

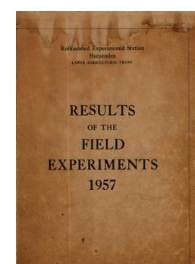
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED  
RESEARCH

# Yields of the Field Experiments 1957

[Full Table of Content](#)



---

## 57/R/BA/1 Three-course Rotation

### Rothamsted Research

Rothamsted Research (1958) *57/R/BA/1 Three-course Rotation* ; Yields Of The Field Experiments 1957, pp 15 - 21 - DOI: <https://doi.org/10.23637/ERADOC-1-177>

57/Ba/1.1

### THREE COURSE ROTATION EXPERIMENT

6th year of revised scheme

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

Area of each plot (acres): Potatoes (sub plot), 0.0093; barley, 0.0200; sugar beet, 0.0204.

Cultivations, etc.:

Potatoes.

Straw applied, all plots ploughed: Jan 23. Fertilizers applied: Apr 11. Potatoes machine planted: Apr 13. Earthed up: July 6. Sprayed with copper fungicide, 5 lb in 40 gallons per acre: July 31 and Aug 21. Sprayed with sulphuric acid, 15% BOV at 100 gallons per acre: Sept 19. Lifted: Oct 1. Variety: Majestic.

Barley.

Ground chalk applied at 20 cwt per acre: Oct 15, 1956. Straw applied, all plots ploughed: Jan 23, 1957. Fertilizers applied: Mar 16. Seed drilled at  $2\frac{3}{4}$  bushels per acre: Mar 18. Sprayed with MCPA, 2 pints in 40 gallons per acre: May 29. Harvested: Aug 8. Variety: Plumage Archer.

Sugar beet.

Straw applied, all plots ploughed: Jan 23. Fertilizers applied: Apr 11. Seed drilled at 12 lb per acre: Apr 16. Sprayed with miscible DDT, 3 pints in 20 gallons per acre: May 29. Singled: June 24 - 28. Sprayed with methyl demeton, 12 oz in 80 gallons per acre: July 6. Lifted: Nov 2. Variety: Klein E.

## Potatoes

[illegible]

27

|                                                           |                        |                        | Barley |      |              |              |                |                          | 57/Ba/1.4 |
|-----------------------------------------------------------|------------------------|------------------------|--------|------|--------------|--------------|----------------|--------------------------|-----------|
| Treat-<br>ments<br>applied:                               | 1953, 1955<br>and 1957 |                        | 0      | 0.4N | St +<br>0.2N | St +<br>0.6N | K <sub>s</sub> | K <sub>s</sub> +<br>0.4N |           |
| 1950                                                      | 1951                   | 1952<br>1954 &<br>1956 |        |      |              |              |                |                          |           |
| Grain (at 85% dry matter): cwt per acre                   |                        |                        |        |      |              |              |                |                          |           |
| Ar                                                        | Ar                     | 0                      | 31.2   |      |              |              |                |                          |           |
|                                                           |                        | 0.4N                   | 24.2   |      |              |              |                |                          |           |
| Ar                                                        | Ar                     | 0                      | 31.1   |      |              |              |                |                          |           |
|                                                           |                        | 0.4N                   | 24.1   |      |              |              |                |                          |           |
| St1 St2                                                   | St1 St2                | 0                      | 28.6   | 31.3 | 31.9         |              |                |                          |           |
|                                                           |                        | 0.4N                   | 26.9   | 25.2 | 27.6         |              |                |                          |           |
|                                                           | St1 St2                | 0                      | 30.7   |      |              |              |                |                          |           |
|                                                           |                        | 0.4N                   | 24.5   |      |              |              |                |                          |           |
|                                                           |                        | St+ 0.2N               | 29.6   |      |              |              |                |                          |           |
|                                                           |                        | St+ 0.6N               | 27.6   |      |              |              |                |                          |           |
|                                                           |                        | K <sub>s</sub>         | 29.7   |      |              |              |                |                          |           |
|                                                           |                        | K <sub>s</sub> + 0.4N  | 26.7   |      |              |              |                |                          |           |
| Ad                                                        | Ad                     | 0                      | 31.2   | 31.2 | 26.4         |              |                |                          |           |
|                                                           |                        | 0.4N                   | 24.6   |      |              |              |                |                          |           |
|                                                           |                        | St+ 0.6N               | 26.1   |      |              |              |                |                          |           |
|                                                           |                        | K <sub>s</sub> + 0.4N  | 30.4   |      |              |              |                |                          |           |
| Straw (at 85% dry matter): cwt per acre                   |                        |                        |        |      |              |              |                |                          |           |
| Ar                                                        | Ar                     | 0                      | 22.1   |      |              |              |                |                          |           |
|                                                           |                        | 0.4N                   | 14.9   |      |              |              |                |                          |           |
| Ar                                                        | Ar                     | 0                      | 20.5   |      |              |              |                |                          |           |
|                                                           |                        | 0.4N                   | 15.4   |      |              |              |                |                          |           |
| St1 St2                                                   | St1 St2                | 0                      | 17.4   | 19.1 | 21.7         |              |                |                          |           |
|                                                           |                        | 0.4N                   | 16.6   | 15.6 | 18.6         |              |                |                          |           |
|                                                           | St1 St2                | 0                      | 19.3   |      |              |              |                |                          |           |
|                                                           |                        | 0.4N                   | 15.2   |      |              |              |                |                          |           |
|                                                           |                        | St+ 0.2N               | 18.1   |      |              |              |                |                          |           |
|                                                           |                        | St+ 0.6N               | 19.0   |      |              |              |                |                          |           |
|                                                           |                        | K <sub>s</sub>         | 18.8   |      |              |              |                |                          |           |
|                                                           |                        | K <sub>s</sub> + 0.4N  | 17.4   |      |              |              |                |                          |           |
| Ad                                                        | Ad                     | 0                      | 20.5   | 20.2 | 14.5         |              |                |                          |           |
|                                                           |                        | 0.4N                   | 15.5   |      |              |              |                |                          |           |
|                                                           |                        | St+ 0.6N               | 16.1   |      |              |              |                |                          |           |
|                                                           |                        | K <sub>s</sub> + 0.4N  | 21.6   |      |              |              |                |                          |           |
| Mean dry matter % as harvested Grain: 82.5<br>Straw: 82.8 |                        |                        |        |      |              |              |                |                          |           |

57/Ba/1.5

| Sugar Beet                    |                        |                        |       |      |              |              |                |                          |
|-------------------------------|------------------------|------------------------|-------|------|--------------|--------------|----------------|--------------------------|
| Treat-<br>ments<br>applied:   | 1953, 1955<br>and 1957 |                        | 0     | 0.4N | St +<br>0.2N | St +<br>0.6N | K <sub>s</sub> | K <sub>s</sub> +<br>0.4N |
| 1950                          | 1951                   | 1952<br>1954 &<br>1956 |       |      |              |              |                |                          |
| Roots (washed): tons per acre |                        |                        |       |      |              |              |                |                          |
|                               | Ar                     | 0                      | 8.88  |      |              |              |                |                          |
|                               |                        | 0.4N                   | 8.39  |      |              |              |                |                          |
| Ar                            |                        | 0                      | 9.38  |      |              |              |                |                          |
|                               |                        | 0.4N                   | 8.40  |      |              |              |                |                          |
| St1 St2                       | St1 St2                | 0                      | 10.67 |      | 10.48        |              | 10.94          |                          |
|                               |                        | 0.4N                   | 9.65  | 9.74 |              | 8.64         |                |                          |
| St1 St2                       |                        | 0                      | 10.53 |      |              |              |                |                          |
|                               |                        | 0.4N                   | 9.33  |      |              |              |                |                          |
|                               |                        | St+ 0.2N               | 11.14 |      |              |              |                |                          |
|                               |                        | St+ 0.6N               | 7.66  |      |              |              |                |                          |
|                               |                        | K                      | 9.23  |      |              |              |                |                          |
|                               |                        | K <sub>s</sub> + 0.4N  | 8.43  |      |              |              |                |                          |
| Ad                            | Ad                     | 0                      | 10.69 |      | 11.17        |              | 10.57          |                          |
|                               |                        | 0.4N                   | 7.96  |      |              |              |                |                          |
|                               |                        | St+ 0.6N               | 9.76  |      |              |              |                |                          |
|                               |                        | K <sub>s</sub> + 0.4N  | 8.74  |      |              |              |                |                          |
| Sugar Percentage              |                        |                        |       |      |              |              |                |                          |
| Ar                            | Ar                     | 0                      | 18.0  |      |              |              |                |                          |
|                               |                        | 0.4N                   | 18.9  |      |              |              |                |                          |
| Ar                            |                        | 0                      | 18.5  |      |              |              |                |                          |
|                               |                        | 0.4N                   | 18.3  |      |              |              |                |                          |
| St1 St2                       | St1 St2                | 0                      | 18.9  |      | 18.2         |              | 18.4           |                          |
|                               |                        | 0.4N                   | 18.8  | 18.4 |              | 18.4         |                |                          |
| St1 St2                       |                        | 0                      | 18.8  |      |              |              |                |                          |
|                               |                        | 0.4N                   | 19.0  |      |              |              |                |                          |
|                               |                        | St+ 0.2N               | 18.5  |      |              |              |                |                          |
|                               |                        | St+ 0.6N               | 18.3  |      |              |              |                |                          |
|                               |                        | K                      | 18.6  |      |              |              |                |                          |
|                               |                        | K <sub>s</sub> + 0.4N  | 18.6  |      |              |              |                |                          |
| Ad                            | Ad                     | 0                      | 18.5  |      | 18.2         |              | 18.7           |                          |
|                               |                        | 0.4N                   | 18.9  |      |              |              |                |                          |
|                               |                        | St+ 0.6N               | 18.8  |      |              |              |                |                          |
|                               |                        | K <sub>s</sub> + 0.4N  | 18.7  |      |              |              |                |                          |

57/Ba/1.6

|                            |                        |                        | Sugar Beet |       |              |              |                |                          |
|----------------------------|------------------------|------------------------|------------|-------|--------------|--------------|----------------|--------------------------|
| Treat-<br>ment<br>applied: | 1953, 1955<br>and 1957 |                        | 0          | 0.4N  | St +<br>0.2N | St +<br>0.6N | K <sub>s</sub> | K <sub>s</sub> +<br>0.4N |
| 1950                       | 1951                   | 1952<br>1954 &<br>1956 |            |       |              |              |                |                          |
| Total sugar: cwt per acre  |                        |                        |            |       |              |              |                |                          |
| Ar                         | Ar                     | 0                      |            | 32.2  |              |              |                |                          |
|                            |                        | 0.4N                   | 31.7       |       |              |              |                |                          |
|                            | Ar                     | 0                      |            | 34.7  |              |              |                |                          |
|                            |                        | 0.4N                   | 30.7       |       |              |              |                |                          |
|                            | St1 St2                | 0                      |            | 40.3  |              | 38.1         |                | 40.3                     |
|                            |                        | 0.4N                   | 36.2       |       | 35.8         |              | 31.8           |                          |
|                            | St1 St2                | 0                      |            | 39.6  |              |              |                |                          |
|                            |                        | 0.4N                   | 35.4       |       |              |              |                |                          |
|                            | St1 St2                | St+ 0.2N               |            | 41.2  |              |              |                |                          |
|                            |                        | St+ 0.6N               | 28.0       |       |              |              |                |                          |
|                            | St1 St2                | K <sub>s</sub>         |            | 34.4  |              |              |                |                          |
|                            |                        | K <sub>s</sub> + 0.4N  | 31.4       |       |              |              |                |                          |
| Ad                         | Ad                     | 0                      |            | 39.5  |              | 40.6         |                | 39.6                     |
|                            |                        | 0.4N                   | 30.0       |       |              |              |                |                          |
|                            | Ad                     | St+ 0.6N               | 36.8       |       |              |              |                |                          |
|                            |                        | K <sub>s</sub> + 0.4N  | 32.7       |       |              |              |                |                          |
| Tops: tons per acre        |                        |                        |            |       |              |              |                |                          |
| Ar                         | Ar                     | 0                      |            | 9.80  |              |              |                |                          |
|                            |                        | 0.4N                   | 6.21       |       |              |              |                |                          |
|                            | Ar                     | 0                      |            | 8.72  |              |              |                |                          |
|                            |                        | 0.4N                   | 7.06       |       |              |              |                |                          |
|                            | St1 St2                | 0                      |            | 9.46  |              | 10.86        |                | 10.14                    |
|                            |                        | 0.4N                   | 8.24       |       | 8.55         |              | 7.58           |                          |
|                            | St1 St2                | 0                      |            | 9.05  |              |              |                |                          |
|                            |                        | 0.4N                   | 7.32       |       |              |              |                |                          |
|                            | St1 St2                | St+ 0.2N               |            | 11.02 |              |              |                |                          |
|                            |                        | St+ 0.6N               | 8.57       |       |              |              |                |                          |
|                            | St1 St2                | K <sub>s</sub>         |            | 8.87  |              |              |                |                          |
|                            |                        | K <sub>s</sub> + 0.4N  | 7.39       |       |              |              |                |                          |
| Ad                         | Ad                     | 0                      |            | 10.64 |              | 11.95        |                | 9.83                     |
|                            |                        | 0.4N                   | 6.78       |       |              |              |                |                          |
|                            | Ad                     | St+ 0.6N               | 8.39       |       |              |              |                |                          |
|                            |                        | K <sub>s</sub> + 0.4N  | 7.71       |       |              |              |                |                          |

57/Ba/1.7

|                                  |                        |                        | Sugar Beet |      |              |              |                |                          |
|----------------------------------|------------------------|------------------------|------------|------|--------------|--------------|----------------|--------------------------|
| Treat-<br>ments<br>applied:      | 1953, 1955<br>and 1957 |                        | 0          | 0.4N | St +<br>0.2N | St +<br>0.6N | K <sub>s</sub> | K <sub>s</sub> +<br>0.4N |
| 1950                             | 1951                   | 1952<br>1954 &<br>1956 |            |      |              |              |                |                          |
| Plant number: thousands per acre |                        |                        |            |      |              |              |                |                          |
|                                  | Ar                     | 0                      | 29.8       |      |              |              |                |                          |
|                                  |                        | 0.4N                   | 29.4       |      |              |              |                |                          |
| Ar                               |                        | 0                      | 29.0       |      |              |              |                |                          |
|                                  |                        | 0.4N                   | 30.5       |      |              |              |                |                          |
|                                  | St1 St2                | 0                      | 29.5       |      | 30.6         |              | 30.2           |                          |
|                                  |                        | 0.4N                   | 28.5       | 29.3 |              | 30.5         |                |                          |
| St1 St2                          |                        | 0                      | 27.9       |      |              |              |                |                          |
|                                  |                        | 0.4N                   | 29.4       |      |              |              |                |                          |
|                                  |                        | St+ 0.2N               | 29.2       |      |              |              |                |                          |
|                                  |                        | St+ 0.6N               | 31.1       |      |              |              |                |                          |
|                                  |                        | K                      | 30.5       |      |              |              |                |                          |
|                                  |                        | K <sub>s</sub> + 0.4N  | 29.9       |      |              |              |                |                          |
|                                  | Ad                     | 0                      | 28.8       |      | 29.6         |              | 28.4           |                          |
| Ad                               |                        | 0.4N                   | 30.8       |      |              |              |                |                          |
|                                  |                        | St+ 0.6N               | 30.1       |      |              |              |                |                          |
|                                  |                        | K <sub>s</sub> + 0.4N  | 28.3       |      |              |              |                |                          |