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

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93/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 - Fosters ex-Ley Arable.

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 25.0.

Treatments:

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

TREATMENT NUMBER	14 OCT	04 NOV	07 DEC	08 JAN	29 JAN	23 FEB	24 MAR	19 APR	18 MAY	22 JUN	12 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	✓	✓	✓	✓	✓	-	-	-	-	-	-

- NOTES:** (1) Plots were inoculated by the application of rape straw from the 1992 harvest.
 (2) All plots were inoculated in autumn on 16 October 1992. In addition, plots of treatments 23 and 25 were inoculated in spring on 9 March 1993 and plots of treatment 24 were inoculated in summer on 28 June.

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Experimental diary:

- 10-Aug-92 : B : Shallow cultivated with Bomford Dynadrive.
17-Aug-92 : B : Dolomite at 5.0 t.
21-Aug-92 : B : Ploughed, furrow pressed.
28-Aug-92 : B : Rotary harrowed, Envol, dressed Lindex-Plus FS, drilled at 120 seeds per square metre.
29-Aug-92 : B : Rolled.
07-Oct-92 : B : Draza at 5.5 kg.
14-Oct-92 : T : FUNGFREQ 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 23, 24, 25: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
19-Oct-92 : B : Pilot at 75 ml with Cropspray 11E at 2.0 l in 200 l.
04-Nov-92 : T : FUNGFREQ 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 22, 23, 24, 25: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
07-Dec-92 : T : FUNGFREQ 4, 5, 6, 7, 8, 9, 10, 11, 12, 21, 22, 23, 24, 25: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
08-Jan-93 : T : FUNGFREQ 5, 6, 7, 8, 9, 10, 11, 12, 20, 21, 22, 23, 24, 25: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
19-Jan-93 : B : Matrikerb at 1.6 kg in 400 l.
29-Jan-93 : T : FUNGFREQ 6, 7, 8, 9, 10, 11, 12, 19, 20, 21, 22, 23, 24, 25: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
17-Feb-93 : B : 34.5% N at 170 kg.
23-Feb-93 : T : FUNGFREQ 7, 8, 9, 10, 11, 12, 18, 19, 20, 21, 22, 24: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
23-Mar-93 : B : 34.5% N at 370 kg.
24-Mar-93 : T : FUNGFREQ 8, 9, 10, 11, 12, 17, 18, 19, 20, 21, 22, 24: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
19-Apr-93 : T : FUNGFREQ 9, 10, 11, 12, 16, 17, 18, 19, 20, 21, 22, 24: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
18-May-93 : T : FUNGFREQ 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 22, 23: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
22-Jun-93 : T : FUNGFREQ 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
12-Jul-93 : T : FUNGFREQ 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23: Compass at 1.5 l and Sportak 45 at 0.55 l in 200 l.
17-Jul-93 : B : Reglone at 3.0 l with Vassgro Spreader at 0.40 l in 400 l.
28-Jul-93 : B : Combine harvested.

Previous crops: W. wheat 1991 and 1992.

NOTE: 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.

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GRAIN (AT 90% DM) TONNES/HECTARE

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

FUNGFREQ

1	3.35
2	4.17
3	4.33
4	4.38
5	4.69
6	4.56
7	4.74
8	4.70
9	4.56
10	4.55
11	4.62
12	4.76
13	3.74
14	3.97
15	3.58
16	4.07
17	4.08
18	4.41
19	4.46
20	4.42
21	4.75
22	4.77
23	5.10
24	4.71
25	4.71

Mean 4.41

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

FUNGFREQ

0.207

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	48	0.254	5.8
GRAIN MEAN DM%	83.8		
PLOT AREA HARVESTED	0.00575		