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Numerical Results of the Field Experiments 1970

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70/R/RN/7 Residual Phosphate - Potatoes, Barley, Turnips

Rothamsted Research

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RESIDUAL PHOSPHATE

(70/R/RN/7)

Potatoes, barley and swedes, Great Field IV and Sawyers I the 11th year. For treatments and previous years' results see 'Details' 1967 and 'Results' 67/B/6, 68/B/5 and 69/R/RN/7.

Area of each plot:-

Great Field IV: 0.0193. Area harvested: Potatoes and barley - 0.0129.
Turnips - 0.0096.

Sawyers I: 0.0212. Area harvested: Potatoes and barley - 0.0141.

Revised manuring on both fields:

| | cwt N | cwt K ₂ O |
|----------|-------|---|
| Potatoes | 2.0 | 2.0 as 'Nitro-Chalk' and sulphate of potash |
| Barley | 0.8 | 0.5 as (25:0:16) combine drilled |
| Swedes | 0.5 | 1.0 as 'Nitro-Chalk' and sulphate of potash |

The barley variety is now Julia.

NOTE: Because of dry weather, swedes failed on both fields and turnips were sown (without further manuring). On Sawyers I the turnips were seriously affected by *Phoma* and yields were not taken.

Standard applications:

Potatoes: Weedkiller: Linuron at 1 lb plus paraquat at 0.375 lb ion in 39 gals. Fungicide: Mancozeb at 1.2 lb in 40 gals on 2 occasions. Insecticide: Demeton-s-methyl at 3.5 oz with first mancozeb spray.

Barley: Ground chalk at 25 cwt. Weedkiller: 2,4-D at 0.5 lb and dichlorprop at 2 lb in 20 gals.

Cultivations, etc. (both fields):- Ploughed: 24 Nov, 1969.

Potatoes: Fertilisers applied: 5 May, 1970. Plots rotary cultivated, potatoes machine planted: 6 May. Weedkiller applied: 23 May. Grubbed and rotary ridged: 18 June. Fungicide and insecticide applied: 29 July. Fungicide applied: 14 Aug. Sprayed with undiluted BOV at 15 gals: 15 Sept. Lifted: 25 Sept.

Barley: Ground chalk applied: 6 Oct, 1969. Treatment P fertilisers applied: 26 Mar, 1970. Seed combine drilled at 140 lb: 28 Mar. Weedkiller applied 18 May. Combine harvested: 14 Aug. Variety: Julia.

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Swedes: Fertilisers applied: 14 May, 1970. Seed drilled at 1.5 lb: 15 May. Power harrowed for turnips: 23 June. Rotary cultivated: 24 June. Turnips drilled at 1.5 lb: 25 June. Singled: 23 July - 7 Aug. Lifted: 12 Oct. Variety of turnips: Imperial Green Globe.

Standard errors per plot.

Sawyers I:

Potatoes, total tubers, tons: 1.016 or 9.5% (11 d.f.)

Barley, grain, cwt: 1.57 or 5.1% (11 d.f.)

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SUMMARY OF RESULTS

POTATOES

| Treatment | TOTAL TUBERS: TONS | | % WARE: 1.5 INCH | |
|-----------|------------------------|-------------------|------------------------|-------------------|
| | Great Field IV Mean | Sawyers I Mean | Great Field IV Mean | Sawyers I Mean |
| | | (±0.719) | | |
| O | 11.68 | 9.25 | 98.0 | 98.2 |
| A1 | 12.87 | 8.54 | 98.5 | 96.4 |
| A2 | 15.32 | 10.12 | 98.2 | 98.1 |
| A3 | 16.80 | 11.86 | 98.5 | 96.9 |
| A4 | 17.32 | 13.44 | 98.1 | 97.9 |
| T1 | 12.18 | 8.43 | 98.4 | 97.3 |
| T2 | 14.17 | 9.89 | 97.5 | 97.1 |
| R2 | 15.21 | 12.50 | 98.3 | 98.3 |
| R3 | 14.37 | 11.51 | 97.4 | 97.8 |
| R4 | 15.53 | 13.70 | 97.3 | 97.5 |
| G1 | 12.62 | 7.60 | 97.6 | 98.0 |
| S1 | 13.55 | 11.00 | 98.3 | 98.1 |
| Mean | 14.30 | 10.65 | 98.0 | 97.6 |

BARLEY

| | GRAIN: CWT | | STRAW: CWT | |
|-------------|------------|---------|------------|------|
| | | | | |
| | | (±1.11) | | |
| O | 23.9 | 24.1 | 16.9 | 8.6 |
| A1 | 36.6 | 30.5 | 17.7 | 10.5 |
| A2 | 37.8 | 31.9 | 18.9 | 11.5 |
| A3 | 33.9 | 33.2 | 19.7 | 10.8 |
| A4 | 33.7 | 34.3 | 24.7 | 14.3 |
| T1 | 42.0 | 28.0 | 17.3 | 9.4 |
| T2 | 36.4 | 30.9 | 16.3 | 11.2 |
| R2 | 32.1 | 31.7 | 14.4 | 8.9 |
| R3 | 32.8 | 33.0 | 19.8 | 11.5 |
| R4 | 33.1 | 33.7 | 19.5 | 13.2 |
| G1 | 36.5 | 28.6 | 18.1 | 9.5 |
| S1 | 32.3 | 27.6 | 15.1 | 9.8 |
| Mean | 34.3 | 30.6 | 18.2 | 10.8 |
| Mean D.M.%: | 86.5 | 86.7 | 88.2 | 88.1 |

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TURNIPS, ROOTS: TONS

| Treat- ment | Great Field IV Mean |
|----------------|------------------------|
| O | 0.37 |
| A1 | 4.40 |
| A2 | 6.76 |
| A3 | 8.47 |
| A4 | 6.95 |
| T1 | 3.15 |
| T2 | 3.38 |
| R2 | 3.98 |
| R3 | 4.82 |
| R4 | 5.37 |
| G1 | 2.69 |
| S1 | 2.32 |
| Mean | 4.39 |