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## **2002 University of Delaware Processing Lima Bean Variety Trial**

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**Purpose:** To evaluate new processing lima bean varieties for yield, maturity, and quality factors under Delaware growing conditions.

**Location:** Field 11 – Research & Education Center Farm

### **Cultural Practices:**

The plots were 1 row plots, 30 feet in length with a 30-inch between row spacing. In-row seed spacing was 4 seeds per foot for baby types, and 3 seeds per foot for fordhook types. The plots were designed using the randomized complete block design with four replications. All plantings received overhead sprinkler irrigation at 1-1.5 inches of water per week.

The field was fertilized according to soil test. On June 12, 2002, the rows for the plots were marked with a Kinze planter. Starter nitrogen fertilizer at the rate of 24.5 lbs./A was applied when the rows were marked. The plots were hand-planted on June 13, 2002. Pre-emergence herbicides (Pursuit at 2 oz./A and Dual Magnum at 1.5 pints/A) were applied on June 14, 2002. The plots were sidedressed on July 9, 2002 with 45 lbs./A of nitrogen and cultivated. Dimethoate at 1 pint/A was applied on June 27, 2002, Capture at 4 oz./A was applied on August 12, 2002, and Avaunt at 3.5 oz./A on September 1, 2002 for insect control.

### **Harvest:**

The plots were hand harvested. All plants in the 10 foot harvest section were pulled. Pods from 10 plants in the harvest section were stripped, counted and used to determine percentage useable, dry, flat and moldy pods. A Taylor Manufacturing Company TaMaCo Huller, Model 520 was used to shell the beans. The beans were then weighed for final yield.

### **Results & Discussion:**

Cel Sel was the highest yielding variety in the baby lima bean trial, although not statistically different than the seven highest yielding entries in the trial. The growing season was very hot and dry resulting in an early harvest. Seven of the 14 baby varieties planted, matured at 70 and 71 days after planting. Harvest of the baby types was completed by August 30.

90-1 and Sussex were not significantly different in yield in the Fordhook lima bean trial. Yields averaged 1900 lbs./A.

We hope that you find this information 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 in the 2002 Processing Lima Bean Variety Trial.

### Participating Seed Companies

ADM Seedwest

Caldwell, ID

Ben Fish & Son

Crows Landing, CA

Charter Seed Company

Caldwell, ID

We wish to thank Victor Green, Ward Harris, Brian Hearn and the staff at the University of Delaware Research & Education Center, Georgetown for their assistance in planting, spraying, and irrigating of the trial.

**Table 1. 2002 University of Delaware Processing Lima Bean Variety Trial – Yield Results for Baby Types**

Planted: June 13, 2002

Location: Field 11, University of Delaware Research & Education Center

Harvest Date	Variety	Trt. No	DAP	10 ft. Harvest Section				Seed Source
				# Plts.	Wt.of Plts. (lbs.)	Lbs./Plt.	Total Lbs./A	
8/28	Cel Sel	3	76	36	16	0.5	4168	Ben Fish & Son
8/30	2-01-DA	10	78	36	14	0.4	3928	Ben Fish & Son
8/25	FLCTS.1	4	73	39	12	0.3	3928	ADM Seedwest
8/26	16-22-01 DA	9	74	30	14	0.5	3475	Ben Fish & Son
8/26	71-00-DA	7	74	39	14	0.4	3356	Ben Fish & Son
8/23	8846	8	71	34	10	0.3	3337	ADM Seedwest
8/22	Cypress	11	70	28	11	0.4	3234	ADM Seedwest
8/23	Meadow	6	71	40	11	0.3	3201	ADM Seedwest
8/28	GBL 184	1	76	34	15	0.5	3172	Ben Fish & Son
8/23	Merced V2	2	71	30	12	0.4	3018	ADM Seedwest
8/22	14-01-DA	12	70	37	9	0.3	2946	Ben Fish & Son
8/30	13-01-DA	14	78	35	12	0.3	2756	Ben Fish & Son
8/23	23-01-DA	5	71	27	11	0.4	2642	Ben Fish & Son
8/22	CEXP122	13	70	37	12	0.4	2499	Charter Seed Co.
LSD 0.05				11	3	0.1	946	

**Table 2. 2002 University of Delaware Processing Lima Bean Variety Trial – Yield Results for Fordhook Types**

Planted: June 13, 2002

Location: Field 11, University of Delaware Research & Education Center

Harvest Date	Variety	Trt. No	DAP	10 ft. Harvest Section				Seed Source
				# Plts.	Wt.of Plts. (lbs.)	Lbs./Plt.	Total Lbs./A	
9/10/02	90-1	1	89	26	17	0.7	1917	Ben Fish & Son
9/10/02	Sussex	2	89	29	12	0.4	1900	ADM Seedwest
LSD 0.05				15	5	0.2	958	

**Table 3. 2002 Lima Bean Trial Harvest Information – Suggested Maturity, Date of Harvest, Days After Planting and Percent Dry Pods at Harvest.**

Treatment	Sug. Mat.	Date	8/22	8/23	8/24	8/25	8/26	8/27	8/28	8/29	8/30	8/31	9/1	9/2		9/8	9/9	9/10
		DAP	70	71	72	73	74	75	76	77	78	79	80	81		87	88	89
<b>BABY</b>		%																
GBL 184	85								8									
Merced V2	96			2														
Cel Sel	85								10									
FLCTS.1						31												
23-01-DA	80			1														
Meadow	78			22														
71-00-DA	80						5											
8846				22														
16-22-01-DA	80						6											
2-01-DA	85										8							
Cypress	78		8															
14-01-DA	80		12															
CEXP122	65		2															
13-01-DA	85										10							
<b>FORDHOOK</b>		%																
GSFH 90-1	90																	27
Sussex (F5116)	90																	46

**Table 4. 2002 University of Delaware Processing Lima Bean Variety Trial – Pod Percentages for Baby Types**

Planted: June 13, 2002

Location: Field 11 University of Delaware Research & Education Center

Harvest Date	Variety	Trt. No	DAP	10 ft. Harvest Section					Seed Source
				% Useable	% Dry	% Flat	% Moldy	Total Lbs./A	
8/28	Cel Sel	3	76	82	10	8	0	4168	Ben Fish & Son
8/30	2-01-DA	10	78	86	8	6	0	3928	Ben Fish & Son
8/25	FLCTS.1	4	73	66	31	3	0	3928	ADM Seedwest
8/26	16-22-01 DA	9	74	88	6	6	0	3475	Ben Fish & Son
8/26	71-00-DA	7	74	93	5	2	0	3356	Ben Fish & Son
8/23	8846	8	71	77	22	1	0	3337	ADM Seedwest
8/22	Cypress	11	70	91	8	1	0	3234	ADM Seedwest
8/23	Meadow	6	71	77	22	1	0	3201	ADM Seedwest
8/28	GBL 184	1	76	85	8	7	0	3172	Ben Fish & Son
8/23	Merced V2	2	71	97	2	1	0	3018	ADM Seedwest
8/22	14-01-DA	12	70	87	12	1	0	2946	Ben Fish & Son
8/30	13-01-DA	14	78	87	10	3	0	2756	Ben Fish & Son
8/23	23-01-DA	5	71	97	1	2	0	2642	Ben Fish & Son
8/22	CEXP122	13	70	96	2	2	0	2499	Charter Seed Co.
LSD 0.05				8	9	4	0	946	

**Table 5. 2002 University of Delaware Processing Lima Bean Variety Trial – Pod Percentages for Fordhook Types**

Planted: June 13, 2002

Location: Field 11, University of Delaware Research & Education Center

Harvest Date	Variety	Trt. No	DAP	10 ft. Harvest Section					Seed Source
				% Useable	% Dry	% Flat	% Moldy	Total Lbs./A	
9/10/02	90-1	1	89	47	27	26	0	1917	Ben Fish & Son
9/10/02	Sussex	2	89	43	46	11	0	1900	ADM Seedwest
LSD 0.05				10	29	20	0	958	



**Table 6. 2002 Lima Bean Variety Observational Flower Development Data**

<b>Baby</b>					
<b>Date:</b>		<b>23-Jul</b>	<b>24-Jul</b>	<b>30-Jul</b>	<b>5-Aug *</b>
<b>Trt.</b>	<b>Variety</b>				
1	GBL 184	20% Buds	20% Buds	60% Buds	100% FI, Pin Pod
2	Merced V2	10% Buds	40% Buds	90% Buds	100% FI, Pin Pods
3	Cel Sel	10% Buds	40% Buds	100% Buds, 1 Pod	100% FI, No Pins
4	FLCTS.1	80% Buds	100% Buds, 10%FI	100% Buds, 50%FI	100% FI, 2" Pods
5	23-01-DA	10% Buds	20% Buds	80% Buds	Pin Pods
6	Meadow	40% Buds	100% Buds, 10%FI	30% FI, 1 Pod	3" Flat Pods
7	71-00-DA	10% Buds	50% Buds	90% Buds, 10% FI	Pin Pods
8	8846	90% Buds	100% Buds, 10%FI	100% Buds, 10% FI	20% FI, 2" Flat
9	16-22-01-DA	10% Buds	100% Buds, 10%FI	100% Buds, 70% FI	Pin Pods
10	2-01-DA	30% Buds	20% Buds	40% Buds	2" Flat Pods
11	Cypress	50% Buds	60% Buds	100% Buds, 40% FI	2-3" Flat Pods
12	14-01-DA	80% Buds, 10% FI	80% Buds 20%FI	100% Buds, 50% FI	2-3" Pods
13	CEXP 122	10% Buds	10% Buds	70% Buds, 20% FI	1-2" Flat Pods
14	13-01-DA	10% Buds	20% Buds	80% Buds, 10% FI	1-2" Flat Pods
<b>Fordhook</b>					
1	GSFH 90-1	100% Bud, 10%FI	100% Buds, 10%FI	40% FI	100% FI, No Pod
2	Sussex	100% Bud, 30% FI	100% Buds, 30%FI	70% FI, small pins	100% FI, Pins

FI=Flower; \*100% Flowers

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