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# Yields of the Field Experiments 1995



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## 85/W/M/1 Methods of Cover Crop Establishment - Mixed Crops

#### **Rothamsted Research**

Rothamsted Research (1996) 85/W/M/1 Methods of Cover Crop Establishment - Mixed Crops; Yields Of The Field Experiments 1995, pp 172 - 174 - DOI: https://doi.org/10.23637/ERADOC-1-50

#### 95/W/M/1

#### MIXED 1

#### METHODS OF COVER CROP ESTABLISHMENT

**Object**: To examine the effectiveness of a range of methods of establishing cover crops and to measure the yield of a subsequent crop of linseed - Woburn, Great Hill Bottom I.

Sponsor: D.G. Christian.

Design: 3 randomised blocks of (2 x 4) + 1 plots, split into 2 sub-plots.

Whole plot dimensions:  $6.0 \times 12.0$ . Sub-plot dimensions:  $6.0 \times 4.5$ .

Treatments: All combinations of:-

Whole plots

1. COV CROP Cover crops:

BW Winter barley FR Forage rape

2. SOWING Method and timing of sowing:

BC Broadcast into standing crop seven days before harvest DC Disced, broadcast and rolled, three days after harvest RC Rotary cultivated, broadcast and rolled three days

after harvest

DD Direct drilled two days after harvest

Sub-plot

3. N Nitrogen, kg N:

N1 None N2 75

plus one extra treatment

Whole plot

1. EXTRA

ST Stubble from previous wheat crop

Sub-plot

2. N EXTRA Nitrogen, kg N:

N1 None N2 75

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#### 95/W/M/1

#### Experimental diary:

```
08-Aug-94 : T : SOWING BC, COV CROP BW: Puffin broadcast at 180 kg.
          : T : SOWING BC, COV CROP FR: Ember broadcast at 30 kg.
15-Aug-94 : B : Wheat combine harvested, straw chopped.
18-Aug-94 : T : SOWING DC: Disced.
          : T : SOWING RC: Rotary cultivated.
          : T : SOWING DC, RC, DD, COV CROP BW: Puffin sown at 180 kg.
          : T : SOWING DC, RC, DD, COV CROP FR: Ember sown at 30 kg.
          : T : SOWING DC, RC, COV CROP BW, FR: Rolled.
07-Sep-94 : B : Draza at 5.5 kg.
24-Nov-94 : T : COV CROP FR: Draza at 5.5 kg.
08-Apr-95 : B : Ploughed and rolled.
11-Apr-95 : B : Rotary harrowed, Antares, dressed Prelude 20LF, at 600
                   seeds per m2.
13-Apr-95 : B : Rolled.
05-May-95 : T : N N2, N EXTRA N2: 27% N at 278 kg.
02-Jun-95 : B : Ally at 30 g in 200 1.
          : B : Fastac at 0.10 l in 300 l.
22-Sep-95 : B : Combine harvested.
```

Previous crops: S. rape 1993, w. wheat 1994.

NOTE: Dry matter, plant numbers and nitrogen content in the cover crops were measured in autumn. Dry matter and nitrogen content was also measured in spring. At harvest dry matter, nitrogen content, harvest index, oil content and thousand grain weights were measured in the linseed.

#### GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

COV CROP	BW	FR	Mean
SOWING			
BC	0.50	0.49	0.50
DC	0.57	0.59	0.58
RC	0.54	0.53	0.53
DD	0.54	0.54	0.54
Mean	0.54	0.54	0.54
N	N1	N2	Mean
SOWING			
BC	0.45	0.55	0.50
DC	0.48	0.69	0.58
RC	0.43	0.63	0.53
DD	0.44	0.64	0.54
Mean	0.45	0.63	0.54

#### 95/W/M/1

### GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

N COV CROP	N1	N2	Mean
BW	0.45	0.63	0.54
FR	0.45	0.62	0.54
Mean	0.45	0.63	0.54
	N	N1	N2
SOWING	COV CROP		
BC	BW	0.43	0.57
	FR	0.46	0.53
DC	BW	0.49	0.65
	FR	0.46	0.72
RC	BW	0.41	0.67
	FR	0.46	0.59
DD	BW	0.46	0.63
	FR	0.43	0.65
N EXTRA	N1	N2	Mean
	0.33	0.76	0.55

Grand mean 0.54

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

	SOWING	CO	CROP	N	SOWING
					COV CROP
	0.080		0.057	0.031	0.114
	SOWING	COT	CROP	SOWING	
	N		N	COV CROP	
				N	
				N EXTRA	
	0.092		0.065	0.130	
Except when	comparing means	with	the same	level(s)	of
SOWING	0.063				
COV CROP			0.044		
SOWING . COV	CROP			0.089	

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	16	0.139	25.8
BLOCK.WP.SP	18	0.109	20.1

GRAIN MEAN DM% 87.9

SUB-PLOT AREA HARVESTED 0.00099