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Yields of the Field Experiments 1998

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Linseed

Rothamsted Research

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98/R/LN/1

LINSEED

WINTER LINSEED DISEASES

Object: To assess the effects of diseases on the growth and yield of winter linseed by using fungicides to control them - Drapers.

Sponsors: B.D.L. Fitt.

Design: 3 blocks of 8 plots.

Plot dimensions: 3.0 x 15.0.

Treatments:

FUNGTIME	Fungicides and timing:
-	None
AF	Tebuconazole in autumn
BM	Benomyl mid-flowering
BMC	Benomyl mid-flowering and at capsule development
AM	Iprodione mid-flowering
AMC	Iprodione mid-flowering and at capsule development
CM	Iprodione with thiophanate-methyl mid flowering
CMC	Iprodione with thiophanate-methyl mid flowering and at capsule development

Experimental diary:

10-Sep-97 : B : PK as (0:20:32) at 1250 kg.
18-Sep-97 : B : Ploughed and rolled.
30-Sep-97 : B : Rotary harrowed, Oliver, dressed Prelude 20 LF, drilled at 950 seeds per m².
26-Nov-97 : T : FUNGTIME AF: Folicur at 0.5 l in 220 l.
19-Feb-98 : B : Laser at 0.75 l with Chiltern Cropoil at 1.0 l in 100 l.
16-Mar-98 : B : Ally at 30 g in 200 l.
20-Mar-98 : B : 34.5% N at 150 kg.
22-Apr-98 : B : Eagle at 30 g in 200 l.
27-Apr-98 : B : BASF Dimethoate 40 at 850 ml in 200 l.
29-May-98 : T : FUNGTIME BM, BMC: Benlate Fungicide at 1.1 kg in 220 l.
 : T : FUNGTIME CM, CMC: Compass at 3.0 l in 220 l.
 : T : FUNGTIME AM, AMC: Rovral Flo at 2.0 l in 220 l.
25-Jun-98 : T : FUNGTIME BMC: Benlate Fungicide at 1.1 kg in 220 l.
 : T : FUNGTIME CMC: Compass at 3.0 l in 220 l.
 : T : FUNGTIME AMC: Rovral Flo at 2.0 l in 220 l.
25-Jul-98 : B : Reglone at 3.0 l with Headland Enhance LF at 400 ml in 200 l.
05-Aug-98 : B : Combine harvested.

Previous crops: W. and s. beans 1996, s. wheat 1997.

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NOTE: Disease assessments were made on eleven occasions through the growing season. At harvest thousand grain weights were measured and fungal pathogens on seeds were assessed.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

FUNGTIME

-	0.53
AF	0.70
BM	1.32
BMC	1.17
AM	0.85
AMC	0.56
CM	1.08
CMC	1.20
Mean	0.93

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

FUNGTIME

0.088

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	14	0.108	11.6
GRAIN MEAN DM%	89.5		
PLOT AREA HARVESTED	0.00276		

98/R/LN/3

LINSEED

FUNGICIDES AND SPRING LINSEED

Object: To test fungicidal spray programmes on spring linseed -
Summerdells I.

Sponsors: B.D.L. Fitt.

Design: 2 blocks of 2 plots split into 3 x 3 + 3.

Plot dimensions: 3.0 x 15.0.

Treatments: All combinations of:-

1. **VARIETY**

A	Antares
J	Jupiter

Sub-plots

2. **FUNGICIDE** Target organism:

AL	<i>Alternaria</i>
BO	<i>Botrytis</i>
A+B	<i>Alternaria</i> and <i>Botrytis</i>

3. **TIMING** Fungicide timing:

MF	Mid-flowering
CD	Capsule development
F+C	Mid-flowering and capsule development

Plus two extra treatments

EXTRA

A	Antares with no fungicide (triplicated)
J	Jupiter with no fungicide (triplicated)

Experimental diary:

10-Sep-97 : B : PK as (0:20:32) at 1250 kg.
09-Oct-97 : B : Ploughed and furrow pressed.
16-Mar-98 : B : Parable at 3.0 l with Luxan Non-Ionic Wetter at 60 ml in
200 l.
29-Apr-98 : B : Spring-tine cultivated.
29-Apr-98 : T : **VARIETY A**, **EXTRA A**: Rotary harrowed, Antares, dressed
Prelude 20 LF, drilled at 700 seeds per m².
29-Apr-98 : T : **VARIETY J**, **EXTRA J**: Rotary harrowed, Jupiter, dressed
Vitavax RS, drilled at 700 seeds per m².
14-May-98 : B : Cyperkill 10 at 250 ml in 200 l.
01-Jun-98 : B : 34.5% N at 150 kg.

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Experimental diary:

24-Jun-98 : B : Vindex at 1.0 l in 200 l.
 07-Jul-98 : T : **TIMING** MF, F+C, **FUNGICIDE** AL: Rovral Flo at 2.0 l in 220 l.
 : T : **TIMING** MF, F+C, **FUNGICIDE** BO: Benlate Fungicide at 1.1 kg in 220 l.
 : T : **TIMING** MF, F+C, **FUNGICIDE** A+B: Compass at 3.0 l in 220 l.
 27-Jul-98 : T : **TIMING** CD, F+C, **FUNGICIDE** AL: Rovral Flo at 2.0 l in 220 l.
 : T : **TIMING** CD, F+C, **FUNGICIDE** BO: Benlate Fungicide at 1.1 kg in 220 l.
 : T : **TIMING** CD, F+C, **FUNGICIDE** A+B: Compass at 3.0 l in 220 l.
 01-Sep-98 : B : Reglone at 3.0 l with Headland Enhance LF at 400 ml in 400 l.
 21-Sep-98 : B : Combine harvested.

Previous crops: Set-aside 1996, s. wheat 1997.

NOTE: Disease assessments were made on four occasions in July and August. Grain was assessed for specific weight and fungal pathogens.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

TIMING	MF	CD	F+C	Mean
FUNGICIDE				
AL	1.54	1.59	1.57	1.57
BO	1.94	1.75	2.00	1.90
A+B	2.03	1.78	2.08	1.96
Mean	1.84	1.71	1.88	1.81

VARIETY	A	J	Mean
FUNGICIDE			
AL	1.44	1.69	1.57
BO	1.80	1.99	1.90
A+B	1.91	2.02	1.96
Mean	1.72	1.90	1.81

VARIETY	A	J	Mean
TIMING			
MF	1.80	1.87	1.84
CD	1.59	1.83	1.71
F+C	1.76	2.01	1.88
Mean	1.72	1.90	1.81

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GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

TIMING	MF		CD		F+C	
VARIETY	A	J	A	J	A	J
FUNGCIDE						
AL	1.43	1.64	1.48	1.70	1.41	1.73
BO	1.89	1.99	1.65	1.86	1.88	2.12
A+B	2.09	1.97	1.64	1.92	1.98	2.17
EXTRA	A	J	Mean			
	1.41	1.61	1.51			

Grand mean 1.73

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

FUNGCIDE	TIMING	VARIETY*	
		FUNGCIDE	
0.073	0.073	0.103	
VARIETY*	FUNGCIDE	VARIETY*	EXTRA
TIMING	TIMING	FUNGCIDE	
0.103	0.126	0.178	0.031

* Within the same level of **VARIETY** only

SED for comparing **EXTRA** A or J with any item in **VARIETY.FUNGCIDE.TIMING** table is 0.145 within the same level of **VARIETY** only

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP.SP	26	0.178	10.3
GRAIN MEAN DM%	89.8		
PLOT AREA HARVESTED	0.00276		

98/R/TR/1

TURNIP RAPE

PEST CONTROL IN TURNIP RAPE

Object: To monitor pest infestation in turnip rape and their control with conventional and novel insecticides - Great Harpenden I.

Sponsor: B.J. Pye, L.E. Smart.

Design: 4 blocks of 3 plots.

Whole plot dimensions: 10.0 x 3.0.

Treatments:

PESTCONT	Pest control:
	None
	Insecticide (Decis)
	<i>Metarhizium anisopliae</i>

Experimental diary:

26-Aug-97 : B : Ploughed and furrow pressed. Rolled.
27-Aug-97 : B : Rotary harrowed, Salut undressed, drilled at 4.4 kg.
03-Oct-97 : B : Clayton Metazachlor at 1.5 l in 200 l.
14-Oct-97 : T : **PESTCONT** U: *Metarhizium anisopliae* in 10 l.
22-Oct-97 : T : **PESTCONT** U: *Metarhizium anisopliae* in 10 l.
27-Oct-97 : T : **PESTCONT** U: *Metarhizium anisopliae* in 10 l.
29-Oct-97 : T : **PESTCONT** I: Decis at 0.5 kg in 200 l.
07-Nov-97 : B : Punch C at 0.4 l in 200 l.
12-Nov-97 : T : **PESTCONT** U: *Metarhizium anisopliae* in 10 l.
17-Feb-98 : B : Folicur at 0.5 l in 200 l.
19-Feb-98 : B : Laser at 0.75 l with Chiltern Cropoil at 1.0 l in 100 l.
02-Mar-98 : B : 34.5% N at 350 kg.
27-Mar-98 : T : **PESTCONT** U: *Metarhizium anisopliae* in 10 l.
02-Apr-98 : T : **PESTCONT** I: Decis at 0.5 kg in 200 l.
08-Apr-98 : T : **PESTCONT** U: *Metarhizium anisopliae* in 10 l.
17-Apr-98 : T : **PESTCONT** U: *Metarhizium anisopliae* in 10 l.
27-Apr-98 : T : **PESTCONT** U: *Metarhizium anisopliae* in 10 l.
16-Jul-98 : B : Reglone at 3.0 l with Headland Enhance LF at 400 ml in 400 l.
24-Jul-98 : B : Combine harvested.

Previous crops: S. barley 1996, w. wheat 1997.

NOTE: Plant samples were taken in December and February to assess cabbage stem flea beetle and stem weevil damage. Raceme samples were taken in April to assess pollen beetle damage. Pod samples were taken in June to assess seed weevil damage.

98/R/TR/1

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

PESTCONT	
-	0.59
I	1.05
U	0.50
Mean	0.71

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

PESTCONT
0.139

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	6	0.196	27.7
GRAIN MEAN DM%	82.8		
PLOT AREA HARVESTED	0.00230		