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Memoranda of the Plan and Results of the Rothamsted Field Experiments, June 1862



[Full Table of Content](#)

Experiments on Wheat: Broadbalk

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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 10 years.

(Area under experiment, about 13 acres).

PLOTS.	Manures, per acre, for the growing (19th) Wheat-crop—1852.	Average Produce per Acre, per Annum, during the last ten Years, 1852-61.	
		Dressed Corn.	Total Straw.
0	Superphosphate of Lime (three times as much as on No. 5 and succeeding Plots).	bushels.	lbs.
1	Mixed Alkalies (twice as much as on No. 5 and succeeding Plots)...	17½	1106
2	Farm-yard dung (14 tons every year).	16	995
3	Unmanured, continuously.	34½	3795
4	Unmanured for Crop of 1852, and since (previously Superphosphate and Ammonia-salts).	15½	1663
5 (a-b)	Mixed Alkalies (1)	16½	1747
6 (a-b)	ditto	18½	1919
7 (a-b)	ditto ; and 200 lbs. Ammonia-salts. (8)	27½	2946
8 (a-b)	ditto ; and 400 lbs. ditto.	34½	4076
9 { a	ditto ; and 550 lbs. Nitrate of Soda.	36	4530
b	ditto ; and 550 lbs. ditto.	31½	4075
10 { a	none since 1844	24½	3080
b	none (except 1844, '48, & '50);	21	2516
11 (a-b)	none ; "Superphosphate of Lime" ; and 400 lbs. ditto.	25½	2984
12 (a-b)	366½ lbs. (6) Sulphate of Soda	28½	3159
13 (a-b)	200 lbs. (6) Sulphate of Potass	33½	3832
14 (a-b)	280 lbs. (6) Sulphate of Magnesia ;	33	3847
15 { a	"Mixed Alkalies"	33½	3916
b	ditto (6) ; and 400 lbs. ditto.	32	3699
16 (a-b)	ditto ; and 300 lbs. ditto ; and 500 lbs. Rape-cake.	33½	3946
17 (a-b)	ditto ; and 800 lbs. ditto.	37	5044
18 (a-b)	none ; "Superphosphate of Lime" ;	31½ (9)	3718 (9)
19	ditto ; and 400 lbs. ditto ; and 500 lbs. Rape-cake.	18½ (10)	2001 (10)
20	Unmanured continuously.	31	3508
21	"Mixed Alkalies"	15½	1758
22	ditto ; "Superphosphate of Lime" ; and 100 lbs. Muriate Ammonia.	21½	2344
	ditto ; and 100 lbs. Sulphate Ammonia.	21	2253

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