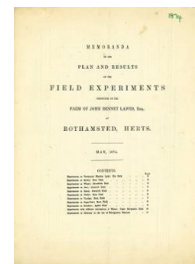


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ROTHAMSTED  
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# Memoranda of the Field Experiments at Rothamsted May 1874



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## Experiments on Barley; Hoos Field

### Rothamsted Research

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HOOS FIELD.

EXPERIMENTS ON THE GROWTH OF BARLEY YEAR AFTER YEAR ON THE SAME LAND, WITHOUT MANURE, AND WITH DIFFERENT KINDS OF MANURE. Previous Cropping—1847, Swedish Turnips, with Dung and Superphosphate of Lime, the Roots carted off; 1848, Barley; 1849, Clover; 1850, Wheat; 1851, Barley manured with Ammonia-salts. First Experimental Barley Crop in 1852. Barley every year since; and, unless stated to the contrary in the Table, or in the foot-notes, the same Manure has been applied year after year to the same Plot.

(Area under experiment, about 4½ acres.)

PLOTS.	Manures, per acre, per annum.	PRODUCE PER ACRE.						PLOTS.
		Averages per Annum, over 20 Years, 1852-1871.			Twenty-second Season, 1873.			
		Quantity.	Weight per Bushel.	Total Straw.	Quantity.	Weight per Bushel.	Total Straw.	
1 O.	Unmanured continuously	20	52½	11½	14	54½	1 O.	
2 O.	3½ cwt. Superphosphate of Lime (1)	25	53½	13½	19	54½	2 O.	
3 O.	200 lbs. Sulphate Potass, 100 lbs. Sulphate Soda, 100 lbs. Sulphate Magnesia	22½	53	12½	15	54½	3 O.	
4 O.	200 lbs. Sulphate Potass, 100 lbs. Sulphate Soda, 100 lbs. Sulphate Magnesia, 3½ cwt. Superphosphate	27½	53½	14½	20	54½	4 O.	
1 A.	200 lbs. Ammonia-salts (2)	32½	54	18½	32½	54½	1 A.	
2 A.	200 lbs. Ammonia-salts, and 3½ cwt. Superphosphate	47	55½	27½	50	54½	2 A.	
3 A.	200 lbs. Ammonia-salts, 200 lbs. Sulph. Potass, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Magnesia	35	54	20	34	54½	3 A.	
4 A.	200 lbs. Ammonia-salts, 200 lbs. Sulph. Potass, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Magnesia, 3½ cwt. Superphosphate	46½	54	28½	46	55	4 A.	
(1) A.A.	275 lbs. Nitrate Soda	37	52	22½	37½	54½	1 A.A.	
(2) A.A.	275 lbs. Nitrate Soda, and 3½ cwt. Superphosphate	49½	53	30½	49	54½	2 A.A.	
(3) A.A.	275 lbs. Nitrate Soda, 200 lbs. Sulph. Potass, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Magnesia	37½	52½	24½	33	54½	3 A.A.	
(4) A.A.	275 lbs. Nitrate Soda, 200 lbs. Sulph. Potass, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Magnesia, 3½ cwt. Superphosphate	49½	53	32½	46½	54½	4 A.A.	
(1) A.A.S.	275 lbs. Nitrate Soda, 400 lbs. Silicate Soda (3)	38	52½	23	45½	54½	1 A.A.S.	
(2) A.A.S.	275 lbs. Nitrate Soda, 400 lbs. Silicate Soda, and 3½ cwt. Superphosphate (1)	48	53	30	51	54½	2 A.A.S.	
(3) A.A.S.	275 lbs. Nitrate Soda, 400 lbs. Silicate Soda, 200 lbs. Sulph. Potass, 100 lbs. Sulph. Soda, and 100 lbs. Sulph. Magnesia	41½	53	25	44	54½	3 A.A.S.	
(4) A.A.S.	(275 lbs. Nitrate Soda, 400 lbs. Silicate Soda, 200 lbs. Sulph. Potass, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Magnesia, and 3½ cwt. Superphosphate	50	53	33	51½	54½	4 A.A.S.	
(1) C.	1000 lbs. Rape-cake	45½	53	37	47	54½	1 C.	
(2) C.	1000 lbs. Rape-cake, and 3½ cwt. Superphosphate	48	53	38	48	54½	2 C.	
(3) C.	1000 lbs. Rape-cake, 200 lbs. Sulph. Potass, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Magnesia	43	53	27	44	54½	3 C.	
(4) C.	1000 lbs. Rape-cake, 200 lbs. Sulph. Potass, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Magnesia, 3½ cwt. Superphosphate	47	53	29	46	54½	4 C.	
(1) N.	275 lbs. Nitrate of Soda	37½	52½	22½	42	54½	1 N.	
(2) N.	275 lbs. Nitrate of Soda	41½	53	26½	44	54½	2 N.	
5 O.	200 lbs. Sulphate of Potass, 3½ cwt. Superphosphate (4)	22½	53	12½	17	54½	5 O.	
5 A.	200 lbs. Sulphate of Potass, 3½ cwt. Superphosphate, and 200 lbs. Ammonia-salts	44	53	28	42	54½	5 A.	
M.	100 lbs. Sulphate of Soda, 100 lbs. Sulphate of Magnesia, and 3½ cwt. Superphosphate	21½	53	12½	20	54½	M.	
6(1)	Unmanured continuously	22	52½	12	15	54½	6(1)	
6(2)	Ashes (burnt soil and turf)	21½	52	12	14	54½	6(2)	
7(1)	Farmyard Manure 14 tons, 20 years, 1852-1871; unmanured since	48	54	28	47	54½	7(1)	
7(2)	Farmyard Manure 14 tons, every year	48	54	28	47	54½	7(2)	

(1) The "Superphosphate of Lime" is, in all cases, made from 200 lbs. Bone-ash, 150 lbs. Sulphuric acid sp. gr. 1.7 (and water).  
 (2) 300 lbs. per annum for the first six years, 1852-7.  
 (3) 200 lbs. per annum for the first six years, 1852-7.  
 (4) The "Ammonia-salts" — in all cases equal parts Sulphate and Nitrate of Ammonia of Commerce, 1852-37; 200 lbs. per annum; 1868, and since, 275 lbs. Nitrate of Soda per annum. 275 lbs. Nitrate of Soda is reckoned to contain the same amount of Nitrogen as 200 lbs. "Ammonia-salts."  
 (5) The application of Silicates did not commence until 1864; in 1864-5-6 and 7, 200 lbs. Silicate of Soda, and 200 lbs. Silicate of Lime were applied per acre, but in 1868, and since, 400 lbs. Silicate of Soda, and no Silicate of Lime. These plots ("A.A.S.") comprise, respectively, one half of the original "A.A." plots, and