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## Yields of the Field Experiments 1988

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### 88/R/RA/4 Times and Methods of Harvest - W. Oilseed Rape

#### Rothamsted Research

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88/R/RA/4

WINTER OILSEED RAPE

TIMES AND METHODS OF HARVEST

**Object:** To investigate the effects of fungicide and times and methods of harvest on the yield and glucosinolate content of the seed - Whittlocks.

**Sponsors:** C.J. Rawlinson, G.F.J. Milford.

**Design:** 4 blocks of 2 whole plots each split into 2 sub-plots each split into 3 sub-sub-plots plus 24 extra sub-sub-plots.

**Whole plot dimensions:** 78.0 x 14.0.

**Treatments:** All combinations of:-

Whole plots

- |                     |  |
|---------------------|--|
| 1. <b>FUNGICIDE</b> | Fungicide at stem extension:                   |
| NONE                | None   |
| PROCHLOR            | Prochloraz at 0.50 kg in 200 l on 11 Apr, 1988 |

Sub plots

- |                    |                          |
|--------------------|--------------------------|
| 2. <b>HAR METH</b> | Method of harvest:       |
| DESICATE           | Desiccated with diquat   |
| SWATHE             | Swathed before combining |

Sub sub plots

- |                    |                  |
|--------------------|------------------|
| 3. <b>HAR TIME</b> | Time of harvest: |
| EARLY              | 20 July, 1988    |
| NORMAL             | 28 July          |
| LATE               | 2 Aug            |

plus eight extra sub plots, to test combining direct, without prior treatment, within **FUNGICIDE**, each divided into 3 sub sub plots for the intended test of **HAR TIME**. Conditions did not permit the sub sub plot test so this became:

**FUNG DIR**

- |          |  |
|----------|--|
| 0        | No prochloraz, combined direct, no prior treatment, harvested late (12 sub sub plots)                  |
| PROCHLOR | Prochloraz at 0.50 kg in 200 l, combined direct, no prior treatment, harvested late (12 sub sub plots) |

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- NOTES: (1) The HAR METH DESICATE plots were desiccated on 12 July, 1988 19 July and 1 Aug respectively for early, normal and late HAR TIME using diquat at 0.60 kg ion with a wetting agent ('Enhance' at 0.50 l) in 520 l.
- (2) The HAR METH SWATHE plots were swathed on the same dates on which desiccation was done.

Basal applications: Manures: 'Nitram' at 140 kg and later at 720 kg.  
Weedkillers: Paraquat at 0.40 kg ion in 200 l. Metazachlor at 1.2 kg in 200 l.

Seed: Ariana, dressed gamma HCH, thiram and fenpropimorph, sown at 8.0 kg.

Cultivations, etc.:— Paraquat applied: 8 Sept, 1987. First N applied, heavy spring-tine cultivated: 14 Sept. Rotary harrowed: 15 Sept. Seed sown: 16 Sept. Metazachlor applied: 1 Oct. Second N applied: 19 Feb, 1988. Previous crops: W. wheat 1986, w. barley 1987.

NOTE: Seed samples were taken frequently from early July until harvest for glucosinolate analysis. Disease assessments were made on several occasions during July and August.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

HAR METH	DESICATE	SWATHE	Mean		
<b>FUNGCIDE</b>					
NONE	2.23	1.90	2.07		
PROCHLOR	2.50	2.15	2.33		
Mean	2.36	2.03	2.20		
HAR TIME	EARLY	NORMAL	LATE	Mean	
<b>FUNGCIDE</b>					
NONE	1.91	2.13	2.16	2.07	
PROCHLOR	2.18	2.40	2.40	2.33	
Mean	2.04	2.27	2.28	2.20	
HAR TIME	EARLY	NORMAL	LATE	Mean	
<b>HAR METH</b>					
DESICATE	2.13	2.47	2.49	2.36	
SWATHE	1.95	2.06	2.07	2.03	
Mean	2.04	2.27	2.28	2.20	
FUNGCIDE	HAR METH	HAR TIME	EARLY	NORMAL	LATE
NONE	DESICATE		2.03	2.28	2.37
	SWATHE		1.78	1.98	1.95
PROCHLOR	DESICATE		2.23	2.66	2.61
	SWATHE		2.13	2.15	2.18
FUNG DIR	0	PROCHLOR	MEAN		
	2.39	2.55	2.47		
GRAND MEAN	2.29				

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GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

	HAR METH	HAR TIME	FUNGCIDE*
			HAR METH
	0.053	0.105	0.075
	FUNGCIDE*	HAR METH	FUNGCIDE*
	HAR TIME	HAR TIME	HAR METH
			HAR TIME
	0.148	0.132	0.186
Except when comparing means with the same level(s) of			
HAR METH		0.148	
FUNGCIDE.HAR METH			0.209

\* Within the same level of FUNGCIDE

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP.SP	12	0.105	4.6
BLOCK.WP.SP.SSP	40	0.296	12.9

GRAIN MEAN DM% 69.1

SUB PLOT AREA HARVESTED	HAR METH	SWATHE	0.00518
		OTHERS	0.00322