

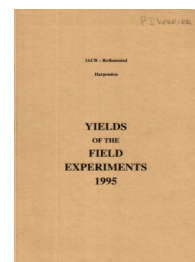
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95/W/CS/347 Green Crops for Set-aside - W. Wheat , S. Wheat

Rothamsted Research

Rothamsted Research (1996) *95/W/CS/347 Green Crops for Set-aside - W. Wheat , S. Wheat ; Yields Of The Field Experiments 1995*, pp 76 - 78 - DOI: <https://doi.org/10.23637/ERADOC-1-50>

95/W/CS/347

GREEN CROPS FOR SET-ASIDE

Object: To obtain information on the establishment and maintenance of sown crops and unsown vegetation in three-year and five-year set-aside. Effects on soil nitrate and leaching after ploughing are also studied - Woburn, Horsepool Lane Close II.

Sponsors: R.D. Prew, E.T.G. Bacon, D.P. Yeoman, M.V. Hewitt, J.F. Jenkyn, R.J. Gutteridge.

Design: 3 randomised blocks of 6 plots split into 2 x 2 criss-cross.

Whole plot dimensions: 6.5 x 26.0.

The sixth year, w. and s. sown wheat.

For previous years see 90-94/W/CS/347.

Treatments:

Test phase (first test crop after 5-year treatment phase)

Whole plots

1. **PREVCROP** Previous crops, cumulative 1990 to 1994:

(RY LF)	Ryegrass, cuttings left in situ
(RY+CL LF)	Ryegrass + clover, cuttings left in situ
(RY+CL RE)	Ryegrass + clover, cuttings removed
(RY+N RE)	Ryegrass given 100 kg N in spring, cuttings removed
(TU LF)	Tumbledown, natural regrowth, cuttings left in situ
(ARABLE)	Arable sequence w. wheat, w. wheat, w. oats, w. wheat, w. oats

Sub-plots (**WHEAT** split-plots, **N** criss-cross)

2. **WHEAT** Time of ploughing and drilling:

W	Winter
S	Spring

3. **N** Fertilizer nitrogen applied in spring:

NO	None
N OPT	Optimum

NOTES: (1) N OPT was given 40 kg N early (W in March, S in June) and the following rates later (W in April, S in July)

	(RY LF)	(RY+CL LF)	(RY+CL RE)	(RY+N RE)	(TU LF)	(ARABLE)
W	155	135	135	160	140	170
S	120	120	120	120	130	155

(2) The three blocks after 3-year set-aside were discontinued after the second test crop in 1994.

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Experimental diary:

05-Oct-94 : T : WHEAT W: Ploughed.
07-Oct-94 : T : WHEAT W: Rolled. Rotary harrowed, Cadenza, dressed Rappor, drilled at 300 seeds per m².
01-Dec-94 : B : Stomp 400 at 3.3 l with Stefes IPU at 3.0 l in 200 l.
16-Mar-95 : T : WHEAT W: N N OPT: 27% N at 148 kg.
22-Mar-95 : T : WHEAT S: Ploughed.
30-Mar-95 : T : WHEAT S: Rotary harrowed.
31-Mar-95 : T : WHEAT S: Rotary harrowed, Cadenza, dressed Rappor, drilled at 500 seeds per m².
28-Apr-95 : T : WHEAT W, N N OPT: Nitrogen treatments applied as 27% N.
 : T : WHEAT S: Rotary harrowed, Cadenza, dressed Cerevax, re-drilled at 500 seeds per m².
02-May-95 : T : WHEAT W: Halo at 2.0 l in 200 l.
25-May-95 : T : WHEAT S: Cadenza, dressed Rappor, re-drilled at 900 seeds per m².
26-May-95 : T : PREVCROP (RY+CL RE), (RY+N RE): Corrective P and K applied.
01-Jun-95 : T : WHEAT W: Cyclone at 1.0 l in 300 l.
15-Jun-95 : T : WHEAT S: Ally at 30 g in 300 l.
16-Jun-95 : T : WHEAT S, N N OPT: 27% N at 148 kg.
29-Jun-95 : B : Pirimicarb 50 DG at 280 g in 300 l.
19-Jul-95 : T : WHEAT S, N N OPT: Nitrogen treatments applied as 27% N.
05-Aug-95 : T : WHEAT W: Combine harvested.
22-Sep-95 : T : WHEAT S: Combine harvested.

- NOTES:** (1) The spring wheat was re-drilled twice following the failure of the first and second sowings, and yields were negligible and are not presented.
- (2) Soil mineral nitrogen was measured in autumn and spring. Weeds were counted in November and July. Numbers of ears of wheat were estimated in July.

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GRAIN TONNES/HECTARE

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

N	NO	N OPT	Mean
PREVCROP			
(RY LF)	1.70	6.74	4.22
(RY+CL LF)	4.03	8.29	6.16
(RY+CL RE)	3.72	7.17	5.45
(RY+N RE)	2.15	7.12	4.63
(TU LF)	1.44	7.64	4.54
(ARABLE)	1.72	7.24	4.48
Mean	2.46	7.37	4.91

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

PREVCROP	N	PREVCROP	N
0.707	0.304	0.884	
Except when comparing means with the same level(s) of			
PREVCROP		0.752	
N		0.886	

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP1.WP2	10	0.923	18.8

GRAIN MEAN DM% not measured

SUB-PLOT AREA HARVESTED 0.00235 or 0.00323