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78/R/CS/193 Effects of Pathogens - Oilseed Rape

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78/R/CS/193

EFFECTS OF PATHOGENS

Object: To study the effects of several factors on yield and pathogens of winter oilseed rape - Summerdells I.

Sponsor: C.J. Rawlinson.

The third year, winter oilseed rape.

For previous years see 76/R/RA/1 and 77/R/CS/193.

Design: Single replicate of 2 x 2 x 3 x 2 x 2.

Whole plot dimensions: 4.27 x 9.14.

Treatments: All combinations of:-

1. VARIETY(78) Varieties (cumulative 1976-1978):
 EURORA Eurora (low erucic acid)
 VICTOR Victor (high erucic acid)
2. BEN SD(78) Benomyl seed dressing (1978 only) g/kg seed:
 0
 5
3. BEN FOL(78) Benomyl foliar spray (1978 only) kg:
 0 None
 1.1 Single application of 1.1 on 10 Feb 1978
 2.2 Two applications of 1.1 on 10 Feb and 28 Apr
4. BEN(77) Benomyl (cumulative 1976 and 1977):
 0 None
 SD+FOL Seed dressing + foliar sprays
5. NEMACIDE(77) Nematicide (cumulative 1976 and 1977):
 NONE None
 ALDICARB Aldicarb at 10 kg to seedbed

NOTE: Benomyl foliar sprays were applied in 340 l.

Basal applications: Manures: (10:24:24) at 310 kg, 'Nitro-chalk 25' at 800 kg. Weedkillers: Dalapon at 0.95 kg with propyzamide at 0.56 kg in 220 l. Haulm desiccant: Diquat at 0.69 kg ion plus 'Agral' (a wetting agent) at 0.3 l in 220 l.

Seed: Sown at 13 kg.

Cultivations, etc.:- Ploughed: 18 Aug, 1977. NPK applied: 30 Aug. Heavy spring-tine cultivated: 31 Aug. Power harrowed and harrowed: 5 Sept. Seed sown and harrowed in: 6 Sept. Weedkillers applied: 18 Oct. N applied: 6 Mar, 1978. Haulm desiccant applied: 4 Aug. Combine harvested: 13 Aug.

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- NOTES: (1) Emergence counts were made in September, 1977.
 (2) The experiment was severely grazed by pigeons but damage by March, 1978 was considered to be uniform on all plots.
 (3) Disease assessments were made in November, 1977 and June, 1978.

GRAIN TONNES/HECTARE

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

BEN SD(78)	0	5	MEAN	
VARIETY(78)				
EURORA	2.04	2.12	2.08	
VICTOR	2.67	2.58	2.63	
MEAN	2.36	2.35	2.35	
BEN FOL(78)	0	1.1	2.2	MEAN
VARIETY(78)				
EURORA	1.82	2.15	2.28	2.08
VICTOR	2.48	2.63	2.77	2.63
MEAN	2.15	2.39	2.52	2.35
BEN FOL(78)	0	1.1	2.2	MEAN
BEN SD(78)				
0	2.16	2.32	2.59	2.36
5	2.14	2.46	2.45	2.35
MEAN	2.15	2.39	2.52	2.35
NEMACIDE(77)	NONE	ALDICARB	MEAN	
VARIETY(78)				
EURORA	2.08	2.08	2.08	
VICTOR	2.63	2.62	2.63	
MEAN	2.36	2.35	2.35	
NEMACIDE(77)	NONE	ALDICARB	MEAN	
BEN SD(78)				
0	2.37	2.35	2.36	
5	2.35	2.35	2.35	
MEAN	2.36	2.35	2.35	
NEMACIDE(77)	NONE	ALDICARB	MEAN	
BEN FOL(78)				
0	2.16	2.14	2.15	
1.1	2.38	2.40	2.39	
2.2	2.53	2.51	2.52	
MEAN	2.36	2.35	2.35	

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GRAIN TONNES/HECTARE

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

BEN(77) VARIETY(78)	0	SD+FOL	MEAN
EURORA	2.00	2.16	2.08
VICTOR	2.57	2.68	2.63
MEAN	2.29	2.42	2.35

BEN(77) BEN SD(78)	0	SD+FOL	MEAN
0	2.27	2.45	2.36
5	2.31	2.39	2.35
MEAN	2.29	2.42	2.35

BEN(77) BEN FOL(78)	0	SD+FOL	MEAN
0	2.03	2.27	2.15
1.1	2.38	2.40	2.39
2.2	2.45	2.59	2.52
MEAN	2.29	2.42	2.35

BEN(77) NEMACIDE(77)	0	SD+FOL	MEAN
NONE	2.30	2.41	2.36
ALDICARB	2.27	2.43	2.35
MEAN	2.29	2.42	2.35

BEN SD(78) BEN FOL(78) VARIETY(78)	0	1.1	2.2	5	0	1.1	2.2
EURORA	1.74	2.06	2.32	1.89	2.24	2.23	
VICTOR	2.58	2.58	2.86	2.39	2.69	2.68	

BEN SD(78) BEN(77) VARIETY(78)	0	SD+FOL	5	0	SD+FOL
EURORA	1.95	2.13	2.05	2.18	
VICTOR	2.58	2.76	2.56	2.61	

BEN FOL(78) BEN(77) VARIETY(78)	0	SD+FOL	1.1	0	SD+FOL	2.2	0	SD+FOL
EURORA	1.66	1.97	2.15	2.15	2.19	2.36		
VICTOR	2.40	2.57	2.61	2.66	2.71	2.83		

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GRAIN TONNES/HECTARE

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

BEN FOL(78)	0		1.1		2.2	
BEN(77)	0	SD+FOL	0	SD+FOL	0	SD+FOL
BEN SD(78)						
0	2.11	2.21	2.13	2.52	2.57	2.62
5	1.95	2.33	2.64	2.28	2.33	2.57
BEN SD(78)	0		5			
NEMACIDE(77)	NONE	ALDICARB	NONE	ALDICARB		
VARIETY(78)						
EURORA	2.07	2.02	2.09	2.14		
VICTOR	2.67	2.68	2.60	2.57		
BEN FOL(78)	0		1.1		2.2	
NEMACIDE(77)	NONE	ALDICARB	NONE	ALDICARB	NONE	ALDICARB
VARIETY(78)						
EURORA	1.80	1.83	2.11	2.19	2.33	2.22
VICTOR	2.52	2.44	2.65	2.62	2.73	2.81
BEN FOL(78)	0		1.1		2.2	
NEMACIDE(77)	NONE	ALDICARB	NONE	ALDICARB	NONE	ALDICARB
BEN SD(78)						
0	2.08	2.24	2.32	2.32	2.70	2.48
5	2.25	2.03	2.44	2.49	2.36	2.54
BEN(77)	0		SD+FOL			
NEMACIDE(77)	NONE	ALDICARB	NONE	ALDICARB		
VARIETY(78)						
EURORA	2.04	1.97	2.13	2.19		
VICTOR	2.57	2.58	2.70	2.67		
BEN(77)	0		SD+FOL			
NEMACIDE(77)	NONE	ALDICARB	NONE	ALDICARB		
BEN SD(78)						
0	2.30	2.24	2.44	2.46		
5	2.31	2.31	2.39	2.40		
BEN(77)	0		SD+FOL			
NEMACIDE(77)	NONE	ALDICARB	NONE	ALDICARB		
BEN FOL(78)						
0	2.00	2.06	2.33	2.21		
1.1	2.44	2.32	2.32	2.49		
2.2	2.47	2.43	2.60	2.59		

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GRAIN TONNES/HECTARE

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

TABLE	VARIETY(78)	BEN SD(78)	BEN FOL(78)	BEN(77)
SED	0.065	0.065	0.080	0.065
TABLE	NEMACIDE(77)	VARIETY(78) BEN SD(78)	VARIETY(78) BEN FOL(78)	BEN SD(78) BEN FOL(78)
SED	0.065	0.092	0.113	0.113
TABLE	VARIETY(78) BEN(77)	BEN SD(78) BEN(77)	BEN FOL(78) BEN(77)	VARIETY(78) NEMACIDE(77)
SED	0.092	0.092	0.113	0.092
TABLE	BEN SD(78) NEMACIDE(77)	BEN FOL(78) NEMACIDE(77)	BEN(77) NEMACIDE(77)	VARIETY(78) BEN SD(78) BEN FOL(78)
SED	0.092	0.113	0.092	0.160
TABLE	VARIETY(78) BEN SD(78) BEN(77)	VARIETY(78) BEN FOL(78) BEN(77)	BEN SD(78) BEN FOL(78) BEN(77)	VARIETY(78) BEN SD(78) NEMACIDE(77)
SED	0.130	0.160	0.160	0.130
TABLE	VARIETY(78) BEN FOL(78) NEMACIDE(77)	BEN SD(78) BEN FOL(78) NEMACIDE(77)	VARIETY(78) BEN(77) NEMACIDE(77)	BEN SD(78) BEN(77) NEMACIDE(77)
SED	0.160	0.160	0.130	0.130
TABLE	BEN FOL(78) BEN(77) NEMACIDE(77)			
SED	0.160			

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

STRATUM	DF	SE	CV%
WP	11	0.226	9.6

GRAIN MEAN DM% 83.3

PLOT AREA HARVESTED 0.00279