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## Yields of the Field Experiments 1995

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### 95/R/CS/420 Set-aside, Cultivation and Crops - W. Wheat, W. Rape

#### Rothamsted Research

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95/R/CS/420

**SET-ASIDE, CULTIVATION AND CROPS**

**Object:** To measure the establishment, growth and yield of w. wheat and w. rape following a range of cultivations and herbicide applications after natural regeneration set-aside. To assess levels of soil nitrogen and weeds in the two crops and diseases in the wheat - Meadow.

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

The second year, w. wheat and w. rape.

**Design:** 4 randomised blocks of 5 x 2 plots split into 2 sub-plots.

**Whole plot dimensions:** 12.0 x 26.0.

**Sub-plot dimensions:** 10.0 x 12.0.

**Treatments:**

Whole plots

- |                    |  |
|--------------------|--|
| 1. <b>SETDESTR</b> | Method and time of destruction of set-aside in 1994: |
| (PG)               | Ploughed in May, glyphosate pre-drilling             |
| (PC)               | Ploughed in May, cultivated in June and July         |
| (MP)               | Minimally cultivated in May, ploughed in August      |
| (HP)               | Herbicide in May, ploughed in August                 |
| (-P)               | Ploughed in August                                   |

Sub-plots

- |                    |                                     |
|--------------------|-------------------------------------|
| 2. <b>CROP</b>     | Crop in 1995:                       |
| R                  | Winter rape                         |
| W                  | Winter wheat                        |
| 3. <b>NITROGEN</b> | Fertilizer nitrogen in 1995 (kg N): |
| -                  | None                                |
| N                  | 160                                 |

**Experimental diary:**

- 24-May-94 : T : **SETDESTR** (HP): Glyphogan at 4.0 l in 200 l.  
27-May-94 : T : **SETDESTR** (PG), (PC), (MP), (-P): Topped.  
03-Jun-94 : T : **SETDESTR** (MP): Heavy spring-tine cultivated to 10 cm.  
          : T : **SETDESTR** (PG), (PC): Ploughed.  
05-Jul-94 : T : **SETDESTR** (MP), (-P): Topped.  
06-Jul-94 : T : **SETDESTR** (PC): Heavy spring-tine cultivated.  
19-Jul-94 : B : PK as (0:20:32) at 1406 kg.  
22-Jul-94 : T : **SETDESTR** (-P): Topped.  
01-Aug-94 : T : **SETDESTR** (PC): Heavy spring-tine cultivated.  
          : T : **SETDESTR** (MP), (HP), (-P): Topped.  
12-Aug-94 : T : **SETDESTR** (MP), (HP), (-P): Ploughed.

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**Experimental diary:**

26-Aug-94 : T : CROP R: Cultivated by rotary grubber (one block only).  
: T : CROP R: Spring-tine cultivated.  
: T : CROP R: Rotary harrowed, Apex, dressed Lindex-Plus FS,  
drilled at 120 seeds per m<sup>2</sup>.  
27-Sep-94 : T : SETDESTR (PG), CROP W: Sting CT at 2.0 l in 200 l.  
28-Sep-94 : T : CROP W: Spring-tine cultivated.  
: T : CROP W: Rotary harrowed, Genesis, dressed Rappor,  
drilled at 380 seeds per m<sup>2</sup>.  
29-Sep-94 : B : Draza at 5.5 kg.  
02-Nov-94 : T : CROP R: Butisan S at 2.5 l with Laser at 1.0 l and Atlas  
Adjuvant Oil at 2.4 l in 260 l.  
21-Nov-94 : T : CROP W: Auger at 2.5 l with Stomp 400 at 2.5 l and Decis  
at 200 ml in 200 l.  
07-Feb-95 : T : CROP W: Birlane 24 at 2.8 l in 200 l.  
23-Feb-95 : T : CROP R, NITROGEN N: 34.5% N at 174 kg.  
13-Mar-95 : T : CROP W, NITROGEN N: 34.5% N at 118 kg.  
30-Mar-95 : T : CROP R, NITROGEN N: 34.5% N at 290 kg.  
11-Apr-95 : T : CROP R: Barclay Eyetak at 1.1 l in 200 l.  
12-Apr-95 : T : CROP W, NITROGEN N: 34.5% N at 348 kg.  
03-May-95 : T : CROP W: Starane 2 at 0.75 l with Halo at 2.0 l in 200 l.  
20-Jun-95 : T : CROP W: Silvacur at 1.0 l in 200 l.  
12-Jul-95 : T : CROP R: Reglone at 3.0 l with Vassgro Spreader at 400 ml  
in 400 l.  
18-Jul-95 : T : CROP R: Combine harvested.  
02-Aug-95 : T : CROP W: Combine harvested.

- NOTES:** (1) Treatment SETDESTR (PG) - 'Glyphosate pre-drilling' was not applied to the plots going into rape.  
(2) Straw was chopped in August 1993 at the start of the set-aside year.  
(3) Soil and plant samples were taken in November and March for nitrogen content. Weed counts were made in November and March. Samples to assess root and stem base diseases in wheat were taken in April and June. Grain quality was assessed.

95/R/CS/420

WINTER RAPE

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

NITROGEN SETDESTR	-	N	Mean
(PG)	3.67	4.31	3.99
(PC)	4.11	4.57	4.34
(MP)	3.48	4.65	4.06
(HP)	3.47	4.32	3.90
(-P)	2.73	4.22	3.48
Mean	3.49	4.42	3.95

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

	SETDESTR	NITROGEN	SETDESTR NITROGEN
	0.168	0.116	0.249
Except when comparing means with the same level(s) of SETDESTR			0.259

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	12	0.238	6.0
BLOCK.WP.SP	15	0.366	9.3

GRAIN MEAN DM% 87.6

SUB-PLOT AREA HARVESTED 0.00230

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WINTER WHEAT

GRAIN TONNES/HECTARE

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

NITROGEN SETDESTR	-	N	Mean
(PG)	6.71	8.94	7.82
(PC)	6.02	8.75	7.39
(MP)	5.93	8.88	7.41
(HP)	5.72	8.66	7.19
(-P)	4.33	8.85	6.59
Mean	5.74	8.82	7.28

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

SETDESTR	NITROGEN	SETDESTR NITROGEN
0.449	0.286	0.637
Except when comparing means with the same level(s) of SETDESTR		0.639

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	12	0.635	8.7
BLOCK.WP.SP	15	0.904	12.4

GRAIN MEAN DM% 91.4

SUB-PLOT AREA HARVESTED 0.00230