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## Yields of the Field Experiments 1993

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### 93/R/CS/10 Cover Crops and 15n - W. Barley

#### Rothamsted Research

Rothamsted Research (1994) *93/R/CS/10 Cover Crops and 15n - W. Barley* ; Yields Of The Field Experiments 1993, pp 94 - 95 - DOI: <https://doi.org/10.23637/ERADOC-1-48>

93/R/CS/380

COVER CROPS AND 15N

**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 - Webbs.

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

The second year, w. barley.

**Design:** 3 blocks of 5 plots split into 2 sub plots.

**Whole plot dimensions:** 6.0 x 12.0.

**Treatments:** All combinations of:-

Whole plots

1. **LAND TRT[92]** Cover crops, tumbledown and fallow ploughed and sown to s. barley in 1992; w. barley in 1993:

FO RA SB	Forage rape
RYE SB	Rye
TUMDN SB	Tumbledown
FALLOWSB	Fallow

Sub plots

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

(0)  
(75)

plus one extra treatment

Whole plot

1. **EXTRA[92]**

W BARLEY W. barley taken to maturity in 1992

Sub plot

2. **N EXTRA[92]** Nitrogen fertilizer (kg N) to w. barley in 1992:

(0)  
(150)

93/R/CS/380

**Experimental diary:**

18-Aug-92 : B : Straw baled.  
16-Sep-92 : B : Ploughed, furrow pressed.  
          : B : Scythe at 2.0 l with Farmon Blue at 0.20 l in 200 l.  
17-Sep-92 : B : Rotary harrowed, Puffin, dressed Cerevax, drilled at  
                  380 seeds per square metre.  
15-Apr-93 : B : 34.5% N at 370 kg.  
10-May-93 : B : Ally at 30 g and Starane 2 at 1.0 l in 200 l.  
20-Jul-93 : B : Harvested by hand.

**NOTES:** (1) Plots were labelled with 15N in autumn 1991. Samples of soil, soil water and w. barley were taken to measure residual 15N.  
(2) Yields were taken on **N RES[92]** (75) and **N EXTRA[92]** (150) plots only.

**GRAIN TONNES/HECTARE**

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

LAND TRT[92]	FO RA SB	RYE SB	TUMDN SB	FALLOWSB	Mean
	4.20	4.13	3.36	3.64	3.83

**EXTRA[92]** 5.05

GRAND MEAN 4.08

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

**LAND TRT[92]**  
**& EXTRA[92]**

0.718

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	8	0.879	21.6

GRAIN MEAN DM% 87.6

SUB PLOT AREA HARVESTED 0.00015