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

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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:

N	Nitrogen in spring (kg N) applied as 34.5% N at first node formation:
-	0
1	50
2	100
3	150
4	200
5	250
6	300
7	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 l with Tripart Brevis at 2.5 l in 200 l.
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 l and Starane 2 at 0.75 l in 200 l.
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.

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- NOTES: (1) Leaf chlorophyll was measured at weekly intervals with a hand-held 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
Mean	8.74

*** 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		