

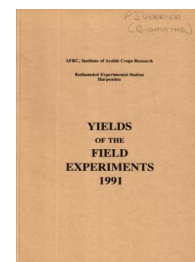
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91/W/CS/339 Sulphur and Nitrogen - W. Oilseed Rape

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91/W/CS/339

SULPHUR AND NITROGEN

Object: To study the effects of differing amounts of sulphur on rates of sulphur uptake and on the yield of w. oilseed rape and the extent to which responses are affected by amounts of nitrogen fertilizer - Woburn, Butt Close II.

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

The third year, w. oilseed rape.

For previous years see 89-90/W/CS/339.

Design: 3 randomised blocks of 12 plots.

Whole plot dimensions: 4.0 x 8.0.

Treatments: All combinations of:-

1. **S** Rates of sulphur (kg S) as calcium sulphate:

0
10
20
40

2. **N** Rates of nitrogen (kg N) as 'Nitro-Chalk':

0
180
230

NOTES: (1) Sulphur and nitrogen treatments were not cumulative to previous years but were re-randomized.
(2) Nitrogen treatments were applied in two stages; 40 kg N: 26 Feb, 1991 and the remainder: 5 Apr. Sulphur was applied on 26 Feb.

Basal applications: Manure: 'Nitram' at 145 kg. Weedkillers: Quizalofop-ethyl at 38 g with metazachlor at 0.75 kg and adjuvant 'Cropspray 11E' at 2.0 l in 220 l. Benazolin at 0.30 kg and clopyralid at 0.05 kg with insecticide in 220 l. Fungicides: Benomyl at 0.25 kg in 220 l. Prochloraz at 0.32 kg with insecticide in 200 l. Insecticide: Deltamethrin at 6.2 g on the first occasion and at 12 g on the second. Irrigation: 12 mm on each of two occasions.

Seed: Libravo, sown at 6.0 kg.

Cultivations, etc.:- Subsoiled: 28 Aug, 1990. Disced, ploughed and rolled: 29 Aug. Basal N applied, rotary harrowed, seed sown: 30 Aug. Irrigation applied: 19 and 20 Sept. Quizalofop-ethyl, metazachlor and adjuvant applied: 1 Nov. Benazolin, clopyralid and deltamethrin applied: 15 Nov. Benomyl applied: 17 Dec. Prochloraz and deltamethrin applied: 12 Apr, 1991. Combine harvested: 13 Aug.

91/W/CS/339

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

S N	0	10	20	40	Mean
0	0.44	0.44	0.30	0.40	0.39
180	1.90	2.69	2.14	2.31	2.26
230	1.12	1.74	2.73	2.72	2.08
Mean	1.15	1.62	1.72	1.81	1.58

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

N	S	N S
0.207	0.239	0.413

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	22	0.506	32.1
GRAIN MEAN DM%	85.8		

STRAW (AT 90% DRY MATTER) TONNES/HECTARE

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

S N	0	10	20	40	Mean
0	1.50	1.44	0.99	1.36	1.32
180	2.99	3.34	3.19	3.01	3.13
230	3.13	2.34	3.18	3.37	3.01
Mean	2.54	2.37	2.46	2.58	2.49

STRAW MEAN DM% 41.5

PLOT AREA HARVESTED 0.00084