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

Full Table of Content

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 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 4¼ acres.)

1 acre .. .. .. = (about)	0·40 Hectare .. .. or 1·59 Prussian Morgen.
1 bushel .. .. .. = (about)	0·36 Hectolitre .. .. .. or 0·66 Prussian Scheffel.
1 lb. (pound avoir.) .. = (about)	0·45 Kilogramme .. .. .. or 0·91 Zollverein Pfund.
1 cwt. (hundredweight) = (about)	51·0 Kilogrammes .. .. .. or 1·02 Centner.
1 bushel per acre .. = (about)	0·9 Hectolitre per Hectare .. or 0·42 Pr. Scheffel per Pr. Morgen.
1 lb. per acre .. .. = (about)	1·12 Kilogramme per Hectare or 0·57 Zollv. Pfd. per Pr. Morgen.
1 cwt. per acre .. = (about)	125·5 Kilogrammes per Hectare or 0·64 Centner per Pr. Morgen.

PLOTS.	Manures, per acre; eighteenth Season—1869.	PRODUCE PER ACRE: Average per Annum, over 17 Years, 1852–1868. Dressed Corn. Quantity.	Dressed Corn. Weight per Bushel.	Total Straw.	Seventeenth Season, 1868. Dressed Corn. Quantity.	Dressed Corn. Weight per Bushel.	Total Straw.
		Bushels.	lbs.	cwts.	Bushels.	lbs.	cwts.
1 O.	Unmanured continuously	20½	52¼	12¼	10¾	54½	11½
2 O.	Superphosphate of Lime (1)	26¾	53	14	18½	55¾	9½
3 O.	Mixed Alkalies (2)	23½	52¾	12½	14¼	55¾	8½
4 O.	Ditto ; and "Superphosphate of Lime"	28½	53	14¾	17¾	55¼	10
1 A.	200 lbs. Ammonia-salts (3)	32¾	51¾	18¾	20½	53¼	12½
2 A.	200 lbs. ditto ; and "Superphosphate of Lime"	47½	53	28	37¾	54½	19¼
3 A.	200 lbs. ditto ; none ; and "Mixed Alkalies"	35¼	52¼	20¾	25	54¾	15
4 A.	200 lbs. ditto ; "Superphosphate of Lime" ; and ditto	46¾	53½	28½	34¾	55¾	20¾
(4) 1 AA.	275 lbs. Nitrate of Soda	37¾	51½	22	27	53¾	14½
(4) 2 AA.	275 lbs. ditto ; and "Superphosphate of Lime"	49¾	52¾	30½	44	55¾	21¾
(4) 3 AA.	275 lbs. ditto ; none ; and "Mixed Alkalies"	38	52	24¼	27½	55¼	16¼
(4) 4 AA.	275 lbs. ditto ; "Superphosphate of Lime" ; and ditto	50¼	52¾	33	45½	56	25½
(4) (5) 1 AAS.	275 lbs. ditto ; and 400 lbs., Silicate of Soda (5)	38¾	51¾	23	29½	54¼	17
(4) (5) 2 AAS.	275 lbs. ditto ; and "Superphosphate of Lime" ; and 400 lbs., Silicate of Soda (5)	49½	52¾	31	45	55½	25¼
(4) (5) 3 AAS.	275 lbs. ditto ; none ; "Mixed Alkalies" ; and 400 lbs., Silicate of Soda (5)	40¼	52¼	25¾	36½	56¼	22
(4) (5) 4 AAS.	275 lbs. ditto ; "Superphosphate of Lime" ; ditto ; and 400 lbs., Silicate of Soda (5)	50½	52¾	33¼	46¾	56¼	26½
(6) 1 C.	1000 lbs. Rape-cake	45⅝	53¼	27¼	37	56¼	19½
(6) 2 C.	1000 lbs. ditto ; and "Superphosphate of Lime"	47¼	53¾	28¾	35¼	56¼	19⅝
(6) 3 C.	1000 lbs. ditto ; none ; and "Mixed Alkalies"	43¾	53¾	27¼	35¼	55¾	19¾
(6) 4 C.	1000 lbs. ditto ; "Superphosphate of Lime" ; and ditto	47¼	53	29½	36¼	55½	21
(7) 1 N.	275 lbs. Nitrate of Soda	37¼ (11)	52½ (11)	23 (11)	25½	52¾	19
(7) 2 N.	275 lbs. (8) ditto	41½ (11)	52¼ (11)	26 (11)	25½	55½	17½
5 O.	200 lbs. (9) Sulphate of Potass ; and "Superphosphate of Lime" (10)	23½ (12)	53 (12)	12¾ (12)	15	56½	8½
5 A.	200 lbs. (9) ditto ; ditto ; and 200 lbs. "Ammonia-salts"	44½ (12)	53½ (12)	28 (12)	36¼	57½	20½
M.	100 lbs. each, Sulph. Soda and Sulph. Magnesia ; and ditto	22¼ (13)	53 (13)	12½ (13)	14¾	54	11
6 1	Unmanured continuously	23	52¼	12¾	15¼	53½	10½
6 2	Ashes (burnt soil, turf, and weeds)	22¾	52½	12½	16	53¾	11
7	Farm-yard dung (14 tons every year)	48	54	28¼	43¾	57	24½

(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 ofMagnesia (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 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.