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ROTHAMSTED
RESEARCH

Memoranda of the Plan and Results of the Rothamsted Field Experiments - Supplement - June 1864



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Default Title

Rothamsted Research

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MEMORANDA

OF THE

PLAN AND RESULTS

OF THE

ROTHAMSTED FIELD EXPERIMENTS,

&c.

SUPPLEMENT—JUNE, 1864.

ROTHAMSTED FIELD EXPERIMENTS, &c. SUPPLEMENT—JUNE, 1864.

EXPERIMENTS ON THE GROWTH OF WHEAT YEAR AFTER YEAR ON THE SAME LAND; WITHOUT MANURE, AND WITH DIFFERENT KINDS OF MANURE. BROADBALK FIELD.

Previous Cropping—1839, Turnips, with Farmyard Manure; 1840, Barley; 1841, Peas; 1842, Wheat; 1843, Oats. The last four Crops Unmanured. First Experimental Wheat Crop in 1844. Wheat every year since; and with some exceptions, nearly the same description of Manures on the same Plots each year—especially during the last 12 years.

(Area under experiment about 13 acres.)

PLOTS.	Manures, per acre, for the growing (21st) Wheat-crop—1864. 1 acre = (about) 0.40 Hectare. 1 bushel = (about) 0.36 Hectolitre. 1 lb. (pound, avoird.) = (about) 0.45 Kilogramme. 1 cwt. (hundredweight) = (nearly) 51.0 Hectolitre per Hectare. 1 bushel per acre .. = (nearly) 0.9 Hectolitre per Hectare. 1 cwt. per acre = (about) 125.5 Kilogrammes per Hectare.	PRODUCE PER ACRE.					
		Average per Annum, over 12 Years, 1852-1863.			Twenty-first Season, 1863.		
		Dressed Corn.			Dressed Corn.		
		Quantity.	Weight per Bushel.	Total Straw.	Quantity.	Weight per Bushel.	Total Straw.
0	Superphosphate of Lime (three times as much as on No. 5 and succeeding Plots)	Bush. pks. 18 1	cwts. 16 1/2	Bush. pks. 22 0 3/4	lbs. 62 1/2	cwts. 16 1/2	
1	Mixed Alkalies (twice as much as on No. 5 and succeeding Plots)	15 1/2	20 3	62 1/2	15 1/2	
2	Farm-yard dung (14 tons every year)	35 1 1/2	44 0	63 1/2	35 1/2	
3	Unmanured, continuously	15 2	17 1	62 1/2	14 1/2	
4	Unmanured for Crop of 1852, and since (previously Superphosphate and Ammonia-salts)	16 3/4	20 1	62 1/2	14 1/2	
5 (a-b)	Mixed Alkalies ⁽¹⁾ ; and Superphosphate of Lime ⁽²⁾	18 1 1/2	19 2 3/4	63	15 1/2	
6 (a-b)	ditto	28 1 1/2	39 2 1/2	62 1/2	33 1/2	
7 (a-b)	ditto	36 1 1/2	53 2 1/2	62 1/2	52 1/2	
8 (a-b)	ditto	38 0	55 2 1/2	62 1/2	59	
9 { a } b	ditto	34 2	55 2 1/2	62 1/2	56 1/2	
10 { a } b	none since 1844	25 3 1/2	41 1 1/2	62 1/2	37 1/2	
	none (except 1844, '48, & '50); none since 1844	22 2 1/2	39 0 1/2	62 1/2	31	
	none (except 1844, '48, & '50); none since 1844	26 3 1/2	43 2 1/2	62 1/2	36 1/2	
11 (a-b)	none	29 2 1/2	45 3	62 1/2	38 1/2	
12 (a-b)	366 1/2 lbs. (3) Sulphate of Soda	35 0 1/2	54 0	62 1/2	48 1/2	
13 (a-b)	200 lbs. (3) Sulphate of Potass	34 2 1/2	53 1 1/2	62 1/2	51 1/2	
14 (a-b)	280 lbs. (3) Sulphate of Magnesia	35 0	53 3/4	62 1/2	48	
15 { a } b	"Mixed Alkalies"	33 0 1/2	48 1 1/2	62 1/2	46	
	ditto ⁽⁴⁾	34 3 1/2	48 0	62 1/2	45 3/4	
16 (a-b)	ditto	38 2	55 3 1/2	62 1/2	61 1/2	
17 (a-b)	none	32 2 1/2 ⁽⁵⁾	46	62 1/2	17 ⁽¹⁾	
18 (a-b)	"Superphosphate of Lime"	18 3 1/2 ⁽⁶⁾	46 1 1/2 ⁽⁵⁾	62 1/2 ⁽¹⁵⁾	43 ⁽¹²⁾	
19	ditto ⁽⁶⁾	31 2 1/2	46 2 1/2	62 1/2	40 1/2	
20	Unmanured continuously	15 2 1/2	17 2 1/2	62 1/2	13 1/2	
21	"Mixed Alkalies"	22 0 1/2	27 2 1/2	62 1/2	22 1/2	
22	ditto	21 2 1/2	29 3	62 1/2	24	

(1) Since 1858, 200 lbs. Sulphate of Potass, 100 lbs. Sulphate of Soda, and 100 lbs. Sulphate of Magnesia; for Crop of 1857-8, and previously, 300 lbs., 200 lbs., and 100 lbs., respectively.
 (2) 200 lbs. Bone-ash, 150 lbs. Sulphuric acid (Sp. gr. 1.7).
 (3) Equal parts Sulphate and Muriate of Commerce.
 (4) The Manures of 17 and 18 alternate.
 (5) With Hydrochloric instead of Sulphuric Acid.
 (6) Average of 12 years' Ammonia-salts alternated with Mineral Manures.
 (7) Plots 17 had the Mineral Manures for the Crop of 1863.
 (8) Plots 18 had the Ammonia-salts for the Crop of 1863.
 (9) Average of 12 years' Ammonia-salts.
 (10) Plots 17 had the Mineral Manures for the Crop of 1863.
 (11) Plots 18 had the Ammonia-salts for the Crop of 1863.
 (12) Plots 17 had the Mineral Manures for the Crop of 1863.

ROTHAMSTED FARM.
JUNE, 1864.

SUMMARY STATEMENT OF THE PRESENT AND PREVIOUS CROPPING, &c., OF THE ARABLE LAND NOT UNDER EXPERIMENT.
(9 Years, 1856-64, inclusive.)

Name of Field.	Acres.	Previous Cropping and Manuring.									Crop, &c., Present Season, 1863-4.
		1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.		
Barn	20	Turnips, Artificial.	Wheat, Artificial.	Oats, Artificial.	Red Clover (peren.) Unmanured	Wheat, after Sheep-Folding.	Svedes, Dung & Artificial.	Oats, Artificial (2 cwt. Guano).	Red Clover (peren.) Unmanured.	Red Clover (peren.) Unmanured.	Wheat, Artificial (2 cwt. Guano).
Thirty Acres	30	Oats, Artificial.	Red Clover (peren.) Unmanured.	Wheat, after Sheep-Folding.	Oats, Artificial.	Wheat, after Sheep-Folding.	Red Clover (peren.) Unmanured.	Red Clover (peren.) Unmanured.	Wheat, after Sheep-Folding, and 2 cwt. Guano.	Wheat, after Sheep-Folding, and 2 cwt. Guano.	Oats, Artificial (2 cwt. Guano, 1 cwt. Corn Manure).
Upper Harpenden	14	Turnips, Artificial.	Barley, after Sheep-Folding.	Beans, Dung.	Wheat, Artificial.	Wheat, after Sheep-Folding.	Wheat, Artificial.	Wheat, after Sheep-Folding.	Red Clover, Unmanured.	Red Clover, Unmanured.	Wheat, Artificial (1½ cwt. Guano, 1½ cwt. Corn Manure).
Harpenden	22	Red Clover (peren.) Unmanured.	Wheat, Artificial.	Oats, Artificial.	Svedes, Dung & Artificial.	Oats, after Sheep-Folding.	Oats, after Sheep-Folding.	Wheat, Artificial (2 cwt. Guano).	Oats, Artificial (3 cwt. Guano).	Oats, Artificial (3 cwt. Guano).	Mangolds and Turnips, Dung & Artificial.
Little Hoos	9	Oats, Artificial.	Turnips, Artificial.	Wheat, after Sheep-Folding.	Oats, Artificial.	Wheat, after Sheep-Folding.	Oats, after Sheep-Folding.	Barley, Artificial (2 cwt. Guano, 1 cwt. superphos.).	Barley, (3 cwt. Guano, and 1 cwt. superphos.).	Barley, (3 cwt. Guano, and 1 cwt. superphos.).	Red Clover.
Fosters'	18	Wheat, Artificial.	Barley, Artificial.	Svedes, after Sheep-Folding.	Barley, after Sheep-Folding.	Wheat, after Sheep-Folding.	Wheat, after Sheep-Folding.	Oats, Artificial (3 cwt. Guano).	Oats, Artificial (5½ cwt. Artificial Manure).	Oats, Artificial (5½ cwt. Artificial Manure).	Svedes, Dung & Artificial.
Knott Wood	30	Oats, Artificial.	Svedes, Dung & Artificial.	Wheat, after Sheep-Folding.	Red Clover (peren.) Unmanured.	Oats, after Sheep-Folding.	Oats, after Sheep-Folding.	Dung and Artificial.	Oats, Sheep-Folded.	Oats, Sheep-Folded.	Cow Grass.
Little Knott Wood	14	Wheat, Artificial.	Oats, Artificial.	Svedes, after Sheep-Folding.	Oats, after Sheep-Folding.	Wheat, after Sheep-Folding.	Oats, after Sheep-Folding.	Oats, Artificial (3 cwt. Guano).	Svedes, Dung and Artificial.	Svedes, Dung and Artificial.	Wheat, Unmanured.
Sawpit	14	Red Clover (peren.) Unmanured.	Wheat, Artificial.	Oats, Artificial.	Mangolds, Dung & Artificial.	Oats, after Sheep-Folding.	Oats, after Sheep-Folding.	Wheat, Artificial (2 cwt. Guano).	Wheat, after Sheep-Folding, and 2 cwt. Guano.	Tares and Oats, Sheep-Folded, and 2 cwt. Guano.	Barley, Artificial (1½ cwt. Guano, ½ cwt. superphos., and 1 cwt. Corn Manure).
Rick-yard	8	Oats, Artificial.	Mangolds, Dung & Artificial.	Wheat, Unmanured.	Oats, Artificial.	Tares, Dung.	Tares, Dung.	Mangolds, Dung and Artificial.	Wheat, Unmanured.	Wheat, Unmanured.	Wheat, Sheep-Folded, and Artificial, (3 cwt. Guano).
Six Acres	6	Barley, after Sheep-Folding.	Trefoil, Unmanured.	Wheat, after Sheep-Folding.	Barley, Artificial.	Beans, Dung.	Beans, Dung.	Oats, Artificial, (3 cwt. Guano).	Mangolds, Dung and Artificial.	Mangolds, Dung and Artificial.	Wheat, Unmanured.
Clay-Croft	5	Oats, Artificial.	Beans, Dung.	Wheat, after Sheep-Folding.	Oats, Artificial.	Red Clover (peren.) Unmanured.	Red Clover (peren.) Unmanured.	Beans, Dung and Fallow.	Wheat, Dung.	Wheat, Dung.	Wheat, Artificial (2 cwt. Guano, and 2 cwt. Corn Manure).
Apple Tree	18	Svedes, Dung & Artificial.	Oats, after Sheep-Folding.	Red Clover (peren.) Unmanured.	Wheat, after Sheep-Folding.	Oats, after Sheep-Folding.	Oats, after Sheep-Folding.	Wheat, Unmanured.	Laid down in Grass Seeds.	Laid down in Grass Seeds.	Grass.
Ten Acres	10	Barley, Artificial.	Tares, Dung.	Oats, Unmanured.	Tares, Dung.	Wheat, Unmanured.	Wheat, Unmanured.	Wheat, after Sheep-Folding.	Oats (3 cwt. Guano).	Oats (3 cwt. Guano).	Oats (2 cwt. Guano, and 1 cwt. Dried Blood).
Park Field	10	Wheat, Artificial.	Red Clover (peren.) Unmanured.	Wheat, after Sheep-Folding.	Wheat, after Sheep-Folding.	Oats, after Sheep-Folding.	Oats, after Sheep-Folding.	Wheat, Artificial (2 cwt. Guano).	Oats (3 cwt. Guano).	Oats (3 cwt. Guano).	Tares, Dung.
Agdell	9	Barley, Artificial.	Tares, Dung.	Oats, Unmanured.	Barley, Artificial.	Garden-ground.	Garden-ground.	Tares, Dung.	Barley, Sheep-Folded.	Barley, Sheep-Folded.	Barley, Artificial (1½ cwt. Guano, ½ cwt. superphos., and 1 cwt. Corn Manure).