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## Yields of the Field Experiments 1989

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### 89/R/SU/1 Varieties and Sowing Dates - Sunflowers

#### Rothamsted Research

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89/R/SU/1

SUNFLOWERS

VARIETIES AND SOWING DATES

**Object:** To study the effects of five sowing dates on the rates of vegetative and floral development, days to maturity, disease and yield of two varieties of sunflowers - Long Hoos I/II.

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

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

**Whole plot dimensions:** 3.5 x 10.0.

**Treatments:** All combinations of:-

1. <b>VARIETY</b>	Varieties:
SUNB 246	Sunbred 246
S 47	S47
2. <b>SOWDATE</b>	Sowing date:
28 MAR	28 March, 1989
19 APR	19 April
2 MAY	2 May
10 MAY	10 May
18 MAY	18 May

**NOTE:** The two latest sowing dates established very poorly and yields were not taken from them.

**Basal applications:** Manures: (0:18:36) at 925 kg. 'Nitram' at 150 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. Molluscicide: Metaldehyde at 0.60 kg.

**Seed:** Varieties sown at 120,000 seeds per hectare.

**Cultivations, etc.:-** PK applied: 28 Sept, 1988. Glyphosate applied: 22 Oct. Ploughed: 16 Dec. N applied, trifluralin applied and rotary cultivated, first sowing done, rolled: 28 Mar, 1989. Linuron applied: 30 Mar, 24 Apr, 4, 11 & 18 May (separately after each sowing). Metaldehyde applied: 31 Mar. Rotary cultivated, second sowing done: 19 Apr. Rotary cultivated remaining plots, third sowing done: 2 May. Third sowing rolled: 3 May. Fourth sowing done: 10 May. Fourth sowing rolled: 11 May. Last sowing done, rolled: 18 May. Irrigated 12 mm: 9 June and 25 mm: 15 June. Hand harvested: S47, first sowing: 9 & 15 Aug, S47, second sowing: 15 Aug, S47, third sowing: 22 Aug, SUNB 246, first and second sowing: 4 Sept, SUNB 246, third sowing: 13 Sept. Previous crops: W. wheat 1987, s. beans 1988.

**NOTE:** The plots were covered by a bird-proof net from April to maturity. Growth stages were monitored twice weekly, number of leaves were counted weekly before flowering, heights and head diameters were measured after flowering. Plants were counted before harvest. Botrytis was assessed on five occasions.

89/R/SU/1

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SOWDATE	28 MAR	19 APR	2 MAY	Mean
VARIETY				
SUNB 246	4.38	3.99	4.38	4.25
S 47	2.68	2.81	2.87	2.79
Mean	3.53	3.40	3.63	3.52

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

VARIETY	SOWDATE	VARIETY SOWDATE
0.121	0.148	0.209

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	10	0.256	7.3

GRAIN MEAN DM% 61.1

PLOT AREA HARVESTED 0.00150