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

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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