ROTHAMSTED RESEARCH

Yields of the Field Experiments 1989

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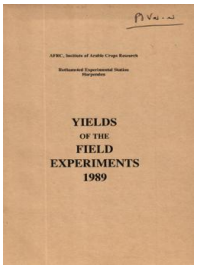

89/R/RA/10 Times and Methods of Harvest - W. Oilseed Rape

Rothamsted Research

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89/R/RA/10

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 - Appletree and Drapers.

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Design: 4 blocks of 2 whole plots each split into 3 sub-plots each split into 3 sub-sub-plots. Two blocks were sited in Appletree and 2 in Drapers.

Whole plot dimensions: 78.0 x 14.0 Appletree.
24.0 x 64.0 Drapers.

Treatments: All combinations of:-

Whole plots

1. **FUNGCIDE** Fungicide at stem extension:

NONE	None
PROCHLOR	Prochloraz at 0.50 kg in 200 l on 5 May, 1989

Sub plots

2. **HAR METH** Method of harvest:

DIRECT	No pre-harvest treatment
DESICATE	Desiccated with diquat before combining
SWATHE	Swathed before combining

Sub sub plots

3. **HAR TIME** Time of harvest:

EARLY
NORMAL
LATE

NOTES: (1) **HAR METH** DESICATE plots were desiccated with diquat at 0.60 kg ion in 520 l. For **HAR TIME** EARLY and NORMAL the wetting agent 'Agral' (at 0.50 l) was added and these were desiccated on 29 June, 1989 and 12 July respectively. **HAR TIME** LATE plots had the wetting agent 'Enhance' (at 0.52 l) added and these were desiccated on 24 July.

(2) **HAR METH** SWATHE plots were swathed on the same dates for each **HAR TIME** that desiccation was done.

(3) Combine harvesting dates were:

HAR METH	**HAR TIME:** EARLY	NORMAL	LATE
DIRECT	24 July	24 July	31 July
DESICATE	12 July	19 July	31 July
SWATHE	12 July	19 July	31 July

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Standard applications:
Appletree: Manure: 'Nitram' at 440 kg. Weedkillers: 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.
Drapers: Manure: 'Nitram' at 720 kg. Weedkillers: Clopyralid at 0.07 kg and propyzamide at 0.70 kg in 300 l.

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

Cultivations, etc.:-
Appletree: Rotary cultivated: 22 Aug, 1988. Cultivated with rotary grubber: 7 Sept. Rotary harrowed: 8 Sept. Seed sown: 9 Sept. Weedkillers with wetting agent applied: 30 Sept. N applied: 14 Feb, 1989. Previous crops: W. wheat 1987, w. barley 1988.
Drapers: Heavy spring-tine cultivated: 31 Aug, 1988. Rotary cultivated: 5 Sept. Seed sown: 10 Sept. Weedkillers applied: 19 Oct. N applied: 15 Feb, 1989. Previous crops: W. oilseed rape 1987, w. wheat 1988.

NOTE: Seed samples were taken frequently from June until harvest for glucosinolate analysis. Disease assessments (Drapers only) were made at 600, 800, 1000 and 1200 accumulated day degrees centigrade from the onset of flowering.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

HAR METH	DIRECT	DESICATE	SWATHE	Mean
FUNGCIDE				
NONE	2.83	2.46	2.19	2.50
PROCHLOR	2.69	1.85	2.15	2.23
Mean	2.76	2.16	2.17	2.36

HAR TIME	EARLY	NORMAL	LATE	Mean
FUNGCIDE				
NONE	2.46	2.43	2.60	2.50
PROCHLOR	2.21	2.15	2.33	2.23
Mean	2.33	2.29	2.47	2.36

HAR TIME	EARLY	NORMAL	LATE	Mean
HAR METH				
DIRECT	2.87	2.67	2.75	2.76
DESICATE	1.85	2.09	2.54	2.16
SWATHE	2.28	2.12	2.11	2.17
Mean	2.33	2.29	2.47	2.36

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GRAIN (AT 90% DRY MATTER) TONNES/HECTRE

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

FUNGCIDE	HAR TIME / HAR METH	EARLY	NORMAL	LATE
NONE	DIRECT	2.90	2.76	2.85
	DESICATE	2.17	2.36	2.85
	SWATHE	2.30	2.17	2.10
PROCHLOR	DIRECT	2.85	2.58	2.66
	DESICATE	1.53	1.81	2.22
	SWATHE	2.27	2.07	2.12

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

HAR METH	HAR TIME	FUNGCIDE* HAR METH
0.206	0.082	0.292

FUNGCIDE* HAR TIME	HAR METH HAR TIME	FUNGCIDE* HAR METH HAR TIME
0.116	0.237	0.335

Except when comparing means with the same level(s) of
HAR METH 0.142
FUNGCIDE.HAR METH 0.201

* within the same level of FUNGCIDE only

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP.SP	12	0.413	17.5
BLOCK.WP.SP.SSP	36	0.284	12.0

GRAIN MEAN DM% 84.2

SUB PLOT AREA HARVESTED HAR METH SWATHE 0.00518
OTHER HAR METH 0.00322

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