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



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Experiments on Wheat: Broadbalk Field

Rothamsted Research

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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.	Quantity.	Weight per Bushel.	Total Straw.	Quantity.	Weight per Bushel.
Bush. pks.	lbs.	cwts.	Bush. pks.	lbs.	cwts.	Bush. pks.	lbs.	cwts.	Bush. pks.	lbs.	
0	Superphosphate of Lime (three times as much as on No. 5 and succeeding Plots)	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
1	Mixed Alkalies (twice as much as on No. 5 and succeeding Plots)	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
2	Farm-yard dung (14 tons every year)	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
3	Unmanured, continuously	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
4	Unmanured for Crop of 1852, and since (previously Superphosphate and Ammonia-salts)	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
5 (a-b)	Mixed Alkalies ⁽¹⁾	
6 (a-b)	ditto	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
7 (a-b)	ditto	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
8 (a-b)	ditto	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
9 { a	ditto	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
10 { b	none since 1844	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
11 (a-b)	none	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
12 (a-b)	366½ lbs. (4) Sulphate of Soda	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
13 (a-b)	200 lbs. (5) Sulphate of Potass	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
14 (a-b)	280 lbs. (6) Sulphate of Magnesia	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
15 { a	“Mixed Alkalies”	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
16 (a-b)	ditto	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
17 (a-b)	none	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
18 (a-b)	“Superphosphate of Lime”	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
19	none	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
20	Unmanured continuously	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
21	“Mixed Alkalies”	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
22	ditto	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .

(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) For 1858, and previously 1½ time as much.
 (5) The Manures of 17 and 18 alternate.
 (6) With Hydrochloric instead of Sulphuric Acid.
 (7) Average of 12 years' Ammonia-salts alternated with Mineral Manures.
 (8) Average of 12 years' Mineral Manures for the Crop of 1863.
 (9) Plots 17 had the Mineral Manures for the Crop of 1863.
 (10) Plots 18 had the Ammonia-salts for the Crop of 1863.