

Sweet Corn Cultivar Evaluations in Arizona, 1987 - 1988

*Norm Oebker, Fred Harper, Paul Bessey,
Rick Gibson, and Marcia White*

Sweet corn is a potential expansion crop in Arizona; the development of new cultivars is increasing the possibility of success of this type of venture in central Arizona. The new types of sweet corn appear adapted for spring harvest and provide high quality ears. If proper handling and cooling are emphasized and on an aggressive marketing program undertaken, production of sweet corn has a future in Arizona.

To help growers evaluate recently introduced sweet corn cultivars, the University of Arizona made trial plantings. This report covers the performances of these sweet corns during the 1987 and 1988 seasons.

MATERIALS AND METHODS

Several plantings of the sweet corn varieties were made at the Maricopa Agricultural Center, Maricopa, AZ during March 1987 and 1988. One test was located at the Campus Agricultural Center, Tucson in 1987.

Seed was planted into moist soil at a spacing of 6"-8" apart on 40" beds. Each cultivar was planted in 4-row blocks, 20' long. Both replicated and single observation plots were used; high sugar types (sh2) were isolated from the others. Plots were furrow irrigated and fertilized as needed; appropriate insect control measures were taken.

At harvest, one 20' row from each plot was taken for records and evaluation. From this yield, ten ears were selected at random for measurement and observation of characteristics important to fresh market production. Most characteristics were rated, with 9 being the most desired, and 1 the least.

Heat units (50°-86°F) from planting to harvest were determined for each cultivar; they are listed in the tables.

The cooperation and assistance of the following seed companies who supplied seed for the tests is recognized and greatly appreciated: Abbott & Cobb, Inc.; Asgrow Seed Co.; Crookham Seed Co.; Ferry-Morse Seed Co.; Harris Moran Seeds; Illinois Foundation Seeds; Musser Seed Co.; Rogers Brothers Seed Co.; Sunseeds; and Wisconsin Crop Improvement Assoc.

RESULTS

Performance and characteristics of each cultivar studied are listed in Tables 1 to 5.

Among the standard and sugary enhancer (sc) types, Jubilee, Miracle (se), Incredible (se), GH2429 and GH2327 performed satisfactorily. GH2425, XPH-2645, XPH-2636 and 84-1718 looked promising. All are yellow-kernel varieties and do not require isolation.

In the "supersweet" category (sh2), several cultivars looked promising for Central Arizona. Of the yellow-kernel types, Sweetie 82 stood out; Show Case, Stylesweet, Summer Sweet 7900, Sweet Belle, Supersweet Jubilee, Crisp'N Sweet 711 and Sweetie 76 showed good potential. How Sweet It Is looked good as a white-kernel type.

Table 1. Sweet corn cultivar evaluations at Maricopa Agricultural Center (replicated) in 1987.

Cultivar	Source	Har-vest Date	Over-all Pref	No. Plts	Ears No.	Ear Len (cm)	Dia (cm)	Rows	Hus Pro	Hus Col	Fig Lev	Mar App	Silk Col	Blm-kin	Ear Shp	Tip Fil	Ear App	Ker Col	Ker Dep	Per-camp	Fla-yor	Tex It	
																							(a)
Incredible	Crook	6/11	8.0	23	21.3	20.3	4.8	18-20	8.6	9.0	4.6	8.0	8.3	8.0	7.0	7.6	7.3	7.6	8.3	9.0	8.6	8.3	8.6
Terrific	Crook	6/11	7.0	17	17.3	20.6	4.6	18	8.6	8.6	7.3	7.6	9.0	7.0	7.6	8.0	7.0	8.0	8.3	7.6	9.0	7.6	7.6
Prevailer	Crook	6/11	7.3	23	22.0	21.3	4.8	16-18	9.0	8.3	6.5	8.0	9.0	7.6	7.6	8.3	7.6	8.0	9.0	8.6	8.6	7.0	8.0
Miracle	Crook	6/11	8.3	22	25.0	21.6	5.0	18-22	8.6	9.0	6.3	8.3	8.6	8.6	7.0	8.3	8.0	8.0	9.0	8.6	9.0	8.3	8.6
Jubilee	Roger	6/11	8.0	24	20.0	22.3	4.7	16-18	8.3	8.6	7.3	8.3	9.0	8.6	9.0	8.6	8.6	8.6	9.0	8.6	8.3	6.6	8.0
GH2327	Roger	6/11	8.3	19	15.3	20.0	4.6	16-18	9.0	9.0	9.0	7.3	9.0	8.6	8.6	8.6	8.6	8.6	9.0	8.6	7.6	7.6	7.6
GH2429	Roger	6/11	8.3	24	17.3	22.0	4.5	16-18	7.3	8.3	8.0	7.0	9.0	9.0	8.6	8.6	8.0	8.6	8.6	8.6	7.6	7.6	7.6
GH2425	Roger	6/15	8.0	27	14.0	21.3	4.6	16-18	8.0	8.3	9.0	8.6	8.3	9.0	8.6	8.3	8.3	8.3	8.3	8.3	8.0	8.0	8.0
GH2451	Roger	6/15	7.0	22	17.0	24.6	4.6	18-20	6.6	8.3	5.6	7.0	9.0	6.0	8.6	8.0	7.6	8.0	8.3	8.3	7.6	7.0	7.6
Nanier	Roger	6/15	5.0	20	16.0	24.0	4.8	16-20	8.0	9.0	7.0	9.0	9.0	7.0	7.0	7.3	7.0	8.3	8.3	8.3	7.0	5.3	7.3
GH2750	Roger	6/11	8.3	24	21.0	21.6	4.6	18	8.3	8.3	6.0	7.6	9.0	7.6	8.6	8.6	7.6	8.6	8.6	8.6	8.6	8.0	8.6
XPH2642	Asgrow	6/11	6.3	26	20.0	20.6	4.9	16-20	9.0	9.0	5.3	8.6	9.0	8.0	8.0	8.6	7.6	8.6	8.6	8.6	8.6	6.6	7.6
Thermal	Asgrow	6/15	5.3	21	19.0	22.3	4.6	14-16	7.3	9.0	8.6	7.3	9.0	8.0	8.6	8.6	8.0	8.0	8.6	8.6	6.0	5.3	6.0
Rival	Asgrow	6/15	6.3	23	22.3	19.0	4.5	14-16	8.3	9.0	7.3	8.3	9.0	8.0	8.0	8.6	8.0	8.6	8.6	8.6	8.3	7.0	8.0

a) Planted on 3/9/87 and harvested 6/11/87 (1878 heat units) and 6/15/87 (2004 heat units)
 b) A rating of 9 to 1 for characteristics observed with 9=superior and 1=very poor, from a fresh market standpoint.
 c) Average of 3 randomized plots (each 1 row 20' long)

Table 2. Sweet corn cultivar evaluations at Maricopa Agricultural Center (single observations) in 1987.

Cultivar	Source	Har-vest Date	Over- all Pref	(c) No. Pils	(c) No. Ears	Ear Len (cm)	Dia (cm)	Rows	Hus Pro	(b) Hus Col	(b) Fig Lev	(b) Mar App	(b) Silk Col	(b) Bin- km	(b) Ear Shp	(b) Tip Fil	(b) Ear App	(b) Ker Col	(b) Ker Dep	(b) Per- camp	(b) Fla- yor	(b) Tex ite
Incredible	Crook	6/19	8	21	16	20	5.1	16	8	9	6	9	9	8	7	9	8	9	9	8	8	9
Terrific	Crook	6/19	7	16	18	22	5.1	18	6	9	8	9	9	7	8	7	9	9	9	8	8	8
Prevalier	Crook	6/19	7	24	17	22	5.2	18	7	9	8	8	9	7	8	8	9	9	9	8	8	8
Miracle	Crook	6/19	9	25	23	22	5.1	18	7	9	6	9	9	9	7	9	8	9	9	9	9	9
Jubilee	Roger	6/19	7	18	16	21	4.7	16	6	9	6	9	9	7	9	9	8	9	9	8	8	7
GH2429	Roger	6/19	8	22	18	21	4.6	16	8	9	8	9	9	9	9	9	7	9	9	7	8	8
GH2425	Roger	6/19	7	24	21	22	5.0	22	8	9	7	9	9	9	9	9	8	9	9	8	8	8
GH2451	Roger	6/19	7	28	17	22	4.6	18	8	9	7	9	9	8	8	9	7	8	9	7	7	8
Napier	Roger	6/19	5	14	15	25	4.8	20	8	7	7	9	9	4	8	4	9	9	8	8	6	7
GH2750	Roger	6/19	8	24	20	22	4.8	18	7	9	8	9	9	9	8	8	9	9	8	8	8	8
XPH2642	Roger	6/19	7	29	20	21	5.3	16	8	9	7	9	9	9	6	9	8	9	8	7	7	7
Thermal	Asgrow	6/19	6	22	19	23	4.7	14	9	9	8	9	9	9	8	9	9	9	9	7	7	7
Rival	Asgrow	6/19	6	23	25	20	5.0	14	9	9	8	9	9	9	9	9	9	9	9	6	6	6
Bodacious	Crook	6/19	8	22	23	20	5.0	16	9	9	6	9	9	9	9	9	9	9	9	8	8	8
GH2305	Roger	6/19	8	22	20	22	4.9	16	7	9	7	9	9	9	8	8	8	9	8	8	8	8
Snow Belle	Asgrow	6/19	8	25	22	20	4.8	14	8	9	8	8	9	9	8	8	8	9	8	8	8	8
XPH-2620	Asgrow	6/19	7	29	24	23	4.8	16	7	9	7	9	9	9	8	8	8	9	9	7	6	7
XPH-2645	Asgrow	6/19	8	24	22	22	4.9	16	9	9	7	9	9	9	9	9	9	9	9	8	8	8
XPH-2636	Asgrow	6/19	8	29	32	20	4.9	16	8	9	7	9	9	9	8	8	8	9	9	6	6	6
XPH-2629	Asgrow	6/19	5	26	30	19	4.8	16	3	6	7	9	9	8	9	8	8	9	9	8	8	8
Sugar Load	Sun	6/19	7	23	20	20	4.7	16	9	9	7	9	9	9	9	9	8	9	9	8	8	8
Tastetreat	Sun	6/19	7	19	18	22	4.5	18	9	9	7	9	9	8	7	7	7	9	9	8	7	7
Sunex	Sun	6/19	5	16	11	20	4.6	16	8	9	7	9	9	4	8	9	6	9	9	7	9	7

a) Planted 3/19/87 and harvested on 6/19/87 (2012 heat units).
 b) A rating of 9 to 1 for characteristics observed with 9=superior and 1=very poor, from a fresh market standpoint.
 c) Harvested from 1 row 20'

Table 3. Sweet corn cultivar evaluations at Campus Agricultural Center, Tucson (replicated) in 1987.

Cultivar	Source	(a) Har- vest Date	(b) Over- all Pref	(c) No. Pls	(c) No. Ears	Ear Len (cm)	Dia (cm)	Rows	(b) Hus Pro	(b) Hus Col	(b) Flg Lvs	(b) Mar App	(b) Silk Col	(b) Blk- kn	(b) Ear Shp	(b) Tip Fil	(b) Ear App	(b) Ker Col	(b) Ker Dep	(b) Per- capp	(b) Fla- vor	(b) Tex ite
Incredible	Crook	6/24	8.0	35	19.3	19.3	4.8	16-18	9.0	8.0	3.6	8.6	9.0	8.0	7.6	7.3	7.6	9.0	8.6	8.6	7.6	9.0
Terrific	Crook	6/24	6.7	32	19.3	19.0	5.0	16	8.0	7.6	4.0	8.0	9.0	8.6	7.6	6.6	7.3	9.0	8.6	8.3	6.0	8.3
Prevailer	Crook	6/24	6.3	34	16.0	19.0	4.7	18	8.3	7.6	6.0	8.3	9.0	6.3	6.6	5.6	5.6	8.6	8.3	8.3	6.3	8.6
Miracle	Crook	6/24	8.0	34	20.3	18.0	4.8	16-18	8.3	8.0	5.0	8.3	9.0	8.0	6.3	6.0	6.6	9.0	8.0	9.0	8.3	9.0
Jubilee	Roger	6/24	8.0	38	25.6	20.0	4.6	18-20	8.0	8.3	6.6	8.3	9.0	8.6	9.0	8.0	8.3	8.6	8.3	8.6	6.6	8.6
GH2327	Roger	6/24	8.0	36	28.3	21.0	4.6	14-16	8.6	8.6	8.0	8.0	9.0	8.3	8.6	8.0	8.0	9.0	9.0	8.3	6.3	8.3
GH2429	Roger	6/24	7.6	37	27.6	21.0	5.1	18-20	9.0	8.0	7.3	7.0	9.0	9.0	7.3	7.0	9.0	9.0	9.0	7.3	6.0	8.0
GH2425	Roger	6/24	7.3	37	29.3	20.6	4.6	16	8.0	7.6	6.6	8.0	9.0	8.6	8.3	8.3	8.0	8.6	8.6	8.0	6.3	8.3
GH2451	Roger	6/24	7.0	40	30.3	22.3	4.7	18-22	8.6	8.3	5.0	8.6	9.0	7.0	8.0	6.6	6.6	9.0	7.6	9.0	6.6	9.0
Napier	Roger	6/24	6.3	36	18.3	21.3	4.5	18-20	8.3	7.6	7.0	7.6	9.0	5.6	8.0	5.6	6.0	8.6	7.3	9.0	7.0	9.0
GH2750	Roger	6/24	6.3	39	27.3	20.3	4.7	16-20	8.3	8.3	4.0	8.3	9.0	8.0	7.0	6.6	6.6	8.6	8.6	8.3	6.0	8.6
XPH2642	Asgrow	6/24	7.0	36	25.6	18.3	4.8	16-20	8.6	8.6	6.3	8.0	9.0	8.0	7.0	7.6	6.0	9.0	9.0	9.0	6.6	9.0
Thermal	Asgrow	6/24	6.0	33	23.0	20.0	4.5	14-16	7.6	8.0	7.3	7.6	9.0	8.0	7.6	7.3	7.3	8.0	8.6	7.6	6.3	7.6
Rival	Asgrow	6/24	7.3	33	28.3	18.3	4.8	14-16	8.6	8.6	8.0	5.0	9.0	8.0	8.0	7.6	8.0	9.0	9.0	8.0	6.0	8.6

- a) Planted on 4/1/87 and harvested on 6/24/87
- b) A rating of 9 to 1 for characteristics observed with 9=superior and 1=very poor, from a fresh market standpoint.
- c) Average of 3 randomized plots (each 1 row 30')

Table 5. High sugar sweet corn cultivar evaluations at Maricopa Agricultural Center in 1988.

Cultivar (Replicated)	Source	Units	Har- Over- Date	Pref	Plus	No.	Ears	Ear Wt	Len (cm)	Dia (cm)	Rows	Hus Pro	Hus Col	Flg Lvs	Mar App	Silk Col	Bin- Kin	Ear Shp	Tip Fil	Ear App	Ker Col	Ker Dep	Per car	Fla- vor	Tex tre
Super Sugar Crunch	Sun	1970	6/23	7.3	25	16	.47	19.3	4.6	16	7.7	7.0	2.7	7.0	9.0	7.0	7.7	7.7	7.7	7.3	8.0	8.0	7.7	7.3	7.3
Sweetie 76	Sun	1775	6/17	7.0	18	16	.48	18.7	4.8	16	7.7	6.7	2.7	6.7	8.7	8.0	7.7	7.7	7.7	7.3	8.0	8.0	7.7	7.3	7.3
Sweetie 82	Sun	1775	6/17	8.5	24	13	.42	17.8	4.4	14-16	7.7	7.7	3.7	7.7	8.3	7.7	8.3	8.7	8.5	8.7	8.0	8.3	8.0	8.7	8.3
Show Case	Roger	1870	6/20	7.7	19	16	.46	20.0	4.4	16	7.0	8.3	8.3	7.3	8.7	7.3	7.3	7.3	8.0	6.0	8.0	8.0	7.7	7.7	7.7
Excel	Roger	1990	6/23	7.3	17	19	.52	21.0	4.6	16-18	7.0	7.7	7.7	7.7	8.0	6.3	7.3	8.3	8.3	7.0	7.7	8.0	7.0	7.3	7.0
Supersweet Jubilee	Roger	1970	6/23	7.3	17	20	.54	21.0	4.7	16	6.0	7.0	7.3	6.7	8.3	7.7	8.3	8.0	7.7	8.0	8.0	7.0	7.7	7.7	7.0
Zenith 1125	H-M	1870	6/20	6.7	20	19	.46	19.3	4.5	16	6.3	8.0	5.3	7.3	7.7	6.3	7.3	8.3	6.7	7.3	8.3	6.7	7.7	7.7	8.0
Style Sweet	F-M	1970	6/23	7.7	17	13	.55	22.3	4.4	16	6.0	7.6	4.3	6.7	9.0	6.0	5.3	7.3	5.7	8.3	8.0	7.7	7.7	7.7	7.7
Summer Sweet 7900	A&C	1870	6/20	7.7	22	15	.42	18.5	4.4	16	7.3	7.3	2.0	7.0	8.7	7.0	8.3	7.7	6.8	6.3	6.5	7.7	7.3	7.7	8.0
Sweet Belle	Asgrow	1870	6/20	7.3	21	17	.49	20.3	4.4	16	6.7	8.0	4.7	7.3	8.3	7.7	7.3	8.0	7.0	8.0	7.0	7.7	8.0	7.3	7.3
Illinois Gold	Ill	1775	6/17	6.7	20	17	.50	20.2	4.6	16	7.3	8.0	6.7	7.3	8.7	6.7	8.7	8.0	8.0	8.0	7.7	8.0	6.7	7.0	7.7
How Sweet It Is	Crook	1870	6/20	8.3	19	19	.49	19.0	4.7	16	6.7	7.0	4.7	6.7	8.7	6.7	8.7	8.7	7.7	8.7	7.7	8.0	8.3	8.0	8.3
Crisp 'N Sweet 720	Crook	1970	6/23	7.0	19	16	.51	18.8	4.7	16	7.7	7.7	5.7	7.7	8.7	5.0	6.7	7.7	8.7	6.0	8.7	8.0	7.7	6.7	7.7
Crisp 'N Sweet 711	Crook	1775	6/17	7.3	22	18	.52	19.3	4.6	16	8.3	6.7	3.3	7.0	7.7	7.7	7.7	8.0	8.7	7.0	7.7	8.0	7.3	7.3	7.3

(Single observation)	H-M	1870	6/20	6.5	-	-	.38	18.0	4.1	16	8.0	8.0	5.0	8.0	9.0	3.0	7.0	7.5	5.0	8.0	8.0	7.0	7.0	6.5	7.0
HMX6399S	H-M	1574	6/10	5.0	-	-	.50	19.0	4.4	12	8.0	8.0	3.0	8.0	7.0	4.0	7.0	5.0	5.0	6.0	8.0	7.0	6.5	7.0	
HMX6348	H-M	1970	6/23	4.0	-	-	.42	17.0	4.5	16	6.5	7.0	4.0	7.0	8.0	5.0	6.0	8.0	8.0	8.0	8.0	7.0	4.0	6.5	
HMX4377	Sun	1574	6/10	4.0	-	-	.56	21.0	4.7	16	4.0	6.0	5.0	6.0	7.0	3.0	6.0	4.0	3.0	-	-	6.0	7.0	6.0	
Sweetie 70	Wis.	1970	6/23	6.0	-	-	.41	18.0	4.3	16	6.7	7.0	5.0	7.0	8.0	4.0	6.0	6.0	4.0	4.0	8.0	7.0	8.0	7.5	8.0
Natural Sweet 9000	Wis.	1870	6/20	8.0	-	-	.44	18.0	4.5	16	8.0	8.0	6.0	8.0	9.0	6.0	8.0	7.0	6.5	BC	8.0	9.0	8.0	9.0	
Sweet Success	Asgrow	1870	6/20	7.5	-	-	.41	21.0	4.1	16	6.0	7.5	6.0	7.0	8.0	6.0	6.0	8.0	8.0	8.0	8.0	7.5	7.0	8.0	
XPH2659	A&C	1970	6/23	7.0	-	-	.41	19.0	4.5	18	5.0	6.0	5.0	5.5	9.0	6.0	6.0	8.0	5.0	8.0	8.0	7.0	7.5	7.5	
Summer Sweet 7700	A&C	1870	6/20	7.0	-	-	.46	19.0	4.4	16	9.0	8.0	6.0	8.5	9.0	7.0	8.0	8.5	7.0	8.0	8.0	6.0	7.0	6.0	
ACX3548	A&C	1870	6/17	7.0	-	-	.45	22.0	4.2	16	7.0	8.0	8.0	8.0	8.0	7.0	8.0	8.0	7.0	9.0	8.0	8.0	7.0	7.0	
ACX3749	A&C	1775	6/17	7.0	-	-	.45	22.0	4.2	16	7.0	8.0	8.0	8.0	8.0	7.0	8.0	8.0	7.0	9.0	8.0	8.0	7.0	7.0	

a) Planted 3/22/88.
b) A rating of 9 to 1 for characteristics observed with 9=superior and 1=very poor, from a fresh market standpoint.
c) Average of 3 randomized plots (each 1 row 20')