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# Yields of the Field Experiments 1960

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## 60/W/CB/3 Barley - Forms and Application of N

### Rothamsted Research

Rothamsted Research (1961) *60/W/CB/3 Barley - Forms and Application of N* ; Yields Of The Field Experiments 1960, pp 100 - 101 - DOI: <https://doi.org/10.23637/ERADOC-1-180>

60/Cb/3.1

### BARLEY

Forms of N and methods of application - Butt Close Woburn 1960.

Design:  $4 \times 2 \times 4$  in 6 blocks of 16, with certain high order interactions partially confounded with block differences, plus 2 control plots per block.

Area of each plot: 0.0146 acres.

Treatments: No nitrogen and all combinations of:-

|                    |                         |     |
|--------------------|-------------------------|-----|
| <u>Forms of N:</u> | Ammonium sulphate 21% N | (S) |
|                    | Calcium nitrate 15.5% N | (C) |
|                    | Ammonium nitrate 23% N  | (A) |
|                    | or Urea 45.6% N         | (U) |

Levels of N: 0.3; 0.6 cwt N per acre.

Methods of application: Broadcast (B), combine drilled (D), side band placed (P), top dressed (T).

Basal dressing: 2 cwt granular compound fertiliser (14%  $P_2O_5$ , 28%  $K_2O$ ) per acre cross drilled.

Cultivations, etc.: Ploughed Jan 27 - Feb 8, 1960. Seed drilled at 2 bushels per acre and seedbed fertilisers applied: Mar 24.  
Nitrogen top dressings applied: Apr 29. Sprayed with TCB/MCPA at 4 pints in 40 gallons per acre: May 9. Combine harvested: Aug 23.  
Variety: Proctor. Previous crop: Sugar beet.

Standard error per plot.

Grain (at 85% dry matter): 1.95 cwt per acre or 7.7% (67 d.f.)

60/Cb/3.2

Summary of Results

Grain (at 85% dry matter): cwt per acre

|                       | Form of N |      |      |      | Mean                |
|-----------------------|-----------|------|------|------|---------------------|
|                       | S         | C    | A    | U    |                     |
| Mean ( $\pm 0.40$ )   | 26.2      | 26.1 | 26.2 | 26.0 | 26.1 ( $\pm 0.20$ ) |
| N: cwt per acre       |           |      |      |      |                     |
| 0.3 ( $\pm 0.56$ )    | 23.3      | 24.4 | 24.0 | 24.4 | 24.0                |
| 0.6 ( $\pm 0.56$ )    | 29.1      | 27.8 | 28.5 | 27.7 | 28.3                |
| Diff. ( $\pm 0.80$ )  | +5.8      | +3.4 | +4.5 | +3.3 | +4.3 ( $\pm 0.40$ ) |
| Method of application |           |      |      |      |                     |
| B                     | 25.4      | 24.3 | 25.6 | 25.4 | 25.2                |
| D ( $\pm 0.80$ )      | 26.3      | 26.0 | 25.3 | 25.5 | 25.7 ( $\pm 0.40$ ) |
| P                     | 24.5      | 25.8 | 24.6 | 24.9 | 24.9                |
| T                     | 28.4      | 28.3 | 29.6 | 28.4 | 28.7                |

|                      | Method of application |      |      |      |
|----------------------|-----------------------|------|------|------|
|                      | B                     | D    | P    | T    |
| N: cwt per acre      |                       |      |      |      |
| 0.3 ( $\pm 0.56$ )   | 22.8                  | 23.8 | 23.1 | 26.3 |
| 0.6 ( $\pm 0.56$ )   | 27.5                  | 27.7 | 26.8 | 31.0 |
| Diff. ( $\pm 0.80$ ) | +4.7                  | +3.9 | +3.7 | +4.7 |

Control: 18.0 ( $\pm 0.56$ )

General mean: 25.2

Mean dry matter % as harvested (all plots): 81.4

Form of N

S = Ammonium sulphate 21% N

C = Calcium nitrate 15.5% N

A = Ammonium nitrate 23% N

U = Urea 45.6% N

Method of application

B = Broadcast

D = Combine drilled

P = Side band placed

T = Top dressed