

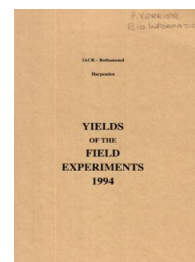
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1994

[Full Table of Content](#)



94/R/WW/3 Sowing Date and N - W. Wheat

Rothamsted Research

Rothamsted Research (1995) *94/R/WW/3 Sowing Date and N - W. Wheat* ; Yields Of The Field Experiments 1994, pp 100 - 102 - DOI: <https://doi.org/10.23637/ERADOC-1-49>

94/R/WW/3

WINTER WHEAT

SOWING DATE AND N

Object: To study the effects of a range of amounts of nitrogen fertilizer applied in different ways to w. wheat sown on different dates - Hoosfield Old Four Course.

Sponsors: R.J. Darby, J. Hopkinson.

Design: 3 randomised blocks of 2 x 8 plots.

Plot dimensions: 3.0 x 22.0.

Treatments:

1. **SOW DATE** Date of sowing:
 - 1 Second week in September
 - 2 Third week in October

2. **SPRING N** Rate (kg N), form and timing of nitrogen fertilizer applied in spring and summer to achieve different green area indices (GAI):
 - None
 - A Conventional: 60 in mid-March, 205 in late April, both as 27% N
 - B GAI 3: 30 in mid-March, 70 in late April, both as 27% N
 - C GAI 5: 60 in mid-March, 140 in late April, both as 27% N
 - D GAI 5: as 'C' plus 40 as foliar urea at growth stage (GS) 34-35
 - E GAI 5: as 'C' plus 40 as foliar urea at GS 39-45
 - F GAI 5: as 'C' plus 40 as foliar urea at GS 68
 - G GAI 5: as 'C' plus 40 as 27% N at GS 39-45

NOTE: Foliar urea contains 46.6% N.

Experimental diary:

- 10-Sep-93 : B : Ploughed.
23-Sep-93 : B : Spring-tine cultivated, twice.
24-Sep-93 : B : Rotary harrowed.
 : T : **SOW DATE 1:** Rotary harrowed, Mercia, dressed Cerevax, drilled at 380 seeds per m².
19-Oct-93 : T : **SOW DATE 2:** Rotary harrowed, Mercia, dressed Cerevax, drilled at 380 seeds per m².
21-Dec-93 : B : Draza at 5.5 kg.
06-Apr-94 : T : **SPRING N** A C D E F and G: 27% N at 222 kg.
 : T : **SPRING N** B: 27% N at 111 kg.
28-Apr-94 : T : **SPRING N** A: 27% N at 759 kg.
 : T : **SPRING N** B: 27% N at 259 kg.
 : T : **SPRING N** C D E F and G: 27% N at 519 kg.

94/R/WW/3

Experimental diary:

24-May-94 : T : **SPRING N D**: Foliar urea at 86.9 kg in 450 l.
 : B : Ally at 30 g with Cheetah Super at 1.5 l and Starane 2
 at 0.75 l in 200 l.
 08-Jun-94 : T : **SPRING N E**: Foliar urea at 86.9 kg in 450 l.
 : T : **SPRING N G**: 27% N at 148 kg.
 13-Jun-94 : B : Halo at 2.0 l with Mallard 750 EC at 0.5 l in 200 l.
 17-Jun-94 : B : Hostathion at 840 ml in 200 l.
 23-Jun-94 : T : **SPRING N F**: Foliar urea at 86.9 kg in 450 l.
 16-Aug-94 : B : Combine harvested.

NOTE: Soil samples were taken in February and August to determine soil mineral N content. Plant samples were taken for growth analysis and N content at fortnightly intervals from March to August. After each foliar urea spray plant samples were taken to determine the degree of spray penetration and the crop N content. Components of yield were measured at harvest.

GRAIN TONNES/HECTARE

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

| SPRING N SOW DATE | - | A | B | C | D | E | F | G | Mean |
|------------------------------|------|------|------|------|------|------|------|------|------|
| 1 | 0.93 | 6.10 | 3.63 | 5.43 | 5.44 | 5.07 | 5.55 | 5.70 | 4.73 |
| 2 | 1.70 | 7.27 | 4.79 | 6.40 | 6.68 | 6.71 | 6.86 | 6.95 | 5.92 |
| Mean | 1.31 | 6.68 | 4.21 | 5.91 | 6.06 | 5.89 | 6.20 | 6.32 | 5.33 |

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

| SOW DATE | SPRING N | SOW DATE SPRING N |
|-----------------|-----------------|------------------------------|
| 0.141 | 0.283 | 0.400 |

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

| Stratum | d.f. | s.e. | cv% |
|----------------|------|-------|-----|
| BLOCK.WP | 30 | 0.490 | 9.2 |
| GRAIN MEAN DM% | 86.7 | | |

94/R/WW/3

STRAW TONNES/HECTARE

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

| SPRING N SOW DATE | - | A | B | C | D | E | F | G | Mean |
|----------------------|------|------|------|------|------|------|------|------|------|
| 1 | 0.18 | 3.73 | 2.46 | 3.41 | 2.99 | 3.09 | 3.01 | 3.34 | 2.77 |
| 2 | 0.59 | 4.61 | 2.85 | 3.95 | 4.30 | 3.91 | 3.82 | 3.83 | 3.48 |
| Mean | 0.39 | 4.17 | 2.65 | 3.68 | 3.64 | 3.50 | 3.41 | 3.58 | 3.13 |

STRAW MEAN DM% 88.5

PLOT AREA HARVESTED 0.00230