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Numerical Results of the Field Experiments 1968

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68/B/8 Long Term Phosphate - Potatoes, Barley

Rothamsted Research

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68/B/8.1

LONG TERM PHOSPHATE

(WLP)

To assess the residual and cumulative effects of superphosphate -
Woburn Stackyard III 1968, 1st year.

Design: 6 blocks of 6 plots, split into two. Half plots received
uniform treatment in 1968 but later there will be a test of
phosphate.

Area of each sub plot: 0.0167. Area harvested: 0.0111.

Treatments: Superphosphate: None (R0) (2 plots per block), 1.5 (R1),
3.0 (R2), 6.0 (R4), 9.0 (R6) cwt P₂O₅ as superphosphate.

Basal applications: Both crops: 5 cwt K₂O as sulphate of potash,
2.0 cwt MgO as Epsom salts in August 1967.

Potatoes: 2.0 cwt N as 'Nitro-Chalk' and 1.5 cwt K₂O as sulphate
of potash in spring. Weedkiller: Linuron at 0.5 lb plus
paraquat at 0.37 lb ion in 50 gals. Fungicide: Mancozeb at
1.2 lb in 38 gals. Insecticide: Demeton-s-methyl at 3.5 oz
in 38 gals.

Barley: 23 cwt ground chalk. 1.2 cwt N as 'Nitro-Chalk' and 0.5
cwt K₂O as muriate of potash in spring. Weedkiller:
Ioxynil/mecoprop (Actril C at 5 pints in 25 gals).

Cultivations, etc.: Both crops: Rotary cultivated: 13 June, 1967.

Subsoiled: 20 - 21 June, 30 June - 3 July, 3 - 4 July (3
directions). Deep-tine cultivated: 6 July. Basal K and Mg
applied: 9 Aug. Phosphate treatments applied: 15 - 16 Aug.

Fallow since 1963 (the site was part of the site of the Woburn
Classical Experiments).

Potatoes: 'Nitro-Chalk' applied: 18 Mar, 1968. Sulphate of
potash applied: 19 Mar. Rotary cultivated, potatoes planted:
27 Mar. Weedkiller applied: 3 May. Rotary ridged: 13 June.
Fungicide and insecticide applied: 12 July, 24 July.
Fungicide applied: 30 July. Sprayed with undiluted BOV at
15 gals: 4 Sept. Lifted: 25 Sept. Variety: Majestic.

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Barley: Ground chalk applied: 11 Dec, 1967. 'Nitro-Chalk'
applied, spring-tine cultivated: 4 Mar, 1968. Muriate
of potash applied, seed drilled at 140 lb: 6 Mar. Weedkiller
applied: 3 May. Combine harvested: 20 Aug. Variety: Maris
Badger.

Standard errors per plot.

Potatoes: Total tubers: Whole plot: 0.478 or 3.8% (10 d.f.)

Barley: Grain: Whole plot: 0.49 or 1.5% (10 d.f.)

68/B/8.3

SUMMARY OF RESULTS

RO	R1	R2	R4	R6	Mean
POTATOES					
TOTAL TUBERS					
(±0.195) 10.65	12.22	(±0.276) 12.29	14.76	13.81	12.40
% WARE					
95.8	96.3	96.3	97.0	96.6	96.3
BARLEY					
GRAIN					
(±0.20) 32.6	33.9	(±0.29) 34.1	34.7	34.2	33.7
STRAW					
31.3	35.7	35.8	36.8	36.5	34.5

Mean D.M. %: Grain: 81.6
Straw: 85.4