

The difference between the richest and the poorest of these roots grown on the same soil and in the same season, is seen to be very considerable and can only be attributed to inherited qualities. Size of root and character of season may profoundly modify the composition of roots, but our experiments have shown that heredity is also a potent factor in influencing the feeding value of mangels. We may further cite the case of two well-known and distinct varieties—Gate Post and Yellow Globe—grown on the Experimental Farm, Ottawa.

DRY MATTER AND SUGAR IN GATE POST AND GIANT YELLOW GLOBE MANGELS.

Seasons of Growth.	GATE POST.			GIANT YELLOW GLOBE.				
	Average Weight of One root.		Dry Matter.	Sugar in Juice.	Average Weight of One Root.		Dry Matter.	Sugar in Juices.
	Lbs.	Oz.	p.c.	p.c.	Lbs.	Oz.	p.c.	p.c.
1900.....			11 14	6 15			8 19	2 64
1901.....	2	9	9 41	4 15	3	3	9 10	4 08
1902.....	3	2	13 00	9 39	3	9	10 24	5 24
1903.....	3	3	12 53	7 38	3	13	10 89	6 17
1904.....	2	14	12 64	7 62	2	13	9 24	5 26
1905.....	2	13	12 07	6 83	3	12	8 64	3 55
1906.....	2	2	12 90	6 59	1	8	12 73	6 45
1907.....	3	10	12 53	7 25	2	7	10 78	6 34
1908.....	1	11	12 02	4 94	2	4	10 66	4 47
1909.....	3	14	11 82	6 64	3	7	10 95	5 82
Average for 10 years.....			12 14	6 69			10 14	5 00

These facts serve to demonstrate the advisability of considering the composition as well as the yield and keeping quality in the selection of a variety.

#### *Sugar Mangels.*

When these roots were first introduced, about ten years ago, analysis showed that they were considerably richer in dry matter and sugar than were ordinary mangels, and, consequently, of much higher feeding value. This was especially true of the varieties originated and sent out by Vilmorin & Co., a firm that had made a specialty of breeding sugar beets. However, we have not for some years past been able to discover among the varieties of sugar mangels commonly found on the Canadian market any marked superiority when compared with the better mangels, such as Gate Post.

#### *Forage Sugar Beets.*

These, as a rule, are decidedly richer than mangels, but not so rich as the varieties especially grown for sugar production. Like in mangels and other roots, increase in size is usually concomitant with decrease in dry matter and sugar, but apart from this fact, varietal differences of considerable magnitude exist.