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Yields of the Field Experiments 1901

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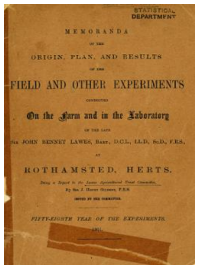

Oats; Geescroft Field

Rothamsted Research

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GEESCROFT

EXPERIMENTS ON THE GROWTH OF **OATS** YEAR AFTER YEAR ON THE SAME

Previous Cropping—1847 and 1848, Clover, Experimental Manures; 1849—1859, Beans, Experimental Manures; 1860, Fallow; 1861 and 1862, Wheat, Unmanured; 1863, Fallow; 1864, Beans, Dunged; 1865, Wheat, Unmanured; 1866, Beans, Unmanured; 1867 and 1868, Wheat, Unmanured.

(Area under experiment,

Plots.	Manures, per Acre, per Annum.	Produce per Acre. 1st Season, 1869. Dressed Grain. Quantity.	Weight per Bushel.	Total Straw.	2nd Season, 1870. Dressed Grain. Quantity.	Weight per Bushel.	Total Straw.
		Bushels.	lbs.	cwts.	Bushels.	lbs.	cwts.
1	Unmanured	36⅝	36¾	19¼	16⅜	35	9⅛
2	200 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, 100 lbs. Sulphate Magnesia, and 3½ cwts. Superphosphate of Lime (1)	45	38½	24½	19⅛	35⅛	9⅝
3	400 lbs. Ammonium-salts (2)	56⅛	37½	36⅞	30	34⅞	17¼
4	400 lbs. Ammonium-salts, 200 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, 100 lbs. Sulphate Magnesia, and 3½ cwts. Superphosphate ..	75¼	39¼	54	50⅝	36	28⅝
5	550 lbs. Nitrate of Soda (3)	62¼	38½	42¾	36½	35¼	23
6	550 lbs. Nitrate of Soda, 200 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, 100 lbs. Sulphate Magnesia, and 3½ cwts. Superphosphate ..	69⅜	38½	49⅞	50	35¾	28¾

SECOND 5 YEARS; MINERAL MANURES AS BEFORE,

		6th Season, 1874.			7th Season, 1875.		
		Bushels.	lbs.	cwts.	Bushels.	lbs.	cwts.
1	Unmanured	12	31½	7	12½	29⅜	5⅞
2	200 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, 100 lbs. Sulphate Magnesia, and 3½ cwts. Superphosphate of Lime (1)	13⅝	31¼	6½	13⅛	29¾	6⅞
3	200 lbs. Ammonium-salts (2)	37¼	33¼	22⅞	30⅜	32⅞	15⅜
4	200 lbs. Ammonium-salts, 200 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, 100 lbs. Sulphate Magnesia, and 3½ cwts. Superphosphate ..	46¾	34⅝	24⅝	30⅝	34⅞	20¼
5	275 lbs. Nitrate of Soda (3)	35⅛ (4)	30 (4)	16½ (4)	23½ (4)	31¼ (4)	11⅜ (4)
6	275 lbs. Nitrate of Soda, 200 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, 100 lbs. Sulphate Magnesia, and 3½ cwts. Superphosphate ..	28½ (4)	33½ (4)	16⅝ (4)	28⅝ (4)	33⅝ (4)	14½ (4)

(1) "Superphosphate of Lime"—in all cases, made from 200 lbs. Bone-ash, 150 lbs. Sulphuric Acid sp. gr. 1·7 (and water).

(2) "Ammonium-salts"—in each case, equal parts Sulphate and Muriate of Ammonia of Commerce.

(3) 550 lbs. Nitrate of Soda is reckoned to contain the same amount of Nitrogen as 400 lbs. "Ammonium-salts."

(4) On these plots, where large quantities of Nitrate of Soda had been applied year after year, the land, though more worked, was so wet that it could not be got into favourable condition for sowing, and the plant was very irregular.

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FIELD.

LAND; WITHOUT MANURE, AND WITH DIFFERENT DESCRIPTIONS OF MANURE.

The first Experimental Oat Crop was in 1869; the last in 1878, since which, owing to the wetness and the foulness of the land for several years, it was left fallow; and the experiment was then discontinued. Description of Oats—Black Tartarian every year excepting 1874, when White Tartarian were sown.

¾ acre.)

PRODUCE PER ACRE.

3RD SEASON, 1871.			4TH SEASON, 1872.			5TH SEASON, 1873.			AVERAGE PER ANNUM 5 YEARS, 1869–1873.		
Dressed Grain.		Total Straw.	Dressed Grain.		Total Straw.	Dressed Grain.		Total Straw.	Dressed Grain.		Total Straw.
Quantity.	Weight per Bushel.		Quantity.	Weight per Bushel.		Quantity.	Weight per Bushel.		Quantity.	Weight per Bushel.	
Bushels.	lbs.	cwts.	Bushels.	lbs.	cwts.	Bushels.	lbs.	cwts.	Bushels.	lbs.	cwts.
20½	33½	11¼	15	36¼	7⅛	10¾	27⅛	5⅜	19⅞	33¾	10⅜
22	35¼	13½	19½	37¾	10⅜	17	28⅝	8⅝	24½	35	13⅜
57⅛	36⅜	40⅝	55¾	37½	30⅝	36½	32⅝	16¾	47	35⅞	28½
58⅝	35⅜	50	62⅜	39½	45⅛	48¼	34¾	27⅝	59	37	41⅛
55	36⅝	34¾	42⅛	36⅝	20⅝	39¾	30¼	16½	47⅛	35½	27½
60¼	33¾	48⅜	44⅝	37¼	24	63⅝	33⅝	24	57½	35¾	35

AMMONIUM-SALTS AND NITRATE OF SODA ONLY HALF AS MUCH AS PREVIOUSLY.

8TH SEASON, 1876 (5).			9TH SEASON, 1877 (6). FALLOW.			10TH SEASON, 1878.			AVERAGE PER ANNUM 4 YEARS, 1874, '5, '6, and '8.		
Bushels.	lbs.	cwts.	Bushels.	lbs.	cwts.	Bushels.	lbs.	cwts.	Bushels.	lbs.	cwts.
8⅛	32	2⅝	..	..	..	22¼	32	8⅜	13¾	31¼	6
7¾	30	2⅝	..	..	..	17¾	35½	8¼	13⅛	31⅝	6⅛
17⅝	34⅛	6	..	..	..	30	32¾	12⅜	28⅞	33¼	14⅛
29¼	35½	12½	..	..	..	45⅜	37	22½	38	35½	20
12¾	30⅞	3⅞	..	..	..	34⅛	34¼	12½	26⅜	31⅝	11⅛
19⅝	33¼	8	..	..	..	37	36¼	17½	28½	34⅛	14

(5) Owing to the extremely wet condition of the land, especially on the Nitrate plots, it was not sown until April 6, and then with a very unfavourable seed bed; and, there being a heavy fall of snow a week later, the plant came up very irregularly, and much of it perished from standing surface-water.

(6) Owing to the very wet winter, 1876–7, the land could not be worked in time for sowing, and was therefore left fallow in 1877; no manures being applied.

The experiments were discontinued after 1878.

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