ROTHAMSTED RESEARCH

Yields of the Field Experiments 1997

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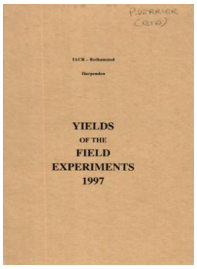

97/W/WW/1 Sulphur, Variety and Nitrogen - W. Wheat

Rothamsted Research

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97/W/WW/1

WINTER WHEAT

SULPHUR, VARIETY AND QUALITY

Object: To measure yield and quality response to sulphur fertilizer on three varieties of wheat - Woburn, Butt Close.

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

Design: 3 randomised blocks of 3 x 2 x 3 plots

Plot dimensions: 3.0 x 12.0.

Treatments: All combinations of:-

1. **VARIETY**

H	Hereward dressed Sibutol
S	Spark dressed Sibutol
R	Rialto dressed Panoctine

2. **NITROGEN** Nitrogen fertilizer (kg N) as 27.5% N:

N1	180
N2	230

3. **SULPHUR** Sulphur fertilizer (kg S) as gypsum (17.5% S):

S-	None
S1	20
S2	100

Experimental diary:

01-Oct-96 : B : Ploughed.
02-Oct-96 : B : Rolled. Rotary harrowed.
03-Oct-96 : **T** : **VARIETY** H, S, R: Varieties drilled at 350 seeds per m^2.
06-Dec-96 : B : Panther at 2.0 l in 200 l.
20-Mar-97 : **T** : **SULPHUR** S1, S2: Gypsum applied at 114 and 571 kg respectively.
20-Mar-97 : B : 27.5% N at 145 kg.
03-Apr-97 : **T** : **NITROGEN** N1, N2: 27.5% N applied at 509 and 691 kg respectively.
23-May-97 : B : Standon Fluroxypyr at 0.75 l with Halo at 2.0 l in 300 l.
08-Aug-97 : B : Barclay Gallup at 2.0 l in 300 l.
14-Aug-97 : B : Combine harvested.

Previous crops: Potatoes 1995, s. barley 1996.

NOTE: Plant samples were taken in May and June for measurement of sulphur and nitrogen content. Harvest samples of straw and grain were also analysed for sulphur and nitrogen. Grain samples from selected plots were tested for bread making quality.

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97/W/WW/1

GRAIN TONNES/HECTARE

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

VARIETY / NITROGEN	H	S	R	Mean
N1	3.30	5.15	3.89	4.12
N2	3.94	4.09	4.29	4.11
Mean	3.62	4.62	4.09	4.11

SULPHUR / NITROGEN	S-	S1	S2	Mean
N1	4.21	3.99	4.15	4.12
N2	3.27	4.29	4.77	4.11
Mean	3.74	4.14	4.46	4.11

SULPHUR / VARIETY	S-	S1	S2	Mean
H	3.34	3.66	3.86	3.62
S	4.20	5.18	4.49	4.62
R	3.67	3.58	5.03	4.09
Mean	3.74	4.14	4.46	4.11

NITROGEN	SULPHUR / VARIETY	S-	S1	S2
N1	H	3.46	3.17	3.28
	S	5.24	5.03	5.18
	R	3.92	3.76	3.99
N2	H	3.23	4.14	4.44
	S	3.16	5.32	3.79
	R	3.41	3.40	6.07

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

VARIETY	NITROGEN	SULPHUR	VARIETY NITROGEN
0.383	0.313	0.383	0.542

VARIETY SULPHUR	NITROGEN SULPHUR	VARIETY NITROGEN SULPHUR
0.664	0.542	0.939

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	34	1.150	28.0

GRAIN MEAN DM% 87.9 PLOT AREA HARVESTED 0.00220

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