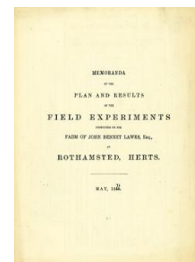


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Experiments on Wheat: Broadbalk

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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.	Manures, per acre; twenty-sixth season—1868-9.	PRODUCE PER ACRE.			
		Average per Annum, over 17 Years, 1852-1868.		Dressed Corn.	
		Weight per Bushel.	Total Straw.	25th Season; 1868.	26th Season; 1869.
0	Superphosphate of Lime (three times as much as on No. 5 and succeeding Plots)	Bushels. 17½	cwts. 15½	Bushels. 22½	Bushels. 21½
1	Mixed Alkalies (twice as much as on No. 5 and succeeding Plots)	15½	14½	20½	16½
2	Farm-yard dung (14 tons every year)	35½	34	41½	38½
3	Unmanured continuously	14½	13½	16½	14½
4	Unmanured for Crop of 1852, and since; previously Superphosphate (with Muriatic Acid) and Sulphate Ammonia	16½	14½	17½	14½
5 (a and b)	Mixed Alkalies (1) ; and Superphosphate of Lime (2)	58½	16½	17½	15½
6 (a and b)	ditto ; and 200 lbs. Ammonia-salts (3)	27½	25½	21½	20½
7 (a and b)	ditto ; and 400 lbs. ditto	36½	36½	38½	34½
8 (a and b)	ditto ; and 600 lbs. ditto	38½	42½	46½	45½
9 { a	ditto ; and 550 lbs. Nitrate of Soda (4)	36½	41½	47½	39
b	none since 1844 ; and 500 lbs. ditto	27½	29	27½	24½
10 { a	none (except 1844, '48, & '50) ; and 400 lbs. "Ammonia-salts"	23½	22½	24½	20½
b	ditto ; and 400 lbs. ditto	27½	26½	27½	19½
11 (a and b)	none ; "Superphosphate of Lime"	29½	28	33½	22½
12 (a and b)	366½ lbs. (5) Sulphate of Soda ; and 400 lbs. ditto	35	34	33½	35½
13 (a and b)	200 lbs. (6) Sulphate of Potass ; and 400 lbs. ditto	34½	34½	27½	37
14 (a and b)	280 lbs. (7) Sulphate of Magnesia ; and 400 lbs. ditto	34½	34	41½	35½
15 { a	"Mixed Alkalies" ; and 400 lbs. Sulphate Ammonia	33½	33	44½	38½
b	ditto (8) ; and 300 lbs. ditto ; and 500 lbs. Rape-cake	34½	34½	41½	38½
16 (a and b)	Unmanured in 1865, and since; previously, 1852-64 Mixed Alkalies, Superphosphate, and 800 lbs. Ammonia-salts	39½ (9)	46½ (9)	22½	16½
17 (a and b)	"Mixed Alkalies" ; and "Superphosphate of Lime"	32½ (10)	32½ (10)	37½ (11)	34½
18 (a and b)	none ; and 400 lbs. "Ammonia-salts"	17½ (10)	16½ (10)	18½ (11)	19
19	none ; Superphosphate of Lime (9) ; 800 lbs. Sulphate Ammonia ; and 500 lbs. Rape-cake	31½	30½	37	23½
20	Unmanured continuously	14½ (12)	14½ (12)	..	13½
21	"Mixed Alkalies" ; "Superphosphate of Lime" ; and 100 lbs. Muriate Ammonia	21½	19½	26½	20½
22	ditto ; and 100 lbs. Sulphate Ammonia	21½	19½	25	16½

(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 1½ 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 sowing, 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).