

Sweet Corn Variety Trial - 2003
 Joseph G. Masabni, Shane M. Bogle, Dwight E. Wolfe
 Department of Horticulture, University of Kentucky, UKREC, Princeton, KY 42445

New varieties of sweet corn are being developed on a yearly basis. The newest trend in sweet corn is the super sweet varieties that combine the high sugar content of enhanced sugar varieties and the crunchy kernel of older varieties. The West Kentucky Grower Cooperative, based in Owensboro, KY, is continually interested in finding new varieties that would appeal to the market or the consumer. Logically, these varieties would be profitable for the growers who are also members with the cooperative. Towards that goal, a sweet corn variety trial was conducted in 2003 to evaluate 10 new and improved sh2 varieties.

Materials and Methods

Ten supersweet sweet corn varieties were provided by the West Kentucky Growers Cooperative in order to be evaluated at the University of Kentucky Research and Education Center at Princeton, Kentucky. The trial consisted of 4 bi-color, 3 white, and 3 yellow sweet corn varieties. Variety name, color, and source of supersweet sweet corn used in this trial are shown below.

Variety	Color	Source
Summer Sweet 6802R	Bi-color	AC
Summer Sweet 8102R	Bi-color	AC
Camas or BSS9686	Bi-color	SW
Saturn	Bi-color	SW
Summer Sweet 8101R	White	AC
Boreal	White	SW
Saturn	White	SW
AC945	Yellow	AC
Summer Sweet 6800	Yellow	AC
Saturn	Yellow	SW

The experimental design consisted of a randomized complete block design with 3 replications and 10 treatments, with sweet corn varieties as treatments. Plots were 35 ft long and 80 inches wide. Each plot was seeded with a plate seeder calibrated to seed 2 rows of corn 40 inches apart at 9 inch spacing within rows. A 10 ft alley was left between replications 1 and 2 and between replications 2 and 3, to facilitate spraying, harvesting, and other maintenance practices. Prior to seeding, fertilizer and lime were amended according to the soil test results. A drip irrigation system was set up with 1 line of drip tape per variety across the whole plot. Soluble N was added through the drip irrigation every 2 weeks after germination. The trial was seeded on April 22nd, 2003.

On May 14, 2003, Atrazine 1 qt/acre was applied broadcast over the whole plot for the control of emerged and emerging weeds. On June 18, 2003, Poast 1 qt/acre and COC 1% (v/v) were sprayed with a backpack sprayer and a 2-nozzle shielded boom, for control of emerged grasses growing in between the treatments. No fungicides were applied on this trial, and only 1 application of Sevin was applied at tassel stage for insect control.

Results and Discussion:

Table 2 lists the variables measured for each sweet corn variety. Summer Sweet 6800 and 6802R were first to be harvested, had the highest number of ears/plant, yield (number of dozen ears per acre) and the highest germination percentage. Ear weight didn't differ between all 10 varieties, ranging from 6.5 – 7.8 oz. Summer Sweet 8102R had the longest harvestable ears followed closely by Camas. In turn, Camas, Saturn (yellow), and 8102R had the highest ear width measurements.

Table 3 lists the 10 varieties in descending order for each variable measured. This allows quick comparison of the rankings between varieties without the need for hard numbers. Camas is present in the top third for all variables except for plant height. Summer Sweet 8102R and 2 varieties of Saturn also made it to the top 3 varieties when looking at ear length, width, and weight. AC945 was in the lowest third for all measured varieties except for ear width.

No taste study was conducted on these 10 varieties. However, comments were solicited from recipients of the harvested sweet corn. Although not scientific by any means, these comments will be presented here. Most liked the bi-color look of the sweet corn. If given a choice, they will buy what's available in the store. The white-kernelled varieties received the most divergent responses where the tasters either totally loved them for their sweetness and crunch or hated them for the paleness of the kernel color.

Future work will concentrate on retesting the bi-color and white kernelled varieties, as they seemed to hold the most potential for the young consumers who prefer very sweet foods or snacks. In terms of the kernel color, Summer Sweet 6800 was the best of the yellow varieties and 6802R was the best of bi-color varieties. Overall, Summer Sweet 6802 (bi-color) performed the best in terms of yield and earliness of harvest.

Table 2. Germination, and plant and ear characteristics of sweet corn in the 2003 variety trial at UKREC, Princeton, KY. Data is sorted by decreasing order of yield (Number of Dozen Ears/A).

Variety	Germination Percent 5-28-03	Plant Height (in.)	Ear Length (in.)	Ear Width (in.)	Ear Weight (oz)	Number Ears/ Plant	Number Dozen Ears/A	Harvest Date(s) July 2003
6802R BC	100	58	7.6	1.73	6.8	1.21	1908	9, 14
6800 Y	100	61	7.5	1.69	7.1	1.01	1795	9, 14
Camas BC	100	62	7.9	1.85	7.8	0.96	1732	21
Saturn BC	96	64	7.4	1.77	7.5	1.14	1597	16, 21
Saturn W	85	62	7.4	1.77	6.5	1.29	1556	14, 16
8101 W	72	58	7.7	1.61	6.7	1.35	1421	16, 21
Saturn Y	89	62	7.4	1.89	7.4	1.10	1411	21
Boreal W	68	65	7.4	1.81	7.3	1.31	1265	21
8102R BC	79	64	8.3	1.85	7.8	1.09	1214	21
AC 945 Y	81	61	7.3	1.81	6.6	0.99	1162	14, 16
LSD 5%	19.8	2.8	4.4	1.2	NS	0.27	456	
CV	13.5	2.7	1.3	1.6	13.5	13.6	17.6	

* BC = bi-color; W = white; Y = yellow.

Table 3. Sweet corn varieties sorted by descending order for each measured variable.

Germination Percent	Plant Height	Ear Length	Ear Width	Ear Weight	Number Ears/Plant	Number Dozen Ears
6800 Y	Boreal W	8102R BC	Saturn Y	8102R BC	6802R BC	8101 W
6802R BC	Saturn BC	Camas BC	8102R BC	Saturn BC	6800 Y	Boreal W
Camas BC	8102R BC	8101 W	Camas BC	Camas BC	Camas BC	Saturn W
Saturn BC	Camas BC	6802R BC	Boreal W	Saturn Y	Saturn BC	6802R BC
Saturn Y	Saturn Y	6800 Y	AC 945 Y	Boreal W	Saturn W	Saturn BC
Saturn W	Saturn W	Boreal W	Saturn BC	6800 Y	8101 W	Saturn Y
AC 945 Y	6800 Y	Saturn BC	Saturn W	6802R BC	Saturn Y	8102R BC
8102R BC	AC 945 Y	Saturn Y	6802R BC	8101 W	Boreal W	6800 Y
8101 W	6802R BC	Saturn W	6800 Y	AC 945 Y	8102R BC	AC 945 Y
Boreal W	8101 W	AC 945 Y	8101 W	Saturn W	AC 945 Y	Camas BC