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00/R/CS/355 Rates of Mineralization - W. Wheat

Rothamsted Research

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00/R/CS/355

RATES OF N AND MINERALIZATION

Object: To study the cumulative effects of rates of nitrogen fertilizer on soil mineralization capacity and yields of continuous winter wheat - Claycroft.

Sponsor: P.R. Poulton.

The tenth year, w. wheat.

For previous years see 91-99/R/CS/355.

Design: 3 randomised blocks of 7 plots.

Whole plot dimensions: 21.0 x 23.0.

Treatments:

NITROGEN Nitrogen fertilizer (kg N) as 34.5% N cumulative to previous dressings:

0
50
100
150
200
250
300

Experimental diary:

29-Aug-99 : B : : Ploughing started.
30-Aug-99 : B : : Ploughing completed.
31-Aug-99 : B : : Rotary harrowed.
03-Sep-99 : B : : Rolled.
14-Sep-99 : B : : Disced.
16-Sep-99 : B : : Combination drilled, Consort, tr. Sibutol at 350 seeds/m² with the Nordsten drill.
22-Sep-99 : B : : Genesis at 5.0 kg.
27-Oct-99 : B : : tm)Lexus 50 DF at 20 g in 200 l.
: B : : tm)Stomp 400 SC at 2.5 l in 200 l.
: B : : tm)Cyperkill 10 at 250 ml in 200 l.
18-Apr-00 : T : 50,100,150,200,250,300 : 34.5% N at 145, 290, 435, 580, 725, 870 kg respectively
29-Apr-00 : B : : Landmark at 0.5 l in 200 l.
15-May-00 : B : : tm)Ally at 30 g in 200 l.
: B : : tm)Starane 2 at 0.5 l in 200 l.
: B : : tm)Topik at 0.125 l in 200 l.
: B : : tm)Toil at 1.0 l in 200 l.
20-May-00 : B : : Landmark at 1.0 l in 100 l.
15-Aug-00 : B : : Combine harvested.

Previous crops: W. wheat since 1990.

NOTE: Samples of grain were taken for chemical analysis.

00/R/CS/355

GRAIN TONNES/HECTARE

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

NITROGEN

0	0.92
50	2.56
100	2.89
150	5.18
200	5.28
250	6.72
300	7.55
Mean	4.44

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

NITROGEN

0.407

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	12	0.499	11.2
GRAIN MEAN DM%	85.3		
PLOT AREA HARVESTED	0.00504		