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68/C/31 Soil Structure 2 - Wheat

Rothamsted Research

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68/c/31.1

SOIL STRUCTURE 2

(WEAH)

Effects of peat (annual applications) and subsoiling (1963 only)
Woburn Stackyard Field, plot 6 of the Continuous Barley Site,
red beet 1968, the sixth year.

Design: 4 randomised blocks of 5 plots with treatments to blocks
and strips of sub plots.

Area of each plot: 0.0016. Area harvested: Sub plots without tractor
wheelmarks - 0.0008, with - 0.0005.

Treatments: All combinations of:-

- | | |
|------------------------|--|
| Blocks: | 1. Subsoiling: None (O), subsoiled (S) by hand to a depth of 20 inches in 1963 (this factor is now ignored in the analysis). |
| Whole plots: | 2. Peat (cwt dry matter): None (O), 62.5 applied to top 2 in. of soil in 1965 only (Sb65), 62.5 (DG1), 125 (DG2), 187.5 (DG3) dug in to a depth of 8 in. in 1968. (DG1 after Sb 1967, DG2 after Dg1 1967, DG3 after Dg2 1967). |
| Strips of 5 sub plots: | Wheelmarks: 5 rows without wheelmarks (O), 3 rows with wheelmarks (W). |

Basal applications: Monoammonium dihydrogen phosphate, potassium nitrate, ammonium nitrate, and magnesium sulphate to supply 200 lb N, 75 lb P, 250 lb K, 50 lb Mg. All fertilisers applied to the seedbed before drilling. Insecticide: Dimethoate at 0.2 pints in 50 gals.

Cultivations, etc.: Peat applied, all plots dug: 29 Jan, 1968. Tractor wheelmarks made, seedbed fertiliser applied, raked, seed drilled at 30 lb: 15 May. Singled: 20 June. Insecticide applied: 3 July. Lifted: 9 Sept. Variety: Avon Early.

NOTES: (1) For previous years' results see 'Results' 64/C/20, 65/C/19, 66/C/11, and 67/C/8.

(2) Soil samples for PK analysis were taken in May.

Standard errors per plot.

Marketable roots: Whole plot: 1.506 or 8.4% (12 d.f.)
Sub plot: 1.908 or 10.6% (15 d.f.)

68/c/31.2

SUMMARY OF RESULTS

	O	Sb65	DG1	DG2	DG3	Mean
MARKETABLE ROOTS						
(± 0.954)*						
O	16.81	16.71	18.60	19.27	17.66	17.81
W	18.26	19.31	18.88	18.72	15.88	18.21
Mean (± 0.753)	17.54	18.01	18.74	18.99	16.77	18.01

TOPS FROM MARKETABLE ROOTS

O	7.14	7.22	7.36	7.75	7.38	7.37
W	7.32	7.69	7.58	7.54	6.68	7.36
Mean	7.23	7.45	7.47	7.64	7.03	7.37

TOTAL PRODUCE

O	23.95	23.93	25.96	27.02	25.04	25.18
W	25.58	27.00	26.47	26.25	22.56	25.57
Mean	24.77	25.46	26.21	26.64	23.80	25.38

* For use in horizontal and interaction comparisons only