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87/R/RA/13 Times and Methods of Harvest - W. Oilseed Rape
Rothamsted Experimental Station
Harvest
of the
crop
1987
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87/R/RA/13 Times and Methods of Harvest - W. Oilseed Rape

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87/R/RA/13

WINTER OILSEED RAPE

TIMES AND METHODS OF HARVEST

Object: To investigate the effects of times and methods of harvest on the yield and glucosinolate content of the seed - Webbs and Drapers.

Sponsor: C.J. Rawlinson.

Design: 4 blocks of 2 whole plots each split into 3 sub-plots each split into 3 sub-sub plots.

Whole plot dimensions: Webbs (2 blocks): 78 x 14.
Drapers (2 blocks): 24 x 64.

Treatments: All combinations of:-

Whole plots

- | | |
|--------------|--|
| 1. FUNGICIDE | Fungicide at stem extension: |
| NONE | None |
| PROCHLOR | Prochloraz at 0.50 kg in 500 l on 23 Apr, 1987 |

Sub plots

- | | |
|-------------|--|
| 2. HAR METH | Method of harvest: |
| COMBINE | Combined direct, without prior treatment |
| DESICATE | Desiccated with diquat |
| SWATHE | Swathed before combining |

Sub sub plots

- | | |
|-------------|---------------------------------|
| 3. HAR TIME | Time of harvest: |
| EARLY | Early (seed above 20% moisture) |
| NORMAL | Normal (seed 10 - 15% moisture) |
| LATE | Late (7 - 10 days after NORMAL) |

- NOTES: (1) The HAR METH DESICATE plots were desiccated on 9 July, 1987 24 July and 5 Aug respectively for early, normal and late HAR TIME using diquat at 0.60 kg ion with a wetting agent in 500 l. The wetting agent was 'Enhance' at 0.50 l on the first two occasions, 'Agral' at 0.50 l on the third.
- (2) The HAR METH SWATHE plots were swathed on 9 July, 1987, 23 July and 5 Aug respectively for early, normal and late HAR TIME.
- (3) All HAR METH plots for early and normal HAR TIME were combine harvested on 5 Aug, 1987 and for late HAR TIME on 12 Aug.

Basal applications: Manures: 'Nitram' at 720 kg. Weedkillers: Fluazifop-P-butyl at 0.19 kg with metazachlor at 1.2 kg and a wetting agent ('Agral' at 0.20 l) 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.

Seed: Ariana, dressed iprodione, sown at 6.0 kg.

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Cultivations, etc.:— Heavy spring-tine cultivated: 5 Sept, 1986. Rotary harrowed: 6 Sept. Seed sown: 7 Sept. Weedkillers applied: 4 Oct (Webbs) and 17 Oct (Drapers). Bird repellent applied: 23 Dec. N applied: 20 Feb, 1987. Insecticides applied: 28 Apr. Previous crops: W. wheat 1985 and 1986 on both sites.

NOTE: Seed samples were taken frequently from early July until harvest for glucosinolate analysis.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

HAR METH	COMBINE	DESICATE	SWATHE	Mean
FUNGCIDE				
NONE	3.07	2.63	2.27	2.65
PROCHLOR	3.52	2.71	2.62	2.95
Mean	3.29	2.67	2.44	2.80
HAR TIME	EARLY	NORMAL	LATE	Mean
FUNGCIDE				
NONE	1.99	3.00	2.97	2.65
PROCHLOR	2.18	3.33	3.33	2.95
Mean	2.09	3.17	3.15	2.80
HAR TIME	EARLY	NORMAL	LATE	Mean
HAR METH				
COMBINE	3.26	3.21	3.41	3.29
DESICATE	1.46	3.06	3.48	2.67
SWATHE	1.54	3.22	2.56	2.44
Mean	2.09	3.17	3.15	2.80
FUNGCIDE	HAR TIME	EARLY	NORMAL	LATE
NONE	HAR METH			
	COMBINE	3.04	3.02	3.14
	DESICATE	1.41	2.98	3.49
	SWATHE	1.52	3.01	2.27
PROCHLOR	COMBINE	3.47	3.41	3.67
	DESICATE	1.51	3.14	3.47
	SWATHE	1.57	3.44	2.86

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GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

Table	HAR METH	HAR TIME	FUNGCIDE* HAR METH
s.e.d.	0.058	0.063	0.082
Table	FUNGCIDE* HAR TIME	HAR METH HAR TIME	FUNGCIDE* HAR METH HAR TIME
s.e.d.	0.090	0.107	0.151
Except when comparing means with the same level(s) of			
HAR METH		0.110	
FUNGCIDE.HAR METH			0.155

* Within the same level of FUNGCIDE only

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP.SP	12	0.116	4.1
BLOCK.WP.SP.SSP	36	0.219	7.8

GRAIN MEAN DM% 79.8

PLOT AREA HARVESTED

HAR METH SWATHE 0.00519

HAR METH COMBINE OR DESICATE 0.00322