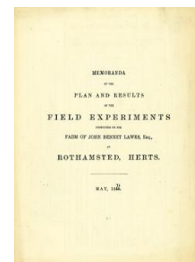


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# Memoranda of the Plan and Results of the Field Experiments, May 1870



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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, 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 foot-notes, the same Manure has been applied year after year to the same Plot.

(Area under experiment, about 44 acres.)

PLOTS.	Manures, per acre; eighteenth Season—1869.	PRODUCE PER ACRE.					
		Average per Annum, over 17 Years, 1852-1868.			Dressed Corn.		
		Quantity.	Weight per Bushel.	Total Straw.	17th Season; 1868.	18th Season; 1869.	19th Season; 1870.
1 O.	Unmanured continuously	Bushels.	lbs.	cwts.	Bushels.	Bushels.	
2 O.	Superphosphate of Lime (1)	20 1/2	52 1/2	12 1/2	10 1/2	15 1/2	
3 O.	Mixed Alkalies (2)	26 1/2	53	14	18 1/2	18 1/2	
4 O.	Ditto	23 1/2	52 1/2	12 1/2	14 1/2	16 1/2	
1 A.	200 lbs. Ammonia-salts (3)	28 1/2	53	14 1/2	17 1/2	22 1/2	
2 A.	200 lbs. ditto	32 1/2	51 1/2	18 1/2	20 1/2	27 1/2	
3 A.	200 lbs. ditto	47 1/2	53	28	37 1/2	48 1/2	
4 A.	200 lbs. ditto	35 1/2	52 1/2	20 1/2	25	30 1/2	
		46 1/2	53 1/2	28 1/2	34 1/2	49 1/2	
						38	
1 AA.	275 lbs. Nitrate of Soda	37 1/2	51 1/2	22	27	32 1/2	
2 AA.	275 lbs. ditto	48 1/2	53 1/2	30 1/2	44	48 1/2	
3 AA.	275 lbs. ditto	38	52	24 1/2	27 1/2	32 1/2	
4 AA.	275 lbs. ditto	50 1/2	53 1/2	33	45 1/2	49 1/2	
1 AAS.	275 lbs. ditto	38 1/2	51 1/2	23	29 1/2	35	
2 AAS.	275 lbs. ditto	49 1/2	52 1/2	31	45	49 1/2	
3 AAS.	275 lbs. ditto	40 1/2	52 1/2	25 1/2	36 1/2	42 1/2	
4 AAS.	275 lbs. ditto	50 1/2	53 1/2	33 1/2	46 1/2	51 1/2	
1 C.	1000 lbs. Rape-cake	45 1/2	53 1/2	27 1/2	37	42 1/2	
2 C.	1000 lbs. ditto	47 1/2	53 1/2	28 1/2	38 1/2	43 1/2	
3 C.	1000 lbs. ditto	43 1/2	52 1/2	27 1/2	35 1/2	41 1/2	
4 C.	1000 lbs. ditto	47 1/2	53	29 1/2	36 1/2	43 1/2	
1 N.	275 lbs. Nitrate of Soda	37 1/2	52 1/2	23	25 1/2	34 1/2	
2 N.	275 lbs. ditto	41 1/2	52 1/2	26	25 1/2	38 1/2	
5 O.	200 lbs. (4) Sulphate of Potass.	23 1/2	53	13 1/2	15	23 1/2	
5 A.	200 lbs. (5) ditto	44 1/2	56 1/2	28	36 1/2	49 1/2	
5 M.	100 lbs. each, Sulph. Soda and Sulph. Magnesia; and ditto	22 1/2	53	12 1/2	14 1/2	16 1/2	
6	Unmanured continuously	23	52 1/2	12 1/2	15 1/2	15 1/2	
7	Ashes (burnt soil, turf and weeds)	22 1/2	52 1/2	12 1/2	16	15 1/2	
	Farm-yard dung (14 tons every year)	48	54	28 1/2	48 1/2	46 1/2	

(1) 200 lbs. Bone-ash, 150 lbs. Sulphuric acid (sp. gr. 1.7).  
 (2) 200 lbs. Sulphate of Potass, 100 lbs. Sulphate of Soda, and 100 lbs. Sulphate of Magnesia (for the first six years, 300 lbs., and 100 lbs., respectively).  
 (3) Equal parts Sulphate and Muriate of Ammonia of Commerce.  
 (4) First 6 years 1852-7, 400 lbs. Ammonia-salts per annum; next 10 years 1858-67, 200 lbs. Ammonia-salts per annum; Nitrate of Soda commenced in 1868. 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; the plots ("AAS.") comprise, respectively, one half of the original "AA." plots, and, excepting the addition of the Silicates, have been, and are, in other respects, manured in the same way as the remaining halves; and, for the sake of comparison with the latter, the average produce is given for the whole period of 17 years, 1852-1868.  
 (6) 2000 lbs. Rape-cake per annum for the first six years, and 1000 lbs. only, each year since.  
 (7) 300 lbs. Sulphate of Potass, 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) 300 lbs. per annum for the first six years, and 200 lbs. each year since.  
 (10) Ammonia-salts also the first year, but not since.  
 (11) Average of 16 years only.  
 (12) Average of 16 years only.  
 (13) Average of 14 years only.