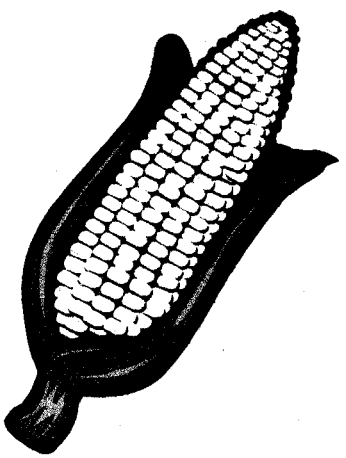
UNIVERSITY OF DELAWARE

Processing Sweet Corn Variety Trial Results



2000

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Purpose: To evaluate new processing sweet corn varieties for yield and quality factors under Delaware growing conditions. Standard and sugar enhanced varieties were separated from the supersweet varieties. Each group is reported independently.

Locations: Field 6-Dill Farm – Yellow Standard and Sugar Enhanced Variety Trial
Field 12 – REC – Yellow Supersweet Variety Trial

Cultural practices are listed according to plantings. All plots were planted in 30-inch rows with 9 inch spacing between seeds in the row. The plots were 3 row plots, 75 feet in length. The middle row of the plots was the record row. The plots were designed using the randomized complete block design with three replications. All plantings received overhead sprinkler irrigation at 1-1.5 inches of water per week.

Early Standard & Sugar-Enhanced Planting:
The field was fertilized according to soil test. On May 4, 2000, 0-0-60 at 200 lbs./A was applied to the plots. The rows for the plots were marked with a Kinze planter. The plots were hand-planted on May 9, 2000 using a jab planter. A 10-34-0 starter fertilizer at the rate of 11 GPA was used in the planter with Force 3G at 5 lbs./A when the rows were marked. Nitrogen, (30% UAN) at 15 gal./A was applied with the pre-emergence herbicide (Bicep II Magnum at 1.8 quarts/A on May 10, 2000. The plots were sidedressed on June 2 with 30% UAN at 55 gal./A. Warrior was applied at 3.5 oz./A on 7/8/00, 7/14/00, and 7/18/00 for insect control.

Supersweet Planting:
The field was fertilized according to soil test. On June 15, 2000, 10-20-10 plus 34-0-0 was applied to receive 30 lbs./A of nitrogen. The rows for the plots were marked with a Kinze planter. The plots were hand-planted on June 16, 2000 using a jab planter. Force 3G at 5 lbs./A was applied through the planter when the rows were marked. Herbicides were applied pre-emergence after planting using Atrazine 4L at 1.25 qts./A plus Dual II Magnum at 1.25 pts./A on June 19, 2000. The plots were sidedressed on July 10, 2000 with 30% UAN for a total of 150 lbs. of nitrogen and cultivated. Warrior was applied at 3.5 oz./A on 8/8/00, 8/11/00, 8/16/00, 8/19/00 and 8/26/00.

Harvest:
A thirty-foot harvest section was hand harvested for yield. The ears were counted and weighed. The corn was cut using a commercial cutter and percent moisture was taken.
Our thanks to S.E.W Friel and AgriLink Foods for the use of their cutter and microwave during the harvest of these trials.

Results & Discussion:
Tables 1 & 4 present the yield, recovery, ear data and plant data for both trials. Varieties are ranked according to the harvest weight (tons/A). Harvest dates, days after planting and percent moisture for three replications are included for each trial. Tasseling and silking data is found on Tables 3 & 6.

The 2000 growing season was cool and wet. The supersweet trial received rain for two days after planting that affected the stands in a few of the plots. The following is a list of the plots that were affected by a wet spot in the field: ACX 502- Rep 1; SS 500 - Rep 2 & 3; SS 610 – Rep 3. Rust was present in the varieties SS 500, SS 6800 and ACX 525.

The highest yielding variety in the standard and sugar enhanced trial was Dynamo at 8.24 tons/A. GSS 3381 was the highest yielding variety in the supersweet trial at 9.55 tons/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 2000 Processing Sweet CornVariety Trials.

Participating Seed Companies

Abbott and Cobb, Inc.	Feasterville, Pennsylvania
Novartis Seeds, Inc. - Rogers Brand	Gilroy, California
Harris Moran	Modesto, California
Asgrow	Kalamazoo, Michigan
Crookham	Caldwell, Indiana
Pillsbury	Minneapolis, Minnesota

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

Thanks to S.E.W. Friel & AgriLink Foods for the use of their cutter and microwave during the harvest of these trials.

The plots could not have been harvested without the assistance of the following university students: Andrew Turner, John Gordy, Rusty Tressler, Derrick Dickerson and Joe Taylor.

Table 1. Yield, Maturity, Ear Characteristics, and Plant Characteristics for the Yellow Standard and Sugar Enhanced Varieties in the 2000 University of Delaware Processing Sweet Corn Variety Trial.

Variety	Days To Harvest	Harvest Weight (tons/A)	% Moisture[1]	Wt. Of Husked Ears (lbs/A)	Cut Corn (lbs/A)	% Recovery[2]	# Ears Harvest Per Plot	Ear Data[3]				Plant Data[3]			Seed Source
								Kernal Depth Rating[4]	Ear Length (inches)[5]	# Rows	Ear Diameter (inches)	Plant Height (feet)	Height Ear to Ground (inches)	# Plants/ Harvest Section	
Dynamo	78	8.24	76.98	10576	5978	36	27	2.2	8.5–9	16	1.81	6.2	18	29	Harris Moran
Eliminator	84	8.19	70.21	11761	6825	42	24	2.5	9-10.25	16	2.06	7.0	24	46	Crookham
Intrigue	78	7.66	73.13	9607	5251	34	28	2.4	7-8	18	1.83	5.6	18	46	Crookham
Tr 335 #60	80	7.50	76.41	9474	4017	27	30	2.0	8.5-9.5	18	1.69	7.5	26	34	Pillsbury
Conquest	80	7.29	76.42	8918	4114	28	29	2.0	8-9	18	1.66	6.8	24	41	Crookham
GH2547	84	6.82	73.20	8373	4162	31	28	1.1	7.25-8.75	18	1.72	7.2	28	45	Novartis Seeds Inc. Rogers Brand
Tr 335 #23	84	6.79	73.69	9341	4792	35	24	2.2	8.5-10	16	1.81	7.5	27	37	Pillsbury
Bonus	81	6.20	78.88	7913	3751	30	25	1.4	7.5-8	18	1.78	6.9	24	43	Novartis
Reward	72	5.91	72.54	6970	3558	30	27	2.4	6.75-9	16	1.75	6.1	17	39	Novartis Seeds Inc Rogers Brand
Champ	74	5.76	75.69	7430	3739	33	27	2.6	6.75-7.5	16	1.81	6.0	13	43	Asgrow
Rival	81	4.37	75.72	5687	3025	34	20	1.8	7.25-8	16	1.64	5.9	21	42	Asgrow
$LSD_{0.05}$		1.42	1.71	1779	1053	3	6							9	

[1] - Microwave Method
[2] - Relative To Harvest Weight – Cut Corn Divided By Harvest Weight
[3] - Average of 3 Replications
[4] - 1 = Shallow; 3 = Deep
[5] - Range from 3 ears/rep; 3 replications

Table 2. Harvest Dates, Days After Planting, and Percent Moisture for the 2000 Standard & Sugar Enhanced Processing Sweet Corn Variety Trial.

		DAP	72	73	74	75	76	77	78	79	80	81	82	83	84
No.	Variety	Date	7/19	7/20	7/21	7/22	7/23	7/24	7/25	7/26	7/27	7/28	7/29	7/30	7/31
		Sug. Mat.	% Moisture												
1	GH 2547	85													**73.20***
2	Conquest	87									**76.42**				
3	Tr 335 # 60	85									**76.41**				
4	Intrigue	81							**73.13**						
5	Reward	72	**72.54**												
6	Dynamo	78	80.34						**76.98**						
7	Champ	73	79.69		**75.69**										
8	Rival	79										**75.72**			
9	Bonus	83										**78.88**			
10	Eliminator	84													**70.21**
11	Tr 335 #23	85	74.86												**73.69**

*Bold indicates harvest date.

Table 3. Tasseling & Silking Data for the 2000 University of Delaware Standard & Sugar Enhanced Processing Sweet Corn Variety Trial.

No.	Variety	0-50% Tassel	100% Tassel	0-50% Silk	100% Silk	Yellow Silk	50-100% Brown
1	GH 2547	7/4		7/10	7/11	7/11	
2	Conquest	7/2	7/4	7/10	7/11	7/10	
3	Tr 335 # 60	7/2	7/4	7/7	7/10	7/10	
4	Intrigue	6/28	7/2	7/2	7/4	7/4	7/10
5	Reward		6/26		6/30	7/2	7/10
6	Dynamo	6/26	7/2	7/2	7/4	7/4	7/11
7	Champ		6/28		7/2	7/2	7/7
8	Rival	6/30	7/2	7/4	7/5	7/5	
9	Bonus	7/2	7/4	7/7	7/10	7/10	
10	Eliminator	6/30	7/2	7/4	7/7	7/6	
11	Tr 335 #23	7/2	7/4	7/10	7/11	7/13	

Table 4. Yield, Maturity, Ear Characteristics, and Plant Characteristics for the Yellow Supersweet Varieties in the 2000 University of Delaware Processing Sweet Corn Variety Trial.

Variety	Days To Harvest	Harvest Weight (tons/A)	% Moisture[1]	Wt. Of Husked Ears (lbs/A)	Cut Corn (lbs/A)	% Recovery[2]	# Ears Harvest Per Plot	Ear Data[3]				Plant Data[3]			Seed Source
								Kernal Depth Rating[4]	Ear Length (inches)[5]	# Rows	Ear Diameter (inches)	Plant Height (feet)	Height Ear to Ground (inches)	# Plants/ Harvest Section	
GSS 3381	83	9.55	79.36	14411	7550	39	39	2.6	7.38-7.75	15.8	2	7.2	28	26	Novartis - Rogers
ACX 501	83	7.36	77.29	10285	5409	37	27	2.2	7.25-7.75	15.3	1.87	6.5	22	23	Abbott & Cobb
GSS 9299	70	6.59	79.11	7950	4223	32	29	2.7	7.5-8	16.7	1.79	5.6	15	25	Novartis - Rogers
HMX 8392	82	6.58	78.36	9099	5058	39	26	3	6.5-7.5	15.7	2.43	6.4	21	22	Harris Moran
ACX 525	82	6.46	78.45	9753	5300	41	23	2.4	8-8.5	14	2.03	6.3	18	24	Abbott & Cobb
EX 84 14737	70	6.23	78.09	7357	3981	32	28	2.6	6.75-8	17.1	1.54	7	21	24	Asgrow
GSS 5865	82	6.21	79.14	9341	5082	41	23	3	7.5-8	17.5	1.97	6.9	22	23	Novartis - Rogers
ACX 502	82	5.57	77.35	7454	4041	36	21	2.6	7.5-8	16.4	1.97	5.3	19	18	Abbott & Cobb
SS 610	83	5.4	79.32	7272	3727	35	20	2.7	7.25-8.5	16.7	2.13	6.1	17	18	Abbott & Cobb
SS 500	83	4.53	78.06	6885	3727	41	19	2.2	7.25-8	14.9	1.93	5.4	16	19	Abbott & Cobb
SS 6800	66	3.19	76.68	4054	2033	32	17	2	7-7.5	12.4	1.61	5.3	12	19	Abbott & Cobb
$LSD_{0.05}$		1.57	1.31	2285	1339	5	6							5	

[1] - Microwave Method
[2] - Relative To Harvest Weight – Cut Corn Divided By Harvest Weight
[3] - Average of 3 Replications
[4] - 1 = Shallow; 3 = Deep
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