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

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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] LAND TRT[92]	(0)	(75)	Mean
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	0.154	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