ROTHAMSTED RESEARCH

Yields of the Field Experiments 1993

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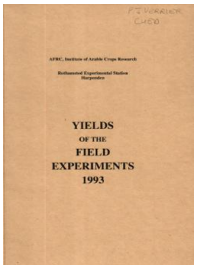

Spring Oilseed Rape

Rothamsted Research

Rothamsted Research (1994) *Spring Oilseed Rape ;* Yields Of The Field Experiments 1993, pp 142 - 145 **- DOI: https://doi.org/10.23637/ERADOC-1-48**

93/W/RAS/1

SPRING OILSEED RAPE

WEED COMPETITION AND N IN SPRING RAPE

Object: To investigate the effect of nitrogen fertilizer on the competitiveness of charlock and chickweed in spring rape - Woburn, Butt Furlong.

Sponsor: P.J.W. Lutman.

Design: 3 randomised blocks of 3 x 4 plots.

Whole plot dimensions: 3.0 x 10.0.

Treatments: All combinations of:-

1. **WEED SP** Weed species sown:

S ARVEN	*Sinapsis arvensis* (charlock)
S MEDIA	*Stellaria media* (chickweed)
NONE	None

2. **N** Rates of nitrogen (kg N):

50
100
150
200

Experimental diary:

04-Mar-93 : B : Ploughed
05-Mar-93 : B : Rolled.
29-Mar-93 : **T** : **N** 50, 100, 150, 200: Applied.
: **T** : **WEED SP** S ARVEN, S MEDIA: Weed seeds broadcast.
: B : Rotary harrowed.
: B : Starlight, dressed Lindex-Plus FS, drilled at 150 seeds per square metre.
04-Jun-93 : B : Decis at 0.50 l in 200 l.
13-Aug-93 : **T** : **N** 50, 100: Hand harvested.
19-Aug-93 : **T** : **N** 150, 200: Hand harvested.

NOTES: (1) Weed seeds were sown in the central 2m strip along the length of the plot.

(2) Target plant populations (plants per square metre) and sowing rates (g per square metre) were respectively S ARVEN 100, 4.0, S MEDIA 400, 0.8.

(3) Population counts of crop and weeds were made in May. Ground cover was assessed throughout the season and plant biomass samples were taken in June and August.

(4) The **WEED SP** S ARVEN plots were not harvested because the weed density was too high, no rape survived. One plot was severely grazed by rabbits. The yield of this plot with treatment combination **WEED SP** NONE **N** 50 was lost. An estimated value was used in the analysis.

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93/W/RAS/1

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

N	50	100	150	200	Mean
WEED SP					
S MEDIA	1.05	1.68	1.78	1.29	1.45
NONE	1.40	1.37	2.73	2.06	1.89
Mean	1.22	1.53	2.25	1.67	1.67

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

WEED SP	N	WEED SP N
0.244	0.345	0.488

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	13	0.598	35.8

GRAIN MEAN DM% 90.2

PLOT AREA HARVESTED 0.00010

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93/W/RAS/2

SPRING OILSEED RAPE

SULPHUR AND NITROGEN

Object: To determine the effects of different rates of sulphur and nitrogen fertilizer on the yield and sulphur content of s. rape - Woburn, School Field.

Sponsors: S.P. McGrath, F. Zhao, G.F.J. Milford, J. Fieldsend.

Design: 4 randomised blocks of 12.

Whole plot dimensions: 4.0 x 10.0.

Treatments: All combinations of:-

1. **N** Rates of nitrogen (kg N):

   50
   100
   150

2. **SULPHUR** Rates of sulphur (kg S):

   0
   10
   20
   40

Experimental diary:

17-Mar-93 : B : Ploughed.
24-Mar-93 : B : Treflan at 2.3 l in 200 l, rotary cultivated with crumbler attached, Starlight, dressed Lindex-Plus FS, drilled at 8 kg.
25-Mar-93 : **T** : **N** 50, 100, 150: Applied as 27% N.
15-Apr-93 : **T** : **SULPHUR** 10, 20, 40: Applied as gypsum (17.5% S).
04-Jun-93 : B : Decis at 0.50 l in 200 l.
04-Sep-93 : B : Combine harvested.

NOTE: Previous w. rape crop failed, experiment was resown to s. rape.

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93/W/RAS/2

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SULPHUR / N	0	10	20	40	Mean
50	3.94	3.70	3.68	3.78	3.78
100	4.39	4.23	4.19	4.03	4.21
150	4.14	4.23	3.95	4.40	4.18
Mean	4.16	4.06	3.94	4.07	4.05

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

N	SULPHUR	N SULPHUR
0.117	0.135	0.234

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	33	0.332	8.2

GRAIN MEAN DM% 84.9

PLOT AREA HARVESTED 0.00176

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