

# NEW YORK STATE 2013 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** - 4/29. Picking started on 6/24 and we finished on 7/9. **Herbicide** - Dual post plant (4/30) and Basagran-Thistrol post emergence on 5/17. **Plot Size:** 7 rows by 30 ft. **Row Width:** 6 inches, Row length: 30 ft. **In-row Spacing:** 1350 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 Texturegag** - measure for maturity.

The objective of this trial was to compare a number of normal leaf and afile 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 will be held on 11/7 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 100 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.**

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

### **Temperature and moisture Conditions**

Soil conditions were good when planting with good moisture and warm temperatures. Stands varied but most were good to very good. Growing conditions were good other with no lack of rain and many hot days during harvest. Yields reflected the plant stands variety potential and ranged from 1500 lbs per acre to 9000 lbs per acre. It was a good trial. 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. Michael Gardinier of Farm Fresh First for his assistance in planning the trials. My thanks to team members Russ Harris, Wilma Kean, Sarah Hulick, Paula Fox, Anne Wiltsey, Andy TenEyck, Mary Lou Hessney, Jake Legott, Nick Luango 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. Only five of fifty nine entries were more than 10 units past our 100 unit objective and only one was more than 15 units past. He also is 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
Salinero	1155	Seminis	normal	Allegiance - Captan	2212	90	3.4	9 to 10
Sherwood	1160	Seminis	normal	Allegiance - Captan	2363	90	3.3	
BSC2210	1160	Br.	normal	Captan/Alleg/Cruiser	2534	90		9 to 10
Pizarro	1170	Seminis	afila	Allegiance - Captan	2389	95	3.5	10
BSC3129	1200	Br.	normal	Captan/Alleg/Cruiser	2448	98		10 to 12
SV0956QH	1205	Seminis	normal	Allegiance - Captan	2904			
BSC2030	1220	Br.	normal	Captan/Alleg/Cruiser	2272	97		9 to 12
PLS9004	1230	Pureline	afila	Captan/Allegiance/Cruiser	2436	83		
Crescendo	1230	Seminis	normal	Allegiance - Captan	3210	95	2.5	10 to 11
PA0826	1250	Seminis	normal	Allegiance - Captan	3586	95	2.5	
CS-430AF	1260	Crites	afila	Maxim, ApronXL	2123	99	3.5	
BSC3140	1260	Br.	normal	Captan/Alleg/Cruiser	2672	80		11 to 12
SV0955QH	1290	Seminis	normal	Allegiance - Captan	3064	93		
Romance	1290	Seminis	afila	Allegiance - Captan	2337	95	3.5	
BSC5051	1300	Br.	normal	Captan/Alleg/Cruiser	2268	90		12 to 13
CMG-416AF	1310	Crites	afila	Maxim, ApronXL	2223	98	3.9	
CS-432F	1320	Crites	normal	Maxim, ApronXL	2291	99	4.1	
CS-424F	1320	Crites	normal	Maxim, ApronXL	2363	98	4	
Lil'Mo	1320	Seminis	normal	Allegiance - Captan	3596	95	2.6	10 to 11
SV0935QF	1340	Seminis	det afila	Allegiance - Captan	2687	95	3.1	
PLS226	1340	Pureline	afila	Captan/Allegiance/Cruiser	2103	99		
PLS M-14	1350	Pureline	normal	Captan/Allegiance/Cruiser	2318	96		
BSC5641	1350	Br.	normal	Captan/Alleg/Cruiser	2413	90		13-14
PLS304	1360	Pureline	afila	Captan/Allegiance/Cruiser	2283	96		
SV0969QH	1360	Seminis	normal	Allegiance - Captan	3009	92	3.1	
Nitro	1370	Seminis	normal	Allegiance - Captan	5118	95	2	
Reliance	1420	Seminis	det afila	Allegiance - Captan	2954	90	3.2	14
DLSC710-1333	1430	Seminis	det afila	Allegiance - Captan	2900	96	3.1	
Exp.22917	1435	Crites	afila	Maxim, ApronXL	2318	96	3.9	
PLS167	1440	Pureline	afila	Captan/Allegiance/Cruiser	3019	95	3.1	
DLSC7091058	1450	Seminis	det afila	Allegiance - Captan	2509	94	3.1	
BSC5091	1450	Br.	normal	Captan/Alleg/Cruiser	2520	90		12 to 14

**Table 2 Continued:**

Cultivar	HU	Seed Source	Leaf Type	Seed Treatment	Seed Count/lb	Germ. %	Sieve Size	Nodes to Flower
Exp. 22915	1455	Crites	normal	Maxim, ApronXL	2368	91	3.8	
EX 08540794 (DA1470)	1470	Seminis	det afila	Allegiance - Captan	3318	95	3.2	12 to 13
DLSC710-1335	1480	Seminis	det afila	Allegiance - Captan	2964	96	3.2	
PLS36Y	1480	Pureline	afila	Captan/Allegiance/Cruiser	2402	92		
PLS586	1480	Pureline	afila	Captan/Allegiance/Cruiser	2595	92		
Ashton	1480	Seminis	normal	Allegiance - Captan	2521	91	3.3	14 to 15
Durango	1480	Seminis	normal	Allegiance - Captan	2338	90	3.55	14
Ambiance	1480	Seminis	afila	Allegiance - Captan	4794	95	2.0	
PLS648	1480	Pureline	afila	Captan/Allegiance/Cruiser	1948	96		
FP2278	1500	GV	afila	Maxim, Apron,Cruiser	2825	95		
BSC5401	1500	Br.	normal	Captan/Alleg/Cruiser	2268	90		13-14
Bolero	1510	Pureline	normal	Captan/Allegiance/Cruiser	2372	99		
SV0893QF	1525	Seminis	normal	Allegiance - Captan	2377	95	3.5	
BSC3661	1530	Br.	normal	Captan/Alleg/Cruiser	2150	90		14-15
PLS251	1540	Pureline	afila	Captan/Allegiance/Cruiser	2858	91		
Hudson	1540	Crites	normal	Maxim, ApronXL	2291	94	3.8	
PLS595	1540	Pureline	afila	Captan/Allegiance/Cruiser	2194	98		
Grundy	1560	GV	normal	Maxim, Apron,Cruiser	2150	97	3.8	16
CMG337F	1560	Crites	normal	Maxim, ApronXL	4137	98	2	
BSC4361	1570	Br.	normal	Captan/Alleg/Cruiser	2150	90		14-16
Welland 419	1575	Crites	afila	Maxim, ApronXL	3180	99	2.7	
Hyperion	1575	Seminis	afila	Allegiance - Captan	2464	97	3.1	16
PLS196	1600	Pureline	afila	Captan/Allegiance/Cruiser	2019	99	3.7	
PLS183	1640	Pureline	afila	Captan/Allegiance/Cruiser	2547	99		
Naches	1640	Crites	afila	Maxim, ApronXL	2295	97	3.7	
Maurice	1650	Seminis	afila	Allegiance - Captan	3540	95	3.1	17
Prometheus	1650	Seminis	normal	Allegiance - Captan	3018	95	3.4	16

All of the above information was provided by the seed source.

**Table 3. Plant Characteristics**

Cultivar	Plant Stand Rating	Plant Vigor Rating	Canopy Height (in.)	Heat Units to First Blossom	Plant Habit Rating (at Harvest)	<sup>1</sup> Root Rot Rating
Salinero	3	4.5	15	827	3.6	7.5
Sherwood	4	4.5	12	845	3.3	6.0
BSC2210	4	4.75	11.5	807	3	na
Pizarro	3	4	15	845	4	na
SV0956QH	4	4	9.5	915	2.2	na
PLS9004	3	3.5	12	894	3.5	na
PA0826	4	4	11	827	3	8.0
CS-430AF	5	5	14	827	3.6	na
Crescendo	4	4	15	807	4.2	na
CMG-416AF	5	4	15	827	3.5	na
PLS226	4	4	15	871	4.2	na
PLS304	4	5	16	845	3.8	na
PLS M-14	5	5	17	807	3.8	8.3
Lil'Mo	3.75	3.75	17	845	4	8.3
SV0955QH	4	4	11	845	2.5	na
Romance	3.5	4	16	940	3.8	8.8
CS-432F	5	5	16	845	3.75	8.8
BSC3129	4.5	4.5	15	894	3.8	na
SV0935QF	3	3.5	13	955	3.8	na
CS-424F	4.5	4	14.5	915	3.7	na
Exp.22917	4	4	15.6	978	3.8	na
BSC2030	3.5	3.5	18	978	5	na
BSC3140	3.75	4	16	915	4	8.3
BSC5641	5	4	15	940	3.5	na
SV0969QH	3.5	4	16	955	4	na
Nitro	3.5	3.5	17.3	978	4.2	7.8
Reliance	3.75	3.5	15.3	955	4	8.5
DLSC710-1333	3.5	3.5	15	978	3.8	na
PLS167	4	4	16	940	3.7	na
BSC5091	4	4	15	940	3.7	na
Exp. 22915	3.5	5	12.5	1003	3.2	na
PLS36Y	4	4.5	17.3	955	3.8	na
PLS586	4	4	15.3	978	3.7	na
Ashton	4	4	14	1003	3.2	na

**Table 3 continued:**

Cultivar	Plant Stand Rating	Plant Vigor Rating	Canopy Height (in.)	Heat Units to First Blossom	Plant Habit Rating (at Harvest)	<sup>1</sup> Root Rot Rating
EX 08540794 (DA1470)	3.75	3.5	15.3	1003	4	na
BSC5051	5	4	12	978	3.5	na
DLSC7091058	3.5	3.25	14	1003	3.5	na
Durango	4	4	13.3	1003	2.5	7.0
PLS648	4	4	17	1030	4.2	na
FP2278	3.5	3.5	16.6	1003	4	7.3
BSC5401	5	4.5	12.6	1030	3.2	na
Bolero	5	5	12.6	1003	2.5	6.0
BSC3661	5	5	11	1003	2.7	7.5
Grundy	4	5	8	1003	2	6.3
PLS251	3.5	3.5	9	1059	3	na
Hudson	4	4	12.6	1003	2	na
CMG337F	4	3.5	10	1059	3	na
BSC4361	3.75	4	10	1030	2.5	na
Welland 419	3.75	3.75	13.3	1059	3.3	na
Hyperion	3.5	4	15	1093	3.7	na
Ambiance	2.75	2.5	16	1117	3.8	na
PLS595	4	4	12	1030	3.2	na
DLSC710-1335	3.5	3.25	16.3	1093	4	na
SV0893QF	4	4	10	1059	2.8	na
PLS196	4	4	12	1078	3.2	na
PLS183	3.5	4	12	1093	3	na
Naches	3.75	3.5	10.6	1093	3	na
Prometheus	3.75	4	9	1145	2	na
Maurice	3.5	3	12	1222	3.2	na

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

Canopy Height – Measurement in inches of the canopy height from the ground shortly before harvest.

Heat Units to First Bloom - When 80% of plants had at least one flower.

Plant Habit – Rating of how well the plants stood at harvest. 1= flat on the ground, 5 very erect

1 Root Rot Rating - Rating done by Dr. George Abawi. 1=healthy, 9=severe decay.

(Greenhouse evaluation using soil from growers field found to be severely infected with root rot pathogens.)

**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	57	<b>1330</b>	1332	7	11	21	28	25	0	3.6	<b>99</b>	2545	2573	434	5.0
	58	1362	1357	6	10	18	25	29	0	3.7	102	2487	2421	336	3.9
	59	1397	1335	3	7	14	24	37	4	4.1	131	3303	2435	374	4.3
Sherwood	57	<b>1330</b>	1334	5	12	29	33	20	0	3.5	<b>98</b>	3198	3254	449	5.2
	58	1362	1347	3	7	17	31	35	0	4.0	108	3372	3158	450	5.2
	59	1397	1341	2	5	14	33	39	0	4.1	128	4062	3278	437	5.0
BSC2210	57	1330	1357	6	12	22	34	21	0	3.6	87	3746	4119	412	4.7
	58	<b>1362</b>	1378	6	10	17	28	32	0	3.8	<b>92</b>	4824	5048	409	4.7
	59	1397	1344	1	4	10	27	46	0	4.3	126	5496	4758	392	4.5
Pizarro	57	<b>1330</b>	1326	4	6	17	33	31	0	3.9	<b>102</b>	1463	1407	302	3.5
	58	1362	1317	3	5	9	27	37	1	4.1	122	2116	1491	355	4.1
SV0956QH	58	1362	1381	6	15	33	33	12	0	3.3	90	3496	3766	485	5.6
	59	<b>1397</b>	1378	4	9	23	39	23	0	3.7	<b>109</b>	4563	4302	487	5.6
PLS9004	57	<b>1330</b>	1319	6	8	13	28	31	1	3.8	<b>105</b>	2145	1996	285	3.3
	58	1362	1313	3	6	12	23	35	2	4.1	124	2730	2048	323	3.7
PA0826	58	<b>1362</b>	1385	17	25	36	18	4	0	2.7	<b>89</b>	2686	3004	446	5.1
	59	1397	1370	9	21	33	32	6	0	3.1	114	2944	2561	453	5.2
CS-430AF	57	1330	1338	5	12	31	36	15	0	3.5	96	4095	4207	538	6.2
	58	<b>1362</b>	1359	3	8	23	38	24	0	3.7	<b>101</b>	4541	4504	456	5.2
	59	1397	1335	2	5	12	30	48	0	4.2	131	4810	3942	463	5.3
Crescendo	58	1362	1389	17	20	47	14	2	0	2.7	87	2708	3081	499	5.7
	59	<b>1397</b>	1398	12	23	44	19	2	0	2.8	<b>99</b>	3107	3126	441	5.1
CMG-416AF	58	1362	1397	17	27	37	15	4	0	2.6	82	2683	3177	472	5.4
	59	1397	1420	9	18	28	38	7	0	3.2	89	3292	3610	474	5.4
	60	<b>1429</b>	1422	4	12	25	38	20	0	3.6	<b>103</b>	3924	3831	436	5.0
	61	1464	1433	3	5	15	41	32	0	4.0	116	4606	4168	446	5.1
PLS226	59	1397	1424	11	20	39	29	2	0	2.9	87	2762	3136	531	6.1
	60	<b>1429</b>	1439	4	15	34	40	7	0	3.3	<b>95</b>	3481	3621	516	5.9
	61	1464	1441	2	6	19	46	26	0	3.9	112	4930	4603	522	6.0

**Table 4. 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
PLS304	60	<b>1429</b>	1440	5	13	31	40	10	0	3.4	<b>95</b>	3521	3670	465	5.3
	61	1464	1446	3	8	25	46	16	0	3.7	109	4948	4696	598	6.9
PLS M-14	59	1397	1427	9	18	28	38	7	0	3.2	85	3169	3589	478	5.5
	60	1429	1446	5	16	31	34	13	0	3.3	92	4327	4560	465	5.3
	61	<b>1464</b>	1463	3	10	22	45	19	0	3.7	<b>100</b>	6044	6035	540	6.2
Lil'Mo	60	1429	1431	12	31	40	14	2	0	2.6	99	2599	2627	445	5.1
	61	<b>1464</b>	1465	8	23	35	30	4	0	3.0	<b>99</b>	3645	3663	439	5.0
SV0955QH	60	1429	1455	7	15	29	30	17	0	3.4	87	4062	4426	418	4.8
	61	<b>1464</b>	1469	6	11	23	37	21	0	3.6	<b>97</b>	5049	5124	470	5.4
Romance	60	1429	1457	6	15	37	29	11	0	3.2	86	2777	3169	409	4.7
	61	<b>1464</b>	1472	3	6	21	39	25	0	3.8	<b>96</b>	4000	4112	421	4.8
CS-432F	62	<b>1502</b>	1511	3	6	16	33	36	0	4.0	<b>95</b>	6058	6189	465	5.3
	63	1537	1511	1	3	10	30	45	0	4.3	113	7347	6983	511	5.9
BSC3129	60	1429	1464	5	19	39	29	7	0	3.2	82	4734	5228	514	5.9
	61	1464	1483	3	9	33	43	13	0	3.6	90	6432	6703	591	6.8
	62	<b>1502</b>	1515	2	5	18	48	23	0	3.9	<b>94</b>	6679	6857	458	5.3
SV0935QF	61	1464	1493	8	21	39	25	6	0	3.0	85	2396	2806	335	3.8
	62	<b>1502</b>	1529	6	16	38	33	8	0	3.2	<b>86</b>	2479	2862	358	4.1
	64	1565	1532	2	4	15	39	37	0	4.1	116	3303	2846	340	3.9
CS-424F	62	1502	1521	3	8	21	39	26	0	3.8	91	5685	5946	446	5.1
	63	<b>1537</b>	1546	3	6	14	39	34	0	4.0	<b>95</b>	6810	6941	425	4.9
	64	1565	1536	1	2	6	20	43	0	4.5	114	7590	7189	478	5.5
Exp.22917	62	1502	1517	4	12	39	38	6	0	3.3	92	4443	4658	441	5.1
	63	<b>1537</b>	1540	3	7	26	50	14	0	3.6	<b>99</b>	5115	5152	429	4.9
BSC2030	64	<b>1565</b>	1578	3	7	14	27	45	0	4.1	<b>94</b>	4414	4591	410	4.7
	65	1594	1576	2	4	10	20	46	0	4.3	109	5844	5592	440	5.0



**Table 4. 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
BSC3140	61	1464	1493	7	15	32	38	8	0	3.3	85	3557	3968	412	4.7
	62	1502	1526	5	9	21	40	23	0	3.7	88	4037	4373	375	4.3
	64	<b>1565</b>	1551	2	4	10	18	47	0	4.3	<b>107</b>	5601	5405	367	4.2
BSC5641	59	1397	1464	37	40	19	5	0	0	1.9	66	1586	2529	514	5.9
	64	<b>1565</b>	1560	2	4	12	23	39	0	4.2	<b>102</b>	4596	4530	463	5.3
	65	1594	1565	1	2	5	12	37	1	4.5	114	7583	7182	505	5.8
SV0969QH	62	1502	1533	10	20	40	25	5	0	3.0	85	2748	3177	362	4.2
	64	<b>1565</b>	1544	5	11	19	41	24	0	3.7	<b>110</b>	4102	3813	395	4.5
Nitro	62	1502	1537	28	35	29	8	0	0	2.2	82	3151	3646	455	5.2
	64	<b>1565</b>	1554	11	30	48	10	0	0	2.6	<b>106</b>	4116	3958	309	3.5
Reliance	63	1537	1557	6	13	24	40	16	0	3.5	90	3234	3514	396	4.5
	64	<b>1565</b>	1553	3	7	16	28	42	0	4.0	<b>106</b>	4483	4315	435	5.0
DLSC710-1333	63	1537	1558	3	8	28	45	16	0	3.6	89	3060	3359	390	4.5
	64	<b>1565</b>	1557	2	4	14	43	35	0	4.1	<b>104</b>	4142	4030	423	4.9
PLS167	64	<b>1565</b>	1552	3	9	28	51	9	0	3.5	<b>106</b>	5968	5790	475	5.4
	65	1594	1560	2	5	19	48	25	0	3.9	117	6643	6167	514	5.9
BSC5091	64	<b>1565</b>	1556	1	4	9	21	47	5	4.4	<b>105</b>	5964	5833	402	4.6
	65	1594	1559	1	2	6	13	33	1	4.4	117	6418	5933	437	5.0
Exp. 22915	64	<b>1565</b>	1566	2	7	17	34	35	0	4.0	<b>99</b>	6309	6328	394	4.5
	65	1594	1581	2	4	10	24	44	0	4.3	107	6908	6721	393	4.5
PLS36Y	64	<b>1565</b>	1562	1	4	8	20	47	0	4.4	<b>101</b>	5881	5843	422	4.8
	65	1594	1580	2	5	8	13	37	1	4.2	107	6392	6196	431	4.9
PLS586	65	<b>1594</b>	1569	2	3	8	19	45	0	4.4	<b>113</b>	5532	5177	431	4.9
	66	1630	1576	1	2	7	20	52	0	4.4	127	6549	5793	461	5.3
Ashton	65	<b>1594</b>	1595	3	5	11	21	41	0	4.2	<b>100</b>	6207	6217	448	5.1
	66	1630	1612	3	5	10	20	40	0	4.2	109	6480	6228	407	4.7

**Table 4. 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
EX 08540794 (DA1470)	64	1565	1593	4	9	22	37	26	0	3.7	86	4214	4606	444	5.1
	65	<b>1594</b>	1607	5	9	18	31	32	0	3.8	<b>93</b>	5093	5280	468	5.4
BSC5051	65	<b>1594</b>	1601	1	3	8	20	50	0	4.4	<b>97</b>	7071	7165	456	5.2
	66	1630	1605	1	2	4	15	43	0	4.5	112	8549	8203	529	6.1
DLSC7091058	65	1594	1610	3	7	15	33	34	0	4.0	92	2410	2634	386	4.4
	66	<b>1630</b>	1631	2	4	11	26	38	0	4.2	<b>100</b>	2752	2761	376	4.3
Durango	65	1594	1616	3	6	13	21	39	0	4.1	89	5728	6036	495	5.7
	66	<b>1630</b>	1622	9	4	10	19	34	0	4.0	<b>104</b>	6269	6157	436	5.0
PLS648	66	<b>1630</b>	1642	4	6	13	26	31	0	4.0	<b>94</b>	5790	5958	427	4.9
	67	1660	1635	2	4	9	18	34	1	4.2	113	6490	6136	433	5.0
FP2278	65	1594	1607	6	9	19	28	33	0	3.8	94	4291	4468	429	4.9
	66	<b>1630</b>	1624	4	7	15	30	38	0	3.9	<b>103</b>	4585	4501	338	3.9
BSC5401	66	<b>1630</b>	1604	2	6	14	27	38	0	4.1	<b>113</b>	6403	6039	458	5.3
Bolero	66	<b>1630</b>	1635	2	4	12	23	39	0	4.1	<b>98</b>	7278	7343	425	4.9
BSC3661	66	<b>1630</b>	1635	4	7	14	26	34	0	4.0	<b>98</b>	6886	6951	470	5.4
	67	1660	1645	2	5	10	21	44	0	4.2	108	8538	8323	557	6.4
Grundy	66	<b>1630</b>	1628	2	4	11	25	41	0	4.2	<b>101</b>	6839	6811	490	5.6
PLS251	66	1630	1653	10	17	28	25	16	0	3.2	89	5195	5512	485	5.6
	67	<b>1660</b>	1667	10	14	25	28	19	0	3.4	<b>97</b>	5732	5825	395	4.5
	68	1695	1653	4	11	18	27	32	0	3.8	121	7177	6589	462	5.3
Hudson	66	1630	1641	4	8	16	31	33	0	3.9	94	7238	7397	480	5.5
	67	<b>1660</b>	1650	4	7	14	27	40	0	4.0	<b>105</b>	7343	7203	424	4.9
CMG337F	66	1630	1649	23	36	35	4	2	0	2.2	90	4465	4736	503	5.8
	67	<b>1660</b>	1799	21	30	44	5	0	0	2.3	<b>95</b>	4686	6637	422	4.8

**Table 4. 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
BSC4361	67	<b>1660</b>	1727	2	4	9	17	38	1	4.3	<b>100</b>	7656	8598	402	4.6
	68	1695	1654	1	4	8	14	33	3	4.3	120	8015	7446	414	4.8
Welland 419	67	<b>1660</b>	1791	8	12	28	39	12	0	3.4	<b>104</b>	4643	4472	461	5.3
	68	1695	1666	5	11	26	43	15	0	3.5	115	5510	5100	403	4.6
Hyperion	67	<b>1660</b>	1735	10	12	28	33	15	0	3.3	<b>94</b>	5165	6220	405	4.6
	68	1695	1682	5	12	24	36	21	0	3.6	107	6247	6061	429	4.9
Ambiance	67	1660	1692	34	34	26	4	2	0	2.1	84	1884	2332	305	3.5
	68	<b>1695</b>	1717	26	35	32	6	1	0	2.2	<b>89</b>	2762	3070	334	3.8
PLS595	68	<b>1695</b>	1696	2	7	13	21	41	0	4.1	<b>100</b>	8643	8652	455	5.2
	69	1726	1779	1	3	12	20	42	1	4.3	110	9028	9765	446	5.1
DLSC710-1335	69	<b>1726</b>	1688	2	7	18	24	27	2	3.9	<b>119</b>	2697	2165	328	3.8
SV0893QF	69	<b>1726</b>	1711	2	4	11	17	39	0	4.2	<b>107</b>	7881	7675	397	4.6
	71	1782	1667	1	2	8	20	34	0	4.3	157	8948	7343	459	5.3
PLS196	68	1695	1706	6	12	18	26	30	0	3.7	95	6559	6709	470	5.4
	69	<b>1726</b>	1718	3	10	21	27	31	0	3.8	<b>104</b>	6920	6808	415	4.8
PLS183	68	1695	1722	4	9	18	26	31	0	3.8	86	5732	6114	373	4.3
	69	<b>1726</b>	1732	2	5	12	23	35	0	4.1	<b>97</b>	5536	5620	348	4.0
	71	1782	1718	1	3	7	19	41	2	4.4	132	7619	6723	372	4.3
Naches	68	1695	1704	4	9	19	26	31	0	3.8	95	5528	5659	403	4.6
	69	<b>1726</b>	1716	2	5	15	22	40	1	4.1	<b>105</b>	6171	6031	364	4.2
Prometheus	71	<b>1782</b>	1768	3	13	27	38	17	0	3.5	<b>107</b>	7165	6969	405	4.6
	72	1806	1767	2	6	21	40	29	0	3.9	119	8578	8036	377	4.3
Maurice	71	1782	1791	6	15	30	32	16	0	3.4	96	3096	3218	341	3.9
	72	<b>1806</b>	1807	5	10	21	37	24	0	3.7	<b>100</b>	3710	3719	319	3.7

Column Descriptions on page 12

## 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 Texturegagage 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	Ave. # Nodes with Pods/plt.	Wt. Of plants & pods (lb)	Wt. of plants (lb)	Wt. of pods (lb)	Wt of berries (lb)	Pods per plant	% Single pods/node	% Double pods/node	% Triple pods/node	% Quad. Pods /node	Pod length (in)	Berries per pod	Vine Length (in.)
Salinero	7-9	3.4	1.87	1.06	0.81	0.27	4.1	81	19	0	0	2.75	5-6	15-16
Sherwood	8-10	3.7	1.79	0.87	0.92	0.31	4.1	91	9	0	0	2.5-3	5-7	9-13
BSC2210	7-9	3.9	2.15	0.80	1.355	0.66	5.1	68	32	0	0	2.5-2.75	6-7	15-17
Pizarro	7-9	2.9	1.37	0.70	0.665	0.25	3.0	94	6	0	0	2.75	5-7	13-15
SV0956QH	9-10	2.9	1.45	0.65	0.805	0.33	3.5	80	20	0	0	2.75-3.0	7-9	9-11
PLS9004	5-8	2.8	1.22	0.47	0.75	0.37	2.9	98	2	0	0	3.25-3.75	6-8	15-17
PA0826	9-12	3.2	1.70	0.51	1.195	0.52	4.4	65	35	0	0	2.5-3	6-8	14-16
CS-430AF	6-9	3.0	1.50	0.65	0.85	0.33	3.7	79	21	0	0	2.75	5-7	15-16
Crescendo	6-9	3.9	2.40	1.44	0.965	0.39	6.3	36	64	0	0	2.5-3	7-8	21-23
CMG-416AF	9-10	2.0	1.00	0.42	0.58	0.28	2.6	72	27	2	0	2.5-3.0	6-8	18-20
PLS226	10-12	2.5	1.75	0.88	0.875	0.38	4.2	36	57	7	0	2.5-3.0	6-8	17-21
PLS304	8-11	2.6	1.70	0.92	0.785	0.35	3.9	48	52	0	0	2.75	6-8	18-20
PLS M-14	8-10	3.5	2.70	1.49	1.215	0.54	5.4	47	51	2	0	2.5-2.75	6-7	21-23
Lil'Mo	7-9	3.6	1.80	0.90	0.9	0.39	5.6	42	58	0	0	2.25-2.5	6-8	18-21
SV0955QH	7-9	3.6	2.30	0.97	1.335	0.59	4.5	73	27	0	0	2.75	6-8	16-18
Romance	9-11	2.5	2.25	1.35	0.905	0.38	3.8	57	37	7	0	2.5-2.75	6-8	16-17
CS-432F	7-8	2.3	2.10	1.18	0.925	0.46	3.6	46	53	1	0	2.5	5-7	18-21
BSC3129	9-12	3.5	2.60	1.52	1.08	0.47	5.0	59	41	0	0	2.5-2.75	6-8	19-21
SV0935QF	11-13	2.6	1.70	0.90	0.8	0.33	3.6	68	28	3	1	2.75-3.0	7-8	17-19
CS-424F	9-12	2.1	1.70	0.90	0.8	0.41	3.2	52	45	3	0	2.5-2.75	5-7	14-17
Exp.22917	12-14	2.1	1.90	1.16	0.74	0.3	3.1	53	42	5	0	2.75	7-8	17-19
BSC2030	11-12	2.6	2.20	1.15	1.05	0.51	3.7	55	45	0	0	2.75-3.0	6-8	15-18

**Table 5 Continued:**

Cultivar	Node to first flower	Ave. # Nodes with Pods/plt.	Wt. Of plants & pods (lb)	Wt. of plants (lb)	Wt. of pods (lb)	Wt of berries (lb)	Pods per plant	% Single pods/node	% Double pods/node	% Triple pods/node	% Quad. Pods /node	Pod length (in)	Berries per pod	Vine Length (in.)
BSC3140	10-13	2.2	1.90	1.00	0.9	0.4	2.8	73	27	0	0	2.75-3.25	7-9	13-16
BSC5641	11-13	2.6	2.60	1.39	1.215	0.59	5.5	26	36	34	4	2.75	6-7	17-20
SV0969QH	11-13	3.3	2.10	1.45	0.655	0.2	6.0	41	38	17	3	2.5	7-8	18-21
Nitro	11-14	4.6	3.00	1.97	1.035	0.34	11.1	12	37	45	6	2.5	8-9	20-21
Reliance	13-14	2.5	2.09	1.23	0.86	0.36	4.2	39	53	8	0	2.75	6-7	14-16
DLSC710-1333	8-11	2.1	1.93	1.20	0.73	0.28	3.1	61	31	6	2	2.75-3.0	6-8	18-21
PLS167	12-14	2.8	2.45	1.37	1.085	0.57	5.2	31	54	15	0	2.75-3.0	7-8	16-17
BSC5091	8-12	3.2	3.05	1.72	1.33	0.68	5.2	43	52	5	0	2.5	6-8	15-17
Exp. 22915	11-13	2.6	3.10	1.72	1.38	0.68	4.1	51	42	8	0	3	7-9	18-22
PLS36Y	7-10	2.2	2.30	1.24	1.06	0.5	3.4	44	56	0	0	3.25-3.5	8-9	20-23
PLS586	10-13	1.8	1.50	0.76	0.745	0.41	2.4	69	31	0	0	3	7-8	14-16
Ashton	11-14	2.5	2.45	1.30	1.15	0.62	4.5	36	48	16	0	2.5	6-8	17-18
EX 08540794 (DA1470)	10-13	2.9	2.25	1.25	1.005	0.45	4.8	45	46	9	0	2.75	6-8	13-15
BSC5051	11-13	2.3	2.15	1.00	1.15	0.62	4.2	36	47	17	0	2.5-2.75	6-8	17-18
DLSC7091058	10-12	1.9	1.65	0.96	0.69	0.28	2.4	76	24	0	0	2.75-3	7-8	13-15
Durango	11-14	1.8	1.60	0.78	0.825	0.46	2.9	41	57	2	0	2.75-3	6-8	17-20
PLS648	14	2.2	2.75	1.45	1.3	0.73	3.7	28	72	0	0	2.5-3	7-8	13-16
FP2278	11-13	2.7	1.85	0.95	0.905	0.4	4.2	48	52	0	0	2.5	6-8	12-13
BSC5401	12-14	2.6	2.95	1.56	1.39	0.7	5.2	29	44	26	1	2.5-2.75	6-8	16-18
Bolero	11-12	2.5	2.85	1.49	1.365	0.76	4.6	36	45	17	1	2.5-3	6-8	16-18
BSC3661	11-14	2.6	2.65	1.39	1.26	0.67	3.9	50	50	0	0	2.5-2.75	5-7	14-17

**Table 5 Continued:**

Cultivar	Node to first flower	Ave. # Nodes with Pods/plt.	Wt. Of plants & pods (lb)	Wt. of plants (lb)	Wt. of pods (lb)	Wt of berries (lb)	Pods per plant	% Single pods/node	% Double pods/node	% Triple pods/node	% Quad. Pods /node	Pod length (in)	Berries per pod	Vine Length (in.)
Grundy	11-15	2.2	2.45	1.22	1.235	0.64	3.6	36	64	0	0	3-3.5	7-10	18-21
PLS251	13-15	3.1	2.90	1.40	1.5	0.81	4.9	43	56	1	0	3-3.25	8-10	16-18
Hudson	11-13	2.4	2.30	1.00	1.305	0.69	3.6	53	47	0	0	2.75-3.0	6-8	14-17
CMG337F	14-18	2.5	1.40	0.69	0.715	0.41	4.3	26	73	1	0	2.25-2.75	6-8	19-22
BSC4361	12-14	2.3	2.30	1.15	1.15	0.62	3.6	43	55	1	0	2.5-2.75	6-8	20-23
Welland 419	13-16	2.9	2.15	1.14	1.015	0.54	5.9	27	45	25	2	2-2.25	7-8	16-19
Hyperion	13-16	2.6	2.20	1.17	1.03	0.53	4.9	33	49	15	3	2.5-2.75	6-8	16-20
Ambiance	12-15	5.3	2.30	1.35	0.953	0.39	8.2	47	50	3	0	2.5-2.75	8-9	12-14
PLS595	13-16	2.7	2.80	1.29	1.515	0.85	4.5	33	67	0	0	3.25-3.75	8-10	15-17
DLSC710-1335	11-13	1.6	2.35	1.57	0.785	0.35	2.5	49	45	6	0	3	6-9	15-18
SV0893QF	11-14	2.3	2.00	0.89	1.115	0.68	4.1	32	58	10	0	2.75-3	7-8	16-17
PLS196	13-15	3.0	3.10	1.68	1.42	0.66	4.6	47	53	0	0	3.25-3.5	9-10	14-17
PLS183	15-17	3.9	3.60	2.09	1.515	0.65	6.3	44	50	6	0	3.5-3.75	8-9	19-22
Naches	14-17	3.1	3.00	2.25	0.75	0.31	5.2	46	40	14	0	3-3.25	7-9	15-17
Prometheus	13-16	3.2	2.15	0.70	1.45	0.72	7.7	16	39	35	9	2.75-3	7-9	17-18
Maurice	14-16	3.1	3.55	2.35	1.2	0.52	5.7	35	47	17	0	2.75-3.25	6-8	16-18

See page 12 for column explanations

## Table 6. Maturity

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

Cultivar	Day 54	Day 56	Day 57	Day 58	Day 59	Day 60	Day 61	Day 62	Day 63	Day 64	Day 65	Day 66	Day 67
Salinero	75	87	99	102	131								
Sherwood	76	92	98	108	128								
BSC2210	67	81	87	92	118								
Pizarro	82	95	102	122									
SV0956QH	69		83	90	109								
PLS9004			105	124									
PA0826			88	89	114								
CS-430AF			96	101	131								
Crescendo			85	87	99								
CMG-416AF			81	83	89	103	116						
PLS226				82	87	95	112						
PLS304					89	95	109						
PLS M-14				82	85	92	100						
Lil'Mo				72	88	99	99						
SV0955QH			71	76	81	87	97						
Romance					81	86	96						
CS-432F			70	72	75	81	87	95	113				
BSC3129				73	82	82	90	94					
SV0935QF						104	85	86		116			
CS-424F				71	79	81	85	91	95	114			
Exp.22917							89	92	99	119			
BSC2030									85	94	109		
BSC3140				70	76	85	85	88		107			
BSC5641					66	72	82	83	90	102	114		
SV0969QH							90	85		110			
Nitro						79	83	82		106			
Reliance						76	83		90	106	108		
DLSC710-1333							81	87	89	104	129		
PLS167								84	88	106	117		
BSC5091							79	81	84	105	117		
Exp. 22915								85		99	107		



**Table 6. Maturity continued:**

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

Cultivar	Day 59	Day 60	Day 61	Day 62	Day 63	Day 64	Day 65	Day 66	Day 67	Day 68	Day 69	Day 70	Day 71
PLS36Y				84	86	101	107						
PLS586							113	127					
Ashton						92	100	109					
EX 08540794 (DA1470)				80	87	86	93						
BSC5051	66	69	73		77	85	97	112					
DLSC7091058			70	76		85	92	100					
Durango						91	89	104					
PLS648						81	91	94	113				
FP2278						86	94	103					
BSC5401						81	93	113					
Bolero						83	88	98					
BSC3661								98	108				
Grundy								101					
PLS251								89	97	121			
Hudson							89	94	105				
CMG337F								90	95				
BSC4361								90	100	120			
Wellsand 419							82	88	104	115			
Hyperion								89	94	107			
Ambiance								85	84	89			
PLS595								82	86	100	110		
DLSC710-1335						76	74	84	84	123	119		
SV0893QF							74	76	74	90	107	157	
PLS196									87	95	104		
PLS183								83	84	86	97	132	
Naches									85	95	105		
Prometheus									72	72	81	107	119
Maurice										72	78	96	100

**Additional Comments:** Overall rating – 5 best and 1 worst. This rating takes into account plant type, berry type and yield – if plant and pods looked good and yield was average, it still got a higher rating. \* Indicates a 4 or better. **Twiney** – tendrils on afile type very tightly intertwined.

We saw some root rot in various plots starting around bloom. Sometimes symptoms were at the end of the plot or at the beginning, sometimes on one side or the other of the seven row plot. No cultivar had more than one replication with root rot symptoms. Pumpkins on short beds with plastic were the previous crop. I could not correlate different seed treatments with root rot symptoms. This was a loam soil type but it had enough gravel that it drained quite well. As stated in the front page, we had excessive rain throughout much of the season. I planted four replications and we harvested only three. Any plot with symptoms was not harvested for yield. This field had not had peas on it prior to this year (our records go back to the 80s). My guess is that we had some hard pan due to the bed maker used the previous year that resulted in poorer roots in certain areas.

**Salinero** – Poorer stand; less determinant; some plants without pods; variable plants; most single pods per node; lower yield; overall rating – 2.5.

**Sherwood – Decent plant stand;** decent yield (looked like it was going to yield better); most single pods per node; overall rating 3.

**BSC2210** – Poorer plant stand; good looking plants and pods; good yield; roughly 70% single pods per node and 30% two pods per node; overall rating 3.

**Pizarro** – Poor stand; poor yield; third rep was ahead of the other two reps; nice, long pods; most single pods per node; overall rating 2.5.

**SV0956QH** – Pods pick hard; short plants falling over under weight of pods; short pods; decent yield; most single pods per node; overall rating 3.

**PLS9004** – Poor stand; long pod; poor yield; most single pods per node; overall rating 2.5.

**PA0826** – Uneven plants; lots of pods; fairly short pods; did not yield as well as it looked like it would; roughly 70% single pods per node and 30% two pods per node; overall rating 3.

**CS-430AF** – Ok - should look at again; mostly upright plants; lots of pods; decent yield; most single pods per node; overall rating 3.5.

**Crescendo** – Good plant stand; upright plants; small sieve; a bit indeterminate; decent yield for small sieve; most nodes had two pods per node; overall rating 3.

**\*CMG-416AF** – Nice looking plant; has potential; **twiney**; pods spread throughout the plant; decent yield; roughly 70% single pods per node and 30% two pods per node; overall rating 4.

**PLS226** – Good stand; nice, upright plant; short pods found throughout the plant; decent yield; most nodes had two pods per node; overall rating 3.5.

**PLS304** – Good plant stand; very determinate, nice plant; lots of pods high on the plant; decent yield; roughly half single pods per node and half two pods per node; overall rating 3.5.

**\*PLS M-14** – Excellent plant stand and vigor; nice, deep green plants starting to fall over; high yield; roughly half single pods per node and half two pods per node; overall rating 4.5.

## **Additional comments continued:**

**Lil Mo** – Nice, upright, healthy plant; small sieve; tends to be indeterminate; decent yield for small sieve; roughly half single pods per node and half two pods per node; overall rating 3.5.

**SV0955QH** – Poor stand; ragged looking; recumbent plants; good yield; roughly 70% single pods per node and 30% two pods per node; overall rating 3.

**Romance** – Nice, healthy, upright plant; low plant stand; decent yield; roughly half single pods per node and half two pods per node; overall rating 3.5.

**CS-432F** – Plant not as good as CMG416; looks like it will yield; somewhat recumbent plant habit; picks easy; very good to excellent yield; roughly half single pods per node and half two pods per node; overall rating 3.5.

**\*BSC3129** – Nice plant and stand; very good yield; roughly half single pods per node and half two pods per node; overall rating 4.

**SV0935QF** – Poor stand; very twiney; nice pods; low yield; roughly 70% single pods per node and 30% two pods per node; overall rating 3.5; possibly worth evaluating again with better stand.

**CS-424F** – Nice, healthy plant; has potential; recumbent plant habit; very good to excellent yield; big berries; roughly half single pods per node and half two pods per node; overall rating 3.5.

**\*Exp.22917** – Upright plants; fairly long pods; good yield; roughly half single pods per node and half two pods per node; overall rating 4.

**\*BSC2030** – Nice plant and stand; very upright plants; later maturing than heat units indicate; determinate; good yield; roughly half single pods per node and half two pods per node; overall rating 4.5 (plant type and vigor a big part of this but it yields too).

**\*BSC3140** – Nice, tall, upright plant; quite indeterminate; long, fine pods; later maturity than heat units indicated; decent yield; roughly 70% single pods per node and 30% two pods per node; overall rating 4.

**\*BSC5641** – Nice overall variety; tall, healthy plant starting to fall over; very good to excellent yield; big berries; roughly equal percentages of single, double and triple pods per node; overall rating 4.

**SV0969QH** – **Lower plant stand**; nice, upright plants; looks like it would have decent yield if plant stand was better; most pods single and double pods per node but some triples too; overall rating 3.5.

**\*Nitro** – Nice plant; small sieve with petite pods and berries; lots of pods; could not machine shell this one; decent yield for small sieve; most double and triple pods per node; overall rating 4.

**Reliance** – Lower plant stand; lacks uniformity; decent yield; roughly half single pods per node and half two pods per node; overall rating 3.

**\*DLSC710-1333** – Upright, twiney, determinate plants with pods on top of the plant; decent yield; roughly 70% single pods per node and 30% two pods per node with a few triples and quadruples; overall rating 4.

**\*PLS167** – Dark, green plant; uniform; less determinate; smaller sieve; very good yield; most single and double pods per node but some triples too; overall rating 4.0.

## **Additional comments continued:**

**\*BSC5091** – Average stand; deep green, mostly upright plants; uniform pods; very good yield; big berries; roughly half single pods per node and half two pods per node; overall rating 4.

**Exp.22915** – Plants mostly recumbent; long pods; very good yield; roughly half single pods per node and half two pods per node; overall rating 4.

**\*PLS36Y** – Good stand; upright plants with pods throughout the plant; long pods; good yield; roughly half single pods per node and half two pods per node; overall rating 4.

**\*PLS586** – Blue green, fairly determinate plants; long, straight, uniform pods; good yield; big berries; roughly 70% single pods per node and 30% two pods per node; overall rating 4.5.

**\*Ashton** – Decent plant stand; somewhat indeterminate; recumbent plants; very good yield; most single and double pods per node but some triples too; overall rating 4.

**\*EX08540794** – Upright, twiney plants; pods on top of the plant; decent yield; roughly half single pods per node and half two pods per node with small percentage of three pods per node; overall rating 4.

**BSC5051** – Nice plant; less determinate; somewhat recumbent plant habit; third replication farther along than other two; outstanding yield; big berries; most single and double pods per node but some triples too; overall rating 3.5.

**DLSC7091058** – Fair stand; short, upright plant; very twiney; determinate; not much yield potential; most single pods per node; overall rating 2.5.

**\*Durango** – Fair stand; very recumbent; fairly determinate; good yield; roughly half single pods per node and half two pods per node; overall rating 4.

**PLS648** – Decent stand; blue green, mostly determinate plants; has yield potential; most nodes had two pods per node; overall rating 3.5.

**FP2278** – Lower plant stand; blue green, mostly upright plants; lower yield; roughly half single pods per node and half two pods per node; overall rating 3.5.

**BSC5401** – Short, recumbent plants (some with no pods); lots of blond berries; good yield; roughly equal percentages of single, double and triple pods per node; overall rating 2.5.

**\*Bolero** – Long, viney, recumbent plants; very good yield; most single and double pods per node but some triples too; overall rating 4.0.

**\*BSC3661** – Recumbent, determinate plants; has some blonde berries; high yield; similar to Bolero; roughly half single pods per node and half two pods per node; overall rating 4.

**\*Grundy** – Very recumbent plants (more recumbent than Bolero); long pods; very good yield; most nodes had two pods per node; overall rating 4.

**\*PLS251** – Upright, determinate plants; nice pods; good yield; tenderometer increase seemed quite steep; roughly half single pods per node and half two pods per node; overall rating 4.

**Hudson** – Short, very recumbent plants (more recumbent than Bolero); long pods; high yield; roughly half single pods per node and half two pods per node; overall rating 3.5.

## **Additional comments continued:**

**CMG337F** – Mostly upright plants with some off types; could be more uniform; smaller sieve; excellent yield for smaller sieve; most nodes had two pods per node; overall rating 3.5.

**\*BSC4361** – Lower stand; somewhat recumbent plants; high yield; roughly half single pods per node and half two pods per node; overall rating 4.

**Welland 419** – Lower stand; upright, blue green plants with pods on top; decent yield; similar amount of singles, doubles and triple pods per node; overall rating 3.5.

**\*Hyperion** – Lower plant stand; upright, slightly indeterminate plants with pods on top; good yield; most single and double pods per node but some triples too; overall rating 4.

**Ambiance** – One of the poorest stands in the trial; upright, indeterminate plants; later maturing; short pods; smaller sieve; roughly half single pods per node and half two pods per node; overall rating 2.5.

**\*PLS595** – Upright plants with some off types; very long pods high on the plant (some pods were distorted due to excessive tendril wrapping); outstanding yield; most nodes had two pods per node; overall rating 4.

**DLSC710-1335** – Poor stand; twiney; indeterminate; some plants have no pods; no yield potential; roughly half single pods per node and half two pods per node; overall rating 2.5; discard.

**SV0893QF** – Decent plant stand; slightly recumbent, indeterminate plants; very good yield; tenderometer reading jumped quickly; most nodes had two pods per node; overall rating 3.5.

**\*PLS196** – Upright, twiney, blue green, determinate plants with pods on top; very good yield; roughly half single pods per node and half two pods per node; overall rating 4.5.

**\*PLS 183** – Upright, slightly indeterminate (not as twiney as 196) plants; a few off type plants; good yield; roughly half single pods per node and half two pods per node; overall rating 4.

**\*Natches** – Upright, determinate plants with pods on top; good yield; most single and double pods per node but some triples too; overall rating 4.

**\*Prometheus** – Healthy, recumbent plants; most pods at the top of plant; even pod set on individual plants but plants ranged from no pods to mature pods; has high yield potential; most double and triple pods per node but small amount of singles and quadruples too; overall rating 4.

**Maurice** – Lower plant stand; tall, upright, very indeterminate plants; some plants had no pods and were blooming at harvest; late maturity; lower yield; most single and double pods per node but some triples too; overall rating 3.

A cutting was held on 11/7 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, Russ Harris and Sean Murphy for their assistance in making this event successful.

## ***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.)

**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).

**BSC2210** – Brotherton, normal leaf, 1160 heat units, 9-10 nodes to flower.

**Pizarro** – Seminis, afila leaf type, 1170 heat units, 3.5 average sieve, 10 nodes to first flower, 1-2 pods per node, 7-8 berries per pod, 20 inch plant height, wr gene, IR for DM (pv), HR for Fus R1 (Fop1). Breeder comments – Early afila with similar yield potential and sieve size to Ice Pack.

**BSC3129** – Brotherton, normal leaf, 1200 heat units, 10-12 nodes to flower.

**SV0956QH** – Seminis, normal leaf, 1205 heat units, Sweet Savor gene, IR for Downy Mildew (Pv), HR for Fusarium R1 (Fop1), HR for BY (BYMV).

**BSC2030** – Brotherton, normal leaf, (1220 heat units), 9-12 nodes to flower.

**PLS90004** – Pure Line, afila leaf type, 1230 heat units,

**Crescendo** – Seminis, normal leaf type, mid early maturity or 1230 heat units, 2.5 sieve, 10-11 nodes to first flower, 2-3 pods per node, 7-9 berries per pod, 18 inch plant height, IR for DM (Pr), HR for Fus R1 (Fop1) and HR for BY (BYMV).

**PA0826** – Seminis, Dark green large early, 1250 heat units, normal leaf type, 2.5 average sieve size, 11 nodes to flower, 2 pods per node, 7-8 berries per pod, 20 inches plant height, Breeder comments – sweet savor gene, IR for DM (Pv), HR for Fus R1 and R2 (Fop :1,2), HR for BY (BYMV), S for Asc (Aps).

**CS-430AF** – Crites, afila leaf, 1260 heat units, 3.5 average sieve size.

**BSC3140** – Brotherton, normal leaf, 1260 heat units, 11-12 nodes to flower

**SV0955QH** – Seminis, normal leaf, 1290 heat units, Sweet Savor gene, IR for Downy Mildew (Pv), HR for Fusarium R1 (Fop1), HR for BY (BYMV).

**Romance** – Seminis, afila leaf type, 1290 heat units, 11-12 nodes to first flower, IR for Downy Mildew (Pv), HR for Fusarium R1 (Fop1), 2 pods per node, 7-9 berries per pod, good yield potential and excellent berry quality for this maturity class, 3.5 average sieve size, has shown hardiness to adverse cold conditions.

**BSC5051** – Brotherton, normal leaf, 1300 heat units, 12-13 nodes to first flower.

**CMG-416AF** – Crites, 1310 heat units, afila leaf type, 3.9 average sieve size, resistance to Fusarium wilt race 1.

**CS-432F** – Crites, normal leaf, 1320 heat units, 4.1 average sieve size.

## ***Descriptions Provided by the Seed Source continued:***

**CS424F** – Crites, normal leaf, 1320 heat units, 4.0 average sieve size.

**Lil' Mo** – Seminis, 1320 heat units to harvest, normal leaf type, 2.6 ave. sieve, 10-11 nodes to first flower, 1-2 pods per node, 8-9 berries per pod, 18 inch plant height, HR for Fus R1 (Fop1) and HR for Fus R2 (Fop2).

**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. IR for DM (Pv), HR for PM (Ep), HR for Fus R1 and R2 (Fop 1&2), HR for En (PEMV), and HR for BY (BYMV). 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.

**PLS226** – Pure Line, afila leaf type, 1340 heat units.

**PLSM14** – Pure Line, normal leaf type, 1350 heat units.

**BSC5641** – Brotherton, normal leaf, 1350 heat units, 13-14 nodes to flower.

**PLS304** – Pure Line, afila leaf type, midseason maturity (1350 heat units), 3.5 average sieve size.

**SV0969QH** – Seminis, normal leaf, 1360 heat units, 3.1 average sieve, IR for DM (Pv), HR for PM (Ep), HR for Fus R1 and R2 (Fop1 and 2), HR for BY (BYMV).

**Nitro** – Seminis, normal leaf, 1370 heat units, 2.0 average sieve size, HR for Fus R1 (Fop1) and HR for BY (BYMV)

**Reliance** – Seminis, determinate afila type, 1430 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, IR for DM (Pv), HR for PM (Ep), HR for Fus R1 and R2 (Fop1 and Fop2), HR for En (PEMV) and HR for BV (BYMV). The 2<sup>nd</sup> 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. It carries resistance to many common diseases and gives a very homogenous fresh product in color and quality on an easy to harvest plant type.

**DLSC710-1333** – Seminis, Sweet Savor gene, Determinate afila leaf type, 1430 heat units, 3.1 average sieve size, IR for DM (Pv), HR for PM (Ep), HR for Fus R1 and R2 (Fop1 and Fop2), HR for En (PEMV) and HR for BV (BYMV), S for Asc (Aps).

**EXP22917** – Crites, afila leaf type, 1435 heat units, 3.9 average sieve size.

**PLS167** – Pure Line, midseason (1440 heat units), afila leaf type, 3.1 average sieve size.

**DLSC7091058** – Seminis, Determinate afila leaf type, Sweet Savor gene, 1450 heat units, 3.1 average sieve size, IR for DM (Pv), HR for PM (Ep), S for Fus R1 (Fop1), HR for Fus R2 (Fop2), HR for En (PEMV) and HR for BV (BYMV).

**BSC5091** – Brotherton, normal leaf type, 1450 heat units, 14 nodes to first flower, compare to Bingo.

**EXP22915** – Crites, normal leaf type, 1455 heat units, 3.8 average sieve size.

## ***Descriptions Provided by the Seed Source continued:***

**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.*

**DLSC710-1335** – *Seminis, Determinate afila leaf type, 1480 heat units, 3.2 average sieve size, HR for PM (Ep), HR for Fus R1 and R2 (Fop1 and Fop2), HR for En (PEMV) and HR for BV (BYMV), S for Asc (Aps).*

**PLS36Y** – *Pure Line, afila leaf type, 1480 heat units.*

**PLS586** – *Pure Line, afila leaf type, 1480 heat units.*

**Ashton** – *Seminis, mainseason maturity, 1480 heat units, normal leaf type, 3.3 average sieve size, 14-15 nodes to first flower, 2-3 pods per node, 8-9 berries per pod, 24 inch plant height, IR for DM (Pv), HR for PM (Ep), HR for Fus R1 (Fop1), HR for BY (BYMV). Breeder comments – similar to Bolero for maturity, with a somewhat smaller sieve size. Excellent yield.*

**Durango** – *Seminis, normal leaf type, 1480 heat units and an average sieve size of 3.55, 14 nodes to first flower, 2-3 pods per node, 8 berries per pod, HR for PM (Ep), HR for Fus R1 (Fop1) and HR for BY (BYMV).*

**Ambiance** – *Seminis, afila leaf type, 1480 heat units, 2.0 average sieve size, HR for Fus R1 and R2 (Fop :1,2), HR for BY (BYMV).*

**PLS648** – *Pure Line, afila leaf type, 1480 heat units.*

**FP2278** – *Galetin Valley, afila leaf type, 1500 heat units.*

**BSC 5401** – *Brotherton, normal leaf type, 1500 heat units, 13-14 nodes to first flower.*

**Bolero** – *Pure Line, normal leaf type, 1460 heat units, 24 inch plant height, double and triple pods per node, blunt pods 3 inches long, average sieve size 4.0, 14 nodes to first bloom, resistant to Fusarium wilt race one, susceptible to powdery mildew.*

**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.*

**BSC3661** – *Brotherton, normal leaf type, 1530 heat units, 14-15 nodes to first flower.*

**PLS251** – *Pure Line, afila leaf type, 1540 heat units.*

**Hudson** – *(CMG 378F) – Crites, 1540 heat units, normal leaf type, 15 nodes to first flower, 25 inch plant height, 2 pods per node, 9-10 berries per pod, 3.82 sieve size index, resistance to fusarium wilt races one and two, resistant to PM, resistant to En.*

**PLS595** – *Pure Line – afila leaf type, 1540 heat units.*



## ***Descriptions Provided by the Seed Source continued:***

**Grundy** – Galetin Valley, normal leaf type, midseason maturity (1560 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, HR to fusarium wilt races 1 and 2, HR to powdery mildew, IR for Pen (PEMV).

**CMG337F** – Crites, normal leaf type, 1560 heat units, 2.0 average sieve size.

**BSC4361** – Brotherton, normal leaf type, 1570 heat units, 14-16 nodes to first flower.

**Welland 419** – Crites, afila leaf type, 1575 heat units, 2.7 average sieve size.

**Hyperion** – Seminis, late season, 1575 heat units, afila leaf type, 3.1 average sieve size, wr gene, 16 nodes to first flower, 2-3 pods per node, 8-9 berries per pod, 24 inch plant height, IR for DM (Pv), HR for PM (Ep), HR for Fus R1&2 (Fop1&2), S for Asc (Aps), HR for En (PEMV), S for BY (BYMV).

**PLS196** – Pure Line, late season (1600 heat units), 3.7 average sieve size, afila type.

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

**Naches** – Crites, afila leaf type, 1640 heat units, 3.7 average sieve size.

**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, 20 inch plant height, , 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 good disease package and a smaller sieve size.

**Prometheus** – Seminis, normal leaf type, late season (1650 heat units), 3.4 average sieve size, 16 nodes to first flower, 2-3 pods per node, 8-9 berries per pod, 24 inch plant height, IR for DM (Pv), HR for PM (Ep), HR for Fus R1 (Fop1), HR for En (PEMV) and HR for BY (BYMV) Breeder comments – High yielding variety in a very unique maturity with a very good disease package.

**Table 7. Weather Summary**

Date	Day	Max. Temp.	Min. Temp.	Mean Temp.	Precip.	Acc Precip.	Degree days base 40	acc dd units base 40
4/29/13	1	72	49	60.5	0.16	0.16	20.5	20.5
4/30/13	2	59	51	55	0.01	0.17	15	35.5
5/1/13	3	68	53	60.5	0	0.17	20.5	56
5/2/13	4	75	48	61.5	0	0.17	21.5	77.5
5/3/13	5	76	49	62.5	0	0.17	22.5	100
5/4/13	6	73	47	60	0	0.17	20	120
5/5/13	7	74	47	60.5	0	0.17	20.5	140.5
5/6/13	8	76	46	61	0	0.17	21	161.5
5/7/13	9	74	50	62	0	0.17	22	183.5
5/8/13	10	77	55	66	0	0.17	26	209.5
5/9/13	11	69	50	59.5	0.06	0.23	19.5	229
5/10/13	12	71	50	60.5	0.04	0.27	20.5	249.5
5/11/13	13	72	52	62	0.8	1.07	22	271.5
5/12/13	14	63	41	52	0	1.07	12	283.5
5/13/13	15	53	35	44	0.03	1.1	4	287.5
5/14/13	16	50	33	41.5	0	1.1	1.5	289
5/15/13	17	57	35	46	0	1.1	6	295
5/16/13	18	82	38	60	0.07	1.17	20	315
5/17/13	19	77	40	58.5	0	1.17	18.5	333.5
5/18/13	20	64	40	52	0	1.17	12	345.5
5/19/13	21	70	51	60.5	0	1.17	20.5	366
5/20/13	22	73	58	65.5	0	1.17	25.5	391.5
5/21/13	23	84	59	71.5	0	1.17	31.5	423
5/22/13	24	83	62	72.5	1.16	2.33	32.5	455.5
5/23/13	25	85	63	74	0	2.33	34	489.5
5/24/13	26	75	39	57	0.58	2.91	17	506.5
5/25/13	27	48	38	43	0.07	2.98	3	509.5
5/26/13	28	56	42	49	0	2.98	9	518.5
5/27/13	29	61	47	54	0	2.98	14	532.5
5/28/13	30	70	48	59	0	2.98	19	551.5
5/29/13	31	65	51	58	0.88	3.86	18	569.5
5/30/13	32	83	61	72	0.14	4	32	601.5
5/31/13	33	87	64	75.5	0	4	35.5	637
6/1/13	34	91	64	77.5	0	4	37.5	674.5
6/2/13	35	89	66	77.5	0.26	4.26	37.5	712
6/3/13	36	80	50	65	0	4.26	25	737
6/4/13	37	64	47	55.5	0	4.26	15.5	752.5
6/5/13	38	66	49	57.5	0	4.26	17.5	770
6/6/13	39	69	52	60.5	0	4.26	20.5	790.5
6/7/13	40	59	53	56	2.16	6.42	16	806.5
6/8/13	41	65	55	60	0.23	6.65	20	826.5
6/9/13	42	65	52	58.5	0.02	6.67	18.5	845

**Table 7. Weather Summary**

Date	Day	Max. Temp.	Min. Temp.	Mean Temp.	Precip.	Acc Precip.	Degree days base 40	acc dd units base 40
6/10/13	43	74	57	65.5	0	6.67	25.5	870.5
6/11/13	44	66	61	63.5	0.67	7.34	23.5	894
6/12/13	45	67	55	61	0.18	7.52	21	915
6/13/13	46	73	56	64.5	0.02	7.54	24.5	939.5
6/14/13	47	61	49	55	1.02	8.56	15	954.5
6/15/13	48	72	55	63.5	0.01	8.57	23.5	978
6/16/13	49	73	57	65	0	8.57	25	1003
6/17/13	50	74	60	67	0.09	8.66	27	1030
6/18/13	51	80	58	69	0.1	8.76	29	1059
6/19/13	52	67	50	58.5	0	8.76	18.5	1077.5
6/20/13	53	66	45	55.5	0	8.76	15.5	1093
6/21/13	54	76	51	63.5	0	8.76	23.5	1116.5
6/22/13	55	81	55	68	0	8.76	28	1144.5
6/23/13	56	87	69	78	0	8.76	38	1182.5
6/24/13	57	90	68	79	0.19	8.95	39	1221.5
6/25/13	58	88	65	76.5	0	8.95	36.5	1258
6/26/13	59	83	68	75.5	0	8.95	35.5	1293.5
6/27/13	60	84	64	74	0	8.95	34	1327.5
6/28/13	61	80	64	72	0.15	9.1	32	1359.5
6/29/13	62	69	61	65	0.2	9.3	25	1384.5
6/30/13	63	74	60	67	0.5	9.8	27	1411.5
7/1/13	64	78	63	70.5	0	9.8	30.5	1442
7/2/13	65	68	60	64	0.47	10.27	24	1466
7/3/13	66	81	61	71	0.16	10.43	31	1497
7/4/13	67	84	67	75.5	0.11	10.54	35.5	1532.5
7/5/13	68	85	68	76.5	0.06	10.6	36.5	1569
7/6/13	69	87	68	77.5	0.06	10.66	37.5	1606.5
7/7/13	70	86	70	78	0.19	10.85	38	1644.5
7/8/13	71	85	70	77.5	0	10.85	37.5	1682
7/9/13	72	84	67	75.5	0.93	11.78	35.5	1717.5
7/10/13	73	83	68	75.5	0.17	11.95	35.5	1753
7/11/13	74	86	63	74.5	0.11	12.06	34.5	1787.5
7/12/13	75	76	60	68	0	12.06	28	1815.5
7/13/13	76	75	62	68.5	0	12.06	28.5	1844
7/14/13	77	80	65	72.5	0	12.06	32.5	1876.5
7/15/13	78	88	72	80	0	12.06	40	1916.5
7/16/13	79	87	71	79	0	12.06	39	1955.5
7/17/13	80	89	67	78	0	12.06	38	1993.5
7/18/13	81	92	71	0.05	0.98	13.04	0	1993.5