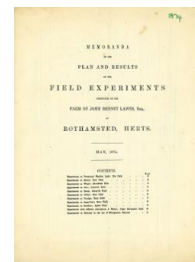


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Memoranda of the Field Experiments at Rothamsted May 1874

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Experiments on Barley; Hoos Field

Rothamsted Research

Rothamsted Research (1875) *Experiments on Barley; Hoos Field* ; Memoranda Of The Field Experiments At Rothamsted May 1874, pp 3 - 3 - DOI: <https://doi.org/10.23637/ERADOC-1-238>

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.
		Average per Annum, over 20 Years, 1852-1871.					Twenty-second Season, 1873.					
		Dressed Corn.		Total Straw.	Dressed Corn.		Total Straw.					
		Quantity.	Weight per Bushel.		Quantity.	Weight per Bushel.						
1 O.	Unmanured continuously	20	52½	11½	14	52½	6½	1 O.				
2 O.	3½ cwt. Superphosphate of Lime (1)	25	52½	13½	19½	54½	8½	2 O.				
3 O.	200 lbs. ② Sulphate Potass, 100 lbs. ③ Sulphate Soda, 100 lbs. ④ Sulphate Magnesia	22½	53	12½	15	54½	6½	3 O.				
4 O.	200 lbs. ⑤ Sulphate Potass, 100 lbs. ⑥ Sulphate Soda, 100 lbs. ⑦ Sulphate Magnesia, 3½ cwt. Superphosphate	27½	53½	14½	20½	54½	9	4 O.				
1 A.	200 lbs. Ammonia-salts (4)	32½	52½	18½	32½	54½	14½	1 A.				
2 A.	200 lbs. Ammonia-salts, and 3½ cwt. Superphosphate	47	52½	27½	50½	54½	24½	2 A.				
3 A.	200 lbs. Ammonia-salts, 200 lbs. ⑧ Sulph. Potass, 100 lbs. ⑨ Sulph. Soda, 100 lbs. Sulph. Magnesia	35	52½	20½	34½	55	15½	3 A.				
4 A.	200 lbs. Ammonia-salts, 200 lbs. ⑩ Sulph. Potass, 100 lbs. ⑪ Sulph. Soda, 100 lbs. Sulph. Magnesia, 3½ cwt. Superphosphate	46½	54	28½	46½	55½	27	4 A.				
(1) A.A.	275 lbs. Nitrate Soda	37	52	22½	37½	54½	16½	1 A.A.				
(2) A.A.	275 lbs. Nitrate Soda, and 3½ cwt. Superphosphate	49½	53½	30½	49	54½	25	2 A.A.				
(3) A.A.	275 lbs. Nitrate Soda, 200 lbs. ⑫ Sulph. Potass, 100 lbs. ⑬ Sulph. Soda, 100 lbs. Sulph. Magnesia	37½	52½	24½	33½	54½	17	3 A.A.				
(4) A.A.	275 lbs. Nitrate Soda, 200 lbs. ⑭ Sulph. Potass, 100 lbs. ⑮ Sulph. Soda, 100 lbs. Sulph. Magnesia, 3½ cwt. Superphosphate	49½	53½	32½	46½	54½	27½	4 A.A.				
(1) A.A.S.	275 lbs. Nitrate Soda, 400 lbs. Silicate Soda, and 3½ cwt. Superphosphate (1)	38½	52½	23½	45½	54½	21½	1 A.A.S.				
(2) A.A.S.	275 lbs. Nitrate Soda, 400 lbs. Silicate Soda, 200 lbs. ⑯ Sulph. Potass, 100 lbs. ⑰ Sulph. Soda, and 100 lbs. Sulph. Magnesia	41½	52½	25½	44½	54½	24½	2 A.A.S.				
(3) A.A.S.	(275 lbs. Nitrate Soda, 400 lbs. Silicate Soda, 200 lbs. ⑱ Sulph. Potass, 100 lbs. ⑲ Sulph. Soda, 100 lbs. Sulph. Magnesia, and 3½ cwt. Superphosphate	50½	53½	33½	51½	54½	28½	3 A.A.S.				
(4) A.A.S.								4 A.A.S.				
(1) C.	1000 lbs. Rape-cake	45½	53½	26½	45½	54½	23½	1 C.				
(2) C.	1000 lbs. Rape-cake, and 3½ cwt. Superphosphate	48½	53½	28½	48½	54½	24½	2 C.				
(3) C.	1000 lbs. Rape-cake, 200 lbs. ⑳ Sulph. Potass, 100 lbs. ㉑ Sulph. Soda, 100 lbs. Sulph. Magnesia	43½	53½	27½	44½	55	22½	3 C.				
(4) C.	1000 lbs. Rape-cake, 200 lbs. ㉒ Sulph. Potass, 100 lbs. ㉓ Sulph. Soda, 100 lbs. Sulph. Magnesia, 3½ cwt. Superphosphate	47½	53½	29½	46½	55	23½	4 C.				
(1) N.	275 lbs. Nitrate of Soda	37½	52½	22½	42½	54	19½	1 N.				
(2) N.	275 lbs. Nitrate of Soda	41½	52½	26½	44½	54½	23½	2 N.				
(5) O.	200 lbs. ㉔ Sulphate of Potass, 3½ cwt. Superphosphate (18)	22½	53½	12½	17½	54½	7	5 O.				
5 A.	200 lbs. ㉕ Sulphate of Potass, 3½ cwt. Superphosphate, and 200 lbs. Ammonia-salts	44½	53½	28½	42½	54½	23½	5 A.				
M.	100 lbs. Sulphate of Soda, 100 lbs. Sulphate of Magnesia, and 3½ cwt. Superphosphate	21½	53½	12½	20	53½	8½	M.				
(1) 6	Unmanured continuously	22	52½	12½	15½	53½	7½	1 6				
(2) 6	Ashes (burnt soil and turf)	21½	52½	12½	18½	54½	8½	2 6				
(1) 7	Farmyard Manure 14 tons, 20 years, 1852-1871; unmanured since	48½	54½	28½	47½	54½	22½	1 7				
(2) 7	Farmyard Manure 14 tons, every year	48½	54½	28½	47½	54½	22½	2 7				

(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" are all equal parts of Sulphate and Nitrate of Ammonia of Commerce.

(5) The "Ammonia-salts" are all equal parts of Sulphate and Nitrate of Ammonia of Commerce.

(6) The "Ammonia-salts" are all equal parts of Sulphate and Nitrate of Ammonia of Commerce.

(7) The "Ammonia-salts" are all equal parts of Sulphate and Nitrate of Ammonia of Commerce.

(8) The "Ammonia-salts" are all equal parts of Sulphate and Nitrate of Ammonia of Commerce.

(9) 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

excepting the addition of the Silicates, have been, and are, in other respects, manured in the same way as the

of "A.A." plots; and for the sake of comparison with the latter, the average produce is given for the whole period

of 20 years, 1852-1871.

(10) 300 lbs. Superphosphate of Lime for the first six years, and 1000 lbs. only, each year since.

(11) 300 lbs. Sulphate of Potass, and 3½ cwt. Superphosphate of Lime, without Nitrate of Soda, the first

year (1852); Nitrate alone each year since.

(12) 550 lbs. Nitrate of Soda for 1853-4-5-6; and 7; and 275 lbs. only, each year since.

(13) Ammonia-salts alone the first year, but not since.

(14) Average of 19 years only.

(15) Average of 14 years only.