

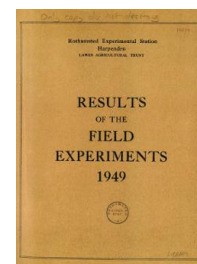
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## Yields of the Field Experiments 1949

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### 49/CE/1 Potatoes - Application of Dung

*49/CE/1 Potatoes - Application of Dung*, Rothamsted Research (1950) Yields Of The Field Experiments 1949, pp 81 - 83

49/Ce/1.1

## POTATOES

The effects of three methods of applying dung at three levels, of sulphate of ammonia, of superphosphate and of muriate of potash.

R.P. - Sawyers III 1949

System of replication: 4 randomized blocks of 12 plots each, plots being split into 2 for NPK, certain high order interactions being confounded with block differences.

Area of each sub plot: 0.021 acres. Area harvested 0.0175 acres.

### Treatments:

#### Whole plots.

Dung: None, 5, 10 or 15 cwt FYM per acre.  
Method of application: Ploughed in in winter (W), ploughed in in spring (S), or placed in the bouts (B).

#### Sub-plots.

Sulphate of ammonia: None, 0.6 cwt N per acre.  
Superphosphate: None, 0.6 cwt  $P_2O_5$  per acre.  
Muriate of potash: None, 1.0 cwt  $K_2O$  per acre.

Basal Manuring: None

Cultivations etc.: Ploughed: Sept 14-15. Dung applied to "W" plots: Dec 20. Ploughed all plots: Dec 20-22. Dung applied to "S" plots: Mar 22-23. Ploughed all plots: Mar 22-24. Bouted: Apr 19. Dung applied to "B" plots: Apr 20. Artificials applied planted and covered in: Apr 21-22. Rolled down ridges: Apr 22. Chain harrowed twice: May 18. Hoed: July 1-2. Earthed up: July 13. Sprayed to kill off haulm: Sept 16. Lifted: Sept 23-24. Variety: Majestic Scotch A. Previous crop: Wheat.

Standard errors per plot: Total tubers.

Whole plot: 0.547 tons per acre or 8.64%

Sub-plot: 0.499 tons per acre or 7.88%

49/CA/1.2

Total tubers: tons per acre

Dung: tons per acre

|                        | 0    | 5         | 10   | 15   | Mean     |
|------------------------|------|-----------|------|------|----------|
| Method of application  |      | (±0.273)  |      |      | (±0.158) |
| Ploughed in, in winter |      | 5.86      | 6.63 | 6.85 | 6.44     |
| " " " " spring         |      | 6.43      | 6.55 | 7.18 | 6.72     |
| Placed in bouts        |      | 6.04      | 6.54 | 7.33 | 6.64     |
| Sulphate of ammonia    |      | (±0.188)* |      |      | (±0.072) |
| None                   | 5.20 | 5.82      | 6.30 | 6.94 | 6.06     |
| 0.6 cwt per acre N     | 5.80 | 6.39      | 6.85 | 7.30 | 6.58     |
| Response to N (±0.204) | 0.60 | 0.57      | 0.55 | 0.36 | 0.52(1)  |
| Superphosphate         |      | (±0.188)* |      |      | (±0.072) |
| None                   | 5.49 | 6.07      | 6.54 | 7.09 | 6.30     |
| 0.6 cwt per acre P     | 5.51 | 6.14      | 6.61 | 7.14 | 6.35     |
| Response to P (±0.204) | 0.02 | 0.07      | 0.07 | 0.05 | 0.05(1)  |
| Muriate of potash      |      | (±0.188)* |      |      | (±0.072) |
| None                   | 5.01 | 5.78      | 6.37 | 7.04 | 6.05     |
| 1.0 cwt per acre K     | 5.98 | 6.43      | 6.78 | 7.20 | 6.60     |
| Response to K (±0.204) | 0.97 | 0.65      | 0.41 | 0.16 | 0.55(1)  |
| Mean (±0.158)          | 5.50 | 6.11      | 6.57 | 7.12 | 6.32     |

Standard error (1)±0.102

\* Standard error for comparisons other than vertical

49/0e/1.3

Total tubers: tons per acre

|                               | Method of application of dung |                          |                    |
|-------------------------------|-------------------------------|--------------------------|--------------------|
|                               | Ploughed in<br>in winter      | Ploughed in<br>in spring | Placed<br>in bouts |
| Sulphate of ammonia           |                               | $\pm 0.188^*$            |                    |
| None                          | 6.27                          | 6.38                     | 6.42               |
| 0.6 cwt per acre N            | 6.62                          | 7.05                     | 6.86               |
| Response to N ( $\pm 0.204$ ) | 0.35                          | 0.67                     | 0.44               |
| Superphosphate                |                               | $\pm 0.188^*$            |                    |
| None                          | 6.53                          | 6.83                     | 6.35               |
| 0.6 cwt per acre P            | 6.36                          | 6.61                     | 6.93               |
| Response to P ( $\pm 0.204$ ) | -0.17                         | -0.22                    | 0.58               |
| Muriate of potash             |                               | $\pm 0.188^*$            |                    |
| None                          | 6.20                          | 6.53                     | 6.46               |
| 1.0 cwt per acre K            | 6.69                          | 6.91                     | 6.81               |
| Response to K ( $\pm 0.204$ ) | 0.49                          | 0.38                     | 0.35               |

\*Standard error for comparisons other than vertical

Responses to treatments ( $\pm 0.188$ )\*\*

| Response to:        | Sulphate of ammonia |       | Superphosphate |       | Muriate of potash |       |
|---------------------|---------------------|-------|----------------|-------|-------------------|-------|
|                     | Abs.                | Pres. | Abs.           | Pres. | Abs.              | Pres. |
| Sulphate of ammonia | -                   | -     | 0.56           | 0.48  | 0.20              | 0.84  |
| Superphosphate      | 0.09                | 0.01  | -              | -     | -0.37             | 0.47  |
| Muriate of potash   | 0.23                | 0.87  | 0.13           | 0.97  | -                 | -     |

\*\* Standard error of horizontal difference between two responses  $\pm 0.316$ .