

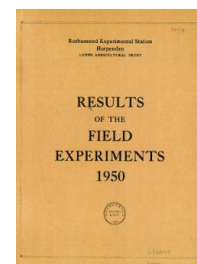
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50/DA/1 Sugar Beet - Irrigation - Kesgrave

Rothamsted Research

Rothamsted Research (1951) *50/DA/1 Sugar Beet - Irrigation - Kesgrave* ; Yields Of The Field Experiments 1950, pp 85 - 87 - DOI: <https://doi.org/10.23637/ERADOC-1-185>

50/Da/1.1

SUGAR BEET

Irrigation and nitrogen - Kesgrave, Suffolk 1950

System of replication: 4 randomized blocks of 4 plots each, plots being split into 4 for the application of nitrogen.

Area of each plot: 0.0346 acre. Area harvested: 0.0145 acre.

Treatments:

Whole plots. Irrigation: None - 0; as decided by farmer - A (2" July 1-2); based on weather data - B (1½" June 13-16 and ½" July 12, total 2") and C (2" June 13-16, 1" July 12, ¼" Aug 15 and ¾" Sept 13-14, total 4").

Sub-plots. Nitrogen: None, 0.4, 0.8, 1.2 cwt N per acre applied as nitrochalk.

Monthly rainfall in inches: May - 1.35; June - 1.47; July - 2.37; August - 2.32; September - 7.51.

Basal manuring: Salt: 4 cwt per acre
Potassic super (13.8% P₂O₅, 13.8% K₂O): 6 cwt per acre.

Cultivations, etc.: Salt applied: early Feb. Potassic super applied: Mar 2. Nitrochalk applied: Mar 14. Seed drilled: Mar 28. Lifted: Oct 24-26. Variety: Klein E. Previous crop: 3 year ley.

Standard errors per plot:

Total sugar:	whole plot, 2.25 cwt per acre or 3.8%
	sub-plot, 3.52 cwt per acre or 5.9%
Roots (washed):	whole plot, 0.607 tons per acre or 3.7%
	sub-plot, 0.845 tons per acre or 5.1%
Sugar percentage:	whole plot, 0.228
	sub-plot, 0.497
Tops:	whole plot, 0.408 tons per acre or 6.0%
	sub-plot, 0.600 tons per acre or 8.8%
Plant number:	whole plot, 0.883 thousands per acre or 2.7%
	sub-plot, 1.465 thousands per acre or 4.5%
Noxious Nitrogen:	whole plot, 7.88 mg per 100 gm.
	sub-plot, 7.38 mg per 100 gm.

All whole plot standard errors estimated from 9 d.f.

All sub-plot errors except Plant Number and Noxious Nitrogen estimated from 36 d.f. Plant Number and Noxious Nitrogen - 35 d.f.

50/Da/1.2

Summary of Results

cwt N per acre	Irrigation: inches				Mean
	D None	A 2	B 2	C 4	
	Total sugar: cwt per acre (1) and (2)				(±0.88)
None	52.4	63.9	58.8	60.9	59.0
0.4	51.9	67.2	59.9	65.7	61.1
0.8	54.8	63.9	58.8	64.0	60.4
1.2	52.1	62.7	58.9	63.4	59.3
Mean (±1.13)	52.8	64.4	59.1	63.5	60.0
	Roots (washed): tons per acre (1) and (2)				(±0.211)
None	13.86	17.03	15.80	16.37	15.76
0.4	14.11	18.20	16.38	17.71	16.60
0.8	15.48	17.66	16.00	17.78	16.73
1.2	15.11	17.93	17.03	18.46	17.13
Mean (±0.303)	14.64	17.71	16.30	17.58	16.56
	Sugar Percentage (1) and (2)				(±0.124)
None	18.90	18.78	18.62	18.56	18.72
0.4	18.39	18.45	18.26	18.54	18.41
0.8	17.70	18.10	18.38	17.99	18.04
1.2	17.29	17.48	17.30	17.19	17.31
Mean (±0.114)	18.07	18.20	18.14	18.07	18.12

Standard errors of body of table:	Total Sugar	Roots (washed)	Sugar percentage
(1) for use in vertical comparisons	1.76	0.423	0.249
(2) for use in all others	1.90	0.475	0.244

50/Da/1.3

cwt N per acre	Irrigation: inches				Mean
	0 None	A 2	B 2	C 4	
	Tops: tons per acre				
		(1) and (2)			(±0.150)
None	5.27	5.75	6.15	5.81	5.74
0.4	5.67	7.18	6.27	6.66	6.44
0.8	7.27	7.31	7.08	7.74	7.35
1.2	7.49	7.43	8.01	8.31	7.81
Mean (±0.204)	6.42	6.92	6.88	7.13	6.84
	Plant Number: thousands per acre				
		(1) and (2)			(±0.366)
None	32.6	32.2	32.1	33.4	32.6
0.4	32.4	32.8	32.8	32.8	32.7
0.8	33.5	33.3	32.8	32.4	33.0
1.2	31.8	31.9	31.7	33.8	32.3
Mean (±0.442)	32.6	32.6	32.4	33.1	32.7
	Noxious Nitrogen: mg per 100 gm				
		(1) and (2)			(±1.84)
None	24.5	18.0	21.8	16.8	20.2
0.4	21.8	30.8	30.8	18.2	25.4
0.8	43.2	31.8	30.5	24.2	32.4
1.2	41.8	39.5	43.2	35.8	40.1
Mean (±3.94)	32.8	30.0	31.6	23.8	29.5

Standard errors of body of table:	Tops	Plant Number	Noxious Nitrogen
(1) for use in vertical comparisons	0.300	0.733	3.69
(2) for use in all others	0.330	0.773	5.07