

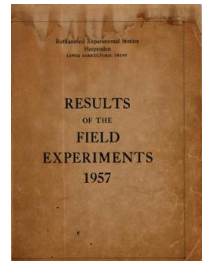
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# Yields of the Field Experiments 1957

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## 57/W/BD/1 Green Manuring

### Rothamsted Research

Rothamsted Research (1958) *57/W/BD/1 Green Manuring* ; Yields Of The Field Experiments 1957, pp 48 - 51 - DOI: <https://doi.org/10.23637/ERADOC-1-177>

57/Bd/1.1

# GREEN MANURING EXPERIMENT

Woburn Stackyard - 1957, the 4th year of the revised scheme.

For history, treatments etc, see "Details of the Classical and Long Term Experiments" 1956.

Area of each plot: 0.0406 acres. Area harvested: Potatoes, 0.0221; barley, 0.0406 acres.

Cultivations, etc.:

Green manures after barley 1956 (for early potatoes 1957): Trefoil at 30 lb per acre, ryegrass at 40 lb per acre, undersown: Apr 23, 1956. Varieties: Trefoil-English; Ryegrass-Western Wolths.

Early potatoes: Straw applied to "fallow" plots only: Aug 29, 1956. "Fallow" plots ploughed: Aug 30 and Nov 13. Straw applied to ryegrass and trefoil plots: Sept 4. All plots ploughed: Jan 29 and Feb 19, 1957. 'Nitro-Chalk' and basal fertilizers applied: Mar 26. Potatoes mechanically planted: Mar 29. Earthed up: Apr 26. Lifted: July 9-10. Variety: Ulster Chieftain.

Green manures after early potatoes 1956 (for barley 1957): Trefoil at 30 lb per acre, ryegrass at 40 lb per acre, sown: July 31, 1956. Varieties: Trefoil-English; Ryegrass-Western Wolths.

Barley: "Fallow" and "early" green manure plots ploughed: Nov 19, 1956. "Late" green manure plots ploughed: Feb 21, 1957. Ground chalk at 20 cwt per acre applied: Feb 27. 'Nitro-Chalk' applied: Mar 14. Seed drilled at 2½ bushels per acre: Mar 18. Trefoil and ryegrass undersown: May 11. Harvested: Aug 7. Variety: Herta.

Standard errors per plot:

Potatoes. Total tubers: 0.307 tons per acre or 10.0% (18 d.f.)  
Barley. Grain: 3.55 cwt per acre or 19.2% (20 d.f.)

Errata to "Results of the Field Experiments" 1955 and 1956. Pages 55/Bd/1.2 and 56/Bd/1.3. Levels of N: cwt per acre (including basal) to potatoes should be 0.6 and 1.2, not 0.23 and 0.46.

Estimates of produce (roots and tops) of green manure crops: cwt per acre

|                                     | Green manure | Ploughed in | Dry matter | Nitrogen |
|-------------------------------------|--------------|-------------|------------|----------|
| <u>For early</u><br><u>Potatoes</u> | Trefoil      |             | 18.9       | 0.594    |
|                                     | Ryegrass     |             | 14.3       | 0.285    |
| <u>For Barley</u>                   | Trefoil      | Early       | 21.0       | 0.656    |
|                                     | Ryegrass     | Early       | 16.0       | 0.273    |
|                                     | Trefoil      | Late        | 8.3        | 0.274    |
|                                     | Ryegrass     | Late        | 14.0       | 0.247    |

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Summary of Results

Early Potatoes, total tubers: tons per acre

|                                                | Straw: tons<br>per acre              |                  | N: cwt per acre<br>(including<br>basal) |          | Dung to<br>cabbages 1953:<br>tons per acre |      | Mean     |
|------------------------------------------------|--------------------------------------|------------------|-----------------------------------------|----------|--------------------------------------------|------|----------|
|                                                | None                                 | 1½               | 0.6                                     | 1.2      | None                                       | 10   |          |
| <u>Excluding plots fallow under old scheme</u> |                                      |                  |                                         |          |                                            |      |          |
| Undersown green<br>manures for<br>potatoes     | (±0.109)                             |                  | (±0.109)                                |          | (±0.109)                                   |      | (±0.077) |
| None                                           | 2.94                                 | 3.11             | 3.02                                    | 3.02     | 2.90                                       | 3.15 | 3.02     |
|                                                | (±0.154)                             |                  | (±0.154)                                |          | (±0.154)                                   |      | (±0.109) |
| Trefoil                                        | 3.18                                 | 3.09             | 3.12                                    | 3.16     | 2.93                                       | 3.35 | 3.14     |
| Ryegrass                                       | 3.14                                 | 3.03             | 3.34                                    | 2.83     | 2.80                                       | 3.37 | 3.08     |
| Straw: tons<br>per acre                        |                                      |                  | (±0.109)                                |          | (±0.109)                                   |      | (±0.077) |
| None                                           |                                      |                  | 3.11                                    | 2.99     | 2.79                                       | 3.31 | 3.05     |
| 1½                                             |                                      |                  | 3.14                                    | 3.03     | 2.98                                       | 3.20 | 3.09     |
| N: cwt per acre<br>(including<br>basal)        |                                      |                  |                                         |          |                                            |      |          |
| 0.6                                            |                                      |                  |                                         |          | 2.97                                       | 3.29 | 3.13     |
| 1.2                                            |                                      |                  |                                         |          | 2.80                                       | 3.22 | 3.01     |
| Mean (±0.077)                                  |                                      |                  |                                         |          | 2.88                                       | 3.25 | 3.07     |
| <u>Plots fallow under old scheme</u>           |                                      |                  |                                         |          |                                            |      |          |
| Straw: tons<br>per acre                        |                                      |                  | (±0.217)                                |          | (±0.217)                                   |      | (±0.154) |
| None                                           |                                      |                  | 2.96                                    | 3.33     | 3.23                                       | 3.05 | 3.14     |
| 1½                                             |                                      |                  | 3.08                                    | 2.94     | 2.90                                       | 3.12 | 3.01     |
| N: cwt per acre<br>(including<br>basal)        |                                      |                  |                                         |          |                                            |      |          |
| 0.6                                            |                                      |                  |                                         |          | 2.87                                       | 3.17 | 3.02     |
| 1.2                                            |                                      |                  |                                         |          | 3.27                                       | 3.00 | 3.13     |
| Mean (±0.154)                                  |                                      |                  |                                         |          | 3.07                                       | 3.09 | 3.08     |
| Old scheme                                     | Undersown green manures for potatoes |                  |                                         |          |                                            |      |          |
|                                                | None                                 | None             | Trefoil                                 | Ryegrass |                                            |      |          |
|                                                | Fallow                               | Excluding fallow |                                         |          |                                            | Mean |          |
|                                                | 3.08                                 | 3.02             | 3.14                                    | 3.08     | 3.07                                       |      |          |
|                                                | (±0.109)                             | (±0.077)         | (±0.109)                                |          |                                            |      |          |

Barley, grain: cwt per acre

|                                                | Green manures                              |                                   | N: cwt per acre<br>(including basal) | Dung to<br>cabbages 1952:<br>tons per acre | Mean           |
|------------------------------------------------|--------------------------------------------|-----------------------------------|--------------------------------------|--------------------------------------------|----------------|
|                                                | Ploughed in<br>Early                       | In barley for<br>potatoes<br>None |                                      |                                            |                |
| <u>Excluding plots fallow under old scheme</u> |                                            |                                   |                                      |                                            |                |
| Green manures after<br>potatoes for barley     | ( $\pm 1.26$ )                             | ( $\pm 1.26$ )                    | ( $\pm 1.26$ )                       | ( $\pm 1.26$ )                             | ( $\pm 0.89$ ) |
|                                                | 18.8<br>20.1                               | 18.9<br>21.8                      | 17.5<br>18.6                         | 17.7<br>19.4                               | 18.1<br>20.7   |
| Green manures<br>ploughed in                   |                                            |                                   |                                      |                                            |                |
|                                                |                                            | 20.8<br>19.9                      | 21.2<br>20.2                         | 20.7<br>19.7                               | 19.5<br>19.3   |
| Green manures in<br>barley for potatoes        |                                            |                                   |                                      |                                            |                |
|                                                |                                            |                                   | 19.6<br>16.5                         | 20.0<br>17.1                               | 20.4<br>18.4   |
| N: cwt per acre<br>(including basal)           |                                            |                                   |                                      |                                            |                |
|                                                |                                            |                                   |                                      | 17.6<br>19.5                               | 18.1<br>20.7   |
| Mean ( $\pm 0.89$ )                            |                                            |                                   |                                      | 18.5    20.2                               | 19.4           |
| <u>Plots fallow under old scheme</u>           |                                            |                                   |                                      |                                            |                |
| Old scheme                                     | Green manures after<br>potatoes for barley |                                   | N: cwt per acre<br>(including basal) | ( $\pm 2.51$ )                             | ( $\pm 1.78$ ) |
|                                                | None<br>Fallow                             | Trefoil<br>Excluding fallow       |                                      |                                            |                |
|                                                | 15.2<br>( $\pm 1.26$ )                     | 18.1<br>( $\pm 0.89$ )            |                                      | 11.6<br>14.6                               | 14.0<br>16.4   |
|                                                |                                            | 20.7<br>18.5                      |                                      | 16.3<br>18.2                               | 15.2           |

57/Ba/1.3

