

Mammoth Long Red. From 4 to 6 lbs. of seed have been sown per acre, each year, in rows  $2\frac{1}{2}$  feet apart. In 1896 the mangels were sown 11th May, came up 19th May, and were pulled 14th October.

Two varieties of turnips were sown on the half plots devoted to these roots in 1889: 25 rows of Carter's Prize Winner, and 2 rows of Carter's Queen of Swedes; and in 1890, a single variety: Carter's Elephant Swede. In 1891, six varieties were sown; 6 rows of Lord Derby Swede, 4 of New Giant King, 3 of Imperial Swede, 6 of Champion Swede, 4 of Purple Top Swede, and 4 of East Lothian Swede. In 1892, the Improved Purple Top Swede only was sown, in 1893 and 1894 the Prize Purple Top Swede, in 1895 the Imperial Swede, and in 1896 the Prize Purple Top Swede. The land used for the turnips, which are usually sown later than the mangels, is allowed to stand after disc-harrowing or gang-ploughing, then cultivated once and ridged and rolled immediately before sowing. In 1896, the turnips were sown 12th June, came up 17th June, and were pulled 17th October. The crops of turnips have been much larger during the past season than the average of previous years, while in the case of the mangels about one half of the plots have given a larger yield than the average of the past and the other half a less return. The rotted manure has averaged better results than the fresh manure with both mangels and turnips.

EXPERIMENTS with Fertilizers on Roots; Plots of Mangels and Turnips  $\frac{1}{10}$ th acre each.

No. of Plot.	Fertilizers applied each Year.	AVERAGE YIELD FOR SEVEN YEARS.		8TH SEASON, 1896. VARIETIES.		AVERAGE YIELD FOR EIGHT YEARS.	
		Mangels, Weight of Roots.	Turnips, Weight of Roots.	East Half Plot.	West Half Plot.	Mangels, Weight, of Roots.	Turnips, Weight of Roots.
				Mangels, Long Red: Weight of Roots.	Turnips, Purple Top Swede: Weight of Roots.		
		Per Acre.	Per Acre.	Per Acre.	Per Acre.	Per Acre.	Per Acre.
		Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.	Tons. lbs.
1	Barn-yard manure, well rotted, 20 tons per acre. . . . .	21 1,586	12 137	26 1,300	24 1,320	22 800	13 1,285
2	Barn-yard manure, fresh, 20 tons p. ac. . . . .	21 683	13 153	24 1,970	23 1,840	21 1,594	14 864
3	Unmanured. . . . .	9 947	6 890	9 840	12 1,150	9 933	7 422
4	Mineral phosphate, untreated, finely ground, 1,000 lbs. per acre. . . . .	8 1,716	6 1,470	7 1,340	11 1,340	8 1,419	7 704
5	Mineral phosphate, untreated, finely ground, 1,000 lbs.; nitrate of soda, 250 lbs.; wood ashes, unleached, 1,000 lbs. per acre . . . . .	13 1,090	7 462	11 1,430	18 720	13 632	8 1,244
6	Barn-yard manure, partly rotted and actively fermenting, 12 tons per acre; mineral phosphate, untreated, finely ground, 1,000 lbs. per acre, composted together, intimately mixed and allowed to heat for several days before using. . . . .	17 1,699	11 304	19 1,670	20 930	18 196	12 632
7	Mineral phosphate, untreated, finely ground, 1,000 lbs.; sulphate of potash, 200 lbs. in 1889 and 1890, (substituted by muriate of potash, 250 lbs. in 1891 and subsequent years;) nitrate of soda, 200 lbs. per acre. . . . .	10 507	7 1,831	6 1,800	14 1,160	9 1,668	8 1,497
8	Mineral superphosphate, No. 1, 500 lbs.; sulphate of potash, 200 lbs. in 1889 and 1890, (substituted by muriate of potash, 250 lbs. in 1891 and subsequent years;) nitrate of soda, 200 lbs. per acre. . . . .	14 1,407	11 287	15 1,180	15 160	14 1,628	11 1,271
9	Mineral superphosphate, No. 1, 500 lbs. per acre. . . . .	9 1,268	8 362	10 1,880	12 1,930	9 1,594	8 1,558