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71/R/SB/1 Ethrel and Pre-treatment - Sugar Beet

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71/R/SB/1

SUGAR BEET

ETHREL AND PRE-TREATMENT

Object: To study the effects of 'Ethrel'* and different pre-treatments to seedlings, on yield of sugar beet - Garden Plot 3.

* 2-chloroethylphosphonic acid.

Design: 4 randomised blocks of 3 plots split into 2.

Whole plot dimensions: 12.2 x 3.05. Sub plot area harvested: 0.00012.

Treatments: All combinations of:-

Whole plots: 1. Pre-treatment[†]: Drilled seed - no pre-treatment (D), planted seedlings pre-treated at 20° C (P1), at 25° C (P2).

Sub plots: 2. 'Ethrel': None (O), sprayed at 2.91 kg in 224 l (E).

+ With heat and artificial light for 16 hours per day for 21 days at each temperature.

Basal applications: 565 kg (0:20:20) ploughed in, 673 kg (20:10:10 + boron) in the seedbed. Insecticide: Demeton-s-methyl at 245 g in 337 l.

Cultivations, etc.: Basal PK applied and ploughed in: 27 Nov, 1970. Ploughed: 11 Dec. Basal PK plus boron applied: 31 Mar, 1971. D plots drilled at 10.1 kg: 2 Apr. Remaining plots rotary cultivated, P2 plots planted: 10 May. P1 plots planted: 11 May. Insecticide applied: 7 July. 'Ethrel' applied: 14 July. Lifted: 11 Oct. Variety: Klein E. Previous crops: Fallow 1969, cereals 1970.

NOTES: (1) The distance between rows was 50.8 cms (20 ins).
(2) Monthly samples were taken for leaf area assessments and dry weights.

Standard errors per plot. Roots, tonnes/hectare:

Whole plot: 1.51 or 3.2% (6 d.f.)

Sub plot: 8.81 or 18.6% (9 d.f.)

71/R/SB/1

SUMMARY OF RESULTS

ROOTS: TONNES/HECTARE

	O	E	Mean
	(1) and (2)		(±0.76)
D	48.6	38.6	43.6
P1	53.1	49.1	51.1
P2	50.1	45.6	47.8
Mean (±2.54)	50.6	44.4	47.5

(1) (±3.21) For use in vertical and diagonal comparisons only

(2) (±4.41) For use in horizontal and interaction comparisons only