

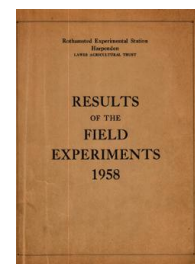
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## Yields of the Field Experiments 1958

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### 58/W/CB/7 Barley - N and Residual Dung N P and K

#### Rothamsted Research

Rothamsted Research (1959) *58/W/CB/7 Barley - N and Residual Dung N P and K* ; Yields Of The Field Experiments 1958, pp 101 - 102 - DOI: <https://doi.org/10.23637/ERADOC-1-181>

58/Cb/7.1

### BARLEY

Residual effects of dung, N, P and K applied to potatoes 1957 and direct effect of N - Great Hill Woburn 1958.

Design: 4 randomized blocks of 16 plots each, certain high order interactions being confounded with block differences.

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

Treatments. All combinations of:-

To potatoes 1957.

Dung: None; 5; 10; 20 tons per acre ploughed in.  
N: None; 0.9 cwt N per acre as sulphate of ammonia.  
P: None; 0.75 cwt  $P_2O_5$  per acre as superphosphate.  
K: None; 1.5 cwt  $K_2O$  per acre as muriate of potash.

To barley 1958.

N: None; 0.4 cwt N per acre as 'Nitro-Chalk'.

Basal dressing:  $2\frac{1}{2}$  cwt compound fertilizer (16%  $P_2O_5$ , 16%  $K_2O$ ) per acre.

Cultivations, etc.: Ploughed: Dec 10, 1957. 'Nitro-Chalk' and basal fertilizer applied, seed drilled at 3 bushels per acre: Apr 9, 1958. Sprayed with MCPA at 5 pints in 40 gallons per acre: May 20. Combine harvested: Aug 27. Variety: Herta. Previous crop: Potatoes.

Standard error per plot.

Grain (at 85% dry matter): 3.25 cwt per acre or 14.7% (34 d.f.)\*

\*1 missing value.

Summary of Results

Grain (at 85% dry matter): cwt per acre

|  |         | Dung to potatoes 1957:<br>tons per acre |       |      |       | Mean          |
|--|---------|---|-------|------|-------|---------------|
|  |         | None                                    | 5     | 10   | 20    |               |
| Mean   | (±0.81) | 22.0                                    | 21.1  | 22.7 | 22.8  | 22.1          |
| <u>Applied to potatoes 1957</u>              |         |   |       |      |       |               |
| N: cwt per acre                              |         |   |       |      |       |               |
| None   | (±1.15) | 21.1                                    | 20.1  | 21.8 | 20.7  | 20.9          |
| 0.9  |         | 22.9                                    | 22.1  | 23.6 | 25.0  | 23.4          |
| Difference                                   | (±1.62) | +1.8                                    | +2.0  | +1.8 | +4.3  | +2.5 (±0.81)  |
| P <sub>2</sub> O <sub>5</sub> : cwt per acre |         |   |       |      |       |               |
| None   | (±1.15) | 22.9                                    | 20.3  | 21.3 | 22.9  | 21.9          |
| 0.75   |         | 21.0                                    | 21.9  | 24.0 | 22.7  | 22.4          |
| Difference                                   | (±1.62) | -1.9                                    | +1.6  | +2.7 | -0.2  | +0.5 (±0.81)  |
| K <sub>2</sub> O: cwt per acre               |         |   |       |      |       |               |
| None   | (±1.15) | 22.9                                    | 21.2  | 23.3 | 23.6  | 22.7          |
| 1.5  |         | 21.1                                    | 21.0  | 22.1 | 22.1  | 21.5          |
| Difference                                   | (±1.62) | -1.8                                    | -0.2  | -1.2 | -1.5  | -1.2 (±0.81)  |
| <u>Applied to barley 1958</u>                |         |   |       |      |       |               |
| N: cwt per acre                              |         |   |       |      |       |               |
| None   | (±1.15) | 16.5                                    | 15.1  | 18.3 | 16.6  | 16.6          |
| 0.4  |         | 27.5                                    | 27.1  | 27.0 | 29.0  | 27.7          |
| Difference                                   | (±1.62) | +11.0                                   | +12.0 | +8.7 | +12.4 | +11.1 (±0.81) |

| Response to                     | Responses to treatments<br>cwt per acre |                               |                  |       |                               |                  |                           |                               |
|---------------------------------|---|-------------------------------|------------------|-------|-------------------------------|------------------|---------------------------|-------------------------------|
|                                 | Applied to potatoes 1957                |                               |                  |       |                               |                  | Applied to<br>barley 1958 |                               |
|                                 | N                                       | P <sub>2</sub> O <sub>5</sub> | K <sub>2</sub> O | N     | P <sub>2</sub> O <sub>5</sub> | K <sub>2</sub> O | N                         | P <sub>2</sub> O <sub>5</sub> |
|                                 | None                                    | 0.9                           | None             | 0.75  | None                          | 1.5              | None                      | 0.4                           |
| <u>Applied to potatoes 1957</u> | (±1.15)                                 |                               |                  |       |                               |                  |                           |                               |
| N                               | -                                       | -                             | +2.2             | +2.8  | +2.3                          | +2.7             | +3.3                      | +1.7                          |
| P <sub>2</sub> O <sub>5</sub>   | +0.2                                    | +0.8                          | -                | -     | +0.4                          | +0.6             | +1.2                      | -0.2                          |
| K <sub>2</sub> O                | -1.4                                    | -1.0                          | -1.3             | -1.1  | -                             | -                | -1.5                      | -0.9                          |
| <u>Applied to barley 1958</u>   |   |                               |                  |       |                               |                  |                           |                               |
| N                               | +11.8                                   | +10.2                         | +11.7            | +10.3 | +10.7                         | +11.3            | -                         | -                             |

Mean dry matter % as harvested: 80.7