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Spring Oilseed Rape

Rothamsted Research

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95/W/RAS/1

SPRING OILSEED RAPE

SULPHUR FOR SPRING OILSEED RAPE

Object: To study the effects of rates of sulphur fertilizer on the yield and sulphur content of spring oilseed rape - Woburn, Lansome II.

Sponsors: S.P. McGrath, F. Zhao.

Design: 4 randomised blocks of 6 plots.

Whole plot dimensions: 3.0 x 15.0.

Treatments:

SULPHUR	Sulphur as potassium sulphate (kg S):
S0	0 (duplicated)
S1	10
S2	20
S4	40
S8	80

NOTE: Potassium chloride was applied to balance the potassium to supply 222 kg K₂O.

Experimental diary:

- 24-Mar-95 : B : Heavy spring-tine cultivated.
- 03-Apr-95 : T : Potassium chloride applied.
- : T : Sulphur treatments applied.
- : B : Rotary harrowed, Starlight, dressed Lindex-Plus FS, drilled at 150 seeds per m².
- 28-Apr-95 : B : 34.5% N at 290 kg.
- 02-Jun-95 : B : Fastac at 100 ml in 300 l.
- 30-Jun-95 : B : Fastac at 200 ml in 300 l.
- 25-Aug-95 : B : Combine harvested.

Previous crops: W. wheat 1993, s. barley 1994.

95/W/RAS/1

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SULPHUR

S0	0.60
S1	0.49
S2	0.41
S4	0.46
S8	0.51

Mean	0.51
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*** Standard errors of differences of means ***

SULPHUR

0.066	min.rep
0.057	max-min

SULPHUR

max-min	S0 v any of the remainder
min.rep	Any of the remainder

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	16	0.093	18.1
GRAIN MEAN DM%	77.5		
PLOT AREA HARVESTED	0.00286		

95/R/RAS/3

SPRING OILSEED RAPE

SULPHUR FOR SPRING OILSEED RAPE

Object: To test the response of spring oilseed rape to sulphur and magnesium fertilizers - Geescroft.

Sponsors: S.P. McGrath, F. Zhao.

Design: 4 randomised blocks of 12 plots.

Whole plot dimensions: 3.0 x 10.0.

Treatments:

SULMAG	Rates of sulphur or magnesium fertilizer, kg:
-	None (duplicated)
KS1	10 kg S as potassium sulphate to seedbed
KS2	20 kg S as potassium sulphate to seedbed
KS4	40 kg S as potassium sulphate to seedbed
KS8	80 kg S as potassium sulphate to seedbed
S2	20 kg S as elemental sulphur (Thiovit) to seedbed
S4	40 kg S as elemental sulphur (Thiovit) to seedbed
E2	20 kg S and 15.4 kg Mg as Epsom salts as a foliar spray
E4	40 kg S and 30.8 kg Mg as Epsom salts as a foliar spray
MG1	15.4 kg Mg as magnesium chloride
MG2	30.8 kg Mg as magnesium chloride

- NOTES:** (1) Muriate of potash was applied to balance the potassium in the potassium sulphate, so all plots received 222 kg K₂O.
(2) The Epsom salts and magnesium chloride treatments E2 and MG1 were applied in two doses repeated one week later. Treatments E4 and MG2 in four doses repeated one week later. Plants were allowed to dry between applications.

Experimental diary:

- 25-Nov-94 : B : Ploughed.
03-Apr-95 : **T** : **SULMAG** KS1, KS2, KS4, KS8, S2, S4: Seedbed treatments applied.
 : B : Spring-tine cultivated, rotary harrowed, Starlight, dressed Lindex-Plus FS, drilled at 7.0 kg.
04-Apr-95 : B : Butisan S at 1.5 l in 200 l.
05-Apr-95 : B : 34.5% N at 145 kg.
02-May-95 : B : Decis at 300 ml in 200 l.
11-May-95 : B : Part irrigated 25 mm.
12-May-95 : B : Part irrigated 25 mm.
24-May-95 : B : 34.5% N at 156 kg.
31-May-95 : B : Dow Shield at 0.5 l in 200 l.
01-Jun-95 : B : Fastac at 200 ml in 300 l.
14-Jun-95 : B : Dow Shield at 1.0 l in 200 l.
15-Jun-95 : **T** : **SULMAG** E2, E4: Epsom salts applied with Vassgro Spreader at 56 ml in 750 l.

95/R/RAS/3

Experimental diary:

15-Jun-95 : T : **SULMAG** MG1, MG2: Magnesium chloride applied with Vassgro Spreader at 56 ml in 750 l.
22-Jun-95 : T : **SULMAG** E2, E4: Epsom salts applied with Vassgro Spreader at 56 ml in 750 l.
 : T : **SULMAG** MG1, MG2: Magnesium chloride applied with Vassgro Spreader at 56 ml in 750 l.
10-Jul-95 : B : Fastac at 100 ml in 300 l.
15-Aug-95 : B : Reglone at 3.0 l with Vassgro Spreader at 400 ml in 400 l.
18-Aug-95 : B : Combine harvested.

Previous crops: S. wheat 1993, linseed 1994.

NOTE: The crop was sampled on three occasions to measure sulphur content.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SULMAG	
-	0.55
KS1	0.58
KS2	0.63
KS4	0.59
KS8	0.64
S2	0.72
S4	0.66
E2	0.54
E4	0.49
MG1	0.61
MG2	0.60
Mean	0.60

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

SULMAG	
0.085	min.rep
0.073	max-min

SULMAG

max-min - v any of the remainder
min.rep Any of the remainder

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	34	0.120	20.1
GRAIN MEAN DM%	82.2	PLOT AREA HARVESTED	0.00184

95/R/RAS/8

SPRING OILSEED RAPE

FUNGICIDE AND INOCULATION

Object: To determine the effects of disease on the yield and seed quality of spring oilseed rape - Geescroft.

Sponsor: K.J. Doughty.

Design: 4 replicates of 2 plots.

Whole plot dimensions: 3.0 x 14.0.

Treatments:

INOCFUNG Diseases inoculated or fungicide applied:

I Inoculated with a mycelial suspension of *Alternaria brassicae* in malt extract broth

F Iprodione applied

Experimental diary:

25-Nov-94 : B : Ploughed.

03-Apr-95 : B : Spring-tine cultivated, rotary harrowed, Starlight, dressed Lindex-Plus FS, drilled at 180 seeds per m².

04-Apr-95 : B : Butisan S at 1.5 l in 200 l.

05-Apr-95 : B : 34.5% N at 145 kg.

02-May-95 : B : Decis at 300 ml in 200 l.

11-May-95 : B : Part irrigated 25 mm.

12-May-95 : B : Part irrigated 25 mm.

24-May-95 : B : 34.5% N at 156 kg.

31-May-95 : B : Dow Shield at 0.5 l in 200 l.

01-Jun-95 : B : Fastac at 200 ml in 300 l.

14-Jun-95 : B : Dow Shield at 1.0 l in 200 l.

29-Jun-95 : **T** : **INOCFUNG** F: Rovral Flo at 2.0 l in 200 l.

10-Jul-95 : B : Fastac at 100 ml in 300 l.

11-Jul-95 : **T** : **INOCFUNG** I: Inoculum applied.

18-Aug-95 : B : Combine harvested.

Previous crops: S. wheat 1993, linseed 1994.

95/R/RAS/8

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

INOCFUNG

I	0.83
F	0.81
Mean	0.82

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

INOCFUNG

0.057

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

Stratum	d.f.	s.e.	cv%
WP	6	0.080	9.8

GRAIN MEAN DM% 81.7

PLOT AREA HARVESTED 0.00322