

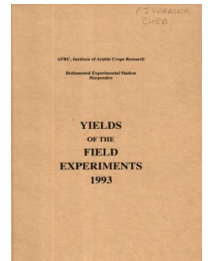
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93/W/CS/381 N Uptake and Cover Crops - W. Barley

Rothamsted Research

Rothamsted Research (1994) *93/W/CS/381 N Uptake and Cover Crops - W. Barley* ; Yields Of The Field Experiments 1993, pp 96 - 98 - DOI: <https://doi.org/10.23637/ERADOC-1-48>

93/W/CS/381

N UPTAKE AND COVER CROPS

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, Road Piece.

Sponsor: D.G. Christian.

The second year, w. barley.

For previous year see 92/W/CS/381.

Design: 3 blocks of 5 plots plus a single replicate of 3 extra plots, split into 2.

Whole plot dimensions: 9.0 x 12.0.

Treatments: All combinations of:-

Whole plots

1. **LAND TRT[92]** Land treatments over winter, ploughed and conventionally drilled to linseed in spring 1992:

(FO RA LN)	Forage rape
(RYE LN)	Rye
(TUMDN LN)	Tumbledown plus w. barley
(FALLW LN)	Fallow
(STUBL LN)	Stubble

Sub plots

2. **N RES[92]** Nitrogen fertilizer (kg N) to linseed in spring 1992:

(0)
(75)

plus three extra unreplicated treatments, direct drilled to linseed in spring 1992 and split for N:

1. **EXTRA[92]**

(EX FR LN)	Forage rape
(EX RY LN)	Rye
(EX TD LN)	Tumbledown plus w. barley

93/W/CS/381

Experimental diary:

06-Oct-92 : B : Ploughed.
 12-Oct-92 : B : Rotary harrowed, Puffin, dressed Cerevax Extra, drilled
 at 380 seeds per square metre.
 15-Mar-93 : B : 34.5% N at 120 kg.
 15-Apr-93 : B : Ally at 30 g and Deloxil at 1.0 l in 200 l
 30-Apr-93 : B : 34.5% N at 350 kg.
 01-Jun-93 : B : Mistral at 0.5 l and Bayleton at 0.5 kg in 200 l.
 03-Aug-93 : B : Combine harvested.

NOTE: Crop samples were taken at harvest to determine ear numbers, thousand grain weights and nitrogen content.

MAIN EXPERIMENT

GRAIN TONNES/HECTARE

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

N RES[92]	(0)	(75)	Mean
LAND TRT[92]			
FO RA LN	6.38	6.33	6.35
RYE LN	6.12	6.30	6.21
TUMDN LN	5.93	6.34	6.13
FLLOW LN	6.39	6.41	6.40
STUBL LN	6.54	6.00	6.27
Mean	6.27	6.27	6.27

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

LAND TRT	N RES	LAND TRT	N RES
	0.163		0.293
Except when comparing means with the same level(s) of			
LAND TRT			0.344

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	8	0.200	3.2
BLOCK.WP.SP	10	0.422	6.7

GRAIN MEAN DM% 86.8

SUB PLOT AREA HARVESTED 0.00121

93/W/CS/381

EXTRA PLOTS

GRAIN TONNES/HECTARE

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

N RES[92] EXTRA[92]	(0)	(75)	Mean
(EX FR LN)	6.69	6.71	6.70
(EX RY LN)	5.18	6.21	5.69
(EX RD LN)	6.17	6.39	6.28
Mean	6.01	6.43	6.22

GRAIN MEAN DM% 85.9

SUB PLOT AREA HARVESTED 0.00121