

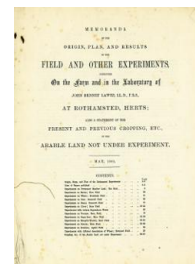
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Memoranda of the Field Experiments at Rothamsted: May 1881

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Experiments on Mangold-wurzel; Barn-field

Rothamsted Research

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EXPERIMENTS ON MANGOLD WURZEL.—BARN FIELD (after SUGAR-BEET); commencing 1876.

The arrangement of the Plots is precisely the same as previously for Sugar-beet, excepting that Plot 9, which was unmanured for Sugar-beet, and also previously for Swedes, is now added as a manured Plot. With this exception, the manures are also substantially the same as previously for Sugar-beet; in fact, precisely the same as for the Sugar-beet in 1872 and 1873. Seed, Yellow Globe; dibbled on ridges, rows 26 inches apart; plants 11 inches apart in the rows (?). Area under experiment about 8 acres. Roots all carted off; Leaves weighed, spread on the respective Plots, and ploughed in.

PLOTS.	MANURES PER ACRE PER ANNUM.												
	SERIES 1.		SERIES 2. As Series 1, and Cross-dressed with 550 lbs. Nitrate Soda.		SERIES 3. As Series 1, and Cross-dressed with 400 lbs. "Ammonia- salts."		SERIES 4. As Series 1, and Cross-dressed with 2000 lbs. Rape-cake and 400 lbs. "Ammonia- salts."		SERIES 5. As Series 1, and Cross-dressed with 2000 lbs. Rape-cake.				
FIRST SEASON, 1876. Seed dibbled, May 22-26. Crop taken up, Nov. 3-17.													
	PRODUCE PER ACRE.												
	Roots.		Leaves.		Roots.		Leaves.		Roots.		Leaves.		
	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	
1	Farmyard Manure (14 tons) ..	19	12	4	9	25	2	7	5	29	19	7	12
2	Farmyard Manure (14 tons), and 3½ cwt. Superphosphate (?) ..	19	13	4	6	27	13	7	3	29	8	7	10
3	Without Manure (1846, and since) ..	6	10	1	14	20	13	5	12	14	3	4	10
4	{ 3½ cwt. Superphosphate, 500 lbs. Sulphate Potass, 200 lbs. Chloride { Sodium (common salt), 200 lbs. Sulphate Magnesia ..	8	8	1	15	25	1	6	0	19	19	4	9
5	3½ cwt. Superphosphate ..	7	10	1	14	21	0	5	14	13	10	5	1
6	3½ cwt. Superphosphate, 500 lbs. Sulphate Potass ..	6	16	1	12	21	2	5	8	17	15	4	13
7	3½ cwt. Superphos., 500 lbs. Sulphate Potass, 36½ lbs. Am.-salts (?) ..	8	13	2	3	22	11	5	14	19	2	5	11
8	Unmanured, 1853, and since; previously part Unman., part Superphos. ..	5	9	1	10	15	16	5	3	11	17	4	16
9	Farmyard Manure (14 tons), 3½ cwt. Superphosphate (?) ..	..	..	..	..	..	..	..	..	25	14	7	6
SECOND SEASON, 1877. Seed dibbled, June 4-6 (Plots 8 and 9, June 11th). Crop taken up, Nov. 14-23.													
	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	
1	Farmyard Manure (14 tons) ..	15	7	2	1	24	13	3	14	27	1	4	4
2	Farmyard Manure (14 tons), and 3½ cwt. Superphosphate (?) ..	16	14	1	19	26	8	3	12	26	18	4	6
3	Without Manure (1846, and since) ..	5	9	1	0	16	17	3	14	8	16	3	0
4	{ 3½ cwt. Superphosphate, 500 lbs. Sulphate Potass, 200 lbs. Chloride { Sodium (common salt), 200 lbs. Sulphate Magnesia ..	6	16	1	3	21	10	3	10	16	10	2	2
5	3½ cwt. Superphosphate ..	6	1	0	19	20	5	3	1	12	2	2	10
6	3½ cwt. Superphosphate, 500 lbs. Sulphate Potass ..	5	8	0	18	20	19	2	18	15	6	1	16
7	3½ cwt. Superphos., 500 lbs. Sulphate Potass, 36½ lbs. Am.-salts (?) ..	7	0	1	3	22	2	3	16	16	13	2	7
8	Unmanured, 1853, and since; previously part Unman., part Superphos. ..	3	19	1	3	9	17	5	4	7	4	3	10
9	Farmyard Manure (14 tons), 3½ cwt. Superphosphate (?) ..	..	..	..	..	..	..	..	..	13	17	4	0
THIRD SEASON, 1878. Seed dibbled, June 8-9 (Plot 9, June 11th). Crop taken up, Nov. 7-20.													
	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	
1	Farmyard Manure (14 tons) ..	13	5	2	16	18	15	4	4	20	11	5	6
2	Farmyard Manure (14 tons), and 3½ cwt. Superphosphate (?) ..	14	16	2	19	21	4	4	15	19	15	5	3
3	Without Manure (1846, and since) ..	3	10	1	4	10	2	16	2	4	7	2	11
4	{ 3½ cwt. Superphosphate, 500 lbs. Sulphate Potass, 200 lbs. Chloride { Sodium (common salt), 200 lbs. Sulphate Magnesia ..	5	9	1	7	18	10	4	6	14	3	2	12
5	3½ cwt. Superphosphate ..	4	14	1	8	14	11	3	18	8	2	3	6
6	3½ cwt. Superphosphate, 500 lbs. Sulphate Potass ..	3	18	1	3	15	1	3	7	12	0	2	14
7	3½ cwt. Superphos., 500 lbs. Sulphate Potass, 36½ lbs. Am.-salts (?) ..	5	8	1	9	13	18	3	1	11	18	2	18
8	Unmanured, 1853, and since; previously part Unman., part Superphos. ..	2	13	1	4	11	19	4	7	6	13	3	5
9	Farmyard Manure (14 tons), 3½ cwt. Superphosphate (?) ..	..	..	..	..	..	..	..	..	15	17	5	9
FOURTH SEASON, 1879. Seed dibbled, May 13-15. Crop taken up, Nov. 11-20.													
	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	
1	Farmyard Manure (14 tons) ..	6	3	1	15	9	8	2	9	12	6	3	11
2	Farmyard Manure (14 tons), and 3½ cwt. Superphosphate (?) ..	6	13	1	16	11	11	2	18	11	12	3	9
3	Without Manure (1846, and since) ..	1	12	0	12	4	17	1	19	3	12	2	4
4	{ 3½ cwt. Superphosphate, 500 lbs. Sulphate Potass, 200 lbs. Chloride { Sodium (common salt), 200 lbs. Sulphate Magnesia ..	2	2	0	14	8	13	2	8	7	10	1	15
5	3½ cwt. Superphosphate ..	1	18	0	14	8	5	2	9	5	0	1	16
6	3½ cwt. Superphosphate, 500 lbs. Sulphate Potass ..	1	15	0	13	7	16	2	7	6	9	1	12
7	3½ cwt. Superphos., 500 lbs. Sulphate Potass, 36½ lbs. Am.-salts (?) ..	1	18	0	14	8	2	2	6	6	7	1	14
8	Unmanured, 1853, and since; previously part Unman., part Superphos. ..	1	3	0	11	5	16	2	7	3	10	1	16
9	Farmyard Manure (14 tons), 3½ cwt. Superphosphate (?) ..	..	..	..	..	..	..	..	..	9	7	2	19
FIFTH SEASON, 1880. Seed dibbled, April 22-23 (Plot 9, April 24th). Crop taken up, Nov. 2-11.													
	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	Tons.	cwts.	
1	Farmyard Manure (14 tons) ..	18	11	2	14	26	8	3	5	25	4	5	10
2	Farmyard Manure (14 tons), and 3½ cwt. Superphosphate (?) ..	17	8	2	0	27	16	3	14	25	15	5	10
3	Without Manure (1846, and since) ..	4	10	0	18	14	0	2	13	9	17	2	11
4	{ 3½ cwt. Superphosphate, 500 lbs. Sulphate Potass, 200 lbs. Chloride { Sodium (common salt), 200 lbs. Sulphate Magnesia ..	5	17	0	19	23	6	3	3	19	14	2	18
5	3½ cwt. Superphosphate ..	5	3	0	16	18	6	2	4	9	18	2	13
6	3½ cwt. Superphosphate, 500 lbs. Sulphate Potass ..	4	15	0	14	21	10	2	11	18	12	3	4
7	3½ cwt. Superphos., 500 lbs. Sulphate Potass, 36½ lbs. Am.-salts (?) ..	7	0	0	19	21	10	2	6	19	6	2	19
8	Unmanured, 1853, and since; previously part Unman., part Superphos. ..	4	0	0	17	11	14	3	5	5	19	2	17
9	Farmyard Manure (14 tons), 3½ cwt. Superphosphate (?) ..	..	..	..	..	..	..	..	..	20	19	4	10

(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 Muriate of Ammonia of Commerce.
 (3) Plot 9 sown on the flat instead of on ridges; plants ridged up afterwards; rows 22 inches apart, plants 10 inches apart in the rows.

