

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1984

[Full Table of Content](#)



84/W/M/1 Nitrogen, Sulphur and Storage Proteins - S. Wheat, S Barley - Mixed Crops

Rothamsted Research

Rothamsted Research (1985) *84/W/M/1 Nitrogen, Sulphur and Storage Proteins - S. Wheat, S Barley - Mixed Crops* ; Yields Of The Field Experiments 1984, pp 340 - 343 - DOI:

<https://doi.org/10.23637/ERADOC-1-32>

84/W/M/1

MIXED 1

NITROGEN, SULPHUR AND STORAGE PROTEINS

Object: To study the effects of two nitrogen rates and sulphur on the storage proteins and yield of four varieties of s. wheat and s. barley - Woburn Butt Close.

Sponsor: J. Franklin.

Design: For each crop: 4 randomised blocks of 4 plots split into 4.

Whole plot dimensions: 4.0 x 19.0.

Treatments: All combinations of:-

Whole plots

1. VARIETY

Varieties:

S. wheat	S. barley	S. wheat	S. barley
HIGHBURY	GEORGIE	Highbury	Georgie
M BUTLER	JUPITER	Maris Butler	Jupiter
SANDOWN	PORTER	Sandown	Porter
TIMMO	TASMAN	Timmo	Tasman

SUB PLOTS

2. N Nitrogen fertilizer (kg N) as 'Nitro-Chalk':

50
200

3. S Sulphur

0 None
50+8 50 kg S as gypsum at sowing + 8 kg S as 'Thiovit' spray at growth stage 30

Basal applications: Manures: Dolomite at 270 kg, triple superphosphate at 180 kg, muriate of potash at 160 kg. Weedkillers: Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3.5 l) in 280 l. Fungicide: Propiconazole at 0.12 kg in 250 l on three occasions applied with the insecticide on the first and third occasions. Insecticide: Pirimicarb at 0.14 kg on two occasions.

Seed: Spring wheat varieties sown at 190 kg.
Spring barley varieties sown at 160 kg.

Cultivations, etc.: - Ploughed: 7 Nov, 1983. Spring-tine cultivated with crumbler attached, seed sown: 19 Mar, 1984. Basal manures, test N and gypsum applied: 21-22 Mar. Weedkillers applied: 16 May. 'Thiovit' applied: 18 May. Fungicide with insecticide applied: 24 May, 27 June. Fungicide applied: 15 June. Spring barley combine harvested: 20 Aug. Spring wheat combine harvested: 21 Aug.

NOTE: Samples were taken at harvest for determination of storage proteins.

84/W/M/1

S. WHEAT

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

N	50	200	MEAN
VARIETY			
HIGHBURY	2.82	4.44	3.63
M BUTLER	2.58	3.51	3.05
SANDOWN	2.73	4.07	3.40
TIMMO	2.48	3.65	3.06
MEAN	2.65	3.92	3.29

S	0	50+8	MEAN
VARIETY			
HIGHBURY	3.57	3.69	3.63
M BUTLER	2.97	3.13	3.05
SANDOWN	3.29	3.51	3.40
TIMMO	3.10	3.03	3.06
MEAN	3.23	3.34	3.29

S	0	50+8	MEAN
N			
50	2.64	2.67	2.65
200	3.83	4.01	3.92
MEAN	3.23	3.34	3.29

N	50	200	50+8	50+8
S	0	50+8	0	50+8
VARIETY				
HIGHBURY	2.98	2.66	4.16	4.71
M BUTLER	2.43	2.73	3.50	3.52
SANDOWN	2.54	2.92	4.05	4.10
TIMMO	2.61	2.35	3.58	3.71

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	VARIETY	N	S	VARIETY
				N
SED	0.202	0.098	0.098	0.245
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
VARIETY				0.196

TABLE	VARIETY	N	VARIETY
	S	S	N
			S
SED	0.245	0.139	0.314
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
VARIETY	0.196		0.278

84/W/M/1

S. WHEAT

GRAIN TONNES/HECTARE

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.286	8.7
BLOCK.WP.SP	36	0.392	11.9
SUB PLOT AREA HARVESTED 0.00120			

S. BARLEY

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

N	50	200	MEAN	
VARIETY				
GEORGIE	3.86	5.83	4.85	
JUPITER	4.04	5.75	4.89	
PORTER	4.03	5.49	4.76	
TASMAN	3.82	5.27	4.55	
MEAN	3.94	5.59	4.76	
S	0	50+8	MEAN	
VARIETY				
GEORGIE	4.83	4.86	4.85	
JUPITER	4.71	5.08	4.89	
PORTER	5.00	4.52	4.76	
TASMAN	4.60	4.49	4.55	
MEAN	4.79	4.74	4.76	
S	0	50+8	MEAN	
N				
50	3.95	3.92	3.94	
200	5.62	5.56	5.59	
MEAN	4.79	4.74	4.76	
N	50		200	
S	0	50+8	0	50+8
VARIETY				
GEORGIE	3.95	3.78	5.71	5.95
JUPITER	3.77	4.31	5.65	5.86
PORTER	4.15	3.91	5.86	5.13
TASMAN	3.95	3.70	5.25	5.29

84/W/M/1

S. BARLEY

GRAIN TONNES/HECTARE

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	VARIETY	N	S	VARIETY N
SED	0.229	0.174	0.174	0.337
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
VARIETY				0.349

TABLE	VARIETY S	N S	VARIETY N S
SED	0.337	0.246	0.485
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
VARIETY	0.349		0.493

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	9	0.324	6.8
BLOCK.WP.SP	36	0.697	14.6

SUB PLOT AREA HARVESTED 0.00120