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## Yields of the Field Experiments 1994

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### 94/R/BW/1 Companion Cropping - W. Barley

#### Rothamsted Research

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94/R/BW/1

WINTER BARLEY

COMPANION CROPPING

**Object:** To measure the effects of white mustard (*Sinapsis alba*) and oil radish (*Raphanus sativus*), grown as companion or cover crops, on the pests, diseases, growth, yield and nutrient uptake of w. barley - West Barnfield II.

**Sponsor:** D.G. Christian.

**Design:** 3 randomised blocks of 6 plots.

**Whole plot dimensions:** 6.0 x 10.0.

**Treatments:**

CROP	Crop, seed rate and time of sowing:
-	None
MC	White mustard, broadcast at 20 kg within one week of previous harvest
M1	White mustard, broadcast at 1.5 kg on the same day as drilling barley
M2	White mustard, broadcast at 3.0 kg on the same day as drilling barley
M3	White mustard, broadcast at 6.0 kg on the same day as drilling barley
R1	Oil radish, broadcast at 3.0 kg on the same day as drilling barley

**Experimental diary:**

10-Aug-93 : T : CROP MC: Shallow cultivated twice with Bomford Dynadrive, Thorney white mustard broadcast by hand at 20 kg.  
09-Sep-93 : B : Ploughed.  
22-Sep-93 : B : Rotary harrowed, Puffin, dressed Cerevax Extra, drilled at 350 seeds per m<sup>2</sup>.  
: T : CROP M1, M2, M3: Thorney white mustard broadcast by hand at 1.5 kg, 3.0 and 6.0 kg respectively.  
: T : CROP R1: Trick oil radish broadcast at 3.0 kg.  
28-Oct-93 : B : Draza at 5.5 kg.  
08-Mar-94 : B : 34.5% N at 87 kg.  
14-Apr-94 : B : 34.5% N at 435 kg.  
09-May-94 : B : Starane 2 at 0.75 l with Tigress at 2.5 l in 200 l.  
31-May-94 : B : Mistral at 0.5 l with Radar at 0.5 l in 200 l.  
26-Jul-94 : B : Combine harvested.

Previous crops: W. barley 1992 and 1993.

**NOTES:** (1) Previous w. barley was combine harvested on 3 August, 1993 and the straw was removed on 6 August.  
(2) Plant populations, dry weights and nutrient uptakes of both the w. barley and the cover crops were estimated in January and April.

94/R/BW/1

GRAIN TONNES/HECTARE

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

CROP	
-	7.04
MC	6.55
M1	7.04
M2	6.95
M3	6.48
R1	6.99
Mean	6.84

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

CROP  
0.430

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	10	0.527	7.7

GRAIN MEAN DM% 85.0

PLOT AREA HARVESTED 0.00230