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## Yields of the Field Experiments 1994

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### 94/R/RAW/5 Disease Forecasting and Yield Loss - W. Oilseed Rape

#### Rothamsted Research

Rothamsted Research (1995) *94/R/RAW/5 Disease Forecasting and Yield Loss - W. Oilseed Rape* ; Yields Of The Field Experiments 1994, pp 116 - 118 - DOI:

<https://doi.org/10.23637/ERADOC-1-49>

94/R/RAW/5

WINTER OILSEED RAPE

DISEASE FORECASTING AND YIELD LOSS

**Object:** To investigate the relationship between the timing and intensity of various diseases, crop development and yield loss - Summerdells I.

**Sponsors:** H.A. McCartney, B.D.L. Fitt, M.E. Lacey, G. Murray.

**Design:** 3 randomised blocks of 25 plots.

**Whole plot dimensions:** 3.0 x 20.0.

**Treatments:**

**FUNGFREQ** Prochloraz, iprodione and thiophanate-methyl applied on the following dates:

TREATMENT NUMBER	23 NOV	17 DEC	19 JAN	17 FEB	30 MAR	19 APR	09 MAY	13 JUN	04 JUL
1	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-
4	✓	-	-	-	-	-	-	-	-
5	✓	✓	-	-	-	-	-	-	-
6	✓	✓	✓	-	-	-	-	-	-
7	✓	✓	✓	✓	-	-	-	-	-
8	✓	✓	✓	✓	✓	-	-	-	-
9	✓	✓	✓	✓	✓	✓	-	-	-
10	✓	✓	✓	✓	✓	✓	✓	-	-
11	✓	✓	✓	✓	✓	✓	✓	✓	-
12	✓	✓	✓	✓	✓	✓	✓	✓	✓
13	-	-	-	-	-	-	-	-	✓
14	-	-	-	-	-	-	-	✓	✓
15	-	-	-	-	-	-	✓	✓	✓
16	-	-	-	-	-	✓	✓	✓	✓
17	-	-	-	-	✓	✓	✓	✓	✓
18	-	-	-	✓	✓	✓	✓	✓	✓
19	-	-	✓	✓	✓	✓	✓	✓	✓
20	-	✓	✓	✓	✓	✓	✓	✓	✓
21	✓	✓	✓	✓	✓	✓	✓	✓	✓
22	✓	✓	✓	✓	✓	✓	✓	✓	✓
23	✓	✓	✓	-	-	-	✓	✓	✓
24	✓	✓	✓	✓	✓	✓	-	-	-
25	✓	✓	✓	-	-	-	-	-	-

**NOTE:** (1) Due to adverse weather, some planned treatments were omitted or re-scheduled. Treatments 1, 2 and 3 were identical and treatments 12, 21 and 22 also were identical. The means of the three are presented under treatments 1 and 12.

(2) All plots were inoculated on 1 December, 1993 by applying rape straw from the 1993 harvest. Treatment numbers 23 and 25 were inoculated again on 16 March, 1994 and treatment number 24 on 28 June.

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**Experimental Diary:**

01-Jul-93 : B : Discd, rolled.  
13-Aug-93 : B : Sting CT at 2.0 l in 200 l.  
19-Aug-93 : B : Ploughed and furrow pressed.  
20-Aug-93 : B : Rolled.  
25-Aug-93 : B : Discd.  
27-Aug-93 : B : Rolled.  
31-Aug-93 : B : Rotary harrowed.  
01-Sep-93 : B : Rolled.  
18-Sep-93 : B : Rotary harrowed, Envol, dressed Lindex-Plus FS, drilled  
at 120 seeds per m<sup>2</sup>.  
30-Sep-93 : B : Draza at 5.5 kg.  
23-Nov-93 : T : FUNGFREQ Treatment numbers as schedule: Sportak 45 at  
0.55 l with Compass at 1.5 l in 200 l.  
17-Dec-93 : T : FUNGFREQ Treatment numbers as schedule: Sportak 45 at  
0.55 l with Compass at 1.5 l in 200 l.  
18-Jan-94 : B : Draza at 5.5 kg.  
19-Jan-94 : T : FUNGFREQ Treatment numbers as schedule: Sportak 45 at  
0.55 l with Compass at 1.5 l in 200 l.  
17-Feb-94 : T : FUNGFREQ Treatment numbers as schedule: Sportak 45 at  
0.55 l with Compass at 1.5 l in 200 l.  
28-Feb-94 : B : Benazalox at 1.0 kg with Carbetamex at 3.0 kg in 200 l.  
07-Mar-94 : B : 34.5% N at 162 kg.  
30-Mar-94 : T : FUNGFREQ Treatment numbers as schedule: Sportak 45 at  
0.55 l with Compass at 1.5 l in 200 l.  
11-Apr-94 : B : 34.5% N at 346 kg.  
19-Apr-94 : T : FUNGFREQ Treatment numbers as schedule: Sportak 45 at  
0.55 l with Compass at 1.5 l in 200 l.  
09-May-94 : T : FUNGFREQ Treatment numbers as schedule: Sportak 45 at  
0.55 l with Compass at 1.5 l in 200 l.  
13-Jun-94 : T : FUNGFREQ Treatment numbers as schedule: Sportak 45 at  
0.55 l with Compass at 1.5 l in 200 l.  
04-Jul-94 : T : FUNGFREQ Treatment numbers as schedule: Sportak 45 at  
0.55 l with Compass at 1.5 l in 200 l.  
01-Aug-94 : B : Combine harvested.

Previous crops: Potatoes 1992, set-aside 1993.

- NOTE:** (1) Plants were sampled monthly, prior to spray treatment application, to monitor disease progress. Numbers of air-borne spores were counted and growth stage measurements made throughout the season. Seed and plant dry weights, seed oil analysis and stubble counts were made at harvest.
- (2) The analysis presented assumes a linear trend, to represent the weed population.

94/R/RAW/5

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

**FUNGFREQ**

1	3.09
4	3.03
5	3.45
6	3.72
7	3.73
8	3.58
9	3.56
10	3.47
11	3.73
12	3.44
13	3.05
14	3.06
15	3.24
16	3.32
17	3.34
18	3.52
19	3.59
20	3.54
23	3.61
24	3.11
25	3.46

Mean 3.39

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

**FUNGFREQ**

0.220	min.rep
0.179	max-min
0.127	max.rep

**FUNGFREQ**

max-min 1 or 12 v any of the remainder  
 max.rep 1 or 12  
 min.rep Any of the remainder

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	52	0.365	10.8
GRAIN MEAN DM%	80.2		
PLOT AREA HARVESTED	0.00460		