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82/W/CS/11 Soil Structure - S. Barley

Rothamsted Research

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82/W/CS/11

SOIL STRUCTURE

Object: To study the direct effects of sowing dates and times of applying nitrogen and the residual effects of peat on the nutrient contents and yields of s. barley - Woburn Stackyard II.

Sponsor: A.E. Johnston.

The 20th year, s. barley.

For previous years see 64/C/20(t), 65/C/19(t), 66/C/11(t), 67/C/8(t), 68/C/31(t), 69/W/CS/11(t), 70/W/CS/11(t), 71/W/CS/11, 72/W/CS/11(t) and 73-81/W/CS/11.

Design: Single replicate of 20 plots.

Whole plot dimensions: 2.13 x 3.05.

Treatments: Combinations of:-

1. PEAT Peat (tonnes dry matter - total applied 1963-72):

0	0
1	8
2	55
3	110
4	165
2. SOW DATE Dates of sowing:

9 FEB	9 February, 1982
9 MAR	9 March
24 MAR	24 March
13 APR	13 April
3. N Times of applying nitrogen fertilizer at 96 kg N:

-	Never
NS	On the date of sowing
NL	On 11 May for SOW DATE 9 FEB and 9 MAR; on 17 May for SOW DATE 24 MAR; on 28 May for SOW DATE 13 APR

Basal applications: Manures: P at 85 kg as triple superphosphate, K at 300 kg as potassium bicarbonate, Mg at 55 kg as magnesium sulphate. Fungicides: Carbendazim with maneb and tridemorph (as 'Cosmic' at 4.0 kg) with captafol at 1.0 l in 280 l with the insecticide on two occasions. Insecticide: Pirimicarb at 0.14 kg.

Seed: Georgie, dressed with ethirimol, sown at 160 kg.

Cultivations, etc.: - P, K, Mg applied: 6 Jan, 1982. Hand dug: 1 Feb. Fungicides with insecticide applied: 19 May, 4 June. Hand harvested: 16 Aug.

NOTE: Crop samples were taken at regular intervals during the season for N, P, K and Mg analysis.

82/W/CS/11

GRAIN TONNES/HECTARE

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

GRAND MEAN	5.14			
	N	-	NS	NL
SOW DATE	PEAT			
9 FEB	0	2.67		
9 FEB	1		6.73	
9 FEB	2			6.32
9 FEB	3	2.02		
9 FEB	4		6.93	
9 MAR	0	2.09		
9 MAR	1		7.17	
9 MAR	2			6.19
9 MAR	3	2.46		
9 MAR	4		7.19	
24 MAR	0	2.67		
24 MAR	1		7.50	
24 MAR	2			5.79
24 MAR	3		7.42	
24 MAR	4	3.22		
13 APR	0		7.40	
13 APR	1	2.78		
13 APR	2			5.87
13 APR	3		7.33	
13 APR	4	3.00		

GRAIN MEAN DM% 85.8

82/W/CS/11

STRAW TONNES/HECTARE

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

GRAND MEAN	4.25			
	N	-	NS	NL
SOW DATE	PEAT			
9 FEB	0	1.90		
9 FEB	1		5.42	
9 FEB	2			5.41
9 FEB	3	1.34		
9 FEB	4		6.04	
9 MAR	0	1.28		
9 MAR	1		5.82	
9 MAR	2			5.07
9 MAR	3	1.79		
9 MAR	4		6.21	
24 MAR	0	1.93		
24 MAR	1		6.49	
24 MAR	2			5.37
24 MAR	3		6.14	
24 MAR	4	2.27		
13 APR	0		6.14	
13 APR	1	2.16		
13 APR	2			5.55
13 APR	3		6.60	
13 APR	4	2.18		

STRAW MEAN DM% 88.1

PLOT AREA HARVESTED 0.00014