

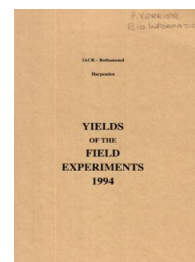
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94/W/CS/386 Cover Crops and Nitrogen - W. Barley

Rothamsted Research

Rothamsted Research (1995) *94/W/CS/386 Cover Crops and Nitrogen - W. Barley* ; Yields Of The Field Experiments 1994, pp 83 - 85 - DOI: <https://doi.org/10.23637/ERADOC-1-49>

94/W/CS/386

COVER CROPS AND NITROGEN

Object: To assess how effectively cover crops take up nitrogen and to assess how much of that nitrogen is subsequently available to the following crop - Woburn, Stackyard A I.

Sponsors: D.G. Christian, A.J. Macdonald, P.R. Poulton.

The second year, w. barley.

For previous year see 93/W/CS/386.

Design: 3 blocks of 9 plots split into 2 sub-plots.

Whole plot dimensions: 9.0 x 12.0.

Treatments: All combinations of:-

Whole plots

1. **CROPS** Cover crops, sown in autumn 1992, tumbledown and fallow; all, except (WB), ploughed in spring 1993 and sown to s. barley:

(FA)	Fallow
(FR)	Forage rape
(PH)	Phacelia
(RG)	Ryegrass
(RY)	Rye
(R+M)	Rye and white mustard
(TD)	Tumbledown
(WM)	White mustard
(WB)	W. barley taken to maturity

Sub-plots

2. **N** Nitrogen fertilizer (kg N) applied in spring 1993:

	S. barley	W. barley
(-)	None	None
(N)	75	150

Experimental diary:

24-Aug-93 : B : Deep tine cultivated.
11-Sep-93 : B : Dolomite at 7.5 t.
15-Sep-93 : B : Ploughed.
16-Oct-93 : B : Rotary harrowed, Puffin, dressed Panocline Plus, drilled at 350 seeds per m².
14-Apr-94 : B : 34.5% N at 464 kg.
01-May-94 : B : Oxytril CM at 1.5 l with Duplosan New system CMPP at 2.0 l and Punch C at 0.5 l in 200 l.
29-May-94 : B : Radar at 0.5 l with Mistral at 0.5 l in 200 l.
26-Jul-94 : B : Combine harvested.

94/W/CS/386

GRAIN TONNES/HECTARE

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

N CROPS	(-)	(N)	Mean
(FA)	6.70	6.31	6.50
(FR)	6.80	6.77	6.78
(PH)	6.76	6.52	6.64
(RG)	6.49	6.70	6.59
(RY)	6.79	6.94	6.86
(R+M)	7.09	7.12	7.10
(TD)	6.51	6.48	6.50
(WM)	6.62	6.60	6.61
(WB)	6.62	6.95	6.79
Mean	6.71	6.71	6.71

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

CROPS	N	CROPS
		N
0.265	0.090	0.327

Except when comparing means with the same level(s) of
CROPS 0.270

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	16	0.325	4.8
BLOCK.WP.SP	18	0.331	4.9

GRAIN MEAN DM% 87.5

94/W/CS/386

STRAW TONNES/HECTARE

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

N	(-)	(N)	Mean
CROPS			
(FA)	2.44	2.02	2.23
(FR)	3.38	3.16	3.27
(PH)	3.25	3.82	3.53
(RG)	2.93	2.78	2.85
(RY)	4.45	1.61	3.03
(R+M)	3.70	3.39	3.54
(TD)	3.96	3.60	3.78
(WM)	2.41	3.77	3.09
(WB)	2.77	3.54	3.16
Mean	3.25	3.08	3.17

STRAW MEAN DM% 89.2

SUB PLOT AREA HARVESTED 0.00083