

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED  
RESEARCH

# Yields of the Field Experiments 1960

[Full Table of Content](#)



---

## 60/W/B/4 Green Manuring

### Rothamsted Research

Rothamsted Research (1961) *60/W/B/4 Green Manuring* ; Yields Of The Field Experiments 1960, pp 51 - 53 - DOI: <https://doi.org/10.23637/ERADOC-1-180>

60/B/4.1

GREEN MANURING EXPERIMENT

Woburn Stackyard - 1960, the 7th year of the revised scheme.

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

Area of each plot (acres): 0.0406. Area harvested: Potatoes - 0.0221; barley - 0.0295.

Cultivations, etc.:

Green manures after barley 1959 (for early potatoes 1960): Trefoil at 30 lb per acre, ryegrass at 40 lb per acre, undersown: May 12, 1959, failed and resown: Aug 7. Varieties: Trefoil - English; Ryegrass - Western Wolths.

Early potatoes: Straw applied ("fallow" plots): Aug 31, 1959. "Fallow" plots ploughed: Sept 2 and Nov 24. Straw applied (green manure plots): Feb 11, 1960. All plots ploughed: Feb 23. Basal fertiliser applied: Apr 4. 'Nitro-Chalk' applied, potatoes mechanically planted: Apr 5. Earthed up: June 13. Sprayed with copper fungicide at 5 lb in 40 gallons per acre: July 16. Haulm destroyed mechanically: July 25. Lifted: July 26 and Aug 2. Variety: Ulster Chieftain.

Green manures after early potatoes 1959 (for barley 1960): Ground chalk applied at 15 cwt per acre: July 22, 1959. Trefoil at 30 lb per acre, ryegrass at 40 lb per acre, sown: Aug 1. Varieties: Trefoil - English; Ryegrass - Western Wolths.

Barley: "Fallow" plots and "early" green manure plots ploughed: Nov 23. "Late" green manure plots ploughed: Feb 10, 1960. 'Nitro-Chalk' applied: Mar 10. Seed drilled at 2½ bushels per acre: Mar 18. Trefoil and ryegrass undersown: Apr 27. Combine harvested: Aug 18. Variety: Herta.

Standard errors per plot.

Potatoes. Total tubers: 0.944 tons per acre or 8.7% (18 d.f.)  
Barley. Grain (at 85% D.M.): 2.65 cwt per acre or 10.6% (20 d.f.)

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

|                           | Green manures | Ploughed in | Dry matter | Nitrogen      |
|---------------------------|---------------|-------------|------------|---------------|
| <u>For early potatoes</u> | Trefoil       |             | 2.6 (7.9)  | 0.085 (0.146) |
|                           | Ryegrass      |             | 10.3 (4.1) | 0.160 (0.077) |
| <u>For barley</u>         | Trefoil       | Early       | 15.9       | 0.494         |
|                           | Ryegrass      | Early       | 11.6       | 0.312         |
|                           | Trefoil       | Late        | 15.3       | 0.408         |
|                           | Ryegrass      | Late        | 13.0       | 0.286         |

Note. The figures in brackets are additional amounts derived from self-sown barley.

Summary of Results

Early potatoes, total tubers: tons per acre

|  | Straw: tons per acre |    | N: cwt per acre (including basal) |     | Dung to cabbages 1952: tons per acre |    | Mean |
|--|----------------------|----|-----------------------------------|-----|--------------------------------------|----|------|
|  | None                 | 1½ | 0.6                               | 1.2 | None                                 | 10 |      |
|  |                      |    |                                   |     |                                      |    |      |

Excluding plots fallow under old scheme

|                                      |          |       |          |       |          |       |          |
|--------------------------------------|----------|-------|----------|-------|----------|-------|----------|
| Undersown green manures for potatoes | (±0.334) |       | (±0.334) |       | (±0.334) |       | (±0.236) |
| None                                 | 10.43    | 11.12 | 10.20    | 11.34 | 9.92     | 11.63 | 10.78    |
|                                      | (±0.472) |       | (±0.472) |       | (±0.472) |       | (±0.334) |
| Trefoil                              | 11.65    | 10.41 | 10.66    | 11.40 | 10.56    | 11.51 | 11.03    |
| Ryegrass                             | 10.76    | 11.48 | 10.52    | 11.72 | 10.26    | 11.98 | 11.12    |
| Straw: tons per acre                 |          |       | (±0.334) |       | (±0.334) |       | (±0.236) |
| None                                 |          |       | 10.34    | 11.29 | 9.81     | 11.83 | 10.82    |
| 1½                                   |          |       | 10.46    | 11.61 | 10.52    | 11.55 | 11.03    |
| N: cwt per acre (including basal)    |          |       |          |       |          |       |          |
| 0.6                                  |          |       |          |       | 9.58     | 11.21 | 10.40    |
| 1.2                                  |          |       |          |       | 10.74    | 12.16 | 11.45    |
| Mean (±0.236)                        |          |       |          |       | 10.16    | 11.69 | 10.92    |

Plots fallow under old scheme

|                                   |  |  |          |       |          |       |          |
|-----------------------------------|--|--|----------|-------|----------|-------|----------|
| Straw: tons per acre              |  |  | (±0.667) |       | (±0.667) |       | (±0.472) |
| None                              |  |  | 10.49    | 10.25 | 9.94     | 10.80 | 10.37    |
| 1½                                |  |  | 9.80     | 10.61 | 9.60     | 10.81 | 10.20    |
| N: cwt per acre (including basal) |  |  |          |       |          |       |          |
| 0.6                               |  |  |          |       | 9.60     | 10.69 | 10.14    |
| 1.2                               |  |  |          |       | 9.94     | 10.92 | 10.43    |
| Mean (±0.472)                     |  |  |          |       | 9.77     | 10.80 | 10.28    |

Undersown green manures for potatoes

| Old scheme | None     | None             | Trefoil          | Ryegrass         | Mean  |
|------------|----------|------------------|------------------|------------------|-------|
|            | Fallow   | Excluding fallow | Excluding fallow | Excluding fallow |       |
|            | 10.28    | 10.78            | 11.03            | 11.12            | 10.79 |
|            | (±0.334) | (±0.236)         | (±0.334)         |                  |       |

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

|  | Green manures<br>In barley for potatoes |                          | N: cwt per<br>acre<br>(including<br>basal) | Dung to<br>cabbages 1953:<br>tons per acre | Mean    |
|--|---|--------------------------|--|--|---------|
|  | Under-<br>sown                          | Trefoil<br>Rye-<br>grass |  |  |         |
|  | None                                    | 0.23                     | 0.46                                       | None                                       | 10      |
|  | Excluding plots fallow under old scheme |                          |  |  |         |
| Green manures<br>ploughed in               | (+0.94)                                 |                          | (+0.94)                                    | (+0.94)                                    | (+0.66) |
| Early                                      | 22.7                                    | 25.8                     | 22.7                                       | 23.1                                       | 24.3    |
| Late                                       | 25.3                                    | 29.3                     | 27.3                                       | 27.1                                       | 27.3    |
| Green manures in<br>barley for potatoes    |   |                          |  |  |         |
| None                                       | 26.7                                    | 21.8                     | 25.9                                       | 24.2                                       | 24.0    |
| Undersown                                  | 28.1                                    | 26.5                     | 27.4                                       | 26.0                                       | 27.6    |
| Green manures after<br>potatoes for barley |   |                          |  |  |         |
| Trefoil                                    | 26.7                                    | 21.4                     | 25.6                                       | 27.3                                       | 27.4    |
| Ryegrass                                   | 28.2                                    | 26.9                     | 27.6                                       | 22.9                                       | 24.1    |
| N: cwt per acre<br>(including basal)       |   |                          |  |  |         |
| 0.23                                       |   |                          | 27.2                                       | 27.3                                       | 27.6    |
| 0.46                                       |   |                          | 22.7                                       | 22.9                                       | 24.1    |
| Mean (+0.66)                               |   |                          |  | 25.1                                       | 25.8    |
|  | Plots fallow under old scheme           |                          |  |  |         |
|  |   |                          | N: cwt per acre<br>(including basal)       | (+1.87)                                    | (+1.33) |
| Old scheme                                 | None                                    | Trefoil                  | 0.23                                       | 20.4                                       | 19.4    |
|  | Fallow                                  | Excluding fallow         | 0.46                                       | 24.0                                       | 23.1    |
| Mean dry matter % as harvested: 81.0       | 21.3<br>(±0.937)                        | 27.4<br>(±0.66)          | 24.1                                       | 22.2                                       | 21.3    |