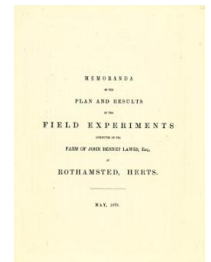


Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



Memoranda of the Field Experiments at Rothamsted, May 1873

[Full Table of Content](#)



Experiments on Wheat; Broadbalk Field

Rothamsted Research

Rothamsted Research (1874) *Experiments on Wheat; Broadbalk Field* ; Memoranda Of The Field Experiments At Rothamsted, May 1873, pp 4 - 4 - DOI: <https://doi.org/10.23637/ERADOC-1-237>

BROADBALK FIELD.

EXPERIMENTS ON THE GROWTH OF **WHEAT** YEAR AFTER YEAR ON THE SAME LAND: WITHOUT MANURE, AND WITH DIFFERENT KINDS OF MANURE. 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 21 years. Unless otherwise stated, the Manures are sown in the Autumn before the seed.

(Area under experiment, about 13 acres.)

Plots.		PRODUCE PER ACRE.										Plots.
		Average per Annum, 20 Years, 1852-1871.					Twenty-ninth Season, 1872.					
		Dressed Corn.					Dressed Corn.					
		Quantity.	Weight per Bushel.	Total Straw.	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)	17½	58½	15½	17½	58½	15½	17½	58½	15½	0	
1	Sulphates of Potash, Soda, and Magnesia (twice as much as on No 5 and succeeding Plots)	15½	58½	13½	15½	58½	13½	15½	57½	11½	1	
2	Farmyard Manure (14 tons every year)	35½	60	33½	35½	60	33½	35½	32½	33½	2	
3	Unmanured continuously	14½	57½	13	14½	57½	13	14½	59	10½	3	
4	Unmanured for Crop of 1852, and since; previously Superphosphate (made with Muriatic Acid), and Sulphate Ammonia	15½	58½	13½	15½	58½	13½	15½	57½	10½	4	
5 (a and b)	200 lbs. ♂ Sulphate Potash, 100 lbs. ♂ Sulphate Soda, 100 lbs. Sulphate Magnesia, 3½ cwt. Superphosphate of Lime ♂	17	58½	15½	17	58½	15½	17	60	11½	5 (a and b)	
6 (a and b)	200 lbs. ♂ Sulphate Potash, 100 lbs. ♂ Sulphate Soda, 100 lbs. Sulphate Magnesia, 3½ cwt. Superphosph., and 200 lbs. Ammonia-salts ♂	28½	59½	24½	28½	59½	24½	28½	60½	22½	6 (a and b)	
7 (a and b)	200 lbs. ♂ Sulphate Potash, 100 lbs. ♂ Sulphate Soda, 100 lbs. Sulphate Magnesia, 3½ cwt. Superphosph., and 400 lbs. Ammonia-salts	35½	59½	35½	35½	59½	35½	35½	60½	34½	7 (a and b)	
8 (a and b)	200 lbs. ♂ Sulphate Potash, 100 lbs. ♂ Sulphate Soda, 100 lbs. Sulphate Magnesia, 3½ cwt. Superphosph., and 600 lbs. Ammonia-salts	38½	59	41½	38½	59	41½	35½	60½	45½	8 (a and b)	
9 {a b	200 lbs. ♂ Sulphate Potash, 100 lbs. ♂ Sulphate Soda, 100 lbs. Sulphate Magnesia, 3½ cwt. Superphosph., and 550 lbs. Nitrate Soda ♂	36½	58½	28½	36½	58½	41½	40½	60	58½	9 {a b	
10 {a b	550 lbs. Nitrate of Soda ♂. (The Nitrate for both 9a and 9b always sown in the Spring)	26	57½	24½	26	57½	21½	18	55½	21½	10 {a b	
11 (a and b)	400 lbs. Ammonia-salts alone, for 1845, and each year since (excepting 1846 and 1850); Mineral Manure in 1844, '48, and '50	22½	57½	24½	22½	57½	26½	27½	59½	30½	11 (a and b)	
12 (a and b)	400 lbs. Ammonia-salts, 3½ cwt. Superphosphate	28	57½	26½	28	57½	26½	29½	59½	32½	12 (a and b)	
13 (a and b)	400 lbs. Ammonia-salts, 3½ cwt. Superphosphate, and 366½ lbs. ♂ Sulphate of Soda	33½	59½	32½	33½	59½	32½	29½	60½	34½	13 (a and b)	
14 (a and b)	400 lbs. Ammonia-salts, 3½ cwt. Superphosphate, and 200 lbs. ♂ Sulphate of Potash	33½	59½	33½	33½	59½	33½	30½	59½	33½	14 (a and b)	
15 {a b	400 lbs. Ammonia-salts, 3½ cwt. Superphosphate, and 280 lbs. ♂ Sulphate of Magnesia	37	59½	37	37	59½	32½	30½	60½	35½	15 {a b	
16 (a and b)	200 lbs. ♂ Sulph. Pot., 100 lbs. ♂ Sulph. Sod., 100 lbs. Sulph. Mag., 3½ cwt. Superphosph., and 400 lbs. Amm.-salts, sown in Spring ♂	32½	59½	32½	32½	59½	32½	30½	60½	36½	16 (a and b)	
17 (a and b)	200 lbs. ♂ Sulph. Pot., 100 lbs. ♂ Sulph. Sod., 100 lbs. Sulph. Mag., 3½ cwt. Superphosph., and 400 lbs. Amm.-salts, sown in Spring ♂	34	59½	33½	34	59½	32½	30½	60½	36½	17 (a and b)	
18 (a and b)	(1852-64, 13 years, 200 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag., 3½ cwt. Superphosph., and 800 lbs. Ammonia-salts; average produce 39½ bush. Corn, 46½ cwt. Straw	32½	59	36½	32½	59	36½	13½	59½	13½	18 (a and b)	
19	1865 and since, unmanured; average produce (7 years, 1865-71) 19½ bushels Corn, 16½ cwt. Straw	32½	59	36½	32½	59	36½	13½	59½	13½	19	
20	200 lbs. ♂ Sulphate Potash, 100 lbs. ♂ Sulphate Soda, 100 lbs. Sulphate Magnesia, and 3½ cwt. Superphosphate	17½	58½	15½	17½	58½	16½	25½	60½	29½	20	
21	3½ cwt. Superphosphate of Lime ♂, 300 lbs. Sulphate of Ammonia, and 500 lbs. Rape-cake	15½	58	14½	15½	58	14½	27½	59½	29½	21	
22	Unmanured continuously	21½	58½	19	21½	58½	19	20½	59½	19½	22	
23	200 lbs. ♂ Sulph. Potash, 100 lbs. ♂ Sulph. Soda, 100 lbs. Sulph. Magnesia, 3½ cwt. Superphosph., and 100 lbs. Muriate Ammonia	21	58½	19	21	58½	19	20½	59½	18½	23	

(1) 300 lbs. per annum for Crop of 1858; and previously.

(2) 200 lbs. per annum for Crop of 1858, and previously.

(3) "Superphosphate of Lime"—in all cases, excepting for Plot 19, made from 200 lbs. Bone-ash, 150 lbs. Sulphuric acid sp. gr. 1.7 (and water).

(4) The "Ammonia-salts," in all cases, equal parts Sulphate and Muriate of Ammonia of Commerce.

(5) 9a 475 lbs. Nitrate Soda in 1852, 275 lbs. in 1853 and 1854, 550 lbs. each year since; 9b 475 lbs. in 1852; 550 lbs. each year since; 550 lbs. is reckoned to contain the same amount of Nitrogen as 400 lbs. "Ammonia-salts."

(6) For 1858, and previously—1½ time as much.

(7) For 1872 and previously, made with Muriatic instead of Sulphuric Acid.

(8) For 1872 and previously, 400 lbs. Sulphate Ammonia, sown in the Autumn.

(9) For 1872 and previously, 300 lbs. Sulphate Ammonia and 500 lbs. Rape-cake, sown in the Autumn.

(10) The Manures of Plots 17 and 18 are, year by year, transposed.

(11) Made with Muriatic instead of Sulphuric Acid.

(12) Average of 20 years' Mineral Manures, alternated with Ammonia-salts.

(13) Average of 20 years' Ammonia-salts, alternated with Mineral Manures.

(14) Plots 17 had the Ammonia-salts for the Crop of 1872.

(15) Plots 18 had the Mineral Manures for the Crop of 1872.

(16) Average of 19 years only; as in 1868, owing to a mistake in carting, 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).