

NEW YORK STATE 2019 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** - 5/8. Picking started on 7/3 and we finished on 7/22. **Herbicide** - Raptor, Thistrol, Assure and Basagran mix post plant 4/28. **Plot Size:** 7 rows by 30 ft. **Row Width:** 6 inches, Row length: 30 ft. **In-row Spacing:** All cultivars were adjusted (seed planted) to 100% germination. Our processor has asked us to shoot for 600,000 plants per acre for early, 570,000 for second early and 550,000 plants per acre for the rest). **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 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 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 (1/4)	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 good at planting. Cool temperatures after planting delayed emergence but it was uniform. We had adequate rainfall throughout the season. Temperatures were high for a few days during harvest but one of the best harvests we have ever had. 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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Table 2 - Cultivar List and Maturity From Seed Source

Cultivar	HU	Seed Source	Leaf Type	Seed Treatment	Seed Count/lb	Germ. %	Sieve index	Node to blossom
Eldorado	1130	Syngenta/Pure Line	normal	Maxim, Apron & Cruiser	2306	80	3.8	
Spring (std)	1150	Pureline	normal	Maxim, Apron & Cruiser	?	?	4.3	
EXP461	1180	Brotherton	afila	captan, allegiance & cruiser	2536	98	3.5	
2269	1190	GV	afila	Maxim, Apron & Cruiser	2111	96		
435	1200	GV	afila	Maxim, Apron & Cruiser	2534	94		
PLS M-14	1240	Pureline	normal	Maxim, Apron & Cruiser	?	?	4	
SP45	1240	Pureline	normal	Maxim, Apron & Cruiser	2002	90	4	
Austin	1250	GV	afila	Maxim, Apron & Cruiser	2416	97		
Saltingo	1250	Syngenta/Pure Line	afila	Maxim, Apron & Cruiser	2190	87	3.5	
CS-455AF	1270	Crites	afila	Maxim, Apron & Cruiser	2154	97	3.7	
8035	1250	GV	afila	Maxim, Apron & Cruiser	?	?	3.8	10 to 11
11P42	1275	Pureline	af	Maxim, Apron & Cruiser	?	?	4.4	
Idalgo	1275	Syngenta/Pure Line	af	Maxim, Apron & Cruiser	2284	91	3.5	
Portage (std)	1305	Crites	afila	Maxim, Apron & Cruiser	2032	98	3.8	
BSC3129	1320	Brotherton	normal	captan, allegiance & cruiser	2112	89	3.6	
1607	1320	GV	afila	Maxim, Apron & Cruiser	?	?	3.8	11 to 12
CS-476AF	1330	Crites	afila	Maxim, Apron & Cruiser	2490	96	3.6	
SV 7401	1340	Seminis	det afila	egiance, captan & cruiser	3246	92		
GV518	1350	GV	afila	Maxim, Apron & Cruiser	2502	96		
EXP125	1370	Brotherton	afila	captan, allegiance & cruiser	2550	99	3.4	
389	1380	GV	afila	Maxim, Apron & Cruiser	?	?	2.7	12 to 13
98-261	1400	Syngenta/PL	N	Maxim, Apron & Cruiser	?	?	3.2	
671	1410	Pureline	af	Maxim, Apron & Cruiser	?	?	3.3	
5602	1430	Pureline	af	Maxim, Apron & Cruiser	?	98	3.5	
EXP064	1430	Brotherton	normal	captan, allegiance & cruiser	4408	99	2.3	
SV 8112QH	1430	Seminis	Det afila	egiance, captan & cruiser	2770	99		
Spartan	1450	Brotherton	afila	captan, allegiance & cruiser	2236	95	3.8	12 to 14
828	1450	GV	afila	Maxim, Apron & Cruiser	2466	98	3.8	14
503	1460	Pureline	N	Maxim, Apron & Cruiser	?	?	3.3	
Da 1470(std)	1470	Seminis	det afila	egiance, captan & cruiser	2683	92		
CS-464AF	1475	Crites	afila	Maxim, Apron & Cruiser	2122	99	3.5	
SV1231QF	1480	Seminis	afila	egiance, captan & cruiser	2900	90		
SV0371QF	1480	Seminis	afila	egiance, captan & cruiser	2793	94		

Table 2 - Cultivar List continued:

12P93	1490	Pureline	af	Maxim, Apron & Cruiser	2622	91	3.2	
179	1500	Pureline	af	Maxim, Apron & Cruiser	?	?	4.0	
196	1500	Pureline	af	Maxim, Apron & Cruiser	2302	93	4.0	
BSC7120	1500	Brotherton	afila	captan, allegiance & cruiser	2248	97	4.2	
5602	1500	GV	afila	Maxim, Apron & Cruiser	?	?	3	14 to 15
8069	1500	GV	afila	Maxim, Apron & Cruiser	?	?	3.2	14 to 15
5525	1500	GV	afila	Maxim, Apron & Cruiser	?	?	3	14 to 15
2278	1500	GV	afila	Maxim, Apron & Cruiser	2592	93	3.6	
5903	1500	GV	afila	Maxim, Apron & Cruiser			3	14
SV 0823QG	1525	Seminis	afila	allegiance, captan & cruiser	2669	94	3.3	17
Ricco (std)	1530	GV	afila	Maxim, Apron & Cruiser	?	?		
183	1540	Pureline	af	Maxim, Apron & Cruiser	?	?	4.2	
CS-461AF	1540	Crites	afila	Maxim, Apron & Cruiser	3397	97	2.4	
Dancer	1550	Pureline	af	Maxim, Apron & Cruiser	2819	94	3.5	
522	1560	GV	afila	Maxim, Apron & Cruiser	2268	95		
494 (EXP070)	1590	Brotherton	afila	captan, allegiance & cruiser	3603	99	2.8	
8137	1600	GV	normal	Maxim, Apron & Cruiser	?	?	2	15
8154	1600	GV	normal	Maxim, Apron & Cruiser	?	90	3.8	14 to 15
98-326	1600	Syngenta/PL	af	Maxim, Apron & Cruiser	3065		2.8	
Corus	late	Syngenta	normal		5740	92	small	
SV 6844QG	1600	Seminis	afila, fasc	allegiance, captan & cruiser	2501	95		
BSC5991	1630	Brotherton	afila	captan, allegiance & cruiser	2594	97	4.1	
98W-370	1650	Syngenta/PL	normal	Maxim, Apron & Cruiser	2048	93	3.8	
98W-399	1650	Syngenta/PL	normal	Maxim, Apron & Cruiser	?	?	3.3	
SV5685QG	1750	Seminis	normal	allegiance, captan & cruiser	2347	95		

Table 3. Plant Characteristics

Cultivar	Plant Stand Rating 6/1	Plant Stand Rating 6/17	Heat Units to full flower	Root Rot Rating ¹	Root Rot Rating ²	Plant Habit Rating (at Harvest) 1-5 (best)	Overall Rating
Eldorado	3.8	3.0	683	4	5.0	3	3
2269	4.8	4.0	707	4	5.0	2	3.5
Spring (std)	4.0	3.1	707	3.5	5.0	2.5	3
Austin	4.0	3.6	801	2	5.0	4	3.5
435	3.8	3.8	770	3	5.0	3	3.5
CS-455AF	3.8	4.0	770	3	5.0	3.5	3.75
8035	3.8	3.9	770	2.5	5.0	3.5	3.75
11P42	4.3	3.9	801	1.5	5.0	3	3.5
EXP461	4.3	3.9	824	2.5	5.0	3.5	3.5
PLS M-14	4.3	4.0	721	3.5	5.0	2.5	3.5
SP45	4.0	3.4	743	3.5	5.0	3	3.5
Portage (std)	4.5	4.0	770	3	5.0	4	4
SV 7401	3.8	3.3	873	6	5.0	3	4
BSC3129	4.5	3.8	873	2	5.0	2.5	4
CS-476AF	3.8	3.6	873	2	5.0	2.5	3.5
GV518	3.8	3.8	899	6	5.0	3	4
EXP125	3.5	3.3	899	3	5.0	4	3.75
389	3.8	3.9	899	6.5	5.0	4	4
Spartan	4.0	3.6	873	4	5.0	4	4
Saltingo	3.5	3.8	899	2.5	5.0	3.5	3.75
SV 8112QH	4.3	3.5	899	1	5.0	5	4
Idalgo	3.5	3.8	873	2.5	5.0	4	3.75
1607	3.5	3.6	873	3	5.0	3.5	3.5
EXP064	4.0	3.1	899	2	5.0	2	3.5
SV0371QF	4.0	3.8	989	5	5.0	5	4.25
Ricco (std)	4.5	4.0	957	7	5.0	3	4
BSC5991	4.0	3.9	957	3.5	5.0	3	3.75
828	4.0	4.0	899	5.5	5.0	4	4.5
BSC7120	4.3	3.8	1020	6	5.0	3	4.25
494 (EXP070)	4.0	3.8	1020	5.5	5.0	3.5	4.25
Da 1470(std)	4.0	3.6	957	2	5.0	5	4
522	4.0	3.8	1056	7.5	5.0	3.5	4.25
CS-464AF	4.3	3.8	957	1.5	5.0	2	4
SV1231QF	4.0	3.4	989	6.5	5.0	3	4

Table 3. Plant Characteristics continued:

Cultivar	Plant Stand Rating 6/1	Plant Stand Rating 6/17	Heat Units to full flower	Root Rot Rating ¹	Root Rot Rating ²	Plant Habit Rating (at Harvest) 1-5 (best)	Overall Rating
2278	3.5	3.1	1056	5	5	3	4
12P93	3.3	3.4	989	4	5.0	2.5	3.75
5525	4.8	4.0	1020	6.5	5.0	3	4.25
5602	3.3	3.3	989	4	5.0	3.5	4
98-326	3.8	3.8	1056	4.5	5.0	3	3.75
SV 0823QG	3.8	3.6	1056	3	5.0	3.5	4
602	4.3	3.6	957	2	5.0	4	3.5
Corus	3.5	3.4	1056	1.5	5	3	3.5
8069	3.8	3.6	989	5	5.0	2.5	4
5903	3.8	3.4	1088	5.5	5	3	4
98-261	4.0	3.4	989	7	5.0	2.5	3.5
8154	3.8	3.5	1056	7.5	5.0	2.5	4.25
671	3.8	3.8	1020	5.5	5.0	5	4.5
SV 6844QG	4.0	3.6	1088	4	5.0	4	4.25
179	4.0	4.0	989	3.5	5.0	3	4
196	4.0	3.9	1020	4	5.0	3.5	4
98W-370	4.0	4.0	1056	1.5	5.0	2.5	3.5
8137	3.0	2.9	1110	4	5.0	3.5	4
Dancer	3.8	4.0	1088	6.5	5.0	3.5	4.5
503	3.3	3.1	928	1.5	5.0	3	3.75
183	3.8	3.5	1088	2.5	5.0	3.5	4
98W-399	3.8	3.6	1110	4.5	5.0	3	3.75
CS-461AF	3.8	3.6	1110	7	5.0	5	4.25
SV5685QG	4.0	3.8	1279	3.5	4.0	4	4

- 1 This was in a separate field known for its root rot. It was not in the evaluation trial.
0=all plants completely dead. 9=all plants completely healthy.
- 2 This root rot rating was made on the harvest plot. This ground has not had peas on it for at least thirty years. 0 plants dead, 5 plants completely healthy.
Overall rating includes plant habit, yield potential and general plant health.

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

Cultivar	Days to harv.	Heat Units to Harv.	Adjusted HU (110)	Sieve 1 %	Sieve 2 %	Sieve 3 %	Sieve 4 %	Sieve 5%	Sieve 6%	Sieve size index	Ten.	T/A	#/A	Adjusted Yield Based on 110 TU	Plants per A (1000)	Plts. per foot
El Dorado	56	1140	1160	2	5	15	42	34	2	4.1	100	2.7	5489	6202	436	5.0
El Dorado	57	1169	1169	4	2	11	24	46	12	4.4	110	2.8	5663	5663	441	5.1
El Dorado	58	1202	1158	1	2	7	27	50	14	4.7	132	2.9	5844	5142	407	4.7
2269	56	1140	1160	1	2	12	38	41	5	4.3	100	4.0	8026	9069	601	6.9
2269	57	1169	1167	0	1	6	27	53	11	4.7	111	4.0	7913	7834	597	6.9
2269	58	1202	1144	0	0	3	24	57	16	4.9	139	4.4	8748	7523	572	6.6
Spring (std)	56	1140	1176	1	3	16	38	37	3	4.2	92	2.4	4846	6494	486	5.6
Spring (std)	57	1169	1181	0	1	6	25	52	14	4.7	104	2.8	5627	5965	489	5.6
Spring (std)	58	1202	1184	0	1	5	20	55	19	4.9	119	2.7	5481	5152	479	5.5
Austin	58	1202	1204	0	0	5	29	60	6	4.7	109	3.8	7623	7699	665	7.6
Austin	59	1241	1211	0	1	2	19	64	15	4.9	125	4.0	8095	7366	562	6.4
435	57	1169	1211	2	6	22	42	26	2	3.9	89	3.7	7333	na	593	6.8
435	58	1202	1212	1	2	14	37	42	4	4.3	105	3.6	7115	7471	486	5.6
435	59	1241	1219	0	1	7	28	52	12	4.7	121	3.9	7768	7224	476	5.5
CS-455AF	59	1241	1231	0	1	8	31	53	7	4.6	115	3.9	7841	7527	607	7.0
CS-455AF	60	1279	1241	0	3	3	18	66	10	4.8	129	4.6	9293	8270	550	6.3
8035	58	1202	1220	1	3	12	33	46	4	4.3	101	3.5	7006	7777	595	6.8
8035	59	1241	1247	0	2	11	33	45	9	4.5	107	3.6	7100	7313	534	6.1
8035	60	1279	1239	0	1	5	20	57	17	4.8	130	4.2	8458	7528	502	5.8
11P42	59	1241	1247	1	2	16	46	31	4	4.2	107	4.6	9184	9460	603	6.9
11P42	60	1279	1255	0	4	12	44	38	2	4.2	122	4.7	9438	8683	532	6.1
EXP461	59	1241	1247	1	6	7	42	35	8	4.3	107	3.5	7006	7216	650	7.5
EXP461	60	1279	1251	2	3	14	34	42	5	4.2	124	3.9	7877	7168	607	7.0
PLS M-14	59	1241	1253	1	3	17	41	35	3	4.1	104	4.4	8785	9312	724	8.3
PLS M-14	60	1279	1265	0	0	10	42	43	4	4.4	117	4.5	8966	8518	520	6.0
SP45	59	1241	1261	2	4	12	26	50	5	4.4	100	3.2	6498	7343	529	6.1
SP45	60	1279	1253	1	1	6	17	63	12	4.7	123	4.1	8276	7614	460	5.3
Portage (std)	59	1241	1261	1	2	11	30	48	7	4.5	100	4.5	8930	10091	596	6.8
Portage (std)	61	1311	1271	0	1	4	19	57	19	4.9	130	4.3	8531	7593	551	6.3
SV 7401	61	1311	1283	1	5	37	46	9	2	3.6	124	3.3	6607	6012	602	6.9
SV 7401	62	1336	1284	1	4	29	45	18	3	3.9	136	3.9	7877	6853	576	6.6

Cultivar	Days to harv	Heat Units to Harv.	Adjusted HU (110)	Sieve 1 %	a sieve 2 %	Sieve 3 %	Sieve 4 %	Sieve 5%	Sieve 6 %	sieve size index	ten.	T/A	#/A	Adjusted Yield Based on 110 TU	Plants per A (1000)	Plts. per foot
BSC3129	59	1241	1277	1	5	24	47	22	1	3.9	92	3.8	7659	10263	671	7.7
BSC3129	60	1279	1295	0	2	14	40	37	6	4.3	102	4.3	8676	9457	530	6.1
BSC3129	61	1311	1301	0	1	11	32	45	10	4.5	115	4.5	8966	8607	525	6.0
BSC3129	62	1336	1292	0	1	9	35	42	11	4.5	132	4.6	9257	8146	545	6.3
CS-476AF	61	1311	1299	0	2	9	34	48	6	4.5	116	4.0	8095	7690	590	6.8
CS-476AF	62	1336	1292	0	1	6	26	51	15	4.7	132	5.0	10055	8848	582	6.7
GV518	60	1279	1299	1	5	20	43	26	4	4.0	100	3.3	6534	7383	543	6.2
GV518	61	1311	1309	0	2	10	37	44	5	4.4	111	4.2	8313	8230	620	7.1
GV518	62	1336	1314	0	1	8	30	49	11	4.6	122	4.4	8712	8015	549	6.3
EXP125	61	1311	1309	1	5	23	48	19	3	3.9	111	3.3	6643	6577	645	7.4
EXP125	62	1336	1308	1	2	15	47	31	4	4.2	124	3.4	6861	6244	612	7.0
389	62	1336	1318	2	7	31	48	10	1	3.6	119	3.5	7079	6654	578	6.6
389	63	1361	1313	1	5	25	53	14	1	3.8	134	4.0	7913	6884	585	6.7
Spartan	62	1336	1318	1	4	17	33	37	7	4.2	119	3.4	6716	5805	595	6.8
Spartan	63	1361	1343	0	2	10	28	46	13	4.6	119	3.9	7841	7370	587	6.7
Spartan	64	1391	1327	0	2	7	23	55	12	4.7	142	3.5	7042	5986	460	5.3
Saltingo	60	1279	1313	1	3	15	38	37	5	4.2	93	3.5	7079	9273	538	6.2
Saltingo	61	1311	1321	0	2	9	25	54	8	4.6	105	3.8	7696	8081	538	6.2
Saltingo	62	1336	1320	0	1	7	20	55	15	4.7	118	4.2	8494	7984	483	5.5
SV 8112QH	61	1311	1327	2	11	40	38	8	0	3.4	102	2.7	5372	5855	599	6.9
SV 8112QH	62	1336	1322	1	4	24	52	18	1	3.9	117	3.1	6244	5932	537	6.2
Idalgo	61	1311	1333	0	2	15	28	49	4	4.4	99	4.0	7950	9143	598	6.9
Idalgo	62	1336	1324	0	2	10	23	57	7	4.6	116	3.6	7296	6931	527	6.0
1607	62	1336	1332	2	2	8	24	54	10	4.6	112	3.7	7442	7293	582	6.7
1607	63	1361	1331	1	2	7	22	54	13	4.7	125	3.7	7442	6772	592	6.8
EXP064	62	1336	1332	5	22	65	6	1	0	2.8	112	3.4	6716	6582	553	6.4
EXP064	63	1361	1343	5	21	62	10	1	0	2.8	119	3.5	7006	6586	568	6.5
SV0371QF	63	1361	1361	2	7	25	47	17	2	3.8	110	3.9	7841	7841	665	7.6
SV0371QF	64	1391	1365	2	7	27	45	18	1	3.8	123	4.1	8240	7581	586	6.7
Ricco (std)	64	1391	1345	0	0	2	11	46	39	5.2	133	4.6	9257	8146	741	8.5
BSC5991	64	1391	1345	0	1	3	12	53	31	5.1	133	4.0	8095	7124	660	7.6
828	61	1311	1347	3	9	36	41	10	2	3.5	92	3.7	7369	9874	722	8.3
828	62	1336	1356	1	5	22	37	30	5	4.0	100	3.6	7187	8121	597	6.9
828	63	1361	1369	0	4	16	37	37	5	4.2	106	3.8	7696	8004	534	6.1
828	64	1391	1341	0	1	6	21	54	17	4.8	135	4.6	9111	7927	552	6.3

Cultivar	Days to harv	Heat Units to Harv.	Adjusted HU (110)	Sieve 1 %	a sieve 2 %	Sieve 3 %	Sieve 4 %	Sieve 5 %	Sieve 6 %	sieve size index	ten.	T/A	#/A	Adjusted Yield Based on 110 TU	Plants per A (1000)	Plts. per foot
BSC7120	63	1361	1387	0	2	12	34	39	13	4.5	97	4.3	8676	10324	597	6.8
BSC7120	64	1391	1373	0	1	7	25	52	14	4.7	119	4.6	9111	8564	632	7.3
494 (EXP070)	63	1361	1375	7	19	41	26	5	0	3.0	103	2.6	5227	5593	685	7.9
494 (EXP070)	64	1391	1383	4	14	46	28	6	0	3.2	114	3.9	7877	7562	607	7.0
Da 1470(std)	64	1391	1387	0	2	10	38	48	2	4.4	112	4.1	8168	8005	703	8.1
Da 1470(std)	65	1429	1413	2	5	15	39	38	1	4.1	118	3.8	7659	7199	587	6.7
522	63	1361	1399	2	7	20	35	28	7	4.0	91	3.0	5917	8165	670	7.7
522	64	1391	1393	0	3	13	24	48	10	4.5	109	3.6	7115	7186	562	6.4
CS-464AF	63	1361	1391	2	7	23	39	23	6	3.9	95	4.1	8240	10300	731	8.4
CS-464AF	64	1391	1395	1	4	14	30	45	6	4.3	108	4.3	8531	8702	582	6.7
SV1231QF	64	1391	1395	1	7	19	41	26	4	3.9	108	3.7	7478	7628	675	7.8
SV1231QF	65	1429	1421	1	6	22	40	27	3	4.0	114	3.9	7877	7562	546	6.3
2278	65	1429	1405	1	1	8	28	55	6	4.5	122	3.7	7333	6746	560	6.4
12P93	66	1461	1407	0	1	5	21	60	13	4.8	137	3.8	7659	6587	512	5.9
12P93	67	1493	1389	0	1	3	21	62	13	4.8	162	3.8	7623	na	411	4.7
5525	64	1391	1397	2	9	30	52	6	0	3.5	107	3.9	7768	8001	801	9.2
5525	65	1429	1391	1	5	25	58	11	0	3.7	129	4.8	9620	8562	783	9.0
5602	63	1361	1397	10	21	42	19	2	0	2.8	92	3.0	6098	8171	616	7.1
5602	64	1391	1403	6	17	39	33	3	0	3.1	104	3.5	6970	7388	578	6.6
5602	65	1429	1415	2	6	22	33	34	2	4.0	117	3.8	7550	7173	577	6.6
98-326	64	1391	1405	3	14	46	34	3	0	3.2	103	3.7	7333	7846	746	8.6
98-326	65	1429	1403	1	10	39	45	4	0	3.4	123	3.1	6244	5744	650	7.5
SV 0823QG	65	1429	1415	1	4	17	34	42	3	4.2	117	4.1	8204	7794	648	7.4
SV 0823QG	66	1461	1421	1	4	24	41	30	1	4.0	130	3.4	6861	6106	562	6.4
602	63	1361	1403	5	15	39	34	5	0	3.2	89	3.6	7115	na	724	8.3
602	65	1429	1421	2	7	25	45	19	1	3.8	114	3.6	7151	6865	486	5.6
Corus	65	1429	1427	9	25	54	6	4	0	2.7	111	2.7	5372	5318	485	5.6
Corus	66	1461	1453	10	34	51	3	0	0	2.5	114	2.9	5808	5576	429	4.9
8069	63	1361	1375	2	8	30	46	11	2	3.6	103	3.3	6607	7069	668	7.7
8069	64	1391	1411	1	6	28	57	8	1	3.7	100	3.5	7042	7957	633	7.3
8069	65	1429	1429	1	3	17	67	12	0	3.9	110	4.3	8531	8531	566	6.5
5903	65	1429	1431	1	5	18	33	31	11	4.2	109	3.0	6098	6159	554	6.4
5903	66	1461	1441	1	3	13	35	42	6	4.3	120	3.3	6534	6077	539	6.2
98-261	63	1361	1309	1	4	13	30	44	7	4.3	84	2.3	4683	na	540	6.2
98-261	65	1429	1433	0	1	5	15	53	26	5.0	108	2.5	4937	5035	457	5.2

Cultivar	Days to harv	Heat Units to Harv.	Adjusted HU (110)	Sieve 1 %	a sieve 2 %	Sieve 3 %	Sieve 4 %	Sieve 5%	Sieve 6 %	sieve size index	ten.	T/A	#/A	Adjusted Yield Based on 110 TU	Plants per A (1000)	Plts. per foot
8154	65	1429	1435	0	2	11	27	54	5	4.5	107	4.2	8385	8637	653	7.5
8154	66	1461	1425	0	1	8	26	57	7	4.6	128	3.7	7442	6623	485	5.6
671	63	1361	1403	4	11	25	40	17	1	3.6	89	3.5	7079	10335	699	8.0
671	65	1429	1439	2	7	26	44	21	1	3.8	105	3.8	7550	7928	555	6.4
SV 6844QG	65	1429	1473	2	7	21	44	24	2	3.9	88	3.5	7006	na	585	6.7
SV 6844QG	66	1461	1459	0	3	10	29	43	13	4.5	111	4.2	8313	8230	456	5.2
179	66	1461	1465	0	1	6	23	58	12	4.7	108	4.8	9620	9445	636	7.3
179	67	1493	1471	0	1	6	30	53	9	4.6	121	4.4	8748	8136	499	5.7
196	67	1493	1471	0	2	8	27	54	10	4.6	121	4.7	9402	8744	539	6.2
196	68	1528	1468	0	1	5	17	58	18	4.9	140	4.9	9728	8366	519	6.0
98W-370	66	1461	1493	0	2	10	25	48	14	4.6	94	3.3	6534	8364	538	6.2
98W-370	67	1493	1481	0	1	6	20	53	19	4.8	116	3.9	7732	7345	455	5.2
98W-370	68	1528	1448	0	1	4	16	52	25	5.0	150	4.1	8276	na	464	5.3
8137	66	1461	1491	20	44	20	1	1	0	2.0	95	2.1	4283	5354	435	5.0
8137	67	1493	1493	23	45	17	1	0	0	2.0	110	2.4	4755	4755	388	4.5
8137	68	1528	1490	18	41	31	1	0	0	2.2	129	2.5	5082	4523	393	4.5
Dancer	66	1461	1491	1	5	27	52	14	0	3.7	95	4.9	9837	12296	689	7.9
Dancer	67	1493	1499	1	3	20	54	21	0	3.9	107	5.1	10200	10506	567	6.5
Dancer	68	1528	1486	0	2	14	44	37	2	4.2	132	5.2	10454	9199	587	6.7
503	66	1461	1503	2	7	17	26	39	8	4.2	89	3.0	5917	na	399	4.6
503	67	1493	1511	1	4	16	33	38	7	4.2	101	3.7	7478	8301	443	5.1
503	68	1528	1508	1	4	14	28	43	9	4.3	120	3.6	7151	6650	388	4.5
183	67	1493	1513	1	2	5	23	48	22	4.8	100	4.0	8059	9107	521	6.0
183	68	1528	1494	0	1	4	11	45	38	5.2	127	4.4	8748	7873	509	5.8
98W-399	66	1461	1507	5	15	42	29	7	0	3.2	87	2.9	5735	na	597	6.9
98W-399	67	1493	1523	4	11	39	39	6	0	3.3	95	3.1	6135	7669	509	5.8
98W-399	68	1528	1508	3	10	33	43	9	1	3.5	120	2.9	5808	5401	431	5.0
CS-461AF	66	1461	1411	13	29	49	6	1	0	2.5	85	2.8	5699	na	670	7.7
CS-461AF	67	1493	1525	10	24	54	9	1	0	2.7	94	3.4	6824	8735	495	5.7
CS-461AF	68	1528	1514	6	20	53	18	2	0	2.9	117	3.2	6353	6035	468	5.4
SV5685QG	71	1624	1582	1	2	10	28	50	9	4.1	89	4.4	8766	na	629	7.2
SV5685QG	72	1656	1658	0	1	6	22	55	14	4.5	109	4.8	9529	9695	546	6.3
SV5685QG	75	1773	1693	0	1	6	18	33	14	4.6	150	3.5	9329	na	529	4.6

Headings explained page 11.

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 110 tenderometer reading. Two heat units were added for each unit below 110 and two units were subtracted for each unit above 110.

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	Vine length (inches)	Ht at harvest (in)	Pods per plant	# Nodes with Pods/plt.	# of Single pods/node	# of Double pods/node	# Triple pods/node	# of Quad. Pods /node	% of Single pods/node	% of Double pods/node	% of Triple pods/node	% of Quad. pods/node	Berries per pod	Pod length (in)
Eldorado	7 - 9	19	10	3.6	3.4	3.2	0.2	0.0	0.0	91	9	0	0	5.9	2.5-3
2269	8 - 9	22	8	4.1	3.0	1.9	1.1	0.0	0.0	46	54	0	0	6.2	2.5-3
Spring (std)	8 - 9	24	9	3.7	3.5	3.2	0.3	0.0	0.0	86	14	0	0	5.8	2.5-3.5
Austin	8 - 9	22	16	4.0	2.6	1.2	1.4	0.0	0.0	29	71	0	0	6.8	3.0-3.5
435	10 - 11	22	13	4.8	3.1	1.4	1.7	0.0	0.0	28	72	0	0	7.6	3.0-4
CS-455AF	8 - 10	24	15	5.9	2.9	0.7	1.6	0.7	0.0	11	55	34	0	6.1	2.5-3
8035	7 - 9	22	15	5.4	2.8	0.7	1.6	0.5	0.0	13	58	29	0	6.0	2.5-3.5
11P42	8 - 10	26	14	4.8	3.0	1.2	1.8	0.0	0.0	24	76	0	0	7.9	2.5-3
EXP461	9 - 12	21	14	4.5	2.6	0.8	1.8	0.0	0.0	18	82	0	0	6.2	2.0-3
PLS M-14	8 - 9	30	9	4.8	2.7	0.9	1.4	0.3	0.0	19	60	21	0	7.1	2.5-3
SP45	7 - 9	33	13	7.1	4.6	2.1	2.5	0.0	0.0	30	70	0	0	5.5	2.5-3
Portage (std)	8 - 10	25	17	7.3	3.5	1.1	1.3	1.1	0.1	15	36	44	6	5.5	2.5-3
SV 7401	9 - 10	20	12	5.6	3.1	1.1	1.5	0.5	0.0	20	55	25	0	7.2	2.0-3
BSC3129	9 - 12	29	11	5.2	3.0	0.9	2.1	0.0	0.0	17	82	2	0	7.1	3.0-3.5
CS-476AF	9 - 11	24	12	5.2	3.0	0.9	1.9	0.1	0.0	18	74	8	0	7.6	3.0-3.5
GV518	9 - 11	24	13	4.1	2.8	1.6	1.2	0.0	0.0	39	61	0	0	6.6	3.5-4
EXP125	10 - 12	18	18	4.3	2.3	0.7	1.2	0.4	0.0	17	57	26	0	6.5	2.5-3
389	10 - 11	22	18	4.7	2.9	1.1	1.7	0.1	0.0	23	72	4	0	5.6	2.0-2.5
Spartan	10 - 12	26	17	4.6	2.5	0.5	2.0	0.0	0.0	12	86	2	0	6.7	2.5-3.5
Saltingo	9 - 11	30	19	6.3	3.4	0.5	2.9	0.0	0.0	8	92	0	0	7.5	3.0-4
SV 8112QH	9 - 11	23	20	4.7	2.6	0.8	1.6	0.2	0.0	16	69	15	0	7.9	2.5-3
Idalgo	7 - 9	28	15	5.1	2.9	0.7	2.2	0.0	0.0	14	86	0	0	7.9	3.0-4
1607	10 - 11	30	18	4.2	2.9	1.6	1.3	0.0	0.0	39	61	0	0	6.5	3.5-4
EXP064	11 - 13	22	12	6.9	2.8	0.3	1.1	1.4	0.1	4	31	59	6	8.0	2.0-2.5
SV0371QF	10 - 12	28	19	4.9	2.4	0.4	1.5	0.5	0.0	7	62	30	0	8.3	2.5-3
Ricco (std)	12 - 14	28	10	3.1	1.8	0.5	1.3	0.0	0.0	15	85	0	0	7.2	3.0-3.5
BSC5991	12 - 15	29	13	4.2	2.4	0.7	1.6	0.1	0.0	17	76	7	0	7.6	3.0-3.5
828	10 - 13	27	19	4.9	2.4	0.6	0.9	0.8	0.0	13	36	51	0	6.5	2.0-3

Cultivar	Node to first flower	Vine length (inches)	Ht at harvest (in)	Pods per plant	# Nodes with Pods/plt.	# of Single pods/node	# of Double pods/node	# Triple pods/node	# of Quad. Pods /node	% of Single pods/node	% of Double pods/node	% of Triple pods/node	% of Quad. pods/node	Berries per pod	Pod length (in)
BSC7120	10 - 13	29	11	3.7	2.0	0.8	0.7	0.5	0.0	23	40	38	0	8.6	2.5-3
494 (EXP070)	12 - 14	19	13	5.8	2.3	0.3	0.5	1.5	0.0	5	18	77	0	6.1	2.0-2.5
Da 1470(std)	9 - 11	28	21	5.3	2.7	0.6	1.6	0.5	0.0	11	59	28	2	6.3	2.5-3
522	10 - 14	23	13	4.9	2.4	0.5	1.3	0.6	0.0	10	52	35	2	8.1	3.0-3.5
CS-464AF	10 - 12	25	8	3.3	1.9	0.8	0.8	0.3	0.0	25	51	24	0	7.3	3.0-3.5
SV1231QF	12 - 14	28	13	3.8	1.9	0.7	0.5	0.7	0.0	19	28	53	0	7.4	2.5-3
2278	11 - 13	19	14	4.0	2.4	0.8	1.6	0.0	0.0	21	79	0	0	7.3	2.5-3.5
5525	12 - 13	20	10	5.4	2.4	0.5	1.0	1.0	0.0	9	37	54	0	6.2	2.5-3
12P93	10 - 12	29	10	5.9	2.8	0.7	1.1	1.0	0.0	12	36	51	0	10.5	3.0-4
5602	11 - 13	23	16	5.3	2.5	0.5	1.2	0.8	0.0	9	44	47	0	7.5	2.5-3
98-326	12 - 15	27	11	5.5	2.7	0.8	0.9	0.9	0.0	15	33	51	0	7.9	2.5-3
SV 0823QG	10 - 13	25	14	6.1	3.4	1.2	1.7	0.5	0.0	20	55	25	0	7.3	3.0-3.5
602	13 - 15	28	12	4.9	2.6	0.5	1.9	0.2	0.0	11	77	12	0	6.8	3.0-3.5
Corus	11 - 13	21	13	7	0.7	1.0	1.2	0.2	0.3	15	34	10	19	7.0	2.5-3
8069	12 - 13	24	9	5.9	2.9	0.7	1.3	0.8	0.0	12	45	42	0	7.4	3.0-3.5
5903	10 - 11	22	12	7.4	1.1	1.2	1.0	0.3	0.0	17	27	14	0	7.2	3.0-3.5
98-261	9 - 11	25	12	3.4	2.3	1.2	1.0	0.0	0.0	36	61	3	0	6.9	3.5-4
8154	10 - 13	22	9	4.6	2.6	0.6	2.0	0.1	0.0	12	86	4	0	8.3	2.5-4
671	10 - 12	27	19	4.8	2.3	0.6	0.8	0.9	0.0	12	34	54	0	7.3	3.0-3.5
SV 6844QG	12 - 15	26	18	6.6	3.8	1.4	2.2	0.3	0.0	21	66	14	0	7.8	2.5-3.5
179	12 - 15	33	12	4.5	2.7	0.9	1.7	0.0	0.0	21	77	2	0	7.3	3.0-4
196	11 - 14	27	14	4.3	2.4	0.7	1.5	0.2	0.0	16	68	16	0	9.0	3.0-4
98W-370	10 - 12	22	9	5.6	2.7	0.6	1.4	0.7	0.0	11	50	37	2	6.9	2.5-3.5
8137	12 - 15	22	16	10.4	4.2	0.4	1.5	2.4	0.0	4	28	68	0	9.2	2.5-3
Dancer	11 - 15	26	13	4.6	2.2	0.5	0.9	0.7	0.0	12	41	48	0	7.7	3.0-3.5
503	11 - 13	28	15	5.1	3.1	1.2	2.0	0.0	0.0	23	77	0	0	8.4	3.0-4
183	12 - 15	24	16	5.0	2.6	0.8	1.4	0.5	0.0	15	56	28	0	7.8	3.0-3.5
98W-399	10 - 13	27	11	7.1	3.4	0.8	1.5	1.1	0.0	11	41	48	0	8.8	2.5-3
CS-461AF	12 - 15	27	22	8.1	3.9	0.6	2.5	0.9	0.0	7	61	32	0	8.3	2.0-3
SV5685QG	11 - 15	34	14	5.1	2.7	0.9	1.3	0.5	0.0	18	51	29	3	8.0	3.5-4.5

Column explanations page 11.

Table 6. Maturity**Tenderometer unit measurement (Days after planting - gray area indicates harvest dates)**

Cultivar	Day 54 22 HU 7/1	Day 55 30 HU 7/2	Day 56 36 HU 7/3	Day 57 21 HU 7/4	Day 58 25 HU 7/5	Day 59 18 HU 7/6	Day 60 25 HU 7/7	Day 61 28 HU 7/8	Day 62 21 HU 7/9	Day 63 18 HU 7/10	Day 64 29 HU 7/11	Day 65 25 HU 7/12	Day 66 32 HU 7/13
Eldorado	81		100	110	132								
2269		91	100	111	139								
Spring (std)		82	92	104	119								
Austin		69		86	109	125							
435			81	89	105	121							
CS-455AF				82	98	115	129						
8035				90	101	107	130						
11P42				83	95	107	122						
EXP461					104	107	124						
PLS M-14			77		98	104	117						
SP45				82		100	123						
Portage (std)					98	100		130					
SV 7401							117	124	136				
BSC3129						100	102	115	132				
CS-476AF							115	116	132				
GV518						91	100	111	122				
EXP125							102	111	124				
389								106	119	134			
Spartan									119	119	142		
Saltingo					78		93	105	118				
SV 8112QH							96	102	117				
Idalgo						85		99	116				
1607								99	112	125			
EXP064								101	112	119			
SV0371QF							82	88		110	123		
Ricco (std)								87			133		
BSC5991										106	131		
828							98	92	100	106	135		
BSC7120								79		67	119		

Table 6. Maturity

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

Cultivar	Day 61 28 HU 7/8	Day 62 21 HU 7/9	Day 63 18 HU 7/10	Day 64 29 HU 7/11	Day 65 25 HU 7/12	Day 66 32 HU 7/13	Day 67 33 HU 7/14	Day 68 39 HU 7/15	Day 69 42 HU 7/16	Day 70 42 HU 7/17	Day 71 33 HU 7/18	Day 72 33 HU 7/19	Day 75 33 HU 7/22
494 (EXP070)		94	103	114									
Da 1470(std)	84			112	118								
522		90	91	109									
CS-464AF		96	95	108									
SV1231QF		80		108	114								
2278			100		122								
5525	76			107	129								
12P93			89			137	162						
5602		92	92	104	117								
98-326		84		103	123								
SV 0823QG			76		117	130							
602		86	89		114								
Corus			85		111	114							
8069		90	103	100	110								
5903			88		109	120							
98-261	76		84		108								
8154			84		107	128							
671	76		89		105								
SV 6844QG			68		88	111							
179				83		108	121						
196				78			121	140					
98W-370					104	94	116	150					
8137			79			95	110	129					
Dancer			72			95	107	132					
503				76		89	101	120					
183				75			100	127					
98W-399			80			87	95	120					
CS-461AF					94	85	94	117					
SV5685QG											89	109	200

Additional Comments:

General comments: Overall score based on visual observation and notes for all four replicates (5-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 4.0 or better. **Varieties in order of maturity.**

Eldorado – normal leaf, bit earlier than Spring, germ was only 80% and so stands were a bit thinner than optimum, decent yield, overall rating 3.

FP2269 – afila, good plant stand, early, came in a day sooner than Spring, good yield, overall rating 3.5.

Spring – normal leaf, early standard, lower plant stand than optimum, large sieve, decent yield, overall rating 3.

Austin (FP 2311) – very good plant habit, good plant stand, good yield, overall rating 3.5.

GV435 – afila, high berries per pod, good yield, last two harvests lower plant stand than optimum, overall rating 3.5.

CS-455AF – afila, very good yield, overall rating 3.75.

8035 – afila, good yield, overall rating 3.75.

11P42 – afila, vine length in excess of 25 inches, high berries per pod, very good yield, overall rating 3.5.

EXP 461 – afila, good yield, overall rating 3.5.

PLSM-14 – normal leaf, vine length in excess of 25 inches, very good yield, overall rating 3.5.

SP-45 – normal leaf, vine length in excess of 25 inches, six or better pods per plant, good yield, overall rating 3.5.

***Portage** – afila, very good plant habit, six or better pods per plant, excellent yield, overall rating 4.

***SV7401QH** – determinate afila, good yield, good root rot tolerance in the disease evaluation, overall rating 4.

***BSC3129** – normal leaf, vine length in excess of 25 inches, very good yield, overall rating 4.

CS-476AF – afila, high berries per pod, very good yield, overall rating 3.5.

***GVS 518** – afila, longer pods, very good yield, good root rot tolerance in the disease evaluation, overall rating 4.

EXP125 – afila, very good plant habit, good yield, overall rating 3.75.

***389** – afila, very good plant habit, short pods, good yield, good root rot tolerance in the disease evaluation, overall rating 4.

***Spartan** – afila, very good plant habit, vine length in excess of 25 inches, good yield, overall rating 4.

Additional comments continued:

Saltingo – afila, vine length in excess of 25 inches, longer pods, six or better pods per plant, high berries per pod, very good yield, overall rating 3.75.

***SV8112QH** – determinate afila, high berries per pod, good yield, best plant habit of the trial, overall rating 4.

Idalgo – afila, very good plant habit, vine length in excess of 25 inches, high berries per pod, good to very good yield, overall rating 3.75.

1607 – afila, vine length in excess of 25 inches, longer pods, good to very good yield, overall rating 3.5.

EXP064 – normal leaf, smaller sieve, six or better pods per plant, high berries per pod, short pods, high percentage of triple pods, good yield, overall rating 3.5.

***SV0371QF** – afila, very good plant habit, vine length in excess of 25 inches, high berries per pod, very good yield, overall rating 4.25.

***Ricco** – afila, vine length in excess of 25 inches, very good yield, good root rot tolerance in the disease evaluation, overall rating 4.

BSC5991 – afila, vine length in excess of 25 inches, high berries per pod, good yield, overall rating 3.75.

***828** – afila, very good plant habit, vine length in excess of 25 inches, high percentage of triple pods, slow to size up, very good to excellent yield, overall rating 4.5.

***BSC7120** – afila, vine length in excess of 25 inches, high berries per pod, very good to excellent yield, good root rot tolerance in the disease evaluation, overall rating 4.25.

494 (EXP070) – afila, smaller sieve, short pods, high percentage of triple pods, good yield, overall rating 3.

***DA 1470 (EX08540794)** – determinate afila, vine length in excess of 25 inches, good plant habit, very good yield, overall rating 4.

***522** – afila, high berries per pod, very good yield, good root rot tolerance in the disease evaluation, overall rating 4.25.

***CS-464AF** – afila, excellent yield, overall rating 4.

***SV1231QF** – afila, vine length in excess of 25 inches, high percentage of triple pods, very good yield, good root rot tolerance in the disease evaluation, overall rating 4.

***FP2278** – afila, good to very good yield, overall rating 4.

12P93 – afila, vine length in excess of 25 inches, highest number of berries per pod, thinner plant stand than optimum, high percentage of triple pods, very good yield, overall rating 3.75.

***5525** – afila, high percentage of triple pods, very good yield, good root rot tolerance in the disease evaluation, overall rating 4.25.

Additional comments continued:

***5602** – afila, high berries per pod, very good yield, overall rating 4.

98-326 – afila, vine length in excess of 25 inches, smaller sieve, high berries per pod, high percentage of triple pods, good to very good yield, overall rating 3.75.

***SV0823QG** – afila, six or better pods per plant, good to very good yield, overall rating 4.

602 – afila, very good plant habit, vine length in excess of 25 inches, good to very good yield, overall rating 3.5.

Corus – normal leaf, lower plant stand than optimum (very small seeds), six or better pods per plant, small sieve, decent yield, overall rating 3.5.

***8069** – afila, good to very good yield, overall rating 4.

***5903** – afila, six or better pods per plant, good yield, overall rating 4.

98-261 – normal leaf, longer pods, decent yield, good root rot tolerance in the disease evaluation, overall rating 3.5.

***8154** – normal leaf, high berries per pod, very good yield, good root rot tolerance in the disease evaluation, overall rating 4.25.

***671** – afila, very good plant habit, vine length in excess of 25 inches, high percentage of triple pods, very good to excellent yield, overall rating 4.5.

***SV6844QG** – afila, very good plant habit, vine length in excess of 25 inches, six or better pods per plant, high berries per pod, very good yield, overall rating 4.25.

***PLS179** – afila, vine length in excess of 25 inches, longer pods, very good to excellent yield, overall rating 4.

***PLS196** – afila, vine length in excess of 25 inches, longer pods, high berries per pod, very good yield, overall rating 4.

98W-370 – normal leaf, lower plant stands than optimum, very good yield, overall rating 3.5.

***8137** – normal leaf, lower plant stands than optimum, very small sieve, high berries per pod, high percentage of triple pods, highest pods per plant, decent yield, overall rating 4.

***Dancer** – afila, vine length in excess of 25 inches, high berries per pod, excellent yield, good root rot tolerance in the disease evaluation, overall rating 4.5.

503 – normal leaf, vine length in excess of 25 inches, lower plant stands than optimum, longer pods, high berries per pod, very good yield, overall rating 3.75.

***PLS183** – afila, high berries per pod, very good to excellent yield, overall rating 4.

98W-399 – normal leaf, vine length in excess of 25 inches, lower plant stands than optimum, six or better pods per plant, smaller sieve, high berries per pod, decent yield, overall rating 3.75.

***CS461AF** – afila, very good plant habit, vine length in excess of 25 inches, last two harvests lower plant stand than optimum, smaller sieve, six or better pods per plant, high berries per pod, good to very good yield, good root rot tolerance in the disease evaluation, overall rating 4.25.

***SV5685QG** – normal leaf, vine length in excess of 25 inches, long pods, high berries per pod, very good to excellent yield, overall rating 4.

Descriptions Provided by the Seed Source

Eldorado – Pure Line, normal leaf type, 3.8 sieve size, -1 days to maturity relative to Spring, 1130 heat units, resistant to Fusarium race 1 and powdery mildew.

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.

Spring – Seminis, normal leaf, 1050 heat units, 4.5 average sieve size, 9 nodes to flower, 1-2 pods per plant, 6-7 berries per pod, 16 inch plant height, resistance to Fusarium wilt race 1.

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).

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.

CS-455AF – Crites, 1270 heat units to maturity, afila leaf type, disease resistance: Fop 1, Pv+, 2 days earlier than Portage, good root system.

8035 – Gallatin Valley, afila leaf type, 10-11 node bloom, 1250 heat units, 3.8 sieve.

11P42 – Pure Line, afila leaf type, +5 days to maturity relative to Spring, 1275 heat units, 4.4 sieve size, resistance to Fusarium wilt race 1, tolerant to powdery mildew.

EXP 461 – Brotherton, afila leaf type, 1180 heat units, 59 days to maturity, 3.5 average sieve size.

PLSM-14 – Pure Line, normal leaf type, +4 days to maturity relative to Spring, 1240 heat units, 3.8 sieve size, resistance to Fusarium Wilt race 1.

SP-45 – Pure Line, normal leaf, +4 days to maturity relative to Spring, 1240 heat units, 4.0 sieve size, resistant to Fusarium wilt race 1.

Portage – Crites, midseason maturity, 60 days to maturity or approximately 1325 heat units (+ 2 days relative to Tomahawk), afila leaf type, 18 inch plant height, 10 nodes to first bloom, 2-3 pods per node, 7-8 peas per pod, 3.7 sieve size index, resistant to fusarium wilt race 1.

SV7401QH – Seminis, heat units 1340, unique determinate, normal leaf with sweet savor trait, sieve size is 3.2, 14 nodes to first flower, 2-3 pods per node, 7-8 berries per pod, IR for Downy Mildew, HR for Powdery Mildew, Fusarium R1 & R2, Pea Enation Mosaic Virus and Bean yellow mosaic virus; unique Det, Normal.

BSC3129 – Brotherton, normal leaf type, 1320 heat units, 63 days to maturity, 3.6 average sieve size.

Descriptions provided by the seed source continued:

CS-476AF – Crites, 1330 heat units to maturity, disease resistance: Fop 1, afila type leaf, 2 days later than Portage, better sieve size.

GVS 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.

EXP125 – Brotherton, afila leaf type, 1370 heat units. 65 days to maturity, 3.4 average sieve size.

389 – Gallatin Valley, afila leaf type, 12-13 node bloom, 1380 heat units, 2.7 sieve.

Spartan – Pure Line, afila, 1450 heat units

Saltingo – Pure Line, afila leaf type, 3.5 sieve size, +4 days to maturity relative to Spring, 1250 heat units, resistant to Fusarium Wilt race 1 and powdery mildew, tolerant to downy mildew and pea enation mosaic virus.

SV8112QH – Seminis, Sweet Savor gene type, Determinate afila leaf type, Sweet Savor gene type, 1430 heat units, Similar maturity as Reliance but Reliance not sweet savor, 3.1 average sieve size, good disease package.

Idalgo – Pure Line, afila leaf type, 3.5 sieve size, +5 days to maturity relative to Spring, 1275 heat units, resistant to Fusarium wilt race 1 and powdery mildew, tolerant to downy mildew and pea enation mosaic virus.

1607 – Gallatin Valley, afila leaf type, 11-12 node bloom, 1320 heat units, 3.8 sieve.

EXP064 – Brotherton, normal leaf type, 1430 heat units, 66 days to maturity, 2.3 average sieve size, petite sieve size class.

SV0371QF – Seminis, 1480 heat units, afila, 3.15 sieve size, 15 nodes to first flower, 2-3 pods per node, 7-8 berries per pod, HR for Powdery Mildew, Fusarium R1&R2, pea enation mosaic virus and bean yellow mosaic virus; 3rd best root rot tolerance.

Ricco – Gallatin Valley, Main season variety 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.

BSC5991 – Brotherton, afila leaf type, 1630 heat units, 73 days to maturity, 4.1 average sieve size.

828 – Gallatin Valley, afila leaf type, 14 node bloom, 1450 heat units, 3.8 sieve.

BSC7120 – Brotherton, 1500 heat units, afila leaf type, 68 days to maturity, 4.2 average sieve size.

494 – Brotherton, afila leaf type, 1590 heat units, 71 days to maturity, 2.8 average sieve size, small sieve size class.

DA 1470 (EX08540794) – Seminis, 1470 heat units, determinate afila type, 3.2 average sieve size, 2-3 pods per node, 8-9 berries per pod, 18 inch plant height, HR for Fusarium R1 and bean yellow mosaic virus. 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.

Descriptions provided by the seed source continued:

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).

CS-464AF – Crites, 1475 heat units to maturity, disease resistance: Fop 1&2, Ep, PEMV, afila type leaf, triple pods, main-season, disease package.

SV1231QF – Seminis, 1480 heat units, afila sweet savor, 15 nodes to first flower, 2-3 pods per node, 7-8 berries per pod, IR for Downy Mildew, HR for Powdery Mildew, Fusarium R1&R2, pea enation mosaic virus and bean yellow mosaic virus

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).

12P93 – Pure Line, afila leaf type, 3.2 soeve size, +13 days to maturity relative to Spring, 1490 heat units, tolerant to Fusarium wilt race 2.

5525 – Gallatin Valley, afila leaf type, 14-15 node bloom, 1500 heat units, 3.0 sieve.

5602 – Gallatin Valley, afila leaf type, 14-15 node bloom, 1500 heat units, 3.0 sieve.

98-326 – Pure Line, afila leaf type, 2.8 sieve size, +16 days to maturity relative to Spring, 1600 heat units, resistant to Fusarium wilt race 1, powdery mildew, and pea enation mosaic virus.

SV0823QG – Seminis, 1525 heat units, afila plant type, 3.3 average sieve size, 17 nodes to first flower, 2-3 pods per node, 8-9 berries per pod, 45 cm plant height, 2600 seeds per pound, Ir for Downy Mildew and HR for Powdery Mildew, Fusarium R1 and Pea Enation mosaic virus..

602 – Pure Line, afila leaf type, +11 days to maturity relative to Spring, 1430 heat units, 3.5 sieve size, resistance to FWR1,r2, Fus.RR, PM.

Corus – Syngenta, late, normal leaf, small sieve.

8069 – Gallatin Valley, afila leaf type, 14-15 node bloom, 1450 heat units, 3.2 sieve.

5903 – Gallatin Valley, 1500 heat units, first flowering node is 14th node, afila leaf type, 3.0 sieve.

98-261 – Pure Line, normal leaf type, 3.2 sieve size, +10 days to maturity relative to Spring, 1400 heat units, resistant to Fusarium wilt race 1 and powdery mildew.

8154 – Gallatin Valley, leaf type, 14-15 node bloom, 1600 heat units, 3.8 sieve.

671 – Pure Line, afila leaf type, 3.3 sieve size, +11 days to maturity relative to Spring, 1410 heat units, resistant to Fusarium wilt race 1 and powdery mildew.

SV6844QG – Seminis, 1600 heat units, afila, Fasc; sweet savor, 3.6 sieve size, 17 nodes to first flower, 2-3 pods per node, 7-8 berries per pod, IR for Downy Mildew, HR for Powdery Mildew, Fusarium R1 &R2, Pea Enation Mosaic Virus and Bean yellow mosaic virus.

Descriptions provided by the seed source continued:

PLS179 – Pure Line, afila leaf type, +13 days to maturity relative to Spring, 1500 heat units, 4.0 sieve, resistance to FWR1, BLRV, PM.

PLS196 – Pure Line, afila, +13 days to maturity relative to Spring, 1500 heat units, 4.0 sieve, resistance to FWR1,2, Fus.RR, PM, tolerant: Downy Mildew.

98-370 – Pure Line, normal leaf type, 3.8 sieve size, +18 days to maturity relative to Spring, 1650 heat units, resistant to Fusarium wilt race 1 and powdery mildew.

8137 – Gallatin Valley, leaf type, 15 node bloom, 1600 heat units, 2.0 sieve.

Dancer – Pure Line, afila leaf type, +14 days to maturity relative to Spring, 1550 heat units, 3.5 sieve size, resistance to FWR1, PM, and PEMV, tolerant to DM.

503 – Pure Line, normal leaf type, 3.3 sieve size, +12 days to maturity relative to Spring, 1460 heat units, resistant to Fusarium wilt race 1 and 2 and pea enation mosaic virus, tolerant to powdery mildew.

PLS183 – Pure Line, afila type, +14 days to maturity relative to Spring, 1540 heat units, 4.2 sieve, resistance to FWR1, tolerant: FWrace2, Blackroot, Fus.RR, Aphanomyces.

98-399 – Pure Line, normal leaf type, 3.3 sieve size, +18 days to maturity relative to Spring, 1650 heat units, resistant to Fusarium wilt race 1 and powdery mildew.

CS461AF – Crites, afila, 1540 HU, small sieve size, 2.6 average sieve size, Wilt 1 & 2, Ep, PM resistance, full season, stands well, triple pods.

SV5685QG – Seminis, 1750 heat units, normal leaf.

A cutting was held on November 7th where frozen peas were warmed and evaluated by a number of processing (Seneca Foods, Bonduelle/Farm Fresh, Furman Foods, Hanover Foods and Pictsweet) and seed company (10 companies) representatives. Evaluations were done only by seed company and industry representatives.

Table 7. Weather Summary and 110 tenderometer chart

Day	Day from planting	Max. Temp.	Min. Temp.	Mean Temp.	Precip.	Acc. Precip.	Degree days base 40	acc dd units base 40	Ten. Units	Corrignatio n factor for Yield
5/8/19	1	54	40	47	0.21	0.21	7	7	80	2.33
5/9/19	2	53	40	46.5	0	0.21	6.5	13.5	81	2.18
5/10/19	3	66	44	55	0.44	0.65	15	28.5	82	2.05
5/11/19	4	71	40	55.5	0.24	0.89	15.5	44	83	1.93
5/12/19	5	55	42	48.5	0.09	0.98	8.5	52.5	84	1.82
5/13/19	6	43	40	41.5	0.62	1.6	1.5	54	85	1.72
5/14/19	7	44	40	42	0.52	2.12	2	56	86	1.64
5/15/19	8	46	39	42.5	0.1	2.22	2.5	58.5	87	1.57
5/16/19	9	67	43	55	0.08	2.3	15	73.5	88	1.51
5/17/19	10	63	47	55	0.02	2.32	15	88.5	89	1.46
5/18/19	11	69	43	56	0	2.32	16	104.5	90	1.42
5/19/19	12	65	50	57.5	0.28	2.6	17.5	122	91	1.38
5/20/19	13	85	61	73	0.17	2.77	33	155	92	1.34
5/21/19	14	71	42	56.5	0.04	2.81	16.5	171.5	93	1.31
5/22/19	15	61	44	52.5	0	2.81	12.5	184	94	1.28
5/23/19	16	65	50	57.5	0.01	2.82	17.5	201.5	95	1.25
5/24/19	17	78	53	65.5	0	2.82	25.5	227	96	1.22
5/25/19	18	65	46	55.5	0	2.82	15.5	242.5	97	1.19
5/26/19	19	76	52	64	0.79	3.61	24	266.5	98	1.17
5/27/19	20	78	53	65.5	0	3.61	25.5	292	99	1.15
5/28/19	21	73	54	63.5	0.04	3.65	23.5	315.5	100	1.13
5/29/19	22	68	49	58.5	0.22	3.87	18.5	334	101	1.11
5/30/19	23	59	50	54.5	0.02	3.89	14.5	348.5	102	1.09
5/31/19	24	68	53	60.5	0.54	4.43	20.5	369	103	1.07
6/1/19	25	69	52	60.5	0	4.43	20.5	389.5	104	1.06
6/2/19	26	78	56	67	0.14	4.57	27	416.5	105	1.05
6/3/19	27	64	45	54.5	0.04	4.61	14.5	431	106	1.04
6/4/19	28	61	45	53	0	4.61	13	444	107	1.03
6/5/19	29	67	53	60	0	4.61	20	464	108	1.02
6/6/19	30	77	55	66	0.36	4.97	26	490	109	1.01
6/7/19	31	70	48	59	0	4.97	19	509	110	1.00
6/8/19	32	75	49	62	0	4.97	22	531	111	0.99
6/9/19	33	76	52	64	0	4.97	24	555	112	0.98
6/10/19	34	80	52	66	0	4.97	26	581	113	0.97
6/11/19	35	69	54	61.5	0.61	5.58	21.5	602.5	114	0.96
6/12/19	36	69	45	57	0	5.58	17	619.5	115	0.96
6/13/19	37	73	58	65.5	0	5.58	25.5	645	116	0.95
6/14/19	38	62	52	57	0.47	6.05	17	662	117	0.95
6/15/19	39	68	53	60.5	0	6.05	20.5	682.5	118	0.94
6/16/19	40	73	56	64.5	0.33	6.38	24.5	707	119	0.94
6/17/19	41	59	48	53.5	0.34	6.72	13.5	720.5	120	0.93

6/18/19	42	71	53	62	0	6.72	22	742.5	121	0.93
6/19/19	43	77	57	67	0	6.72	27	769.5	122	0.92
6/20/19	44	80	63	71.5	0.58	7.3	31.5	801	123	0.92
6/21/19	45	68	57	62.5	0.91	8.21	22.5	823.5	124	0.91
6/22/19	46	72	55	63.5	0.01	8.22	23.5	847	125	0.91
6/23/19	47	73	58	65.5	0	8.22	25.5	872.5	126	0.90
6/24/19	48	78	55	66.5	0	8.22	26.5	899	127	0.90
6/25/19	49	76	62	69	0.67	8.89	29	928	128	0.89
6/26/19	50	79	58	68.5	0	8.89	28.5	956.5	129	0.89
6/27/19	51	83	62	72.5	0	8.89	32.5	989	130	0.89
6/28/19	52	82	60	71	0	8.89	31	1020	131	0.88
6/29/19	53	85	66	75.5	0	8.89	35.5	1055.5	132	0.88
6/30/19	54	81	63	72	0	8.89	32	1087.5	133	0.88
7/1/19	55	70	54	62	0	8.89	22	1109.5	134	0.87
7/2/19	56	79	61	70	0	8.89	30	1139.5	135	0.87
7/3/19	57	77	62	69.5	0	8.89	29.5	1169	136	0.87
7/4/19	58	83	62	72.5	0	8.89	32.5	1201.5	137	0.86
7/5/19	59	88	70	79	0	8.89	39	1240.5	138	0.86
7/6/19	60	88	68	78	0.75	9.64	38	1278.5	139	0.86
7/7/19	61	82	63	72.5	0.5	10.14	32.5	1311	140	0.86
7/8/19	62	74	55	64.5	0.06	10.2	24.5	1335.5	141	0.85
7/9/19	63	77	53	65	0	10.2	25	1360.5	142	0.85
7/10/19	64	80	60	70	0	10.2	30	1390.5	143	0.85
7/11/19	65	87	69	78	0	10.2	38	1428.5	144	0.85
7/12/19	66	83	62	72.5	0	10.2	32.5	1461	145	0.85
7/13/19	67	83	60	71.5	0	10.2	31.5	1492.5	146	0.84
7/14/19	68	84	66	75	0	10.2	35	1527.5	147	0.84
7/15/19	69	77	61	69	0	10.2	29	1556.5	148	0.84
7/16/19	70	80	63	71.5	0	10.2	31.5	1588	149	0.84
7/17/19	71	89	64	76.5	0.1	10.3	36.5	1624.5	150	0.84
7/18/19	72	76	66	71	0.27	10.57	31	1655.5	151-160	0.83
7/19/19	73	83	66	74.5	0	10.57	34.5	1690		
7/20/19	74	88	73	80.5	0	10.57	40.5	1730.5		
7/21/19	75	91	74	82.5	0	10.57	42.5	1773		