

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED  
RESEARCH

## Yields of the Field Experiments 1988

[Full Table of Content](#)



### 88/R/WW/3 N and Crop Physiology - W. Wheat

#### Rothamsted Research

Rothamsted Research (1989) *88/R/WW/3 N and Crop Physiology - W. Wheat* ; Yields Of The Field Experiments 1988, pp 145 - 146 - DOI: <https://doi.org/10.23637/ERADOC-1-43>

88/R/WW/3

**WINTER WHEAT**

**N AND CROP PHYSIOLOGY**

**Object:** To study, in crops given optimal or less than optimal N, the dynamics of late N within the plant, the effects on flag leaf photosynthesis and protein retention and the N status of individual organs - Little Knott I.

**Sponsors:** G.F.J. Milford, D.W. Lawlor.

**Associate sponsors:** D.S. Powlson, R.A. Leigh.

**Design:** 3 randomised blocks of 9 plots.

**Whole plot dimensions:** 3.0 x 16.0.

**Treatments:** All combinations of:-

1. **N RATE**                      Rate of nitrogen fertilizer (kg N) applied as 'Nitro-Chalk', divided equally on 2 Mar 1988, 30 Mar, 22 Apr and 13 May:

0  
80  
200

2. **LATE N**                      Nitrogen fertilizer applied late:

0                                  None  
NLEAF                          To foliage, 40 kg N as urea in 225 l in two equal applications on 24 May, 1988 and 25 May  
NSOIL                              To soil, 40 kg N as prilled urea on 25 May

**Basal applications:** Weedkillers: Fluroxypyr at 0.20 kg with clopyralid at 0.07 kg and bromoxynil at 0.34 kg in 200 l. Diclofop-methyl at 1.1 kg in 260 l. Fungicides: Prochloraz at 0.40 kg and carbendazim at 0.15 kg in 200 l. Propiconazole at 0.12 kg and tridemorph at 0.25 kg on two occasions, in 200 l and 260 l respectively.

**Seed:** Avalon, sown at 180 kg.

**Cultivations, etc.:-** Ploughed: 22 Sept, 1987. Rotary harrowed, seed sown: 24 Oct. Prochloraz and carbendazim applied: 21 Apr, 1988. Fluroxypyr, clopyralid and bromoxynil applied: 26 Apr. Diclofop-methyl applied: 6 May. Propiconazole and tridemorph applied: 20 May, 21 June. Combine harvested: 23 Aug. Previous crops: S. barley 1986, w. oats 1987.

**NOTE:** Samples were taken for measurements of crop and grain growth and N content, weekly from April until maturity.

88/R/WW/3

GRAIN TONNES/HECTARE

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

LATE N N RATE	NONE	NLEAF	NSOIL	Mean
0	2.23	3.47	3.37	3.03
80	5.64	5.85	6.01	5.83
200	7.70	8.23	7.93	7.96
Mean	5.19	5.85	5.77	5.60

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

N RATE	LATE N	N RATE LATE N
0.198	0.198	0.344

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	16	0.421	7.5

GRAIN MEAN DM% 82.4

PLOT AREA HARVESTED 0.00161