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79/W/CS/11 Soil Structure - Wheat

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79/W/CS/11

SOIL STRUCTURE

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

Sponsor: A.E. Johnston.

The 16th year, wheat.

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 73-78/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:

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 0.32 kg with mecoprop at 0.94 kg in 280 l on the first occasion, ioxynil at 0.42 kg with mecoprop at 1.3 kg in 280 l on the second occasion, applied with tridemorph on both occasions. Fungicides: Tridemorph at 0.53 kg applied with weedkillers. Carbendazim at 0.25 kg with zineb at 1.6 kg in 280 l.

Seed: Maris Hobbit, sown at 210 kg.

Cultivations, etc.: - Hand dug: 12 Sept, 1978. P, K, Mg applied and raked in, seed sown: 3 Oct. Weedkillers and tridemorph applied: 17 Nov. N applied: 23 Apr, 1979. Weedkillers and tridemorph applied: 9 May. Carbendazim and zineb applied: 20 June. Hand harvested: 16 Aug.

NOTE: Soil and crop samples were taken for N, P, K and Mg analysis.

79/W/CS/11

GRAIN TONNES/HECTARE

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

PEAT N	0	8	55	110	165	MEAN
0	3.76	3.32	3.90	5.19	4.42	4.12
50	7.23	7.40	6.80	7.43	6.99	7.17
100	7.19	8.90	8.33	7.84	8.34	8.12
150	8.20	7.43	8.69	7.73	8.42	8.09
MEAN	6.59	6.76	6.93	7.05	7.05	6.88

GRAIN MEAN DM% 81.1

STRAW TONNES/HECTARE

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

PEAT N	0	8	55	110	165	MEAN
0	4.47	4.26	4.63	5.54	4.93	4.77
50	7.55	8.05	7.01	8.13	7.75	7.70
100	7.63	8.59	8.51	8.24	8.64	8.32
150	8.53	8.13	8.58	8.51	8.92	8.53
MEAN	7.04	7.26	7.18	7.60	7.56	7.33

STRAW MEAN DM% 73.4

PLOT AREA HARVESTED 0.00065