

Performance of Carrot and Broccoli Cultivars from Organic Seed



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Organic Seed

- Section 5.3.1 of the Canadian Organic Standard requires the use of organic seed
- Although the supply is growing, organic seed is not available for all cultivars
- Challenging and expensive to produce seed for hybrids & biennial crops
- Farmers may be hesitant to choose a new cultivar over a proven favourite

Project Goal

- To identify the best carrot and broccoli cultivars available as organic seed for Maritime producers

Trial Design

	Broccoli	Carrot
<i>Plantings</i>	2 - summer and fall	1
<i>Sites</i>	3	4 (2006) and 5 (2007)
<i>Conventional Standards</i>	Early Dividend F1 and Arcadia F1	Napoli F1 and Neptune F1
<i>Organic Cultivars</i>	6	14
<i>Harvests</i>	3-5 per cultivar	1 per cultivar
<i>Means Comparison</i>	Tukey-Kramer	LS Means

Broccoli Trial Setup



- Planting density of 2-3 sq ft, depending on site
- Farmers followed their normal pest control and fertility practices
- Assessed yield parameters, head and stem diameter, head shape, bud size and evenness

Broccoli Yield

Significant differences ($P=0.001$) in yield and head size were observed between cultivars



Organic



Conventional

Broccoli Results

- Conventional standards had larger head diameter and smaller stem diameter than organic hybrids
- Belstar F1 - Crown cut variety

← Calabrese Green Sprouting
(Agrestal)



DeCicco (Johnny's) →



← Waltham 29 (William Dam)

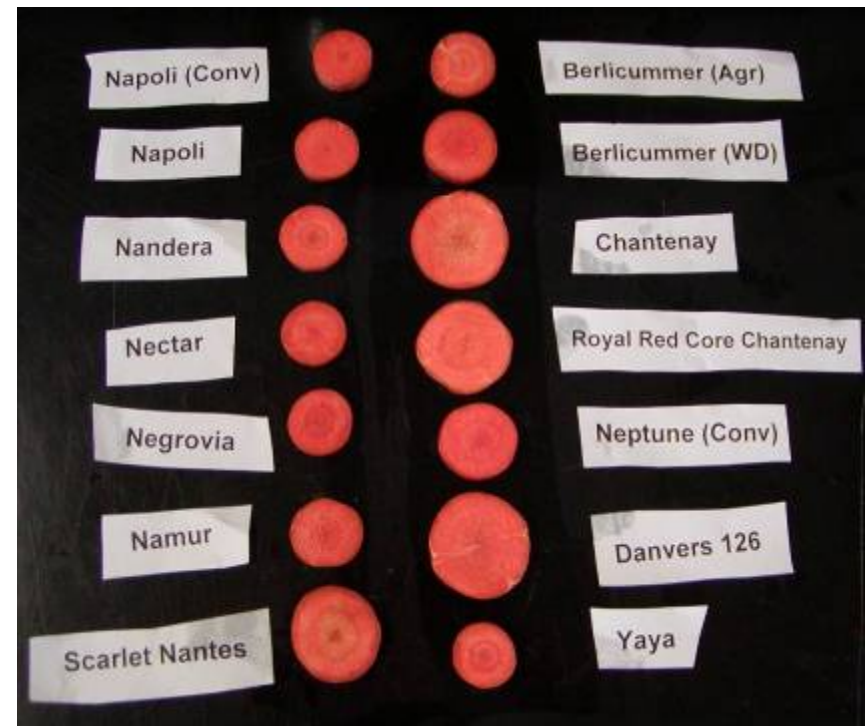
Carrot Trial Setup



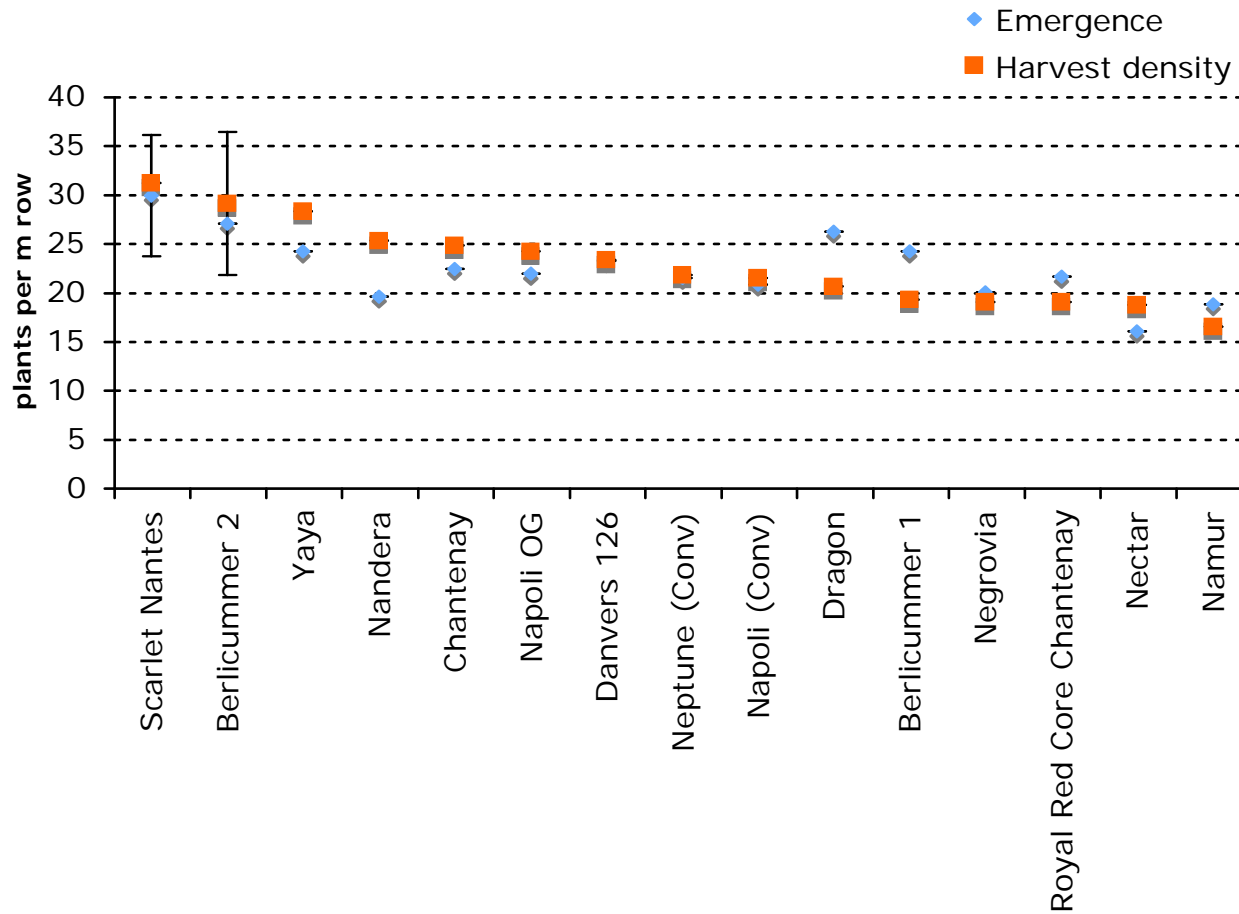
- Wide range of varieties
- Early & late harvest dates
- 2-m yield sample harvested from 10-m row
- Carrots were graded and sorted by size-class, measured length and root size, insect damage, aster yellows

Carrot Results

- No differences in yield between varieties
- Most performed as well as the conventional standards (Neptune and Napoli)
- Low establishment density linked to use of push seeder (Earthway), which affected yield



Carrot Density



Carrot Yield



- Highest marketable yield (not significant)
- Carrots compensated for density by increased size

How do they taste?

- Four taste tests for raw carrot conducted at different Farmers' Markets across the Maritimes
- Carrots tested were from four different farms
- Each taster ranked 6 carrot cultivars



PEI Taste test 2007 (credit S. MacKinnon)

The Verdict!



- Yaya (nantes type, F1, available from William Dam) was the overall favourite
- Also scoring high: Chantenay, Napoli (organic seed) and Negrovia

Acknowledgements

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