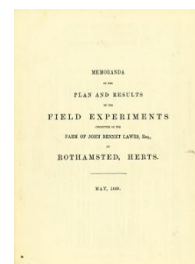


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Experiments on Wheat: Broadbalk

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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 Manure on the same Plots each year—especially during the last 17 years.

(Area under experiment, about 13 acres.)

Plots.	Treatments	PRODUCE PER ACRE.			
		Average per Annum, over 17 Years, 1852-1868.		Twenty-fifth Season, 1868.	
		Dressed Corn. Quantity.	Weight per Bushel.	Total Straw.	Total Straw.
0	Manures, per acre; twenty-sixth season—1868-9.	Bushels.	lbs.	cwts.	lbs.
1	Superphosphate of Lime (three times as much as on No. 5 and succeeding Plots)	17 1/4	58 1/2	15 1/2	22 1/2
2	Mixed Alkalies (twice as much as on No. 5 and succeeding Plots)	15 1/2	58	14 1/2	20 1/2
3	Farm-yard dung (14 tons every year)	35 1/2	60	34	41 1/2
4	Unmanured continuously	14 1/2	57 1/2	13 1/2	16 1/2
5 (a and b)	Unmanured for Crop of 1852, and since; previously Superphosphate (with Muriatic Acid) and Sulphate Ammonia	16 1/2	58 1/2	14 1/2	17 1/2
6 (a and b)	Mixed Alkalies (1) ; and Superphosphate of Lime (2)	17 1/2	58 1/2	15 1/2	17 1/2
7 (a and b)	ditto ; and 200 lbs. Ammonia-salts (3)	27 1/2	59 1/2	25 1/2	28 1/2
8 (a and b)	ditto ; and 400 lbs. ditto	36 1/2	59 1/2	36 1/2	39 1/2
9 { a	ditto ; and 600 lbs. ditto	38 1/2	59	42 1/2	46 1/2
10 { b	ditto ; and 550 lbs. Nitrate of Soda (4)	36 1/2	58 1/2	41 1/2	47 1/2
11 (a and b)	none since 1844 ; and 500 lbs. ditto	26 1/2	56 1/2	29	27 1/2
12 (a and b)	none (except 1844, '48, & '50) ; and 400 lbs. "Ammonia-salts"	23 1/2	57 1/2	22 1/2	24 1/2
13 (a and b)	Superphosphate of Lime ; and 400 lbs. ditto	29 1/2	57 1/2	28	33 1/2
14 (a and b)	366 1/2 lbs. (5) Sulphate of Soda ; and 400 lbs. ditto	35	59 1/2	34	39 1/2
15 { a	200 lbs. (6) Sulphate of Potass ; and 400 lbs. ditto	34 1/2	59 1/2	34 1/2	39 1/2
16 (a and b)	280 lbs. (7) Sulphate of Magnesia ; and 400 lbs. ditto	34 1/2	59 1/2	34	41 1/2
17 (a and b)	"Mixed Alkalies" ; and 400 lbs. Sulphate Ammonia ; and 500 lbs. Rape-cake	33 1/2	58 1/2	33	44 1/2
18 (a and b)	ditto ; and 300 lbs. ditto ; and 500 lbs. Rape-cake	34 1/2	59 1/2	34 1/2	41 1/2
19	Unmanured in 1865, and since; previously, 1852-64 Mixed Alkalies, Superphosphate, and 800 lbs. Ammonia-salts	39 1/2 (8)	58 (8)	46 1/2 (8)	22 1/2
20	"Mixed Alkalies" ; and "Superphosphate of Lime" ; and 400 lbs. "Ammonia-Salts"	32 1/2 (9)	59 1/2 (9)	32 1/2 (9)	37 1/2 (11)
21	none ; and 400 lbs. "Ammonia-Salts"	17 1/2 (10)	58 1/2 (10)	16 1/2 (10)	18 1/2 (12)
22	none ; Superphosphate of Lime (11) ; 300 lbs. Sulphate Ammonia ; and 500 lbs. Rape-cake	31 1/2	58 1/2	30 1/2	37

(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 Ammonia of Commerce.
 (4) 550 lbs. Nitrate of Soda is reckoned to contain the same amount of Nitrogen as 400 lbs. "Ammonia-salts."
 (5) For 1858, and previously 1 1/2 time as much.
 (6) With Muriatic instead of Sulphuric Acid.
 (7) The Manures of Plots 17 and 18 are, respectively, year by year transposed.
 (8) Average whilst manured, 13 years, 1852-1864.
 (9) Average of 17 years' Ammonia-salts, alternated with Mineral Manures.
 (10) Average of 17 years' Mineral Manures, alternated with Ammonia-salts.
 (11) Plots 17 had the Ammonia-salts for the Crop of 1868.
 (12) Plots 18 had the Mineral Manures for the Crop of 1868.
 (13) Average of 16 years, 1852-1867; in 1868, owing to a mistake at the time of cutting, the produce could not be ascertained.
 The Plots marked "(a and b)" are divided into duplicate portions, "a" and "b," respectively, which are manured alike; excepting that, for the crops of 1864-5-6 and 7, the "a" portions of plots 5, 6, 7, 8, 9, 16, and 17 (or 18), received a mixture of soluble Silicates in addition to the other Manures, but, hitherto, without any material effect; and for the crops of 1868, and since, cut straw (that produced in the previous season) has been applied (instead of Silicates) on the "a" portions of plots 5, 6, 7, 8, 11, 12, 13, 14, and 17 (or 18).