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



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Experiments on Barley; Hoos Field

Rothamsted Research

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EXPERIMENTS ON THE GROWTH OF **BARLEY** YEAR AFTER YEAR ON THE SAME LAND, WITHOUT MANURE, AND WITH DIFFERENT KINDS OF MANURE.

HOOS FIELD.

Previous Cropping—1847, Swedish Turnips, with Dung and Superphosphate of Lime, the Roots carted off; 1848, Barley; 1849, Barley; 1850, Wheat; 1851, Barley manured with Ammonia-salts.
First Experimental Barley Crop in 1852. Barley every year since; and, with one or two exceptions, the same Manures on the same Plots each year.

(Area under experiment, about 4½ acres.)

PLOTS.	PRODUCE PER ACRE.									
	Average per Annum, over 14 Years, 1852-1865.					Fourth Year Season, 1865.				
	Dressed Corn.		Total Straw.		Dressed Corn.	Dressed Corn.		Total Straw.		Total Straw.
	Quantity.	Weight per Bushel.	Quantity.	Weight per Bushel.		Quantity.	Weight per Bushel.	Quantity.	Weight per Bushel.	
1 O. Unmanured continuously	Bushels.	lbs.	cwts.	lbs.	Bushels.	Bushels.	lbs.	cwts.	lbs.	cwts.
2 O. Superphosphate of Lime (1)	21½	52	12½	54	18	18	54	8	54	8
3 O. Mixed Alkalies (2)	27½	52½	14½	53½	22½	22½	53½	9	53½	9
4 O. Ditto	24½	52½	13½	52½	22	22	52½	9½	52½	9½
6(1) 1 lb. per acre	30½	53	15½	54	24½	24½	54	10	54	10
7 1 cwt. per acre	24½	52½	13½	53½	21	21	53½	8½	53½	8½
1 A. Ashes (burnt soil, turf, and weeds)	23½	52½	12½	53½	19½	19½	53½	8½	53½	8½
2 A. Farm-yard dung (14 tons every year)	48½	52½	28½	54½	52½	52½	54½	25½	54½	25½
3 A. 200 lbs. Ammonia-salts (3)	34½	51½	19½	52½	29½	29½	52½	13	52½	13
4 A. 200 lbs. ditto	48½	52½	28½	53½	48½	48½	53½	21½	53½	21½
1 A. 200 lbs. ditto	47½	52½	27½	53½	46½	46½	53½	16	53½	16
2 A. 200 lbs. ditto	38½	51½	23½	52½	33½	33½	52½	16	52½	16
3 A. 200 lbs. ditto	50½	52½	31½	53½	47½	47½	53½	23	53½	23
4 A. 200 lbs. ditto	39½	51½	25½	52½	34½	34½	52½	17	52½	17
1 A. 200 lbs. ditto	51	52½	34	53½	49	49	53½	24½	53½	24½
2 A. 200 lbs. ditto	39½	51½	24½	52½	35	35	52½	22½	52½	22½
3 A. 200 lbs. ditto	51	52½	28½	53½	47½	47½	53½	23½	53½	23½
4 A. 200 lbs. ditto	45½	56	25½	54½	41	41	54½	20½	54½	20½
1 A. 200 lbs. ditto	54½	55	33½	55	50½	50½	55	25½	55	25½
2 C. 1000 lbs. Rape-cake ..	46½	52½	28½	53½	45	45	53½	21½	53½	21½
3 C. 1000 lbs. ditto	48½	52½	30	53½	46½	46½	53½	22	53½	22
4 C. 1000 lbs. ditto	48½	52½	28½	53½	48½	48½	53½	22	53½	22
1 N. 275 lbs. Nitrate of Soda	38½ (11)	52½ (11)	23½ (11)	53½ (11)	37	37	54	18½	54	18½
2 N. 275 lbs. ditto	43 (11)	52 (11)	27½ (11)	53½ (11)	39½	39½	53½	21½	53½	21½
5 O. 200 lbs. (6) Sulphate of Potash	24½ (12)	52½ (12)	13½ (12)	53½ (12)	23	23	54½	10½	54½	10½
6 M. 100 lbs. each, Sulph. Soda and Sulph. Magnesia; and	46½ (13)	52½ (13)	29½ (13)	53½ (13)	48½	48½	54½	24½	54½	24½
	25½ (13)	52½ (13)	12½ (13)	53½ (13)	19½	19½	54½	9½	54½	9½

(1) 200 lbs. Bone-ash, 150 lbs. Sulphuric acid (sp. gr. 1.7).
 (2) 200 lbs. Sulphate of Potash, 100 lbs. Sulphate of Soda, and 100 lbs. Magnesia (for the first six years, 300 lbs., 200 lbs., and 100 lbs., respectively).
 (3) Equal parts Sulphate and Muriate of Ammonia of Commerce.
 (4) 400 lbs. per annum for the first six years, and 200 lbs. only each year since.
 (5) The application of Silicates did not commence until 1864, so that the average produce given applies to two years only (1864 and 1865). These Silicated plots ("AAS") comprise, respectively, one half of the original "AA" plots, and, as will be seen, they continue to be, in other respects, manured in the same way as the remaining halves.
 (6) 2000 lbs. per annum for the first six years, and 1000 lbs. only, each year since.
 (7) 300 lbs. Sulphate of Potash, 200 lbs. Bone-ash, and 150 lbs. Sulphuric acid (sp. gr. 1.7), without Nitrate of Soda, the first year (1852); Nitrate alone each year since.
 (8) 550 lbs. Nitrate of Soda for 1853-4-5-6, and 7; and 275 lbs. only each year since.
 (9) Ammonia-salts also the first year, but not since.
 (10) Average of 13 years only.
 (11) Average of 11 years only.
 (12) Average of 13 years only.