

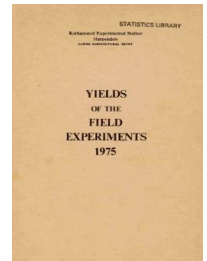
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ROTHAMSTED  
RESEARCH

# Yields of the Field Experiments 1975

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## 75/ R/CS/144 - N & Weedkiller - Old Grass

### Rothamsted Research

Rothamsted Research (1976) 75/ R/CS/144 - N & Weedkiller - Old Grass ; Yields Of The Field Experiments 1975, pp 235 - 239 - DOI: <https://doi.org/10.23637/ERADOC-1-141>

75/R/CS/144

# N AND WEEDKILLER

Object: To study the cumulative effects of two rates of solid and liquid nitrogen in combination with the residual effects of three frequencies of applying weedkiller the year before on weed control and yield of old grass - Bones Close.

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

The second year, old grass.

For previous year see 74/R/CS/144.

Design: 3 randomised blocks of 20 plots.

Whole plot dimensions: 2.13 x 9.14.

Treatments: All combinations of:-

1. Form of nitrogen fertiliser (cumulative on 1974):

N FORM

Solid, 'Nitro-Chalk' 25% N.

SOLID

Liquid, urea/ammonium nitrate 26% N.

LIQUID

2. Rate of nitrogen fertiliser per cut (cumulative on 1974) (kg N):

N PERCUT

50  
100

50  
100

3. Frequency of applying weedkiller (2,4-DB + MCPA + benazolin) in 1974 (None in 1975):

WEEDKILLR(74)

None

0

For 1st cut

1

For 1st and 2nd cuts

2

For 1st, 2nd and 3rd cuts

3

plus four treatments given no nitrogen fertiliser (NPERCUT(0)) and receiving WEEDKILLR(74) as above.

Basal applications: Manures: (0:14:28) at 500 kg.

Cultivations, etc.: PK applied: 16 Jan, 1975. N applied: 24 Mar, 17 June, 8 Sept. Cut: 10 June, 2 Sept, 4 Nov.

NOTES: (1) Visual scores of leaf scorch were made within four days of application of treatments.  
(2) Samples from each cut were taken for the assessment of proportions of grass and weeds, and of N in each.

75/R/CS/144

OLD GRASS

1ST CUT (10/6/75) DRY MATTER TONNES/HECTARE

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

|              |      |      |      |      |      |
|--------------|------|------|------|------|------|
| NPERCUT      | 50   | 100  | MEAN |      |      |
| NFORM        |      |      |      |      |      |
| SOLID        | 7.18 | 7.61 | 7.39 |      |      |
| LIQUID       | 7.02 | 7.69 | 7.35 |      |      |
| MEAN         | 7.10 | 7.65 | 7.37 |      |      |
| WEEDKLLR(74) | 0    | W1   | W2   | W3   | MEAN |
| NFORM        |      |      |      |      |      |
| SOLID        | 7.29 | 7.48 | 7.16 | 7.64 | 7.39 |
| LIQUID       | 7.20 | 7.09 | 7.60 | 7.52 | 7.35 |
| MEAN         | 7.24 | 7.28 | 7.38 | 7.58 | 7.37 |
| WEEDKLLR(74) | 0    | W1   | W2   | W3   | MEAN |
| NPERCUT      |      |      |      |      |      |
| 50           | 6.95 | 6.95 | 7.24 | 7.25 | 7.10 |
| 100          | 7.53 | 7.62 | 7.52 | 7.91 | 7.65 |
| MEAN         | 7.24 | 7.28 | 7.38 | 7.58 | 7.37 |

NPERCUT(0)

|              |      |      |      |      |      |
|--------------|------|------|------|------|------|
| WEEDKLLR(74) | 0    | W1   | W2   | W3   | MEAN |
|              | 4.92 | 4.32 | 5.17 | 5.01 | 4.86 |

GRAND MEAN 6.87

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

| TABLE | NFORM | NPERCUT | WEEDKLLR(74) | NFORM<br>NPERCUT |
|-------|-------|---------|--------------|------------------|
| SED   | 0.108 | 0.108   | 0.152        | 0.152            |

| TABLE | NFORM<br>WEEDKLLR(74) | NPERCUT<br>WEEDKLLR(74) | WEEDKLLR(74)<br>NPERCUT(0) |
|-------|-----------------------|-------------------------|----------------------------|
| SED   | 0.216                 | 0.216                   | 0.305                      |

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

| STRATUM  | DF | SE    | CV% |
|----------|----|-------|-----|
| BLOCK.WP | 38 | 0.373 | 5.4 |

1ST CUT MEAN DM% 22.6

1ST CUT PLOT AREA HARVESTED 0.00111

75/R/CS/144

OLD GRASS

2ND CUT (3/9/75) DRY MATTER TONNES/HECTARE

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

|              |      |      |      |      |      |
|--------------|------|------|------|------|------|
| NPERCUT      | 50   | 100  | MEAN |      |      |
| NFORM        |      |      |      |      |      |
| SOLID        | 0.93 | 1.38 | 1.16 |      |      |
| LIQUID       | 0.72 | 1.14 | 0.93 |      |      |
| MEAN         | 0.82 | 1.26 | 1.04 |      |      |
| WEEDKLLR(74) | 0    | W1   | W2   | W3   | MEAN |
| NFORM        |      |      |      |      |      |
| SOLID        | 1.16 | 1.28 | 1.06 | 1.12 | 1.16 |
| LIQUID       | 1.00 | 0.95 | 0.94 | 0.82 | 0.93 |
| MEAN         | 1.08 | 1.11 | 1.00 | 0.97 | 1.04 |
| WEEDKLLR(74) | 0    | W1   | W2   | W3   | MEAN |
| NPERCUT      |      |      |      |      |      |
| 50           | 0.88 | 0.89 | 0.69 | 0.84 | 0.82 |
| 100          | 1.28 | 1.33 | 1.32 | 1.10 | 1.26 |
| MEAN         | 1.08 | 1.11 | 1.00 | 0.97 | 1.04 |

NPERCUT(0)

|              |      |      |      |      |      |
|--------------|------|------|------|------|------|
| WEEDKLLR(74) | 0    | W1   | W2   | W3   | MEAN |
|              | 0.42 | 0.34 | 0.42 | 0.44 | 0.40 |

GRAND MEAN 0.91

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

| TABLE | NFORM                 | NPERCUT                 | WEEDKLLR(74)               | NFORM<br>NPERCUT |
|-------|-----------------------|-------------------------|----------------------------|------------------|
| SED   | 0.071                 | 0.071                   | 0.100                      | 0.100            |
| TABLE | NFORM<br>WEEDKLLR(74) | NPERCUT<br>WEEDKLLR(74) | WEEDKLLR(74)<br>NPERCUT(0) |                  |
| SED   | 0.142                 | 0.142                   | 0.200                      |                  |

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

| STRATUM  | DF | SE    | CV%  |
|----------|----|-------|------|
| BLOCK.WP | 38 | 0.245 | 26.9 |

2ND CUT MEAN DM% 44.6

2ND CUT PLOT AREA HARVESTED 0.00111

75/R/CS/144

OLD GRASS

3RD CUT (4/11/75) DRY MATTER TONNES/HECTARE

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

|              |      |      |      |      |      |
|--------------|------|------|------|------|------|
| NPERCUT      | 50   | 100  | MEAN |      |      |
| NFORM        |      |      |      |      |      |
| SOLID        | 1.37 | 1.52 | 1.44 |      |      |
| LIQUID       | 1.01 | 1.48 | 1.25 |      |      |
| MEAN         | 1.19 | 1.50 | 1.35 |      |      |
| WEEDKLLR(74) | 0    | W1   | W2   | W3   | MEAN |
| NFORM        |      |      |      |      |      |
| SOLID        | 1.42 | 1.36 | 1.54 | 1.45 | 1.44 |
| LIQUID       | 1.37 | 1.29 | 1.30 | 1.02 | 1.25 |
| MEAN         | 1.40 | 1.32 | 1.42 | 1.24 | 1.35 |
| WEEDKLLR(74) | 0    | W1   | W2   | W3   | MEAN |
| NPERCUT      |      |      |      |      |      |
| 50           | 1.32 | 1.23 | 1.06 | 1.15 | 1.19 |
| 100          | 1.47 | 1.41 | 1.78 | 1.33 | 1.50 |
| MEAN         | 1.40 | 1.32 | 1.42 | 1.24 | 1.35 |

NPERCUT(0)

|              |      |      |      |      |      |
|--------------|------|------|------|------|------|
| WEEDKLLR(74) | 0    | W1   | W2   | W3   | MEAN |
|              | 0.50 | 0.22 | 0.27 | 0.21 | 0.30 |

GRAND MEAN 1.14

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

| TABLE | NFORM | NPERCUT | WEEDKLLR(74) | NFORM<br>NPERCUT |
|-------|-------|---------|--------------|------------------|
| SED   | 0.062 | 0.062   | 0.088        | 0.088            |

| TABLE | NFORM<br>WEEDKLLR(74) | NPERCUT<br>WEEDKLLR(74) | WEEDKLLR(74)<br>NPERCUT(0) |
|-------|-----------------------|-------------------------|----------------------------|
| SED   | 0.125                 | 0.125                   | 0.177                      |

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

| STRATUM  | DF | SE    | CV%  |
|----------|----|-------|------|
| BLOCK.WP | 38 | 0.216 | 19.1 |

3RD CUT MEAN DM% 25.7

3RD CUT PLOT AREA HARVESTED 0.00084

75/R/CS/144

OLD GRASS

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

|              |       |       |       |       |       |
|--------------|-------|-------|-------|-------|-------|
| NPERCUT      | 50    | 100   | MEAN  |       |       |
| NFORM        |       |       |       |       |       |
| SOLID        | 9.48  | 10.50 | 9.99  |       |       |
| LIQUID       | 8.75  | 10.30 | 9.52  |       |       |
| MEAN         | 9.11  | 10.40 | 9.76  |       |       |
| WEEDKLLR(74) | 0     | W1    | W2    | W3    | MEAN  |
| NFORM        |       |       |       |       |       |
| SOLID        | 9.87  | 10.11 | 9.76  | 10.22 | 9.99  |
| LIQUID       | 9.57  | 9.32  | 9.84  | 9.36  | 9.52  |
| MEAN         | 9.72  | 9.72  | 9.80  | 9.79  | 9.76  |
| WEEDKLLR(74) | 0     | W1    | W2    | W3    | MEAN  |
| NPERCUT      |       |       |       |       |       |
| 50           | 9.15  | 9.07  | 8.99  | 9.23  | 9.11  |
| 100          | 10.29 | 10.37 | 10.61 | 10.34 | 10.40 |
| MEAN         | 9.72  | 9.72  | 9.80  | 9.79  | 9.76  |

NPERCUT(0)

|              |      |      |      |      |      |
|--------------|------|------|------|------|------|
| WEEDKLLR(74) | 0    | W1   | W2   | W3   | MEAN |
|              | 5.84 | 4.87 | 5.86 | 5.66 | 5.56 |

GRAND MEAN 8.92

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

| TABLE | NFORM | NPERCUT | WEEDKLLR(74) | NFORM<br>NPERCUT |
|-------|-------|---------|--------------|------------------|
| SED   | 0.157 | 0.157   | 0.222        | 0.222            |

| TABLE | NFORM<br>WEEDKLLR(74) | NPERCUT<br>WEEDKLLR(74) | WEEDKLLR(74)<br>NPERCUT(0) |
|-------|-----------------------|-------------------------|----------------------------|
| SED   | 0.314                 | 0.314                   | 0.444                      |

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

| STRATUM  | DF | SE    | CV% |
|----------|----|-------|-----|
| BLOCK.WP | 38 | 0.543 | 6.1 |

TOTAL OF 3 CUTS MEAN DM% 31.0

1ST CUT PLOT AREA HARVESTED 0.00111