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## Yields of the Field Experiments 1992

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### 92/W/CS/356 Set-aside Study - W. Wheat, Fallow

#### Rothamsted Research

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92/W/CS/356

**SET-ASIDE STUDY**

**Object:** To compare different treatments of land temporarily withdrawn from arable cropping and to study their effects on nitrate leaching and on subsequent wheat crops - Woburn, Horsepool Lane Close I.

**Sponsors:** R.D. Prew, E.T.G. Bacon, M.V. Hewitt, D.P. Yeoman, J.F. Jenkyn, R.J. Gutteridge, W. Powell, J. Ashby.

**Associate sponsors:** D.L.O. Smith, I. Shield, M.D. Helps.

The second year, w. wheat.

For first year see 91/W/CS/356.

**Design:** 3 randomised blocks of 7 plots split into 8.

**Whole plot dimensions:** 10.0 x 24.0.

**Treatments:** All combinations of:-

Whole plot

1. **LAND TRT[91]** Land treatment in 1991, after w. wheat 1990 (all treatments ploughed autumn 1991 before w. wheat):
  - CA WW Cultivated in autumn, sown to w. wheat
  - CA RA Cultivated in autumn, sown to ryegrass in autumn, topped in spring
  - SA CA FA Straw chopped and spread in autumn, cultivated in autumn, sown to forage rape in autumn, topped in spring
  - CA CS Cultivated in autumn, cultivated in spring
  - SA CS Straw chopped and spread in autumn, cultivated in spring
  - WT Weeds topped
  - WT CS TS Weeds topped, cultivated in spring, trefoil sown in spring, topped

Sub plots

2. **N** Nitrogen fertilizer (kg N) as 'Nitro-Chalk':
  - 0
  - 80
  - 120
  - 160
  - 200
  - 240
  - 280

**NOTE:** An additional fallow sub plot was present, systematically arranged on one side of each whole plot.

92/W/CS/356

**Experimental diary.**

W. wheat:

- 18-Sep-91 : B : Ploughed.
- 25-Sep-91 : T : Rolled.
- 02-Oct-91 : T : Rotary cultivated, Mercia drilled at 140 kg.
- 18-Mar-92 : T : Folimat at 1.12 l in 200 l.
- 01-Apr-92 : T : Duplosan New System CMPP at 2.0 l and Asset at 2.0 l in 200 l.
- 09-Apr-92 : T : N 80, 120, 160, 200, 240 and 280: Applied as 27% N.
- 15-May-92 : T : Dorin at 1.0 l and Ally at 0.03 kg in 300 l.
- 08-Jun-92 : T : Halo at 2.0 l in 200 l.
- 29-Jul-92 : T : Barclay Gallup at 2.0 l with Team at 0.30 l in 300 l.
- 01-Sep-92 : T : Combine harvested.

Fallow:

- 18-Sep-91 : B : Ploughed.
- 25-Apr-92 : T : Rotary cultivated.

**NOTE:** Amounts of soil nitrogen and plant dry matter were measured in autumn and spring. Assessment of plant cover was made in spring. Diseases were assessed in spring and summer.

**GRAIN TONNES/HECTARE**

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

	N	0	80	120	160	200	240	280	Mean
<b>LAND TRT[91]</b>									
CA WW	5.37	6.65	6.24	6.25	6.21	7.27	6.46	6.35	
CA RA	4.26	6.53	6.86	6.91	7.29	7.42	7.47	6.68	
SA CA FA	5.08	6.19	7.35	7.31	7.39	6.35	6.76	6.63	
CA CS	7.62	7.56	7.61	7.08	7.30	6.58	6.46	7.17	
SA CS	6.45	7.90	7.50	7.64	7.27	7.75	7.14	7.38	
WT	5.88	7.16	6.74	7.35	7.43	7.69	7.70	7.13	
WT CS TS	7.56	7.18	7.39	7.30	6.62	6.34	5.16	6.79	
Mean	6.03	7.02	7.10	7.12	7.07	7.06	6.74	6.88	

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

LAND TRT[91]	N	LAND TRT[91]
		N
	0.262	0.273
Except when comparing means with the same level(s) of		0.718
<b>LAND TRT[91]</b>		0.722

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	12	0.321	4.7
BLOCK.WP.SP	84	0.884	12.9

GRAIN MEAN DM% 83.0      SUB PLOT AREA HARVESTED 0.00199