NEW YORK STATE 2015 PROCESSING PEA CULTIVAR TRIAL REPORT

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PROCEDURE AND MATERIALS

Location: NYS Agricultural Research Farm, Geneva - soil type – silt loam. **Tillage** – Conventional. **Fertilizer**: broadcast 400 lb/A of 8-14-21 and worked in. **Planter** – Modified Hege 80 (cone type). **Planting Date** – 5/1. Picking started on 6/23 and we finished on 7/13. **Herbicide** - Dual post plant 5/1. **Plot Size**: 7 rows by 30 ft. **Row Width**: 6 inches, Row length: 30 ft. **In-row Spacing**: 1425 seeds were placed in the cone for the 30 ft plot – theoretically this is 6.4 seeds per foot or 557,568 seeds per acre. Our processor has asked us to shoot for 550,000 seeds per acre). **Insecticide** – none. **Experimental Design** – Randomized split block design, 4 replications (3 replications were harvested and another was left for demonstration). **Model TG4EI Integrating Texturegage** – measure for maturity.

The objective of this trial was to compare a number of normal leaf and afila type pea varieties for yield and other quality characteristics. This was accomplished in cooperation with the pea processor in New York in an attempt to find new, higher quality, and disease resistant varieties that are adapted to our climate and soil conditions. Evaluation of processed product was held on 11/5 for processing and seed company representatives.

Yield of seven rows by 5 feet per replication (**35** Row feet) was obtained by pulling the plants and hand picking the pods. Two harvests were made if possible to plot yield increase and also tenderometer reading increase. A target tenderometer value of 110 was used for the final harvest. A stationary sheller was used to remove berries from the harvested pods. Tenderometer readings were taken on each replication and averaged for the report. Pea berries were hand sieved with Seedburo hand testing screens. See following table for details.

Table 1. Sieve size diameters.

Sieve Size	Diameter of circular Opening in MM (inches) Will not pass through	Will pass through
1	6.35 (16/64)	7.1 (18/64)
2	7.1 (18/64)	7.9 (20/64)
3	7.9 (20/64)	8.7 (22/64)
4	8.7 (22/64)	9.5 (24/64)
5	9.5 (24/64)	10.3 (26/64)
6	10.3 (26/64)	11.1 (28/64)

Temperature and moisture Conditions

Soil conditions were decent to a bit dry when planting. Temperature was good. Stands were good to very good. Growing conditions were good with more than enough moisture (root rot was an issue with a number of cultivars). Heat was not much of an issue. Yields reflected the plant stands variety potential and ranged from 2400 lbs per acre to 9000 lbs per acre. It was a good trial but stressed by too much rain. Plant roots were taken to our Plant Pathology Department (Dr. Sarah Pethybridge) and it was determined that Fusarium was the main pathogen. See the weather insert at the end of the summary for a breakdown of temperatures and precipitation over the growing season. Please direct any questions to the following mailing address, phone number or email address.

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We wish to thank the NYS Vegetable Research Council and Association and cooperating seed companies for their financial support of the project. We wish to thank Mr. Buzz Lowe of Farm Fresh First for his assistance in planning the trials. My thanks to team members Wayne Hansen, David Strickland, Kathleen and Julia DePillo, Karen Luong, Alison Mahoney, Misty Hotelling and Sean Murphy for their assistance in day to day operations.

Special thanks to Gilbert Scott who sampled and made it possible for us to harvest at the most optimum tenderometer reading. He also was mainly responsible for the comments that are at the end of the report.

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Table 2 - Cultivar List and Maturity From Seed Source

Cultivar	HU	Seed Source	Leaf Type	Seed Treatment	Seed Count/lb	Germ. %	Sieve Size	Nodes to Flower
Spring (std)	1155	Seminis	Normal	Allegiance, Captan	1923	99	3.9	9 to 10
Salinero	1155	Seminis	Normal	Allegiance, Captan	2315	95	3.4	
Sherwood	1160	Seminis	Normal	Allegiance, Captan	2663	85	3.3	
BSC2014A	1160	Brotherton	Normal	maxim/apron	2597	98		9
FP 2269	1190	GV	Afila	4FS, Apron XL, Cruise	2556	95	3.9	9 to 10
435 (GV)	1200	GV	Afila	4FS, Apron XL, Cruise	2136	94	3.5	10
SV0956QH	1205	Seminis	Normal	Allegiance, Captan	2952	95	3.2	10
Austin (2311)	1250	GV	Afila	4FS, Apron XL, Cruise	2550		3.2	12
Tomahawk (CS-430	1260	Crites	Afila	maxim/apron	2055	96		
SV0955QH	1290	Seminis	Normal	Allegiance, Captan	2732	97		
BSC5051	1300	Brotherton	Normal	maxim/apron	2025	90		10
SV1391QH	1320	Seminis	DetA	Allegiance, Captan	2800	89	3.3	
Portage (std)	1325	Crites	Afila	maxim/apron	2304	93	3.78	10
PLSM-14	1330	PLS	Normal	Apron maxim	2564	90	3.7	9
SV0935QF	1340	Seminis	DetA	Allegiance, Captan	2451	93	3.1	
SV7401QH	1340	Seminis	DetN	Allegiance, Captan	3168	94	3.2	
11P42	1340	Pure Line	Afila	Apron maxim	2640	90		
Gusty	1350	Brotherton	Afila	maxim/apron	2349	99		12
518	1350	GV	Afila	4FS, Apron XL, Cruise	2931	85	3.8	12 to 13
Impact (4640)	1350	Brotherton	Afila	maxim/apron	2412	99		12
BL2404	s later	Columbia	Afila	maxim/apron	1899	92		14 - 15
SV 0969QH	1360	Seminis	Normal	Allegiance, Captan	2877	95	3.1	
490	1380	GV	Normal	4FS, Apron XL, Cruise	2589	89	3.8	12
CS436AF	1390	Crites	Afila	maxim/apron	2252	96		
Reliance	1420	Seminis	DetA	Allegiance, Captan	3254	98	3.2	
SV8112QH	1430	Seminis	DetA	Allegiance, Captan	2789	96	3.1	
8540794 DA 1470	1470	Seminis	tA (Sw S	Allegiance, Captan	3274	92	3.2	
SV7688QF	1480	Seminis	DetA	Allegiance, Captan	2751	95	3.2	

Table 2 continued:

Cultivar	HU	Seed Source	Leaf Type	Seed Treatment	Seed Count/lb	Germ. %	Sieve Size	Nodes to Flower
BL403	late	Columbia	Normal	maxim/apron	1940	99		15 - 16
FP 2278	1500	GV	Afila	4FS, Apron XL, Cruise	2300		3.6	15
PLS 179	1500	Pure Line	Afila	Apron maxim	2336	91		
PLS 595	1520	PLS	Afila	Apron maxim	2050	90		13
SV 0893QF	1525	Seminis	Normal	Allegiance, Captan	2377	95	3.5	
SV1036QF	1525	Seminis	Afila	Allegiance, Captan	2192	84	3.8	
Ricco	1530	GV	Afila	4FS, Apron XL, Cruise	2054	93	3.7	15 - 16
BSC5814	1530	Brotherton	Normal	maxim/apron	2668	90		14
Lochsa (420AF)	1550	Crites	Afila	maxim/apron	2232	99	3.69	15
513	1550	GV	Normal	4FS, Apron XL, Cruise	2292	93	4	15
522	1560	GV	Afila	4FS, Apron XL, Cruise	2200		4	14 - 15
BSC4241A	1560	Brotherton	Normal	maxim/apron	2303	96		14-15
BSC4361A1	1560	Brotherton	Normal	maxim/apron	1930	92		15
370	1560	Pure Line	Afila	Apron maxim	2144	90		
613-1	1580	Pure Line	Afila	Apron maxim	3296	90		
Grundy	1595	GV	Normal	4FS, Apron XL, Cruise	2200		3.8	16 - 17
Trinity (CS435)	1605	Crites	Afila	maxim/apron	2653	93	3.6	
163-26-4	1620	Pure Line	Afila	Apron maxim	2640	90		
Naches	1640	Crites	Afila	maxim/apron	2549	97	3.7	
PLS 183	1640	Pure Line	Afila	Apron maxim	2384			
Maurice	1650	Seminis	ila (Sw Sa	Allegiance, Captan	3059	95	3.1	

Table 3. Plant Characteristics

Cultivar	Plant Stand Rating	Plant Vigor Rating	Heat Units to full flower	Vine Length (in.)	Root Rot Rating	Plant Habit Rating (at Harvest) 1-10 (best)	Determinate rating	Overall Rating	Root Rot Rating Leroy
Salinero	3.9	4.3	781	16-19	5.1	4.6	7.1	5.3	na
Tomahawk	3.9	4.1	834	12-14	7	6.3	8	6.5	0
Sherwood	3.8	3.9	781	16 - 19	6	4.8	7.6	5.6	na
Spring (std)	4.1	4.5	781	20-25	4.4	4	8.25	5	na
SV0956QH	4.1	3.6	856	10-12	5.3	5.6	7.1	5.4	na
FP 2269	3.4	3.6	856	18-19	6.1	6.9	7.6	5.4	0
435 (GV)	3.9	3.6	834	15-18	7.4	7.5	7.9	6	na
Austin	3.6	3.9	834	17-19	8.1	7.6	7.8	7	na
BSC2014A	4.0	4.0	856	20-25	7.8	6.3	6.9	6.5	na
PLSM-14	3.5	3.3	856	18-20	4.5	6	7.6	5.6	0
SV0955QH	3.4	3.6	856	14-17	7.4	6	7.1	6.8	na
11P42	4.1	3.8	910	18-20	4.9	7.4	7.4	3.2	na
Portage (std)	3.6	3.8	884	18-20	8.6	7.5	7.8	7.8	na
SV7401QH	3.3	3.5	994	18-20	5.8	6	8	6	0
CS436AF	3.6	3.5	1024	16-18	8.3	7.4	7.5	7.1	na
SV0935QF	3.6	3.4	994	16-18	4.1	7.3	8.3	4.4	na
SV1391QH	4	3.3	1051	14 -17	9.3	8	7.8	**8**	na
Reliance	3.6	3.5	1024	15-17	7.9	8.4	8.4	7.8	na
SV8112QH	3.9	3.5	1024	16-18	7.4	8.4	8.4	7.8	na
490	3.5	3.6	994	20-22	6	5.8	7.6	5.6	0
Gusty	3.9	3.8	964	19-21	6.4	6.1	7.3	5.4	0
SV 0969QH	4	3.5	1075	21-25	8.8	6.8	7.3	7.3	0
518	3.8	3.5	1024	16-19	9.5	7.4	7.4	7.7	0
BSC5051	4.1	3.8	1051	20-21	7.2	6.1	6.9	6.9	0
Ricco	4.3	4.0	1075	24-26	9	6.9	7.9	**8.2**	0
Impact	4.1	3.5	1105	13-15	7.6	7.9	7.6	7.2	0
8540794 DA 1470	3.6	3.3	1075	16-17	7.1	7.5	7.9	6.6	na
613-1	4.0	3.6	1075	23-25	6	7.4	7.6	5.9	na
FP 2278	3.9	3.6	1051	18-19	9.1	7.8	8.2	7.5	0
SV7688QF	4.1	3.4	1176	20-23	8.9	8	6.8	6.7	0
513	4.1	4.0	1075	25-27	8	6.6	8.3	7.3	0
370	3.5	3.3	1105	22-26	5.8	6.6	7.3	4.3	na
Grundy	3.9	3.9	1105	25-28	7.5	6.6	7.9	6.8	0
SV1036QF	4.3	4.4	1105	24-26	9.3	7.4	7.9	**8.2**	0
Lochsa	4.0	3.5	1105	20-22	7.5	6.4	8	6.8	na

Table 3. Plant Characteristics

Cultivar	Plant Stand Rating	Plant Vigor Rating	Heat Units to full flower	Vine Length (in.)	Root Rot Rating	Habit Rating (at Harvest) 1-10 (best)	Determinate rating	Overall Rating	Root Rot Rating Leroy
BSC4361A1	3.8	3.8	1075	24-26	6.1	7.3	7.7	5.5	0
BSC4241A	3.8	3.8	1105	20-22	6	6	7.3	6.3	0
522	4.3	3.9	1105	28-29	9.1	8.3	8.3	7.8	0
BL2404	4.0	3.9	1146	20-22	7.9	8.4	7.9	7.3	0
PLS 595	4.0	3.9	1105	23-25	6.8	6.8	7.9	6.9	0
163-26-4	4.0	3.6	1238	21-27	7.5	7.6	7.7	7	na
BL403	3.9	3.9	1105	18-22	7.3	6	7.5	6.8	0
PLS 179	4.0	3.6	1208	24-26	7.4	7.6	8.3	7.4	0
Trinity	3.9	3.5	1175	22-26	6.9	7.1	7.7	5.6	0
SV 0893QF	4.0	3.9	1208	24-26	7.9	6.6	7.5	7.1	na
BSC5814	3.8	3.6	1075	22-24	7.4	6.6	7.6	7	0
Naches	3.8	3.4	1208	18-22	8	6.9	7.6	7.2	0
PLS 183	3.9	3.6	1238	25-27	6.9	8	8.5	7.6	0
Maurice	3.4	3.3	1265	20-23	7.8	7.4	7	6.1	na

Plant Stand Rating –A rating of the plant stand a few weeks after planting. 1= poor, 5=excellent
Plant Vigor – A rating of plant growth a few weeks after planting. 1=poor, 5 = excellent
Heat Units to full flower (base 40 degrees)
Vine Length - 15 plants were measured (in inches) from soil level to the tip stretched straight.
Root Rot Rating on evaluation trial - 1 = dead, 10 completely healthy
Ratings were done on 6/18 and at harvest. The two ratings were averaged.
Plant Habit – Rating of how well the plants stood at harvest. 1= flat on the ground, 10 very erect
Ratings were done on 6/18 and at harvest. The two ratings were averaged.
Determinate vs indeterminate - Very indeterminate = 1, very determinate=10
Ratings were done on 6/18 and at harvest. The two ratings were averaged.
Overall rating - 1-10 scale with 10 being best. (plant stand, habit, overall health, yield potential)
Ratings were done on 6/18 and at harvest. The two ratings were averaged.
8+ to 10 = Best, 8 = good, 7 = worthy of continued evaluation.
Root Rot Rating - A separate partial planting (27 cultivars planted on 5/20 - three replications) was made in an
infested field (Leroy NY). Same rating system.
A single rating was made on 7/1 at what would have been early pods stage -
a handful of plots had green tissue but the rest were completely brown and dead.

Table 4. Maturity Sieve Distribution and Yield - (in order of maturity)

Cultivar	Days to harv	Heat Units to Harv.	Adjusted Heat U based on 100 TU	Sieve 1 %	Sieve 2 %	Sieve 3 %	Sieve 4 %	Sieve 5%	Sieve 6%	Sieve size index	Ten.	#/A	Adjusted Yield based on 100 TU	Plants per A (1000)	Plts. per foot
Salinero	53	1176	1104	1%	3%	13%	41%	37%	4%	4.2	136	5514	4506	435	5.0
Tomahawk	53	1176	1105	1%	3%	16%	45%	31%	4%	4.1	136	5692	4693	484	5.6
Sherwood	53	1176	1162	3%	7%	21%	46%	19%	2%	3.8	107	5394	5198	402	4.6
Sherwood	54	1208	1144	1%	5%	20%	45%	26%	3%	4.0	132	6327	5431	421	4.8
Spring	54	1208	1150	1%	2%	4%	17%	50%	24%	4.9	129	6708	5896	475	5.5
SV0956QH	53	1176	1171	4%	9%	27%	35%	19%	1%	3.6	103	5568	5494	475	5.5
SV0956QH	54	1208	1166	4%	9%	22%	37%	24%	1%	3.7	121	5358	4770	417	4.8
FP2269	55	1238	1197	1%	2%	8%	28%	49%	11%	4.6	120	5953	5384	353	4.0
FP2269	56	1265	1222	1%	1%	7%	17%	48%	24%	4.9	131	5122	4525	309	3.6
GV435	55	1238	1217	1%	4%	16%	32%	41%	4%	4.2	110	6366	6076	500	5.7
GV435	56	1265	1227	1%	2%	11%	29%	48%	9%	4.5	119	6291	5759	409	4.7
Austin	54	1208	1225	3%	6%	24%	43%	20%	2%	3.8	91	4378	4620	375	4.3
Austin	55	1238	1229	1%	4%	14%	36%	40%	5%	4.2	105	5619	5489	473	5.4
Austin	56	1265	1219	0%	1%	11%	45%	38%	3%	4.3	123	5993	5349	390	4.5
BSC2014A	56	1265	1272	4%	9%	27%	41%	13%	2%	3.6	97	5158	5252	472	5.4
BSC2014A	57	1291	1297	5%	11%	26%	37%	17%	2%	3.6	97	5982	6066	436	5.0
BSC2014A	59	1332	1295	2%	5%	17%	37%	32%	4%	4.1	119	7652	7129	452	5.2
PLSM-14	59	1332	1302	2%	5%	18%	32%	35%	7%	4.2	115	4567	4147	382	4.4
PLSM-14	60	1352	1257	1%	1%	7%	34%	48%	8%	4.5	147	6719	5394	436	5.0
SV0955QH	59	1332	1289	2%	3%	11%	30%	35%	16%	4.5	121	6705	6107	388	4.5
11P42	59	1332	1299	4%	7%	17%	37%	29%	3%	3.9	117	6806	6340	400	4.6
11P42	60	1352	1309	2%	5%	16%	39%	29%	6%	4.1	121	8371	7773	441	5.1
Portage (std)	59	1332	1309	1%	2%	10%	30%	39%	15%	4.5	111	5975	5658	442	5.1
Portage (std)	60	1352	1307	1%	2%	6%	22%	47%	20%	4.8	122	5793	5168	373	4.3
SV7401QH	59	1332	1318	1%	4%	38%	38%	13%	2%	3.7	107	3975	3779	358	4.1
SV7401QH	60	1352	1316	1%	3%	33%	38%	18%	3%	3.8	118	5499	4995	419	4.8
CS436AF	59	1332	1319	3%	4%	15%	36%	33%	6%	4.1	106	6643	6466	468	5.4
CS436AF	60	1352	1315	2%	4%	12%	31%	38%	10%	4.3	119	5833	5311	403	4.6

Table 4. Maturity Sieve Distribution and Yield continued:

Cultivar	Days to harv	Heat Units to Harv.	Adjusted Heat U based on 100 TU	Sieve 1 %	Sieve 2 %	Sieve 3 %	Sieve 4 %	Sieve 5%	Sieve 6%	Sieve size index	Ten.	#/A	Adjusted Yield based on 100 TU	Plants per A (1000)	Plts. per foot
SV0935QF	60	1352	1339	1%	2%	19%	49%	24%	5%	4.1	107	4603	4416	331	3.8
SV0935QF	61	1375	1333	1%	2%	9%	35%	43%	7%	4.4	121	4461	3873	405	4.6
SV1391QH	59	1332	1306	2%	5%	18%	42%	27%	3%	4.0	113	5859	5495	392	4.5
SV1391QH	60	1352	1339	3%	5%	24%	39%	21%	3%	3.8	107	4759	4577	397	4.6
Reliance	60	1352	1332	1%	3%	22%	44%	23%	2%	3.9	110	6258	5978	430	4.9
Reliance	61	1375	1340	1%	2%	10%	31%	42%	9%	4.5	118	7031	6537	427	4.9
SV8112QH	60	1352	1341	1%	2%	21%	43%	26%	5%	4.1	106	5069	4915	401	4.6
SV8112QH	61	1375	1334	2%	2%	8%	26%	36%	23%	4.7	120	6008	5438	440	5.0
490	61	1375	1358	1%	3%	7%	11%	31%	45%	5.1	108	5198	4965	313	3.6
490	62	1403	1346	1%	1%	4%	14%	39%	38%	5.1	128	6443	5650	306	3.5
Gusty	60	1352	1366	3%	5%	13%	31%	34%	11%	4.3	93	5184	5380	389	4.5
Gusty	61	1375	1342	1%	4%	6%	19%	43%	22%	4.7	**117**	6403	5941	508	5.8
Gusty	62	1403	1356	1%	3%	7%	25%	43%	17%	4.6	123	6647	5993	483	5.5
SV 0969QH	61	1375	1368	3%	5%	15%	32%	34%	6%	4.1	104	5460	5357	436	5.0
SV 0969QH	62	1403	1364	4%	7%	15%	38%	28%	4%	3.9	119	5271	4729	396	4.5
518	62	1403	1366	1%	1%	6%	29%	47%	13%	4.6	118	4988	4474	347	4.0
518	63	1428	1385	1%	2%	5%	20%	49%	20%	4.8	122	6360	5753	398	4.6
BSC5051	62	1403	1378	1%	2%	8%	28%	47%	11%	4.5	113	6323	5969	506	5.8
BSC5051	63	1428	1396	1%	2%	7%	24%	43%	20%	4.7	116	7452	7004	499	5.7
Ricco	63	1428	1422	1%	2%	9%	22%	35%	29%	4.8	103	7079	6995	460	5.3
Ricco	64	1449	1418	1%	2%	8%	19%	38%	26%	4.8	116	6937	6498	417	4.8
Impact	64	1449	1442	3%	7%	18%	35%	30%	5%	4.0	103	5115	5021	500	5.7
Impact	65	1475	1444	2%	4%	12%	29%	39%	12%	4.4	116	6058	5620	464	5.3
8540794 DA	63	1428	1400	1%	4%	8%	28%	44%	13%	4.5	114	5325	4933	365	4.2
8540794 DA	64	1449	1390	1%	2%	6%	18%	49%	21%	4.8	129	6149	5328	381	4.4
8540794 DA	66	1499	1360	1%	2%	4%	14%	46%	31%	5.0	170	7264	5313	398	4.6

Table 4. Maturity Sieve Distribution and Yield continued:

Cultivar	Days to harv	Heat Units to Harv.	Adjusted Heat U based on 100 TU	Sieve 1 %	Sieve 2 %	Sieve 3 %	Sieve 4 %	Sieve 5%	Sieve 6%	Sieve size index	Ten.	#/A	Adjusted Yield based on 100 TU	Plants per A (1000)	Plts. per foot
613-1	62	1403	1398	4%	11%	28%	46%	8%	0%	3.4	103	5195	5120	392	4.5
613-1	63	1428	1410	4%	11%	28%	41%	11%	1%	3.5	109	6779	6527	417	4.8
FP 2278	62	1403	1405	3%	6%	15%	31%	37%	7%	4.2	99	5797	5825	367	4.2
FP 2278	63	1428	1422	2%	4%	10%	27%	39%	15%	4.5	103	6817	6733	400	4.6
FP 2278	64	1449	1412	1%	2%	8%	25%	46%	15%	4.6	118	7133	6620	429	4.9
SV7688QF	64	1449	1448	1%	4%	15%	30%	29%	18%	4.4	101	2479	2461	388	4.5
SV7688QF	65	1475	1459	1%	4%	13%	23%	36%	16%	4.5	108	2443	2219	412	4.7
513	64	1449	1447	2%	4%	14%	30%	39%	6%	4.3	101	6686	6658	410	4.7
513	65	1475	1451	1%	3%	9%	22%	46%	16%	4.6	112	7126	6790	383	4.4
370	66	1499	1466	1%	4%	8%	17%	46%	22%	4.7	117	6363	5897	326	3.7
370	67	1528	1444	0%	1%	6%	15%	40%	34%	5.0	142	7398	6222	291	3.3
Grundy	66	1499	1441	1%	3%	9%	18%	39%	27%	4.8	129	6254	5442	474	5.4
Grundy	67	1528	1456	1%	2%	8%	16%	37%	31%	4.9	136	6284	5276	407	4.7
SV1036QF	65	1475	1458	2%	3%	9%	15%	33%	34%	4.9	108	6614	6381	378	4.3
SV1036QF	66	1499	1454	1%	2%	7%	13%	29%	44%	5.1	122	7449	6823	395	4.5
Lochsa (420A	65	1475	1460	2%	5%	13%	28%	38%	11%	4.3	108	4636	4421	425	4.9
Lochsa (420A	66	1499	1463	2%	4%	10%	24%	44%	13%	4.5	118	5953	5449	428	4.9
BSC4361A1	66	1499	1464	1%	3%	10%	18%	40%	25%	4.7	118	6592	6097	362	4.2
BSC4361A1	67	1528	1464	1%	2%	7%	16%	42%	30%	4.9	132	7750	6854	419	4.8
BSC4241A	66	1499	1466	4%	8%	20%	34%	27%	4%	3.9	116	3154	2697	384	4.4
BSC4241A	67	1528	1471	3%	7%	20%	38%	24%	5%	3.9	128	3285	2492	378	4.3
522	65	1475	1471	2%	5%	15%	26%	37%	12%	4.3	102	5619	5563	425	4.9
522	66	1499	1472	1%	4%	10%	19%	40%	22%	4.6	114	5826	5443	375	4.3
BL2404	65	1475	1483	2%	5%	14%	23%	37%	15%	4.4	96	5833	5945	378	4.3
BL2404	66	1499	1511	3%	5%	10%	20%	39%	20%	4.5	94	6625	6793	423	4.9
BL2404	67	1528	1483	1%	2%	7%	12%	35%	39%	5.0	122	7725	7099	437	5.0

Table 4. Maturity Sieve Distribution and Yield continued:

Cultivar	Days to harv	Heat Units to Harv.	Adjusted Heat U based on 100 TU	Sieve 1 %	Sieve 2 %	Sieve 3 %	Sieve 4 %	Sieve 5%	Sieve 6%	Sieve size index	Ten.	#/A	Adjusted Yield based on 100 TU	Plants per A (1000)	Plts. per foot
PLS 595	66	1499	1488	2%	4%	7%	18%	43%	24%	4.7	105	6734	6584	425	4.9
PLS 595	67	1528	1487	1%	3%	7%	15%	43%	29%	4.9	120	8040	7471	407	4.7
163-26-4	67	1528	1499	5%	9%	15%	22%	35%	10%	4.1	114	3953	3552	463	5.3
163-26-4	68	1558	1525	5%	10%	20%	26%	25%	8%	3.9	117	3920	3454	353	4.0
BL403	66	1499	1512	4%	6%	8%	15%	40%	24%	4.6	94	4966	5143	385	4.4
BL403	67	1528	1529	2%	5%	10%	14%	34%	31%	4.7	99	5097	5115	372	4.3
BL403	68	1558	1494	1%	3%	7%	16%	34%	34%	4.9	132	5173	4277	392	4.5
PLS 179	67	1528	1523	0%	2%	9%	21%	51%	16%	4.7	103	7020	6946	368	4.2
PLS 179	68	1558	1519	3%	5%	15%	28%	38%	10%	4.3	119	7147	6606	337	3.9
Trinity (CS435)	67	1528	1523	1%	4%	13%	27%	38%	17%	4.5	102	7946	7881	484	5.6
Trinity (CS435)	68	1558	1520	1%	3%	13%	28%	41%	11%	4.4	119	7365	6833	355	4.1
SV 0893QF	67	1528	1524	1%	3%	9%	20%	39%	25%	4.7	102	6632	6576	355	4.1
SV 0893QF	68	1558	1537	2%	4%	9%	23%	44%	16%	4.6	111	7449	7150	363	4.2
BSC5814	68	1558	1532	2%	4%	12%	27%	43%	11%	4.4	113	6447	6083	319	3.7
BSC5814	69	1590	1561	2%	6%	14%	30%	37%	8%	4.2	115	7561	7151	327	3.8
Naches	68	1558	1549	1%	3%	10%	20%	45%	18%	4.6	105	6342	6211	490	5.6
Naches	69	1590	1577	2%	4%	12%	24%	40%	14%	4.4	106	9010	8832	373	4.3
Naches	70	1612	1545	1%	2%	7%	21%	47%	19%	4.7	133	6777	5844	382	4.4
PLS 183	69	1590	1584	2%	4%	7%	15%	31%	36%	4.9	103	7376	7292	362	4.2
PLS 183	70	1612	1574	2%	3%	6%	13%	32%	43%	5.1	119	7590	7058	291	3.3
Maurice	70	1612	1629	10%	15%	27%	29%	11%	2%	3.2	92	3340	3573	297	3.4
Maurice	73	1691	1610	4%	13%	32%	34%	13%	2%	3.5	141	4661	3522	335	3.8

Sieve percentages do not always add up to 100. There was a small amount of less than 1 and greater than 6 that were not included.

Explanation for Headings in Table 4.

Days to Harvest - Number of days from planting until day of harvest.
Heat Units to Harvest - Accumulation of heat units (base 40 degree F.) from planting until harvest.
Adjusted heat units base 40 - Adjusted to 100 tenderometer reading. Two heat units were added for each unit below 100 and two units were subtracted for each unit above 100.
Average sieve percentage - Berries were hand sieved with Seedburo screens. The table on the title page describes the size of the various sieves.
Sieve Size index - Sieve size index reflects the mean sieve size of the variety at harvest.
Tenderometer measurement - A model TG4EI Integrating Texturegage was used to determine the tenderometer units of each harvested plot. The average of the three harvested plots per cultivar was listed.
Yield - Tons per acre - The weight of the harvested berries was extrapolated to tons per acre.
Yield lbs/A - Pounds per acre was determined by extrapolating the total weight of the berries per plot to obtain lbs per acre. Harvest plot was 7 rows by 5 ft in length or 35 row feet. (43560 sq ft/A/.5 ft = 87,120 row ft per acre. 87120 row ft /A divided by 35 harvested row ft gives a factor of 2489. This factor was multiplied by total berry weight harvested per plot to obtain lbs per acre.
Adjusted Yield lbs/acre - 28 pounds was added for each tenderometer unit reading below 100. 28 pounds was subtracted for each tenderometer unit reading above 100.
Plants/foot - Total number of plants harvested was divided by the 35 row feet harvested to arrive at plants per foot.
Plant population per acre - An extrapolation of the number of harvested plants to plants per acre.

Explanation for Headings in Table 5.

This data was from 30 plants harvested the same day as our yield harvest that was closest to our objective of 100 tenderometer unit reading. Example – Variety A was harvested twice at tenderometer readings of 99 and 116. The afternoon of the first harvest (99 units), 30 plants were harvested from the back of the plot, weighed and pods were hand stripped and berries were hand shelled.

Node to first flower - The average number of nodes on the stem until the first flower (included that one or two at the soil line or below).
Average Number of nodes with pods per plant - The number of nodes that had pods were counted and recorded.
Weight of the 30 plant sample - The weight of the sample (plants and pods) was recorded in pounds.
Weight of the plants - After the pods were taken off and weighed, the calculation was made of the plant weight.
Weight of the pods - After the pods were hand picked from the plant, total weight of the pods was recorded in pounds.
Weight of the berries - The berries were hand shelled from pods, counted and weighed in pounds.
Pods per plant - The total number of pods was divided by 30 (number of plants) to determine average pods per plant.
Percentage of single pods, double pods or triple pods per node - The number of pods per node were hand counted and the number of single pods, double pods and triple pods were recorded. This was changed to a percentage.
Pod length - An average of 10 pods were lined up and measured in inches. If they were very uniform, a single number was listed, if not a range was listed.
Berries per pod – Ten uniform pods were selected and opened. The range of berries per pod in this group was listed.

Table 5. Plant and Pod Characteristics (In order of maturity)

Cultivar	Node to first flower	# Nodes with Pods/plt.	Wt. Of plants & pods (lb)	Wt. of plants (lb)	Wt. of pods (lb)	Wt of berries (lb)	% Wt. of Berries (berry wt/plts & pods wt.)	Pods per plant	# of Single pods/ node	# of Double pods/ node	# Triple pods/ node	# ofQuad. Pods /node	Pod length (in)	Berries per pod
Salinero	7 to 9	3.3	1.77	0.78	0.99	0.48	27	4	2.6	0.7	0	0	2.5-3	5-6
Tomahawk	7 to 9	2.7	1.58	1.58		0.42	27	3.4	2	0.7	0	0	2.5-3	5-7
Sherwood	7 to 9	3.4	1.76	0.86	0.90	0.40	23	4	2.8	0.6	0	0	2.5-3	5-7
Spring (std)	8 to 10	2.3	1.62	0.83	0.79	0.40	24	2.7	1.9	0.4	0	0	2.5-3.5	4-7
SV0956QH	6 to 9	3	1.62	0.70	0.92	0.41	25	3.8	2.2	0.8	0	0	2.5-3.5	6-8
FP 2269	6 to 10	3	0.91	0.41	0.50	0.27	30	4.2	1.8	1.2	0	0	3-3.5	5-8
435 (GV)	7 to 11	3.5	1.14	0.57	0.57	0.27	24	5.1	1.8	1.6	0	0	3.25-4	5-9
Austin	10 to 13	2.9	1.12	0.51	0.61	0.28	25	4.7	1.1	1.8	0	0	3-3.75	5-8
BSC2014A	10 to 12	4.1	2.52	1.50	1.02	0.42	17	5.9	2.3	1.8	0	0	2.5-3	5-7
PLSM-14	7 to 10	3.2	3.00	1.45	1.55	0.85	28	5.6	1	1.9	0.3	0	3.25-3.5	6-9
SV0955QH	8 to 11	3.7	2.45	1.12	1.33	0.61	25	4.7	2.7	1	0	0	2.75-3	6-8
11P42	8 to 11	3.8	3.03	1.69	1.35	0.66	22	5.1	2.5	1.3	0	0	3-3.5	6-8
Portage (std)	9 to 10	2.4	2.91	1.81	1.10	0.54	18	4.2	1.1	0.9	0.4	0	3-3.5	5-8
SV7401QH	8 to 13	2.1	2.89	1.71	1.19	0.52	18	3.5	0.9	1.1	0.2	0	3.25-3.5	7-9
CS436AF	9 to 13	2.7	2.56	1.51	1.06	0.49	19	4	1.5	1.1	0.1	0	2.75-3.5	4-7
SV0935QF	9 to 13	2.8	3.38	2.19	1.20	0.51	15	4.6	1.3	1.2	0.3	0	3-3.5	6-9
SV1391QH	8 to 13	2.6	3.18	2.08	1.11	0.47	15	4.3	1.4	0.8	0.4	0	2.5-3	6-8
Reliance	9 to 15	3	3.47	1.97	1.50	0.66	19	5.4	1	1.7	0.3	0	3-3.5	6-8
SV8112QH	10 to 13	2.6	2.88	1.68	1.20	0.53	18	4.1	1.3	1	0.3	0	3.25-3.5	6-9
490	8 to 12	2.9	2.24	0.90	1.34	0.59	26	4.3	1.7	1.3	0	0	3.25-4	5-7
Gusty	8 to 11	3	3.09	1.87	1.23	0.50	16	4.4	1.6	1.4	0	0	2.75-3.5	5-8
SV 0969QH	10 to 14	4.1	3.70	2.22	1.49	0.55	15	7.2	2	1.4	0.7	0.1	2.5-3.5	6-9
518	10 to 12	3.6	3.04	1.55	1.49	0.65	21	4.7	2.5	1.1	0	0	4.75-5.5	6-10
BSC5051	9 to 12	2.8	2.50	1.20	1.30	0.69	28	4.8	1.2	1.1	0.5	0	3-3.5	6-8
Ricco	9 to 13	2.6	2.33	1.29	1.04	0.56	24	4	1.3	1.4	0	0	2.5-3.5	6-7
Impact	11 to 14	4.3	2.86	1.84	1.02	0.45	16	5.5	3.1	1.2	0	0	2.75-3.25	5-8
8540794 DA 1470	7 to 13	3.4	3.52	2.08	1.45	0.63	18	5.2	1.8	1.3	0.3	0	2.5-3.5	5-8
613-1	11 to 15	2.7	1.59	0.64	0.95	0.48	30	3.9	1.4	1.3	0	0	4.25-4.5	6-9

Table 5. Plant and Pod Characteristics continued:

Cultivar	Node to first flower	# Nodes with Pods/plt.	Wt. Of plants & pods (lb)	Wt. of plants (lb)	Wt. of pods (lb)	Wt of berries (lb)	% Wt. of Berries (berry wt/plts & pods wt.)	Pods per plant	# of Single pods/ node	# of Double pods/ node	# Triple pods/ node	# ofQuad. Pods /node	Pod length (in)	Berries per pod
FP 2278	12 to 14	3.5	3.35	1.82	1.53	0.66	20	5.5	1.5	2	0	0	2-3	6-9
SV7688QF	12 to 16	2.1	2.59	2.10	0.49	0.21	8	3.3	1	1	0.1	0	2.5-3.5	5-9
513	11 to 14	4	3.09	1.41	1.68	0.64	21	6.1	2	1.9	0.1	0	3-3.75	5-9
370	11 to 14	2.9	3.00	1.15	1.85	0.97	32	5	0.8	2.1	0	0	2.5-3	6-9
Grundy	11 to 15	2.7	2.45	1.17	1.29	0.64	26	4.1	1.4	1.3	0	0	3.5-4.5	7-10
SV1036QF	11 to 15	3.7	3.40	1.93	1.47	0.70	21	5.2	2.4	1.1	0.2	0	3-4	6-8
Lochsa	11 to 16	2.6	1.93	0.89	1.04	0.58	30	3.4	1.8	0.8	0	0	3-3.5	7-8
BSC4361A1	10 to 15	2.6	1.62	0.69	0.93	0.45	28	3.9	1.2	1.3	0	0	3-3.5	7-8
BSC4241A	12 to 17	2.3	1.09	0.52	0.57	0.25	23	3.4	1.2	1.1	0	0	2.5-3.25	6-8
522	11 to 14	3.4	2.90	1.38	1.52	0.70	24	5	1.9	1.3	0.2	0	2.75-3.5	6-9
BL2404	14 - 18	2.7	3.25	1.78	1.47	0.57	18	4.4	1.1	1.7	0	0	3.75-4	5-8
PLS 595	12 to 16	2.5	2.06	0.92	1.14	0.59	29	3.4	1.5	1	0	0	4-4.5	7-9
163-26-4	11 to 15	4.9	3.11	2.07	1.04	0.24	8	6.6	3.2	1.6	0	0	2.5-3.5	5-8
BL403	13 - 16	2.9	3.43	2.11	1.32	0.56	16	4.1	1.8	1.1	0	0	2.5-3.5	5-7
PLS 179	13 - 17	3.6	3.30	1.52	1.78	1.00	30	5.6	1.7	1.9	0	0	3-4	6-8
Trinity	10 to 15	2.9	2.30	1.20	1.11	0.61	27	5.6	1.2	9	0.8	0	2.5-3	7-10
SV 0893QF	12 to 15	3.5	2.48	1.32	1.16	0.53	21	5.3	1.9	1.4	0.2	0	3-3.5	7-8
BSC5814	13 - 16	4.3	3.67	1.93	1.75	0.74	20	7.4	1.7	2	0.6	0	3.5-4	9-11
Naches	10 to 14	3.2	2.91	1.57	1.34	0.66	23	5	1.6	1.3	0.3	0	3-4.5	8-10
PLS 183	11 to 18	3.5	3.21	1.54	1.67	0.82	26	5.8	1.7	1.3	0.4	0	3-3.5	7-9
Maurice	15 to 17	4.1	3.32	1.79	1.53	0.59	18	7.5	1.4	2	0.7	0	3-4	6-9

See page 11 for column explanations.

Table 6. Maturity

Tenderometer unit measurement (Days after planting - gray area indicates harvest dates)

Cultivar	Day 52 30 HU 6/22	Day 53 33 HU	Day 54 30 HU	Day 55 27 HU	Day 56 27 HU	Day 57 23 HU	Day 58 18 HU	Day 59 20 HU	Day 60 24 HU	Day 61 28 HU	Day 62 25 HU	Day 63 21 HU	Day 64 26 HU	Day 65 65 HU
Salinero	122	136												
Tomahawk		136												
Sherwood	107	107	132											
Spring (std)	95		129											
SV0956QH	103	103	121											
FP 2269		89	99	120	121									
435 (GV)		81	90	110	119									
Austin (2311)		89	91	105	123									
BSC2014A			81	90	97	97		119						
PLSM-14			80	82	85			115	147					
SV0955QH		72		79	85			121						
11P42					92			117	121					
Portage (std)				83	86			111	122					
SV7401QH					87			107	118					
CS436AF					87			106	119					
SSV0935QF					76			100	107	121				
SV1391QH					85			113	107					
Reliance								97	110	118				
SV8112QH					76			95	106	120				
490									90	108	128			
Gusty								96	93	117	123			
SV0969									93	104	119			
518									87	100	118	122		
BSC5051				59	66			82	88	97	113	116		
Ricco											95	103	116	
Impact									90	82	87	92	103	116

Table 6. Maturity continued:

Cultivar		Day 59 20 HU	Day 60 24 HU	Day 61 28 HU	Day 62 25 HU	Day 63 21 HU	Day 64 26 HU	Day 65 65 HU	Day 66 29 HU	Day 67 31 HU	Day 68 32 HU	Day 69 22 HU	Day 70 28 HU	Day 73 22 HU 7/13
8540794 DA		80	80	86	102	114	129		170					
613-1			86	96	103	109								
FP 2278		74	82	95	99	103	118							
SV7688QF			65		89	94	101	108						
513					91	81	101	112						
370						79		101	117	142				
Grundy									129	136				
SV1036QF					82	86	95	108	122					
Lochsa					83	83	89	108	118					
BSC4361A1						79		93	118	132				
BSC4241A						79		102	116	128				
522						85	97	102	114					
BL2404			74	81	81	82	90	96	94	122				
PLS595					83	80	85	95	105	120				
163-26-4									100	114	117			
BL403			66		79	79			94	99	132			
PLS 179					80	73		82	89	103	119			
Trinity									99	102	119			
SV0893QF					70		78		87	102	111			
BSC5814					74		80	85	83	95	113	115		
Naches									85	100	106	107	133	
PLS 183									87	88	100	103	119	
Maurice									72	68	79	92		141

Heat units per day are included in the heading. Areas not gray were samples for maturity.

Samples were one gallon of pods (roughly one foot of row by 7 rows - one replication)

Additional Comments:

General comments: It is difficult to draw any definitive conclusions from the trial due to the variation between and within the replicates or even within individual blocks. Overall score based on visual observation and notes for all four replicates (4-best, 1 poorest). **This rating takes into account root rot, plant type, berry type and yield** – if plant and pods looked good and yield was average, it still got a higher rating. * Indicates a 3 or better. **Twiney** – tendrils on afila type very tightly intertwined.

Salinero – Showed slightly better root rot tolerance than Spring. Plant habit was a little better. Preferred over Spring, although harvest data showed that yield was less than Spring. Earliest maturing. Overall – 1.

Tomahawk (CS430AF) – Earlier maturing than Spring. Fairly upright plant. Yield less than Spring. Overall – 2.

Sherwood – Showed a little less root rot. Looked very well in the fourth replicate. Same maturity as Spring. Overall – 1.

Spring – Early season standard, showed the effects of root rot the most for the earliest maturing varieties. Most determinate pod set of early varieties. Yielded the best of the early varieties. Rep 4 evaluation among the best for the trial showing the variation in the trial. Overall - 1

SV0956QH – Short plant. Low yield. No harvestable plants in one rep. Root rot more severe than adjacent varieties. Overall – 1.

FP2269 – Poorer plant stand. Not as healthy plants. One replicate destroyed by root rot. Overall – 1.

GV 435 – Later maturing than Spring. Long pods. Healthy plants. More upright plant habit. A couple days later maturing than Spring. Overall – 2.

***Austin (2311) –** Showed better root rot tolerance. Upright plants. Overall – 3.

BSC2014A – Showed the best root rot tolerance of the early varieties. Healthy looking plants. Most indeterminate of the earlier varieties. Later maturing than Spring. Overall – 2.

PLSM-14 – Susceptible to root rot. Poor plant stand. Overall – 1.

SV0955QH – Somewhat indeterminate. Good yield. Overall – 2.

11P42 – Susceptible to root rot. Looked fairly good in two reps. Good yield. Overall – 1.

***Portage –** Good root rot tolerance. Uneven stand. Healthy plants. Overall – 3.

SV7401QH – Poor stand. Determinate pod set. Low yield. Overall – 2.

***CS436AF –** Root rot tolerance. Plants somewhat recumbent. Healthy plants. Oveall – 3.

SV0935QF – Poor root rot tolerance. Pods on top of the plant. Determinate plant growth. Low yield. Overall – 1.

****SV1391QH –** One of the best looking varieties in the trial. Good root rot tolerance. Upright plant habit. Healthy looking plants. Yield was low in one replicate. Overall – 4.

***Reliance** – Fairly good root rot tolerance. Upright plant. Determinate plant growth. Overall – 3.

Additional comments continued:

**SV8112QH – Good root rot tolerance. Upright plant habit. Very determinate. Good yield potential. Overall – 4.

490 – Root rot susceptible. Recumbent plant. Fairly determinate. Overall – 1.

Gusty – Decently determinate. Had some root rot but not as bad as some. Decent yield. Overall – 2.

*SV0969QH – Observation so only two plots. Decent root rot tolerance. Recumbent, but healthy plants. Lower yield. Overall – 3.

*518 – Best root rot tolerance. Healthy plants. Plants remained healthy several days after harvest. Plants upright. Overall – 3.

BSC5051 – Good root rot tolerance. Fairly upright plant habit. Overall – 2.

*Ricco – Very good root rot tolerance. Somewhat recumbent plant. Slightly indeterminate pod set. Healthy plants. Decent yield. Overall – 3.

*Impact – Good root rot tolerance. Plants upright. Determinate plant growth. Healthy plants. Overall – 3.

EX08540794 – Root rot was bad in one replication. Fairly upright plant habit. Generally determinate. Overall – 2.

613-1 – Susceptible to root rot. Slightly recumbent plant habit. Earlier maturing. Indeterminate pod set. Smaller sieve. Overall – 1.

*FP2278 – Excellent root rot tolerance. Fairly upright plant. Determinate pod set. Short, healthy plant. Good yield. Overall – 3.

SV7688QF – Good root rot tolerance. Upright plant habit. Somewhat indeterminate pod set. Excessive tendrils. Overall – 2.

*513 – Good root rot tolerance. Slightly recumbent plant habit. Determinate pod set. Good yield. Some blonde berries. Overall – 3.

370 – Susceptible to root rot. Slightly recumbent plant habit. Shows some indeterminate pod set. Overall – 1.

Grundy – Slightly susceptible to root rot. Slightly recumbent plant habit. Slightly indeterminate pod set. Overall - 2

**SV1036QF – Good root rot tolerance. Slightly recumbent plant habit. Determinate pod set. Healthy plants. Short pods. Overall – 4.

Lochsa – Slightly susceptible to root rot. Slightly recumbent plant habit. Determinate pod set. Short plant. Overall – 2.

BSC4361A1 – Susceptible to root rot. Somewhat recumbent plant. Mostly determinate pod set. A few blonde peas. Overall – 1.

BSC4241A – Some root rot. Plants recumbent. Shows some indeterminate pod set. Short plant. Overall – 2.

Additional comments continued:

*522 – Good root rot tolerance. Mostly upright plant habit. Determinate pod set. Tall plant. Short pods. Overall – 3.

*BL2404 – Good root rot tolerance. Upright plants. Determinate plant growth. Tall, healthy plants. High yield. Overall – 3.

PLS595 – Susceptible to root rot. Somewhat recumbent. Slightly indeterminate plant habit. Long pods. Overall – 2.

163-26-4 – Slightly root rot susceptible. Mostly upright plant habit. Somewhat indeterminate pod set. Yield on the low side. Overall – 2.

BL403 – Fair root rot tolerance. Plants recumbent. Slightly indeterminate plant habit. Yield questionable. Overall – 2.

*PLS179 – Fairly good root rot tolerance. Fairly upright plant. Determinate pod set. Tall large plant. Overall – 3.

Trinity – Somewhat root rot susceptible. Somewhat incumbent plant habit. Somewhat indeterminate pod set. High yield. Oveall - 2.

*SV0893QF – Root rot in one replicate. Slightly incumbent plant habit. Slightly indeterminate plant habit. Short pods. Oveall – 3.

BSC5814 – Slightly root rot susceptible. Slightly recumbent plant habit. Somewhat indeterminate plant habit. Overall – 3.

*Naches – Good root rot tolerance. Slightly recumbent plant habit. Mostly determinate pod set. Plant remained healthy after harvest. Overall - 3.

*PLS183 – Somewhat root rot susceptible. Upright plant. Very determinate pod set. Good yield. Overall – 3.

Maurice – Fairly good root rot tolerance. Somewhat recumbent plant habit. Indeterminate pod set and was still blossoming after harvest. Late maturing. Overall – 2.

Descriptions Provided by the Seed Source

Salinero – *Seminis, normal leaf type, 1155 heat units to harvest, 3.4 average sieve, 9-10 nodes to first flower, 1-2 pods per node, 7-8 berries per pod, plant height 14 inches, IR for DM (Pv), HR for Fus R1 (Fop1), HR for BY (BYMV). (Breeder comments – very early, good processed product, similar sieve style and quality to Cabree but 15 heat units earlier.)*

Tomahawk (CS-430AF) – *Crites, afila leaf, 1260 heat units, 3.5 average sieve size, germ. 96%.*

Sherwood – *Seminis, normal leaf, 1160 heat units, 3.3 average sieve size, IR for Downy Mildew (Pv), HR for Fusarium R1 (Fop1), HR for BY (BYMV).*

Spring – *Seminis, normal leaf, 1155 heat units, 3.9 average sieve size, 9-10 nodes to flower, 1-2 pods per plant, 6-7 berries per pod, 16 inch plant height, resistance to Fusarium wilt race 1.*

SV0956QH *– Seminis, normal leaf, 1205 HU, Sweet Savor gene, HR for Fop1 and BYMV; IR for Pv.*

Descriptions Provided by the Seed Source continued:

FP2269 – *Gallatin Valley, Early afila leaf type with great emergence in cool soils. 57 days to maturity,Maturity near 1200 heat units, 10 nodes to first flower, 24" plant height, avg. 2 pods per node, 7-8 berries per pod, pod shape is blunt, 3.9 average sieve size. Fusarium (Fop) – HR (1), Powdery Mildew (PM) – HR(1). Good yield.*

GV435 – *Gallatin Valley, First early afila type, have little or no root rot resistance, 57 days to maturity, 1200 avg. heat units, 10 nodes to first flower, 22" avg. plant height, avg. 2 pods per node, avg. sieve size 3.5, 8-9 berries per pod, .*

Austin (FP 2311) – *Gallatin Valley, Second early afila leaf type with good plant vigor. Maturity is considered 60 days or near 1280 heat units. Good plant type, avg. – 12 nodes at first bloom, plant height – 22, avg. pods per node – 2, avg. sieve size – 3.2, avg. berries per pod – 7-8, Fusarium (fop) – HR (1,2), Powdery Mildew (PM) HR(1).*

BSC2014A – *Brotherton, early season freezer type, compare to* ***Sherwood****, 9 nodes to first flower, normal leaf, Germ – 98, 1160 heat units.*

PLSM14 – *Pure Line, normal leaf type, germ-90%, 1350 heat units, 3.7 average sieve size, 9 nodes to first flower, high tolerance to Fusarium wilt race 1.*

SV0955QH – *Seminis, normal leaf, 1290 heat units, Sweet Savor gene, HR for Fop1 and BYMV; IR for Pv.*

11P42 – *Pure Line, afila, germ-90%, 1340 heat units,*

Portage – *Crites, midseason maturity, 60 days to maturity or approximately 1325 heat units, afila leaf type, 18 inch plant height, 10 nodes to first bloom, 2-3 pods per node, 7-8 peas per pod, 3.78 sieve size index, resistant to fusarium wilt race 1.*

SV7401QH – *Seminis, heat units 1340, Sub M – DLS, Foliage – DetN, avg. sieve size is 3.2, Germ-94%.*

CS436AF – *Crites, afila leaf type, 1390 heat units, Germ. – 96%.*

SV0935QF – *Seminis, Sweet Savor gene, Determinate afila leaf type, 1340 heat units to harvest, 3.1 average sieve size, 12 nodes to first flower, 2-3 pods per node, 7-8 berries per pod, 16 inch plant height. HR for Ep, Fop 1&2, PEMV and BYMV; IR for Pv. Breeder Comments - This variety combines higher sweetness, slower conversion to sugar to starch, uniform color and sieve size on an easy to harvest plant type.*

SV1391QH – *Seminis, heat units 1320, Sub M DSL, Foliage DetA, avg. sieve size is 3.3*

Reliance *- Seminis, determinate afila type, 1420 heat units or midseason maturity, 14 nodes to first flower, 2-3 pods per node, 8 berries per pod, 3.2 average sieve size, 18 inch plant height, HR for Ep, Fop1, Fop2, PEMV and BYMV; IR for Pv. The 2nd reproductive node is a terminal node with 2 racemes. This variety does not carry the Sweet Savor gene but it appears to relatively slow in the conversion of sugar to starch. A very homogenous fresh product in color and quality. Easy to harvest plant type.*

SV8112QH *– Seminis, Sweet Savor gene type, Determinate afila leaf type, Sweet Savor gene type, 1430 heat units, 3.1 average sieve size, HR for Ep, Fop1, Fop2, PEMV and BYMV; IR for Pv; S to Aps.*

Descriptions Provided by the Seed Source continued:

490 – *Gallatin Valley, normal leaf type, second early maturity (1380 heat units). 61 days to maturity, 12 nodes to first bloom, plant height 24", avg. 2 pods per node, avg. sieve size – 3.8, 8-9 berries per pod.*

Gusty – *Brotherton, Early-Mid afila freezer type, compare to* ***Fashion****, 12 nodes to first flower, germ-99, 1350 heat units,very good root rot tolerance.*

SV0969QH – *Seminis, Sweet Savor gene type, normal leaf, 1360 heat units, 3.1 average sieve, HR for Ep, Fop1, Fop2 and BYMV; IR for Pv.*

518 – *Gallatin Valley, Mid season Afila type, 67 days to maturity, 1350 heat units, 12-13 nodes to first flower, plant height 25", avg. 2 pods per node, avg. sieve size is 3.8, pointed pod shape.*

BSC5051 *– Brotherton, Early-Mid freezer normal leaf type, compare to* ***Tonic****, germ-E90, very good root rot tolerance, 1300 heat units, 10 nodes to first flower.*

Ricco – *Gallatin Valley, Main season variety (68 days to maturity or 1530 heat units), afila leaf type, 16 nodes to first flower, 26 inch plant height, 2 pods per node, 3.7 average sieve size, 8-9 berries per pod, pointed pod shape, HR for Fusarium wilt race 1 and IR for race 2, HR for Bean Leaf Roll Virus and Powdery Mildew race 1, dark green foliage, excellent disease package including root rot tolerance, superior yield, medium size berry, uniform berry color, widely adapted.*

Impact (4640) – *Brotherton, Early-Mid freezer afila type, compare to* ***Fashion****, 1350 heat units, 12 nodes to first flower, germ-99, very good root rot tolerance.*

EX08540794 – *Seminis, 1470 heat units, determinate afila type, 3.2 average sieve size, 2-3 pods per node, 7-9 berries per pod, 18 inch plant height, HR for Fus R1 (Fop1) and HR for BY (BYMV). Sweet savor gene which slows conversion of sugar to starch, true determinate plant type which allows for improved sieve distribution and less waste at harvest from immature fruit.*

613-1 – *Pure Line, afila type, germ-90%, 1580 heat units, high tolerance to PM, tolerance to DM.*

FP2278 – *Gallatin Valley, Mid-Season Afila type, 69 days to maturity, 1500 heat units, 15 nodes to first flower, plant height 26", avg. 2 pods per node, avg. sieve size is 3.6, 7-9 berries per pod, blunt pod shape, Fusarium (fop) – HR(1,2), Powdery Mildew (PM) – HR (1).*

SV7688QF *– Seminis, Sweet Savor gene type, Determinate afila leaf type, Sweet Savor gene type, 1480 heat units, 3.2 average sieve size, HR for Ep, Fop1, Fop2, PEMV and BYMV; S for Aps.*

513 *– Gallatin Valley, Mid-Season normal leaf type, 69 days to maturity, 1550 heat units, 15 nodes to first bloom, plant height 25", avg, 3 pods per node, avg. sieve size is 4, pod shape is blunt,Bolero type with RR.*

370 – *Pure Line, afila type, germ-90%, 1560 heat units.*

Grundy *– Gallatin Valley, normal leaf type, midseason maturity (1595 heat units), 16 nodes to first flower, 2 pods per node, 3.8 average sieve size, 8-9 berries per pod, 28 inch plant height, pointed pod shape, high resistance to fusarium wilt races 1 and 2, high resistance to powdery mildew, IR for Pea Enation Mosaic Virus.*

SV1036QF – *Seminis, afila leaf type, 1525 heat units, 3.8 average sieve size, HR to Ep, Fop2 and PEMV.*

Descriptions Provided by the Seed Source continued:

Lochsa (420AF) – *Crites, normal leaf type, 1550 heat units, 15 nodes to first flower, 67 days to 100 TR, plant height is 20", 2 pods per node, 8-9 berries per pod, avg. sieve size is 3.69, Fusarium Wilt Races (1,2,5), resistance to PM.*

BSC4361A1 – *Brotherton, Late season normal leaf freezer type, compare to* ***Puget****, 15 nodes to first flower, 1560 heat units, germ-92.*

BSC4241A *– Brotherton, Late season normal leaf freezer type, compare to* ***Puget****, 14-15 nodes to first flower, 1560 heat units, germ-96.*

522 – *Gallatin Valley, Mid-Season Afila type, 69 days to maturity, 1560 heat units, 14-15 nodes to first flower, plant height 25", avg. 3 pods per node, avg. sieve size is 4, 7-8 berries per pod, blunt pod shape, HR (1) to Powdery Mildew (PM),*

BL2404 – *Columbia, Maturity to Avola/Spring +10, afila leaf type, dark green 20" plant, 14- 15 nodes to first flower, blunt pod shape, pod length – 8 cm, pod width – 14 mm, pod color – med., pea color – dark, berries per pod – 7, Fusarium race – R, PM – R, Virus – R. Maturity against Lincoln +3.*

PLS595 – *Pure Line – afila leaf type, 1540 heat units, germ-90%, 13 nodes to first flower, high tolerance to Fusarium wilt race 1 and powdery mildew; tolerance to Downy mildew.*

163-26-4 – *Pure Line, afila type, germ-90%, 1620 heat units,*

BL403 – *Columbia, Maturity to Avola/Spring +14, normal leaf type, dark green 20" plant, 15-16 nodes to first flower, blunt pod shape, pod length – 9 cm, pod width – 15 mm, pod color – medium, pea color – dark, berries per pod – 8, Disease resistance to: Fusarium Race 1, Pea Wilt, Powdery Mildew, Virus. Maturity against Lincoln +3.*

PLS179 – *Pure Line, afila leaf type, 1500 heat units, germ-91%, high tolerance: bean leaf roll, PM, Fusarium Root Rot, tolerance to Pea Enation.01*

Trinity (CS435) – *Crites, 1615 heat units, 3.6 avg. sieve size, Race1,2, PM resistance.*

SV0893QF *– Seminis, late season, 1525 heat units, normal leaf type, 3.50 average sieve size, 14 nodes to first flower, 2-3 pods per node, 8-9 berries per pod, 24 inch plant height, wr gene, HR for BYMV/Ep/Fop:1, IR for Pv; S to Fop2 and Aps.*

BSC5814 – *Brotherton, very good root rot tolerance,*

Naches – *Crites, afila type, 1640 heat units, 16 nodes to first flower, 72 days to 100TR, plant height – 20", 3 pods per node, 8-9 berries per pod, avg. sieve size is 3.75, Fusarium Wilt Races(s) (1,2,5), resistance to PM.*

PLS183 – *Pure Line, afila type, 1640 heat units,*

Maurice – *Seminis, afila leaf type, late season, 1650 heat units, Sweet savor gene, 3.1 average sieve size, 17 nodes to first flower, 2-3 pods per node, 8-9 berries per pod, plant height is 20", IR for DM (Pv), HR for PM (Ep), HR for Fus R (Fop1), HR for Asc (Aps), Hr for En (PEMV), HR for BY (BYMV). Breeder comments – Enhanced sweetness with a very food disease package and a smaller sieve size.*

A cutting was held on 11/5 where frozen peas were warmed and evaluated by a number of processing and seed company representatives. I did not evaluate this. Special thanks to Wilma Kean, Dawn Fishback, Paula Fox and David Strickland for their assistance in making this event successful.

Table 7. Weather Summary

Date	days	Max. Temp.	Min. Temp.	Mean Temp.	Precip.	Acc Precip.	Degree days base 40	acc dd units base 40
5/1/15	*1*	67	41	54	0	0	14	14
5/2/15	*2*	64	44	54	0	0	14	28
5/3/15	*3*	70	47	58.5	0	0	18.5	46.5
5/4/15	*4*	76	51	63.5	0	0	23.5	70
5/5/15	*5*	83	54	68.5	0	0	28.5	98.5
5/6/15	*6*	69	51	60	0	0	20	118.5
5/7/15	*7*	70	49	59.5	0	0	19.5	138
5/8/15	*8*	78	51	64.5	0	0	24.5	162.5
5/9/15	*9*	86	53	69.5	0.05	0.05	29.5	192
5/10/15	*10*	84	63	73.5	0	0.05	33.5	225.5
5/11/15	*11*	85	63	74	1.21	1.26	34	259.5
5/12/15	*12*	82	63	72.5	0.43	1.69	32.5	292
5/13/15	*13*	69	44	56.5	0	1.69	16.5	308.5
5/14/15	*14*	69	41	55	0.02	1.71	15	323.5
5/15/15	*15*	63	42	52.5	0	1.71	12.5	336
5/16/15	*16*	67	46	56.5	0.2	1.91	16.5	352.5
5/17/15	*17*	75	56	65.5	0	1.91	25.5	378
5/18/15	*18*	78	58	68	0	1.91	28	406
5/19/15	*19*	82	62	72	0.39	2.3	32	438
5/20/15	*20*	74	40	57	0	2.3	17	455
5/21/15	*21*	55	40	47.5	0	2.3	7.5	462.5
5/22/15	*22*	63	46	54.5	0	2.3	14.5	477
5/23/15	*23*	58	33	45.5	0	2.3	5.5	482.5
5/24/15	*24*	65	40	52.5	0	2.3	12.5	495
5/25/15	*25*	78	57	67.5	0	2.3	27.5	522.5
5/26/15	*26*	85	60	72.5	0	2.3	32.5	555
5/27/15	*27*	82	65	73.5	0	2.3	33.5	588.5
5/28/15	*28*	83	63	73	0.02	2.32	33	621.5
5/29/15	*29*	73	50	61.5	0	2.32	21.5	643
5/30/15	*30*	80	53	66.5	0	2.32	26.5	669.5
5/31/15	*31*	68	38	53	**1.58**	3.9	13	682.5
6/1/15	*32*	48	45	46.5	**0.81**	4.71	6.5	689
6/2/15	*33*	54	46	50	0.05	4.76	10	699
6/3/15	*34*	59	41	50	0.02	4.78	10	709
6/4/15	*35*	69	43	56	0	4.78	16	725
6/5/15	*36*	74	48	61	0	4.78	21	746

6/6/15	*37*	77	51	64	**0.75**	5.53	24	770
6/7/15	*38*	60	41	50.5	0	5.53	10.5	780.5
6/8/15	*39*	78	55	66.5	0.05	5.58	26.5	807
6/9/15	*40*	71	62	66.5	0.63	6.21	26.5	833.5
6/10/15	*41*	70	55	62.5	0.45	6.66	22.5	856
6/11/15	*42*	78	57	67.5	**1.53**	8.19	27.5	883.5
6/12/15	*43*	75	57	66	0	8.19	26	909.5
6/13/15	*44*	81	56	68.5	0.6	8.79	28.5	938
6/14/15	*45*	74	57	65.5	0.01	8.8	25.5	963.5
6/15/15	*46*	78	62	70	**1.06**	9.86	30	993.5
6/16/15	*47*	77	64	70.5	0.02	9.88	30.5	1024
6/17/15	*48*	77	57	67	0.35	10.23	27	1051
6/18/15	*49*	71	57	64	0	10.23	24	1075
6/19/15	*50*	78	62	70	0	10.23	30	1105
6/20/15	*51*	64	47	55.5	0	10.23	15.5	1120.5
6/21/15	*52*	75	55	65	0.03	10.26	25	1145.5
6/22/15	*53*	79	61	70	0	10.26	30	1175.5
6/23/15	*54*	82	63	72.5	0.16	10.42	32.5	1208
6/24/15	*55*	81	58	69.5	0.03	10.45	29.5	1237.5
6/25/15	*56*	75	59	67	0	10.45	27	1264.5
6/26/15	*57*	76	57	66.5	0.01	10.46	26.5	1291
6/27/15	*58*	72	54	63	0	10.46	23	1314
6/28/15	*59*	63	53	58	**1.9**	12.36	18	1332
6/29/15	*60*	65	54	59.5	0.25	12.61	19.5	1351.5
6/30/15	*61*	71	56	63.5	0.04	12.65	23.5	1375
7/1/15	*62*	76	60	68	**0.88**	13.53	28	1403
7/2/15	*63*	72	58	65	0.2	13.73	25	1428
7/3/15	*64*	72	50	61	0	13.73	21	1449
7/4/15	*65*	73	58	65.5	0	13.73	25.5	1474.5
7/5/15	*66*	75	54	64.5	0.07	13.8	24.5	1499
7/6/15	*67*	79	58	68.5	0.01	13.81	28.5	1527.5
7/7/15	*68*	80	61	70.5	0	13.81	30.5	1558
7/8/15	*69*	86	58	72	0.52	14.33	32	1590
7/9/15	*70*	68	56	62	0.02	14.35	22	1612
7/10/15	*71*	66	58	62	**1.18**	15.53	22	1634
7/11/15	*72*	76	60	68	0	15.53	28	1662
7/12/15	*73*	80	58	69	0	15.53	29	1691
7/13/15	*74*	81	63	72	0	15.53	32	1723
7/14/15	*75*	83	64	73.5	0.1	15.63	33.5	1756.5
7/15/15	*76*	76	54	65	0.39	16.02	25	1781.5