

2020 Pea Variety Trial

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Introduction: Very little work has been done to explore either varieties or growing techniques for fresh market peas in the last decade, though there have been both breeding advances and shifts in growing technique as the use of high tunnels has become more prevalent. This trial seeks to explore emerging varieties of sugarsnap, shell, and snow peas and to determine the suitability of a wide range of pea varieties to high tunnel production. The first year of trialing is designed for screening purposes and does not include replications. Next year varieties will be replicated, and some will be grown both inside and outside the tunnel for comparison purposes.

This trial was planted in a high tunnel at Philia Farm in Johnstown, NY. Eleven varieties were planted 3/31/20 and the other eight were planted 4/9/20. All varieties were trellised, a best practice for tunnel growing. Plots were one row wide and ten feet long.

Varieties were harvested until they either stopped producing pods or the pods became unmarketable. Data were collected on yield per plot, pod size, and taste. Flavor preferences on peas vary from person to person, so we included a tasting panel to try to overcome any individual preferences.

By the end of the season, the peas all showed signs of heat stress and decline but there was no disease pressure present in the high tunnel. We did have a deer find and browse the peas in the tunnel, which may have affected yield slightly.



Shell Varieties

- o Laxton's Progress
- o PLS 14
- o PLS 534
- o PLS 560
- o PLS 566

Snow Varieties

- o Avalanche
- o Mammoth Melting
- o Oregon Sugar Pod II
- o Sweet Horizon

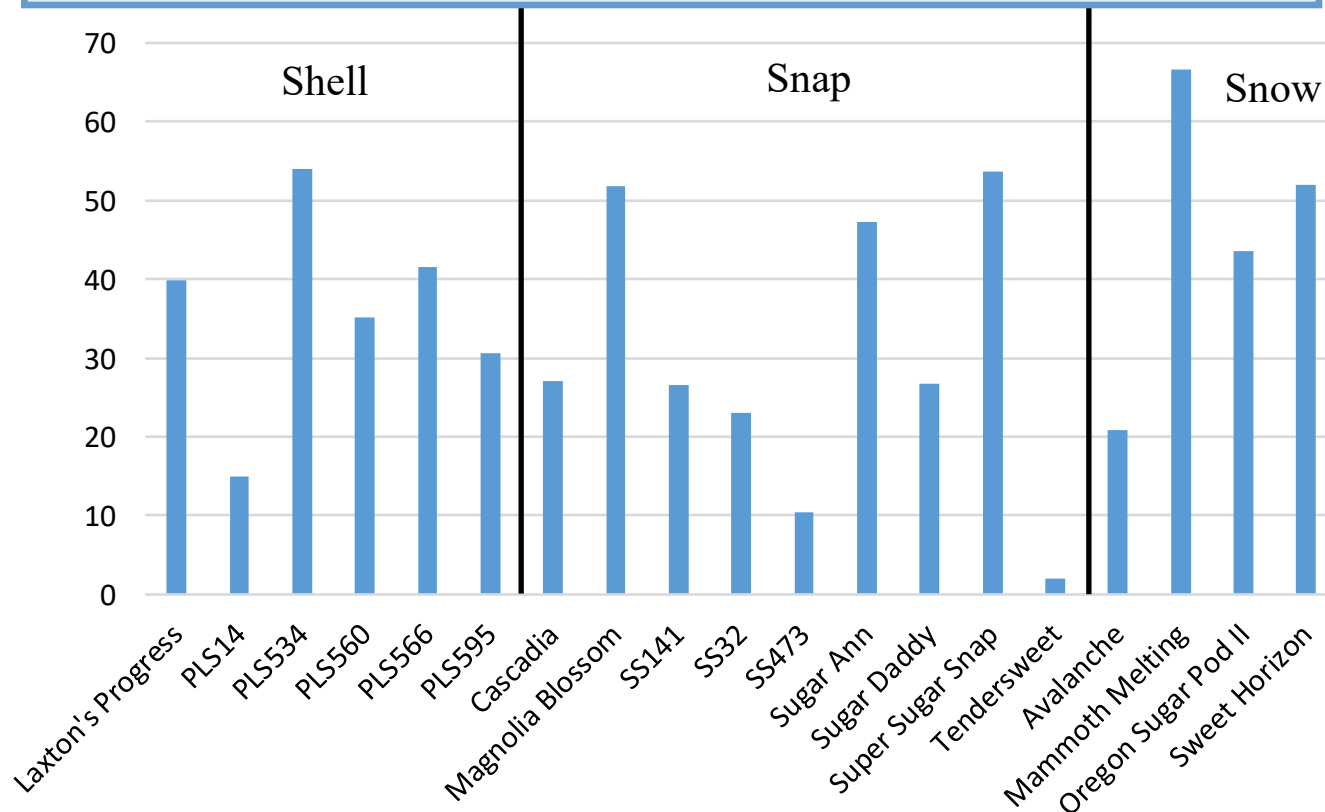
Snap Varieties

- o Cascadia
- o Magnolia Blossom
- o SS 141
- o SS 32
- o SS 473
- o Sugar Ann
- o Sugar Daddy
- o Super Sugar Snap
- o Tendersweet

The Eastern New York Commercial Horticulture Program is a Cornell Cooperative Extension Partnership between Cornell University and the CCE Associations in the 17 Eastern New York counties.



Overview of the cumulative yields per plot (oz) across all varieties



Notable Varieties

Shell: PLS534 was the highest yielding shell variety. It also was the best tasting shell pea, rating a 5 out of 5 and had excellent full pod fill.

Snap: Super Sugar Snap was the highest yielding snap variety with Magnolia Blossom as a close second. Super Sugar Snap is a standard for a reason. Magnolia Blossom is an indeterminate variety, growing 6-7 feet tall and is more of an heirloom style. Both tasted very good. However, in the snap peas, the best tasting varieties were SS141 and SS32 from Pure Line Seeds. The final snap pea of interest was Sugar Ann, which had the longest harvest. It was one of the first harvested and the last, spanning 25 days with little to no degradation in quality over that time and in the heat.

Snow: Mammoth Melting was the highest yielding snow pea and the highest yielding over the whole trial. It is a trellis pea, growing 6-7 feet tall. The best tasting snow pea was Avalanche, which was delicious even when eaten raw. We didn't end up cooking the snow peas so they may rank differently in taste once cooked.



For more comparative information, see the data tables at the end of this report.

Shell Peas

Laxton's Progress

- From High Mowing Seeds
- Small 15-20" plants produce heavy yields of large pods with up to nine peas per pod (hence the name). An improvement over the original Laxton's Progress with a high resistance to wilt.
- Around 5% of plants were pole habit
- Total of 39.8 oz harvested over 12 days equal to 25 lbs per hundred foot row
- Pod length was 2.5 inches and there were 5-6 peas per pod
- Averaged 4 out of 5 for taste
- Delicious, strong pea flavor, large peas in pod
- Quality degraded quickly in heat



PLS 14

- From High Mowing Seeds
- Plants are 24-30" tall with plenty of foliage and vigor. The plant stems and leaves are an attractive dark blue-green, while pea pods themselves stand out against the foliage with bright green color for an easy harvest. Had some heat burn on the lower leaves
- Total of 15 oz harvested over 10 days equal to 9 lbs per hundred foot row
- Pod length was 3 inches and there were 6-7 peas per pod
- Averaged 4.5 out of 5 for taste
- Delicious, sweet, strong pea flavor good for eating fresh or processing



PLS 534

- From Pure Line Seeds
- PLS 534 is a second early Afile developed at Pure Line Seed's research facility. Double pods filled with 8-9 peas create fantastic yields. This pea is resistant to Fusarium Wilt Race 1, Race 2, and Fusarium Root Rot.
- Plants are around 24 inches tall
- Total of 54 oz harvested over 5 harvests equal to 34 lbs per hundred foot row
- Pod length was 3.5 inches and there were 10 peas per pod
- Averaged 5 out of 5 for taste
- Extremely pea flavored, very good



PLS 560

- From Territorial Seeds
- The long pointed pods of PLS 560 fill to the tip with 10-12 dark green peas of excellent flavor. These nice, light green pods really stand out against the dark blue-green foliage. A strong-stemmed variety – it holds upright throughout the season, making harvest quick and very rewarding.
- Plants are around 24 inches tall
- Total of 35.2 oz harvested over 7 harvests equal to 22 lbs per hundred foot row
- Pod length was 3.5 inches and there were 7 peas per pod
- Averaged 4.5 out of 5 for taste
- Interesting flavor, super sweet



PLS 566

- From Pure Line Seeds
- Recent trials of PLS 566 have shown this pea's capability to return tremendous yields. These long light green pods really stand out against the strong, dark blue-green Afila vine. With two pods per node and 10-12 peas per pod.
- Bush plants were around 24 inches tall
- Total of 41.6 oz harvested over 7 harvests equal to 26 lbs per hundred foot row
- Pod length was 3 inches and there were 8 peas per pod
- Averaged 4 out of 5 for taste
- Decent tasting and sweet



PLS 595

- From Pure Line Seeds
- Plants will produce long pods, with on average 11 peas in each pod. Pure Line says: "Fresh market customers are raving about the ease of hand-picking due to high set of pods in plant and upright plant type."
- Plants are around 30 inches tall
- Total of 30.6 oz harvested over 2 harvests equal to 19 lbs per hundred foot row
- Pod length was 4 inches and there were 9 peas per pod
- Averaged 3 out of 5 for taste
- Average tasting



Snap

Cascadia

- From High Mowing Seeds
- Bucketloads of plump pods with tiny, distinctively delicious peas on 3' tall vines. Multiple disease resistances allow for spring and late season plantings.
- Bush plants were around 24 inches tall
- Total of 27 oz harvested over 7 harvests equal to 17 lbs per hundred foot row
- Pod length was 3 inches
- Averaged 4.8 out of 5 for taste
- Floral, sweet and taste flavor. Crisp texture, very good



Magnolia Blossom

- From Adaptive Seeds
- 6-8' vines yield light-green, sweet pods with a purple stripe down the side when mature. Very sweet, just like a sugar snap should be and the pods just keep coming for weeks and weeks and weeks. Bred by Dr. Alan Kapuler of Peace Seeds in Corvallis, Oregon.
- Total of 51.8 oz harvested over 12 days equal to 32 lbs per hundred foot row
- Pod length was 3.5 inches
- Averaged 4.5 out of 5 for taste
- Interesting floral taste and strong pea flavor, sweet and nice to eat
- Flavor and texture declined after July 1st harvest



SS 141

- From High Mowing Seeds (via Pure Line)
- Compact plant that forms a heavy set of extra-long, extra tasty pods that ripen within a short window. This strongly improved snap pea offers very high yield potential. Suitable for multiple succession plantings.
- Was around 24 inches tall
- Total of 26.6 oz harvested over 13 harvests equal to 17 lbs per hundred foot row
- Pod length was 4 inches
- Averaged 5 out of 5 for taste
- Big pods, sweet flavor, juicy, interesting



SS 32

- From Pure Line Seeds
- Plants are around 30 inches tall
- Total of 23 oz harvested over 7 harvests equal to 14 lbs per hundred foot row
- Pod length was 3 inches
- Averaged 5 out of 5 for taste
- Delicious and sweet, tastes like a pea



Super Sugar Snap

- From Harris Seeds
- This improvement to the original Sugar Snap offers earlier maturity, PM resistance, and intermediate resistance to bean leaf roll virus. Super Sugar Snap's tall 4 to 5' vines need support.
- Total of 53.6 oz harvested over 13 harvests equal to 34 lbs per hundred foot row
- Pod length was 3.5 inches
- Averaged 4.5 out of 5 for taste
- Interesting flavor, not super sweet but a little floral and complex



Sugar Ann

- From High Mowing Seeds
- A great way to start off the season. Tasty round pods on dwarf 2' vines are early with a concentrated crop. 1984 AAS winner from pea breeders Dr. Calvin Lamborn and Dr. MC Parker
- Total of 47.2 oz harvested over 25 days equal to 30 lbs per hundred foot row
- Pod length was 3 inches
- Averaged 4.2 out of 5 for taste
- Interesting floral taste and average pea flavor, sweet and nice to eat



Sugar Daddy

- From Pure Line Seeds
- Sugar Daddy is a string-less podded pea variety that is self-supporting. Great mainstay variety.
- Plants are around 18 inches tall
- Total of 26.8 oz harvested over 7 days equal to 17 lbs per hundred foot row
- Pod length was 3 inches
- Averaged 4.8 out of 5 for taste
- Interesting flavor, a little floral, good



Snow

Avalanche

- From Pure Line Seeds
- Avalanche is a rare Afila-type Snow Pea developed by Dick Lowe. The semi-leafless Afila vine type has excellent stand-ability even after it sets loads of double 5.25" (13.5cm) pods. Exceptional yields with a beautiful dark color make Avalanche a wonderful market competitor.
- Bush plants were around 24 inches tall
- Total of 20.8 oz harvested over 12 harvests equal to 13 lbs per hundred foot row
- Pod length was 4.5 inches
- Averaged 4.5 out of 5 for taste
- Delicious, sweet. Best tasting snow pea.
- Some pods curved and did not lay flat



Mammoth Melting

- From High Mowing Seeds
- These 5-6' tall vines require trellising for support, but bear over a long period of time. Large white flowers are an extra bonus, adding a splash of brightness to your edible landscape.
- Total of 66 oz harvested over 19 harvests equal to 42 lbs per hundred foot row
- Pod length was 4 inches
- Averaged 3.8 out of 5 for taste
- Floral flavor, a little sweet, pretty average taste



Oregon Sugar Pod II

- From High Mowing Seeds
- Highly productive variety produces smooth, stringless pods on true dwarf plants averaging 24-30" tall. Pods are double set for high yields and easy harvests. Strong disease resistance makes this an excellent choice for late summer-fall plantings.
- Total of 43.6 oz harvested over 18 harvests equal to 27 lbs per hundred foot row
- Pod length was 4 inches
- Averaged 3.7 out of 5 for taste
- Crisp crunchy texture. Pea flavored but not very strong. It was fine.



Sweet Horizon

- From Territorial Seeds
- This snow pea has beautiful laser-straight flat pods in double sets. The sugary pods are very easy-to-harvest and grow to 3-4 inches long. Vigorous upright plants are mid-maturing and grow to 26-32 inches tall. AF, F 1, PM.
- Total of 52 oz harvested over 18 days equal to 33 lbs per hundred foot row
- Pod length was 4 inches
- Averaged 3 out of 5 for taste
- Flowery flavor, not sweet, interesting
- Flavor quality degraded quickly in the heat. May not be suitable for high tunnel production.





Cornell Cooperative Extension

Eastern NY Commercial Horticulture Program

Thank you to Pure Line
Seeds, High Mowing Seeds
and Harris Seeds for
providing seed for this trial

2020 Pea Variety Trial Data Table 1

Variety	Company	Type	Weight Harvest (oz)	Weight (lbs) per hundred feet	Pod Dimensions (in)	# Peas in Shell	Average Taste (1-5 with 5 being delicious)	Notes
Laxton's Progress	High Mowing Seeds	Shell	39.8	25	2.5	6	4	
PLS14	High Mowing Seeds	Shell	15	9	3	6	4.5	
PLS534	Pure Line Seeds	Shell	54	34	3.5	10	5	
PLS560	Territorial Seed	Shell	35.2	22	3.5	7	4.5	
PLS566	Pure Line Seeds	Shell	41.6	26	3.0	8	4	
PLS595	Pure Line Seeds	Shell	30.6	19	4.0	9	3	
Cascadia	High Mowing Seeds	Snap	27	17	3.5		4.8	
Magnolia Blossom	Adaptive Seeds	Snap	51.8	32	3		4.5	Trellis - 6-7 feet tall
SS141	High Mowing Seeds	Snap	26.6	17	4.0		5	
SS32	Pure Line Seeds	Snap	23	14	3.0		5	
SS473	Pure Line Seeds	Snap	10.4	7	3.0		4.5	
Sugar Ann	High Mowing Seeds	Snap	47.2	30	3		4.2	
Sugar Daddy	Pure Line Seeds	Snap	26.8	17	3.0		4.8	
Super Sugar Snap	Harris Seeds	Snap	53.6	34	3.5		4.5	
Tendersweet	Pure Line Seeds	Snap	2	1	3.0		4	
Avalanche	Pure Line Seeds	Snow	20.8	13	4.5		4.5	
Mammoth Melting	High Mowing Seeds	Snow	66.6	42	3.5		3.8	Trellis - 6-7 feet tall
Oregon Sugar Pod II	High Mowing Seeds	Snow	43.6	27	3.5		3.7	
Sweet Horizon	Territorial Seed	Snow	52	33	4		3	

2020 Pea Variety Trial Data Table 2

Variety	Company	Type	Date Planted	First Harvest	Last Harvest	DTM	Length of Harvest (Days)
Laxton's Progress	High Mowing Seeds	Shell	3/31/2020	6/12/2020	6/24/2020	73	12
PLS14	High Mowing Seeds	Shell	3/31/2020	6/12/2020	6/22/2020	73	10
PLS534	Pure Line Seeds	Shell	4/9/2020	6/17/2020	6/22/2020	69	5
PLS560	Territorial Seed	Shell	3/31/2020	6/17/2020	6/24/2020	78	7
PLS566	Pure Line Seeds	Shell	4/9/2020	6/17/2020	6/24/2020	69	7
PLS595	Pure Line Seeds	Shell	4/9/2020	6/22/2020	6/24/2020	74	2
Cascadia	High Mowing Seeds	Snap	3/31/2020	6/17/2020	6/24/2020	78	7
Magnolia Blossom	Adaptive Seeds	Snap	3/31/2020	6/17/2020	6/29/2020	78	12
SS141	High Mowing Seeds	Snap	3/31/2020	6/11/2020	6/24/2020	72	13
SS32	Pure Line Seeds	Snap	4/9/2020	6/17/2020	6/24/2020	69	7
SS473	Pure Line Seeds	Snap	4/9/2020	6/24/2020	6/24/2020	76	1
Sugar Ann	High Mowing Seeds	Snap	3/31/2020	6/6/2020	7/1/2020	67	25
Sugar Daddy	Pure Line Seeds	Snap	4/9/2020	6/17/2020	6/24/2020	69	7
Super Sugar Snap	Harris Seeds	Snap	3/31/2020	6/11/2020	6/24/2020	72	13
Tendersweet	Pure Line Seeds	Snap	4/9/2020	6/24/2020	6/24/2020	76	1
Avalanche	Pure Line Seeds	Snow	4/9/2020	6/12/2020	6/24/2020	64	12
Mammoth Melting	High Mowing Seeds	Snow	3/31/2020	6/12/2020	7/1/2020	73	19
Oregon Sugar Pod II	High Mowing Seeds	Snow	3/31/2020	6/6/2020	6/24/2020	67	18
Sweet Horizon	Territorial Seed	Snow	3/31/2020	6/11/2020	6/29/2020	72	18