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### Yields of the Field Experiments 1901



Full Table of Content

### **Potatoes**; Hoos Field

### **Rothamsted Research**

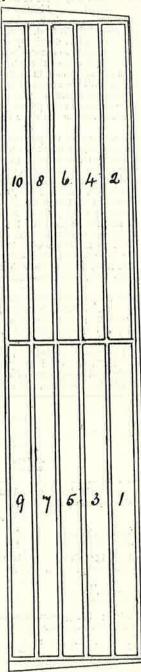
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(86)

PLAN OF THE PLOTS IN HOOS FIELD,
ON WHICH EXPERIMENTS HAVE BEEN MADE
ON POTATOES,

WITHOUT MANURE, AND WITH VARIOUS MANURES.
26 years, 1876-1901.

[For a brief summary of results and conclusions, see opposite page.]



Total area of ploughed land about  $2\frac{1}{10}$  acre.

Area of each plot  $\frac{1}{6}$  acre.

The double lines indicate division paths between plot and plot.

[For details of the manuring and produce, see pp. 88–109.]

(87)

### RESULTS OF EXPERIMENTS MADE IN HOOS FIELD, ON THE GROWTH OF POTATOES.

These experiments were commenced in 1876, so that 1901 is the 26th year of their continuance. The descriptions grown were "Rock," 4 years, "Champion," 11 years, "Sutton's Abundance," 5 years, "Bruce," 1 year, and "White Beauty of Hebron," 1897, and since. The question was not as to the comparative merits of different descriptions, and different sorts were selected on the supposition that in growing the crop year after year change was desirable, especially with a view to the avoidance or lessening of disease. The special object was to ascertain the manurial requirements of the crop, and the comparative characters and composition that provide the near that the manurial requirements of the crop, and the comparative characters and composition that provide the provide of the 10 conditions the crop more or less declined over the later compared with the earlier years. The average produce per acre of total tubers over the 20 years was—without manure, only 1 ton, 11½ cwt.; with ammonium-salts alone, 1 ton, 13½ cwt.; with utinate of soda alone, 2 tons, 8 cwt.; with superphosphate lone, 3 tons, 22 cwt.; with mixed mineral manure, including potash, 3 tons, 62 cwt. Thus, purely nitrogenous manure, sielded less that purely mineral manures, including potash, 3 tons, 62 cwt. Thus, purely nitrogenous manure, sielded less that purely mineral manures, including potash, 3 tons, 62 cwt. Thus, purely nitrogenous manures (see the comparative provided of tons) and the see that the comparative provided in the soil. With the mixed mineral manure and mitrate of soda rather over 6 tons per active the comparative mixed mineral manure and mitrate of soda rather over 6 tons per active the comparative mixed within the soil, and so inducing a more extended development of feeding root. The average produce of Soda is doubtless due to its nitrogen being more immedially available, and the mixed mineral manure is rapidly available, and the mixed mineral manure is rapidly available, and the mixed mineral manure is rapidly available, and the mixed mi

duction of the non-nitrogenous substances—starch, sugar, and cellulose—that our direct nitrogenous manures are chiefly used.

It is well known that season has much to do with the development of the potato disease; and there was on the average much more disease in the wetter seasons. As regards the influence of manure, the proportion of diseased tubers was the least where there was no supply of nitrogen; that is, where there was the least luxuriance, the most restricted growth, and where the ripening was early developed. On the other hand, with liberal supply of nitrogen, and luxuriant growth, there was the greatest proportion of diseased tubers; these being the conditions in which the juice is relatively rich in nitrogenous and mineral matters. Indeed, when the unsuitable weather comes, those tubers suffer the most which have the richest juice, that is, the least fixity of composition. It was found that there was always a higher, and sometimes a much higher, percentage of nitrogen in the dry substance of the diseased than in that of the sound tubers, indicating a loss of non-nitrogenous constituents. In many cases the still white, and also the separated discoloured portion of the diseased tubers, were analysed. Whilst the juice of the white portion contained approximately the normal amount of nitrogen, that of the discoloured portion contained very much less. On the other hand, the washed "Marc" of the white portion contained very little nitrogen, whilst that of the discoloured portion contained very much more. The distribution of the mineral matter to a great extent followed that of the nitrogen. The juice had obviously suffered exhaustion of much of both its nitrogen and its mineral matter in the development of the fungus. Further, there was more sugar (partly cane and partly glucose) in the diseased potatoes, which probably contributed to the development of the fungus. Apparently the first material change in the development of the fungus is the destruction of starch and the formation of sugar. There is also

however, a less proportion of the nitrogen supplied than any other farm crop.

For particulars of the manuring and produce, and to some extent of the composition of the differently grown

# EXPERIMENTS ON POTATOES.—HOOS FIELD; commencing 1876.

Below are given the particulars of the Manures and Produce of each of the first 5 Seasons, 1876-1880; also the average Produce of those first 5 Seasons. For continuation, 1881 and since, see pp. 92-3, 96-7, 100-1, 104-5, and 108-9.

The Land had been under experiments with Wheat, differently manured, from 1856 to 1874; and was fallowed in 1875.

Plots 1, 2, 3, and 4 had been unmanured for the Wheat. Plots 5 and 6 had received the same quantity of Ammonium-salts alone every year for the Wheat, as Plot 5 now receives for potatoes: Plot 6 now receiving the same amount of nitrogen, but as Nitrate of Soda, instead of Ammonium-salts. Plots 7 and 8 received the same amount of complex mineral manure, and Ammonium-salts, for the Wheat, as Plot 7

now receives for potatoes; and Plot 8 now receives the same complex mineral manures, and the same amount of nitrogen, but as Nitrate of Soda instead of Ammonium-salts. Plots 9 and 10 received the same complex mineral manures alone for the Wheat as Plot 10 now receives for potatoes; Plot 9 now receives superphosphate only. (\*\*) Description of Potatoes, in 1876, 1877, 1878, and 1879, the "Rock" (White); and in those years the rows were 25 inches apart; with 12 inches from plant to plant in the rows. In 1880, the description was the "Champion" (White); and the rows were 25 inches apart, with 14 inches from plant to plant in the rows.

First Season, 1876. Potatoes planted, June 10–13; Crop taken up, Oct. 30–31.  First Season, 1876. Potatoes planted, June 10–13; Crop taken up, Oct. 30–31.  Farmyard Manure (14 tons), and 34 ovts. Superphosphate (') and 550 lbs. Nitrate of Soda and 54 ovts. Superphosphate, and 550 lbs. Nitrate of Soda and 55 ovts. Superphosphate, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 6 174 550 lbs. Nitrate of Soda, 36 ovts. Superphosphate Soluphate Soda, and 100 lbs. Sulph. Roga, 10 18. Sulph. Soda, 100 lbs. Sulph. Mag. 6 174 550 lbs. Nitrate of Soda, 35 ovts. Superphosphate Soluphate Polash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia and Scoon Season, 1877. Potatoes planted, April 27–28; Crop taken up, Oct. 8–10.  Unmanured Manure (14 tons), 34 ovts. Superphosphate (') and 350 lbs. Nitrate of Soda and 100 lbs. Sulphate Magnesia and 360 lbs. Nitrate of Soda and 34 ovts. Superphosphate (14 tons), 34 ovts. Superphosphate and 550 lbs. Nitrate of Soda and 100 lbs. Sulphate Magnesia and 350 lbs. Nitrate of Soda and 100 lbs. Sulphate Magnesia and 350 lbs. Nitrate of Soda and 100 lbs. Sulphate Magnesia and 350 lbs. Nitrate of Soda and 100 lbs. Ammonium-salts (*) and 34 ovts. Superphosphate and 550 lbs. Nitrate of Soda and 100 lbs. Ammonium-salts (*) and 350 lbs. Nitrate of Soda and 35	PRODUCE PER ACRE. Tubers.	Small. Diseased. Toral.	Tons, cwts, Tons, cwts, Tons. cwts, 0 54 0 54 174 0 54 174 0 55 0 0 54 0 54 0 54 0 54 0 54 0 64 0 6	00	2 S + 1
PELLAMANON PHELA		ACRE FER ANNUM.	phate (') e, and 550 lbs. Nitrate of Soda s. Sulph. Potash, 100 lbs. Sulph. Soda, 100 l Sulph. Potash, 100 lbs. Sulph. Soda, 100 l Sulph. Sulphate Soda, and 100 lbs. Sulpha	SECOND SEASON, 1877.	and 3½ cwts. Superphosphate (¹)

	Nist colu		red, Sghed, Jot I on Plot hed		d, ned, t n lot		h year ps were on the ective For For culars
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ļ	Withered, not weighed cach lot spread on its own Ploi and ploughed in.		Withered, not weighed, each or spread on its own Plot and plongbed plongbed in.		In each year the Tops were spread on the respective Plots. For particulars see above.
	2 2 7 8 8 4 8 8 8 4 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		164 104 104 104 104 104 104 104 104 104 10		1 124 6 2234 0 1734 1 144 6 14 7 1114 3 19 3 163		61 61 61 61 61 61 61 61 61 61
the Flots.	2 8 8 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28-30.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
spread on u	8 2 4 1 1 1 1 1 2 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		4 4 6 5 4 4 5 4 8 8 4 4 5 4 5 4 5 4 5 6 6 6 6 6 6 6 6 6 6 6	Sept.	10 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		13 Km & C L M & C L M & C L M & C L M & C L M & C L M & C L M & C L M & C M &
anda	111 0 0 116 0 0 116 0 0 116 0 0 0 0 0 0	3-16.	1113 1344 16 0 16 0 1754 0 1445 0 1754 0 175	other Plots,	4 8 1 4 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1		18 91988 92 92 194 11178 11788 10788
Tops weigned,	1 889: : : : : : : : : : : : : : : : : :	up, Oct. 13	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sept. 9th;	Mag. 55 Mag. 55 Mag. 57 Mag. 57	880.	
HIRD SEASON, 1878. Foratoes planted, April 29. Crop taken up, Sept. 18-21; To	Farmyard Manure (14 tons), and 3½ cwts. Superphosphate (*) Farmyard Manure (14 tons), 3½ cwts. Superphosphate, and 550 lbs. Nitrate of Soda  100 lbs. Ammonium-salts (*)  550 lbs. Nitrate of Soda  400 lbs. Ammonium-salts (*)  550 lbs. Nitrate of Soda  550 lbs. Nitrate of Soda  550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 550 lbs. Nitrate of Soda, 3½ cwts. Superphosphate  3½ cwts. Superphosphate  3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia.	879. Potatoes planted, May 2; Crop taken	Unmanured Fermyard Manure (14 tons), and 3, cwts. Superphosphate (2) Furmyard Manure (14 tons), and 3, cwts. Superphosphate (2) Furmyard Manure (14 tons), 3½ cwts. Superphosphate, and 550 lbs. Nitrate of Soda 400 lbs. Ammonium-salts (2) 550 lbs. Nitrate of Soda 400 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 550 lbs. Nitrate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 3½ cwts. Superphosphate 33 cwts. Superphosphate 34 cwts. Superphosphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia.	FIFTH SEASON, 1880. Potatoes planted, April 13; Crop taken up, Plots 5 and 6, S.	Unmanured Farmyard Manure (14 tons) Farmyard Manure (14 tons), 3½ cwts. Superphosphate (?) Farmyard Manure (14 tons), 3½ cwts. Superphosphate, and 550 lbs. Nitrate of Soda 550 lbs. Ammonium-salts (*) 550 lbs. Nitrate of Soda 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Ma 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	AVERAGE OF 5 SEASONS, 1876, "77, "78, "79, and 1.	Unmanured Furmyard Manure (14 tons), and 3½ cwts. Superphosphate (¹) Farmyard Manure (14 tons), and 3½ cwts. Superphosphate, and 550 lbs. Nitrate of Soda 400 lbs. Ammonium-salts (²) 550 lbs. Nitrate of Soda 650 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag 3½ cwts. Superphosphate 3½ cwts. Superphosphate Soda, 100 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, nnd 100 lbs. Sulphate Magnesia
	<mark>163847007</mark> 00000		1284397860		1008460		1284736

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THE "GOOD" TUBERS, in each of the first 5 Seasons, discoloured For the composition in 1881 and since, see pp. 94-5, 98-9, 102-3, and 106-7. of the disco that little nitrogen, whilst ON POTATOES.—HOOS FIELD—continued,—Summary of the Composition of 1876-1880; also the average composition over those first 5 Seasons. EXPERIMENTS

" marc the results obtained relating to the composition of the tubers themselves, the dry matter, the sugar, the nitrogen, and the ash, in the expressed juice have in many cases been determined; in some cases the amount of the nitrogen existing as albuminoids has been determined; and in some complete analyses of the ash of the juice have been made. It may be remarked, that hive it are proportion of both the mineral matter, and the nitrogen, is found to exist in the by far the larger proportion of both the mineral matter, and the nitrogen, is found to exist in the by far the najority of cases, the small potutoes have been submitted to the same methods of analysis as In the majority of cases, the small potutoes have been submitted to the same methods of analysis as applied to the still white, and also to the separated discoloured portions of the diseased potatoes. With regard to these latter results, it may be observed, that whilst the juice of the white potton of the diseased potatoes contained and environment the normal amount of nitrogen. That of the abstract of the analytical results obtained, illustrating the influence of different manures, of fifteent seasons, on the composition of Potatoes, is given below. The specific of the tubers is also given. In the tubers the dry matter, nitrogen, and ash have stermined, and in some cases complete analyses of the ash have been made. Besides sults obtained relating to the composition of the tubers themselves, the dry matter, potatoes contained approximately the normal amount of nitrogen, that of the and of different gravity of the tu abstract of of

increased amount of sugar found in the diseased potatoes, the result of diseased action, and it probably also contributed to the development of the lungus.

The results given in the Table relate to the "good" potatoes only. In interpreting the figures it must be borne in mind that in each year, the seel was planted on all the plots at the same time, and that all the crops were taken up at the sume time; and as there was several times as much produce in some cases as in others, it is obvious that the crops would not each be at its best, and all in the same condition of maturity, when taken up. Then, again, the analyses were not performed immediately after taking up the crops, but some time afterwards, in weighed samples which had been kept in a cool place for some weeks or months; and in the following only preliminary statement of results, no correction is made for any change from the original weight of the samples, the results being calculated upon the fresh weights as finally taken for analysis. much an There was much more. The distribution of the mineral matter was much is entrogen. It was obvious that the juice had suffered exhaustion of and its mineral matter, in the development of the fungus. sugar found in the diseased potatoes, the result of diseased same order as that of the nitrogen. of both its nitrogen and its portion contained very

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contained

white portion,

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discolor	discoloured portion contained very much less. On the care			Composition of the "Good" Tubers.	of the "Goo	od" Tubers.	
	MANAGE DER ANNIM.	Specific Gravity		Mineral Matter (Ash).	tter (Ash).	Nitrogen.	gen.
PLOTS.	MANUAGE FEM (For Produc	of the Tubers.	Dry Matter	In Fresh Tubers.	In Dry Matter.	In Fresh Tubers.	In Dry Matter.
	FIRST SEASON, 1876.						
	Character and the control of the con		Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
		1.097	23.9	0.84	3.53	0.569	1.13
-	Temonwell	1-091	23.4	96.0	4-11	0.223	0.95
100	Daniel Montre (14 fons)	1.097	23.5	1.00	4.27	0.191	0.81
N C	and 34 cwts. Superphos	1.085	21.2	0.83	3.92	6.295	1.39
o -	rample of Arms (14 tons) 34 ewis. Superphosphate, and 550 lbs. Nitrate of Soda	1.087	99.1	0.81	3.67	0.332	1.50
<del>;</del> 1	Parlington manufacture (2)	1.091	0.66	0.79	3.59	0.327	1.49
o c	4.00 D.S. All Months See A. C.	1.090	6 06	86.0	4.71	0.266	1.27
<u>ا</u> ( ۲	530 DS. Mustee of Sons, 190 DS. Surphy, 100 DS. Sulph, Sons, 100 DS. Sulph, 100 D	1.088	6.[6	86.0	4.46	0.292	1.33
,	Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.	1.103	19.00	1-10	4.72	0.199	0.84
ග ග	32 cwts. Superphosphate	1.102	22.9	1.06	4.64	0.171	0.74
10	3½ cwts. Superphosphate, 300 los. Sulphate Lotan, 100 los. Sulphate 10151						
	SECOND SEASON, 1011.						
		1.119	33.0	1.05	3-17	0.305	0.91
-	Themanured a comment of the comment	1.109	26.2	1.06	4.00	0.212	0.80
- G	Formation (14 tons)	1.103	26.0	11.11	4.26	0-207	08.0
ৰ হ	Townson Monure (14 tons), and 3½ cwts. Superphosphate (')	1.112	27.2	1.06	3-90	0.301	I-II
0 -	te, and 550 lbs. Nitrate of Soda	1.107	22.0	29-0	3.07	0.281	1.28
4H 11	And then American Services 2	1.116	25.9	0-74	2.85	0.301	1.16
Ç,	TOO 105 MANAGEMENT OF THE PROPERTY OF THE PROPERTY OF THE CENTER OF THE PROPERTY OF THE PROPER	1.103	1.86	1.23	4.33	0.270	0.95
9 1	250 U.S. Manney B. Starts, Superphos., 300 Ibs. Sulph. Potash, 100 Ibs. Sulph. 100 Ibs. Sulph. Mog	1.119	27.3	1.16	4.26	0.268	86.0
- 0	500 DS. Millioning Social Streets of Social Streets Superplies, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Social, 100 lbs. Sulph. Lies.	1.109	26.5	1.18	4.44	0.203	94.0
တက	31 cwts. Superplushlate Sulphate Potash. 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	1.109	26.8	1.21	4.53	0-208	81.0
10	8½ cwts. Superposspinate, oco ros. corp.						

Third States   1978		0.88 0.86 0.86 1.23 1.25 0.95 0.94 0.68		1.00 0.93 0.91 1.10 1.10 1.20 1.05 1.14 0.93	9	1.98 0.99 0.99 1.14 1.15 1.19 0.91 0.91		1.05 0.92 0.88 1.24 1.33 1.10 1.12 0.83 0.83	_
Unmanured   Comparison   Comp		000000000000000000000000000000000000000		0001111000		H + 0 + + + + + + + 0 0			
Unmarred   Comparison   Compa		0.228 0.209 0.209 0.269 0.310 0.326 0.228 0.228 0.165		0.242 0.220 0.218 0.254 0.254 0.254 0.271 0.271 0.272 0.273		0.382 0.287 0.275 0.357 0.415 0.327 0.318 0.247 0.236		0.285 0.231 0.220 0.220 0.236 0.335 0.276 0.276 0.207	
Furnay State of the Color State of the Color State of S		8 4 4 4 8 8 4 4 4 4 4 4 6 8 4 4 4 4 8 8 4 4 4 8 8 4 4 4 4		2 4 4 8 8 8 9 4 4 4 9 9 9 9 9 9 9 9 9 9 9		8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		8 4 4 8 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Unmanured  Chamarined  Ferrayard Manne (14 tons)  Formyard Manne (14 tons)  Sig overs. Superplosephate, 300 lbs. Suppl. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulphate, and 50 overs. Superplosephate, 300 lbs. Sulphate, and 50 overs. Superplosephate, 300 lbs. Sulphate, 300		0.85 1.02 1.03 0.97 0.67 1.08 1.14		0.96 0.99 1.02 0.91 0.76 0.76 0.95 1.10 1.10		0.098 0.098 0.098 0.096 0.096 0.096 0.096		0.89 1.00 0.93 0.77 0.77 1.04 1.11	
Unmanured  Chamarined  Ferrayard Manne (14 tons)  Formyard Manne (14 tons)  Sig overs. Superplosephate, 300 lbs. Suppl. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulph. Potesh, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 11-55 overs. Superplosephate, 300 lbs. Sulphate, and 50 overs. Superplosephate, 300 lbs. Sulphate, and 50 overs. Superplosephate, 300 lbs. Sulphate, 300		26.0 28.2 28.3 28.4 28.4 28.4 28.4 28.4 28.4 28.4 28.4		22.3.4.3 22.4.6.0 22.5.0 23.0 23.0 23.0 23.0 23.0		22228857758 277788877588		22522 25522 2552 2550 2552 2552 2552 25	and water).
Unmanured  Farmyard Manue (14 tons) Farmyard Manue (14 tons), and Farmyard Manue (14 tons), and Follo Ibs. Ammonium-salts, 3½ cwts. 550 Ibs. Nitrate of Soda, 3½ cwts. S 3½ cwts. Superphosphate, 300 Ibs.  Farmyard Manue (14 tons) Farmyard Manue (14 tons), 3½ cwts. 550 Ibs. Nitrate of Soda, 3½ cwts.		1.107 1.000 1.090 1.099 1.105 1.097 1.097		1.103 1.103 1.103 1.103 1.103 1.103 1.099 1.099		1.123 1.114 1.117 1.102 1.114 1.118 1.118		1.110 1.103 1.103 1.102 1.102 1.103 1.104	, sp. gr. 1·7 (
	Third Season,	Soda, 100 lbs. Soda, 100 lbs. Sulphate	SEASON,	Nitrate of Soda h, 100 lbs. Sulph. Soda, 100 lbs f 100 lbs. Sulph. Soda, 100 lbs e Soda, and 100 lbs. Sulphate	SEASON,	Unmanured Farmyard Manure (14 tons) Farmyard Manure (14 tons), and 3½ cwts. Superphosphate (7) Farmyard Manure (14 tons), 3½ cwts. Superphosphate, and 550 lbs. Nitrate of Soda 400 lbs. Ammonium-salts (2) 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate	F 5 SEASONS, 1876 '77, '78, '79, and	Nitrate of Soda  100 lbs. Sulph. Soda, 100 lbs. 100 lbs. Sulph. Soda, 100 lbs. e Soda, and 100 lbs. Sulphate	(1) "Superphosphate of Lime"—in all cases made from 200 lbs. Bone-ash, 150 lbs. Sulphuric aci (2) "Ammonium-salts"—in each case equal parts Sulphate and Muriate Ammonia of Commerce

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## EXPERIMENTS ON POTATOES.—HOOS FIELD—continued.

Below are given the particulars of the Manures and Produce of the Sixth, Seventh, Eighth, Ninth, and Tenth Seasons, 1881, 1882, 1883, 1884, and 1885. For the Manures and Produce of the 5 preceding years, see pp. 88-9, and of succeeding years, 1886 and since, see pp. 96-7, 100-1, 104-5, and 108-9.

The Land had been under experiments with Wheat, differently manured, from 56 to 1874. and une followed in 1875.

1856 to 1874; and was fallowed in 1875.

Plots 1, 2, 3, and 4 had been unmanured for the Wheat. Plots 5 and 6 had received the same quantity of Ammonium-salts alone every year for the Wheat, as Plot 5 now receives for potatoes: Plot 6 now receiving the same amount of nitrogen, but as Nitrate of Soda, instead of Ammonium-salts. Plots 7 and 8 received the

same amount of complex mineral manure, and Ammonium-salts, for the Wheat, as Plot 7 now receives for potatoes; and Plot 8 now receives the same complex mineral manures, and the same amount of nitrogen, but as Nitrate of Soda instead of Ammonium-salts. Plots 9 and 10 received the same complex mineral manures alone for the Wheat as Plot 10 now receives for potatoes; Plot 9 now receives superphosphate only. Description of Potatoes, in 1876, 1877, 1878, and 1879, the "Rock" (White); and in those years the rows were 25 inches apart, with 12 inches from plant to plant in the rows. In 1881, 1882, 1883, 1884, and 1885, the description was the "Champion" (White); and the rows were 25 inches apart, with 14 inches from plant to plant in the rows.

MANURUS PER ACRE PER ANNUM.  Good. Small. Diseased. TOTAL.
Good. Small, Diseased. TOTAL.

(Area under experiment, 2 acres.)

,		
Withered, not weighed each lot spread on its own Plot and ploughed in.		
s. cwts. 0 2 0 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		6
10 10 10 10 10 10 10 10 10 10 10 10 10 1		1 19
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Toms, 400 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5-27	0
Cons. cvtts, 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Potatoes planted, March 21. Crop taken up, September 25-27.	1 154 0
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:: :: :: :: :: :: :: :: :: :: :: :: ::	Crol	:
:: :: :: :: a, 100 a, 100 Sul <sub>F</sub> :	21.	
Sod Ibs.	larch	
Nitrate of Soda 1,100 lbs. Sulph 100 lbs. Sulph e Soda, and 100	ed, M	
rate of 00 lbs. Soda, au	plant	
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rphosphate (') sphate, and 550 lbs. 600 lbs. Sulph. Potasl 00 lbs. Sulph. Potash 281, 100 lbs. Sulpha Sulpha	Pota	
and 550 lbs and 550 lbs Sulph. Potas	1882.	
phate se, an  s. Sul 100 I		
rphos sphat 300 ll:	EASO	8
Superphoses Superphoses, Euros., Euros., Euros., Euros., Euros., Euros., Euros., Euros., Euros.	SEVENTH SEASON,	
cwts. Supc	VENT	anmis
d 3½ cwts.	S	1000
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and et tons tons alts (la signature) alts (la signature) alts, alter alter, alt		Pue
1876, re (1/2) re (1/		1976
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nured and land land land land land land land		Oatau
Unmanured, in 1876, and each year since  Farmyard Manure (14 tons)  Farmyard Manure (14 tons) and 3½ cwts. Superphosphate (1)  Furnyard Manure (14 tons), 3½ cwts. Superphosphate, and 550 lbs. Nitrate of Soda  400 lbs. Ammonium-salts, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Mc 550 lbs. Nitrate of Soda, 5½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mc 550 lbs. Nitrate of Soda, 5½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mc 550 lbs. Nitrate of Soda, 55 cwts. Superphosphate  95 cwts. Superphosphate  96 cwts. Superphosphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia		Tamo
1224c2c2c		Tumonined in 1878 and soon visor cines
	1,	

	Srventh Season, 1882. Potatoes planted, March 21. Crop taken up, September 25-2 с.		
10124501-200	Unmanured, in 1876, and each year since  Unmanured, in 1876, and each year since  Unmanured, in 1882. Previously Farmyard Manure (14 tons)  Farmyard Manure (14 tons), and 3½ cwts. Superphosphate (1)  Farmyard Manure (14 tons), 3½ cwts. Superphosphate.  Farmyard Manure (15 tons), 5½ cwts. Superphosphate.  Farmyard Manure (15 tons), 5½ cwts. Superphosphate.  Farmyard Manure (14 tons), 5½ cwts. Superphosphate.  Farmyard Manure (14 tons), 5½ cwts. Superphosphate.  Farmyard Manure (14 tons), 5½ cwts. Superpho	0 1 2 2 2 2 4 4 4 6 6 1 1 2 2 6 1 1 1 2 6 1 1 2 6 1 1 1 1	Withered, not weighed each lot spread on its own Plo and ploughed in.

Withered, not weighed,	each lot	its own Plot	ploughed	ij			Withered, not weighed.	each lot	spread on its own Plot	and	rain.		NI III	Withered	not weighed,	spread on	its own Plot and	ploughed	111.			Withered,	nor werghed, each lot	spread on	and	ploughed in.	
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445 g				8 8	ber 2	01	10%	$12\frac{1}{2}$	162	194	134	13	September	133	8 1	63	F- C	$16\frac{2}{3}$	- BO		148	131	118	000	0 0 0 0	6	07
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Unmanured, in 1876, and each year suice Unmanured, in 1882, and since. Previously Farmyard Manure (14 tons) Farmyard Manure (14 tons) alone 1883; previously 3½ cwts. Superphosphate also(!) [Farmyard Manure (14 tons) alone 1883. In 1882, and previously, 3½ cwts. Superphosphate, and in 1881, and]			400 lbs. Ammonium-saits, 32 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 550 lbs. Nitrute of Soda, 32 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	3½ cwts. Superphosphate 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Magnesia.	nted, March 21. Crop taken up,	Unmanured, in 1876, and each year since Unmanured in 1882, and since. Previously Farmvard Manure (14 tons)	hate als	the formation of the state of t	400 lbs. Ammonium-sults (*)	34 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.	34 owts. Superphosplate	and 100 lbs. Sulph	TENTH DEANON, 1885. Potatoes planted, March 17 and 18. Crop taken up,	Unmanured in 1882, and since. Previously Farmyard Manure (14 tons).  Farmyari Manure (14 tons) slone 1883 and since mericially 21 outs Surcemborhood also (1)	Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 32 cwts. Superphosphate, and in	400 lbs. Ammonium-salts (2)	Sulph Sode	Sulph. Soda, 100 lbs.	og cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia.	AVERAGE OF 5 SEASONS, 1881, '82, '83, '84, and 1885	Unmanured in 1876, and each year since	erphosphate also (1)	Rarmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in 1881, and previously, 550 lbs. Nitrate of Soda also		Olbs. Sulph. Potash, 100 lbs. Sulph. Sods, 100 lbs.	Sulph. Soda, 100 lbs.	3½ cwts. Superplusphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia 4 01 0 4
61 to 4	H AG	9 0	- 00	10		<b>~</b> ≈	eo -	H 7	9	<b>[~ 0</b> 0	တင္	F	-	જ જ	4	10 0	20	<b>20</b> c	30		- 01	ಣ	4	io d	) <u> -</u> (	<b>30</b> G2	2

EXPERIMENTS ON POTATOES.—HOOS FIELD—continued.—Summary of the Composition of the "Good" Tubers, in the Sixth, Seventh, Eighth, Ninth, and Tenth Seasons, 1881, 1882, 1883, 1884, and 1885. For the particulars of the composition in the first 5 years, 1876-1880, see pp. 90-1, and for those in succeeding years, 1886 and since, see pp. 98-9, 102-3, and 106-7

An abstract of the analytical results obtained, illustrating the influence of different manures, and of different seasons, on the composition of Potatoes, is given below. The specific gravity of the tubers is also given. In the tubers the dry matter, nitrogen, and ash have been determined; and in some cases complete analyses of the ash have been made. Besides the results obtained relating to the composition of the tubers themselves, the dry matter, the sugar, the nitrogen, and the ash, in the expressed joice have in many cases been determined; in some cases the amount of the nitrogen existing as albuminoids has been determined; and in some cases analyses of the ash of the juice have been made. It may be remarked, that by far the larger proportion of both the mineral matter, and the nitrogen, is found to exist in the juice; and of the nitrogen in the juice; as a rule, not much more than half exists as albuminoids. In many cases, the small potatoes have been submitted to the same methods of analysis as the good potatoes. And in some capes, similar methods of examination have been applied to the still white, and also to the separated discoloured portions of the discoloured potatoes contained approximately the normal amount of nitrogen, that of the discoloured portion contained very much less. On the

other hand, the washed, or exhausted "mare" of the white portion, contained very little nitrogen, whilst that of the discoloured portion contained very much more. The distribution of the mineral matter was much in the same order as that of the nitrogen. It was obvious that the juice had suffered exhaustion of much of both its nitrogen and its mineral matter, in the development of the fingus. There was an increased amount of sugar found in the diseased potatoes, the result of diseased action, and it probably also contributed to the development of the fungus. The results given in the Table relate to the "good" potatoes only. In interpreting the figures it must be borne in mind that in each year, the seed was planted on all the plots at the same time, it must be borne in mind that in each year, the seed was planted on all the plots at the same time,

The results given in the Table relate to the "good" potatoes only. In interpreting the figures it must be borne in mind that in each year, the seed was planted on all the plots at the same time, and that all the crops were taken up at the same time; and as there was several times as much produce in some cases as in others, it is obvious that the crops would not each be at its best, and all in the same condition of maturity when taken up. Then, again, the analyses were not performed immediately after taking up the crops, but sometime afterwards, in weighted samples which had been kept in a cool place for some weeks or morths; and in the following only preliminary statement of results, no correction is made for any change from the original weight of the samples, the results being calculated upon the fresh weights as finally taken for analysis.

Sixth Season, 1881.  Suph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.  Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.  Seventh Season, 1882.  1-122  Seventh Season, 1882.  Seventh Season, 1882.  1-122  Seventh Season, 1882.  1-122  Seventh Season, 1882.  1-123  Seventh Season, 1882.  1-123  Seventh Season, 1882.  1-122  Seventh Season, 1883.  1-122  Seventh Season, 1883.  1-122  Seventh Season, 1883.  1-123  Sulph Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.  1-123  Sulph Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.  1-123  Sulph Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.  1-125  Sulph Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.  1-125  Sulph Soda, and 100 lbs. Sulphate Magnesia.  1-125			\$		Composition of the "Good" Tubers.	of the "Go	ood " Tuber	, s
Tubers	PLOTE	MANURES PER ACRE, PER ANNUM. (Ron Produce see up 92-3.)	Specific		Mineral Ma	Mineral Matter (Ash).		Nitrogen.
Unmanured, in 1876, and each year since   Farmyard Manure (14 tons)   Farmyard Manure (15 tons)   Farmyard Manure (16 tons)   Farmyard Manure (17 tons)   Farmyard Manure (17 tons)   Farmyard Manure (18 tons)   Farmyard Manure (19 tons)   Farmyard Manur			of the Pubers.	Dry Matter.	In Fresh Tubers.	In Dry Matter.	In Fresh Tubers.	In Dry Matter.
Unmanured, in 1876, and each year since   Farmyard Manure (14 tons)   Farmyard Manur		SIXTH SEASON, 1881.						
1.116     Farmyard Manure (14 tons), and 3½ cwts. Superphosphate (*)     Farmyard Manure (14 tons), 3½ cwts. Superphosphate (*)     Farmyard Manure (14 tons), 3½ cwts. Superphosphate, and 550 lbs. Nitrate of Soda     1.107     1.115     1.116     1.117     1.117     1.118     1.110	1 0	Unmanured, in 1876, and each year since	1.125	Per cent.	Per cent. 0.86	Per cent. 2.82	Per cent. 0.389	Per cent,
1.113	4 6	Permyard Manuel (14 folls)	1.116	29.1	66.0	3.41	0.294	1.01
1.107   1.10	3 4	Parinapad Monne (14 tons), and 25 owns. Superpluspanate ( )	1.113	28.1	1.07	3.81	0.295	1.05
1.115	i ic	400 lbs. Armonium solts (2)	1.107	26.0	0.91	3.51	0.359	1.39
## cwts. Superplios., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1-110  ## cwts. Superplios., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1-123  ## cwts. Superplios., 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia 1-122    Seventh Season, 1882.   1-122	9 9	0	1.115	27.9	0.84	3.03	0.375	1.35
each year since  actives. Superphos. 300 lbs. Sulpha E Soda, 100 lbs. Sulpha E Magnesia  actives. Superphos. 300 lbs. Sulpha E Soda, 100 lbs. Sulpha E Magnesia  below in the Sulpha E Magnesia  actives. Superphose Soda, 100 lbs. Sulpha E Magnesia  actives. Actives.	7	400 lbs Annanium-selfs Armers Super South Potest 100 lbs State Sta	1.114	28.0	92.0	2.70	0.379	1.36
300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia.  1.123  Seventh Season, 1882.  each year since viously Farmyard Manure (14 tons)  1.127  Sevents. Superphosphate (7)  1.127  1.127  1.127  1.127  1.127  1.127  1.128  3. and 3½ cwts. Superphosphate. In 1881, and previously, 550 lbs. Nitrate of Soda also  (3)  3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag  1.129  3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag  1.128  300 lbs. Sulphate Potash, 100 lbs. Sulphate Magnesia  1.125	00	550 He Nitrate of Soda 31 week Superpose 200 He Sollah Date, 100 He Sollah Mag-	1.110	26.7	1.06	3.97	0.306	1.15
300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia. 1.122  SEVENTH SEASON, 1882.  seach year since vivously Farmyard Manure (14 tons) sis), and 3½ cwts. Superphosphate (*) sis), and 3½ cwts. Superphosphate. In 1881, and previously, 550 lbs. Nitrate of Soda also. 1.119 sis), 3½ cwts. Superphos. 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.129 sevts. Superphos. 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.123 solo lbs. Sulphate Potash, 100 lbs. Sulphate Magnesia. 1.125	0	2 cmm capeapass, out the Surph, totalsh, 100 lbs, Sulph, Soda, 100 lbs.	1.107	25.3	86.0	3.89	0.341	1.35
each year since  each year since  wyously Farmyard Manure (14 tons)  si), 3½ cwts. Superphosphate. In 1881, and previously, 550 lbs. Nitrate of Soda also  1.122  1.123  1.123  1.129  3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.  1.129  1.129  2.200 lbs. Sulphate Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.  1.129  1.128  1.129	9	200 lbs Sulphate Detech 100 lbs Sulphate Sad. and 100 m. Sulphate	1.123	59.0	1.14	3.92	0.242	0.83
each year since  viously Farmyard Manure (14 tons)  viously Farmyard Manure (14 tons)  viously Farmyard Manure (14 tons)  1.127  1.131  1.131  1.131  1.132  1.122  1.119  2½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.  1.129  2½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.  1.128  300 lbs. Sulphate Potash, 100 lbs. Sulphate Magnesia  1.125			1.122	28.3	1.17	4.13	0.225	08.0
each year since viously Farmyard Manure (14 tons) viously Farmyard Manure (14 tons) 1-131 1-131 1-131 1-131 1-131 1-131 1-132 1-132 1-132 1-132 1-132 1-132 1-132 1-132 1-132 1-132 1-132 1-132 1-132 2-2 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1-123 300 lbs. Sulphate Potash, 100 lbs. Sulphate Magnesia 1-125								
1-131	- c	Umanured, in 1876, and each year since	1-127	29.5	0.83	2.83	0.296	1.00
11.122 (3) 32 cwts. Superphosphate (7) and previously, 550 lbs. Nitrate of Soda also 1.116 (3) 32 cwts. Superphosphate. In 1881, and previously, 550 lbs. Nitrate of Soda also 1.116 (11) 32 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.120 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.123 1.128 (11) 32 cwts. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia 1.125	1 or	Commander II 1952. ITEVIOUSLY FAITWARD (14 1008)	1-131	30.3	16.0	3.01	0.260	98-0
3½ cwts. Superplos. 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.129 2 cwts. Superplos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.120 3 cwts. Superplos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.120 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia. 1.125	9 4	Harmord Monne (14 totals) and of constant and the constant and the constant and con	1.122	28.7	26.0	3.39	0.261	16.0
24 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.129  4 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.123  300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia. 1.125	110	400 He. Amonium celle (2)	1.116	9.97	0.93	3.48	0.313	1.18
3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.120 g cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.123 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	9		1.119	27.9	0.77	2.78	0.372	1.34
2 cwts. Superplace, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1123 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia 1125	) h	400 lbs. Annowing safe 21 onto Surcesho 9001lb. Call. Do. 1, 10011.	1.119	27.9	62-0	2.85	0.408	1.46
300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia.	- 00	550 lbs. Nite of Salary Salary South Control of Salary 100 lbs. Salary Mag.	1.120	27.5	96-0	3.49	0.305	1:11
300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia . 1.125	0	g cwis. Superpuos., 500 108	1-123	28.5	86.0	3.46	0.336	1.19
over 103; Supprate I chash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia   1.125	10	200 He Salahate Detail 100 He Galatt St.	1-128	29.3	1.03	3.53	0.209	0.71
		ood tos. Sampusee Forasu, I	1.125	29.1	1.08	3.71	0.229	62.0

V		1001	6.00	20.00	01.6	01000	0.01
က	: :	1.117	26.6 26.6	0.95	3.20 3.20	0.289	1.09
41	osphate, and in 1881, and)	1.109	26.2	0.93	3.53	0.320	1.22
2		1-117	26.8	0.75	2.81	0.368	1.37
9 1		1.118	26 8	0.71	2.64	0.393	1.47
- 00	Potesh, 100 lbs. Suiph. Soda, 100 lbs. Suiph. Mag.	1.113	7.97	0.86	29.67	0.282	1.08
	oush, 100 10s. Sulph. Soda, 100 10s. Sulph. Mag.	1.111	2.02	1.09	9.30	808.0	1.97
2	300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	1.122	27.2	1.02	3.86	0.197	0.73
	NINTH SEASON, 1884.						
	Umanured, in 18/6, and each year since	-117	27.0	0.75	2.78	0.360	1.33
40	Unmanufacture of 1995, and since, freelously Farmyard Manure (14 tons)	1.115	56-9	08.0	5-99	0.361	1.34
	1	1.102	54.6	0.91	3.69	0.390	1.59
4	es. Superphosphate, and in 1881, an	660.	23.8	0.92	3.88	0.382	1.61
2	400 lbs. Ammonium-salts (*)	.107	25.8	29.0	2.58	0.456	1.77
9		.105	25.2	99.0	5.61	0.443	1.76
<u>_</u>	. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Ma	660.	24.3	0.95	3.89	0.387	1.59
000	Potash, 100 lbs. Sulph. Soda, 100 lbs.	860	23.8	68-0	3.73	0.440	1.85
î	Of owns. Superplusphate	.117	26.6	10.	3.78	0.260	0.98
	Suipnate Soda, and	2118	8.92	7.0.1	8.38	0.738	88.0
	Tenth Season, 1886.						
- 0	Unmanured, in 1876, and each year since	.123	28.7	0.85	2.85	0.390	1.36
1 60	Farmyard Manure (14 tons) alone 1883 and since; previously 34 cvts. Superphosphate also (1)	.124	26.5	96.0	3.63	0.394	1.39
4	[Furmyard Manure (14 tons), alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in)	1.112	0.90	0.07	2.61	0.410	1 1
i.	1 1881, and previously, 300 lbs. Nitrate of Soda also	orr	0 1	3	100	011.0	96.1
9	550 lbs. Nitrate of Social	0112	27.5	0.83	3.01	0.474	1.73
-	400 lbs. Ammonium-salls, 34 cwts. Superphos. 300 lbs. Sulph. Potash. 100 lbs. Sulph. Sode, 100 lbs. Sulph. Mag.	1119	4.77	#/.0 0.0	3.50	0.482	1.59
00 (	550 lbs. Nitrate of Soda, 32 owts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	.116	27.72	0.93	3.37	0.408	1.47
<b>.</b>	34 cwts. Superphosphate	.127	28.6	1.02	3.56	0.340	1.19
اد	Sulphate Soda, and 100 lbs. Sulphate Magn	611	27.6	1.10	3.97	0.299	1.08
1	AVERAGE OF D DEASONS, 1881, '82, '83, '84, and 1885.						
10	Unmanured in 1876, and each year since.	.123	28.8	18.0	2.81	0.349	1.21
1 609	Farmyard Manure (14 tons) alone 1883 and since; previously 34 cwts. Superphosphate also (1)	411	56.9 26.9	0.97	3.62	0.326	1.11
4	[Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 34 cwts. Superphosphate, and in 1881 and merionsly 550 the Nitrota of Soda also	1.109	25.9	0.93	3.60	0.358	1.39
٦Ç	Ammonium-salts (*)	1.115	27.2	0 77	8.84	0.400	1 :5:
9		.115	27.1	0.73	2.69	0.421	1.56
<u>-</u>	Sulph, Ma	1.111	26.3	86.0	3.72	0.338	1.29
00 0	Sulph. Soda, 100 lbs.	1.111	26.5	0.95	99.8	0.377	1.45
9 0	54 cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	124	28·1 27·8	$\frac{1.04}{1.09}$	3.71 3.93	0.252	06-0 08-0

its own Plot spread on

000 0 000000

000 0 00000

Sulph. Soda, 100 lbs. Sulph. Mag. Sulph. Soda, 100 lbs. Sulph. Mag.

and previously, 550 lbs. Nitrate of Soda also
Sulphate Ammonia (3)
Nitrate of Soda.
Sulph. Ammonia, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Ma Sulperphosphate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Ma Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia

(Farmyard Manure († 1881, and previous 450 lbs. Sulphate An 550 lbs. Nitrate of St 450 lbs. Sulph. Amm 550 lbs. Nitrate of S 3½ cwts. Superphospi 3½ cwts. Superphospi 3½ cwts. Superphospi 3½ cwts. Superphospi 3½ cwts.

and

200 84 44 42 6

## EXPERIMENTS ON POTATOES.—HOOS FIELD—continued.

Below are given the particulars of the Manures and Produce, of the Eleventh, and 1890. For the Manures, description of Potatoes grown, and the Produce, in the 10 welfth, Thirteenth, Fourteenth, and Fifteenth Seasons, 1886, 1887, 1888, 1889, preceding years, see pp. 88-9, and 92-3, and in succeeding years, pp. 100-1, 104-5, and 108-9.

The arrangement of the plots is precisely the same as for the 10 preceding potato

(Area under experiment, 2 acres.)

ing that for the crop of 1887 Sulphate Ammonia was applied instead of equal parts of Sulphate and Muriate Ammonia, as in former years and since (see foot-note crops. The manures are the same as for the crops of 1883, 1884 and 1885, except-No. 2). Description of Potato, "The Champion" (White). Rows 25 inches apart; 14 inches from plant to plant in the rows.

DDRE 484688		Tons			Withered, not weighed, each lot spread on lits own Plot and ploughed in.		Withered, not weighed each lot
ELEVENTH SEASON, 1886. Potatoes planted, April 10. Grop taken up, September 30, and October 1 a Unmanured in 1876, and each year since  Farmyard Manure (14 tons) alone 1883 and since. Previously 3½ ovts. Superphosphate also (7)  1881, and previously, 550 ths. Nitrate of Soda also  Tweller Best Solution	RE.		OTAL.		8. cwts. 18 194 194 164 164 164 164 164 164 164 164 164 16		14 0 84 84 84 84
ELEVENTH SEASON, 1886. Potatoes planted, April 10. Grop taken up, September 30, and October 1 a Tons. cwts. College and since. In 1882, and previously, 3½ cwts. Superphosphate, and in) 2 124 0 3 3 100 1bs. Nitrate of Soda. also Dis. Nitrate of Soda. 33 cwts. Superphos. 300 1bs. Suph. Potash, 100 1bs. Suph. Soda, 100 1bs. Suph. Mag. 3 10 2 2 3 0 0 3 3 0 0 0 0 0 0 0 0 0 0 0 0	ев Ас				T T T T T T T T T T T T T T T T T T T		
ELEVENTH SEASON, 1886. Potatoes planted, April 10. Grop taken up, September 30, and October 13 and manured in 1876, and each year since  Ummanured in 1887, and since  Ummanured in 1883, and since  Ummanured in 1883, and since  Ummanured in 1883, and since  Ummanured in 1884, and since  Ummanured in 1885, and since  Ummanured in 1884,	ортск Р	ers.	Diseased.	d 2.	Tons, cw/ts 0 04 0 1 0 0 1 0 0 1 0 0 1 0 0 0 0 1 0		$\begin{array}{ccc} 0 & 0\frac{1}{2} \\ 0 & 0\frac{1}{2} \\ 0 & 1 \end{array}$
Unmanured in 1876, and each year since  Unmanured in 1876, and each year since  Unmanured in 1882, and since. Previously Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphospha (1881) and previously, 550 lbs. Nitrate of Soda also  550 lbs. Nitrate of Soda 400 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. 550 lbs. Nitrate of Soda, 3½ cwts. Superphosplate, 300 lbs. Sulph. Potash, 100 lbs. Sulph. 550 lbs. Nitrate of Soda, 3½ cwts. Superphosplate Potash, 100 lbs. Sulph. Potash, 100 lbs. Sulph. 3½ cwts. Superphosplate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 l  Twelffer Salos Nitrate of Soda, 3½ cwts. Superphosplate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Soda, and since. Previously Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, 550 lbs. Nitrate of Soda also	PR	Tube		ber I an	Ds. cwts.	9.	0 331 0 44 0 448 0 448
Unmanured in 1876, and each year since  Unmanured in 1876, and each year since  Unmanured in 1882, and since. Previously Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphospha (1881) and previously, 550 lbs. Nitrate of Soda also  550 lbs. Nitrate of Soda 400 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. 550 lbs. Nitrate of Soda, 3½ cwts. Superphosplate, 300 lbs. Sulph. Potash, 100 lbs. Sulph. 550 lbs. Nitrate of Soda, 3½ cwts. Superphosplate Potash, 100 lbs. Sulph. Potash, 100 lbs. Sulph. 3½ cwts. Superphosplate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 l  Twelffer Salos Nitrate of Soda, 3½ cwts. Superphosplate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Soda, and since. Previously Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, 550 lbs. Nitrate of Soda also				l Octo	25 004 H4 H23 H4 004 H4	17-18	854 144 8 T
Unmanured in 1876, and each year since  Unmanured in 1876, and each year since  Unmanured in 1882, and since. Previously Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphospha (1881) and previously, 550 lbs. Nitrate of Soda also  550 lbs. Nitrate of Soda 400 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. 550 lbs. Nitrate of Soda, 3½ cwts. Superphosplate, 300 lbs. Sulph. Potash, 100 lbs. Sulph. 550 lbs. Nitrate of Soda, 3½ cwts. Superphosplate Potash, 100 lbs. Sulph. Potash, 100 lbs. Sulph. 3½ cwts. Superphosplate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 l  Twelffer Salos Nitrate of Soda, 3½ cwts. Superphosplate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Soda, and since. Previously Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, 550 lbs. Nitrate of Soda also			Good	0, and	Ons. cw 133 ons. cw 131 171 171 172 152 152 152 153 100 171 171 171 171 171 171 171 171 171	ctober	1 2 2 2 2 3 1 8 4 14 14 14
1000 4 00 00 100 4		PLOTS. MANURES PER ACRE PER ANNUM.		1886. Potatoes planted, April 10.	Unmanured in 1876, and each year since Unmanured in 1882, and since. Previously Farmyan Farmyard Manure (14 tons) alone 1883 and since: I Farmyard Manure (14 tons) alone 1883 and since: I 1881, and previously, 550 lbs. Nitrate of Soda also 400 lbs. Ammonium-salts (*) 550 lbs. Nitrate of Soda 400 lbs. A mmonium-salts, 3½ cwts. Superphos., 300 lbs 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 1 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 1	SEASON, 1887. Potatoes planted, March 24.	Unmanured in 1876, and each year since Unmanured in 1882, and since. Previously R. Furnyard Manure (14 tons) alone 1883 and sir [Farmyard Manure (14 tons) alone 1883 and si 1881, and previously, 550 lbs. Nitrate of Sod

(0)	Trimamused in 1976 and	Oper 11-1.						
¢		123		0	0.4	0 154	F44	
00	Farmyard Manure (14 tons) alone 1883 and since; previously	2 3 0	276	<b>&gt;</b>	- «	1 14	Withered,	ed,
4	Tarmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 32 cats. Superph	10		•			Д	ped
3	400 lbs. Ammonium-salta (2)	C (			0			ot
9	-	194 0			- 103- 103-	$\frac{1}{2}$	spread on	ם
<u>_</u>	400 lbs. Ammonium-salts, 3½ owts. Superphos., 300 lbs. Sulph. Potash. 100 lbs. Sulph. Soda. 100 lbs	81			44.0			
x 0	550 lbs. Nitrate of Soda, 3g cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph.	_			0 00 0 00 0 10		pld	eq
10	32 cwts. Superphosphate, 300 lbs. Sulphate Potash 100 lbs. Sulphate Sods and 100 lbs. Sulphate	111 0	- Fig.	0	1014	133	in	
	Distance alerted Man 100 108, Sulphate Magnesia	- 3	1	-11		- 1	7124	
-	ason, 1000. I the total planted, March 28 and 29. Crop taken up,	September 16-1	8					
67	Unmanured in 1882, and since. Previously Rammard Manure (14 tone)	133 0	27	0	03	0 163	40	
က	-		(c)	0 0	o i	13	Withorod	. 5
4	Œ	_	n	)	1.5	I 193	ŭ	ned.
. 14	( 1881, and previously, 550 lbs. Nitrate of Soda also	$10\frac{3}{4} 0$	က	0	5	2 183		3
3 (2	550 lbs	14 0	23	0	840	1 43		00
-1	2 31 outs Smoother 900 11. C. 1. D. 1. 1. 20. 1.	_	23.	0	23°	$\frac{1}{1}$ $\frac{2}{12}$	itso	Jot
00	550 lbs. Nitrate of Soda, 34 cwfs. Superplus, 300 lbs. S.	25.8	CJ (	0	100 100 100 100 100 100 100 100 100 100	3 9	*******	3
6	34 cwts. Superphosphate		24 6	0 0	, 23 182	3 113	pangred	e d
10	32 cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Sods. and 100 lbs. Sulphate Marmesia	104	N =	00		185		
4	FIFTEENTH SKASON, 1890. Potatoes nighted A mil 2. Cron tokon un Sonombon	- 0	12			200	1	
- 0	Toos Planted, April 9.	7			-			
N 0	Unmanured in 1882, and since. Previously Farmyard 1	2 4	10	0	(4·H	0 10	-	
:	Farmyurd Manne (14 tons) alone 1883 and since; previously 34 cwts. Superphosphate also (1)	1	8	0	6	6 154	-	ָלֶג <u>ָ</u>
4	lbs. Nitrate of Soda also	0 16 9	(S)	0	20		ă	jed
Ç.	Ammonium-salts (*)	î 5	4 6		4. 5		anread on	2 5
φı	550 lbs. Nitrate of Soda	4.6	±04 48	> <	\$100 000		^	Š
- 3	400 lb. S. Ammonium-saits, 32 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	cole	6.00 14:00 16:00 1		17.5	7 6		
co	Sulph.	14	64		***		ploughed	3d
0	25 cwts. Superplante 25 cwts. Superplante 26 cwts. Superplante		, 50 + 634		080		ii.	
	ins. Sulpinte Soda, and 100 lbs. Sulphate	164	64		1 50	- 11		
-	Truncation 1876 188, '89, and 1890.							
46	Unmanured in 1889 and earn Deminal Dem	-	33		03	1 03	1 1	
60	Farmvard Manure (14 fons) alone 1883 and cincon monitoring (14 fons)	163 0	00		60		_	
1		_	4	0	44	3 132	Withered	بخ
t		191	41	0	11	-	not weighed	led,
ij	400 lbs. Anmonium-sults (*)	_	4 4		¥.	н Н		ديد
9	550 lbs. Nitrate of Soda	_	4 0		- Co			ŭ
L~ (	liph. Potash, 100 lbs Sulph Sode 100 lbs	_	500 C		7,7	1 16	its c	Jot
<b>30</b> G	lph. Potash, 100 lbs. Sulph.	154 0 41	رن برع برع	00	44.	4 ×	_	
n c		_	) eu		_		ord (	Ð
	1	_	37		_	44.8	ii.	
	(1) "Superphosphate of Lime," 1986 and 1887, made from 200 lbs. Bone-ash, 150 lbs. Sulphuric acid, sp. gr. 1-7 (and water); 1888, and since, made from high percentage mineral physical and containing 37 per cent. or more of cental physical acid.	nce. made fro	n high n	arnanta	in the	# Phone		1
1	(2) "Ammonium-salts"—in sections equal parts Sulphate and Muriate Ammonia of Commerce.				Se mille	tar puos	mares,	
	Section of the second of the same amount of Nitrogen as the 200 lbs. Sulphate and 200 lbs. Muriate e	mmonia ann	Too in fo	DAL HOUSE	7	-		

For particulars of the composition in the first 10 years, 1876-1885, see Twelfth, EXPERIMENTS ON POTATOES, -HOUS FIELD -continuea. -STAMARY OF THE COMPOSITION OF THE "GOOD" TUBERS, in the Eleventh, pp. 90-1, and 94-5, and for those in succeeding years, 1891 and since, see pp. 102-3, and 106-7. Thirteenth, Fourteenth, and Fifteenth Seasons, 1886, 1887, 1888, 1889, and 1890.

An abstract of the analytical results obtained, illustrating the influence of different manures, and of different seasons, on the composition of Potatoes, is given below. The specific gravity of the tubers is also given. In the tubers the dry matter, nitrogen, and ash have been determined; and in some cases complete analyses of the ash have been made. Besides the results obtained relating to the composition of the tubers themselves, the dry matter, the sugar, the nitrogen, and the ash, in the expressed juice have in many cases been determined; in some cases the amount of the nitrogen existing as albuminoids has been determined; and in some, complete analyses of the ash of the juice have been made. It may be remarked, that by far the larger proportion of both the mineral matter, and the nitrogen, is found to exist in the juice; and of the nitrogen in the juice, as a rule, not much more than half exists as albuminoids. In many cases, the small potatoes have been submitted to the same And in some cases, similar methods of examination methods of analysis as the good potatoes. And in some cases, similar methods of examination have been applied to the still white, and also to the separated discoloured portions of the diseased potatoes. With regard to these latter results, it may be observed, that whilst the juice of the white portion of the diseasel potatoes contained approximately the normal amount of aitrogen, that of the discoloured portion contained very much less. On the other hand, the

The of the discoloured portion contained very much more. The distribution of the mineral matter and was much in the same order as that of the nitrogen. It was obvious that the juice had suffered exhaustion of much of both its nitrogen and its mineral matter, in the development of lives, the fungus. There was an increased amount of sugar found in the diseased action, and it probably also contributed to the divelopment of the results given in the Table relate to the "good" potatoes only. In interpreting the figures it must be borne in mind that in each year, the seed was planted on all the plots at the same time, and that all the crops were taken up at the same time, and all in the same condition of maturity when taken up. Then, again, the nailyess were not performed immediately after taking up the crops, but sometime afterwards, in weighed samples which had been kept in a cool place for some weeks or months; and in the collowing only preliminary statement of results, no correction is made for any change from the taken for analysis.

			2	ompesition	Composition of the "Good" Tubers.	od " Tuber	
	MANURES PER ACRE, PER ANNUM.	Specific Gravity		Mineral Ma	Mineral Matter (Ash).	Nitr	Nitrogen.
TLOIS.	(For Produce, see pp. 96–7.)	of the Tubers.	Dry Matter.	In Fresh Tubers.	In Dry Matter.	In Fresh Tubers.	In Dry Matter.
	ELEVENTH SEASON, 1886.					,	
		-	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
-	Transmissed in 1978 and analy reas since	1.195	6-88	0 77	2.68	0.403	1.39
T G	v Farmy	1.125	29-1	28.0	3.00	0.420	1.44
۷ ec	Commanded in 1902, and since: 1803 and since: previously 3½ cwts. Superposphate also (1)	1.112	26.7	86.0	3.69	0.385	1.44
. 4	(Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously 34 cwts. Superphosphate, and in)	1.115	26.7	0.93	3.47	0.423	1.59
4	1881, and previously, 550 lbs. Nitrate of Soda also	0	D.00	11.0	0.60	0.469	1.68
2	400 lbs. Ammonium-sults(2)	211.	7 000	0.70	700	0.469	1.64
9	374	GII.	28.0	77.0	00.0	0.100	1.40
7	400 lbs. Ammonium-salts, 3; cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	.111	27.4	1.01	29.6	104.0	J#. T
00	ri.	.116	28-2	86-0	3.48	0.395	1.40
0	Smernhosniate	.123	28-4	0.97	3.41	0.358	1.16
0	S. cwts. Superplesshate 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	1.122	28.5	1.08	3.79	0.299	1.05
	TWEIFTH SEASON, 1887.			12			
-	Thunsaning in 187K and each year since	1.121	28-0	0.83	2.97	0.434	1.55
10	r Farmvard Ma	.121	28.5	18.0	3-07	0.424	1.50
9 00	Formulated in 1965, and 1983 and since: previously 34 cwts. Superphosphate also (*)	1.106	25.1	1.00	3:98	968.0	1.58
	In 1882, and previously, 32 cwts. Superp	1.107	25.2	26.0	3:85	0.374	1.48
н э	rate of Soda also	-115	97.3	0.78	2.85	0.475	1.74
0 0		115	27.4	0.77	2.80	0.460	1.68
01	330 U.S. Mittate of South 350 U.S. Strike of South 550 U.S. Strike of South School of South Potest 100 Hz Sulph May	901.	26.3	1.12	4.23	0.439	1.55
-0		1.108	25.5	66-0	3.30	0.431	1.69
00	900 105, Nittee of South of orders, Superplates, con the sample of the s	2120	27.6	1.08	3.92	0.370	1:34
<b>b</b>	se owis cuper prosphage		0	7 . 10	4.07	0.929	1.25

Fourneyed Manner (I tons) alone 1888 and direct. Superplospithes also (C)   Fourneyed Manner (I tons) alone 1888 and direct. In 1882, and previously, 23 evets. Superplospinate, and in 1 1014   1104   25-8   1-64   4-10   0-62   1-64   1-6	Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ evers. Superplusphate also (1) [Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also (10 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ evers. Superphose, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ evers. Superphose, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulphate Soda, and since. Previously Farmyard Manure (14 tons) alone 1883 and since; previously 5½ evers. Superphose, 100 lbs. Sulphate Soda, and succ. Previously Farmyard Manure (14 tons) alone 1883 and since. In 1872, and succ. Superphosphate also (1) sammanured in 1876, and sach year since.  Unmanured in 1876, and sach year since.  Unmanured in 1876, and sach year since.  Sod lbs. Nitrate of Soda, 3½ evers. Superphos, 3			200	20.0	240	177
Parayard Manner (H. thron) alone 1883 and since. In 1882, and previously, 35 o'ets. Superpinesphate, and in 1.104 25.4 1.04 4.10 0.362 4.041 0.000	1883 and since. In 1882, and previously, 3½ owts. Superphoses 50 lbs. Nitrate of Soda also  20 lbs. Nitrate of Soda also  30 lbs. Sulphate Potash, 100 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 3½ owts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate since. Previously Farmyard Manure (14 tons).  189 alone 1883 and since: previously 3½ ovts. Superphosphate also (*)  189 alone 1883 and since. In 1882, and previously, 3½ owts. Superphosphosphosphosphosphosphosphosphosphos			1.03	4.09	0.330	1.54
1881, and percentary 500 Des Nitrate of Sola also   1985	[188], and previously, 550 lbs. Nitrate of Soda also  550 lbs. Nitrate of Soda,  750 lbs. Nitrate of S	in)		1.04	4.10	0.869	1 - 43
## 500 ibs. Nature of Scade, 34 werks. Superplose, 300 lbs. Sulph. Potsah, 100 lbs. Sulph. Social, 101 ibs. Sulph. Magnesia   1.116   25°5   1°0   0°7   3°79   0°322   3°1    \$\$\frac{4}{2}\$\$ werks. Superplose/hade, 300 lbs. Sulphate Potsah, 100 lbs. Sulph. Scade, 100 lbs. Sulph. Magnesia   1°116   2°7   1°0   0°7   3°19   0°322   3°10    \$\$\frac{4}{2}\$\$\$ werks. Superplose/hade, 300 lbs. Sulphate Potsah, 100 lbs. Sulphate Magnesia   1°116   2°7   1°10   2°7   1°10    \$\$\frac{4}{2}\$	1500 lbs. Nitrate of Soda. 150 lbs. Nitrate of Soda. 150 lbs. Nitrate of Soda. 150 lbs. Amononium-salts. 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 150 lbs. Nitrate of Soda. 3½ cwts. Superphos., 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Soda. 150 lbs. Nitrate of Soda. 3½ cwts. Superphos., 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Soda. 150 lbs. Nitrate of Soda.	·	-	0.78	60.6	0.440	1.64
Communication and stage of the Suppliar Potach, 100 lbs. Suppliar Scale, 100 lbs. Suppliar Suppliar Organism and stage of the Automotion and stage of the Suppliar Potach, 100 lbs. Suppliar Suppliar Suppliar Potach, 100 lbs. Suppliar Suppliar Suppliar Potach, 100 lbs. Suppliar Sup	400 lbs. Ammonium-salts, 3½ ewiz. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 50 lbs. Nitrate of Soda, 3½ ewiz. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 39 ewiz. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and since. Previously Farmyard Manure (14 tons) alone 1883 and since. previously 35 ewiz. Superphosphate also (1) Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 35 ewiz. Superphosphate 1883 and since. In 1882, and previously, 35 ewiz. Superphosphate 1883 and since. In 1882, and previously, 35 ewiz. Superphosphate 550 lbs. Nitrate of Soda, 35 ewiz. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 34 ewiz. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulphate Soda, 100 lbs. 550 lbs. Nitrate of Soda, 34 ewiz. Superphosphate, 300 lbs. Sulphate Soda, 100 lbs. Sulphate 1883 and since. Previously Farmyard Manure (14 tons) slone 1883 and since.  Ummanured in 1876, and each year since.  Farmyard Manure (14 tons) slone 1883 and since, 10 lbs. Sulph. Potash, 100 lbs. Sulphate 360 () Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 35 ewiz. Superphosphate, 300 lbs. Nitrate of Soda, 32 ewiz. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulphate Soda, 32 ewiz. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate 300 lbs. Nitrate of Soda, 32 ewiz. Superphosphate, 300 lbs. Sulphate Soda, 33 ewiz. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, 33 ewiz. Superphosphate and each year since.  Ummanured in 1876, and each year since.  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 35 ewiz. Superphosphate and each year since. In 1882, and previously, 350 lbs. Nitrate o	1	_	83	1 60	0.431	1.63
55   ever. Superplosephate   25   ever. Superplose, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.   1110   22   6   10   9   4   12   0   0   32   5   9   9   32   5   9   9   32   9   9   9   9   9   9   9   9   9	550 lbs. Nitrate of Soda, 3½ čvts. Superphos, 390 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Salphate 35 cvts. Superphosphate  35 cvts. Superphosphate  1859.  Ummanured in 1876, and each year since		_	1.00	3.60	0.340	1.33
25 cm   24 cm   25 c	34 cwts. Superphosphate  35 cwts. Superphosphate  36 cwts. Superphosphate  37 cwts. Superphosphate  38 cwts. Superphosphate  39 cwts. Superphosphate  39 cwts. Superphosphate  39 cwts. Superphosphate  39 cwts. Superphosphate  400 lbs. Anmonium-salts  30 cwts. Superphosphate  30 cwts. Superphosphate  30 cwts. Superphosphate  30 cwts. Superphosphate  39 cwts. Superphosphate  39 cwts. Superphosphate  39 cwts. Superphosphate  30 cwts. Superphosphate  400 lbs. Ammonium-salts  400 lbs. Nitrate of Soda  400 lbs. Nitrate of Soda  400 lbs. Nitrate of Soda  400 lbs. Ammonium-salts  400 lbs. Nitrate of Soda  400 lbs. Suphate  400 lbs. Suphate  400 lbs. Suphate  550 lbs. Nitrate of Soda  400 lbs. Suphate  550 lbs. Nitrate of Soda, 39 cwts. Superphos.  560 lbs. Nitrate of Soda, 39 cwts. Superphos.  570 lbs. Nitrate of Soda, 39 cwts. Superphos.  400 lbs. Ammonium-salts  58 cwts. Superphosphate  58 cwts. Superphosphate  57 cwts. Superphosphate  58 cwts. Superphosphate  58 cwts. Superphosphate  400 lbs. Ammonium-salts  58 cwts. Superphosphate  58 cwts. Superphosphate  59 cwts. Superphosphate  50 lbs. Nitrate of Soda, 39 cwts. Superphos  50 lbs. Nitrate of Soda, 39 cwts. Superphosphate  50 cwts. Superphosphate  50 lbs. Nitrate of Soda, 30 cwts. Superphosphate  50 cwts. Superphosphate  50 cwts.		-	26.0	8.79	0.332	1.29
Ummurated in 1876, and each year since   Francis 100 lbs. Supprace Sada, 100 lbs. Supprace Sada, 101	Umanured in 1876, and each year since  Umanured in 1876, and each year since  Umanured in 1882, and since. Previously Farmyard Manure (14 tons)  Formyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (1) (Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate of Soda also  1881, and previously, 550 lbs. Nitrate of Soda also  550 lbs. Nitrate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulphate 550 lbs. Nitrate of Soda, 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Furnyard Manure (14 tons)  Umanured in 1876, and each year since.  Iss., and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (2)  550 lbs. Nitrate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulphate Soda, 100 lbs. Silphate Soda, and 100 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Potash, 100 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and since. Previously Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, 30 lbs. Nitrate of Soda, 31 cwts. Superphosphate, 31 cwts. Supe		_	1.09	4.02	0.321	1.19
Unmanured in 1876, and each year since   FORFIREATH SAARON, 1889.   1-119   288-4   0-81   2-84   0-423   Unmanured in 1875, and each year since   Foreign Fyrencially Foreign Fyrencially (Foreign Fyrencially Foreign Fyrencially Fyre	Umanured in 1876, and each year since  Umanured in 1882, and since. Previously Farmyard Manure (14 tons).  Umanured in 1882, and since. Previously Farmyard Manure (14 tons).  Furmyard Manure (14 tons) alone 1883 and since; previously 3½ cwts. Superphosphate also (1) fust monoimm-salts (2).  1881, and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (3) govts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Foda, and 100 lbs. Sulphate Sods, and 100 lbs. Sulphate Sods, and since.  1881, and deach year since.  Umanured in 1876, and each year since.  Umanured in 1876, and each year since.  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (2) frarmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda, also  1881, and previously, 550 lbs. Nitrate of Soda also  550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulphate Soda, and 100 lbs. Auranomium-salts. 35 cwts. Superphosphate also (3) framanued in 1882, and since ipreviously 3½ cwts. Superphosphate also (3) framanued in 1882, and since ipreviously 3½ cwts. Superphosphate also (3) lbs. Auranomium	:	-	п.т	4.14	0.213	/I.T
Ummanured in 1885, and since. Previously Farmyard Manure (14 tons)   1119 27'9   0'82 2'94 0'428   Ummanured in 1882, and since. Previously Farmyard Manure (14 tons) alone 1883 and since. Forevously 54 overs Superphosphate, and in   1119 27'9 0'82 2'94 0'458   Ummanured in 1882, and strone previously 54 overs Superphosphate, and in   1119 27'9 0'82 2'94 0'458   1884, and previously 560 lbs. Nitrate of Soda, also overselves and since. Forevously 54 overs Superphosphate, and in   1112 28'1 0'89 0'82 1'10 0'80 0'80 0'80 0'80 0'80 0'80 0'80	Umanured in 1876, and each year since  Umanured in 1876, and each year since  Umanured in 1876, and each year since  Umanured in 1876, and each sear since. Previously 3½ cwts. Superphosphate also (*)  (**tarmyard Manure* (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphos 1881, and previously, 550 lbs. Nitrate of Soda also  500 lbs. Nitrate of Soda 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 53½ cwts. Superphosphate  183½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Foda, and 100 lbs. Sulphate  1881, and previously, 550 lbs. Nitrate of Soda also  Umanured in 1876, and each year since.  Umanured in 1878, and since. Previously Farmyard Manure (14 tons)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphose, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Avoil bs. Ammonium-salts (*)  550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Avoils. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Soda, and previously, 550 lbs. Nitrate of Soda, also  Umanured in 1876, and each year since.  Umanured in 1878, and since. Previously Farmyard Manure (14 tons)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (*)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (*)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (*)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (*)  Farmyard Manure (14 tons) alone 1883 and since i						
Furnayari Manure (14 tons) alone 1883 and since previously 39 orts. Superphosphate, and in [1114 26 5 5 1 1 05 5 1 1 1 1 1 1 1 1 1 1 1 1 1	Furmyard Manure (14 tons) alone 1883 and since: previously 3½ overs. Superphosphate also (1) [Furmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also 550 lbs. Nitrate of Soda also 550 lbs. Nitrate of Soda, 3½ evts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs 550 lbs. Nitrate of Soda, 3½ evts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 53½ evts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulph. Soda, 100 lbs. 53½ evts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, alg. evts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Firmyard Manure (14 tons) alone 1883 and since. Previously ½ evts. Superphosphate also (1) [Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also [1881] and previously, 550 lbs. Nitrate of Soda also [1982] and previously, 550 lbs. Nitrate of Soda, 3½ evts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ evts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Soda, and ince. Previously ½ evts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and ince. Previously Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ evts. Superphosphate also (1) [Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ evts. Superphosphate also (1) [Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ evts. Superphosphate also (1) [Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ evts. Superphosphate also (1) [Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ evts. Superphosphate of Soda also [1881] and previously, 550 lbs. Nitrate of Soda also [1881] and previously, 550 lbs. Nitrate of Soda also [1881] and previously, 550 lbs. Nitrate of Soda also [1881] and previously (1881) [1881] and previously (1881) [1881] and previously (		_	0.80	2.5 40.6	0.394	1.49
(Furnyard Manner (4 tons) alone 1883 and previously, 78 jevta, Superphosphate, and in)   1-114   26.5   1-05   3-98   0-387   1-150	Furmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphose 1881, and previously, 550 lbs. Nitrate of Soda also 550 lbs. Nitrate of Soda also 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphose, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Franyard Manured in 1876, and each year since. Unmanured in 1876, and each year since. Unmanured in 1876, and since. Previously Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (') Franyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphos. Sulph. Potash, 100 lbs. Sulphate 6 Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulphate 6 Soda, 3½ cwts. Superphos., 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate 8 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate 8 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate 8 3½ cwts. Superphosphate also (') Farmyard Manured in 1876, and sance. Previously 75 and since. Previously 75 cwts. Superphosphate also (') Farmyard Manured (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (') Farmyard Manured (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also 600 lbs. Ammonium-salts (') solubs. Nitrate of Soda also 600 lbs. Ammonium-salts (') solubs. Nitrate of Soda also 600 lbs. Ammonium-salts (') solubs. Nitrate of Soda also 600 lbs. Ammonium-salts (') solubs. Nitrate of Soda also 600 lbs. Ammonium-salts (') solubs. Nitrate of Soda also 600 lbs. Ammonium-salts (') solubs. Nitrate of Soda also 600 lbs. Ammonium-salts (') solubs. Nitrate of Soda also 600 lbs. Ammonium-salts (') solubs. Nitrate of Soda also 600 lbs. Amm	1.109	_	1.05	4.05	0.391	1.50
1.120   28.1   0.84   3.00   0.832   1.12   26.1   0.84   3.00   0.832   1.12   26.1   0.84   3.00   0.832   1.12   26.1   0.84   3.00   0.832   1.12   26.1   0.84   3.00   0.84   0.	(1881, and previously, 599 108. Nutrate of Soda also  400 lbs. Animonium-salts (*)  550 lbs. Nitrate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs  550 lbs. Nitrate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.  550 lbs. Nitrate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.  55 cwts. Superphosphate  35 cwts. Superphosphate  36 cwts. Superphosphate  37 cwts. Superphosphate  1882, and each year since.  1881, and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (*)  550 lbs. Nitrate of Soda,  400 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.  550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.  550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.  550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.  550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.  550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.  550 lbs. Nitrate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs.  550 lbs. Nitrate of Soda, 3½ cwts. Superphosy, 300 lbs. Sulph. Soda, and 100 lbs. Sulphate  550 lbs. Nitrate of Soda, 3½ cwts. Superphosy, 300 lbs. Sulph. Soda, and 100 lbs. Sulphate  550 lbs. Nitrate of Soda, 3½ cwts. Superphosy, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate  550 lbs. Nitrate of Soda, 3½ cwts. Superphosy, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate  550 lbs. Nitrate of Soda, 3½ cwts. Superphosy, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate  550 lbs. Nitrate of Soda, 3½ cwts. Superphosy, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate  550 lbs. Nitrate of Soda, 3½ cwts. Superphosy, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Soda, and since. Previously, 350 lbs. Nitrate of	and in 1	- 26.	1.05	3.98	0.387	1.46
10   12   12   12   12   12   12   12	1550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphose, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulphate Sods, and since.  Unmanured in 1876, and each year since.  Unmanured in 1876, and each year since.  Iss., and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (2)  550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphose, 300 lbs. Sulph. Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Sods, and since.  Unmanured in 1876, and each year since.  Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (1)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate of Soda also  400 lbs. Ammonium-salts (2)  Soda, 100 lbs. Ammonium-salts (3)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate of Soda also  400 lbs. Ammonium-salts (2)  Soda, 100 lbs. Ammonium-salts (3)			10.0		0000	1.40
400   Ba. Almanonium-salits 34 ewis. Superphos., 300   Ba. Sulph. Potash, 100   Ba. Sulph. Soda, 100   Ba. Sulph. Mag.   1.115   26 7 10 99 3 778   0.894   1.118   29 6 91   1.10   20 82   1.10   20	400 lbs. Ammonium-suits, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphosphate (100 lbs. Sulphate Soda, 100 lbs. Sulphate (100 lbs. Sulphate Soda, 100 lbs. Sulphate (100 lbs. Sulphate (110	:		10 0 10 76	9.74	0.092	1.46
10   11   11   11   11   12   11   12   11   12   11   12   11   12   11   12   11   12   11   12   11   12   11   12   11   12   11   12   11   12   11   12   11   12   11   12	550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulphate Soda, 100 lbs. Sulphate Souts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Foda, and 100 lbs. Sulphate Sods, and 100 lbs. Sulphate Fodas, and 100 lbs. Sulphate Fodas, and 100 lbs. Sulphate Sods, and 100 lbs. Sulphate Starnyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (') Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (') Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (') Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate of Soda, 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Sods, sulphate Sods, and since. Previously Farmyard Manure (14 tons) alone 1883 and since: previously 3½ cwts. Superphosphate also (') Farmyard Manure (14 tons) alone 1883 and since: In 1882, and previously, 3½ cwts. Superphosphate also (') Farmyard Manure (14 tons) alone 1883 and since: In 1882, and previously, 3½ cwts. Superphosphate Soda also the Nitrate of Soda also the		145	66-0	3.78	0.364	1 40
3½ ovits. Superphospitate   1-115   1-105   3-85   3-85   3-	3½ owts. Superphosphate 3½ owts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate 13½ owts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate 135, and each year since.  Umanured in 1876, and each year since.  Umanured in 1876, and each year since.  Farmyard Manure (14 tons) alone 1883 and since; previously 3½ cwts. Superphosphate also (1)  Farmyard Manure (14 tons) alone 1883 and since.  1881, and previously, 550 lbs. Nitrate of Soda also 400 lbs. Ammonium-salts (2) 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphosphate 550 lbs. Nitrate (14 tons) alone 1883 and since: previously 3½ cwts. Superphosphate also (7)  Farmyard Manure (14 tons) alone 1883 and since: In 1882, and previously, 3½ cwts. Superphosphate also (1) 550 lbs. Ammonium-salts (2) 550 lbs. Nitrate of Soda also	_		0.39	3 74	0.387	1.44
Ummanured in 1876, and each year since.  Ummanured in 1876, and each year since.  Ummanured in 1876, and since Previously Errayard Manure (14 tons) and since Previously Errayard Manure (14 tons) and since.  Frequency Manure (14 tons) and since.  Ummanured in 1876, and each year since.  Frequency Manure (14 tons) and since.  Frequency Manure (14 tons) alone 1883 and since.  Frequency Manure (14 tons) alone 1882 and since.  Frequency Manure (14 tons) alone 1883 and since.  Frequency Manure (14 ton	Unmanured in 1876, and each year since.  Unmanured in 1876, and each year since.  Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphos [1881, and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (2)  550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Soda, 100 lbs. Superphosphate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 3½ cwts. Superphosphate, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Si cwts. Superphosphate, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Si cwts. Superphosphate, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Si cwts. Superphosphate, 300 lbs. Sulphate Soda, and since. Previously Farmyard Manure (14 tons) alone 1883 and since: previously 3½ cwts. Superphosphate also (7)  Farmyard Manure (14 tons) alone 1883 and since: In 1882, and previously, 3½ cwts. Superphosphase also (8)  1881, and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (2)  1881, and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (2)			1.05	3.83	0.360	1.31
Unmanured in 1876, and each year since.  Unmanured in 1876, and each year since.  Unmanured in 1876, and each year since.  Unmanured in 1870, and each year since in 1882, and previously, 3½ cwts. Superphosphate also ()  Unmanured in 1870, and each year since.  Unmanured in 1870, and previously 3½ cwits. Superphosphate, and in 1870, and	Unmanured in 1876, and each year since.  Farmyard Manure (14 tons) alone 1883 and since: previously 3½ cwts. Superphosphate also (*)  Farmyard Manure (14 tons) alone 1883 and since.  I 1881, and previously, 550 lbs. Nitrate of Soda also  1081, and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Solphate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulphate Solbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulphate Solbs. Solbs		-				
Farmyard Manure (14 tons) alone 1883 and since; previously 35 evets Superphosphate, and manure (14 tons) alone 1883 and since; previously 35 evets Superphosphate, and manure (14 tons) alone 1883 and since; previously 35 evets Superphosphate, and manure (14 tons) alone 1883 and since; previously 35 evets Superphosphate, and manure (14 tons) alone 1883 and since. In 1882, and previously, 35 evets Superphosphate, and manure (14 tons) alone 1883 and since. In 1882, and previously, 35 evets Superphosphate, and since in the state of Soda also so that state of Soda also so the stat	Unmanured in 1882, and since. Previously Farmyard Manure (14 tons).  Farmyard Manure (14 tons) alone 1883 and since; previously 3½ cwts. Superphosphate also (*)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphos (*)  1881, and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphosphate (*)  3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate (*)  55 cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate (*)  55 cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate (*)  55 cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate (*)  55 cwts. Superphosphate (*)  56 cwts. Superphosphate (*)  57 cwts. Superphosphate (*)  58 cwts. Superphosphate also (*)  Farmyard Manure (14 tons) alone 1883 and since: previously 3½ cwts. Superphosphate also (*)  Farmyard Manure (14 tons) alone 1883 and since: In 1882, and previously, 3½ cwts. Superphosphate (*)  55 cwts. Superphosphate (*)  56 cwts. Superphosphate also (*)  57 cwts. Superphosphate also (*)  58 cwts. Superphosphate also (*)  59 cwts. Superphosphate also (*)  50 cwts. Superphosphate also (*)	-	ŀ	0.81	2.80	0.381	1.39
Farmyard Manure (14 tons) alone 1883 and since: previously 3½ cwts. Superphosphate, and in particularly farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in previously, 550 lbs. Nitrate of Soda also    Farmyard Manure (14 tons) alone 1883 and since.   In 1882, and previously, 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulpha Soda, 100 lbs. Sulpha Barnyard Manure (14 tons)   In 122   28 - 2   In 13   28 - 3   In 13   28 - 3   In 14   In	Farmyard Manure (14 tons) alone 1883 and since; previously 3½ cwts. Superphosphate also (*) [Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphos [1881, and previously, 550 lbs. Nitrate of Soda also [400 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. [550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. [550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. [550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. [550 lbs. Nitrate of Soda, 3½ cwts. Superphosphate [550 lbs. Nitrate of Soda also [550 lbs. Nit	_		0.82	2.75	0.380	1.27
Farmyard Manure (14 tons) and since. In 1882, and previously, 54 cwts. Superphosphate, and in 1876, and each year since. Previously 3d cwts. Superphosphate also (25 cm) and since. In 1882, and previously, 550 lbs. Nitrate of Soda also (25 cm) and 100 lbs. Sulphate Soda, 100 lbs. Sulphate Manure (14 tons) and each year since. Previously 3d cwts. Superphosphate, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Manure (14 tons) and since; previously 3d cwts. Superphosphate, and in 1712 28 cm. Superphosphate, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Manure (14 tons) and since; previously 3d cwts. Superphosphate, and in 1712 28 cm. Superphosphate, 300 lbs. Nitrate of Soda also (14 tons) and previously 5d cwts. Superphosphate, and in 1711 28 cm. Sulphate Manure (14 tons) alone 1883 and since; previously 3d cwts. Superphosphate, and in 1711 26 cm. Sulphate Manure (14 tons) alone 1883 and since; previously 3d cwts. Superphosphate, and in 1711 26 cm. Sulphate Manure (15 tons) alone 1883 and since; previously 3d cwts. Superphosphate, and in 1711 26 cm. Sulphate Manure (15 tons) alone 1883 and since; previously 3d cwts. Superphosphate, and in 1711 27 cm. Sulphate Manure (15 tons) alone 1883 and since; previously, 3d cwts. Sulphate Manure (15 tons) alone 1883 and since; previously, 3d cwts. Sulphate Manure (15 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also (15 tons) alone 1883 and since, in 1882, and previously, 550 lbs. Nitrate of Soda also (15 tons) alone 1883 and since, in 1882, and previously, 550 lbs. Nitrate of Soda also (15 tons) alone 1883 and since, in 1882, and previously, 550 lbs. Nitrate of Soda, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. (1107 26 tons) alone 1883 and since, in 1882, and 110 lbs. Sulphate Manure (16 tons) alone 1883 and since, in 1882, and 1882 and since, in 1882 and 1882 and since, i	raminard manure (1.4 tons) and since. In 1882, and previously, \$\frac{2}{3}\$ ewits. Superphose (1881, and previously, 550 lbs. Nitrate of Soda also 550 lbs. Nitrate of Soda also 550 lbs. Nitrate of Soda (100 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, \$\frac{2}{3}\$ ewits. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, \$\frac{2}{3}\$ ewits. Superphose, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, \$\frac{2}{3}\$ ewits. Superphosphate also (1) Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also \$\frac{2}{3}\$ ewits. Superphosphate also (2) the superphosphate of Soda also \$\frac{2}{3}\$ ewits. Superphosphate \$\frac{2}{3}\$ ewits. Superphosphate also (3) bb. Nitrate of Soda also \$\frac{2}{3}\$ ewits. Superphosphate \$\frac{2}{3}\$			1.00	3.75	0.293	60.
1118   28.5   0.81   2.84   0.405     550 lbs. Mirrate of Soda, 32 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.   1.119   28.4   0.82   2.88   0.430     550 lbs. Mirrate of Soda, 32 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.   1.122   28.7   1.01   28.7   1.01     550 lbs. Mirrate of Soda, 32 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph Soda, 100 lbs. Sulph Mag.   1.121   28.7   1.01   28.7   1.01     550 lbs. Mirrate of Soda, 32 cwts. Superphos, 300 lbs. Sulph Potash, 100 lbs. Sulph Soda, 100 lbs. Sulph Mag.   1.121   28.7   1.01   28.7   1.01     650 lbs. Mirrate of Soda also   1.1882, and previously \$\frac{3}{3}\$ cwts. Superphosphate, 300 lbs. Sulph. Potash, 100 lbs. Sulph Soda, 100 lbs. Sulph Roda, 100 lbs. Sulph Soda, 100 lbs. Sulph Roda, 100 lbs. Sulph Soda, 100 lbs. Sulph Roda, and 100 lbs. Sulph Roda, 100 lbs. Sulph Roda, 100 lbs. Sulph Roda, and 100 l	400 lbs. Ammonium-salts (*) 550 lbs. Nitrate of Soda 400 lbs. Ammonium-salts, 3\$ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs 550 lbs. Nitrate of Soda, 3\$ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3\$ cwts. Superphos., 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate 3\$ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate 3\$ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate AVERAGE OF 5 SEASONS, 1886, '87, 88'. Unmanured in 1876, and each year since Previously Farmyard Manure (14 tons) Farmyard Munure (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also 400 lbs. Ammonium-salts (*) 550 lbs. Nitrate of Soda 550 lbs. Nitrate of Soda 550 lbs. Nitrate of Soda	and in	27.	1.06	3.84	0.284	1.03
550 lbs. Nitrate of Soda	550 lbs. Nitrate of Soda 400 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. 5½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate AVERAGE OF SEANONS, 1886, '87, 88'. Unmanured in 1876, and each year since. Previously Farmyard Manure (14 tons) Farmyard Munure (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also 400 lbs. Ammonium-salts (*) 550 lbs. Nitrate of Soda 550 lbs. Nitrate of Soda 550 lbs. Nitrate of Soda	: :		0.81	2.84	0.405	1.42
# 10 10 10 10 10 10 10 10 10 10 10 10 10	400 lbs. Ammonium-saits, 35 cwts. Superpines., 300 lbs. Sulph. Fotash, 100 lbs. Sulph. Soda, 100 lbs. 550 lbs. Nitrate of Soda, 32 cwts. Superpines., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulphate 35 cwts. Superplosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Average or 5 Seasons, 1886, '87, 88'.  Unmanured in 1876, and each year since.  Thermy and Manure (14 tons) alone 1883 and since: previously 32 cwts. Superphosphate also (*)  Framy and Manure (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (*)  550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (*)  550 lbs. Nitrate of Soda also	_		0.85	. 200	0.430	1.51
3½ cwts. Superphosphate         1.122         28.7         1.01         3.53         0.298           3½ cwts. Superphosphate         35 cwts. Superphosphate         1.121         28.7         1.01         3.53         0.298           3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia.         1.121         28.7         1.01         3.55         0.245           Unmanured in 1876, and each year since.         Previously Farmyard Manure (14 tons) alone 1883 and since. Previously 3½ cwts. Superphosphate also (1)         1.122         28.4         0.81         2.86         0.400           Farmyard Manure (14 tons) alone 1883 and since. Previously, 3½ cwts. Superphosphate, 350 lbs. Nitrate of Soda also         1.111         26.3         1.01         3.85         0.436           1881, and previously, 550 lbs. Nitrate of Soda         1.011         26.3         1.01         3.85         0.436           550 lbs. Nitrate of Soda, 3½ cwts. Superphosp, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.         1.112         26.5         1.01         3.87         0.356           3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Magnesia.         1.111         27.8         1.04         9.35           3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Magnesia.         1.111         4.06         0.309	3½ cwts. Superphosphate 3½ cwts. Superphosphate 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate AVERAGE OF 5 SEASONS, 1886, '87, 88'. Unmanured in 1876, and each year since. Unmanured in 1875, and since. Previously Farmyard Manure (14 tons) Farmyard Munure (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also 400 lbs. Ammonium-salts (*) 550 lbs. Nitrate of Soda also 550 lbs. Nitrate of Soda also 550 lbs. Nitrate of Soda also			76.0	20 00	698.0	1.54
3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia.   1.121   28.4   0.81   2.86   0.400   0.245     Unmanured in 1876, and each year since. Previously Farmyard Manure (14 tons)   1.122   28.6   0.85   2.96   0.393     Farmyard Manure (14 tons) alone 1883 and since. Previously 3½ cwts. Superphosphate, and in   1.110   26.9   1.01   3.85   0.436     Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in   1.111   26.3   1.01   3.85   0.436     Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in   1.111   26.3   1.01   3.85   0.436     Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in   1.111   26.3   1.01   3.85   0.436     Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulphate Magnesia.   1.111   26.3   1.01   3.87   0.378     Farmyard Manure (14 tons) and 100 lbs. Sulphate Magnesia.   1.111   2.8   1.04   3.74   0.335     Farmyard Manure (14 tons) and since. Previously, 3½ cwts. Superphosphate, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia.   1.111   4.06   0.303     Farmyard Manure (14 tons) and 100 lbs. Sulphate Magnesia.   1.111   4.06   0.303     Farmyard Manure (14 tons) and 100 lbs. Sulphate Magnesia.   1.111   4.06   0.303     Farmyard Manure (14 tons) and 100 lbs. Sulphate Magnesia.   1.111   4.06   0.303     Farmyard Manure (14 tons) and 100 lbs. Sulphate Magnesia.   1.111   4.06   0.303     Farmyard Manure (14 tons) and 100 lbs. Sulphate Magnesia.   1.111   4.06   0.303     Farmyard Manure (14 tons) and 100 lbs. Sulphate Magnesia.   1.111   4.06   0.303     Farmyard Manure (14 tons) and 100 lbs. Sulphate Magnesia.   1.111   4.06   0.303     Farmyard Manure (14 tons) and 100 lbs. Sulphate Magnesia.   1.111   4.06   0.303     Farmyard Manure (14 tons) and 100 lbs. Sulphate Magn	Si owts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Sulphate Soda, and 100 lbs. Sulphate Average of 5 Seasons, 1886, '87, 88'.  Unmanured in 1876, and each year since.  The summanured in 1882, and since. Previously Farmyard Manure (14 tons)  Farmyard Munure (14 tons) alone 1883 and since: previously 3½ owts. Superphosphate also (1) (Furnyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (*)  550 lbs. Nitrate of Soda  550 lbs. Nitrate of Soda  550 lbs. Nitrate of Soda		4	1.01	. e.	867.0	1.04
Unmanured in 1876, and each year since.   Previously Farmyard Manure (14 tons)   1-121   28.4   0-81   2.86   0-400   1-122   28.6   0-85   2.96   0-871   1-122   28.6   0-871   1-122   1-1	Unmanured in 1876, and each year since  Unmanured in 1876, and each year since  Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)  Farmyard Munure (14 tons) alone 1883 and since; previously 3½ cwts. Superphosphate also (1)  Furmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (1)  400 lbs. Ammonium-salts (2)  550 lbs. Nitrate of Soda also  550 lbs. Nitrate of Soda also  550 lbs. Nitrate of Soda also		-	1.13	4.00	0.245	0.87
Unmanured in 1876, and each year since.  Unmanured in 1876, and each year since.  Unmanured in 1876, and each year since.  Unmanured in 1875, and since. Previously Farmyard Manure (14 tons)  Farmyard Manure (14 tons) alone 1883 and since, previously 3½ cwts. Superphosphate also (1)  Framyard Manure (14 tons) alone 1883 and since, previously, 3½ cwts. Superphosphate, and in 1·110  Framyard Manure (14 tons) alone 1883 and since, previously, 3½ cwts. Superphosphate, and in 1·111  Framyard Manure (14 tons) alone 1883 and since, previously, 3½ cwts. Superphosphate, and in 1·111  Ze 3  1·111  Ze 3  1·111  Ze 3  1·101  Ze 3  1·1	Unmanured in 1876, and each year since.  Unmanured in 1876, and since. Previously Farmyard Manure (14 tons)  Farmyard Munure (14 tons) alone 1883 and since, previously 3½ cwts. Superphosphate also (4) [1881, and previously, 550 lbs. Nitrate of Soda also  400 lbs. Ammonium-salts (2)  Ammonium-salts (2)  Ammonium-salts (3)  Ammonium-salts (4)  Ammonium-salts (3)  Ammonium-salts (4)  Ammonium-salts (3)  Ammonium-salts (4)  Ammonium-salts (4)	1080				4	
Farmyard Manure (14 tons) alone 1883 and since; previously 3½ cwts. Superphosphate also (4)  [Farmyard Manure (14 tons) alone 1883 and since; previously 3½ cwts. Superphosphate, and in)  [Farmyard Manure (14 tons) alone 1883 and since; previously, 3½ cwts. Superphosphate, and in)  [Farmyard Manure (14 tons) alone 1883 and since; previously, 3½ cwts. Superphosphate, and in)  [Farmyard Manure (14 tons) alone 1883 and since; previously, 3½ cwts. Superphosphate, and in)  [Farmyard Manure (14 tons) alone 1883 and since; previously, 3½ cwts. Superphosphate, and in)  [Farmyard Manure (14 tons) alone 1883 and since; previously, 3½ cwts. Superphosphate, and in)  [Farmyard Manure (14 tons) alone 1883 and since; previously, 3½ cwts. Superphosphate, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulphate Magnesia.  [Farmyard Manure (14 tons) alone 1.01  [Farmyard of Soda 3½ cwts Superphosphate, 300 lbs. Sulphate Sulphate Magnesia. 1.11  [Farmyard of Soda 3½ cwts Superphosphate, 300 lbs. Sulphate Sulphate Sulphate Magnesia. 1.11  [Farmyard of Soda 3½ cwts Superphosphate, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia. 1.11  [Farmyard of Soda 3½ cwts Superphosphate, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia. 1.11  [Farmyard of Soda 3½ cwts Superphosphate, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia. 1.11  [Farmyard of Soda 3½ cwts Superphosphate, 300 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia. 1.11  [Farmyard of Soda 3½ cwts Superphosphate, 3	Thursday Manure (14 tons) alone 1883 and since, previously 3½ cwts. Superphosphate also (4) (Furmyard Manure (14 tons) alone 1883 and since, previously 3½ cwts. Superphosphate also (7) (Furmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (1881, and previously, 550 lbs. Nitrate of Soda also (550 lbs. Nitrate of Soda also	1.121	.83	0.81	2.86	0.400	1.41
(Furnyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in) 1.111 26.3 1.01 3.85 0.366 1881, and previously, 550 lbs. Nitrate of Soda also 550 lbs. Nitrate of Soda also 550 lbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.112 26.6 0.38 3.70 0.377 550 lbs. Nitrate of Soda, 3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Magnesia. 1.115 26.6 0.38 3.70 0.378 3.5 cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Magnesia. 1.116 27.8 1.114 4.06 0.303	(Furmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphoses 1881, and previously, 550 lbs. Nitrate of Soda also 550 lbs. Natrate of Soda also 550 lbs. Nitrate of Soda also 550 lbs.	-		CS C	26.7 7	0.833	1.37
(**) Solution of Soda also (**) Solution of Solution of Soda (**) Solution of Sol	(*) (*) Signature of Soda also	and in)	-	10.1	9 6	0.960	7.40
1.116 27.9 0.79 2.85 0.436 0.439 2.435 0.4	91 and Susander and the Galat Direct and the Galat Cold	j:- ::		TO :	000	900	1.40
3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 1.112 26.6 1.98 3.70 0.377 3.70 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia. 1.115 27.8 1.11 4.06 0.303	91 aurie Susambee 900 H. S. J. D. L. J. 100 H. S. J. L. C. 3 100 H.		4	0 49	25.0	0.436	1.57
Sulph. Soda, 100 lbs. Sulph. Mag. 1-107 26.6 0-98 3-70 0-378 8-1119 27-8 1-04 3-74 0-335 and 100 lbs. Sulphate Magnesia 1-116 27-3 1-11 4-06 0-303			-	1.01	C8.7	0.877	1.58
1,119 27.8 1.04 3.74 0.335 1.11 4.06 0.303 1.116 27.3 1.11 4.06 0.303	Sulph. Soda, 100 lbs		-	96.0	3.70	0.378	1.42
Sulphate Soda, and 100 lbs. Sulphate Magnesia 1.116 27.8 1.11 4.06 0.303 1	nor par lupac malma			1 04	3.74	0.335	1.20
		-		1×11	4.06	0.303	1:11

## EXPERIMENTS ON POTATOES.—HOOS FIELD—continued.

Below are given the particulars of the Manures and Produce, for the Sixteenth, Seventeenth, Eighteenth, Nineteenth, and Twentieth Seasons, 1891, 1892, 1893, 1894, and 1895. For the Manures, description of Potatoes grown, and the Produce, The arrangement of the plots is precisely the same as for the 15 preceding potato of the 15 preceding years, see pp. 88-9, 92-3, and 96-7, and of the succeeding years, pp. 104-5, and 108-9.

Rows 25 inches apart; 14 inches from In the spring of 1894 permanent division paths were laid out between plot of Potato, "Sutton's Abundance" (White). plant to plant in the rows.

crops. The manures are the same as for the crops of 1883, and since.

Description

and plot.

(Area under experiment, 2 acres.)

	Tops.		Withered, not weighed, each lot spread on its own Plot and ploughed in.	Withered, not weighed, each lot spread on its own Plot and ploughed in.
ACRE.	TOTAL.		Tons. cwts.  1 0 14 1 164 1 164 2 2 2 2 2 2 2 2 2 12 2 1 14 2 2 1 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	0 18 9944 12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Produce per Acre.	Diseased.		Tons. cwts.   10   0   0   0   0   0   0   0   0	000 0 000 0 144444 04 040440
Prode	Small.	-30.		00000000000000000000000000000000000000
	Good.	Septe ober 28-30.	Tons. certs. 10 134 15 164 15 164 15 113 25 113 25 104 173 25 104 173 124 173 124 173 124 173 124 174 124 124 124 124 124 124 124 124 124 12	0 153 1 181 1 181 1 1 2 2 0 0 4 2 0 33 2 1 3 3 3 1 3 4 4 4 1 1 3 5 1 3 3 6 1 5 4 1 3 4 1 4 1 4 4 1 1 1 2 4 1 1 2 4 1 2 5 1
PLOTS.		SIXTEENTH SEASON, 1891. Potatoes planted, April 1. Grop taken up,	Unmanured in 1876, and each year since   Unmanured in 1872, and since   Previously Farmyard Manure (14 tons)   Unmanured in 1882, and since   Previously Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in   144	Unmanured in 1876, and each year since Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)  Rarmyard Manure (14 tons) alone 1883 and since; previously 3½ cwts. Superphosphate also (7).  (Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in 1881, and previously, 550 lbs. Nitrate of Soda also  5 550 lbs. Nitrate of Soda  7 400 lbs. Ammonium-salts, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 8 550 lbs. Nitrate of Soda, 3½ cwts. Superphosphate  8 550 lbs. Nitrate of Soda, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 9 3½ cwts. Superphosphate

Ummanred in 1876, and each year few case, 1895. Potatoes planted, March 28. Crop taken up, September 12-14.  Ummanred in 1876, and since Perviously Fermani Manne (14 tom) Fermania Manne (15 tom) alone 1883 and since; previously 34 verts. Superploophate, and in 5 2 9 0 2 9 0 10 10 10 10 10 10 10 10 10 10 10 10 1		1   1   1   1   1   1   1   1   1   1	118 8 18 9 9 3 3	144 5 72 Withered, not 12 6 102 weighed, each 03 1 52 10 spread on 15 10 sprea	114 0 19% Withered, not 17% 0 18% Weighed, each 114 1 7% 104 spread on 19% 5 12% and ploughed 19, 5 13% 24, 2 8 3 17% 3 12 17% 10.
Umanured in 1876, and each year since  Umanured in 1876, and each year since  Framyard Manure (14 tons) alone 1883 and since; previously 35 wuts. Superphosphate also (?)  Framyard Manure (14 tons) alone 1883 and since; previously 35 wuts. Superphosphate also (?)  1881, and previously, 550 hs. Nitrate of Soda also  400 lbs. Ammonium-salls 25 wers. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda 100 il 35 with that of Soda 100 il 35 wits. Superphosphate also (?)  1891, superphosphate.  Nixerexviii Scalph. Potash, 100 lbs. Sulph. Potash, 100 lbs. Sulph. Soda and 100 lbs. Sulph. Soda and 100 lbs. Sulph. Potash, 100 lbs. Sulph. Soda and 100 lbs. Sulph. Soda lbs. Muranium-suls. Sod. Soda sals and since. Previously 350 lbs. Nitrate of Soda also.  1850 lbs. Nitrate of Soda. 32 werk. Superplos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulphate Soda and 100 lbs. Sulphate Soda. 100 lbs. Nitrate of Soda also.  Umanured in 1876, and each year since  Franty and previously, 350 lbs. Nitrate of Soda also  Umanured in 1876, and each year since  Franty and previously, 350 lbs. Nitrate of Soda also  Umanured in 1876, and each year since  Nitrate of Soda, 33 werk. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulphate Soda, 100 lb	p, September 12-14.	0 188, 0 15, 16, 16, 17, 18, 17, 18, 18, 18, 18, 18, 18, 18, 18, 18, 18	, Sentember 21–28.  1 124 0 14 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 5 0 35 0 35 0 35 0 35 0 35 0 35 0 35 0	0 24 0 0 24 0 0 24 0 0 0 24 0 0 0 2 0 0 0 0
- 28 4 19 19 10 00 00 1 1 1 1 1 1 1 1 1 1 1 1		osphate, and bs. Sulph. Ma bs. Sulph. Ma te Wagnesia	Unmanured in 1876, and each year since. Periously Farmyard Manure (14 tons)  Farmyard Manure (14 tons) alone 1883 and since. Previously \$\frac{3}{2}\$ cwts. Superphosphate also (1)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, \$\frac{3}{2}\$ cwts. Superphosphate also (1)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, \$\frac{3}{2}\$ cwts. Superphosphate also (1)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, \$\frac{3}{2}\$ cwts. Superphosphate, \$\frac{5}{2}\$ of bs. Nitrate of Soda also  for the Ammonium-salts, \$\frac{3}{2}\$ cwfs. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag \$\frac{3}{2}\$ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag \$\frac{3}{2}\$ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Magnesia.  Twentieth Season, 1895. Fotatoes planted, April 6. Crop taken up, Unmanured in 1876, and each year since. Previously Manured in 1882, and since. Previously Manured in 1882, and since.	sphate, an s. Sulph. I s. Sulph. I	red in 1876, and red in 1882, and d Manure (14 to d Manure (14 to d Manure (14 to man previously, the monitum-salth Nitrate of Soda Numonium-salth Nitrate of Soda Superphosphate Superphosphate

Nitrogen.

Mineral Matter (Ash).

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-Summary of the Composition of the "Good" Tubers in the Sixteenth, Seventeenth, Bighteenth, Nineteenth, and Twentieth Seasons, 1891, 1892, 1893, 1894, and 1895. For particulars of the composition in the first 15 years, 1876-1890, EXPERIMENTS ON POTATOES.—HOOS FIELD—continued.

see pp. 90-1, 94-5, and 98-9, and for those in succeeding seasons, see pp. 106-7

very much

nitrogen. It was obvious that the juice had suffered exhaustion of much of both its nitrogen and its mineral matter, in the development of the fungus. There was an increased amount of The distribution of the mineral matter was much in the same order as that of the sugar found in the diseased potatoes, the result of diseased action, and it probably also concontained very little nitrogen, whilst that of the discoloured portion contained tributed to the development of the fungus.

The results given in the Table relate to the "good" potatoes only. more. cases been determined; in some cases the amount of the nitrogen existing as albuminoids has been determined; and in some, complete analyses of the ash of the juice have been made. It may be remarked, that by far the larger proportion of both the mineral matter, and the nitrogen, is found to exist in the juice; and of the nitrogen in the juice, as a rule, too much more than half exists as albuminoids. In many cases, the small potatoes have been submitted to the same methods of analysis as the good potatoes. And in some cases, similar methods of examination have been applied to the still white, and also to the separated discoloured portions of the diseased potatoes. With regard to these latter results, it may be observed, that whilst the juice of the white portion of the diseased potatoes contained the analytical results obtained, illustrating the influence of different ifferent seasons, on the composition of Potatoes, is given below. The the tubers is also given. In the tubers the dry matter, nitrogen, and made. Besides the results obtained relating to the composition of the tubers themselves, have been determined; and in some cases complete analyses of the ash have been the dry matter, the sugar, the nitrogen, and the ash, in the expressed juice have in many manures, and of different seasons, on the composition of Potatoes, is given below.

analyses were not performed immediately after taking up the crops, but some time afterwards, in weighed samples which had been kept in a cool place for some weeks or months; and in the following only preliminary statement of results, no correction is made for any change from the original weight of the samples, the results being calculated upon the fresh weights The results given in the Table relate to the "good" potatoes only. In interpreting the figures it must be borne in mind that in each year, the seed was planted on all the plots at the same time, and that all the crops were taken up at the same time; and as there was several times as much produce in some cases as in others, it is obvious that the crops would not each be at its best, and all in the same condition of maturity when taken up. Then, again, the

re results being calculated upon the itesh	Composition of the "Good" Tubers.
ally taken for analysis.	
iscoloured portion contained very as fin	
the nor	
approxin much le	

MANURES PER ACRE, PER ANNUM. (For Produce, see pp. 100-1.)

	(Total Todays, see pp. 100-1.)	or the Tubers.	Dry Matter.	In Fresh Tubers.	In Dry Matter.	In Fresh Tubers.	In Dry Matter.	
	SIXTEENTH SEASON, 1891.							
1	Unmanured in 1876, and each year since	1.107	Per cent. 25.5	Per cent.	Per cent.	Per cent. 0.379	Per cent.	
<b>CV</b> (	Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)	1.111	56.6	08.0	3.02	0.356	1.34	
33	Farmyard Manure (14 tons) alone 1883 and since: previously 3½ cwts. Superphosphate also (¹)	1.097	22.6	1.01	4.46	0.311	1.38	
41	alone 1883 and since. bs. Nitrate of Soda also	1.099	23.4	0.95	4.08	0.286	1.22	
ro c	: :: :: :: ()s	1.095	25.7	08.0	3.10	0.434	1.69	
0 1	250 lbs. Nitrate of Soda	1-102	24.5	0.73	2.96	0.417	1.70	
~ 0	400 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	1.092	22.7	0.95	4.15	0.365	1.61	
æ;	devise. Superphos., 300 lbs.	1.095	23.0	0.93	4.05	0.345	1.50	
30 9		1.110	26.2	66-0	3.78	0.300	1.15	
2	3½ cwts. Superpliosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	1.100	25.4	1.14	4.48	0.252	66.0	
	Seventeenth Season, 1892.							
(	Unmanured in 1876, and cach year since	1.104	25.9	0.83	3.52	0.385	1.48	
27 (		1.108	26.5	0.75	2.83	0.361	1.36	
33		1.101	23.8	1.05	4.37	0.279	1.17	
4	(Parmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in)	001.1	93.5	1.05	4.47	0.959	1.40	
1	( 1551, and previously, 520 lbs. Nithite of Soda also	207	2	3	H	2000	CT T	
o c	: : : : : : : : : : : : : : : : : : :	1.103	25.2	0.84	3.33	0.419	1.66	
Q I	550 los. Nitrate of Soda	1.101	25.0	0.71	2.84	0.437	1.75	
- (	400 lbs. Ammonium-saits, 34 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	1.096	23.2	0.93	4.02	0 346	1.49	
000	350 lbs. Nitrate of Soda, 32 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	1.097	23.0	96-0	4.17	0.363	1.58	
D (	3s cwts. Superphosphate	1.111	26.6	0.95	3.58	0.301	1.13	
TO TO	3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	1.110	25.6	1.09	4.26	0.253	86.0	

specific gravity of the tubers is also given.

Jo

Universified in 1882, and after. Performery Parameter (14 tons) alone 1883 and after. Performery Parameter (18 tons) alone 1883 and after. Performery Parameter (18 tons) alone 1883 and after. Performery Parameter (18 tons) alone 1883 and after. Performery (18 tons) and after (18 tons) alone 1883 and after. Performery (18 tons) and after (18 tons) and a	Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)  Farmyard Manure (14 tons) alone 1883 and since: previously 3½ cwts. Superphr Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½  1881, and previously, 550 lbs. Nitrate of Soda also  550 lbs. Ammonium-salts (2)  550 lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Botash, 100 lbs. Sulph. Superphosphate  3½ cwts. Superphosphate  3½ cwts. Superphosphate  NINETEENT  Unmanured in 1876, and each year since.		1.116	0	000	707	0000	
1.094   25°7   1.09   4°19   0°586   1°56	myard Manure (14 tons) alone 1883 and since: previously 34 cwts. Superpin myard Manure (14 tons) alone 1883 and since. In 1882, and previously, 34 881, and previously, 550 lbs. Nitrate of Soda also		100	6.12	08.0	2.86	0.394	14.
1.096   23.5   1.05   4.48   0.366   1.55	myard Manure (14 tons) alone 1883 and since. In 1882, and previously, 2881, and previously, 530 lbs. Nitrate of Soda also		7.60.1	797	en.T	4.03	0 538	10.1
1.115   28.3   0.81   2.88   0.438   1.55     Mag.   1.014   25.7   1.07   4.47   0.403   1.65     Mag.   1.014   25.7   1.07   4.47   0.403   1.65     1.015   28.1   1.02   2.69   0.443   1.50     1.110   26.9   1.19   4.42   0.304   1.13     1.110   24.2   1.08   2.90   0.342   1.15     1.101   24.2   1.07   4.42   0.304   1.13     1.101   24.8   1.07   4.45   0.279   1.15     Mag.   1.101   24.8   1.07   4.45   0.290   1.17     1.102   25.3   0.75   2.91   0.433   1.56     Mag.   1.103   27.0   0.99   3.48   0.342   1.15     Mag.   1.101   23.3   1.05   4.50   0.336   1.44     Mag.   1.101   23.3   1.05   4.50   0.336   1.44     Mag.   1.101   23.3   1.05   4.50   0.336   1.44     Mag.   1.101   23.3   1.05   4.50   0.336   1.45     Mag.   1.102   25.5   0.86   2.97   0.424   1.45     Mag.   1.101   25.3   1.05   4.50   0.386   1.45     Mag.   1.101   25.3   1.05   4.50   0.386   1.45     Mag.   1.101   25.3   1.05   4.50   0.386   1.10     Mag.   1.101   25.3   1.00   4.48   0.383   1.39     Mag.   1.101   25.3   1.00   4.48   0.384   1.56     Mag.   1.101   27.5   0.80   2.92   0.368   1.34     Mag.   1.101   27.5   0.80   2.42   0.368   1.46     Mag.   1.100   27.5   0.81   2.92   0.368   1.38     Mag.   1.101   27.5   0.80   4.48   0.344   1.46     Mag.   1.101   27.5   0.80   4.48   0.344   1.46     Mag.   1.101   27.5   0.80   4.48   0.368   1.34     Mag.   1.101   27.5   0.80   4.48   0.368   1.46     Mag.   1.101   27.5   0.80   4.48   0.344   1.46     Mag.   1.101   27.5   0.80   4.48   0.368   1.46     Mag.   1.108   25.7   1.00   4.12   0.367   1.46     Mag.   1.108   25.7   1.00   4.12   0.367   1.46     Mag.   1.108   25.8   1.00   4.12   0.368   1.46     Mag.   1.108   25.8   1.00	bs. Ammonium-salts (2)  1bs. Ammonium-salts (2)  1bs. Ammonium-salts (3)  1bs. Ammonium-salts (3)  1bs. Ammonium-salts (3)  1bs. Superphose, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Potash, 100 lbs. Sulph. Sulph. Potash, 100 lbs. Sulphate of Soda, 3½ cwts. Superphose, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and wts. Superphosephate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and salured in 1876, and each year since.	puospiiave, and	1.096	23.5	1.05	4.48	998.0	1.56
1.108   26.8   0.80   2.99   0.443   1.65	Ibs. Nitrate of Soda  1bs. Nitrate of Soda  1bs. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sulbs. Sulph. Potash, 100 lbs. Sulbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulphate Soda, 3½ cwts. Superphosphate  wts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and  wts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and  NINETEENT  nanured in 1876, and each year since.		1.115	28.3	0.81	2.88	0.438	1.55
Nag.   1.104   25.7   1.07   4.18   0.860   1.40	lbs. Ammonium-salts, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulbs. Nitrate of Soda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulwts. Superphosphate wts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and wts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and was superplosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and Ninetteens		1.108	8.92	08.0	2.99	0.443	1.65
1.115   26.9   1.12   3.62   0.348   1.63	lbs. Nitrate of Soda, 3½ cwts. Superplios., 300 lbs. Sulph. Potash, 100 lbs. Sulwts. Superpliosphate wts. Superpliosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and wts. Superpliosphate, 300 lbs. Sulphate Totash, 100 lbs. Sulphate Soda, and usa number of 1876, and each year since.	ph. Soda, 100 lbs. Sulph. Mag.	1.104	25.7	1.07	4.18	0.360	1.40
1-115   28-1   1-02   3-62   0-338   1-20	wts. Superphosphate. wts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and wts. Superphosphate, 300 lbs. Sulphate Fotash, 100 lbs. Sulphate Soda, and anumed in 1876, and each year since	ph. Soda, 100 lbs. Sulph. Mag.	1.099	24.6	1.10	4.47	0.403	1.63
1-110   26-3   0-82   3-13   0-343   1-31	NINETEEN	100 lbs. Sulphate Magnesia	1.115	28·1 26·9	$\begin{array}{c} 1.02 \\ 1.19 \end{array}$	3.62	0.338	1.20 $1.13$
1-110   26-3   0-82   3-13   0-343   1-31	nanured in 1876, and each year since	H SEASON, 1894.				<i>x</i>		
and in   1-115   27.2   0.79   2.90   0.842   1.26    and in   1-100   24.2   1.08   4.46   0.279   1.15    1-109   27.0   0.74   2.75   0.433   1.60    1-100   24.1   0.96   3.99   0.838   1.85    1-101   24.1   0.96   3.99   0.838   1.85    1-102   24.1   0.96   3.99   0.838   1.85    1-103   27.0   0.99   3.48   0.88   1.85    1-104   25.3   1.13   4.49   0.247   0.98    1-124   29.4   0.89   3.66   0.247   0.98    1-125   28.9   0.87   3.00   0.87   1.82    1-126   28.9   0.86   2.97   0.424   1.44    1-127   28.1   1.07   4.27   0.366   1.45    1-128   24.3   1.06   4.56   0.838   1.15    1-110   25.1   1.07   4.27   0.366   1.45    1-111   26.0   1.19   4.60   0.286   1.10    1-112   27.5   0.80   2.92   0.818   1.33    1-111   26.0   1.19   4.60   0.286   1.10    1-110   27.0   0.81   3.01   0.430   1.55    1-110   27.0   0.81   3.01   0.430   1.55    1-110   25.9   0.76   2.94   0.434   1.46    1-108   25.9   0.76   2.94   0.434   1.46    1-109   23.7   1.04   4.37   0.366   1.36    1-110   27.0   0.81   3.01   0.430   1.55    1-110   27.0   0.81   3.01   0.430   1.55    1-110   27.0   0.81   3.01   0.430   1.55    1-110   25.9   0.76   2.94   0.434   1.68    1-111   27.0   0.81   3.01   0.430   1.55    1-110   25.9   0.76   2.94   0.434   1.68    1-110   25.9   0.76   2.94   0.434   1.68    1-110   25.9   0.76   2.94   0.434   1.68    1-110   25.9   0.76   2.94   0.434   1.68    1-110   25.9   0.76   2.94   0.434   1.68    1-110   25.9   0.76   2.94   0.434   1.68    1-110   25.9   0.76   2.94   0.44   1.55    1-110   25.8   1.00   3.70   0.30   1.59    1-110   25.9   1.00   3.70   0.30   1.59    1-110   25.9   1.00   3.70   0.30   1.50    1-110   25.9   0.76   2.94   0.434   1.68    1-110   25.9   0.76   2.94   0.434   1.68    1-110   25.9   0.76   2.94   0.434   1.68    1-110   25.9   1.00   2.43   1.00    1-110   25.9   1.00   2.43   1.00    1-110   25.9   1.00   2.43   1.00    1-110   25.9   1.00   2.43   1.00    1-110   25.9   1.00   2.43   1.00    1-110   25.9   1.00   2.44   1.00    1-110   25.9		11 12	1.110	26.3	0.82	3.13	0.343	1.31
1.100   24.2   1.08   4.46   0.279   1.15     1.101   24.8   1.07   4.33   0.290   1.17     1.102   27.0   0.74   2.75   0.433   1.60     1.103   27.0   0.74   2.75   0.433   1.60     1.104   24.9   0.99   3.48   0.388   1.35     1.105   25.9   0.99   3.48   0.388   1.35     1.108   24.1   0.99   3.66   0.263   0.98     1.101   25.2   1.13   4.49   0.247   0.98     1.101   23.3   1.103   4.49   0.247   0.98     1.101   23.3   1.105   4.50   0.344   1.44     1.101   23.3   1.05   4.50   0.344   1.44     1.101   23.3   1.05   4.50   0.386   1.44     1.104   24.3   1.06   4.36   0.386   1.45     1.105   25.1   1.07   4.27   0.366   1.10     1.107   23.1   1.08   3.85   0.333   1.10     1.108   23.6   1.106   4.48   0.314   1.33     1.109   23.7   1.04   4.87   0.368   1.34     1.100   24.3   1.00   4.18   0.431   1.68     1.100   24.3   1.00   4.12   0.355   1.46     1.100   24.3   1.00   4.12   0.355   1.46     1.100   24.3   1.00   4.45   0.356   1.46     1.100   24.3   1.00   4.45   0.356   1.46     1.100   24.3   1.00   4.45   0.356   1.46     1.100   25.9   0.76   2.94   0.434   1.68     1.100   25.9   1.00   4.12   0.355   1.46     1.100   25.8   1.100   4.45   0.356   1.46     1.100   25.8   1.100   4.45   0.356   1.46     1.100   25.8   1.100   4.45   0.356   1.46     1.100   25.8   1.100   4.45   0.356   1.46     1.100   25.8   1.100   4.45   0.356   1.46     1.100   25.8   1.100   4.12   0.355   1.46     1.100   25.8   1.100   4.45   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06     1.100   25.8   1.100   3.70   0.356   1.06	nannied in 1882, and since. Previously Farmyard Manure (14 tons)	:	1.115	27.2	62.0	2.90	0.342	1.56
1-101   24.8   1.07   4.33   0.290   1.17	myard Manure (14 tons) alone 1883 and since: previously 33 cwts. Superpho	•	1.100	24.2	1.08	4.46	0.279	1.15
1.109   27.0   0.74   2.75   0.433   1.60	myard Manure (14 ton.) alone 1883 and since. In 1882, and previously, 33	sphate, and	1.101	24.8	1.07	4.33	0.290	1.17
(1.109) 27.0 0.774 2.713 0.453 1.00  (1.Mag. 1.108 24.9 0.99 3.48 0.388 1.35  (1.Mag. 1.108 24.1 0.96 3.99 0.331 1.37  (1.113 27.0 0.99 3.66 0.263 0.98  (25.3 1.113 27.0 0.99 3.66 0.263 0.98  (25.3 1.113 29.0 0.87 3.01 0.347 0.98  (25.3 1.101 23.3 1.05 4.53 0.344 1.44  (26.4 1.113 27.2 0.81 2.98 0.435 1.60  (27.5 1.114 28.1 1.00 27.0 0.81 3.85 0.383 1.10  (27.5 1.104 24.3 1.06 4.27 0.366 1.45  (27.5 1.104 24.3 1.06 4.36 0.380 1.56  (27.5 1.117 28.1 1.08 3.85 0.383 1.10  (27.5 0.80 2.92 0.388 1.34  (27.5 0.80 2.92 0.388 1.34  (27.5 0.80 2.92 0.388 1.34  (27.5 0.80 2.92 0.388 1.34  (27.5 0.80 2.92 0.388 1.34  (27.5 0.80 2.92 0.388 1.34  (27.5 0.80 2.92 0.388 1.34  (27.5 0.80 2.92 0.388 1.34  (27.5 0.80 2.92 0.388 1.34  (27.6 0.81 3.01 0.430 1.59  (27.6 0.81 3.01 0.430 1.58  (27.6 0.98 3.100 4.12 0.355 1.46  (27.6 0.98 3.100 3.41 1.68  (27.6 0.98 3.100 3.41 1.68  (27.6 0.88 1.34	SSI, and previously, 550 lbs, Nitrate of Soda also		0 0	11 0	i	i i	00.100	1.00
1106   257 9   0.99   3.78   1.90			601.1	0.72	0.74	67.73	0.455	00.1
Mag.   1103   2419   0.98   3.99   0.350   1.59	Ibs. Nitrate of Soda		901.1	6.07	67.0	18.2	0.650	1.95
seia.         1 110         24.1         0.99         3.99         0.531         1.34           seia.         1 113         25.3         1 1.13         4.49         0.247         0.98           seia.         1 1108         25.3         1 1.13         4.49         0.247         0.98           seia.         1 1121         29.0         0.87         3.00         0.247         0.98           india         1 124         29.4         0.89         3.01         0.375         1 30           india         1 109         23.9         0.89         4.53         0.344         1 44           india         20.9         1.08         4.53         0.344         1 44           india         1.101         23.3         1.06         4.56         0.386         1 44           india         1.104         24.3         1.06         4.36         0.386         1.44           india         1.117         28.1         1.08         3.85         0.386         1.16           india         1.111         26.0         1.198         3.85         0.386         1.16           india         1.111         26.0         1.104         4.60	lbs. Ammonium-salts, 32 cwts, Superphos., 300 lbs. Sulph. Potash, 100 lbs. Su	lph. Soda, 100 lbs. Sulph. Mag.	1.103	24.3	66.0	00 00	0.558	1.50
1.112	lbs. Nitrate of Suda, 3½ cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Su	Iph. Soda, 100 lbs. Sulph. Mag.	1.100	24.T	96.0	66. 66 67. 66	0.951	76.T
1-121   29-0   0.87   3-00   0.375   1-30	Sulphate Soda and	ha Sulphate Macmesia	801.1	25.3	1.13	4.49	0.247	0.98
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	T'WENTER	SEANON 1895		ne		46-		
1.124   29.4   0.89   3.01   0.387   1.32     1.099   23.9   1.08   4.53   0.344   1.44     1.101   23.3   1.05   4.50   0.386   1.44     1.118   27.2   0.81   2.98   0.435   1.46     1.119   27.2   0.81   2.98   0.435   1.46     1.111   28.9   1.06   4.27   0.366   1.45     1.112   26.9   1.19   4.60   0.286   1.10     1.115   27.5   0.80   2.92   0.383   1.10     1.116   27.5   0.80   2.92   0.388   1.34     1.117   28.9   0.83   3.07   0.368   1.34     1.118   27.5   0.80   2.92   0.368   1.34     1.119   27.5   0.80   2.92   0.368   1.34     1.110   27.0   0.81   3.01   0.430   1.59     1.110   27.0   0.81   3.01   0.430   1.59     1.110   27.0   0.81   3.01   0.434   1.68     1.110   27.0   0.81   3.01   0.434   1.68     1.110   27.9   0.76   2.94   0.434   1.68     1.110   1.110   27.9	The state of the s		1.191	0.66	0.87	3.00	0.875	1.30
and in)         1:099         23:9         1:08         4:53         0:344         1:44           and in)         1:101         23:3         1:05         4:50         0:386         1:44           1:126         28:9         0:86         2:97         0:424         1:46           1:138         27:2         0:81         2:98         0:485         1:46           1:106         25:1         1:07         4:27         0:366         1:45           1:104         24:3         1:06         0:380         1:56           acia         1:117         28:1         1:08         3:85         0:383         1:10           acia         1:111         26:0         1:19         4:60         0:286         1:10           acia         1:111         26:0         1:19         4:60         0:286         1:10           acia         1:112         26:9         0:83         3:45         0:38         1:40           and in)         1:099         23:6         1:06         4:48         0:314         1:33           and in)         1:099         23:7         1:04         4:37         0:326         1:46            1	nanured in 1879, and each year since		1.124	29.4	0.89	3.01	0.387	1.32
end in   1.101	nyard Mannre (14 tons) alone 1883 and since: previously 3; cwts. Superph	sphate also (1)	1.099	23.9	1.08	4.53	0.344	1.44
1.126 28.9 0.86 2.97 0.424  1.113 27.2 0.81 2.98 0.435  1.114 28.1 1.07 4.27 0.366  1.117 28.1 1.08 3.85 0.333  esta. 1.111 26.0 1.19 4.60 0.286  and 1895. 1.112 26.9 0.83 3.07 0.368  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.431  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434  1.110 27.0 0.76 2.94 0.434	nyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 33	and	1.101	93.3	1.05	4.50	0.336	1.44
1.126 28.9 0.86 2.97 0.424  1.103 27.2 0.81 2.98 0.435  1.104 24.3 1.06 4.26 0.380  1.117 28.1 1.08 3.85 0.333  esia. 1.111 26.0 1.19 4.60 0.286  1.115 27.5 0.80 2.92 0.368  1.115 27.5 0.80 2.92 0.368  1.116 27.6 0.81 2.94 0.431  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.431  1.110 27.0 0.81 3.01 0.434  1.110 27.0 0.81 3.01 0.436  1.110 27.0 0.81 3.01 0.436  1.110 27.0 0.81 3.01 0.430  1.110 27.0 0.81 3.01 0.436  1.110 27.0 0.81 3.01 0.436  1.110 27.0 0.81 3.01 0.436  1.110 27.0 0.81 3.01 0.436  1.110 27.0 0.81 3.01 0.436  1.110 27.0 0.76 2.94 0.431  1.110 27.0 0.76 2.94 0.431  1.110 27.0 0.76 2.94 0.436  1.110 27.0 0.76 2.94 0.436  1.110 27.0 0.76 2.94 0.436  1.110 27.0 0.76 2.94 0.436	81, and previously, 550 lbs. Nitrate of Soda also		101	0 0	90 1	0 0		
(a) Mag. 1115 25.1 1.07 4.27 0.366  (b) Mag. 1104 24.3 1.06 4.36 0.380  (c) Mag. 1111 26.0 1.19 4.60 0.286  (d) Mag. 1111 26.0 1.19 4.60 0.286  (e) Mag. 1100 27.0 0.81 3.07 0.368  (f) Mag. 1100 27.0 0.81 3.01 0.430  (g) Mag. 1100 24.3 1.00 4.12 0.365  (g) Mag. 1108 25.9 0.76 2.94 0.434  (e) Mag. 1108 25.9 1.00 4.12 0.365  (e) Mag. 1.09 23.7 1.01 3.01 0.307  (e) Mag. 1.09 25.8 1.10 3.70 0.307  (e) Mag. 1.10 27.2 1.01 3.70 0.307  (e) Mag. 1.10 27.2 1.01 3.70 0.307  (e) Mag. 1.10 25.9 1.00 4.12 0.365  (e) Mag. 1.10 25.9 1.00 2.94 0.434	lbs. Ammonium-salts (2)	2 2 2 2 2	1.126	5 C C	98.0	76.7	0.424	1.40
esta 1111 26-9 1-109 4-36 0-380 0-38	bs. Nitrate of Soda	Tab Code 100 the Culab Mes	1.106	2.72	10.0	4.97	0.366	1.45
the Magnesia. 1.117 28·1 1·08 3·85 0·3:3  the Magnesia. 1.111 26·0 1·19 4·60 0·286  3, '94, and 1895.	os. Ammonium-saits, 2½ cwts. Superphos., 500 tos. Sulph. I otash 100 tos. St bs. Nitrate of Soda 3½ owts. Superphos. 300 ths. Sulph. Potash. 100 ths. St	lph. Soda, 100 lbs. Sulph. Mag.	1.104	24.3	1.06	4.36	0.380	1.56
the Magnesia   1-111   26-0   1-19   4-60   0-286   1-19   3-4   4-60   0-286   1-19   4-60   0-286   1-112   26-9   0-83   3-07   0-376   1-115   27-5   0-80   2-92   0-368   1-109   23-6   1-06   4-48   0-314   1-099   23-7   1-04   4-37   0-326   1-106   25-9   0-76   2-94   0-434   1-106   25-9   0-76   2-94   0-434   1-106   25-9   1-00   4-12   0-355   1-00   27-2   1-00   4-12   0-355   1-00   27-2   1-00   27	us. Munaco i poca, og omer naporpassa, og omer naporpassa, som red	Same and the same former and the	1.117	28.1	1.08	3.85	0.333	1.19
1-112   26-9   0.83   3.07   0.876   1.115   27.5   0.80   2.92   0.368   1.099   23.6   1.06   4.48   0.314   0.89hate, and in   1.110   27.0   0.81   3.01   0.436   1.110   27.0   0.81   3.01   0.434   0.85   1.00   24.3   1.00   24.2   0.76   2.94   0.434   0.85   0.35   0.85   1.00   24.2   0.35   0.85   1.00   27.2   1.01   3.70   0.364   0.484   0.	Soda,	100 lbs. Sulphate Magnesia	1.111	26.0	1.19	4.60	0.286	1.10
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	OF 5	'92, '93, '94, and						
1.115   27.5   0.80   2.92   0.368     1.099   23.6   1.06   4.48   0.314     1.099   23.7   1.04   4.37   0.326     1.110   27.0   0.81   3.01   0.430     2.110   27.9   0.76   2.94   0.431     2.110   24.3   1.00   4.12   0.355     2.110   27.9   1.00   4.12   0.355     2.110   27.9   1.00   4.11   0.355     2.110   27.9   1.00   4.11   0.355     2.110   27.9   1.00   3.70   0.3064     3.110   3.10   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110   3.110   3.268     3.110     3.110	nanured in 1876, and each year since	: : : :	1.112	6.97	0.83	3.07	0.376	1.40
osphate, and in   1.099   23.7   1.04   4.37   0.314    1.109   23.7   1.04   4.37   0.326    1.110   27.0   0.81   3.01   0.430    5. Sulph. Mag.   1.106   25.9   0.76   2.94   0.434    5. Sulph. Mag.   1.00   24.3   1.00   4.12   0.355    5. Sulph. Mag.   1.099   23.8   1.00   4.21   0.364    6. Sulph. Mag.   1.013   27.2   1.01   3.70   0.306    7. Magnesia   1.108   25.8   1.15   4.45   0.268	nanured in 1882, and since. Previously Farmyard Manure (14 tons)		1.115	27.5	08.0	2-92	898.0	1.54
Soluph. Mag. 1-099 23.7 1-04 4.37 0-326 1-109 27-0 0-81 3-01 0-430 1-106 25-9 0-76 2-94 0-434 0-431 1-106 24 3-100 4-12 0-355 0-351 1-099 23.8 1-00 4-12 0-355 0-351 1-109 27-2 1-01 3-70 0-364 1-108 25-8 1-15 4-45 0-268	nyard Manure (14 tons) alone 1883 and since: previously 35 cwts, Superplic	oro otologo	660.T	0.62	90.T	4.49	0.014	CCT
1.110 27.0 0.81 3.01 0.430  5a. Sulph. Mag. 1.100 24 3 1.00 4.12 0.355  5b. Sulph. Mag. 1.09 23.8 1.00 4.12 0.365  5c. Sulph. Mag. 1.099 23.8 1.00 4.21 0.364  te Magnesia 1.108 25.8 1.15 4.45 0.268	nyard manure (14 tons) alone 1000 and since. In 1002, and previously, 93	ospuste, and	1.033	23.7	I · 04	4.37	0.356	1.38
s. Sulph. Mag. 1·106 25·9 0·76 2·94 0·434 bs. Sulph. Mag. 1·100 24 3 1·00 4·12 0·355 bs. Sulph. Mag. 1·099 23·8 1·00 4·21 0·364 te Magnesia. 1·108 25·8 1·15 4·45 0·268	lbs. Amnonium-salts (2)		1.110	27.0	0.81	3:01	0.430	1.59
Sulph. Soda, 100 lbs. Sulph. Mag. 1.100 24 3 1.00 4.12 0.355 Sulph. Soda, 100 lbs. Sulph. Mag. 1.099 27.2 1.00 4.21 0.864 1.118 27.2 1.01 3.70 0.307 nd 100 lbs. Sulphate Magnesia 1.108 25.8 1.15 4.45 0.268	lbs. Nitrate of Soda	: : : : :	1.106	25.9	92.0	2.94	0.434	1.68
Sulph. Soda, 100 lbs. Sulph. Mag. 1 .099 23.8 1 .00 4.21 0 .564 1 .101 8.70 0 .507 and 100 lbs. Sulphate Magnesia 1 .108 25.8 1 .15 4 .45 0 .268	lbs. Ammonium-salts, 3½ cwts. Superphos, 300 lbs. Sulph. Potash, 100 lbs. Sul	Soda, 100 lbs.	1.100	24 3	1.00	4.12	0.355	1.46
and 100 lbs. Sulphate Magnesia. 1.108 25.8 1.15 4.45 0.268	lbs. Nitrate of Soda, $3\frac{1}{2}$ owts. Superphos., 300 lbs. Sulph. Potash, 100 lbs Sul	Soda, 100 lbs. Sulph. Ma	1.099	200	1.00	4.21	0.364	1.53
	wts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and		1.108	25.8	1.15	4.45	0.268	1.04

104 )

weighed, each lot spread on its own Plot and ploughed

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Basic Slag. Solo lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia

Ammonium-salts, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Nitrate of Soda, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs. Sulph.

and previously, 550 lbs. Nitrate of Soda also

Nitrate of Soda

- 00 00 T G 9 C 8 C 5

550 lbs. 400 lbs. 550 lbs. 400 lbs.

Unmanured in 1876, and each year since.
Unmanured in 1882, and since. Previously
Farmyard Manure (14 tons) alone 1883 and

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Withered, not

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since: previously 3½ cwts. Superpnospnace and the since. In 1882, and previously, 3½ cwts. Superphosphate,

## EXPERIMENTS ON POTATOES. HOOS FIELD continued.

Below are given the particulars of the Manures and Produce, for the Twentyand the Produce, of the 20 prec-ding years, see pp. 88-9, 92-3, 96-7, and 100-1, The arrangement of the plots is precisely the same as for the 20 preceding potato crops. first, Twenty-second, Twenty-third, Twenty-fourth, and Twenty-fifth Seasons, For the Manures, description of Potatoes grown, and of the succeeding years, pp. 108-9. 1896, 1897, 1898, 1899 and 1900.

The manures are the same as for the crops of 1883, and since; excepting that for the (White); in 1897, and since, "Beauty of Hebron" (White). Rows 25 inches apart; 14 inches from plant to plant in the rows. of 1894 permanent division paths were laid out between crops of 1897, and since, Basic Slag has been used instead of Superphosphate. Descripin 1896, "Bruce" In the spring tion of Potato, plot and plot.

(Area under experiment, 2 acres.)

PRODUCE PER ACRE.	Tubers.	Good. Small. Diseased. TOTAL. Tops.	1 np, October 23-30.	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
	PLOTS. MANURES PER ACRE PER ANNUM.		TWENTY-FIRST SEASON, 1896. Potatoes planted, April 10. Crop taken up, October 23-30.	Unmanured in 1876, and each year since.  Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superplosphate also (1)  1881, and previously, 550 lbs. Nitrate of Soda also 400 lbs. Ammonium-salts (2) 550 lbs. Nitrate of Sola 400 lbs. Ammonium-salts, 3½ cwts. Superploss, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 550 lbs. Nitrate of Soda, 3½ cwts. Superploss, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 3½ cwts. Superphosphate  3½ cwts. Superphosphate, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia

	Withered, not	iot spread on its own Plot and ploughed in.		Withered, not	lot spread on its own Plot	and ploughed in.	1		Withered, not weighed, each lot spread on	its own Plot and ploughed			Withered, not weighed, each	its own Plot and ploughed	ġ	
		122		24.28.0 6.00	100	acia dang	18	1255	113	13,12	162	133	178 124	18 54 54 54 54 54 54 54 54 54 54 54 54 54	333	ist.
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4	0000	0000			# <b>*</b>	0000		2000			000	Description (	0 88 0	000	6000 000	1
9–13.	30 C 30	103 103 103 103 103	% % % % % % % % % % % % % % % % % % %	91 91 80 800 44	nion et	a chacka a chacka	04 C	-to c		2 44 00 1 2 034-1030-1		44.48		444		hospha
mber 9	0000	0000	pu	000		000	pu	000			000	00			000	oluble p
September	157 1 1 483	62 117 9 12	0 15# 0 9 August 2	0 11 12 12 13 13 13 13 13 13 13 13 13 13 13 13 13	118 7 151	151	I Jaqu	-pe.00	17	0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	124	181	6 <del>8</del>	133 198 173	Q 4 4	re, of
n up,	0000	0000	1 1 1 1 1		- 00	0 7 7 0	September	00:	۰ - ۱	0 11	100	00	က က		∞ <del></del>	or in
Crop taken up,	::::::::::::::::::::::::::::::::::::::	Mag.	ken u	:: :: (ii þa	Ĩ :	Mag.	S. au		ad in	Mag.	is::	: :	d in	.: Mag.	Mag.	oer cent
Cro	hate, a	Sulph.	nesia	ate, a		ulph.	Crop taken up.		ate, a	ulph.	ig: in	: :	ate, an	ulph.	ulph. 1  8	ing 37 perce.
and 22.	phosp	: 0 lbs. 3	fagne 8. 0	( (	: : :	1bs. 8	(TOI)	1:	dqsodo	1bs. 8	Magnesi	::	hosph	:: 1bs. S	lbs. S	f Comm
21 at	also (¹)		hate I	also ('	:::	da, 10 la, 100	ril 2.		Superi	la, 100	olate M		uperp	.: la, 100	a, 100 orte M	es, and monfs o
March	phate cwts.	ph. Sod	Sulp ed, M	phate ewts.	:::	ph. Sod	d, Ap		wts.	h. Sod	Sulpl		cwts. S	pos q	Sulph	hosphat ate Am
nted,	erphos aly, 3½	bs. Sul	100 lbs	 erphos	:::	s Sulp	plante	::	ξ, 3½ : :	Sulp	00 lbs.	: :	7, 34 (	Sulp	Sulp 0 Ths.	ineral p
es pla	ons) s. Sup evious	100 I	da, and 100 lbs. Sulphate Ma Poratoes planted, March 28.	ns) s. Supe	:::	100 Ibe	Potatoes planted, April 2,	(suc	revious	100 Ib	da, and 10	(S)	vious	100 Ib	and 10	itage m phate ar
Potatoes planted, March 21	Ummanured in 1882, and since. Previously Farmyard Manure (14 tons).  Farmyard Manure (14 tons) alone 1883 and since: previously 3½ cwts. Superphosphate also (1).  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, 1881, and previously, 550 lbs. Nitrate of Soda also	400 lbs. Animonium-satis (*) 550 lbs. Nitrate of Soda 400 lbs. Animonium-salts, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 550 lbs. Nitrate of Soda, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	400 lbs. Basic Slag, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia TWENTY-FOURTH SEASON, 1899. Poratoes planted, March 28. Crop	Unmanured in 1876, and each year since.  Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)  Farmyard Manure (14 tons) alone 1883 and since; previously 3½ cwts. Superphosphate also (1)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and	: : :	400 lbs. Ammonium-salts, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 550 lbs. Nitrate of Soda, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs Sulph. Soda, 100 lbs. Sulph. Mag. 400 lbs. Basic Slag Soda, 100 lbs. Sulph. Mag. 100 lbs. Sulph. Soda, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 100 lb	Pot	Unmanured in 1876, and each year since	ind pur : :	otash,		Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)	Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 34 cwts. Superphosphate, and 1881, and previously, 550 lbs. Nitrate of Soda also	400 lbs. Nitrate of Soda 440 lbs. Ammonium-salts, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag	400 lbs. Basic Slag. 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	(1) "Superphosphate of Lime," made from high percentage mineral phosphates, and containing 37 per cent, or more, of soluble phosphate (2) "Ammonium-salts"—in each case equal parts Sulphate and Muriate Ammonia of Commerce.
	fanure ously 1882,	alph. J	liphat	fanure ously 3 1882, a	:::	ph. Po	TWKNTY-FIFTH SEASON, 1900.	Lanure	882, a	lph. P.	lbs. Sulphate S	anure	882, a	iph. P	pn. Fo	om hig equal p
TWENTY-THIRD SEASON, 1898.	. 7 0	Ibs. Si	ulphate Potash, 100 lbs. Sulp TWENTY-FOURTH SEASON,	ard M previ	: : : 0: : :	lbs. Sul	ASON,	rard N	In 1	bs. Su	bs. Su	ard M	In 1	. : Su	s. Suij bs. Su	made fr
SEAS	Unmanured in 1882, and since. Previously Farmyar Farmyard Manure (14 tons) alone 1883 and since; previously Manure (14 tons) alone 1883 and since; previously, 550 lbs. Nitrate of Soda also	.: 5,300 300 1	100 tr	Farmy since;	1981, and previously, 500 lbs. Nitrate of Soda also 00 lbs. Ammonium-salts (*)	300 11	TH SE	Farm since:	since.	300 1	1001	Farmy	Farmyard Manure (14 tons) alone 1883 and since. 1881, and previously, 550 lbs. Nitrate of Soda also	300	1001	Lime," —to ea
THIRD	s and SS and Se of S	ic Sla	Potasi Y-FOU	ously 3 and	Z : :	Slag,	Y-FIF	ce ously	s and e of Se	c Slag	otash	ce	and and of Su	c Slag	otash,	hate of
TWENTY-THIRD	Previe 188 ne 188 Nitrat	s. Basic	ohate WENT	Previ Previ e 188	Nitrat	Basic	WKNT	Unmanured in 1876, and each year since Unmanured in 1882, and since. Previously Farmyard Manure (14 tons) alone 1883 and	ne 1883 Nitrat	s. Basi	hate I	Previo	ie 188: Nitrat	Basi	Dasic hate F	rphosp
Twi	ince. s) alor ns) alc 0 lbs.	400 lbs	Sul	ach ye ince. s) alor s) alor	3	400 lbs.	I,	ach ye ince.	o lbs.	100 lb	Sulp.	nce.	s) alor	100 lbs	Sulp.	Supe
and	and 4 14 ton 14 to 17, 55	oda, 4	300 Ibi	and and a lit ton	salts (	salts, ods, 40		and e	14 ton ily, 55 salts (	salts,	300 Tbs	and e	14 ton ly, 55(	States of	00 Ths	<b>₽</b> €
1876	nure (nure reviou	se of Sonium	Slag,	1876, 1882, nure ( nure (	mium e of S	Slag Slag	10,000	1876, 1882,	evione	nium-	Slag.	1876,	nure (	o of So	slag Slag, 3	
i post	red in March	Amm Amm Nitrad	Basic	red in red in red in rd Ma	and particular Ammo	Amme Nitrat Basic Pasic		red in red in d Ma	d Man	Nitrat Ammo Nitrat	Basic Basic	red in	d Man	Nitrat Ammo	Sasic Sasic Sasic S	
nmanı	nmann srmya rrmya 1881,	400 lbs. Ammonium-sait 550 lbs. Nitrate of Soda 400 lbs. Ammonium-sait 550 lbs. Nitrate of Soda,	0 1bs.	omanu omanu rrmya rrmya	400 lbs. Ammonium-salt 550 lbs. Nitrate of Soda	0 lbs.		manu manu rmya	Farmyard Manure (14 tons) 1881, and previously, 550 l	550 lbs. Nitrate of Soda 400 lbs. Ammonium-salt 550 lbs. Nitrate of Soda	0 lbs.	mann	rmyar [881, 8	550 lbs. Ammonium-salts 550 lbs. Nitrate of Soda 400 lbs. Ammonium-salts	lbs. I	
						70 A	-			-	-	222	E.	25 G	400	
E	(a) as + 3	00-00	10	- 01 to -41	rc 0	r & & &		- 67 69	4 6	9 K- 00	9 9	~ 010	<b>4</b> 1	091-0	901	
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EXPERIMENTS ON POTATOES.—HOOS FIELD—continued.—Summary of the Composition of the "Good" Tubers in the Twenty-first, Twenty For particulars of the composition in the first 90-1, 94-5, 98-9, and 102-3. second, Twenty-third, Twenty-fourth, and Twenty-fifth Scasons, 1896, 1897, 1898, 1899, and 1900. 20 years, 1876-1895. see pp.

An abstract of the analytical results obtained, illustrating the influence of different manners, and of different seasons, on the composition of Potatoes, is given below. The appecific gravity of the tubers is also given. In the tubers the dry matter, nitrogen, and ash have been determined; and in some cases complete analyses of the sak have been made. Besides the results obtained relating to the composition of the tubers themselves, the dry matter, the sugar, the nitrogen, and the ash, in the expressed juice have in many cases been determined; in some cases the amount of the nitrogen existing as albuminoids has been determined; and in some, complete analyses of the ash of the juice have been has been 'determined; and in some, complete analyses of the ash of the juice have been made. It may be remarked, that by far the larger proportion of both the mineral matter, and the nitrogen, is found to exist in the juice; and of the nitrogen in the juice, as a rule, not much more than half exists as albuminoids. In many cases, the small potatoes have been ubmitted to the same methods of analysis as the good potatoes. And in some cases, similar methods of examination have been applied to the still white, and also to the separated dis-With regard to these latter results, it may be approximately the normal amount of nitrogen, that of the discoloured portion contained very much less. On the other hand, the wasned or exhausted "mare" of the white portion, potatoes contained that whilst the juice of the white portion of the diseased portions of the diseased potatoes. observed, coloured

nitrogen. It was obvious that the juice had suffered exhaustion of much of both its nitrogen and its mineral matter, in the development of the fungus. There was an increased amount of sugar found in the diseased potatues, the result of diseased action, and it probably also conmore. The distribution of the mineral matter was much in the same order as that of the contained very little nitrogen, whilst that of the discoloured portion contained tributed to the development of the fungus.

analyses were not performed immediately after taking no the crops, but some time afterwards, in weighed samples which had been kept in a cool place for some weeks or months; and in the following only preliminary statement of results, no correction is made for any change from the original weight of the samples, the results being calculated upon the fresh weights The results given in the Table relate to the "good" potatoes only. In interpreting the figures it must be borne in mind that in each year, the seed was plauted on all the plots at the produce in some cases as in others, it is obvious that the crops would not each and all in the same condition of maturity when taken up. Then, again, the was severa same time, and that all the crops were taken up at the same time; and as there times as much produce in some cases as in others, it is obvious that the crop be at its best, and all in the same condition of maturity when taken up. as finally taken for analysis.

l			ລ	omposition	Composition of the "Good" Tubers.	od " Tubers.	100
D	MANURES PER ACRE, PER ANNUM.	Specific Gravity		Mineral Ma	Mineral Matter (Ash).	Nitrogen.	gen.
r Loris.	(For Produce, see pp. 104–5.)		Dry Matter.	In Fresh Tubers.	In Dry Matter.	In Fresh Tubers.	In Dry Matter.
	TWENTY-FIRST SEASON, 1896.						
-	Thronnered in 1876 and each west since	1.109	Per cent. 25.7	Per cent. 0.76	Per cent. 2 98	Per cent. 0.380	Per cent.
1 67	Farmy	1.109	25.5	92.0	2.96	0.376	1.47
က	Farmyard Manure (14 tous) alone 1883 and since: previously 3½ cwts. Superphosphate also (1)	1.096	22.0	66.0	4.49	0.339	1.54
4	Farmyard Minure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in)	1.090	21.6	86.0	4.53	0.322	1.49
10	1 and 1 between the control of the c	1.102	24.8	0.74	2.99	0.405	1.63
9 9	550 lbs. Nitrate of Soda	1.085	23.2	84.0	3.36	0 416	1.79
7	400 lbs. Ammonium-salts, 38 cwts. Superphos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	1.092	22.0	66.0	4.51	0.372	1.69
00	550 lbs. Nitrate of Soda, 34 cwts. Superplos., 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	1.095	21.5	96.0	4.46	0.356	1.65
6	38 cwts. Superplosplate	1.109	25.8	0.91	3.53	0.356	1.38
10	300 11	1.107	23.3	1.08	4.62	0.312	1.34
	TWENTY-SECOND SEASON, 1897.						
1	Unmanured in 1876, and each year since	1.100	23.7	0.74	3.13	0.344	1.45
CV	Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)	1.109	25.7	94.0	2.95	0.381	1.48
က	Farmyard Manure (14 tons) alone 1883 and since: previously 3½ owts. Superphosphate also (*)	1.101	23.4	0.97	4.14	698.0	1.58
4	[Farmyard Manure (14 tons) along 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in)	1.098	23.5	1.00	4.26	0.385	1.64
1 10	1 JSSI, and previously, 500 L08. Nitrate of Soda also	1.109	94.6	0.75	3.05	0.451	1.83
. e		1.103	24.5	0.73	2.96	0.475	1.94
7	Ammonium-salts, 400 lbs. Basic Slag, 300 lbs.	1.094	23.0	96-0	4.19	0.423	1.84
· 00	550 lbs. Nitrate of Soda, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	1.098	23.0	0.95	4-12	0.441	1.91
Ġ.	:	1.112	26.2	68-0	3.37	0.325	1.23
10	400 lbs. Basic Slag, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	1.108	25.2	1.06	4.21	0.294	1.17

0.70 3.16 0.345 0.70 2.84 0.354 0.92 4.20 0.368	_	3.06 4.98	0.93 4.16 0.403 0.78 3.24 0.326	4.30		0.74 2.96 0.349	4.57	3.27	3.17	_	4.47			4.63	*	3.44	4.86 4.79	0.84 3.73 0.347 1.05 4.70 0.398		3.16	0.73 2.94 0.377 0.98 4.39 0.363	4.51	3.22		4.36 3.49
	1.101 22.2		1.095 22.5 1.104 24.0	_	0 00	1.105 25.1 1.109 24.3		_	.105 25·3	1.103 24.4 1.109 25.0			1.090 21.9 1.099 23.6	1.089 20.2	_	-	_	1.098 22.6 1.100 22.4		-	1.105 24.9 $1.097 22.4$	26		.097 23.9 .094 22.4	106 22.4
Commanued in 1852, and ender since.  Unmanured in 1882, and since. Previously Farmyard Manure (14 tons)  Farmyard Manure (14 tons) alone 1883 and since. previously 3½ cwts. Superphosphate also (1)  Farmyard Manure (14 tons) alone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate also (1)	1881, and previously, 550 lbs. Nitrate of Soda also	sh, 100 lbs. Sulph. Soda,	400 lbs. Basic Slar. 300 lbs. Sulphate Potash, 100 lbs. Sulph. Actash, 100 lbs. Sulph. Basic Slar. 300 lbs. Sulphate Potash, 100 lbs. Sulphate Solvent Slar.	TWENTY-POURTH SEASON 1899	Unmanured in 1876, and each year since	ely Farmyard Manure (14 tons) nd since: previously 3½ cwts. Superphosphate also (1)	and	Ammonium-sults (*)	lph. Potash, 100 lbs. Sulph. Soda, 10	Basic Slag	ate Soda, and 100 lbs. Sulphate Magnesia	I WENTY-FIFTH SEASON, 1900.	The state of the s	'armyard Manure (14 tons) slone 1883 and since. In 1882, and previously, 3½ cwts. Superphosphate, and in)	400 lbs. Ammonium-sults (*)	90 lbs. Ammonium-salts, 400 lbs. Basic Slag. 300 lbs. Sulph. Potesh 100 lbs. St. 12, 100 ii. S. 100 lbs.	550 lbs. Nitrate of Soda, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag.	400 lbs. Basic Slag, 300 lbs. Sulphate Potash, 100 lbs. Sulphate Soda, and 100 lbs. Sulphate Magnesia	AVERAGE OF 5 SEASONS, 1896, '97, '98, '99, and 1900.		Farmyard Manure (14 tons) alone 1883 and since: previously 34 cwts. Superphosphate also (1).	1881, and previously, 550 lbs. Nitrate of Soda also	550 lbs. Nitrate of Soda	400 lbs. Ammonium-salts, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Soda, 100 lbs. Sulph. Mag. 550 lbs. Nitrate of Soda, 400 lbs. Basic Slag, 300 lbs. Sulph. Potash, 100 lbs. Sulph. Mag.	400 lbs. Basic Slag 300 lbs. Surhiote Potest, 100 lbs. Surhiote Potest, 100 lbs. Surhiote Potest, 100 lbs. Sair Slag 300 lbs. Surhiote Potest, 100 lbs. Science Slag 300 lbs. Sc

EXPERIENCE: ON POTATORS.—HOOS FIELD.)—continued.  Below are given the particular of the Mannes for the Twanty-citr Section, that the ercept of 1824, and since Easis Sig has been med instead of Supribles proved by the Mannes of Potatos grows, and the Twanty-citr Section, that the ercept of 1824, and since Easis Sig has been med instead of Supribles are received by the Mannes of Potatos grows, and the Twanty-citr Section of Potatos, Planty of Habron (While). Bows 25 incloses section of the Hooks is precisely the same as for the crops of 1835, and since see a for the crops of 1835, and since see a for the crops of 1835, and since see a for the crops of 1835, and since see a for the crops of 1835, and since see a for the crops of 1835, and since the same as for the crops of 1835, and since the same as for the crops of 1835, and since the same as for the crops of 1835, and since the same as for the crops of 1835, and since the same as for the crops of 1835, and since the same as for the crops of 1835, and since the same as for the crops of 1835, and since the same as for the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of the crops of 1835, and since the same of 1835, and since the same of 1835, an	of Superphos-	Торв.		
20 di	asic Slag has been used instead try of Hebron" (White). Ro a the rows.	PRODUCE PER ubers.	Tons. cvts.	
0	OOS FIELD—continued.  or the crops of 1897, and since, I Description of Potato, "Ben; 14 inches from plant to plant the spring of 1894 permanend plot.	Good.	rop taken up, osphate, and in) os. Sulph. Mag. bs. Sulph. Mag.	
EXPERIMENT  given the particulars of the Manures for the years, see pp. 88-49, 92-3, 96-7, 100-1, and 104- pen:, see pp. 88-49, 92-3, 96-7, 100-1, and 104- pen: of the plots is precisely the same as for the annures are the same as for the crops of 1883, and nured in 1882, and each year since  Twenty-sixth Season, 1  Season, 1  Twenty-sixth Season, 1  Season, 1  Twenty-sixth Season, 1  Tw	<u> </u>		danure (14 tons)  from (14 tons)  from (1822, and previously, 3½ cwts. Singh. Potssh, 100 lbs. Sulph. Soddlph. Potssh, 100 lbs. Sulph. Sodulph. Potssh, 100 lbs. Sulph. Sodulph. Potssh, 100 lbs. Sulph. Soluph. Solup	
given the parallele Manures, oyears, see pp. gement of the manures are the manured in 1876 and manure (11, and previous). A manonium ba. Nitrate of E. Basic Slag. ba. Basic Slag. ba. Basic Slag. ba. Basic Slag.	EXPERIMEN  ticulars of the Manures for the lescription of Potatoes grown, an 88-9, 92-3, 96-7, 100-1, and 104 plots is precisely the same as for the crops of 1883 as same as for the crops of 1883	MANURES PER A	, and each year since 14 tons) alone 1883 and since. In 14 tons) alone 1883 and since. In sly. 550 lbs. Nitrate of Soda also salts (*) Soda, 400 lbs. Basic Slag, 300 lbs. S 300 lbs. Sulpate Potash, 100 lbs. 8	
Below are 1901. For the arrange of t	low are given the par- For the Manures, d receding years, see pp. 8 te arrangement of the 1.			

