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97/R/CS/457 Set-aside, Cultivations and Crops - W. Wheat, W. Rape

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97/R/CS/457

SET-ASIDE, CULTIVATIONS 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 soil nitrogen and weeds in the two crops and diseases in the wheat - Scout.

Sponsors: J.F. Jenkyn and R.G. Gutteridge.

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

Design: 3 randomised blocks of 5 x 2 split into 2 sub-plots.

Whole plot dimensions: 12.0 x 26.0.

Sub-plot dimensions: 10.0 x 12.0.

Treatments: All combinations of:-

1. **SETDESTR** Method and time of destruction of set-aside in 1996:
 - (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

2. **CROP** Crop in 1997
 - R Winter rape
 - W Winter wheat

Sub-plots

- 3: **NITROGEN** Fertilizer nitrogen in 1997 (kg N):
 - None
 - N 160

Experimental diary:

- 14-May-96 : T : **SETDESTR** (PG), (PC), (MP), (P): Topped.
- 15-May-96 : T : **SETDESTR** (MP): Heavy spring-tine cultivated to 10 cm.
 - : T : **SETDESTR** (PG), (PC): Ploughed.
- 30-May-96 : T : **SETDESTR** (MP): Roundup at 1.5 l with Vassgro Non-ionic at 200 ml in 200 l.
- 27-Jun-96 : T : **SETDESTR** (PC): Heavy spring-tine cultivated.
- 01-Jul-96 : T : **SETDESTR** (MP), (P): Topped.
- 23-Jul-96 : B : Chalk at 5.0 t.
- 25-Jul-96 : B : PK as (0:20:32) at 1384 kg.
- 30-Jul-96 : T : **SETDESTR** (PC): Heavy spring-tine cultivated.
 - : T : **SETDESTR** (MP), (HP), (-P): Topped, ploughed.
- 15-Aug-96 : T : **SETDESTR** (PG): Roundup at 3.0 l in with Vassgro Non-ionic at 150 ml in 392 l.
- 28-Aug-96 : B : Heavy spring-tine cultivated.

97/R/CS/457

Experimental diary:

- 28-Aug-96 : T : CROP R: Rotary harrowed, Apex, dressed Vitavax RS, drilled at 120 seeds per m².
- 03-Oct-96 : T : CROP W: Rotary harrowed, Genesis, dressed Sibutol, drilled at 380 seeds per m².
- 10-Oct-96 : T : CROP R: Butisan S at 1.5 l in 200 l.
- 28-Jan-97 : T : CROP W: Panther at 2.0 l in 200 l.
- 28-Feb-97 : T : CROP R, NITROGEN N: 34.5% N at 175 kg.
- 10-Mar-97 : T : CROP W, NITROGEN N: 34.5% N at 118 kg.
- 18-Mar-97 : T : CROP R, NITROGEN N: 34.5% N at 289 kg.
- 04-Apr-97 : T : CROP W, NITROGEN N: 34.5% N at 347 kg.
- 04-Jun-97 : T : CROP W: Folicur at 0.5 l with Mallard 750 EC at 0.3 l and Pointer at 0.5 l in 300 l.
- 16-Jul-97 : T : CROP R: Reglone 360 at 3.0 l with Vassgro Non-ionic at 392 ml in 400 l.
- 23-Jul-97 : T : CROP R: Combine harvested and straw chopped.
- 11-Aug-97 : T : CROP W: Combine harvested and straw chopped.

Previous crops: Linseed 1994, w. wheat 1995.

NOTE: Wheat plants were sampled in April and July to assess root and stem bases diseases.

GRAIN TONNES/HECTARE

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

CROP	R	W	Mean
SETDESTR			
(PG)	3.49	5.88	4.68
(PC)	3.18	7.19	5.18
(MP)	2.76	5.84	4.30
(HP)	2.93	5.76	4.35
(-P)	2.35	5.03	3.69
Mean	2.94	5.94	4.44
NITROGEN	-	N	Mean
SETDESTR			
(PG)	3.47	5.90	4.68
(PC)	3.84	6.53	5.18
(MP)	2.77	5.83	4.30
(HP)	3.29	5.40	4.35
(-P)	2.13	5.25	3.69
Mean	3.10	5.78	4.44
NITROGEN	-	N	Mean
CROP			
R	2.05	3.83	2.94
W	4.14	7.74	5.94
Mean	3.10	5.78	4.44

97/R/CS/457

GRAIN TONNES/HECTARE

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

	CROP	R	N	W	N
SETDESTR NITROGEN		-		-	
(PG)		2.79	4.19	4.14	7.61
(PC)		2.14	4.22	5.54	8.84
(MP)		1.72	3.80	3.82	7.87
(HP)		2.17	3.70	4.41	7.11
(-P)		1.46	3.24	2.81	7.25

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

	SETDESTR	CROP	NITROGEN	SETDESTR CROP
	0.359	0.227	0.145	0.508
	SETDESTR NITROGEN	CROP NITROGEN	SETDESTR CROP NITROGEN	
	0.426	0.269	0.602	
Except when comparing means with the same level(s) of				
SETDESTR	0.324			
CROP		0.205		
SETDESTR.CROP			0.458	

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	18	0.622	14.0
BLOCK.WP.SP	20	0.561	12.6

GRAIN MEAN DM% 91.9

SUB-PLOT AREA HARVESTED 0.00240