

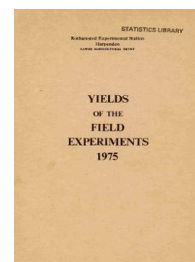
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1975

[Full Table of Content](#)



75/ R/B/5 - Nitrogen & Foliar Diseases - Barley

Rothamsted Research

Rothamsted Research (1976) *75/ R/B/5 - Nitrogen & Foliar Diseases - Barley* ; Yields Of The Field Experiments 1975, pp 314 - 317 - DOI: <https://doi.org/10.23637/ERADOC-1-141>

75/R/B/5

SPRING BARLEY

NITROGEN AND FOLIAR DISEASES

Object: To study the effects of mildew and brown rust on the response to a range of nitrogen rates applied at different times - Gt. Knott II.

Sponsor: J.F. Jenkyn.

Design: Single replicate of 6 x 3 x 2 x 2.

Whole plot dimensions: 4.27 x 9.14.

Treatments: All combinations of:-

| | |
|---|----------|
| 1. Amounts of nitrogen fertiliser (kg N): | N RATE |
| 25 | 25 |
| 50 | 50 |
| 70 | 70 |
| 90 | 90 |
| 110 | 110 |
| 135 | 135 |
| 2. Times of applying N: | N TIME |
| Seedbed | SB |
| Top dressed | TD |
| Half to seedbed, half top dressed | SB/TD |
| 3. Mildew fungicide: | MILDEW F |
| None | NONE |
| Tridemorph on 6, 24 June and 21 July | TRIDEMOR |
| 4. Rust fungicide: | RUST F |
| None | NONE |
| Benodanil on 24 June | BENODANI |

NOTE: Fungicides were applied in 340 l:-

(a) Tridemorph at 0.53 kg

(b) Benodanil at 1.12 kg with 175 ml 'Citowett'

Basal applications: Manures: (0:20:20) at 310 kg. Weedkiller: Dicamba, with mecoprop and MCPA ('Tetralex Plus' at 7.0 l in 220 l).

75/R/B/5

Seed: Zephyr, sown at 160 kg.

Cultivations, etc.: - Ploughed: 6 Nov, 1974. Spring-tine cultivated: 14 and 21 Apr, 1975. Rotary harrowed: 22 Apr. Seed sown and harrowed in: 23 Apr. Seedbed N applied: 29 Apr. N top dressing applied: 22 May. Weedkiller applied: 6 June. Combine harvested: 22 Aug. Previous crops: Beans 1973, winter wheat 1974.

- NOTES: (1) Counts were made of seedling emergence. Mildew was assessed twice and brown rust once.
- (2) There was evidence of a pattern of yields across the site and the results presented have been adjusted for covariance on a dummy variate representing the comparison between plots 1 to 36 and plots 37 to 72.

75/R/B/5

GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

| | | | | | | | |
|----------|----------|----------|-------|----------|------|-------|------|
| RUST F | NONE | BENODANI | MEAN | | | | |
| MILDEW F | | | | | | | |
| | NONE | 3.15 | 3.03 | | | | |
| | TRIDEMOR | 3.64 | 3.58 | | | | |
| MEAN | 3.22 | 3.39 | 3.31 | | | | |
| N TIME | SB | TD | SB/TD | MEAN | | | |
| MILDEW F | | | | | | | |
| | NONE | 2.73 | 3.18 | 3.03 | | | |
| | TRIDEMOR | 3.38 | 3.54 | 3.58 | | | |
| MEAN | 3.50 | 3.06 | 3.36 | 3.31 | | | |
| N TIME | SB | TD | SB/TD | MEAN | | | |
| RUST F | | | | | | | |
| | NONE | 2.90 | 3.30 | 3.22 | | | |
| | BENODANI | 3.22 | 3.42 | 3.39 | | | |
| MEAN | 3.50 | 3.06 | 3.36 | 3.31 | | | |
| N RATE | 25 | 50 | 70 | 90 | 110 | 135 | MEAN |
| MILDEW F | | | | | | | |
| | NONE | 3.03 | 3.00 | 3.17 | 3.19 | 3.19 | 3.03 |
| | TRIDEMOR | 3.18 | 3.52 | 3.96 | 3.78 | 3.92 | 3.58 |
| MEAN | 2.86 | 3.11 | 3.26 | 3.57 | 3.48 | 3.56 | 3.31 |
| N RATE | 25 | 50 | 70 | 90 | 110 | 135 | MEAN |
| RUST F | | | | | | | |
| | NONE | 2.94 | 3.30 | 3.59 | 3.32 | 3.41 | 3.22 |
| | BENODANI | 3.28 | 3.22 | 3.54 | 3.65 | 3.70 | 3.39 |
| MEAN | 2.86 | 3.11 | 3.26 | 3.57 | 3.48 | 3.56 | 3.31 |
| N RATE | 25 | 50 | 70 | 90 | 110 | 135 | MEAN |
| N TIME | | | | | | | |
| | SB | 3.12 | 3.29 | 3.63 | 4.02 | 4.05 | 3.50 |
| | TD | 3.13 | 2.99 | 3.25 | 3.05 | 3.06 | 3.06 |
| | SB/TD | 3.06 | 3.50 | 3.82 | 3.38 | 3.56 | 3.36 |
| MEAN | 2.86 | 3.11 | 3.26 | 3.57 | 3.48 | 3.56 | 3.31 |
| RUST F | NONE | | | BENODANI | | | |
| N TIME | SB | TD | SB/TD | SB | TD | SB/TD | |
| MILDEW F | | | | | | | |
| | NONE | 2.54 | 3.13 | 3.29 | 2.93 | 3.23 | |
| | TRIDEMOR | 3.25 | 3.48 | 3.80 | 3.51 | 3.60 | |

75/R/B/5

GRAIN TONNES/HECTARE

*** TABLES OF MEANS ***

| | | | | | | | |
|----------|----------|------|------|------|------|------|------|
| | N RATE | 25 | 50 | 70 | 90 | 110 | 135 |
| MILDEW F | RUST F | | | | | | |
| NONE | NONE | 2.42 | 2.88 | 2.93 | 3.13 | 3.11 | 3.04 |
| | BENODANI | 2.83 | 3.18 | 3.06 | 3.21 | 3.26 | 3.34 |
| TRIDEMOR | NONE | 3.09 | 2.99 | 3.68 | 4.05 | 3.53 | 3.78 |
| | BENODANI | 3.11 | 3.37 | 3.37 | 3.88 | 4.03 | 4.07 |
| | N RATE | 25 | 50 | 70 | 90 | 110 | 135 |
| MILDEW F | N TIME | | | | | | |
| NONE | SB | 2.84 | 3.00 | 2.99 | 3.10 | 3.62 | 3.57 |
| | TD | 2.49 | 3.00 | 2.61 | 2.84 | 2.62 | 2.84 |
| | SB/TD | 2.54 | 3.09 | 3.39 | 3.58 | 3.32 | 3.15 |
| TRIDEMOR | SB | 2.95 | 3.24 | 3.60 | 4.16 | 4.42 | 4.52 |
| | TD | 3.22 | 3.26 | 3.37 | 3.67 | 3.49 | 3.27 |
| | SB/TD | 3.13 | 3.04 | 3.60 | 4.06 | 3.44 | 3.97 |
| | N RATE | 25 | 50 | 70 | 90 | 110 | 135 |
| RUST F | N TIME | | | | | | |
| NONE | SB | 2.57 | 2.74 | 3.67 | 3.97 | 3.83 | 3.97 |
| | TD | 2.81 | 3.10 | 2.74 | 3.12 | 2.66 | 2.94 |
| | SB/TD | 2.88 | 2.97 | 3.50 | 3.69 | 3.47 | 3.32 |
| BENODANI | SB | 3.22 | 3.50 | 2.92 | 3.29 | 4.21 | 4.13 |
| | TD | 2.90 | 3.17 | 3.24 | 3.39 | 3.44 | 3.18 |
| | SB/TD | 2.79 | 3.16 | 3.50 | 3.96 | 3.28 | 3.81 |

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

| | | | | |
|-------|------------------------------|----------------------------|------------------------------|------------------------------|
| TABLE | MILDEW F | RUST F | N TIME | N RATE |
| ----- | ----- | ----- | ----- | ----- |
| SED | 0.075 | 0.075 | 0.099 | 0.137 |
| TABLE | MILDEW F RUST F | MILDEW F N TIME | RUST F N TIME | MILDEW F N RATE |
| ----- | ----- | ----- | ----- | ----- |
| SED | 0.107 | 0.135 | 0.135 | 0.192 |
| TABLE | RUST F N RATE | N TIME N RATE | MILDEW F RUST F N TIME | MILDEW F RUST F N RATE |
| ----- | ----- | ----- | ----- | ----- |
| SED | 0.191 | 0.239 | 0.189 | 0.268 |
| TABLE | MILDEW F N TIME N RATE | RUST F N TIME N RATE | | |
| ----- | ----- | ----- | | |
| SED | 0.335 | 0.331 | | |

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

| STRATUM | DF | SE | CV% |
|---------|----|-------|-----|
| WP | 9 | 0.318 | 9.6 |

GRAIN MEAN DM% 83.5

PLOT AREA HARVESTED 0.00195