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# Yields of the Field Experiments 1980

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## 80/W/CS/11 Soil Structure

### Rothamsted Research

Rothamsted Research (1981) *80/W/CS/11 Soil Structure* ; Yields Of The Field Experiments 1980, pp 99 - 100 - DOI: <https://doi.org/10.23637/ERADOC-1-31>

80/W/CS/11

SOIL STRUCTURE

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

Sponsor: A.E. Johnston.

The 18th year, w. 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 73-79/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 (kg N)  
cumulative to previous treatments:

0  
50  
100  
150

Basal applications: Manures: P at 85 kg, as triple superphosphate, K at 300 kg, as potassium bicarbonate, Mg at 55 kg, as magnesium sulphate. Weedkillers: Ioxynil at 0.32 kg with mecoprop at 0.94 kg in 280 l applied twice, with tridemorph on the first occasion, with benomyl on the second. Fungicides: Tridemorph at 0.53 kg. Benomyl at 0.28 kg. Carbendazim at 0.25 kg plus tridemorph at 0.53 kg in 280 l.

Seed: Sonja, sown at 210 kg.

Cultivations, etc.: - P, K, Mg applied: 12 Sept, 1979. Hand dug: 20 Sept. Seed sown: 1 Oct. Weedkillers with tridemorph applied: 28 Nov. Weedkillers with benomyl applied: 1 Apr, 1980. N applied: 9 Apr. Carbendazim plus tridemorph applied: 29 Apr. Hand harvested: 18 July.

NOTE: (1) Soil and crop samples were taken for N, P, K and Mg analysis.  
(2) N, P, K & Mg contents of soils and crop were measured.

80/W/CS/11

GRAIN TONNES/HECTARE

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

N	0	50	100	150	MEAN
PEAT					
0	3.09	5.91	7.02	7.99	6.00
8	3.00	6.11	7.61	7.66	6.09
55	3.35	5.37	6.82	8.27	5.95
110	3.81	6.27	6.93	7.47	6.12
165	3.32	5.56	7.06	8.49	6.10
MEAN	3.31	5.84	7.09	7.98	6.05

GRAIN MEAN DM% 81.6

STRAW TONNES/HECTARE

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

N	0	50	100	150	MEAN
PEAT					
0	2.89	5.20	6.42	6.87	5.34
8	2.62	6.24	7.19	6.87	5.73
55	3.34	4.90	6.31	7.64	5.55
110	3.65	6.12	6.40	6.76	5.73
165	3.15	5.71	6.68	6.85	5.60
MEAN	3.13	5.64	6.60	7.00	5.59

STRAW MEAN DM% 54.5

PLOT AREA HARVESTED 0.00065