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86/R/SU/2 Row Spacing and Seed Rates - Sunflowers

Rothamsted Research

Rothamsted Research (1987) *86/R/SU/2 Row Spacing and Seed Rates - Sunflowers* ; Yields Of The Field Experiments 1986, pp 289 - 290 - DOI: <https://doi.org/10.23637/ERADOC-1-36>

86/R/SU/2

SUNFLOWERS

ROW SPACING AND SEED RATES

Object: To study the effects of three row spacings and three seed rates on growth and yield of sunflowers - Long Hoos V 1.

Sponsor: C.J. Rawlinson.

Design: 4 randomised blocks of 9 plots.

Whole plot dimensions: Wide and narrow rows: 2.54 x 5.94.
Medium rows: 2.67 x 5.94.

Treatments: All combinations of:-

1. ROW SPAC Spacing between rows:

NARROW	25.4 cm (10 inches)
MEDIUM	38.1 cm (15 inches)
WIDE	50.8 cm (20 inches)

2. POPULATN Plant populations per hectare:

	Seeds sown	Plants established
80	80,000	69,000
120	120,000	89,000
160	160,000	118,000

NOTE: The crop was netted against bird damage from the end of July until harvest.

Basal applications: Manures: Chalk at 2.9 t. 'Nitro-Chalk' at 290 kg.
Weedkiller: Trifluralin at 1.1 kg in 220 l. Bird repellent: 'Hoppit' at 3.0 l in 220 l.

Seed: Frankasol.

Cultivations, etc.: Chalk applied: 30 Sept, 1985. Zig-zag harrowed: 15 Oct. Ploughed: 30 Oct. Spring-tine cultivated, N applied: 2 May, 1986. Weedkiller applied, spring-tine cultivated: 3 May. Seed sown: 4 May. Bird repellent applied: 4 Nov. Combine harvested: 5 Nov. Previous crops: S. beet 1984, s. barley 1985.

NOTE: Pest counts were made during the season.

86/R/SU/2

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

***** TABLES OF MEANS *****

POPULATN ROW SPAC	80	120	160	MEAN
NARROW	1.63	1.75	1.44	1.61
MEDIUM	1.56	1.42	1.15	1.38
WIDE	1.51	1.61	1.30	1.47
MEAN	1.57	1.59	1.29	1.49

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	ROW SPAC	POPULATN	ROW SPAC POPULATN
SED	0.093	0.093	0.161

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	24	0.227	15.3

GRAIN MEAN DM% 71.3

PLOT AREA HARVESTED NARROW & WIDE 0.00091
MEDIUM 0.00068