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# Yields of the Field Experiments 1994



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# 94/R/WW/1 Nitrogen Indicators - W. Wheat

## **Rothamsted Research**

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### 94/R/WW/1

#### WINTER WHEAT

#### NITROGEN INDICATORS

Object: To relate chlorophyll concentrations in individual leaves of w. wheat to nitrogen supply and crop yield - Delharding.

Sponsor: P.B. Barraclough.

Design: 3 randomised blocks of 8 plots.

Plot dimensions: 3.0 x 15.0.

#### Treatments:

```
Nitrogen in spring (kg N) applied as 34.5% N at first node
N
                    formation:
                 0
                 50
1
                 100
2
                 150
3
                 200
4
                 250
5
6
                 300
                  40 and, in addition, four subsequent dressings of 40,
                     applied at weekly intervals (total 200)
```

#### Experimental diary:

```
24-Aug-93: B: Ploughed and furrow pressed.
27-Aug-93 : B : Rolled.
15-Oct-93 : B : Triple superphosphate at 213 kg.
18-Oct-93 : B : Spring-tine cultivated.
23-Oct-93 : B : Rotary harrowed, Hereward, dressed Cerevax, drilled at
                   380 seeds per m2.
18-Apr-94 : T : N 1: 34.5% N at 145 kg.
          : T : N 2: 34.5% N at 290 kg.
          : T : N 3: 34.5% N at 435 kg.
          : T : N 4: 34.5% N at 580 kg.
          : T : N 5: 34.5% N at 725 kg.
          : T : N 6: 34.5% N at 870 kg.
          : T : N 7: 34.5% N at 116 kg.
25-Apr-94 : T : N 7: 34.5% N at 116 kg.
01-May-94 : B : Halo at 2.0 1 with Tripart Brevis at 2.5 1 in 200 1.
03-May-94 : T : N 7: 34.5% N at 116 kg.
09-May-94 : B : Ally at 30 g with Cheetah Super at 3.0 1 and Starane 2
                   at 0.75 1 in 200 1.
10-May-94 : T : N 7: 34.5% N at 116 kg.
18-May-94 : T : N 7: 34.5% N at 116 kg.
23-Jun-94 : B : Cyclone at 1.0 l with Mallard 750 EC at 0.5 l in 200 l.
22-Aug-94 : B : Combine harvested.
```

#### 94/R/WW/1

NOTES: (1) Leaf chlorophyll was measured at weekly intervals with a handheld meter.

- (2) Crop growth, leaf area index and N content of the crop were measured on four occasions in spring and summer.
- (3) Yield components and N content of straw and grain were measured at final harvest.

#### GRAIN TONNES/HECTARE

\*\*\*\*\* Tables of means \*\*\*\*\*

N 5.28 1 7.22 2 8.88 3 9.29 4 9.36 5 10.05 6 9.90 7 9.93 8.74 Mean

\*\*\* Standard errors of differences of means \*\*\*

**N** 0.432

\*\*\*\*\* Stratum standard errors and coefficients of variation \*\*\*\*\*

Stratum d.f. s.e. cv%
BLOCK.WP 14 0.529 6.0

GRAIN MEAN DM% 87.9

PLOT AREA HARVESTED 0.00253