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51/CI/1 Sugar Beet - Control of Virus Yellows - Rothamsted

Rothamsted Research

Rothamsted Research (1952) *51/CI/1 Sugar Beet - Control of Virus Yellows - Rothamsted* ; Yields Of The Field Experiments 1951, pp 91 - 93 - DOI: <https://doi.org/10.23637/ERADOC-1-171>

SUGAR BEET

Control of Virus Yellows - Long Hoos I, II and III 1951.

System of replication: 5 randomized blocks of 2 plots; each plot being split into three for singling dates.

Area of each sub-plot: 0.0278 acre.

Treatments:

Whole plots: Sowing date. 1 - As early as possible. 2 - As soon as previous sowing above ground.

Sub plots: Singling date. A - Early (cotyledons and first leaf less than 1"); B - Normal (cotyledon and 4 leaves); C - Late (8-12 leaves).

Basal manuring: 3 cwt nitrate of soda, 4 cwt superphosphate and 2 cwt muriate of potash per acre.

Cultivations, etc.: Ploughed: Oct 21. Basal fertilizers applied: Apr 19. Seed drilled at 18 lb per acre: '1' plots - May 2; '2' plots - May 21. Singled: Plots 1A - June 8, 1B and 2A - June 14, 1C and 2B - June 22, 2C - June 29. Lifted: Nov 15. Variety: Klein E. Previous crop: Wheat.

Standard errors per plot:

Total sugar: whole plot, 1.70 cwt per acre or 5.8% (4 d.f.)
sub plot, 4.35 cwt per acre or 14.9% (16 d.f.)

Percentage Virus Yellows
(transformed values) whole plot, 2.53 or 10.8% (4 d.f.)
sub plot, 4.25 or 18.1% (16 d.f.)

Note. The analysis of the incidence of Virus Yellows has been carried out on percentages transformed to degrees, and all tests of significance should be applied to the transformed values.

Summary of Results

Sowing Date	Singling Date			Mean
	Early	Normal	Late	
	Total Sugar: cwt per acre (a and b)			
2nd May	35.9	34.0	22.7	30.8
21st May	32.1	26.4	24.0	27.5
Mean (± 1.38)	34.0	30.2	23.4	29.2
Diff. (± 2.49)	-3.8	-7.6	+1.3	-3.3 (± 1.07)

(a) = ± 1.94 for use in horizontal comparisons only.
(b) = ± 1.76 for use in all other comparisons.

51/Ci/1.2

Sowing Date	Singling Date			Mean
	Early	Normal	Late	
	Roots (washed): tons per acre			
2nd May	10.95	10.05	6.91	9.30
21st May	9.58	8.08	7.29	8.32
Mean	10.27	9.07	7.10	8.81
Diff.	-1.37	-1.97	+0.38	-0.98

	Sugar Percentage			
2nd May	16.5	16.9	16.5	16.6
21st May	16.8	16.4	16.5	16.5
Mean	16.6	16.6	16.5	16.6
Diff.	+0.3	-0.5	0.0	-0.1

	Plant No: thousands per acre			
2nd May	25.9	23.9	17.4	22.4
21st May	21.9	22.0	20.5	21.5
Mean	23.9	23.0	19.0	21.9
Diff.	-4.0	-1.9	+3.1	-0.9

	Noxious Nitrogen : Mg %			
2nd May	15.0	16.0	19.0	16.7
21st May	17.0	21.0	20.0	19.3
Mean	16.0	18.5	19.5	18.0
Diff.	+2.0	+5.0	+1.0	+2.6

51/ci/1.3

Sowing Date	Singling Date			Mean
	Early	Normal	Late	
Percentage Virus Yellows (means calculated from transformed values)				
2nd May	12.5	17.6	15.6	15.1
21st May	17.0	21.9	11.3	16.5
Mean	14.8	19.6	13.4	15.9
Diff.	+4.5	+4.3	-4.3	+1.4

	Percentage Virus Yellows (transformed values)			
	(a and b)			
2nd May	20.7	24.8	23.3	22.9
21st May	24.4	27.9	19.6	24.0
Mean (± 1.34)	22.6	26.3	21.5	23.5
Diff. (± 2.72)	+3.7	+3.1	-3.7	+1.1 (± 1.60)

{a} = ± 1.90 for use in horizontal comparisons only.
 {b} = ± 1.92 for use in all other comparisons.