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## Yields of the Field Experiments 1993

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### 93/R/CS/401 Nitrogen Indicators - W. Wheat

#### Rothamsted Research

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93/R/CS/401

**NITROGEN INDICATORS**

**Object:** To relate chlorophyll concentrations in individual leaves of w. wheat to nitrogen supply and crop yield - Long Hoos I/II.

**Sponsors:** P. B. Barraclough.

The first year, w. wheat.

**Design:** 3 blocks of 8 plots.

**Plot dimensions:** 3.0 x 15.0.

**Treatments:**

N	Spring nitrogen (kg N) at first node formation:
0	0
50	50
100	100
150	150
200	200
250	250
300	300
40X5	40 plus 40 at four subsequent weekly intervals (total 200)

**Experimental diary:**

11-Sep-92 : B : Discd.  
16-Sep-92 : B : Discd.  
17-Sep-92 : B : Rolled.  
29-Sep-92 : B : Sting CT at 2.0 l in 200 l.  
30-Sep-92 : B : Ploughed.  
09-Oct-92 : B : Discd twice.  
10-Oct-92 : B : Rotary harrowed, Hereward, dressed Cerevax, drilled at 400 seeds per square metre.  
24-Nov-92 : B : Draza at 5.5 kg.  
24-Feb-93 : B : Panther at 2.0 l in 200 l.  
12-Mar-93 : B : PK as (0:18:36) at 1250 kg.  
19-Apr-93 : T : N 50: 34.5% N at 145 kg.  
          : T : N 100: 34.5% N at 290 kg.  
          : T : N 150: 34.5% N at 435 kg.  
          : T : N 200: 34.5% N at 580 kg.  
          : T : N 250: 34.5% N at 725 kg.  
          : T : N 300: 34.5% N at 870 kg.  
          : T : N 40X5: 34.5% N at 116 kg.  
06-May-93 : T : N 40X5: 34.5% N at 116 kg.  
13-May-93 : T : N 40X5: 34.5% N at 116 kg.  
20-May-93 : T : N 40X5: 34.5% N at 116 kg.  
27-May-93 : T : N 40X5: 34.5% N at 116 kg.  
03-Jun-93 : B : Cheetah R at 2.5 l and Calixin at 0.70 l in 200 l.  
08-Jun-93 : B : Halo at 2.0 l in 200 l.  
16-Aug-93 : B : Combine harvested.

93/R/CS/401

Previous crops: W. wheat 1991, s. oats 1992.

**NOTE:** Leaf chlorophyll concentrations were measured weekly from the beginning of stem extension. Total N and nitrate concentrations were measured in individual plant parts during stem extension.

**GRAIN TONNES/HECTARE**

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

N RATE	
0	4.37
50	6.11
100	8.06
150	8.86
200	8.99
250	9.18
300	9.47
40X5	9.88
Mean	8.11

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

N RATE
0.242

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	14	0.297	3.7

GRAIN MEAN DM% 85.2

PLOT AREA HARVESTED 0.00230