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89/R/RA/3 Varieties, Pests and Diseases - W. Oilseed Rape

Rothamsted Research

Rothamsted Research (1990) *89/R/RA/3 Varieties, Pests and Diseases - W. Oilseed Rape* ; Yields Of The Field Experiments 1989, pp 180 - 182 - DOI: <https://doi.org/10.23637/ERADOC-1-40>

89/R/RA/3

WINTER OILSEED RAPE

VARIETIES, PESTS AND DISEASES

Object: To investigate the effects of full pest and disease control on a range of low glucosinolate varieties compared with Bienvenu - Osier.

Sponsors: C.J. Rawlinson, I.H. Williams.

Design: 2 randomised blocks of 24 plots.

Whole plot dimensions: 3.0 x 21.0.

Treatments: All combinations of:-

1. **VARIETY** Varieties:

ARIANA	Ariana
BIENVENU	Bienvenu
CAPRCORN	Capricorn
COBRA	Cobra
LIBRAVO	Libravo
TAPIDOR	Tapidor

2. **INSECTICIDE** Insecticides:

NONE	None
FULL	Deltamethrin at 6.2 g in 200 l on 1 Oct, 1988, and 7 Nov. Azinphos methyl at 0.40 kg and demeton-S-methyl sulphone at 0.12 kg in 300 l on 29 Mar, 1989. Triazophos at 0.42 kg in 260 l on 2 June.

3. **FUNGICIDE** Fungicides:

NONE	None
FULL	Prochloraz at 0.50 kg in 200 l on 7 Nov, 1988 and 29 Mar, 1989. Iprodione at 0.50 kg in 260 l on 2 June.

Basal applications: Manure: 'Nitram' at 140 kg on two occasions and on a third occasion at 290 kg. Weedkillers: TCA at 10 kg in 200 l. Metazachlor at 1.2 kg with fluazifop-p-butyl at 0.19 kg and a wetting agent ('Enhance' at 0.26 l) in 260 l. Desiccant: Diquat at 0.60 kg with a wetting agent ('Enhance' at 0.50 l) in 520 l.

Seed: Varieties, sown at 8.0 kg.

Cultivations, etc.:- Heavy spring-tine cultivated, rotary cultivated: 9 Aug, 1988. First N applied, TCA applied: 16 Aug. Seed sown: 22 Aug. Remaining weedkillers with wetting agent applied: 30 Sept. Second N applied: 2 Mar, 1989. Third N applied: 28 Mar. Desiccant with wetting agent applied: 12 July. Combine harvested: 15 July. Previous crops: W. wheat 1987, w. barley 1988.

89/R/RA/3

NOTE: Disease assessments were made on eight occasions throughout the season and pest numbers were recorded in autumn, spring and summer. Microflora of leaf and pods were assessed until harvest. Glucosinolate contents in plant tissues and grain were measured throughout the season.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

***** Tables of means *****

INSCTCDE	NONE	FULL	Mean
VARIETY			
ARIANA	2.71	3.26	2.99
BIENVENU	3.39	3.41	3.40
CAPRCORN	2.87	4.02	3.45
COBRA	2.64	3.46	3.05
LIBRAVO	2.85	3.52	3.18
TAPIDOR	2.70	3.63	3.17

Mean	2.86	3.55	3.21
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FUNGCIDE	NONE	FULL	Mean
VARIETY			
ARIANA	2.73	3.24	2.99
BIENVENU	3.24	3.56	3.40
CAPRCORN	3.29	3.61	3.45
COBRA	2.95	3.14	3.05
LIBRAVO	3.10	3.27	3.18
TAPIDOR	3.03	3.30	3.17

Mean	3.06	3.35	3.21
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FUNGCIDE	NONE	FULL	Mean
INSCTCDE			
NONE	2.73	2.99	2.86
FULL	3.38	3.72	3.55

Mean	3.06	3.35	3.21
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VARIETY	FUNGCIDE	NONE	FULL
ARIANA	INSCTCDE		
	NONE	2.58	2.84
BIENVENU	FULL	2.88	3.65
	NONE	3.36	3.42
CAPRCORN	FULL	3.11	3.70
	NONE	2.54	3.20
COBRA	FULL	4.03	4.01
	NONE	2.58	2.70
LIBRAVO	FULL	3.33	3.59
	NONE	2.78	2.93
TAPIDOR	FULL	3.43	3.61
	NONE	2.54	2.86
	FULL	3.53	3.74

89/R/RA/3

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

*** Standard errors of differences of means ***

VARIETY	INSCTCDE	FUNGCIDE	VARIETY
INSCTCDE	FUNGCIDE	INSCTCDE	FUNGCIDE
0.163	0.094	0.094	0.230
VARIETY	INSCTCDE	VARIETY	
FUNGCIDE	FUNGCIDE	INSCTCDE	
		FUNGCIDE	
0.230	0.133	0.325	

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	23	0.325	10.2
GRAIN MEAN DM%	78.0		
PLOT AREA HARVESTED	0.00405		