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## Memoranda of the Plan and Results of the Field Experiments, May 1869



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## **Experiments on Barley; Hoos Field**

## **Rothamsted Research**

Rothamsted Research (1870) *Experiments on Barley; Hoos Field ;* Memoranda Of The Plan And Results Of The Field Experiments, May 1869, pp 3 - 3 - **DOI:** 

https://doi.org/10.23637/ERADOC-1-233

## EXPERIMENTS ON THE GROWTH OF BARLEY YEAR AFTER YEAR ON THE SAME LAND, WITHOUT MANDER, AND WITH DIFFERENT KINDS OF MANDER,

Previous Cropping—1847, Swedish Turnips, with Dung and Superphosphate of Lime, the Roots carted off; 1848, Barley; 1849, Clover; 1850, Wheat; 1851, Barley manured to Barley every year since; and, unless stated to the contrary in the foot-notes, the same Manure has been applied year after HOOS FIELD First Experimental Barley Crop in 1852. with Ammonia-salts.

(Area under experiment, about 44 acres.) the same Plot.

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	1868.		Total Straw.	cwis. 1112 991 813 10	124 194 15 203	143 213 164 253	17 254 22 264 264	194° 194 194 21	$\frac{19}{17\frac{1}{4}}$	83 201 11	105 11 245
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		Dressed Corn.	Quantity.	Bushels. 10 <sup>3</sup> 18 <sup>1</sup> 14 <sup>2</sup> 14 <sup>4</sup> 17 <sup>3</sup>	202 374 25 342	27 44 273 453	293 45 363 46 <del>2</del>	60 60 60 70 70 70 14 14 14	25 55 25 25 25 25 25 25 25 25 25 25 25 2	15 364 144	154 16 432
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	Average per Annum, over 17 Years, 1852-1868.	Corn.	Weight per Bushel.	· lbs. 52½ 53 52¾ 53	513 53 524 53½	513 523 524 524	55 22 25 25 25 25 25 25 25 25 25 25 25 2	55 55 55 55 55 55 55 55 55 55 55 55 55 55	$52\frac{1}{4}$ (m)	53 (°) 53½ (°) 53 (°)	5224 524 54
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				Unmanured continuously Superphosphate of Lime (1) Mixed Alkalies (2)	200 lbs. Armonia-salts (3) 200 lbs. ditto 200 lbs. ditto 200 lbs. ditto	275 lbs. Nitrate of Soda 275 lbs. ditto 275 lbs. ditto 275 lbs. ditto	bs. bs.	lbs. lbs. lbs.	275 lbs. Nitrate of Soda 275 lbs. (6) ditto	200 lbs. (9) Sulphate of Potass ; and ditto ditto Soda and Sulph. Magnesia; and	Ashes (burnt soil, turf, and weeds) Farm-vard dung (14 tons every year)
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(2) 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., 200 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 commerced in 1868. 275 lbs. Nitrate of Soda is reckoned to contain the same amount of Nitragen as 200 lbs. "Ammonia-salts."

The application of Silicates did not commence until 1864; in 1864-5-6 and 7, 200 lbs. Silicate of 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 Soda and 200 lbs. Silicate of Lime were applied per acre, but in 1868, and since, 400 lbs. Silicate of Soda, (3)

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.

(9) 2000 Ibs. Rape-cake per annum for the first six years, and 1000 Ibs. only, each year since.

(7) 300 Ibs. Sulphate of Pokass, 200 Ibs. Bone-ash, and 150 Ibs. Sulphuric acid (sp. gr. 1.7), without

; Nitrate alone each year since. (6) 2000 Ibs. Rape-cake per ann (7) 300 Ibs. Sulphate of Potass Nitrate of Soda, the first year (1852)

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

(a) 300 lbs. per annum for the first six years, and 200 lbs. each year since.

(b) Ammonia-salts also the first year, but not since.

(c) Ammonia-salts also the first year, but not since.

(d) Average of 16 years only.

(l) Average of 16 years only.