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## Yields of the Field Experiments 1988

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### 88/R/SU/4 Varieties and Sowing Dates - Sunflowers

#### Rothamsted Research

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88/R/SU/4

## SUNFLOWERS

### VARIETIES AND SOWING DATES

**Object:** To study the effects of five sowing dates on the rates of vegetative and floral development, seed growth, dates of maturity, disease and yield of two varieties of sunflowers - Fosters Corner.

**Sponsors:** V.J. Church, R.A. Gutteridge, C.J. Rawlinson.

**Design:** 3 randomised blocks of 10 plots.

**Whole plot dimensions:** 2.5 x 8.0.

**Treatments:** All combinations of:-

1. **VARIETY**                      Varieties:  
  
    SUNB 246                      Sunbred 246  
    S 47                              S47
  
2. **SOWDATE**                      Sowing date:  
  
    17 MAR                          17 March, 1988  
    5 APR                              5 April  
    15 APR                            15 April  
    25 APR                            25 April  
    11 MAY                            11 May

**Basal applications:** Manures: (10:10:15+4.5 Mg) at 600 kg. Weedkillers: Glyphosate at 1.4 kg in 200 l. Trifluralin at 1.1 kg in 220 l. Linuron at 0.50 kg in 220 l. Desiccant: Diquat at 0.60 kg ion in 220 l to S47 on the first three sowing dates and at 0.80 kg in 440 l to the remainder.

**Seed:** Sown at 100,000 seeds per hectare.

**Cultivations, etc.:-** Glyphosate applied: 17 Nov, 1987. Ploughed: 8 Dec. NPK Mg applied: 11 Mar, 1988. Spring-tine cultivated, trifluralin applied, rotary harrowed all plots and, to sowdate 17 Mar; seed sown, rolled, linuron applied: 17 Mar. To sowdate 5 Apr; seed sown: 5 Apr, rolled: 7 Apr, linuron applied: 11 Apr. To sowdate 15 Apr; rotary harrowed, seed sown, rolled: 15 Apr, linuron applied: 25 Apr. To sowdate 25 Apr; rotary harrowed, seed sown, rolled, linuron applied: 25 Apr. To sowdate 11 May; rotary harrowed, seed sown, rolled: 11 May. Linuron applied: 20 May. Desiccant applied to S 47, sowdates 17 Mar, 5 Apr and 15 Apr: 5 Sept. Desiccant applied to S 47, sowdates 25 Apr and 11 May: 29 Sept. Desiccant applied to SUNB 246, sowdates 17 Mar, 5 Apr and 5 Apr: 5 Oct. Desiccant applied to SUNB 246, sowdates 25 Apr and 1 May: 12 Oct. Hand harvested S 47, sowdates 17 Mar, 5 Apr and 15 Apr: 6 Sept. Hand harvested S 47, sowdates 25 Apr and 11 May: 30 Sept. Hand harvested SUNB 246 sowdates 17 Mar, 5 Apr and 15 Apr: 10 Oct. Hand harvested SUNB 246 sowdates 25 Apr and 11 May: 17 Oct. Previous crops: s. oats 1986, w. wheat 1987.

88/R/SU/4

- NOTES: (1) Heads were cut by hand and then threshed by stationary combine harvester.  
 (2) The plots were covered by a bird-proof net soon after sowing until maturity.  
 (3) Assessments of Botrytis was made on six occasions.  
 (4) Head diameters were measured at anthesis and before harvest.  
 (5) Crop height, head angle and neck thickness were measured after anthesis.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SOWDATE	17 MAR	5 APR	15 APR	25 APR	11 MAY	Mean
VARIETY						
SUNB 246	0.74	1.60	1.69	0.41	1.85	1.26
S 47	1.47	1.68	2.05	1.30	2.02	1.70
Mean	1.11	1.64	1.87	0.86	1.94	1.48

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

VARIETY	SOWDATE	VARIETY
0.128	0.202	0.285

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	18	0.349	23.6
GRAIN MEAN DM%	61.7		
PLOT AREA HARVESTED	0.00120		