

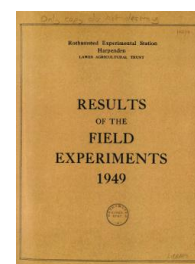
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# Yields of the Field Experiments 1949

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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. Artificially 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/C9/1.2

Total tubers: tons per acre

Dung: tons per acre

|                               | 0    | 5                | 10   | 15   | Mean            |
|-------------------------------|------|------------------|------|------|-----------------|
| Method of application         |      | ( $\pm 0.273$ )  |      |      | ( $\pm 0.158$ ) |
| 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           |      | ( $\pm 0.188$ )* |      |      | ( $\pm 0.072$ ) |
| 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 ( $\pm 0.204$ ) | 0.60 | 0.57             | 0.55 | 0.36 | 0.52(1)         |
| Superphosphate                |      | ( $\pm 0.188$ )* |      |      | ( $\pm 0.072$ ) |
| 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 ( $\pm 0.204$ ) | 0.02 | 0.07             | 0.07 | 0.05 | 0.05(1)         |
| Muriate of potash             |      | ( $\pm 0.188$ )* |      |      | ( $\pm 0.072$ ) |
| 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 ( $\pm 0.204$ ) | 0.97 | 0.65             | 0.41 | 0.16 | 0.55(1)         |
| Mean ( $\pm 0.158$ )          | 5.50 | 6.11             | 6.57 | 7.12 | 6.32            |

Standard error (1)  $\pm 0.102$ 

\* Standard error for comparisons other than vertical

49/Ce/1.3

Total tubers: tons per acre

Method of application of dung

Ploughed in    Ploughed in    Placed  
in winter    in spring    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  $\pm 0.316$ .