

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.



ROTHAMSTED  
RESEARCH

# Memoranda of the Plan and Results of the Rothamsted Field Experiments, May 1866



[Full Table of Content](#)

## Experiments on Wheat; Broadbalk Field

### Rothamsted Research

Rothamsted Research (1867) *Experiments on Wheat; Broadbalk Field* ; Memoranda Of The Plan And Results Of The Rothamsted Field Experiments, May 1866, pp 4 - 4 - DOI:

<https://doi.org/10.23637/ERADOC-1-232>

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 14 years.

Plots.	Manures, per acre; twenty-third season—1866.	PRODUCE PER ACRE.			
		Average per Annum, over 14 Years, 1852-1865.		Twenty-second Season, 1865.	
		Quantity.	Weight per Bushel.	Quantity.	Weight per Bushel.
0	1 acre .. .. . = (about) 0.40 Hectare .. .. . or 1.59 Prussian Morgen.	Bushels.	lbs.	cvts.	lbs.
1	1 bushel .. .. . = (about) 0.36 Hectolitre .. .. . or 0.66 Prussian Scheffel.	18	58	15½	59
2	1 lb. (pound avoird.) .. .. . = (about) 0.45 Kilogramme .. .. . or 0.91 Zollverein Pfund.	16	57½	15	59
3	1 cwt. (hundredweight) .. .. . = (about) 51.0 Kilogrammes .. .. . or 1.02 Centner.	35½	59½	34	61½
4	1 bushel per acre .. .. . = (about) 0.9 Hectolitre per Hectare .. .. . or 0.42 Pr. Scheffel per Pr. Morgen.	15½	57½	14½	60½
5 (a and b)	1 lb. per acre .. .. . = (about) 1.12 Kilogramme per Hectare .. .. . or 0.57 Zollv. Pfd. per Pr. Morgen.	16½	57½	14½	60½
6 (a and b)	1 cwt. per acre .. .. . = (about) 125.5 Kilogrammes per Hectare .. .. . or 0.64 Centner per Pr. Morgen.	18	58½	16½	61
7 (a and b)	Manures, per acre; twenty-third season—1866.	28½	59	26½	61½
8 (a and b)	Superphosphate of Lime (three times as much as on No. 5 and succeeding Plots)	37½	59	37½	61½
9 { a	Mixed Alkalies (twice as much as on No. 5 and succeeding Plots)	39½	58½	42½	61½
10 { b	Farm-yard dung (14 tons every year) .. .. . ; and Superphosphate of Lime (2)	36½	57½	40½	61
11 (a and b)	Unmanured continuously .. .. . ; and 200 lbs. Ammonia-salts (3)	26½	59½	28½	59½
12 (a and b)	Unmanured continuously .. .. . ; and 400 lbs. Ammonia-salts (4)	23½	56½	23½	59½
13 (a and b)	Unmanured continuously .. .. . ; and 600 lbs. Ammonia-salts (5)	27½	57½	27½	59½
14 (a and b)	Unmanured continuously .. .. . ; and 550 lbs. Nitrate of Soda (6)	30	56½	28½	57½
15 { a	Unmanured continuously .. .. . ; and 400 lbs. Nitrate of Soda (6)	35½	58½	33	60
16 (a and b)	Unmanured continuously .. .. . ; and 400 lbs. Nitrate of Soda (6)	35½	58½	35½	60
17 (a and b)	Unmanured continuously .. .. . ; and 400 lbs. Nitrate of Soda (6)	33½	59	33½	60½
18 (a and b)	Unmanured continuously .. .. . ; and 400 lbs. Nitrate of Soda (6)	35½	59½	35½	61½
19	Unmanured continuously .. .. . ; and 500 lbs. Rape-cake (7)	39	58½	45	61½
20	Unmanured continuously .. .. . ; and 500 lbs. Rape-cake (7)	32½ (7)	59 (7)	33 (7)	60½ (7)
21	Unmanured continuously .. .. . ; and 500 lbs. Rape-cake (7)	18½ (8)	58½ (8)	17 (8)	60½ (8)
22	Unmanured continuously .. .. . ; and 500 lbs. Rape-cake (7)	32½	58½	31	58½

(1) Since 1858, 200 lbs. Sulphate of Potash, 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) For 1858, and previously 1½ time as much. (5) With Hydrochloric instead of Sulphuric Acid. (6) The Manures of 17 and 18 alternate. (7) Average of 14 years' Ammonia-salts alternated with Mineral Manures. (8) Average of 14 years' Mineral Manures alternated with Ammonia-salts. (9) Plots 17 had the Mineral Manures for the Crop of 1865. (10) Plots 18 had the Ammonia-salts for the Crop of 1865. The Plots marked "(a and b)" are divided into duplicate portions, "a" and "b," respectively, which are manured alike; excepting that, for the crop of 1864, and since, the "a" portions of plots 5, 6, 7, 8, 9, 16, and 17 (or 18), have received a mixture of soluble Silicates in addition to the other Manures, but, hitherto, without any material effect.