

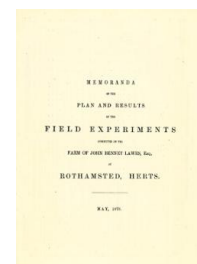
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ROTHAMSTED
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Memoranda of the Field Experiments at Rothamsted, May 1873

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Experiments on Sugar Beet; Barn Field

Rothamsted Research

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BARN FIELD.

EXPERIMENTS ON SUGAR BEET, MANURE, AND WITH DIFFERENT DESCRIPTIONS OF MANURE, COMMENCING 1871.

TO BE GROWN YEAR AFTER YEAR ON THE SAME LAND, WITHOUT MANURE, AND WITH DIFFERENT DESCRIPTIONS OF MANURE, COMMENCING 1871.
 Previous Cropping:—1843-'48 (6 Seasons), experiments on Norfolk White Turnips, with different descriptions of Manure.
 1849-'52 (4 Seasons), experiments on Swede Turnips, with different descriptions of Manure.
 1853-'55 (3 Seasons), Barley without Manure (with a view as far as possible to equalise the condition of the Plots).
 1856-'70 (15 Seasons), experiments on Swede Turnips, with different descriptions of Manure, in which the arrangement of the Plots was the same, and that of the Manures very similar—in fact, exactly the same during the last 10 years as in the first year of Sugar Beet, excepting that, during those 10 years, the Alkalies were omitted for the Swedes. For the second and subsequent years of Sugar Beet slight alterations in the Manures were made, as will be seen below.

Area under experiment about 8 acres. The experiments are arranged as under, in 5 Series, each of which comprises 8 Plots.

Manures, per Acre, per Annum.

Plots.	SERIES 1.		SERIES 2.		SERIES 3.		SERIES 4.		SERIES 5.	
	Manure	Alkalies	Manure	Alkalies	Manure	Alkalies	Manure	Alkalies	Manure	Alkalies
1	0.40 Hectare or 1.59 Prussian Morgen.	Each Plot as Series 1, and Cross-dressed with 550 lbs. Nitrate Soda.	Each Plot as Series 1, and Cross-dressed with 400 lbs. "Ammonia-salts."	Each Plot as Series 1, and Cross-dressed with 2000 lbs. Rape-cake, and 400 lbs. "Ammonia-salts."	Each Plot as Series 1, and Cross-dressed with 2000 lbs. Rape-cake, and 400 lbs. "Ammonia-salts."	Each Plot as Series 1, and Cross-dressed with 2000 lbs. Rape-cake, and 400 lbs. "Ammonia-salts."	Each Plot as Series 1, and Cross-dressed with 2000 lbs. Rape-cake, and 400 lbs. "Ammonia-salts."	Each Plot as Series 1, and Cross-dressed with 2000 lbs. Rape-cake, and 400 lbs. "Ammonia-salts."	Each Plot as Series 1, and Cross-dressed with 2000 lbs. Rape-cake, and 400 lbs. "Ammonia-salts."

FIRST SEASON, 1871.

Plots.	SERIES 1.		SERIES 2.		SERIES 3.		SERIES 4.		SERIES 5.	
	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.
1	15 13	4 2	23 9	6 19	22 1	5 6	26 4	6 14	28 18	5 14
2	16 0	3 18	24 6	5 15	21 15	4 6	25 2	6 7	25 4	5 5
3	7 17	1 13	21 7	5 12	15 6	4 16	19 18	7 0	20 16	4 12
4	6 14	1 10	20 2	4 8	17 10	3 5	22 15	6 3	21 7	3 19
5	6 17	1 8	19 6	3 14	15 4	3 19	19 18	7 12	18 19	4 5
6	6 6	1 5	16 16	3 13	17 4	3 4	23 11	6 11	21 0	3 11
7	6 15	1 8	17 0	3 18	18 8	4 3	21 0	5 0	21 7	3 17
8	5 4	1 5	15 6	3 16	16 2	4 15	17 19	7 11	20 7	4 9

SECOND SEASON, 1872.

Plots.	SERIES 1.		SERIES 2.		SERIES 3.		SERIES 4.		SERIES 5.	
	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.
1	15 13	4 2	23 9	6 19	22 1	5 6	26 4	6 14	28 18	5 14
2	16 0	3 18	24 6	5 15	21 15	4 6	25 2	6 7	25 4	5 5
3	7 17	1 13	21 7	5 12	15 6	4 16	19 18	7 0	20 16	4 12
4	6 14	1 10	20 2	4 8	17 10	3 5	22 15	6 3	21 7	3 19
5	6 17	1 8	19 6	3 14	15 4	3 19	19 18	7 12	18 19	4 5
6	6 6	1 5	16 16	3 13	17 4	3 4	23 11	6 11	21 0	3 11
7	6 15	1 8	17 0	3 18	18 8	4 3	21 0	5 0	21 7	3 17
8	5 4	1 5	15 6	3 16	16 2	4 15	17 19	7 11	20 7	4 9

THIRD SEASON, 1873; Manures, &c., exactly as for 1872.

Plots.	SERIES 1.		SERIES 2.		SERIES 3.		SERIES 4.		SERIES 5.	
	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.
1	15 13	4 2	23 9	6 19	22 1	5 6	26 4	6 14	28 18	5 14
2	16 0	3 18	24 6	5 15	21 15	4 6	25 2	6 7	25 4	5 5
3	7 17	1 13	21 7	5 12	15 6	4 16	19 18	7 0	20 16	4 12
4	6 14	1 10	20 2	4 8	17 10	3 5	22 15	6 3	21 7	3 19
5	6 17	1 8	19 6	3 14	15 4	3 19	19 18	7 12	18 19	4 5
6	6 6	1 5	16 16	3 13	17 4	3 4	23 11	6 11	21 0	3 11
7	6 15	1 8	17 0	3 18	18 8	4 3	21 0	5 0	21 7	3 17
8	5 4	1 5	15 6	3 16	16 2	4 15	17 19	7 11	20 7	4 9

(1) "Superphosphate of Lime"—in all cases made from 200 lbs. Bone-ash, 150 lbs. Sulphuric Acid sp. gr. 1.7 (and water).

(2) "Ammonia-salts"—in each case equal parts Sulphate and Murate of Ammonia of Commerce.