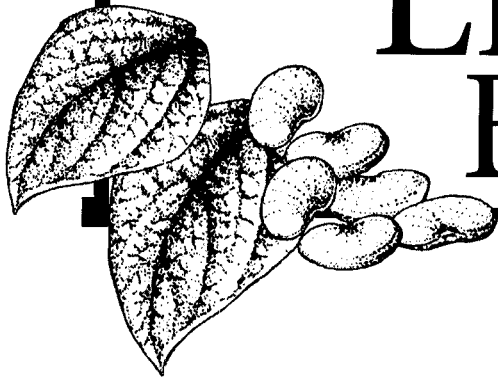


1999

DELAWARE



# LIMA BEAN

VARIETY

TRIAL

RESULTS

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## 1999 University of Delaware Lima Bean Variety Trial

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The purpose of the processing lima bean variety trial was to evaluate baby lima bean varieties under Delaware growing conditions for yield, maturity and quality.

Location: Field 2, Dill Farm

### Cultural Practices:

Planting Date: June 24, 1999

Spacing: 30 inch row spacing with 4 seeds per foot in-row spacing.

Plot Design: One row plots, 30 feet in length, using a randomized complete block design with four replications.

Herbicides: Poast at 1.5 pts./A, post-emergence was applied on July 9, 1999 for grass control. The plots were also hand-weeded and cultivated for weed control.

Fertilizer: According to soil test. 11 lbs. of Nitrogen was applied as a starter through the planter when the rows were marked. 60 lbs. of Nitrogen was dribbled on the plots on July 15, 1999 and they were then cultivated.

Insecticides: Lannate at 1.5 pts./A was applied on July 7, 1999 for thrip control and August 18, 1999 for leafhopper control. Corn earworm pressure was very heavy this season. Lannate was applied at 3 pts./A on August 24, 1999 for corn earworm control.

Irrigation: Overhead sprinkler irrigation at 1.5 inches per week as needed.

Harvest: The plots were hand harvested. All plants in the 10-foot harvest section were pulled. The pods were striped and shelled using a "Little Sheller" from Taylor Manufacturing Co., Inc. The beans were then weighed for final yield. The percent of useable, dry, flat and moldy pods were taken from 5 plants near the 10-foot harvest section. All pods were striped and counted to obtain the percentages for each category.

### Results:

Although Bridgeton was the highest yielding variety in the trial, its yield was not significantly different from 4LF7T10CTS.2, M15DM11, M-15, and BG2-ODM10. Unfortunately, hot conditions right before harvest moved varieties faster than anticipated. There was also variability between replications with treatments. As a result of both of these factors, higher percentages of dry pods were experienced at harvest for some varieties.

**Table 1. 1999 University of Delaware Lima Bean Variety Trial**  
 Planted: June 24, 1999

Trt No.	Variety	Company	Days to Harvest
1	Cel- Sel	Ben Fish & Son	85
2	M-15	ASI	77
3	4-96	Ben Fish & Son	85
4	Bridgeton	ASI	
5	5-95	Ben Fish & Son	85
6	M15DM11	ASI	
7	8-78	Ben Fish & Son	85
8	BG2-ODM10	ASI	
9	184-85	Ben Fish & Son	85
10	4LF7T10CTS.2	ASI	
11	M15BG2.3	ASI	
12	Eastland	Musser Seed	

**1999 Univeristy of Delaware Lima Bean Variety Trial Map**

**Randomization of the Plot:**

Rep 4	B	401	402	403	404	405	406	407	408	409	410	411	412	B
		12	6	10	4	7	1	9	3	11	2	8	5	
Rep 3	B	301	302	303	304	305	306	307	308	309	310	311	312	B
		4	8	3	12	5	10	1	7	11	2	9	6	
Rep 2	B	201	202	203	204	205	206	207	208	209	210	211	212	B
		5	10	7	3	1	12	9	6	8	2	11	4	
Rep 1	B	101	102	103	104	105	106	107	108	109	110	111	112	B
		1	2	3	4	5	6	7	8	9	10	11	12	

(one row plots)

**Plot Layout:**

REP 1	REP 2	REP 3	REP 4
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**Table 2. 1999 University of Delaware Processing Lima Bean Variety Trial**

Planted: June 24, 1999

Location: Dill Farm-Field 2, University of Delaware Research & Education Center

Harvest Date	Variety	Trt. No	DAP	10 ft. Harvest Section						Seed Source
				# Plts.	Wt. of Plts.	Lbs./ Plt.	Total Lbs./A	Lbs./A Green	Lbs./A Dry	
9/20	Bridgeton	4	87	38.3	13.8	0.35	3706.8	3079.8	627.5	ASI
9/13	4LF7T10CTS.2	10	80	38.5	11.1	0.30	3454.3	2352.0	1102.3	ASI
9/13	M15DM11	6	80	41.5	10.6	0.25	3319.3	2317.5	1001.8	ASI
9/13	M15	2	80	38.0	10.5	0.30	3297.8	2439.3	858.3	ASI
9/20	BG2-ODM10	8	87	37.3	12.4	0.33	3245.3	1964.5	1280.8	ASI
9/22	CEL-SEL	1	89	23.3	12.4	0.55	2792.5	2099.5	692.5	Ben Fish & Son
9/22	4-96	3	89	33.0	10.4	0.30	2652.8	2090.8	561.8	Ben Fish & Son
9/22	8-78	7	89	33.3	12.0	0.38	2343.5	1921.0	422.8	Ben Fish & Son
9/22	5-95	5	89	30.5	10.5	0.35	2186.5	1703.0	483.8	Ben Fish & Son
9/21	M15BG2.3	11	88	32.8	12.0	0.35	2040.8	1298.3	743.0	ASI
9/23	Eastland	12	90	30.8	12.4	0.45	1681.5	1459.3	222.3	Musser Seed
LSD 0.05				8.1	2.4	0.08	794.2	722.0	376.3	

\* Harvest Data for Treatment 9, 184-85 is missing.

**Table 3. 1999 University of Delaware Processing Lima Bean Variety Trial First Flower and Pin Data**

<b>Rep./ Trt #</b>	<b>1<sup>st</sup> Flower</b>	<b>Pins</b>	<b>Rep./ Trt #</b>	<b>1<sup>st</sup> Flower</b>	<b>Pins</b>
101/1	8/3		301/4	8/3	
102/2		8/3	302/8	8/3	
103/3	8/3		303/3	8/4	
104/4	8/3		304/12	8/3	
105/5	8/3		305/5		8/3
106/6		8/3	306/10	8/3	
107/7	8/3		307/1	8/3	
108/8	8/3		308/7	8/3	
109/9		8/3	309/11		8/3
110/10		8/3	310/2		8/3
111/11		8/3	311/9	8/3	
112/12	8/3		312/6		8/3
201/5	8/3		401/12	8/3	
202/10		8/3	402/6		8/3
203/7	8/3		403/10		8/3
204/3	8/3		404/4	8/3	
205/1			405/7	8/3	
206/12	8/3		406/1	8/3	
207/9	8/3		407/9		8/3
208/6		8/3	408/3		8/3
209/8	8/3		409/11		8/3
210/2		8/3	410/2		8/3
211/11	8/3		411/8	8/3	
212/4	8/3		412/5	8/3	

**Table 4. 1999 University of Delaware Processing Lima Bean Variety Trial-Stand Counts in the 10' harvest section.**

Planted: June 24, 1999

Stand Counts Taken: July 8, 1999

Trt	Variety	Rep 1	Rep 2	Rep 3	Rep 4	Avg.
1	Cel-Sel	24	26	35	33	29.5
2	M-15	37	37	30	40	45.25
3	4-96	33	36	32	32	33.25
4	Bridgeton	36	33	52	32	38.25
5	5-95	27	29	28	32	29
6	M15DM11	40	36	34	50	40
7	8-78	34	28	31	28	30.25
8	BG2-ODM10	35	34	36	32	34.25
9	184-85	32	37	32	29	32.5
10	4LF7T10CTS.2	37	34	35	41	36.75
11	M15BG2.3	32	30	41	33	34
12	Eastland	22	38	39	32	32.75

**Table 5. 1999 University of Delaware Processing Lima Bean Variety Trial – Percent Dry Pods.**

Planted: June 24, 1999

Variety	9/9				9/13			
	Flat	Use	Dry	Moldy	Flat	Use	Dry	Moldy
Cel-Sel					26	56	18	0
M15	0	68	32	0				
4-96					25	75	0	0
Bridgeton					6	63	31	0
5-95					10	83	6	1
M15DM11	2	56	42	0				
8-78					12	75	13	0
BG2-ODM10					3	66	31	0
184-85					19	73	8	0
4LF7T10CTS.2	1	62	37	0				
M15BG2.3					22	57	21	0
Eastland					35	64	1	0

Variety	9/20				9/22			
	Flat	Use	Dry	Moldy	Flat	Use	Dry	Moldy
Cel-Sel					1	75	24	0
M15								
4-96	0	43	50	0	0	46	54	0
Bridgeton								
5-95					9	73	18	0
M15DM11								
8-78					1	74	25	0
BG2-ODM10	4	38	38	0				
184-85								
4LF7T10CTS.2								
M15BG2.3								
Eastland	12	85	8	0	12	85	8	0



# Appendix A

Monthly Weather Summary for the 1999 Growing Season



Date	Julian Day	High Temperature (F)	Low Temperature (F)	RainFall (in)	Maximum Soil Temperature (F)	Minimum Soil Temperature (F)
1-Jun-99	152	87	66	0.00	102	68
2	153	88	67	0.00	101	69
3	154	85	69	0.01	99	73
4	155	78	59	0.00	102	66
5	156	78	50	0.00	98	61
6	157	85	49	0.00	103	61
7	158	95	63	0.00	106	68
8	159	96	73	0.00	107	75
9	160	94	66	0.00	108	73
10	161	67	57	0.00	80	67
11	162	74	57	0.00	97	67
12	163	73	58	0.00	79	66
13	164	75	66	0.47	82	69
14	165	88	67	0.05	92	68
15	166	77	63	0.02	81	68
16	167	70	63	0.02	77	66
17	168	66	61	0.00	70	65
18	169	74	57	0.00	75	62
19	170	76	50	0.00	88	57
20	171	64	56	1.00	69	63
21	172	65	61	0.11	69	63
22	173	78	56	0.00	84	60
23	174	84	52	0.00	88	59
24	175	83	51	0.00	87	60
25	176	83	62	0.00	85	68
26	177	91	65	0.00	91	69
27	178	91	68	0.00	90	72
28	179	86	75	0.00	87	76
29	180	94	73	0.16	92	76
30	181	76	71	0.28	80	74
<b>Average</b>		81	62		89	67
<b>Total</b>				2.12		



Date	Julian Day	High Temperature (F)	Low Temperature (F)	RainFall (in)	Maximum Soil Temperature (F)	Minimum Soil Temperature (F)
July 1, 1999	182	87	71	0.05	83	74
2	183	88	75	0.00	83	73
3	184	93	74	0.03	88	75
4	185	94	76	0.00	91	76
5	186	97	79	0.00	94	79
6	187	100	74	0.00	92	79
7	188	92	77	0.00	91	81
8	189	90	71	0.00	92	77
9	190	97	64	0.00	94	74
10	191	92	74	0.10	91	76
11	192	82	59	0.00	85	69
12	193	75	58	0.43	77	67
13	194	73	59	1.10	73	62
14	195	73	58	0.04	72	66
15	196	84	59	0.00	81	65
16	197	91	62	0.00	85	69
17	198	92	63	0.00	86	70
18	199	91	70	0.00	86	73
19	200	94	71	0.00	86	75
20	201	80	66	0.00	80	73
21	202	83	64	0.00	83	71
22	203	87	70	0.38	84	75
23	204	91	73	0.00	92	76
24	205	92	73	0.00	90	78
25	206	91	74	0.00	93	77
26	207	87	69	0.57	91	73
27	208	89	66	0.00	91	74
28	209	94	69	0.00	94	75
29	210	89	68	0.00	93	75
30	211	93	69	0.00	89	75
31	212	97	70	0.00	96	77
<b>Average Total</b>		89	69	2.70	87	74



Date	Julian Day	High Temperature (F)	Low Temperature (F)	RainFall (in)	Maximum Soil Temperature (F)	Minimum Soil Temperature (F)
1-Aug-99	213	95	77	0.00	96	80
2	214	89	66	0.00	99	78
3	215	86	62	0.00	98	75
4	216	86	60	0.00	97	74
5	217	92	61	0.00	98	75
6	218	89	62	0.00	99	76
7	219	88	66	0.00	98	76
8	220	94	74	0.01	94	80
9	221	81	59	0.00	97	77
10	222	85	53	0.00	96	71
11	223	89	69	0.00	95	77
12	224	92	67	0.00	97	77
13	225	92	74	0.01	94	80
14	226	88	70	2.28	90	72
15	227	84	70	0.06	90	74
16	228	83	70	0.00	92	75
17	229	89	69	0.00	94	74
18	230	90	72	0.00	93	76
19	231	83	67	0.00	89	74
20	232	84	66	1.30	88	70
21	233	71	64	0.01	78	70
22	234	79	60	0.00	87	67
23	235	83	56	0.00	91	66
24	236	83	64	0.00	86	70
25	237	79	66	0.51	79	70
26	238	87	72	0.00	93	73
27	239	85	70	0.01	90	74
28	240	86	68	0.00	92	73
29	241	87	68	0.00	91	72
30	242	73	63	0.00	74	65
31	243	70	65	0.00	70	65
<b>Average Total</b>		85	66	4.19	91	73



Date	Julian Day	High Temperature (F)	Low Temperature (F)	RainFall (in)	Maximum Soil Temperature (F)	Minimum Soil Temperature (F)
1-Sep-99	244	73	65	0.00	72	65
2	245	76	68	0.00	75	68
3	246	75	70	0.00	75	71
4	247	79	72	0.05	79	72
5	248	81	75	0.29	80	74
6	249	85	75	0.00	88	74
7	250	84	71	0.73	86	73
8	251	85	72	0.00	91	74
9	252	86	72	0.06	88	75
10	253	80	65	0.63	86	71
11	254	78	56	0.00	84	65
12	255	80	52	0.00	84	61
13	256	78	53	0.00	80	63
14	257	79	63	0.00	80	68
15	258	73	68	0.75	76	70
16	259	78	61	5.55	77	63
17	260	73	54	0.00	77	59
18	261	75	48	0.00	81	55
19	262	75	48	0.00	82	56
20	263	77	52	0.00	82	59
21	264	71	55	1.91	74	61
22	265	63	47	0.03	70	55
23	266	72	45	0.00	74	51
24	267	77	53	0.00	75	55
25	268	82	58	0.00	80	58
26	269	76	57	0.00	80	61
27	270	78	62	0.00	78	65
28	271	80	65	0.00	80	67
29	272	79	64	0.00	82	67
30	273	72	52	0.57	74	58
<b>Average Total</b>		77	61	10.57	80	65

# Appendix B

## Author and Internet Information

## Author and Internet Information

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### Internet Information:

⇒ The University of Delaware Research & Education Center Website  
Address:

<http://www.rec.udel.edu>

New for 1999, trial results will be placed on the web.

⇒ The following page is a sample of the weather data available from our site.



WEATHER DATA
Research and Education Center
Georgetown, Delaware
38.38N --- 75.27W

Current Weather Data

- Latest Hourly Weather Conditions \*
Month To Date
Local Nexrad Radar ( Ellendale Radar)
3-Day Forecasts (State and Dover Conditions)
3-Day Forecasts (Md. State and Salisbury Conditions)
Summary of Yesterday \*
Hourly Raw Data - 7 Day History
Salisbury Forecasts ( WBOC -TV Channel 16)
Salisbury Forecasts (WMDT -TV Channel 47)
Other Weather Maps and Images

Historical Weather Data

Table with 3 rows and 3 columns containing links to weather data tables: Monthly Summary Data Tables, 20-Year Monthly Rainfall Averages, 20-Year Monthly Temperature Averages, Monthly Averages compared to El Niño Years (1982-1983), Julian Day Chart, Heat Index Chart, Wind Chill Chart.

\*data verified and current as of 4-2-1999

For More Information or Comments. Please e-mail:

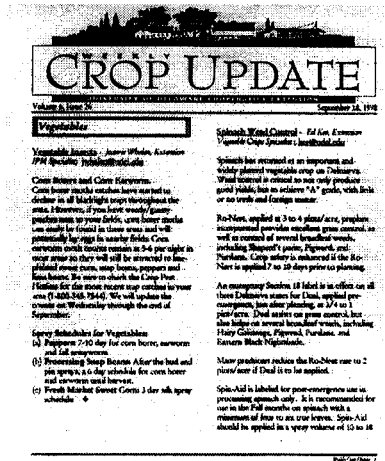
Dean Dey
(302)856-7303

07/01/99

2 5



⇒ The Weekly Crop Update Newsletter produced by University of Delaware Cooperative Extension Staff is also located at this site.



The goal of the newsletter is to provide producers and agribusiness professionals with timely information regarding pest outbreaks, pest threshold levels and appropriate pesticide rates for control of the pest to improve timing of pesticide application and number of applications being applied as well as have economic impact for producers.

The newsletter is produced each week from April to October. Extension specialists and agents provide information for the newsletter in their area of discipline (ex. IPM management, plant pathology, weed control, cultural practices, marketing, etc.) The newsletter is mailed or faxed each Friday by 4:30 p.m. for a fee, or can be accessed on the internet for free.

⇒ University of Delaware College of Agriculture and Natural Resources website address is:

<http://bluehen.ags.udel.edu>

⇒ The University of Delaware website address is:

<http://www.udel.edu>

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