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# Yields of the Field Experiments 1987

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## 87/R/RA/5 Precision Sowing - W. Oilseed Rape

### Rothamsted Research

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87/R/RA/5

WINTER OILSEED RAPE

PRECISION SOWING

Object: To compare four drills at two seed rates on two sowing dates with and without an insecticide - Great Knott II.

Sponsor: D.P. Yeoman.

Design: 2 replicates of 4 x 2 x 2 x 2 arranged in 4 blocks of 16 plots.

Whole plot dimensions: 3.0 x 15.0.

Treatments: All combinations of:-

1. DRILL                      Drills used to sow seed:

ALPHA AC	Alpha Accord sown in rows 12.5 cm apart, seeds randomly spaced
CNVNTIAL	Conventional, sown in rows 17.6 cm apart, seeds randomly spaced
MONOCENT	Monocentra, sown in rows 25 cm apart, seeds precisely spaced
STANHAY	Stanhay, sown in rows 25 cm apart, seeds precisely spaced
  
2. SOW DATE                Dates of sowing:

18 AUG	18 August, 1986
5 SEP	5 September
  
3. SEEDRATE                Seed rates:

4 KG	
8 KG	
  
4. INSC TCDE                Insecticide:

NONE	None
DELTAMET	Deltamethrin at 0.0075 kg in 220 l on 3 Oct, 1986

NOTES: (1) For the Monocentra drill the seed within the row was spaced at 5.5 cm for the 4 kg seed rate and 2.7 cm for the 8 kg seed rate.

(2) For the Stanhay drill the seed within the row was spaced at 4.8 cm for the 4 kg seed rate and 2.8 cm for the 8 kg seed rate.

Basal applications: Manures: 'Nitram' at 140 kg and later at 720 kg. Weedkillers: Sodium trichloroacetate at 16 kg in 200 l. Clopyralid and propyzamide (as 'Matrikerb' at 1.6 kg) in 500 l. Fungicides: Prochloraz at 0.50 kg in 200 l. Iprodione at 0.50 kg in 200 l. Insecticides: Azinphos methyl at 0.40 kg and demeton-S-methyl sulphone at 0.12 kg in 300 l. Bird repellent: 'Hoppit' at 3.0 l in 500 l. Desiccant: Diquat at 0.60 kg ion with a wetting agent ('Enhance' at 0.50 l) in 500 l.

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Seed: Ariana, dressed gamma HCH, thiram and fenpropimorph.

Cultivations, etc.:- Heavy spring-tine cultivated, cultivated with rotary grubber: 12 Aug, 1986. First N applied, sodium trichloroacetate applied, harrowed: 15 Aug. SOWDATE 18 AUG seed sown: 18 Aug. SOWDATE 5 SEPT seed sown: 5 Sept. 'Matrikerb' applied: 20 Nov. Bird repellent applied: 24 Dec. Second N applied: 18 Feb, 1987. Prochloraz applied: 22 Apr. Insecticides applied: 29 Apr. Iprodione applied: 15 June. Desiccant with wetting agent applied: 28 July. Combine harvested: 6 Aug. Previous crops: S. wheat 1985, w. barley 1986.

NOTE: Plant counts were made at establishment and in spring.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SOW DATE	18 AUG	5 SEP	Mean
DRILL			
ALPHA AC	3.88	3.44	3.66
CNVNTIAL	3.85	3.27	3.56
MONOCENT	3.84	3.40	3.62
STANHAY	3.92	3.69	3.81
Mean	3.87	3.45	3.66
SEEDRATE	4 KG	8 KG	Mean
DRILL			
ALPHA AC	3.84	3.48	3.66
CNVNTIAL	3.87	3.25	3.56
MONOCENT	3.83	3.41	3.62
STANHAY	3.93	3.68	3.81
Mean	3.87	3.46	3.66
SEEDRATE	4 KG	8 KG	Mean
SOW DATE			
18 AUG	4.02	3.72	3.87
5 SEP	3.71	3.19	3.45
Mean	3.87	3.46	3.66
INSCTCDE	NONE	DELTAMET	Mean
DRILL			
ALPHA AC	3.51	3.81	3.66
CNVNTIAL	3.52	3.60	3.56
MONOCENT	3.60	3.65	3.62
STANHAY	3.91	3.70	3.81
Mean	3.63	3.69	3.66

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GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

INSCTCDE	NONE	DELTAMET	Mean			
SOW DATE						
18 AUG	3.84	3.91	3.87			
5 SEP	3.43	3.47	3.45			
Mean	3.63	3.69	3.66			
INSCTCDE	NONE	DELTAMET	Mean			
SEEDRATE						
4 KG	3.85	3.88	3.87			
8 KG	3.41	3.50	3.46			
Mean	3.63	3.69	3.66			
SOW DATE		18 AUG	5 SEP			
DRILL	SEEDRATE	4 KG	8 KG	4 KG	8 KG	
ALPHA AC		3.96	3.80	3.72	3.16	
CNVNTIAL		4.08	3.62	3.65	2.89	
MONOCENT		3.99	3.69	3.67	3.13	
STANHAY		4.06	3.79	3.81	3.57	
SOW DATE		18 AUG	5 SEP			
DRILL	INSCTCDE	NONE	DELTAMET	NONE	DELTAMET	
ALPHA AC		3.82	3.94	3.20	3.68	
CNVNTIAL		3.73	3.97	3.30	3.24	
MONOCENT		3.82	3.87	3.37	3.43	
STANHAY		3.98	3.87	3.84	3.53	
SEEDRATE		4 KG	8 KG			
DRILL	INSCTCDE	NONE	DELTAMET	NONE	DELTAMET	
ALPHA AC		3.63	4.05	3.39	3.57	
CNVNTIAL		3.90	3.84	3.13	3.37	
MONOCENT		3.90	3.77	3.29	3.53	
STANHAY		3.98	3.88	3.84	3.52	
SEEDRATE		4 KG	8 KG			
SOW DATE	INSCTCDE	NONE	DELTAMET	NONE	DELTAMET	
18 AUG		3.95	4.10	3.73	3.72	
5 SEP		3.76	3.67	3.10	3.27	
SEEDRATE		4 KG	8 KG			
DRILL	SOW DATE	INSCTCDE	NONE	DELTAMET	NONE	DELTAMET
ALPHA AC	18 AUG		3.81	4.12	3.83	3.77
	5 SEP		3.46	3.98	2.95	3.37
CNVNTIAL	18 AUG		4.00	4.17	3.47	3.77
	5 SEP		3.81	3.50	2.80	2.97
MONOCENT	18 AUG		3.94	4.05	3.70	3.69
	5 SEP		3.85	3.50	2.89	3.37
STANHAY	18 AUG		4.04	4.07	3.92	3.66
	5 SEP		3.93	3.69	3.76	3.38



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GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

Table	DRILL	SOW DATE	SEEDRATE	INSCTCDE
s.e.d.	0.072	0.051	0.051	0.051
Table	DRILL	DRILL	SOW DATE	DRILL
s.e.d.	SOW DATE	SEEDRATE	SEEDRATE	INSCTCDE
	0.101	0.101	0.072	0.101
Table	SOW DATE	SEEDRATE	DRILL	DRILL
s.e.d.	INSCTCDE	INSCTCDE	SOW DATE	SOW DATE
	0.072	0.072	SEEDRATE	INSCTCDE
			0.143	0.143
Table	DRILL	DRILL*		
s.e.d.	SEEDRATE	SOW DATE		
	INSCTCDE	SEEDRATE		
	0.143	INSCTCDE		
		0.203		

\* Within the same level of SOW DATE.SEEDRATE.INSCTCDE

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	30	0.203	5.5

GRAIN MEAN DM% 79.1

PLOT AREA HARVESTED 0.00345