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Memoranda of the Plan and Results of the Rothamsted Field Experiments -Supplement - June 1864



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Experiments on Wheat: Broadbalk Field

Rothamsted Research

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DIFFERENT KINDS OF MANDRE. YEAR AFTER YEAR ON THE SAME LAND; WITHOUT MANURE, AND WITH OF WHEAT Experiments on the Growth

BROADBALK FIELD.

First Experimental Wheat Crop in 1844. Wheat every year since; and with some exceptions, nearly the same description of Manures on the same Plots each year— The last four Crops Unmanured. Peas; 1842, Wheat; 1843, Oats. (Area under experiment about 13 acres.) Barley; 1841, Previous Cropping--1839, Turnips, with Farmyard Manure; 1840, especially during the last 12 years.

ii.	Si Si									9					
	ACRE.	1863.	Total Straw.		cwts. 164 15½	384 144 144 144	151 334 524 59	564 372 31 364	388 4484 45 45 45	46 453	614	$^{17(11)}_{43(12)}$	403	$13\frac{1}{4}$	224 24
		Twentieth Season, 1863.	orb.	Weight per Bushel.	1bs. 625 624	635 6238 624 44	63 624 624 624	621 624 625 400 624 625 625 625 625 625 625 625 625 625 625	621 621 623 623 623	623 623	623	$62\frac{3}{6}\binom{11}{6} \\ 62\frac{3}{6}\binom{12}{6}$	$62\frac{7}{5}$	623	62½ 62⅓
			Dressed Corn.	Quantity.	pks.	0	C2 C2 C3 C3 814 14 814 814	2 C C C C C C C C C C C C C C C C C C C	60 0 H 60 H44 814	1.4 0	3. 2.	$1 \\ 1\frac{(11)}{4} (12)$	22.44	23	67 co
١	PER			Č	Bush. 22 20	44 17 20	19 39 53 55	555 411 339 43	45 45 53 85 85	48 48 48	55	21 46	46	17	27
	PRODUCE	, over 363.	Total Straw.		cwts. 162 154	341 145 152 152	17 27 37 42 42	200 200 200 200 200 200 200 200 200 200	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	34 36	46	$33\frac{1}{2}$ (9) $17\frac{3}{4}$ (10)	$31\frac{1}{2}$	$15\frac{1}{4}$	$21 \\ 20\frac{1}{2}$
		Average per Annum, over 12 Years, 1852–1863.	Dressed Corn.	Weight per Bushel.	1bs. 573 574	594 564 574	583 581 5733 4433	57 55 <u>1</u> 56 57	70 70 70 60 80 80 60 44 40 10 44	7.0 00 00 Historia	£22	584(9) 58 (10)	58	22	58 573
				ity.	pks. 1	H 07 33 Fig. 814		07 00 07 00 H4-H20H4	2002 4144 0	SH4년2	67	$\frac{2^{\frac{1}{2}}(9)}{3^{\frac{1}{2}}(10)}$	- CZ 814	23	0 484 814 814
		Avei 12	Dre	Quantitys	Bush. pl 18 1 16 1	35 1 15 2 16 3	18 1 28 1 36 1 38 0	25 32 25 25 25 25 25 25 25 25 25 25 25 25 25	29 35 34 35 0	33 (38	32 28 18	31 2	15 2	22 (21 2
To see co.)			_		ğ ::	:::	3 3 3 3	1111	1111		9	3.35		:	::
						:::	::::	::::	::::	500 lbs. Rape-cake		3.3	and 500 lbs. Rape-cake	:	8.8
					1.1	111	siti	::::	1111	.s. Ra	1	: :)s. Ra	:	8.8
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					11	111	1 1 1,1	1:11	1111	and	;	::	and ?	:	: :
	SINI				1.5	: 2 :	. 6	ts "							nia onia
accura	e, for the growing (21st) Wheat-crop—1864. = (about) 0.40 Hectare. = (about) 0.36 Hectolitre. = (about) 7.45 Kilogrammes. = (nearly) 51.0 Kilogrammes. = (about) 125.5 Kilogrammes per Hectare.				::	:::	salts	Soda Soda ia-sal	0000	00	o	0 9	a-salt	6	Amm
					::	Farm-yard dung (14 tons every year)	Ammonia-salts ⁽³⁾ ditto	1 550 lbs. Nitrate of Soda 550 lbs. ditto 400 lbs. "Ammonia-salts", 400 lbs. ditto	ditto ditto ditto ditto	ditto ditto	ditto	ditto none	300 lbs. "Ammonia-salts";	0000	Muriate Ammonia Sulphate Ammonia
Alea under experiment					Superphosphate of Lime (three times as much as on No. 5 and succeeding Plots) Mixed Alkalies (twice as much as on No. 5 and succeeding Plots)	 I Ammo	and 200 lbs. A and 400 lbs. and 600 lbs.	50 lbs. N 50 lbs. 00 lbs. "	and 400 lbs. and 400 lbs. and 400 lbs. and 400 lbs.	400 lbs. 300 lbs.	800 lbs.	400 lbs.	.00 lbs. "	:	and 100 lbs. R and 100 lbs. S
a unic					eedir	:: e and	and 20 and 40 and 60	ond on the control of	and 4 and 4 and 4 and 4 and 4	and 4	and 8	4	Ć()	15	and 1
AIE.					succ lots)	 Sphat	8 8 8	10 10 10 16			32	** **	**		***
					and Pl	: rphos	of Lime ⁽²⁾	& '50)	ime,			ime '			ime"
j					No.	: :	e of	\$44 '48,	of L	ଜର		I Jo e	2	1	of L
					s on	.: usly	osphat ditto ditto ditto	ditto none none since 1844 except 1844, '48,	"Superphosphate of Lime" ditto ditto ditto	ditto(8) ditto(8)	ditto	none "Superphosphate of Lime"	ditto(3)		"Superphosphate of Lime" ditto
	Manures, per acre, for the lacre = (a la bushel = (a la la core, topoud, avoir.) = (a la lacve, thoud, avoir.) = (a la bushel per acre = (rest. per acre = (a la core, per acre = (a l			uch a	revio	rphe d	d n ne sû xept	p p p p	G D	ان.	r phos	.0	*	Soud	
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					to aga	mg (continuo or Cr	Mixed Alkalies(') ditto ditto ditto	ditto none none since 1844 except 1844, '48	none ulpha sulpha ilphat	" Mixed Alkalies " ditto	ditto	none "Mixed Alkalies"	попе	conti	" Mixed Alkalies" ditto
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					erphe	Farm-yard dung (14 tons every year) Ummanured, continuously Unmanured for Crop of 1852, and since (p	2	ditto none none none since 1844 and '50); none (except 1844, 48 and '50); none (except 1844, 48 and '50);	3662 lbs.(4) Sulphate of Soda 200 lbs.(9) Sulphate of Potass 280 lbs.(9) Sulphate of Magnesia;	33		3600	n. 12a	Unmanured continuously	3
					Sup	Far		поп	366 200 280		_			Ωn	
			si.	,			(3-p) (3-p) (3-p)	, 9999	8 8 8 8 6 9 9 8 6 9 9 9 8	29	(q-x)	a-b	1		
	PLOTS.				0 H	01 to 41	10 0 1- 00 8 8 8 8	6 2 5 6 6 7 8 9 9 9 9 9 9 9 9 9 9 9	112124 2222	15	16 (a-b)	(7) $\begin{cases} 17 & (\alpha - b) \\ 18 & (\alpha - b) \end{cases}$	19	20	21
												G			

Since 1858, 200 lbs. Sulphate of Potass, 160 lbs. Sulphate of Soda, and 100 lbs. Sulphate of Magnesia; for Crop of 1857-8, and previously, 300 lbs., 200 lbs., and 100 lbs., respectively.

200 lbs. Bone-ash, 150 lbs. Sulphatic acid (Sp. gr. 1-7).

(3) Equal parts Sulphate and Mariate of Commerce.

(4, 2, 5, 5) For 1858, and previously 1½ time as much.

(5) With Hydrochloric instead of Sulpharic Acid.

(7) Average of 12 years' Ammonia-salts for the Crop of 1863.

(12) Plots 18 had the Ammonia-salts for the Crop of 1863. EDDE