

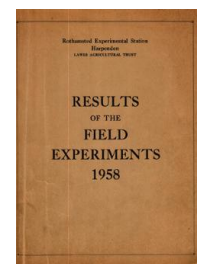
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1958

[Full Table of Content](#)



58/W/BG/1 Irrigation

Rothamsted Research

Rothamsted Research (1959) *58/W/BG/1 Irrigation* ; Yields Of The Field Experiments 1958, pp 71 - 75 - DOI: <https://doi.org/10.23637/ERADOC-1-181>

IRRIGATION EXPERIMENT

Second year of revised scheme (the 8th year)

The effects of irrigation and nitrogen - Woburn Butt Close 1958.

For details of previous cropping, treatments etc. see "Details of the Classical and Long Term Experiments" 1956.

Muriate of potash was applied to certain grass plots at 0.6 cwt K₂O per acre after the second cut and each subsequent cut except the last. This made possible a test of (0 v Irrigation) (0 v K) on the main grass plots.

Area of each sub-plot (acres): Cut grass, 0.0264; remainder, 0.0278.
Area harvested (acres): Sugar beet, 0.0176; spring wheat, 0.0089; spring beans, 0.0082; cut grass, 0.0165.

Rainfall and Irrigation: inches

Week ending	Rain-fall	Cut grass B and C	Sugar beet			Wheat A and C	Beans C
			A	B	C		
May 5	.18	.75					
12	.14						
19	.81	.75					
26	.30		-	.50	.50	.50	.50
June 2	.77	.50				.50	.50
9	1.11						
16	1.05	.50					
23	.83						
30	1.97						
July 7	.84						
14	.11						
21	.01	.78	.75	-	.75	.50	
28	1.24	.50	.50	-	.50		
Aug 4	.23						
11	.32						
18	.83	.50					
25	.76						
Sept 1	.43						
8	.51						
15	.40						
22	.59						
29	.76						
Total	14.19	4.28	1.25	.50	1.75	1.50	1.00

- Note: (1) On grass 0 = A, B = C; on wheat 0 = B, A = C.
(2) Owing to weather conditions the experimental insecticide spray treatment of beans was omitted.

Summary of Results

Sugar beet

N: cwt per acre	Irrigation				Mean
	0	A	B	C	
Roots (washed): tons per acre					
0.6	12.70	11.64	11.63	11.76	11.93
1.2	15.54	15.28	15.96	16.40	15.79
Mean	14.12	13.46	13.79	14.08	13.86
Difference	2.84	3.64	4.33	4.64	3.86

Sugar Percentage

0.6	16.6	16.5	16.8	16.3	16.5
1.2	16.1	16.5	16.2	16.5	16.3
Mean	16.4	16.5	16.5	16.4	16.4
Difference	-0.5	0.0	-0.6	+0.2	-0.2

Total sugar: cwt per acre

	(± 3.44) [*]				
0.6	42.1	38.1	39.0	38.3	39.4
1.2	50.4	50.3	51.5	54.2	51.6
Mean (± 2.75)	46.2	44.2	45.2	46.2	45.4
Diff. (± 4.12)	8.3	12.2	12.5	15.9	12.2 (± 2.06)

Tops: tons per acre

	(± 1.513) [*]				
0.6	9.58	9.19	8.32	7.94	8.76
1.2	14.82	13.57	13.53	13.14	13.77
Mean (± 1.391)	12.20	11.38	10.92	10.54	11.26
Diff. (± 1.189)	5.24	4.38	5.21	5.20	5.01 (± 0.594)

* For use in horizontal and diagonal comparisons only.

Spring Wheat

Grain (at 85% dry matter): cwt per acre

N: cwt per acre	Irrigation		Mean
	O & B	A & C	
	(± 1.13) [‡]		
0.4	24.3	23.0	23.6
0.8	27.6	25.4	26.5
Mean (± 1.00)	25.9	24.2	25.1
Diff. (± 1.42)	3.3	2.4	2.9 (± 0.74)

[‡] For use in horizontal and diagonal comparisons only.

Mean dry matter % as harvested: 79.8

Spring Beans

Grain (at 85% dry matter): cwt per acre

Dung: tons per acre	Irrigation		Mean
	O	C	
	(± 1.12) [‡]		
None	18.0	18.9	18.5
12	16.9	17.4	17.2
Mean (± 1.02)	17.5	18.2	17.8
Diff. (± 0.89)	-1.1	-1.5	-1.3 (± 0.63)

[‡] For use in horizontal and diagonal comparisons only.

Mean dry matter % as harvested: 74.3

Cut Grass

Total of Cuts 1 & 2. Dry matter: cwt per acre

N: cwt per acre ⁺	Irrigation		Mean
	O & A	B & C	
	(±0.64)		
0.3	16.6	18.8	17.7
0.6	19.3	22.4	20.9
Mean (±0.57)	17.9	20.6	19.3
Diff. (±0.59)	2.7	3.6	3.2 (±0.42)

Mean dry matter % as cut: 21.3

Total of Cuts 3-8. Dry matter: cwt per acre

N: cwt per acre ⁺	Irrigation		K ₂ O: cwt per acre including basal		Mean
	O & A	B & C	1.2	4.8 ⁺⁺	
	(±2.00) [≠]		(±2.00) [≠]		
0.3	56.9	57.6	55.9	58.7	57.3
0.6	68.3	65.8	62.7	71.4	67.1
Mean	62.6	61.7	59.3	65.1	62.2
	(±1.58)		(±1.58)		
Difference	11.4	8.2	6.8	12.7	9.8 (±1.73)
	(±2.45)		(±2.45)		

K ₂ O: cwt per acre ⁺⁺ including basal	Irrigation		Mean
	O & A	B & C	
	(±2.23)		
1.2	60.5	58.0	59.3
4.8	64.7	65.5	65.1
Diff. (±3.16)	4.2	7.5	5.8

[≠] For use in horizontal and diagonal comparisons only.

⁺ For each cut

⁺⁺ Total for 6 cuts

Mean dry matter % as cut: 17.7