UNIVERSITY OF DELAWARE

Processing Pea Variety Trial Results

2002

Ed Kee, Tracy Wootten, James Adkins and Jim Glancey
University of Delaware Research & Education Center
16684 County Seat Highway
Georgetown, DE 19947

EDEducation Center, Georgetown, Delaware

Table of Contents

2002 University of Delaware Pea Variety Trials

Ed Kee, Tracy Wootten and James Adkins, University of Delaware Research & Education Center, 16684 County Seat Highway
Phone: 302-856-7303; Fax: 302-856-1845
Email: kee@udel.edu, wootten@udel.edu, adkins@udel.edu

The 2002 Pea Variety Trials were planted at the University of Delaware Research & Education Center, Georgetown, Delaware. The purpose of the trials is to evaluate and identify varieties best adapted for our production region. Yield, quality, and maturity are important characteristics that can vary between production regions. Similar trials have been planted since 1994, with the exception of 1998 and 2001. This year, the trials were planted on two planting dates, reflecting our commercial situation. Growers and processors generally use early maturing varieties during the first half of the planting season, and longer maturing varieties on later plantings. Of course, later plantings are exposed to warmer conditions, thus generating quicker accumulations of heat units, which is why longer maturity varieties are used in later plantings.

Materials and Methods

Early Trial

The early trial was planted on March 25, 2002. Fertility was done according to soil test. The field was chiseled and field cultivated in late February/ early March to prepare seed bed. On March 12, 0-0-60 was applied at 150 lbs./A, broadcast and the field was disked. Pursuit herbicide was applied at 3 ounces/A, pre-plant incorporated with 30% UAN at 19 gallons/A on March 15. The field was worked using a field cultivator to incorporate the herbicide and nitrogen as well as prepare the seedbed. Nineteen varieties were planted using an Almaco drill with 9 rows, spaced 8 inches apart. Eight seeds per foot of row were planted of each variety. Final stand counts are reported in the results. Plots were 6' x 50' in size using a randomized block design with 3 replications. On May 7 a postemergence application of Basagran at 1.5 pts./A was applied, and on May 15 Poast at 1.5pts./A was applied for weed control. The trial was irrigated with a linear overhead sprinkler system. One to 1.5 inches of water was applied per week, as needed.

Late Trial

The late trial was planted on April 26, 2002. The field was chiseled and field cultivated on April 18 & 19, 2002. Fertility was done according to soil test. On April 3, 0-0-60 at 200 lbs./A, was applied to the field. Pursuit herbicide at 3 ounces/A, pre-plant and 30% UAN at 19 gallons/A was applied and incorporated with a field cultivator on April 24. Twenty- five varieties were planted using an Almaco drill with 9 rows, spaced 8 inches apart. Eight seeds per foot of row were planted of each variety. Final stand counts are reported in the results. Plots were 6' x 50' in size using a randomized block design with 3 replications. A postemergence herbicide application of Poast at 1.5 pints/A was made on May 30. Dimethoate insecticide was applied on June 9, 2002 for grasshopper control. The trial was irrigated with a linear overhead sprinkler system. One to 1.5 inches of water was applied per week, as needed.

Harvest Procedure:
Each variety was harvested as near to a tenderometer reading of 100 as possible. Pre-harvest samples were taken 2-3 days prior to reaching this maturity level whenever possible. All three replicates were harvested for each variety on the same day.

Plants were pulled from a 25 foot section. Vines were weighed and fed into a stationary FMC combine. Shelled peas were collected and washed (removing leaves, stones, and other trash). The clean, shelled peas were weighed. A sub-sample was put through a size separator that segregated peas with a diameter of 12/32 inch or greater (#4 sieve size); between 11/32 and 12/32 inch (#3 sieve size); between 9/32 and 11/32 inch (#1&2 sieve size); and peas smaller than 9/32 inch (trash). Three tenderometer readings were taken from each sample. The average is reported.

Ten plants were taken from each variety on the day of harvest and the following measurements were taken: vine length (cm), useable pods/node, pods/plant, and pod length. The data reported is the average of ten plants. The number of peas/pod is the average of ten pods.

Weather data and heat unit accumulation for both trials are included in the appendix. The tenderometer was checked and calibrated by Dr. Charles McClurg, University of Maryland.

Results & Discussion
Yield, maturity, size distribution, and pla nt characteristics are reported in Tables 1 and 5. Gross yields include small peas on the trash tray (less than 9/32 inch). Net yields have subtracted the percentage of trash. Net yield adjusted to a tenderometer reading of 100 is determined using the procedure and chart developed by Pumphrey et. al., (Table 9). Adjusting the yield to a common maturity is important when making yield comparisons. The inverse relationship between yield and quality is well-known with peas. Therefore, it is important to consider maturity as indicated by the tenderometer reading, and size distribution when evaluating the data in these tables. T- readings increase with maturity, as does yield. Size distribution data reflect not only patterns of maturity, but also the basic size characteristics of a variety. Certain varieties have an inherently smaller sieve size than others, e.g. petit peas are smaller than standard peas. There are also gradations between the petit peas and standard size peas.

Average stand counts are reported in Tables 4 and 8. Plants per yard ranged from 16 to 29 in the early trial and 14 to 29 in the late trial. There were statistically different populations in the both trials, which should be taken into consideration when comparing yield data between varieties.

The size distribution data in the sieve size columns reveal whether the variety produces predominately large or small peas. This is important as processors determine the possible utilization of a variety.

Heat unit data, when coupled with the tenderometer readings, indicate the relative maturity for each variety. In general, predicted heat units as reported by the seed company are close to the actual heat units. The progression of maturity as reflected by pre-harvest sampling and final harvest tenderometer readings are reported in Tables 2 and 6. The early trial experienced erratic temperatures during the growing season. This trial seemed to mimic the earliest commercial fields with split sets and the plantings never reaching full flower. Please note in the weather data (beginning on page 16) the high temperatures that occurred in April. The heat unit information will also show the varying of heat unit accumulation from single digit to double digits approaching 30 and higher for the early trial. Delmarva also experienced a deficit in rainfall for the season.

Month	2002 Rainfall (in.)	20 yr. Average Rainfall (in.)	Difference
March	5.10	4.58	+ 0.52
April	2.60	3.46	- 0.86
May	2.21	3.84	- 1.63
June	1.39	3.09	- 1.70
Total	11.30	14.97	- 3.67

FR 335 was the highest yielding variety in the early trial when the t-reading was adjusted to 100. R01 276 was the highest yielding variety in the late trial when the t-reading was adjusted to 100.

We hope you find this data informative and useful. If you have questions, please feel free to contact us.

ACKNOWLEDGEMENTS:

The authors wish to thank the following people and companies for their support, interest and guidance of the 2002 Pea Trials.

Participating Seed Companies

ASI-Seedwest	Twin Falls, Idaho
Seminis Seed Co.	Kalamazoo, Michigan
Crites-Moscow Growers, Inc.	Moscow, Idaho
Syngenta Co. – Rogers Brand	Boise, Idaho
Pure-Line Seed, Inc.	Moscow, Idaho
Sharpes International Seeds, Inc.	Sleaford, Lincolnshire, England
Upper Valley Seed Co.	Shelly, Idaho
W. Brotherton Seed Co.	Moses Lake, Washington

Processing Companies

Agri-Link Foods	Bridgeville, Delaware
Charles H. West Farms	Milford, Delaware
Del Monte	Napierville, Illinois
Hanover Foods, Inc.	Clayton, Delaware
J. G. Townsend's, Inc.	Georgetown, Delaware
John Cope's Foods, Inc.	Rheems, Pennsylvania
Seabrook Bros.	Seabrook, New Jersey

We wish to thank Victor Green and the staff at the University of Delaware Research & Education Center, Georgetown, for their assistance in planting and irrigating the trials.

The plots could not have been harvested without the assistance of the following students: Rusty Tressler, John Eisenbrey, Derrick Dickerson, Brandon Hazzard and Lacy Serman.

Special acknowledgement to our co-authors of this report, Dr. Jim Glancey, Department of Bioresources Engineering who rebuilt the viner used for harvest, and James Adkins, Department of Bioresources Engineering, who assisted in the planting of the trials as well as maintains the viner and other equipment that facilitated the successful completion of the trials.

Table 1. Yield, Maturity, Size Distribution and Plant Characteristics of the 2002 University of Delaware Early Pea Variety Trial.

					Average				Sieve Size					Average of 10 Plants						
Variety	*Harvest Date*	*DAP*	*Suggested Heat Units*	*Actual Heat Units*	*Tenderometer*	*Gross Yields lbs/A*	*Net Yield lbs/A*	*Net Yield Adj. To 100 T lbs/A*	*% Trash ≤9/32*	*% 1&2's 9/32 & 10/32*	*% 3's 11/32*	*% 4's 12/32 & ≥*	*Vine Wt./ Plot (lbs)*	*Vine Length (cm)*	*Pods/Node*	*Pods/Plant*	*Pod Length (cm)*	*Peas/Pods Avg. of 10 Pods*	*Seeds/ lbs*	*Seed Source*
FR 335	5/31	66	1290	1325	99	2512	2457	2534	2	21	45	32	38.4	29.6	1.20	2.4	7.2	6.5	2448	Brotherton
FP 2237	6/3	69	1310	1431	108	2662	2625	2396	1	19	49	31	51.2	35.6	1.38	2.2	8.0	7.2	2056	Syngenta-Rogers
CMG 347 AF*	5/29	64	1270	1260	102	1810	1707	1749	6	39	36	19	43.1	26.8	1.36	3.0	5.9	4.7	2368	Crites-Moscow
FP 2230	5/27	62		1198	97	1452	1426	1536	2	12	33	53	32.1	31.4	1.12	1.9	5.8	4.6	2060	Syngenta-Rogers
FR 348	6/1	67	1410	1365	103	1587	1522	1513	4	15	37	44	38.9	35.6	1.23	2.7	7.6	7.4	2288	Brotherton
EX 595*	5/27	62	1170	1198	107	1607	1536	1463	4	27	41	28	32.6	36.2	1.25	2.0	5.4	4.4	2239	Seminis
Early Sweet 414	5/28	63	1200	1229	105	1452	1409	1342	3	14	24	59	24.0	32.4	1.10	2.2	5.2	5.1	2640	Seminis
FR 600	6/3	69	1420	1431	116	1505	1474	1242	2	8	19	71	36.8	26.9	1.31	2.1	6.6	5.8	2368	Brotherton
EX 564	5/25	60	1180	1132	99	1176	1113	1197	5	28	36	31	26.6	29.6	1.17	1.4	5.3	4.3	2204	Seminis
8925	5/30	65	1100	1290	100	1075	934	1091	12	33	33	22	40.5	38.4	1.24	2.1	6.6	4.6	1861	Pure Line
EX 0415*	5/27	62	1160	1198	125	1302	1279	1033	2	16	35	47	26.8	29.1	1.00	1.0	4.6	3.6	2744	Seminis
PLS-218	5/28	63	1120	1229	94	871	724	971	17	44	30	9	30.1	34.5	1.28	2.3	7.1	5.8	2399	Pure Line
PLS-620	5/25	60	1050	1132	96	861	691	931	21	32	23	24	31.9	30.7	1.17	1.4	6.2	3.6	2389	Pure Line
PLS/W-13046	5/28	63	1120	1229	105	919	886	851	4	15	32	49	25.6	29.2	1.07	1.6	6.6	6.0	2671	Pure Line
EF 680	5/27	62	1220	1198	101	818	801	799	2	7	23	68	22.7	32.7	1.00	1.1	6.4	5.5	2000	Syngenta-Rogers
CMG 373 F	5/31	66	1240	1325	99	779	714	786	9	15	33	43	44.2	36.9	1.38	1.8	6.7	5.5	2372	Crites-Moscow
EX 0416*	5/27	62	1180	1198	110	873	825	769	6	22	31	41	19.2	30.4	1.10	1.1	6.0	6.8	2648	Seminis
CMG 374 AF*	5/31	66	1275	1325	108	827	798	745	5	10	31	54	26.7	33.9	1.12	1.9	6.6	6.2	2136	Crites-Moscow
PLS-954	5/29	64	1100	1260	104	779	711	739	9	30	37	24	41.2	35.2	1.18	2.0	6.9	6.5	2671	Pure Line
$LSD_{0.05}$					4	543	537	525	6	7	6	9	7							

*Afila Types

Table 2. Tenderometer Readings for the 2002 University of Delaware Early Pea Variety Trial

Days after Planting:			58	59	60	61	62	63	64	65	66	67	68	69	70
Date:			23-May	24-May	25-May	26-May	27-May	28-May	29-May	30-May	31-May	1-Jun	2-Jun	3-Jun	4-Jun
Actual Heat Units:			1081	1108.5	1132	1164.5	1198	1228.5	1259.5	1290	1324.5	1365	1401.5	1430.5	
Trt.	Variety	Suggested Heat Units													
1	8925	1100							94	**100**					
2	EF 680	1220		82			**101**								
3	FP 2237	1310									<82			**108**	
4	FP2230		78	86			**97**								
5	CMG 374 AF*	1275							86	86	**108**				
6	EX 564	1180	89		**99**										
7	EX 595*	1170		84			**107**								
8	FR 348	1410							82		92	**103**			
9	CMG 347 AF*	1270						92	**102**						
10	FR 600	1420							<82		82			**116**	
11	CMG 373 F	1240							84	90	**99**				
12	PLS-620	1050	87		**96**										
13	PLS-218	1120					90	**94**							
14	FR 335	1290							83	91	**99**				
15	Early Sweet 414	1200	<82				95	**105**							
16	EX 0416*	1180					**110**								
17	PLS-954	1100							**104**						
18	PLS/W-13046	1120					96	**105**							
19	EX 0415*	1160	82				**125**								

* Afila Types

T-Readings: Regular print is the t-reading for pre-harvest sampling, **Bold print is the average t-reading at harvest for three replications.**

Table 3. First Flower, Full Flower, and First Flowering Node Data for the 2002 University of Delaware Early Pea Variety Trial.

Variety	Date of First Flower	Date of Full Flower*	First Flowering Node
8925	5/7		9
EF 680	5/6		8
FP 2237	5/11		12
FP2230	5/3	5/8	9
CMG 374 AF	5/10		9
EX 564	5/3	5/8	8
EX 595	5/5	5/8	8
FR 348	5/10	5/14	9
CMG 347 AF	5/7	5/11	9
FR 600	5/10		9
CMG 373 F	5/10		8
PLS-620	5/3	5/8	8
PLS-218	5/7	5/13	8
FR 335	5/8	5/14	9
Early Sweet 414	5/1	5/8	10
EX 0416	5/6		8
PLS-954	5/7		9
PLS/W-13046	5/7		9
EX 0415	5/3		7

* Some varieties were never in full flower. Below is a "snapshot" of each variety on May 11 and May 20. May 20 was five days before the earliest varieties were harvested.

Variety	May 11th 2002	May 20th 2002
8925	80% Bloom- No Pods	1st Pods Starting to Gas
EF 680	2" Pods	Gased- No Flowers
FP 2237	1st Flower	4" Flat Pods- 50% Fl
FP2230	2 » Pods	Gased- No Flowers
CMG 374 AF	20 % Flower	Gasing- No Flowers
EX 564	2'' Pods	10% Flower- Pin Pods
EX 595	1'' Pods	Gased- No Flowers
FR 348	20 % Flower	50 % Flower- Pin Pods
CMG 347 AF	Full Flower	30 % Flower- Pin Pods
FR 600	10 % Flower	20 % Flower- Pin Pods
CMG 373 F	10 % Flower	4" Pods- 10 % Flower
PLS-620	2" Pods	Gased- No Flowers
PLS-218	50 % Flower- No Pods	10% Flower – Flat Pods
FR 335	75 % Flower- No Pods	20 % Flower- 4" Flats
Early Sweet 414	2" Pods	10% Flower- 1st Pod
EX 0416	2" Pods	3" Pods- No Flower
PLS-954	20 % Flower	Starting to Gas
PLS/W-13046	20% Flower	20% Flower- Flat Pods
EX 0415	1-2" Pods	Gased- No Flowers

Table 4. Average Stand Count Data of the 2002 University of Delaware Early Pea Variety Trial.
(Average number of plants per 3 foot of row; 2 locations/plot/rep)

Variety	**Average**
EX 0415	29 A
PLS-620	28 AB
PLS-954	27 AB
EX 595	26 ABC
CMG 374 AF	25 BCD
CMG 347 AF	25 BCD
CMG 373 F	24 BCD
FD 2230	23 CDE
EX 0416	23 CDEF
PLS/W-13046	22 DEF
FR 348	22 DEF
FP 2237	22 DEFG
FR 335	22 DEFG
8925	21 DEFG
Early Sweet 414	21 EFGH
EX 564	20 EFGH
FR 600	18 GHI
PLS-218	18 HI
EF 680	16 I
$LSD_{0.05}$	4

Table 5. Yield, Maturity, Size Distribution and Plant Characteristics of the 2002 University of Delaware Late Pea Variety Trial.

Variety	*Harvest Date*	*DAP*	*Suggested Heat Units*	*Actual Heat Units*	*Average*				*Sieve Size*				*Vine Wt./ Plot (lbs)*	*Average of 10 Plants*				*Peas/Pods Avg. of 10 Pods*	*Seeds/ lbs*	*Seed Source*
					Tenderometer	*Gross Yields lbs/A*	*Net Yield lbs/A*	*Net Yield Adj. To 100 T lbs/A*	*% Trash ≤9/32*	*% 1&2's 9/32 & 10/32*	*% 3's 11/32*	*% 4's 12/32 & ≥*		*Vine Length (cm)*	*Pods/Node*	*Pods/Plant*	*Pod Length (cm)*			
R01 276	6/26	61	1600	1625	81	2216	1921	3692	13	47	28	12	84.8	44.5	1.77	3.9	7.6	7.2	2520	Seminis
FR 731*	6/25	60	1560	1582	132	3732	3660	2895	2	12	31	55	58.0	32.6	1.38	3.6	6.5	6.1	2454	Brotherton
PLS-84	6/22	57	1430	1464	103	3010	2911	2873	3	8	19	70	61.8	38.3	1.32	3.7	7.0	6.8	2270	Pure Line
Starlight	6/22	57	1500	1464	110	3136	3032	2764	3	14	31	52	52.2	31.9	1.89	3.6	5.3	5.0	2293	Advanta/ADM
Estancia*	6/21	56	1460	1434	108	2967	2878	2686	3	29	56	12	59.0	33.3	1.69	4.4	6.6	6.0	2968	Seminis
SH 13.7	6/21	56	1500	1434	100	2682	2592	2659	3	37	43	17	62.9	46.5	1.62	3.4	7.0	6.3	2389	Advanta/ADM
CMG 378 F	6/25	60	1590	1582	112	3030	2931	2631	3	13	24	60	82.1	37.1	1.18	2.0	6.9	6.3	2123	Crites-Moscow
Rigo	6/24	59	1490	1540	138	3296	3231	2548	2	5	12	81	54.9	40.4	1.40	3.5	6.3	5.4	2200	Seminis
Gallant*	6/19	54		1375	87	1883	1382	2509	27	58	13	2	51.7	29.8	1.70	3.9	6.5	6.7	2760	Syngenta-Rogers
FR 720*	6/26	61	1690	1625	120	2967	2848	2438	4	11	25	60	67.7	34.9	1.39	3.2	6.5	6.6	2496	Brotherton
Trilogy	6/24	59	1570	1540	125	3025	2985	2399	1	10	28	61	49.5	36.8	1.38	2.9	6.4	6.2	2584	Seminis
Survivor*	6/24	59	1600	1540	109	2681	2601	2389	3	14	33	50	53.4	28.5	1.30	3.0	5.8	4.8	2576	Seminis
91019-4-1	6/24	59		1540	127	3006	2939	2362	2	9	22	67	63.9	43.0	1.60	4.8	6.7	7.0		Upper Valley Seed
G-28*	6/24	59		1540	107	2561	2449	2329	4	19	26	51	62.2	35.9	1.38	3.3	6.7	5.4	2092	Syngenta-Rogers
Trompet*	6/26	61	1580	1625	93	2052	1885	2310	8	34	38	20	72.5	48.1	1.36	3.0	8.7	9.4	2480	Seminis
CMG 364 F	6/25	60	1550	1582	126	2880	2826	2285	2	7	16	75	63.8	35.1	1.15	3.1	7.4	5.9	2164	Crites-Moscow
Nikki*	6/21	56	1480	1434	102	2134	2071	2070	3	21	44	32	55.3	36.6	1.19	1.9	7.9	7.1	2416	Brotherton
FR 678*	6/24	59	1560	1540	128	2459	2424	1929	1	7	18	74	54.7	34.5	1.45	3.2	6.5	5.0	2112	Brotherton
PLS-47	6/18	53	1360	1343	99	1859	1613	1892	13	49	34	4	41.8	27.4	1.44	3.6	6.4	5.5	2226	Pure Line
85 1 0611	6/24	59	1570	1540	126	2323	2277	1837	2	6	15	77	62.0	41.6	1.30	2.6	7.0	5.4	2050	Seminis
EX 0417*	6/19	54	1420	1375	105	1902	1791	1782	6	32	36	26	50.9	28.3	1.21	1.7	6.9	6.0	2724	Seminis
91018-39	6/21	56		1434	90	1442	1391	1763	4	23	41	32	56.9	35.0	1.68	3.2	7.2	5.3		Upper Valley Seed
CMG 375 F	6/24	59	1490	1540	144	2125	2091	1632	2	7	26	65	46.9	42.5	1.19	2.5	7.6	6.6	2232	Crites-Moscow
PLS-24-1	6/19	54	1360	1375	100	1249	1164	1255	7	29	38	26	49.6	32.0	1.13	1.7	8.2	6.9	2390	Pure Line
PLS-91	6/17	52	1360	1314	106	1123	915	1028	18	55	22	5	39.0	38.6	1.36	1.9	6.6	6.7	2522	Pure Line
$LSD_{0.05}$					8	545	543	453	3	5	6	9	8							

* Afila Types

Table 6. Tenderometer Readings for the 2002 University of Delaware Late Pea Variety Trial

Days after Planting:			52	53	54	55	56	57	58	59	60	61
Date:			17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun
Actual Heat Units:			1314	1343	1375	1404	1434	1464	1498	1540	1582	1625
Trt.	Variety	Suggested Heat Units										
1	85 1 0611	1570						80		**126**		
2	G-28*							95		**107**		
3	FR 678*	1560					86			**128**		
4	CMG 378 F	1590						<82			**112**	
5	CMG 364 F	1550						<82		100	**126**	
6	Rigo					<82	83			**138**		
7	PLS-47	1360	84	**99**								
8	CMG 375 F	1490								**144**		
9	PLS-84	1430			<82	<82		**103**				
10	Starlight	1500			<82	<82	88	**110**				
11	SH 13.7	1500				92	**100**					
12	PLS-24-1	1360		86	**100**							
13	Nikki*	1480			87	92	**102**					
14	FR 731*	1560								96	**132**	
15	Trompet*	1580								82		**93**
16	FR 720*	1690								84		**120**
17	R01 276	1600								<82		**81**
18	PLS-91	1360	**106**									
19	Survivor*	1600								**109**		
20	Trilogy	1570								**125**		
21	EX 0417*	1420		92	**105**							
22	Gallant*				**87**							
23	Estancia*	1460			87	90	**108**					
24	91019-4-1							89		**127**		
25	91018-39					89	**90**					

* Afila Types

T-Readings: Regular print is the t-reading for pre-harvest sampling, **Bold print is the average t-reading at harvest for three replications.**

Table 7. First Flower, Full Flower, and First Flowering Node Data for the 2002 University of Delaware Late Pea Variety Trial.

Variety	Date of First Flower	Date of Full Flower	First Flowering Node
85 1 0611	6/6	6/9	14
G-28	6/5	6/9	14
FR 678	6/4	6/8	17
CMG 378 F	6/5	6/11	15
CMG 364 F	6/6	6/9	13
Rigo	6/5	6/9	14
PLS-47	6/1	6/5	13
CMG 375 F	6/5	6/8	13
PLS-84	6/5	6/7	12
Starlight	6/2	6/6	15
SH 13.7	6/3	6/7	15
PLS-24-1	6/1	6/5	12
Nikki	6/1	6/5	16
FR 731	6/5	6/9	16
Trompet	6/8	6/12	16
FR 720	6/6	6/11	14
R01 276	6/9	6/15	14
PLS-91	6/1	6/3	12
Survivor	6/6	6/10	14
Trilogy	6/5	6/10	14
EX 0417	6/3	6/6	14
Gallant	6/2	6/6	14
Estancia	6/2	6/6	15
91019-4-1	6/6	6/10	15
91018-39	6/6	6/10	14

Table 8. Average Stand Count Data of the 2002 University of Delaware Late Pea Variety Trial.
(Average number of plants per 3 foot of row;2 locations/plot/rep)

Variety	**Average**
EX 0417	29 A
PLS-24-1	23 B
Gallant	23 BC
G-28	22 BCD
85 1 0611	21 BCDE
PLS-47	21 BCDEF
PLS-91	21 BCDEFG
91018-39	21 BCDEFGH
Survivor	20 BCDEFGHI
SH 13.7	20 BCDEFGHI
FR 720	19 BCDEFGHI
RO1 276	19 BCDEFGHI
CMG 375 F	18 CDEFGHI
Starlight	18 DEFGHI
Trompet	18 DEFGHI
Nikki	18 DEFGHI
Estancia	18 DEFGHIJ
CMG 364 F	17 DEFGHIJ
CMG 378 F	17 EFGHIJ
91019-4-1	17 FGHIJ
Trilogy	17 GHIJ
PLS-84	16 HIJ
FR 678	16 HIJ
Rigo	16 IJ
FR 731	14 J
$LSD_{0.05}$	4

Table 9. T-Reading Adjustment Using Pumphery et.al. Systems*

Actual T Reading	Adj. Factor
150	130.0
145	130.4
140	130.6
135	130.0
130	128.6
129	128.3
128	127.4
127	127.5
126	126.9
125	126.5
124	125.8
123	125.2
122	124.6
121	123.9
120	123.2
119	122.5
118	121.7
117	120.9
116	120.0
115	119.1
114	118.2
113	117.2
112	116.2
111	115.1
110	113.9
109	112.8
108	111.7
107	110.4
106	109.1
105	107.8
104	106.4
103	105.0
102	103.5
101	102.0
100	100.0
99	98.8
98	97.1
97	95.4
96	93.6
95	91.8
94	89.9
93	88.0
92	86.0
91	83.9
90	81.9

* Pumphery, F.V., Ramig, R.E., Allmoras, R.R., “Yield Tenderness Relationships in ‘Dark Skinned Perfection’ Peas”. J. Amer. Soc. Hort. Sci. 100(5): 507-509. 1975.

Heat Unit Accumulation for the 2002 University of Delaware Processing Pea Variety Trials
(40 degree base)

Date	High	Low	Heat Units	Early Pea Variety	Late Pea Variety
3/25/2002	**Planted**		0	0	
3/26/2002	67	44	15.5	15.5	
3/27/2002	54	39	6.5	22	
3/28/2002	54	37	5.5	27.5	
3/29/2002	65	36	10.5	38	
3/30/2002	72	56	24	62	
3/31/2002	58	47	12.5	74.5	
4/1/2002	61	39	10	84.5	
4/2/2002	66	33	9.5	94	
4/3/2002	79	45	22	116	
4/4/2002	52	35	3.5	119.5	
4/5/2002	49	32	0.5	120	
4/6/2002	47	29	0	120	
4/7/2002	52	25	0	120	
4/8/2002	68	35	11.5	131.5	
4/9/2002	77	59	28	159.5	
4/10/2002	64	42	13	172.5	
4/11/2002	60	35	7.5	180	
4/12/2002	67	48	17.5	197.5	
4/13/2002	76	57	26.5	224	
4/14/2002	81	61	31	255	
4/15/2002	81	64	32.5	287.5	
4/16/2002	89	65	37	324.5	
4/17/2002	93	62	37.5	362	
4/18/2002	85	64	34.5	396.5	
4/19/2002	84	64	34	430.5	
4/20/2002	81	60	30.5	461	
4/21/2002	61	49	15	476	
4/22/2002	66	48	17	493	
4/23/2002	65	44	14.5	507.5	
4/24/2002	75	43	19	526.5	
4/25/2002	60	41	10.5	537	
4/26/2002	61	39	10	547	**Planted**
4/27/2002	60	38	9	556	9
4/28/2002	75	53	24	580	33
4/29/2002	70	49	19.5	599.5	52.5
4/30/2002	64	39	11.5	611	64
5/1/2002	71	46	18.5	629.5	82.5
5/2/2002	81	54	27.5	657	110
5/3/2002	68	49	18.5	675.5	128.5
5/4/2002	62	39	10.5	686	139
5/5/2002	67	46	16.5	702.5	155.5
5/6/2002	72	44	18	720.5	173.5
5/7/2002	80	60	30	750.5	203.5
5/8/2002	73	56	24.5	775	228
5/9/2002	70	55	22.5	797.5	250.5
5/10/2002	78	62	30	827.5	280.5
5/11/2002	72	51	21.5	849	302
5/12/2002	81	55	28	877	330
5/13/2002	84	63	33.5	910.5	363.5
5/14/2002	64	52	18	928.5	381.5
5/15/2002	69	48	18.5	947	400

Heat Unit Accumulation for the 2002 University of Delaware Processing Pea Variety Trials
(40 degree base)

Date	High	Low	Heat Units	Early Pea Variety	Late Pea Variety
5/16/2002	80	51	25.5	972.5	425.5
5/17/2002	82	65	33.5	1006	459
5/18/2002	73	44	18.5	1024.5	477.5
5/19/2002	59	43	11	1035.5	488.5
5/20/2002	60	39	9.5	1045	498
5/21/2002	59	37	8	1053	506
5/22/2002	66	36	11	1064	517
5/23/2002	73	41	17	1081	534
5/24/2002	83	52	27.5	1108.5	561.5
5/25/2002	70	57	23.5	1132	585
5/26/2002	88	57	32.5	1164.5	617.5
5/27/2002	85	62	33.5	1198	651
5/28/2002	83	58	30.5	1228.5	681.5
5/29/2002	81	61	31	1259.5	712.5
5/30/2002	82	59	30.5	1290	743
5/31/2002	87	62	34.5	1324.5	777.5
6/1/2002	89	72	40.5	1365	818
6/2/2002	89	64	36.5	1401.5	854.5
6/3/2002	79	59	29	1430.5	883.5
6/4/2002	79	61	30		913.5
6/5/2002	90	69	39.5		953
6/6/2002	91	68	39.5		992.5
6/7/2002	68	55	21.5		1014
6/8/2002	70	51	20.5		1034.5
6/9/2002	79	50	24.5		1059
6/10/2002	85	63	34		1093
6/11/2002	89	63	36		1129
6/12/2002	91	72	41.5		1170.5
6/13/2002	74	62	28		1198.5
6/14/2002	72	61	26.5		1225
6/15/2002	76	60	28		1253
6/16/2002	80	56	28		1281
6/17/2002	82	63	32.5		1313.5
6/18/2002	81	57	29		1342.5
6/19/2002	82	62	32		1374.5
6/20/2002	81	58	29.5		1404
6/21/2002	82	57	29.5		1433.5
6/22/2002	85	55	30		1463.5
6/23/2002	87	61	34		1497.5
6/24/2002	95	69	42		1539.5
6/25/2002	95	70	42.5		1582
6/26/2002	92	74	43		1625

Authors:

Ed Kee
Extension Specialist-Vegetable Crops
University of Delaware Research & Education Center
16684 County Seat Highway
Georgetown, DE 19947
302-856-7303
302-856-2585 ext. 311 (direct line & voice mail)
302-856-1845 (fax)
E-Mail: kee@udel.edu

Tracy Wootten
Extension Associate-Vegetable Crops
University of Delaware Research & Education Center
16684 County Seat Highway
Georgetown, DE 19947
302-856-7303
302-856-2585 ext. 312 (direct line & voice mail)
302-856-1845 (fax)
E-Mail: wootten@udel.edu

James Adkins
Extension Associate-BioResources Engineering
University of Delaware Research & Education Center
16684 County Seat Highway
Georgetown, DE 19947
302-856-7303
302-856-2585 ext. 307 (direct line & voice mail)
302-856-1845 (fax)
E-Mail: adkins@udel.edu

James Glancey
Associate Professor, Bioresources Engineering
University of Delaware
531 South College Avenue
71 Townsend Hall
Newark, DE 19717-1303
302-831-1501 (phone & voice mail)
302-831-3651 (fax)
E-Mail: jglancey@udel.edu

University of Delaware Research & Education Center Website:

http://www.rec.udel.edu

Vegetable Trial Results are Available Online at:

http://www.rec.udel.edu/veggie/trialresults2001.htm