damage was assessed. Observations were made on diseases and pests throughout the season.

78/R/PE/1

GRAIN TONNES/HECTARE

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

INSCTCDE	NONE	TRIAZOPH	MEAN
NEMACIDE			
NONE	4.87	4.77	4.82
ALDICARB	5.20	5.10	5.15
MEAN	5.04	4.93	4.98
FUNGCIDE	NONE	BEN+ZIN	MEAN
NEMACIDE			
NONE	4.77	4.88	4.82
ALDICARB	5.08	5.21	5.15
MEAN	4.92	5.05	4.98
FUNGCIDE	NONE	BEN+ZIN	MEAN
INSCTCDE			
NONE	4.96	5.12	5.04
TRIAZOPH	4.89	4.97	4.93
MEAN	4.92	5.05	4.98
INSCTCDE	NONE	TRIAZOPH	
FUNGCIDE	NONE	BEN+ZIN	
NEMACIDE			
NONE	4.81	4.94	4.72
ALDICARB	5.10	5.30	5.06
			4.82
			5.13

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

TABLE	NEMACIDE	INSCTCDE	FUNGCIDE	NEMACIDE INSCTCDE
SED	0.072	0.072	0.072	0.101
TABLE	NEMACIDE FUNGCIDE	INSCTCDE FUNGCIDE	NEMACIDE INSCTCDE FUNGCIDE	
SED	0.101	0.101	0.143	

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

STRATUM	DF	SE	CV%
BLOCK.WP	14	0.176	3.5
GRAIN MEAN DM%	83.4		

78/R/PE/1

STRAW TONNES/HECTARE

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

INSCTCDE	NONE	TRIAZOPH	MEAN
NEMACIDE			
NONE	3.38	3.48	3.43
ALDICARB	3.94	3.50	3.72
MEAN	3.66	3.49	3.57

FUNGCIDE	NONE	BEN+ZIN	MEAN
NEMACIDE			
NONE	3.49	3.37	3.43
ALDICARB	3.45	3.98	3.72
MEAN	3.47	3.68	3.57

FUNGCIDE	NONE	BEN+ZIN	MEAN
INSCTCDE			
NONE	3.55	3.77	3.66
TRIAZOPH	3.40	3.59	3.49
MEAN	3.47	3.68	3.57

INSCTCDE	NONE	TRIAZOPH	
FUNGCIDE	NONE	BEN+ZIN	NONE BEN+ZIN
NEMACIDE			
NONE	3.39	3.37	3.59 3.37
ALDICARB	3.71	4.16	3.20 3.80

STRAW MEAN DM% 78.4

PLOT AREA HARVESTED 0.00095

78/W/PE/1

GRAIN TONNES/HECTARE

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

INSCTCDE	NONE	TRIAZOPH	MEAN
NEMACIDE			
NONE	3.37	3.14	3.25
ALDICARB	4.13	3.93	4.03
MEAN	3.75	3.53	3.64

FUNGCIDE	NONE	BEN+ZIN	MEAN
NEMACIDE			
NONE	3.25	3.25	3.25
ALDICARB	3.81	4.24	4.03
MEAN	3.53	3.75	3.64

FUNGCIDE	NONE	BEN+ZIN	MEAN
INSCTCDE			
NONE	3.79	3.71	3.75
TRIAZOPH	3.28	3.79	3.53
MEAN	3.53	3.75	3.64

INSCTCDE	NONE	TRIAZOPH		
FUNGCIDE	NONE	BEN+ZIN	NONE	BEN+ZIN
NEMACIDE				
NONE	3.45	3.29	3.06	3.21
ALDICARB	4.13	4.13	3.50	4.36

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

TABLE	NEMACIDE	INSCTCDE	FUNGCIDE	NEMACIDE INSCTCDE
SED	0.226	0.226	0.226	0.319

TABLE	NEMACIDE FUNGCIDE	INSCTCDE FUNGCIDE	NEMACIDE INSCTCDE FUNGCIDE
SED	0.319	0.319	0.452

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

STRATUM	DF	SE	CV%
BLOCK.WP	14	0.553	15.2
GRAIN MEAN DM%	80.5		

78/W/PE/1

STRAW TONNES/HECTARE

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

INSC TCDE	NONE	TRIAZOPH	MEAN
NEMACIDE			
NONE	3.13	3.07	3.10
ALDICARB	3.43	3.48	3.46
MEAN	3.28	3.28	3.28

FUNG CIDE	NONE	BEN+ZIN	MEAN
NEMACIDE			
NONE	3.25	2.95	3.10
ALDICARB	3.41	3.50	3.46
MEAN	3.33	3.23	3.28

FUNG CIDE	NONE	BEN+ZIN	MEAN
INSC TCDE			
NONE	3.43	3.14	3.28
TRIAZOPH	3.24	3.32	3.28
MEAN	3.33	3.23	3.28

INSC TCDE	NONE	TRIAZOPH		
FUNG CIDE	NONE	BEN+ZIN	NONE	BEN+ZIN
NEMACIDE				
NONE	3.46	2.81	3.05	3.10
ALDICARB	3.40	3.47	3.43	3.53

STRAW MEAN DM% 76.3

PLOT AREA HARVESTED 0.00255