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## Yields of the Field Experiments 1994

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### 94/R/RAW/8 Weed Competition - Rape Drilling Date and Chickweed - W. Oilseed Rape

#### Rothamsted Research

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94/R/RAW/8

WINTER OILSEED RAPE

WEED COMPETITION - RAPE DRILLING DATE AND CHICKWEED

**Object:** To study the effect of chickweed (*Stellaria media*) on the growth and yield of w. rape sown on three different dates - Appletree.

**Sponsor:** P.J.W. Lutman.

**Design:** 3 randomised blocks of 3 plots split into 6 sub-plots.

**Whole plot dimensions:** 3.0 x 14.0.

**Treatments:**

Whole plots

1. **SOW DATE** Target sowing date of w. rape:

|    |                   |
|----|-------------------|
| SE | Early, 20-25 Aug  |
| SM | Middle, 5-10 Sept |
| SL | Late, 15-20 Sept  |

Sub-plots

2. **WEED DEN** Weed density, plants per m<sup>2</sup>:

|    | SE  | SM  | SL  |
|----|-----|-----|-----|
| D0 | 0   | 0   | 0   |
| D1 | 35  | 54  | 39  |
| D2 | 130 | 156 | 112 |
| D3 | 304 | 414 | 342 |
| D4 | 790 | 887 | 659 |
| OS | 0   | 0   | 0   |

**NOTES:** (1) No herbicide applied to D0 plots, herbicide applied to OS plots. OS plots (SE and SM only) were also hand weeded in spring.

(2) Target weed densities were D0 and OS 0, D1 50, D2 150, D3 450 and D4 900 plants per m<sup>2</sup>.

**Experimental diary:**

19-Jul-93 : B : Cultivated with rotary grubber.  
29-Jul-93 : B : Deep tine cultivated with vibrating tines 60 cm apart and 45 cm deep.  
02-Aug-93 : B : Rolled.  
16-Aug-93 : B : PK as (0:18:36) at 1250 kg.  
18-Aug-93 : B : Ploughed and furrow pressed, rolled.  
25-Aug-93 : T : **SOW DATE** SE: Rotary harrowed, chickweed broadcast by hand. Rotary harrowed, Falcon, dressed Lindex-Plus FS, drilled at 120 seeds per m<sup>2</sup>.  
07-Sep-93 : T : **SOW DATE** SM: Rotary harrowed, chickweed broadcast by hand. Rotary harrowed, Falcon, dressed Lindex-Plus FS, drilled at 120 seeds per m<sup>2</sup>.

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**Experimental diary:**

23-Sep-93 : T : SOW DATE SL: Rotary harrowed, chickweed broadcast by hand. Rotary harrowed, Falcon, dressed Lindex-Plus FS, drilled at 120 seeds per m<sup>2</sup>.  
07-Oct-93 : B : Draza at 5.5 kg.  
17-Dec-93 : T : WEED DEN OS: Kerb Flo at 1.75 l in 220 l.  
: T : SOW DATE SE, SM, WEED DEN D1-D4: Synchemicals Dalapon at 3.4 kg in 220 l.  
31-Jan-94 : T : SOW DATE SL, WEED DEN D1-D4: Synchemicals Dalapon at 3.4 kg in 220 l.  
08-Mar-94 : B : 34.5% N at 162 kg.  
11-Apr-94 : B : 34.5% N at 346 kg.  
19-May-94 : T : SOW DATE SL: Fastac at 200 ml in 200 l.  
21-Jul-94 : B : Landgold Diquat at 3.0 l with Vassgro Spreader at 300 ml in 300 l.  
27-Jul-94 : B : Combine harvested.

Previous crops: Potatoes 1992, set-aside 1993.

**NOTE:** (1) Crop and weed densities were assessed and samples were taken to measure plant growth in December and March.  
(2) The yields on two plots were treated as missing because of severe lodging, with treatment combinations:  
SOW DATE SM SM  
WEED DEN D2 OS  
Estimated values were used in the analysis.

94/R/RAW/8

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

| WEED DEN<br>SOW DATE | D0   | D1   | D2   | D3   | D4   | OS   | Mean |
|----------------------|------|------|------|------|------|------|------|
| SE                   | 2.98 | 3.81 | 3.74 | 3.72 | 3.55 | 4.12 | 3.65 |
| SM                   | 2.16 | 3.55 | 3.58 | 3.54 | 3.70 | 4.00 | 3.42 |
| SL                   | 4.10 | 3.33 | 3.32 | 3.27 | 3.17 | 4.06 | 3.54 |
| Mean                 | 3.08 | 3.56 | 3.55 | 3.51 | 3.47 | 4.06 | 3.54 |

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

|  | SOW DATE | WEED DEN | SOW DATE<br>WEED DEN |
|--|----------|----------|----------------------|
|  | 0.286    | 0.160    | 0.382                |

Except when comparing means with the same level(s) of  
SOW DATE 0.278

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

| Stratum     | d.f. | s.e.  | cv% |
|-------------|------|-------|-----|
| BLOCK.WP    | 4    | 0.351 | 9.9 |
| BLOCK.WP.SP | 28   | 0.340 | 9.6 |

GRAIN MEAN DM% 89.6

SUB PLOT AREA HARVESTED 0.00290