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Yields of the Field Experiments 1975

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75/ W/CS/11 - Soil Structure - Potatoes

Rothamsted Research

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75/W/CS/11

SOIL STRUCTURE

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

Sponsor: A.E. Johnston.

The 12th 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 73-74/W/CS/11.

Design: Single replicate of 5 x 4. Levels of peat in 4 randomised blocks of 5 plots.

Whole plot dimensions: 2.13 x 3.05.

Treatments: All combinations of:-

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

	PEAT
None	0
8	8
55	55
110	110
165	165

2. Nitrogen fertiliser (kg N), cumulative to previous treatments:

	N
None	0
100	100
200	200
300	300

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. Insecticide: Menazon at 0.28 kg in 280 l. Fungicide: Mancozeb at 1.3 kg in 280 l.

Seed: Maris Piper.

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Cultivations, etc.:— Ground chalk applied, plots dug by hand: 13 Dec, 1974.
N, P, K and Mg applied, potatoes planted: 13 May, 1975. Insecticide
applied alone: 16 June, 1 July. Insecticide applied with fungicide:
21 July, 7 Aug. Lifted: 29 Sept.

NOTES: (1) Soil samples were taken after harvest for P and K analysis.
(2) Crop samples were taken for N, P, K and Mg analysis.

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*** TABLES OF MEANS ***

TOTAL TUBERS TONNES/HECTARE

N	0	100	200	300	MEAN
PEAT					
0	14.0	18.1	23.7	23.7	19.9
8	17.7	21.8	23.2	24.9	21.9
55	19.1	24.6	25.1	30.6	24.8
110	16.6	24.3	29.7	33.4	26.0
165	20.5	25.4	32.8	37.7	29.1
MEAN	17.6	22.9	26.9	30.0	24.3

PERCENTAGE WARE 3.81 CM (1.5 INCH) RIDDLE

N	0	100	200	300	MEAN
PEAT					
0	52.7	61.9	57.8	66.9	59.8
8	67.8	57.0	60.9	60.5	61.6
55	51.6	51.2	54.6	65.3	55.7
110	50.9	41.8	49.7	60.4	50.7
165	42.1	44.2	46.9	58.4	47.9
MEAN	53.0	51.2	54.0	62.3	55.1

PLOT AREA HARVESTED 0.00065