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

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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