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

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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.

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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	-	A	B	C	D	E	F	G	Mean
SOW DATE									
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		

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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