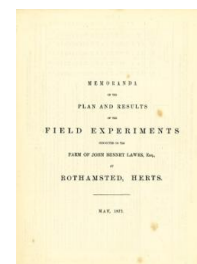


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ROTHAMSTED
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Memoranda of the Field Experiments at Rothamsted, May 1872



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Experiments on Sugar Beet; Barn Field

Rothamsted Research

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BARN FIELD.

EXPERIMENTS ON SUGAR BEET,

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 Sugar Beet experiments, excepting that, during that period, the Alkalies were omitted for the Swedes.

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.

1 acre	0.40 Hectare	or 1.59 Prussian Morgen.
1 lb. (pound avoird.)	0.45 Kilogramme	or 0.91 Zollverein Pfund.
1 cwt. (hundredweight)	51.0	or 1.02 Centner.
1 ton	(about) 1016.0	or 20.33 Centner.
1 lb. per acre	(about) 1.12 Kilogrammes per Hectare	or 0.57 Zoll. Pfd. per Pr. Morgen.	
1 cwt. per acre	(about) 125.5 Kilogrammes per Hectare	or 0.64 Centner per Pr. Morgen.	
1 ton per acre	(about) 2510.0 Kilogrammes per Hectare	or 12.82 Centner per Pr. Morgen.	

	SERIES 2. Each Plot as Series 1, and Cross-dressed with 550 lbs. Nitrate Soda.	SERIES 3. Each Plot as Series 1, and Cross-dressed with 400 lbs. "Ammonia-salts."	SERIES 4. Each Plot as Series 1, and Cross-dressed with 2000 lbs. Rape-cake, and 400 lbs. "Ammonia-salts."	SERIES 5. Each Plot as Series 1, and Cross-dressed with 2000 lbs. Rape-cake.
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SERIES 1.

PLOTS.	FARMYARD MANURE (14 TONS)		FARMYARD MANURE (14 TONS), AND 3½ CWT. SUPERPHOSPHATE OF LIME (1)		WITHOUT MANURE (FOR 30 YEARS)		3½ CWT. SUPERPHOSPHATE, 500 LBS. SULPHATE POTASS, 200 LBS. CHLORIDE SODIUM (2)		3½ CWT. SUPERPHOSPHATE, AND 200 LBS. SULPHATE MAGNESIA		3½ CWT. SUPERPHOSPHATE, AND 500 LBS. SULPH. POTASS		3½ CWT. SUPERPHOSPHATE, AND 500 LBS. SULPH. POTASS, AND 36½ LBS. AMMONIA-SALTS (3)		WITHOUT MANURE 1853 AND SINCE; PREVIOUSLY PART UNMANURED, AND PART SUPERPHOSPHATE	
	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.	Roots.	Leaves.
	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.	Tons. cwts.
1	18 3	3 5	27 13	6 19	22 1	5 6	26 4	6 14	28 18	5 14	25 4	5 5	25 4	5 5	25 4	5 5
2	14 13	2 14	25 16	5 15	21 15	4 6	25 2	6 7	20 16	4 12	19 18	7 0	20 16	4 12	20 16	4 12
3	7 11	2 0	22 3	5 12	15 6	4 16	19 18	7 0	21 7	3 19	17 10	3 5	21 7	3 19	21 7	3 19
4 (4)	7 11	1 5	22 15	4 8	17 10	3 5	22 15	6 3	21 7	3 19	19 18	7 12	21 7	3 19	21 7	3 19
5	5 12	1 8	20 19	3 14	15 4	3 19	19 18	7 12	18 19	4 5	15 4	3 4	18 19	4 5	18 19	4 5
6	5 1	1 4	21 5	3 15	17 4	3 4	23 11	6 11	21 0	3 11	17 4	3 4	21 0	3 11	21 0	3 11
7	5 18	1 5	20 19	3 18	18 8	4 3	21 9	5 0	21 7	3 17	18 8	4 3	21 7	3 17	21 7	3 17
8	7 10	1 14	21 13	3 16	16 2	4 15	17 19	7 11	20 7	4 9	16 2	4 15	20 7	4 9	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) In the first season, 1871. 3½ cwt. Superphosphate, 300 lbs. Sulphate Potass, 200 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia.
 (3) "Ammonia-salts."—in each case equal parts Sulphate and Muriate of Ammonia of Commerce.