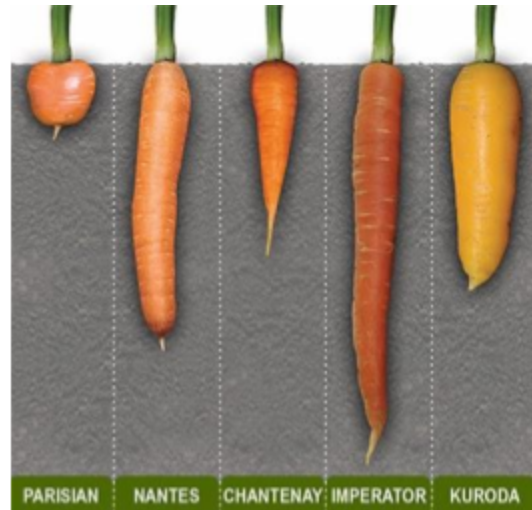


# 2018 Carrot Variety Trials

## Instructions for On-Farm Sites

### Background

We chose carrots for the 2017 BC Seed Trials due to several considerations. As a popular direct-market crop, they are important to BC diversified vegetable growers and therefore a goal for regional seed production. Storage carrots provide an opportunity to extend the market season and offer local product through the late fall and winter. Nantes carrots, which are cylindrical with blunt tips (see illustration), were chosen because of their storage capacity and good flavour as well as a perceived need for better OP varieties in this carrot type. In 2018 we are expanding the BC Seed Trials nationally to include sites in Quebec, Ontario, and the Maritimes.



Source: Johnny's Selected Seeds

Although Pacific Northwest climates are generally favorable to carrot seed production, this crop is challenging to grow in many parts of BC due to the presence of the common weed Queen Anne's lace (aka wild carrot) which cross-pollinates freely with domesticated carrots. FarmFolk CityFolk, in partnership with the University of Manitoba, has been conducting research into the feasibility of producing carrot seed in enclosures to prevent cross-pollination. This carrot variety trial will contribute to this existing project to develop carrot seed production in BC. Visit the following webpages for more information about the carrot seed project:

Carrot Seed Report: <http://www.bcseeds.org/carrot-seed-report-2014/>

Project blog: <http://www.bcseeds.org/category/carrot-seed/>

BC farmers identified carrots for storage as a good candidate for the BC Seed Trials. Growers in Eastern Canada may also find benefit in this selection of carrots for storage and may further benefit from identifying other traits of interest for which they can evaluate from this selection.

Your main contact for the National and BC Seed Trials is the Bauta Coordinator for your region:

<b>BC:</b> Chris Thoreau, <a href="mailto:chris@farmfolkcityfolk.ca">chris@farmfolkcityfolk.ca</a>	<b>Quebec:</b> Hugo Martorell, <a href="mailto:hmartorell@usc-canada.org">hmartorell@usc-canada.org</a>
<b>Ontario:</b> Aabir Dey, <a href="mailto:adey@usc-canada.org">adey@usc-canada.org</a>	<b>Maritimes:</b> Steph Hughes, <a href="mailto:seed@acornorganic.org">seed@acornorganic.org</a>

## Farms Growing Carrot Trials in 2018

	Farmer(s)	Farm Name	Location	Email
1	Mel Sylvestre	UBC Farm	Vancouver	sylvestre.melanie@ubc.ca
2	Foster Richardson	Hill Down Farm	Cobble Hill	fostertheagrarian@gmail.com
3	Serena Black	Northern Farm Products	Prince George	sblack@industrialforestry.ca
4	Bob and Char Sieffert	Lazo-Tyee Farm	Comox	lazo-tyee.sieffert@shaw.ca
5	DeLisa Lewis	Green Fire Farm	Cobble Hill	delisa@greenfirefarm.ca
6	Dan Oostenbrink	Local Harvest	Chilliwack	doostenbrink@gmail.com
7	Renee Prasad	Wisbey Veggies	Chilliwack	Renee.Prasad@ufv.ca
8	Jen Cody & Craig Evans	Growing Opportunities	Nanaimo	jenandbearit@gmail.com
9	Kaleigh Barton	Heavenly Roots	Salt Spring	kaleigh.barton@gmail.com
10	Sarah Martel	4 Elements Farm	Westwold	sarahmartel@gmail.com
11	Jon and Russ Alcock	Sunshine Farm	Kelowna	info@sunshinefarm.net
12	Torin Boyle	KPU Orchard Garden	Richmond	torin.boyle@kpu.ca
13	Julie Fletcher	Saanich Organics	Saanich	admin@saanichorganics.com
14	Elaine Spearing	West Enderby Farm	Enderby	elaine-s@telus.net
15	Tiffany Traverse		Progress	t.traverse@gmail.com
16	Mathieu Roy	La Récolte de la Rouge	Quebec	info@larecoltedelarouge.com
17	Daniel Brisebois	Ferme Tourne-Sol	Quebec	daniel@fermetournesol.qc.ca
18	Christina Laterreur	Ferme les Nues Mains	Quebec	info@lesnuesmains.com
19	Caroline Poirier	Ferme Croque Saison	Quebec	croque.saisons@gmail.com
20	Sam Oslund	Santropol Farm	Quebec	samueljao@gmail.com
21	Arahm Savoie & Lea Charest	La Ferme Hantée	Quebec	leacharest418@hotmail.com
22	Rebecca Ivanoff	Everdale	Ontario	rebecca.ivanoff@gmail.com
23	Annie Richard	Kitchen Table Seed House	Ontario	annie.richard99@gmail.com
24	Chris DeVries	Common Ground Farm	Ontario	ca2devri@yahoo.com
25	Evalisa McIlfaterick	Root Cellar Gardens	Ontario	rootcellargardens@tbaytel.net
26	Katrina McQuail	Meeting Place Org. Farm	Ontario	meetingplaceorganicfarm@gmail.com
27	Brent Preston	The New Farm	Ontario	brent@thenewfarm.ca
28	Graham Corbett	Fiddlefoot Farm	Ontario	fiddlefootfarm@gmail.com
29	Jordan Bourchad	Just Food Farm	Ontario	seeds@justfood.ca
30	Jeremy Pitchford	Howling Mountain Farm	Maritimes	jeremy.pitchford@gmail.com
31	Gilberte Doelle	Wild Rose Organic Farm	Maritimes	gilbertewrf@eastlink.ca
32	Renata Thibitout	Mile Hill Farms	Ontario	renata@milehillfarms.ca
33	Cory Eichman	Saugeen River CSA	Ontario	saugeenrivercsa@gmail.com

## Varieties Included

The 2018 Carrot Variety Trials include 14 varieties of carrots, all of which will be grown in a replicated trial (3 plots per variety) at the UBC Farm and Wisbey Veggies. In order to keep on-farm trials at a manageable size, participating farms are receiving a subset of 9 (Set A) or 10 (Set B) varieties, including 5 varieties that will be grown at all farm sites while the other varieties will vary between farms. **Your seed pack sheet will list the varieties included for your farm, with “code names” only to ensure a blind trial.**

### Full Variety List for 2018

Variety	Source	Germ %	Sowing*** - Seeds/ft	Certification	Planted at
Bolero F1	Osborne	90	22	Conventional	UBC + all farms
Dolciva	High Mowing	80	25	Organic	UBC + all farms
Scarlet Nantes	High Mowing	84	24	Organic	UBC + all farms
Nash's Nantes - BC	BC Eco Seed Co-op	82	24	Organic	UBC + all farms
Muscade	Gourmet International	85	24	Conventional	UBC + all farms
Rumba - BCESC	BC Eco Seed Co-op	78	26	Organic	UBC + ½ of farms
Nantes di Chioggia	Seeds from Italy	65	31	Conventional	UBC + ½ of farms
Touchon	Vesey's	83**	24	Conventional	UBC + ½ of farms
Berlicumer	Full Circle Seeds	83**	24	Organic	UBC + ½ of farms
Nantes Prima	Gourmet Seeds	83**	24	Conventional	UBC + ½ of farms
Berlicumer	Salt Spring Seeds	83**	24	Organic	UBC + ½ of farms
Dan's Nantes*	Salt Spring Seeds	83**	24	Organic	UBC + ½ of farms
Nash's Nantes	Nash Huber	83**	24	Organic	UBC + ½ of farms
Rumba - Nash	Fedco	83**	24	Organic	UBC + ½ of farms

\*Please note this is a different nantes than received from Salt Spring Seeds in 2017

\*\* These varieties did not have germ rate listed and were given an average germ rate based on the rest of the varieties - not including Muscade and Nantes de Chioggia, which arrived later.

\*\*\*The seeding rate given is based on each variety's germination rate and a 20 seeds/foot reference sowing rate to achieve “uniform” emergence among the varieties.

## Planting and Cultivation Recommendations

The table below provides *suggestions only* based on practices at the UBC Farm. Use it if you are not sure how to plant the carrots and if these suggestions make sense for your farm. **The trial should be grown as you would normally grow carrots for a storage crop, including your normal bed and row spacing.** Please record your planting dates, spacing, and other cultivation practices on the worksheet at the end of this document.

<b>Approximate planting dates for BC</b>	<ul style="list-style-type: none"> <li>• Mid-June to early July depending on weather conditions and your normal planting dates for storage carrots.</li> <li>• UBC Farm seeds carrots for storage around the 3rd week of June.</li> </ul>
<b>Plot size per variety</b>	<ul style="list-style-type: none"> <li>• Plant 12 row-feet (3.7m) of each variety. This can be divided between 2 rows (6' each) or 3 rows (4' each).</li> <li>• Plant 2 plots of CA-01, the check variety.</li> </ul>
<b>Row and bed spacing</b>	<ul style="list-style-type: none"> <li>• At UBC Farm we plant 2 rows/bed, with 14" between rows.</li> <li>• Bed width may vary depending on tillage methods; at the UBC farm beds are 3.67 ft center-to-center.</li> <li>• We suggest no smaller than 10" (25 cm) between-row spacing, unless you have had previous success this way.</li> </ul>
<b>Seeding rate and thinning</b>	<ul style="list-style-type: none"> <li>• <b>Plant the contents of one entire seed packet in each plot, distributing the seeds as evenly as possible.</b> The number of seeds in each packets has been adjusted according to the germinate rate, so varieties with lower germ rates will have more seeds/packet.</li> <li>• You may choose whether or not to thin the carrot trial. If thinning, thin to 1" (2.5cm).</li> <li>• Please record whether carrots were thinned, as well as other practices such as selective harvest of baby carrots in crop notes.</li> </ul>
<b>Evaluation</b>	<ul style="list-style-type: none"> <li>• 3-4 weeks after planting for seedling vigour; at maturity; and for storage or field holding in fall/winter.</li> </ul>
<b>Days to harvest</b>	<ul style="list-style-type: none"> <li>• 100-120 days depending on weather conditions and your judgement.</li> </ul>
<b>Weeding and rust fly</b>	<ul style="list-style-type: none"> <li>• If desired, you may use row cover to prevent carrot rust fly damage. Regular observations should be conducted for carrot rust fly appearance.</li> <li>• Use flame weeding if it is part of your normal management practices.</li> </ul>

## How to Arrange the Trial

The trial arrangement is flexible as long as you plant a total of 12 row-feet per variety, and 2 plots of 12 row-feet each of CA-01. 12 row feet could be planted in a single row or in multiple side-by-side rows in a bed. Please observe these best practices to the extent possible:

- Plots may be distributed in multiple side-by-side beds or planted in one bed.
- Avoid the edge of the field and the end of the bed when finding a place for the trial, as well as any areas with known soil, shade or irrigation differences that would affect some plots more than others.
- If possible, plant the trial in a spot where it has the same crop on either side of it.
- Create your own random order for the varieties, either by drawing variety names out of a pile or randomly choosing which flat to transplant next.
- **Distribute the check plots (CA-01) through the trial so that they are not all next to each other.**
- Use stakes to label the plots AND draw a field map showing the order and location of varieties. This serves as a backup in case the stakes get lost!



*At UBC Farm, carrots are planted in 2 rows of 6' each with a label at the head of each row. The label has the variety code on the front and the plot number (shown here) in the back. But even with good labeling a layout map is crucial in case stakes go missing!*

## Evaluation

On-farm evaluation will consist of rating the varieties according to several traits and writing your observations. We ask that you evaluate the carrots at a few points during the season, as outlined below.

<b>Time window</b>	<b>Evaluation/Record</b>	<b>Worksheet</b>
At seeding	Record date	Crop Information Worksheet, last page of this document
Throughout season	Record cropping practices including thinning, fertilizer/pesticide applications, row spacing, planting and harvest dates, etc.	Crop Information Worksheet, last page of this document
3-4 weeks after seeding	Germination/vigour - notes only, no rating	Early Season Worksheet
Several times mid-season	Note presence carrot rust fly and any other pests or diseases	Early Season Worksheet
At harvest	Notes and rating on key characteristics	Harvest Evaluation Worksheet
After harvest	Storage/overwintering notes	To be determined

## 2018 Carrot Variety Trials

### Crop Management, Disease, and Pest Records

Farm Name: \_\_\_\_\_

Contact Person(s): \_\_\_\_\_

*Please use the back of this page for other notes, and to draw a field map.*

<b>Planting Date</b>	
<b>Rows planted per bed</b>	
<b>Between-row Spacing</b>	
<b>Thinning</b> (Were carrots thinned? Note any selective harvesting/harvest thinning. Did harvest thinning yield marketable baby carrots?)	
<b>Fertilizer applications</b> (rate, amount, and date)	
<b>Other products used</b> (rate, amount, purpose, date)	