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Yields of the Field Experiments 1981

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81/W/CS/11 Soil Structure - Potatoes

Rothamsted Research

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81/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 19th year, potatoes.

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 73-80/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
100
200
300

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: Linuron at 0.92 l with paraquat at 0.28 kg ion in 280 l.
Fungicide: Mancozeb at 1.3 kg in 280 l with the insecticide on three occasions. Insecticide: Pirimicarb at 0.14 kg.

Seed: Maris Piper.

Cultivations, etc.: - P, K, Mg applied, hand dug: 10 Feb, 1981. N applied, potatoes planted: 30 Apr. Weedkillers applied: 21 May. Fungicide and insecticide applied: 25 June, 30 July, 17 Aug. Lifted: 15 Sept.

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

81/W/CS/11

TOTAL TUBERS TONNES/HECTARE

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

N	0	100	200	300	MEAN
PEAT					
0	28.3	38.7	51.7	55.2	43.5
8	32.9	49.5	44.9	53.8	45.3
55	36.8	53.4	48.6	58.6	49.3
110	23.4	51.7	56.9	59.4	47.8
165	35.1	53.7	53.5	63.2	51.4
MEAN	31.3	49.4	51.1	58.0	47.5

PERCENTAGE WARE 3.81 CM (1.5 INCH) RIDDLE

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

N	0	100	200	300	MEAN
PEAT					
0	62.5	74.6	77.4	87.5	75.5
8	63.6	80.7	78.1	80.6	75.7
55	71.1	74.6	79.7	84.8	77.6
110	55.3	78.6	81.9	85.5	75.3
165	63.2	74.5	79.3	86.4	75.8
MEAN	63.1	76.6	79.3	84.9	76.0

PLOT AREA HARVESTED 0.00065