

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 1978

[Full Table of Content](#)



---

### 78/R/CS/205 Nitrification Inhibitors - Barley

#### Rothamsted Research

Rothamsted Research (1979) *78/R/CS/205 Nitrification Inhibitors - Barley* ; Yields Of The Field Experiments 1978, pp 285 - 287 - DOI: <https://doi.org/10.23637/ERADOC-1-30>

78/R/CS/205

NITRIFICATION INHIBITORS

Object: To study the residual effects on barley of nitrogen fertiliser treatments applied to kale in 1977 - West Barnfield II.

Sponsors: F.V. Widdowson, A. Penny, J. Ashworth.

The second year, barley.

For previous year see 77/R/CS/205.

Design: 3 randomised blocks of 24 plots.

Whole plot dimensions: 4.27 x 8.53.

Treatments: All combinations of:-

1. L N FORM(77)      Forms of liquid nitrogen fertiliser applied in 1977:  
    AN+UR            Ammonium nitrate + urea (26% N)  
    UR                Urea (19% N)
2. L N RATE(77)     Rates of nitrogen fertiliser applied in 1977 (kg N):  
    100  
    200
3. NI INHIB(77)     Nitrification inhibitors added to liquid nitrogen fertiliser in 1977:  
    NONE             None  
    NITRAPYR         Nitrapyrin ('N-Serve') at 1 kg  
    SOD TRI           Sodium trithiocarbonate at 22 kg

plus twelve extra treatments given solid nitrogen fertiliser (kg N) in 1977:

SOLID N(77)

- |          |  |
|----------|--|
| BSL 100S | BSL (a urea condensation product) at 100 to seedbed  |
| BSL 200S | BSL at 200 to seedbed  |
| NC 50S   | 'Nitro-Chalk' at 50 to seedbed   |
| NC 100S  | 'Nitro-Chalk' at 100 to seedbed  |
| NC 100DE | 'Nitro-Chalk' at 100 divided equally between seedbed and top dressing                      |
| NC 100DU | 'Nitro-Chalk' at 100 divided unequally, one-quarter to seedbed, three-quarters top dressed |
| NC 150S  | 'Nitro-Chalk' at 150 to seedbed  |
| NC 200S  | 'Nitro-Chalk' at 200 to seedbed  |
| NC 200DE | 'Nitro-Chalk' at 200 divided equally between seedbed and top dressing                      |
| NC 200DU | 'Nitro-Chalk' at 200 divided unequally, one-quarter to seedbed, three-quarters top dressed |
| NC 250S  | 'Nitro-Chalk' at 250 to seedbed  |
| NC 300S  | 'Nitro-Chalk' at 300 to seedbed  |

Basal applications: Manures: (20:14:14) at 380 kg, combine drilled. Weedkillers: Ioxynil at 0.53 kg and mecoprop at 1.6 kg in 220 l. Fungicide: Tridemorph at 0.53 kg applied with the weedkillers.

78/R/CS/205

Seed: Porthos, dressed with ethirimol, sown at 160 kg.

Cultivations, etc.:— Ploughed: 13 Jan, 1978. Rotary harrowed: 31 Mar. Seed sown: 5 Apr. Weedkillers and fungicide applied: 23 May. Combine harvested: 10 Sept.

NOTES: Crop samples were taken for N determinations.

GRAIN TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

| L N RATE(77) | 100  | 200  | MEAN |
|--------------|------|------|------|
| L N FORM(77) |      |      |      |
| AN+UR        | 5.82 | 6.14 | 5.98 |
| UR           | 6.01 | 6.09 | 6.05 |
| MEAN         | 5.92 | 6.11 | 6.02 |

| NI INHIB(77) | NONE | NITRAPYR | SOD TRI | MEAN |
|--------------|------|----------|---------|------|
| L N FORM(77) |      |          |         |      |
| AN+UR        | 5.81 | 6.03     | 6.10    | 5.98 |
| UR           | 6.10 | 6.04     | 6.02    | 6.05 |
| MEAN         | 5.95 | 6.03     | 6.06    | 6.02 |

| NI INHIB(77) | NONE | NITRAPYR | SOD TRI | MEAN |
|--------------|------|----------|---------|------|
| L N RATE(77) |      |          |         |      |
| 100          | 5.88 | 5.86     | 6.00    | 5.92 |
| 200          | 6.02 | 6.20     | 6.12    | 6.11 |
| MEAN         | 5.95 | 6.03     | 6.06    | 6.02 |

| L N RATE(77) | 100  | 200      |         |      |          |         |
|--------------|------|----------|---------|------|----------|---------|
| NI INHIB(77) | NONE | NITRAPYR | SOD TRI | NONE | NITRAPYR | SOD TRI |
| L N FORM(77) |      |          |         |      |          |         |
| AN+UR        | 5.69 | 5.82     | 5.95    | 5.93 | 6.23     | 6.25    |
| UR           | 6.08 | 5.91     | 6.05    | 6.12 | 6.17     | 5.98    |

| SOLID N(77) |      |
|-------------|------|
| BSL 100S    | 5.89 |
| BSL 200S    | 6.25 |
| NC 50S      | 5.88 |
| NC 100S     | 6.26 |
| NC 100DE    | 5.92 |
| NC 100DU    | 5.99 |
| NC 150S     | 6.13 |
| NC 200S     | 6.10 |
| NC 200DE    | 6.11 |
| NC 200DU    | 6.03 |
| NC 250S     | 6.30 |
| NC 300S     | 6.02 |
| MEAN        | 6.07 |

GRAND MEAN 6.04

78/R/CS/205

GRAIN TONNES/HECTARE

\*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

| TABLE | SOLID N(77) | L N FORM(77) | L N RATE(77) | NI INHIB(77) |
|-------|-------------|--------------|--------------|--------------|
| SED   | 0.197       | 0.080        | 0.080        | 0.098        |

| TABLE | L N FORM(77) | L N FORM(77) | L N RATE(77) | L N FORM(77)  |
|-------|--------------|--------------|--------------|---------------|
|       | L N RATE(77) | NI INHIB(77) | NI INHIB(77) | L N RATE(77)  |
|       |              |              |              | NI INHIB(77)  |
|       |              |              |              | & SOLID N(77) |
| SED   | 0.114        | 0.139        | 0.139        | 0.197         |

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

| STRATUM  | DF | SE    | CV% |
|----------|----|-------|-----|
| BLOCK.WP | 46 | 0.241 | 4.0 |

GRAIN MEAN DM% 83.4

PLOT AREA HARVESTED 0.00243