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94/W/RAW/3 Sulphur and Nitrogen - W. Oilseed Rape

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94/W/RAW/3

WINTER OILSEED RAPE

SULPHUR AND NITROGEN

Object: To determine the effects of various rates of sulphur fertilizer on the yield and sulphur content of winter oilseed rape grown at various rates of nitrogen fertilizer - Woburn, Butt Close.

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

Design: 4 randomised blocks of 3 x 4 plots.

Whole plot dimensions: 4.0 x 10.0.

Treatments: All combinations of:-

1. **NITROGEN** Fertilizer nitrogen (kg N), as Nitro-Chalk:

N1	100
N2	180
N3	230

2. **SULPHUR** Fertilizer sulphur (kg S), as gypsum (17.6% S):

S0	0
S1	10
S2	20
S4	40

Experimental diary:

23-Aug-93 : B : Ploughed.
24-Aug-93 : B : Rolled.
07-Sep-93 : B : Rotary harrowed, Libravo, dressed Lindex-Plus FS, drilled at 7.0 kg.
30-Sep-93 : B : 27% N at 50 kg.
10-Feb-94 : B : Carbetamex at 2.0 kg with Benazalox at 1.25 kg in 200 l.
04-Mar-94 : T : **NITROGEN** N1, N2, N3: 27% N at 185.2, 333.2 and 426.0 kg respectively.
10-Mar-94 : T : **SULPHUR** S1, S2, S4: Gypsum at 56.8, 113.8 and 227.2 kg respectively.
08-Apr-94 : T : **NITROGEN** N1, N2, N3: 27% N at 185.2, 333.2 and 426.0 kg respectively.
05-Aug-94 : B : Combine harvested.

Previous crops: W. rape, summer fallow 1992, w. wheat 1993.

NOTE: Plants were sampled throughout the season for sulphur and nitrogen content, soil was also sampled pre-sowing and post-harvest for sulphur content.

94/W/RAW/3

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

	S0	S1	S2	S4	Mean
SULPHUR					
NITROGEN					
N1	1.06	1.22	1.37	1.05	1.18
N2	1.25	1.86	2.09	2.14	1.84
N3	0.79	2.00	2.08	2.11	1.75
Mean	1.03	1.69	1.85	1.77	1.59

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

NITROGEN	SULPHUR	NITROGEN
0.169	0.195	SULPHUR
		0.338

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	33	0.478	30.1

GRAIN MEAN DM% 87.0

PLOT AREA HARVESTED 0.00176