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# Yields of the Field Experiments 1961

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## 61/R/B/9 N Levels and Residues Rotation

### Rothamsted Research

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61/B/9.1

## N LEVELS AND RESIDUES ROTATION

Direct and residual effects of sulphate of ammonia - Long Hoos III 1961, the 2nd year.

Rotation: Wheat, potatoes.

Design (each crop): 3 randomised blocks of 9 plots each.

Area of each plot: 0.0212 acres. Area harvested: 0.0141 acres.

Treatments. All combinations of:-

Nitrogen (applied as sulphate of ammonia) at 3 levels in 1960 and at 3 levels in 1961.

To Wheat: None; 0.5; 1.0 cwt N per acre

To Potatoes: None; 0.75; 1.50 cwt N per acre.

Basal dressing (per acre):

To wheat:  $2\frac{1}{4}$  cwt compound fertiliser, 14%  $P_2O_5$ , 28%  $K_2O$  combine drilled.

To potatoes: 5 cwt compound fertiliser, 14%  $P_2O_5$ , 28%  $K_2O$  broadcast on the flat.

Cultivations, etc.:

Wheat: Ground chalk applied at 23 cwt per acre, ploughed:

Mar 7, 1961. Rotary cultivated: Mar 20. Sulphate of ammonia applied, seed combine drilled at 3 bushels per acre: Mar 21.

Sprayed with MCPA/TBA at 4 pints in 40 gallons per acre: May 19.

Combine harvested: Aug 30. Variety: Jufy I.

Potatoes: Ground chalk applied at 23 cwt per acre: Dec 16, 1960.

Ploughed: Dec 29. Basal fertiliser broadcast on flat:

Apr 17, 1961. Rotary cultivated, sulphate of ammonia applied, ridged, potatoes planted: Apr 24. Earthed up: July 6.

Sprayed with zineb at 2 lb in 40 gallons per acre: Aug 3.

Sprayed with undiluted BOV at 15 gallons per acre: Sept 21.

Lifted: Oct 5. Variety: Ulster Supreme.

Standard errors per plot.

Wheat. Grain (at 85% dry matter): 2.18 cwt per acre or 6.5%  
(16 d.f.)

Potatoes. Total Tubers: 0.775 tons per acre or 8.4% (16 d.f.)

61/B/9.2

Summary of ResultsWheat, Grain (at 85% dry matter): cwt per acre

|                                     | N: cwt per acre in 1961 |                |      | Mean           |
|-------------------------------------|-------------------------|----------------|------|----------------|
|                                     | None                    | 0.5            | 1.0  |                |
| N: cwt per acre to potatoes in 1960 |                         | ( $\pm 1.25$ ) |      | ( $\pm 0.73$ ) |
| None                                | 23.8                    | 34.9           | 37.9 | 32.2           |
| 0.75                                | 26.1                    | 34.2           | 39.0 | 33.1           |
| 1.50                                | 31.0                    | 34.5           | 39.2 | 34.9           |
| Mean ( $\pm 0.73$ )                 | 27.0                    | 34.5           | 38.7 | 33.3           |

Mean dry matter % as harvested: 84.9

Potatoes

|                                  | N: cwt per acre in 1961            |                 |       | Mean            |
|----------------------------------|------------------------------------|-----------------|-------|-----------------|
|                                  | None                               | 0.75            | 1.50  |                 |
| N: cwt per acre to wheat in 1960 | <u>Total tubers: tons per acre</u> |                 |       |                 |
|                                  |                                    | ( $\pm 0.448$ ) |       | ( $\pm 0.258$ ) |
| None                             | 5.83                               | 9.26            | 11.70 | 8.93            |
| 0.5                              | 5.73                               | 10.38           | 11.29 | 9.13            |
| 1.0                              | 6.74                               | 10.00           | 12.01 | 9.58            |
| Mean ( $\pm 0.258$ )             | 6.10                               | 9.88            | 11.67 | 9.21            |

N: cwt per acre to wheat in 1960      Percentage ware ( $1\frac{1}{2}$ " riddle)

|      |      |      |      |      |
|------|------|------|------|------|
| None | 93.9 | 95.4 | 97.2 | 95.5 |
| 0.5  | 94.2 | 96.3 | 96.9 | 95.8 |
| 1.0  | 93.2 | 96.0 | 97.6 | 95.6 |
| Mean | 93.8 | 95.9 | 97.2 | 95.6 |