

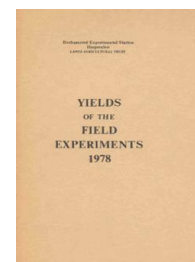
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# Yields of the Field Experiments 1978

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## 78/R/CS/198 Nitrification Inhibitors - Barley

### Rothamsted Research

Rothamsted Research (1979) *78/R/CS/198 Nitrification Inhibitors - Barley* ; Yields Of The Field Experiments 1978, pp 244 - 245 - DOI: <https://doi.org/10.23637/ERADOC-1-30>

78/R/CS/198

# NITRIFICATION INHIBITORS

Object: To study the residual effects on barley of nitrogen fertiliser treatments applied to forage maize in 1977 - Long Hoos VI/VII 5.

Sponsors: J. Ashworth, A.J. Barnard.

The second year, barley.

For previous year see 77/R/CS/198

Design: 3 randomised blocks of 10 plots split into 2.

Whole plot dimensions: 4.27 x 9.14.

Treatments: All combinations of:-

Whole plots

1. N TREAT(77) Nitrogen forms and rates, and nitrification inhibitors applied in 1977:

Aqueous urea/ammonium nitrate injected to seedbed (May) at 120 kg N:-

|          |                                       |
|----------|---------------------------------------|
| AQ3 -    | Alone                                 |
| AQ3 STC1 | With sodium trithiocarbonate at 10 kg |
| AQ3 STC2 | With sodium trithiocarbonate at 25 kg |
| AQ3 NIT1 | With nitrapyrin ('N-Serve') at 0.5 kg |
| AQ3 NIT2 | With nitrapyrin at 1.0 kg             |

'Nitro-Chalk' applied to seedbed (May) (kg N):-

|     |     |
|-----|-----|
| NC1 | 40  |
| NC2 | 80  |
| NC3 | 120 |
| NC4 | 160 |

'Nitro-Chalk' dressing divided (kg N):-

NC1+1+1 40 to seedbed (May), 40 in July, 40 at tasselling in August

Sub plots

2. N 78 Nitrogen fertiliser, as 'Nitro-Chalk 25', applied to seedbed in 1978 (kg N):

0  
50

Basal applications: Manures: (0:14:28) at 750 kg. Chalk at 2.9 t. Weedkillers: Dicamba with mecoprop and MCPA ('Banlene Plus' at 4.9 l in 220 l). Fungicide: Tridemorph at 0.53 kg in 220 l.

Seed: Porthos, sown at 160 kg.

78/R/CS/198

Cultivations, etc.:— Cleared maize, PK applied: 10 Jan, 1978. Chalk applied: 8 Feb. Ploughed: 27 Feb. Power harrowed, rotary harrowed, seed sown: 6 Apr. N applied: 8 May. Weedkiller applied: 26 May. Combine harvested: 31 Aug-4 Sept.

NOTE: N percentages of grain were determined.

GRAIN TONNES/HECTARE

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

|             | N 78 | 0    | 50   | MEAN |
|-------------|------|------|------|------|
| N TREAT(77) |      |      |      |      |
| AQ3 -       | 2.81 | 5.01 | 3.91 |      |
| AQ3 STC1    | 2.98 | 5.45 | 4.22 |      |
| AQ3 STC2    | 3.46 | 5.17 | 4.31 |      |
| AQ3 NIT1    | 2.93 | 5.03 | 3.98 |      |
| AQ3 NIT2    | 3.01 | 5.02 | 4.02 |      |
| NC1         | 2.58 | 4.91 | 3.74 |      |
| NC2         | 3.12 | 5.04 | 4.08 |      |
| NC3         | 3.43 | 5.58 | 4.51 |      |
| NC4         | 4.40 | 6.18 | 5.29 |      |
| NC1+1+1     | 3.70 | 5.68 | 4.69 |      |
| MEAN        | 3.24 | 5.31 | 4.27 |      |

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

| TABLE                                              | N TREAT(77) | N 78 N TREAT(77) | N 78  |
|----------------------------------------------------|-------------|------------------|-------|
| SED                                                | 0.273       | 0.092            | 0.342 |
| EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: |             |                  |       |
| N TREAT(77)                                        |             |                  | 0.292 |

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

| STRATUM     | DF | SE    | CV% |
|-------------|----|-------|-----|
| BLOCK.WP    | 18 | 0.334 | 7.8 |
| BLOCK.WP.SP | 20 | 0.357 | 8.4 |

GRAIN MEAN DM% 77.6

SUB PLOT AREA HARVESTED 0.00059