



2010 Organic Pea Variety Trial Results

The following tables present the results of organic pea variety trials that took place on research stations and cooperating farms in Washington, Oregon, Wisconsin, Minnesota, and New York in 2010. These trials were part of the USDA-OREI funded project "Northern Organic Variety Improvement Collaborative". Trials will continue in 2011, 2012, and 2013.

Detailed descriptions of the trial methods and rating systems are listed after the results tables.



Table 1: NOVIC 2010 Washington Pea Data

Variety Name	Marketable Weight Harvest 1 (kg)	Marketable Weight Harvest 2 (kg)	Marketable Weight Harvest 3 (kg)	Pod Length (cm)	String Length (cm)	Flavor (1-5)	Tenderness (1-5)	Pod Straightness (1-5)	Trellising (1-5)
Cascadia	0.16 ab	0.24 a	0.27 a	7.16 bc	4.84 a	2.83 a	3.50 a	3.17 a	3.00 a
OSP II	0.50 a	0.32 a	0.69 a	9.52 a	6.97 a	2.83 a	3.50 a	3.17 a	2.33 a
S1423 OSU	0.36 ab	0.41 a	0.56 a	7.23 bc	6.48 a	3.17 a	2.83 a	3.33 a	2.33 a
S1430 OSU	0.23 ab	0.52 a	0.29 a	7.25 bc	5.88 a	3.33 a	3.00 a	3.50 a	3.00 a
S1431 OSU	0.29 ab	0.52 a	0.49 a	9.06 ab	6.33 a	2.33 a	2.67 a	3.33 a	3.17 a
Sugar Ann	0.08 b	0.20 a	0.18 a	5.92 c	5.61 a	2.60 a	2.20 a	2.40 a	3.00 a
Sugar Daddy	0.05 b	0.19 a	0.16 a	7.62 abc	5.80 a	2.67 a	2.78 a	2.88 a	2.89 a
Sugar Sprint	0.19 ab	0.16 a	0.26 a	7.47 abc	5.50 a	2.67 a	3.40 a	4.00 a	3.33 a
Super Sugar Snap	0.18 ab	0.50 a	0.36 a	7.74 abc	6.99 a	3.29 a	3.56 a	3.67 a	3.11 a

Trait scores are colored on a spectrum with green being best and red being worst. Letters after the scores represent groups of varieties whose means are not significantly different for that trait. In other words, all the varieties which have a score with an "a" after the number have essentially the same score for that trait. For more information about what the scores mean and how they were measured, please see the protocols at the end of this document.

Table 2: NOVIC 2010 Oregon Pea Data

Variety Name	Marketable Weight - Harvest 1 (kg)	Marketable Weight - Harvest 2 (kg)	Marketable Weight - Harvest 3 (kg)	Pod Length (cm)	String Length (cm)	Flavor (1-5)	Tenderness (1-5)	Pod Straightness (1-5)	Trellising (1-5)	Pea Enation Virus Resistance (1-5)	Fusarium Resistance (1-5)
Cascadia	0.05 ab	0.06 b	0.10 a	7.50 b	5.60 a	2.67 a	4.00 a	3.00 a	4.40 a	4.50 a	4.25 a
OSP II	0.27 ab	0.17 ab	0.39 a	9.05 ab	7.49 a	4.20 a	4.40 a	2.80 a	2.50 a	5.00 a	4.20 a
S1423 OSU	0.29 a	0.36 ab	0.70 a	7.90 b	6.84 a	3.20 a	3.40 a	3.60 a	3.50 a	4.20 a	4.20 a
S1430 OSU	0.15 ab	0.12 ab	0.16 a	7.90 b	6.90 a	4.40 a	3.60 a	3.20 a	4.00 a	4.40 a	4.00 a
S1431 OSU	0.13 ab	0.49 a	0.72 a	9.76 a	6.75 a	3.60 a	4.60 a	3.40 a	4.40 a	4.80 a	4.60 a
Sugar Ann	0.00 b	0.24 ab	0.17 a	NA NA	NA NA	NA NA	NA NA	NA NA	3.60 a	1.00 b	3.67 a
Sugar Daddy	0.00 b	0.00 b	0.00 a	NA NA	NA NA	NA NA	NA NA	NA NA	3.50 a	1.75 b	4.00 a
Sugar Sprint	0.00 b	0.08 ab	0.25 a	NA NA	NA NA	NA NA	NA NA	NA NA	4.00 a	2.00 b	3.50 a
Super Sugar Snap	0.06 ab	0.05 b	0.24 a	7.79 b	6.52 a	4.00 a	4.40 a	4.20 a	4.00 a	1.40 b	3.60 a

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Table 3: NOVIC 2010 Wisconsin Pea Data

Variety Name	Marketable Weight - Harvest 1 (kg)	Marketable Weight - Harvest 2 (kg)	Pod Length (cm)	String Length (cm)	Flavor (1-5)	Tenderness (1-5)	Pod Straightness (1-5)	Trellising (1-5)
Cascadia	0.06 b	0.19 ab	6.66 c	6.29 a	4.00 a	3.00 a	3.67 a	3.00 ab
OSP II	0.22 a	0.37 a	9.10 a	6.31 a	3.33 a	4.00 a	4.00 a	3.33 ab
S1423 OSU	0.12 ab	0.37 a	7.67 abc	7.26 a	2.67 a	2.67 a	3.33 a	2.33 ab
S1430 OSU	0.13 ab	0.32 ab	7.32 bc	6.58 a	3.00 a	3.00 a	3.33 a	4.33 a
S1431 OSU	0.10 ab	0.27 ab	8.72 ab	5.57 a	4.00 a	3.50 a	4.00 a	4.00 ab
Sugar Ann	0.03 b	0.02 b	4.60 d	5.25 a	2.50 a	2.67 a	3.00 a	1.50 b
Sugar Daddy	0.02 b	0.00 b	NA NA	NA NA	NA NA	NA NA	NA NA	2.50 ab
Sugar Sprint	0.03 b	0.03 b	6.42 c	1.91 b	3.67 a	4.00 a	3.67 a	2.67 ab
Super Sugar Snap	0.09 ab	0.39 a	6.99 c	6.80 a	2.67 a	3.67 a	4.33 a	4.00 ab

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Table 4: NOVIC 2010 New York Pea Data

Variety Name	Marketable Weight - Harvest 1 (kg)	Pod Length (cm)	String Length (cm)	Flavor (1-5)	Tenderness (1-5)	Pod Straightness (1-5)	Trellising (1-5)	Mildew Resistance (1-5)	Aphid Resistance (1-5)
Alaska (Bear Creek)	0.03 a	6.00 ef	NA NA	3.00 a	NA NA	4.00 a	4.00 ab	4.00 a	3.00 a
Alaska (Extra Early)	0.03 a	6.10 def	NA NA	2.00 a	NA NA	4.00 a	4.00 ab	4.00 a	2.00 a
Alderman Tall Telephone	0.09 a	9.90 a	NA NA	3.00 a	NA NA	4.00 a	4.00 ab	4.00 a	4.00 a
Blauschokker	0.03 a	7.80 abcde	NA NA	4.00 a	NA NA	4.00 a	3.00 ab	4.00 a	4.00 a
British Wonder	0.05 a	6.45 cdef	NA NA	3.00 a	NA NA	4.00 a	4.00 ab	4.00 a	2.00 a
Canoe	0.09 a	10.05 a	NA NA	5.00 a	NA NA	5.00 a	5.00 a	4.00 a	4.00 a
Carouby de Maussane	0.14 a	8.85 ab	3.50 abc	5.00 a	4.00 a	4.00 a	3.00 ab	4.00 a	2.00 a
Cascadia	0.08 a	6.68 bcdef	4.22 abc	4.00 a	3.67 a	2.67 a	2.67 ab	2.00 a	3.33 a
Caselode	0.17 a	7.10 bcdef	NA NA	5.00 a	NA NA	4.00 a	5.00 a	4.00 a	3.00 a
Chinese Snow	0.04 a	8.70 abc	3.90 abc	2.00 a	2.00 a	3.00 a	3.00 ab	4.00 a	3.00 a
Coral	0.10 a	7.20 bcdef	NA NA	5.00 a	NA NA	4.00 a	3.00 ab	4.00 a	3.00 a
Corne de Belier	0.06 a	8.65 abc	5.30 ab	4.00 a	3.00 a	4.00 a	3.00 ab	4.00 a	3.00 a
Dark Green Perfection	0.06 a	7.40 bcdef	NA NA	4.00 a	NA NA	4.00 a	2.00 ab	4.00 a	4.00 a
De Grace	0.05 a	5.05 f	3.02 abc	2.00 a	2.00 a	5.00 a	3.00 ab	4.00 a	3.00 a
Dual Super	0.07 a	8.45 abcd	NA NA	4.00 a	NA NA	4.00 a	3.00 ab	4.00 a	3.00 a
Dwarf White Snow	0.07 a	6.50 bcdef	5.80 a	4.00 a	3.00 a	4.00 a	3.00 ab	4.00 a	4.00 a
OSP II	0.11 a	7.78 abcde	1.50 c	3.33 a	3.33 a	4.67 a	3.67 ab	2.00 a	3.33 a
S1423 OSU	0.09 a	6.40 cdef	1.65 bc	2.33 a	3.00 a	2.67 a	3.00 ab	2.00 a	3.67 a

Table 4: (continued)

Variety Name	Marketable Pod Weight - Length Harvest 1 (kg)	Pod Length (cm)	String Length (cm)	Flavor (1-5)	Tenderness (1-5)	Pod Straightness (1-5)	Trellising (1-5)	Mildew Resistance (1-5)	Aphid Resistance (1-5)
S1430 OSU	0.18 a	7.27 bcdef	2.32 abc	3.00 a	3.00 a	2.67 a	4.67 ab	2.00 a	3.33 a
S1431 OSU	0.10 a	8.00 abcde	1.28 c	3.00 a	3.33 a	3.67 a	4.33 ab	2.00 a	3.67 a
Sugar Ann	0.05 a	6.60 bcdef	4.43 abc	4.00 a	3.67 a	3.00 a	3.67 ab	2.00 a	3.33 a
Sugar Daddy	0.03 a	6.12 def	1.70 bc	3.00 a	2.67 a	2.33 a	1.67 b	3.00 a	3.33 a
Sugar Sprint	0.05 a	6.75 bcdef	0.93 c	2.67 a	3.33 a	4.00 a	2.50 ab	2.50 a	3.00 a
Super Sugar Snap	0.10 a	6.99 bcdef	4.62 abc	3.67 a	3.67 a	3.83 a	4.67 ab	2.50 a	3.33 a

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NOVIC Pea Trialing Guide

Peas should be sown early July to maximize ability to observe resistance to heat stress. Peas are typically a cool season crop and stringless snaps are especially sensitive. Seeds should be spaced 1-3 inches apart within double rows themselves spaced 6-8 inches apart with a trellis down the middle. For seed with good germination, each replicate will consist of 40 seed, while more seed will be needed for cultivars with poor germination. Suggested seed spacing and number will be provided for each cultivar so that the final stand of plants in each plot is comparable.

Percent germination is recorded after 2 weeks and seedlings are thinned to achieve a stand of 34 plants. Data and pods from the 4 plants on each corner of the rep are discarded in all future activities.

Harvest pods weekly, grade as marketable and unmarketable and weigh and count each group. Pods are considered harvestable when pods are plump and berries inside pods are moderately to fully developed and sweet, but not yet have become starchy. Note date of first harvest for a plot, sample a subset of several pods and rate the overall subset as follows:

Pod length Measure length of pods in subsample (recording length individually) and take average.

Stringlessness For each pod in subsample, pull string and measure length. Stringlessness is quantified as the ratio of string to total pod length.

Flavor	5	intense, good pea flavor
	4	
	3	acceptable pea flavor
	2	
	1	flavorless
	x	distracting off-flavor, can be combined with numerical rating
Tenderness	5	very tender pod, chews quickly
	4	
	3	moderately tender, slightly fibrous but swallowed
	2	
	1	tough pod, much fiber remains in mouth that cannot be chewed
Pod straightness	5	Pods straight
	4	
	3	Pods slightly curved
	2	
	1	Pods strongly curved (fish hooks)

Rate Plant form 1 month after sowing

Trellising	5	plants find trellis and grow up it with essentially no assistance
	4	
	3	plants remain on trellis with initial grower training
	2	
	1	

Pest and disease ratings are scored upon first observation and weekly thereafter in terms of the plot overall

Mildew	5	no disease
	4	
	3	mildew on plant, but remains productive
	2	
	1	
Aphid	5	virtually no aphids in plot
	4	
	3	aphids as common as elsewhere in field
	2	
	1	
Foot rot (Fusarium wilt?)	5	Plant green down to soil
	4	
	3	Stem and foliage browning $\frac{1}{4}$ way up plant
	2	
	1	
Pea Enation Mosaic Virus		
	5	No virus present
	4	
	3	half of the plants in the plot infected
	2	
	1	