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90/R/SU/1 Varieties and Sowing Dates - Sunflowers

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Rothamsted Research (1991) *90/R/SU/1 Varieties and Sowing Dates - Sunflowers* ; Yields Of The Field Experiments 1990, pp 143 - 144 - DOI: <https://doi.org/10.23637/ERADOC-1-42>

90/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 - Great Harpenden I.

Sponsors: V.J. Church, C.J. Rawlinson.

Design: 3 randomised blocks of 10 plots.

Whole plot dimensions: 3.5 x 10.0.

Treatments: All combinations of:-

- | | |
|-------------------|----------------|
| 1. VARIETY | Varieties: |
| SUNB 246 | Sunbred 246 |
| S 47 | S47 |
| 2. SOWDATE | Sowing date: |
| 15 MAR | 15 March, 1990 |
| 5 APR | 5 April |
| 18 APR | 18 April |
| 30 APR | 30 April |
| 10 MAY | 10 May |

NOTE: Plots were netted against birds from sowing until harvest.

Basal applications: Manures: (13:13:21) at 380 kg. Weedkillers: 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. Irrigation: 22 mm applied on two occasions.

Seed: Sown at 20 seeds per square metre.

Cultivations, etc.:- Ploughed: 1 Sept, 1989. Rolled: 4 Sept. Deep-tine cultivated: 24 Nov. Spring-tine cultivated, NPK applied: 12 Mar, 1990. Trifluralin applied and rotary cultivated: 14 Mar to **SOWDATE** 15 MAR, 4 Apr to **SOWDATE** 5 APR, 18 Apr to **SOWDATE** 18 APR, 30 Apr to **SOWDATE** 30 APR and 9 May to **SOWDATE** 10 MAY. Seed sown as **SOWDATE**. Rolled: 16 Mar to **SOWDATE** 15 MAR, 5 Apr to **SOWDATE** 5 APR, 18 Apr to **SOWDATE** 18 APR, 30 Apr to **SOWDATE** 30 APR and 10 May to **SOWDATE** 10 MAY. Linuron applied: 16 Mar to **SOWDATE** 15 MAR, 5 Apr to **SOWDATE** 5 APR, 19 Apr to **SOWDATE** 18 APR, 1 May to **SOWDATE** 30 APR and 10 May to **SOWDATE** 10 MAY. Irrigation applied: 3 and 25 May. Desiccant applied: 13 Aug to **VARIETY** S 47 **SOWDATE** 15 MAR, 22 Aug to **VARIETY** S 47 **SOWDATE** 5 APR and 18 APR, 29 Aug to **VARIETY** S 47 **SOWDATE** 30 APR and **VARIETY** SUNB 246 **SOWDATE** 15 MAR, 31 Aug to **VARIETY** S 47 **SOWDATE** 10 May, 5 Sept to **VARIETY** SUNB 246 **SOWDATE** 5 APR and 18 APR, 14 Sept to **VARIETY** SUNB 246 **SOWDATE** 30 APR and 26 Sept to **VARIETY** SUNB 246 **SOWDATE** 10 MAY. Hand harvested: 17 Aug **VARIETY** S 47 **SOWDATE** 15 MAR,

90/R/SU/1

Cultivations, etc.:-

29 Aug **VARIETY S 47 SOWDATE 5 APR** and 18 APR, 4 Sept **VARIETY S 47 SOWDATE 30 APR** and **VARIETY SUNB 246 SOWDATE 15 MAR**, 10 Sept **VARIETY S 47 SOWDATE 10 MAY**, 13 Sept **VARIETY SUNB 246 SOWDATE 5 APR** and 18 APR, 24 Sept **VARIETY SUNB 246 SOWDATE 30 APR** and 2 Oct **VARIETY SUNB 246 SOWDATE 10 MAY**. Previous crops: W. wheat 1988 and 1989.

NOTE: Plant heights and head diameters were measured and plants counted at maturity. Botrytis was assessed on ten occasions in late summer. Severely distorted and male sterile heads were counted.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SOWDATE	15 MAR	5 APR	18 APR	30 APR	10 MAY	Mean
VARIETY						
SUNB 246	2.91	3.11	3.30	3.48	3.53	3.27
S 47	0.83	1.72	2.01	2.39	2.26	1.84
Mean	1.87	2.41	2.66	2.93	2.89	2.55

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

VARIETY	SOWDATE	VARIETY
		SOWDATE
0.039	0.062	0.088

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	18	0.107	4.2

GRAIN MEAN DM% 76.5

PLOT AREA HARVESTED 0.00150