

Root Crop Variety Trials
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Growers throughout the Northeast are constantly searching for the next root crop variety that will yield abundant, high quality roots and disease-free tops. Three trials located in Eastern NY examined these qualities in 31 carrots, 18 beets, and 8 parsnips during the 2015 growing season.

Background information: All three trials were hosted by the Hudson Valley Farm Hub in Hurley, NY. This farm has fine sandy loam soils. Trials were all grown organically and with optimum fertility. Carrots were grown on ridges, while beets and parsnips were grown on flat ground (raised beds would have been preferred, but the farm did not have a raised bed maker). Crops were all seeded using two vacuum seeders; a MS4100 MaterMacc vacuum precision planter for the parsnips and beets and an Olimpia Gaspardo vacuum precision planter for the carrots.

Beet methods and results: Beets were seeded on June 26th for an anticipated harvest date of September 25th. At harvest, two 20-foot sections were hand-harvested from random sites along 350-foot rows. Beets were graded into three classes: Small marketable (3/4 inch to two inch diameter), large marketable (two inches or more diameter), and culls (physical damage such as cracking or mouse damage, or smaller than 3/4 inch diameter). The results of this harvest are presented in the table below. No extrapolations have been done with these numbers to yield per 100 feet or yield per acre because we were not able to harvest a third subsample, and extrapolations may yield misleading numbers. Yields shown are based on actual harvests from 40 row-feet of each variety.

Variety	Small Marketable Count	Small Marketable Weight (lb)	Large Marketable Count	Large Marketable Weight	Unmarketable Count	Unmarketable Weight	Total Weight	% Marketable
Avalanche	177	15.4	97	20.4	140	7.9	43.7	82%
Boldor	133	11.4	47	11.2	106	4.6	27.2	83%
Boro	204	20.1	180	52.7	54	2.9	75.7	96%
Chioggia Guardsmark	244	27.9	80	17	138	7.6	52.5	86%
Detroit Supreme	159	13.9	87	23.5	44	1.1	38.5	97%
Eagle	147	14.6	143	29.4	60	1.2	45.2	97%
Falcon	20	1.8	98	46.7	2	0.9	49.4	98%
HV Brilliant	24	1.5	84	26.2	14	0.4	28.1	99%
Merlin	197	17.3	82	19.2	118	3.6	40.1	91%
Pablo	206	17	161	32.1	69	1.8	50.9	96%
Red Ace	168	17.5	137	35.3	82	2.9	55.7	95%
Red Cloud	140	13.9	162	50.5	48	3.4	67.8	95%
Ruby Queen	112	8.2	176	46.2	60	1.4	55.8	97%
Rhonda	173	14.8	117	27.2	159	4.4	46.4	91%
Robin	12	0.9	56	23	10	2.6	26.5	90%
Subeto (60 ft)	175	17.3	165	29.9	52	1.5	48.7	97%
Touchstone Gold	99	9.8	106	30.8	45	3.1	43.7	93%
Vulture	140	15.7	64	26.3	91	3.4	45.4	93%

The size distribution of these beets was based on a relatively heavy seeding rate and no thinning. If a grower were to thin the crop, an initial crop of baby beets followed by a crop of normal sized beets could be expected, likely with a higher total yield. Our results were impacted by crowding.

Carrot methods and results:

Carrots were also seeded on June 26th for a September 25th harvest. Carrot germination was quite uniform and three subsamples were harvested per variety, allowing for more confident extrapolation of numbers.

Variety	Marketable Count	Marketable weight	Un-marketable count	Total count	Unmarket-able weight	% Marketable	Total yield (lb)	Yield/100'	Yield per acre at 17200 row feet/acre
Baltimore	153	33.45	136	289	15.2	69%	48.65	81.1	13946
Bejo 2976	129	18.1	161	290	13.3	58%	31.4	52.3	9001
Belgrado	282	51.55	297	579	28.5	64%	80.05	133.4	22948
Berlin	146	44.2	117	263	22.9	66%	67.1	111.8	19235
Carson	170	53.6	155	325	18.3	75%	71.9	119.8	20611
Coreless Amsterdam	115	18.5	198	313	23.4	44%	41.9	69.8	12011
Crofton	249	23.5	196	445	11.8	67%	35.3	58.8	10119
Cupal	226	51.3	130	356	14.4	78%	65.7	109.5	18834
Envy	299	78.05	135	434	21.6	78%	99.65	166.1	28566
Goldfinger	323	61.1	169	492	17.6	78%	78.7	131.2	22561
Ingot	222	42.1	285	507	27.6	60%	69.7	116.2	19981
Juliana	125	39.8	158	283	29.75	57%	69.55	115.9	19938
Magnum	390	58.3	329	719	25.2	70%	83.5	139.2	23937
Miami	168	45.2	99	267	18.2	71%	63.4	105.7	18175
Mokum	167	27	160	327	17.9	60%	44.9	74.8	12871
Napoli	181	46.4	163	344	28.85	62%	75.25	125.4	21572
Naval	245	52.8	171	416	27.5	66%	80.3	133.8	23019
Navarino	222	44.9	116	338	17.8	72%	62.7	104.5	17974
Nayarit	109	25.5	165	274	25.6	50%	51.1	85.2	14649
Nelson	212	41.2	117	329	15.4	73%	56.6	94.3	16225
Nelson	204	48.4	121	325	20.7	70%	69.1	115.2	19809
Nerja	175	28.65	159	334	20.05	59%	48.7	81.2	13961
Nevis	140	15.5	94	234	16.5	48%	32	53.3	9173
Newhall	104	24.4	135	239	22.6	52%	47	78.3	13473
Norwalk	149	22.35	150	299	12.05	65%	34.4	57.3	9861
Rainbow	129	35.6	90	219	18	66%	53.6	89.3	15365
Romance	250	56.3	137	387	21.2	73%	77.5	129.2	22217
Scarlett Nantes	391	10.8	270	661	17	39%	27.8	46.3	7969
Siroco	137	19.15	162	299	13.25	59%	32.4	54.0	9288
SV2384DL	206	46.3	165	371	28.41	62%	74.71	124.5	21417
Vitana	348	55.9	231	579	20.1	74%	76	126.7	21787
White Satin	130	35.1	146	276	28.5	55%	63.6	106.0	18232

Notably, the carrots were quite dry during July, and experienced a few heavy rainfalls in late August and September. This variability in precipitation helped show clear winners and losers in

cracking susceptibility. It is also worth noting that new cultivation equipment was not quite dialed in this season, resulting in soil being removed from ridge tops rather than a light hilling. This led to higher than average levels of greening, which was overlooked during the ratings. If the trial is repeated under ideal conditions, greening will be rated.

During a grower field meeting held on September 29th, samples of each variety were provided for tasting. The standouts for flavor from the trial were Baltimore, followed by Envy.

Additional information about the root crop trials, including pictures of each variety, are available on the Eastern NY Commercial Horticulture Website: <http://enych.cce.cornell.edu/>