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

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77/R/CS/193

EFFECTS OF PATHOGENS

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

Sponsor: C.J. Rawlinson.

The second year, winter oilseed rape.

For previous year see 76/R/RA/1.

Design: Two replicates of 3 x 2 x 2 x 2 fully randomised.

Whole plot dimensions: 4.27 x 9.14.

Treatments: All combinations of:-

1. WEEDKLLR Weedkillers:
 PROPYZAM Propyzamide (none in 1976)
 CARBETAM Carbetamide in 1976 & 1977
 DALAPON Dalapon in 1976 & 1977
2. NEMACIDE Nematicide (cumulative):
 NONE None
 ALDICARB Aldicarb at 10 kg on 20 Sept, 1976
3. FUNGCIDE Fungicide (cumulative):
 NONE None
 BENOMYL Benomyl seed dressing and foliar sprays
4. VARIETY Varieties (cumulative):
 EURORA Eurora (low erucic acid)
 VICTOR Victor (high erucic acid)

- NOTES: (1) Weedkillers were applied in 340 l. Propyzamide at 0.65 kg, carbetamide at 2.0 kg and dalapon at 3.0 kg on 10 Dec, 1976.
(2) Benomyl foliar sprays were applied at 1.12 kg in 340 l on 7 Jan, 1977 and 15 Apr.
(3) Benomyl seed dressing was applied at 0.5 g per kg of seed.

Basal applications: Manures: (10:24:24) at 310 kg, 'Nitro-Chalk' at 800 kg.
Haulm desiccant: Diquat at 0.59 kg ion plus 'Agral' (a wetting agent) at 0.3 l in 340 l.

Seed: Eurora, sown at 13 kg.
Victor, sown at 16 kg.

Cultivations, etc.: - Deep-tine cultivated: 1 Sept, 1976. NPK applied: 3 Sept.
Ploughed, rolled: 8 Sept. Harrowed: 21 Sept. Rolled and seed sown: 22 Sept.
N applied: 7 Mar, 1977. Haulm desiccant applied: 4 Aug. Combine harvested: 12 Aug.

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- NOTES: (1) Seedling counts were made and foliar pathogens assessed on three occasions.
(2) Owing to combine failure, yields from two plots were lost, those with treatment combinations:-

WEEDKLLR	NEMACIDE	VARIETY	FUNGCIDE
DALAPON	NONE	EURORA	NONE
CARBETAM	ALDICARB	EURORA	BENOMYL

Estimated values were used in the analysis.

- (3) Nine plots were severely damaged by pigeon grazing in early spring. Examination of the grain yields from these plots suggested that yields were little affected, and estimated values were not used in the analysis.

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GRAIN TONNES/HECTARE

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

NEMACIDE	NONE	ALDICARB	MEAN
WEEDKLLR			
PROPYZAM	2.47	1.93	2.20
CARBETAM	1.95	1.61	1.78
DALAPON	1.79	1.93	1.86
MEAN	2.07	1.83	1.95

FUNGICIDE	NONE	BENOMYL	MEAN
WEEDKLLR			
PROPYZAM	2.21	2.19	2.20
CARBETAM	1.98	1.59	1.78
DALAPON	2.06	1.66	1.86
MEAN	2.08	1.81	1.95

FUNGICIDE	NONE	BENOMYL	MEAN
NEMACIDE			
NONE	2.18	1.96	2.07
ALDICARB	1.99	1.66	1.83
MEAN	2.08	1.81	1.95

VARIETY	EURORA	VICTOR	MEAN
WEEDKLLR			
PROPYZAM	1.82	2.59	2.20
CARBETAM	1.45	2.11	1.78
DALAPON	1.22	2.51	1.86
MEAN	1.49	2.40	1.95

VARIETY	EURORA	VICTOR	MEAN
NEMACIDE			
NONE	1.62	2.52	2.07
ALDICARB	1.37	2.28	1.83
MEAN	1.49	2.40	1.95

VARIETY	EURORA	VICTOR	MEAN
FUNGICIDE			
NONE	1.55	2.62	2.08
BENOMYL	1.44	2.18	1.81
MEAN	1.49	2.40	1.95

NEMACIDE	NONE	ALDICARB		
FUNGICIDE	NONE	BENOMYL	NONE	BENOMYL
WEEDKLLR				
PROPYZAM	2.44	2.51	1.99	1.87
CARBETAM	2.04	1.86	1.91	1.31
DALAPON	2.06	1.51	2.06	1.81

NEMACIDE	NONE	ALDICARB		
VARIETY	EURORA	VICTOR	EURORA	VICTOR
WEEDKLLR				
PROPYZAM	2.04	2.91	1.59	2.27
CARBETAM	1.64	2.27	1.26	1.96
DALAPON	1.19	2.39	1.24	2.63

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GRAIN TONNES/HECTARE

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

FUNGCIDE	NONE	VICTOR	BENOMYL	VICTOR
VARIETY	EURORA		EURORA	
WEEDKLLR				
PROPYZAM	1.65	2.77	1.98	2.41
CARBETAM	1.46	2.50	1.44	1.73
DALAPON	1.52	2.61	0.91	2.41

FUNGCIDE	NONE	VICTOR	BENOMYL	VICTOR
VARIETY	EURORA		EURORA	
NEMACIDE				
NONE	1.68	2.69	1.56	2.36
ALDICARB	1.41	2.56	1.32	2.01

FUNGCIDE	NONE	VICTOR	BENOMYL	VICTOR
VARIETY	EURORA		EURORA	
WEEDKLLR				
NEMACIDE				
PROPYZAM	NONE	1.88	3.00	2.19
	ALDICARB	1.43	2.55	1.76
CARBETAM	NONE	1.44	2.64	1.83
	ALDICARB	1.48	2.35	1.04
DALAPON	NONE	1.72	2.41	0.67
	ALDICARB	1.33	2.80	1.16

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

TABLE	WEEDKLLR	NEMACIDE	FUNGCIDE	VARIETY
SED	0.144	0.117	0.117	0.117

TABLE	WEEDKLLR NEMACIDE	WEEDKLLR FUNGCIDE	NEMACIDE FUNGCIDE	WEEDKLLR VARIETY
SED	0.203	0.203	0.166	0.203

TABLE	NEMACIDE VARIETY	FUNGCIDE VARIETY	WEEDKLLR NEMACIDE FUNGCIDE	WEEDKLLR NEMACIDE VARIETY
SED	0.166	0.166	0.288	0.288

TABLE	WEEDKLLR FUNGCIDE VARIETY	NEMACIDE FUNGCIDE VARIETY	WEEDKLLR NEMACIDE FUNGCIDE VARIETY
SED	0.288	0.235	0.407

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

STRATUM	DF	SE	CV%
WP	22	0.407	20.9
GRAIN MEAN DM%	86.2		
PLOT AREA HARVESTED	0.00279		