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# Yields of the Field Experiments 1978



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# 78/W/CS/11 Soil Structure - Barley

# **Rothamsted Research**

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#### 78/W/CS/11

#### SOIL STRUCTURE

Object: To study the residual effects of peat, at a range of nitrogen levels, on the yield of ryegrass - Woburn Stackyard II.

Sponsor: A.E. Johnston.

The 15th year, 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 73-77/W/CS/11.

Design: Single replicate of 5 x 4.

Whole plot dimensions: 2.13 x 3.05.

Treatments: All combinations of:-

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

0
8
55

110 165

2. N Nitrogen fertiliser as ammonium nitrate (kg N) cumulative to previous treatments:

Basal applications: Manures: Ground chalk at 2.5 tonnes. P at 85 kg, as triple superphosphate, K at 300 kg, as potassium bicarbonate, Mg at 55 kg, as magnesium sulphate. Weedkillers: Ioxynil at 0.52 kg with mecoprop at 1.6 kg in 280 l applied with the fungicide. Fungicide: Tridemorph at 0.53 kg.

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

Cultivations, etc.:- Hand dug: 14 Dec, 1977. Ground chalk, P, K, Mg applied, raked in, seed sown: 7 Mar. Weedkiller with fungicide applied: 19 May. Hand harvested: 16 Aug.

## 78/W/CS/11

# GRAIN TONNES/HECTARE

## \*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

N PEAT	0	50	100	150	MEAN
0 8 55 110 165	2.32 2.05 2.74 2.46 2.69	4.74 5.25 4.86 5.30 4.94	6.88 6.58 7.07 7.19 6.50	6.56 7.53 7.91 7.53 8.08	5.12 5.36 5.64 5.62 5.55
MEAN	2.45	5.02	6.84	7.52	5.46

GRAIN MEAN DM% 83.6

STRAW TONNES/HECTARE

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

N	0	50	100	150	MEAN
PEAT					
0	1.80	3.82	6.20	6.49	4.58
8	1.78	4.55	6.08	6.13	4.64
55	2.26	4.06	6.56	7.33	5.05
110	1.99	3.93	6.49	6.13	4.64
165	2.27	4.66	5.87	7.53	5.08
MEAN	2.02	4.20	6.24	6.72	4.80

STRAW MEAN DM% 61.5

PLOT AREA HARVESTED 0.00056