2014 Evaluation of Sweet Corn Varieties, Jay, Florida

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This report includes the summary of the 2014 sweet corn variety trial at West Florida Research and Education Center, Jay, Florida. It shows the performance of 12 sweet corn varieties. This data represents only one year, results should be considered over several locations and years before conclusions are valid.

Varieties that were evaluated:

Yellow	White	Bicolor
1. SC1336	5. QHW6RH1129	9. EX0876 7143
2. Passion	6. SV1580SC	10. Obsession
3. Passion II	7. WSS 0987	11. Obsession II
4. ACR 3181 MR	8. Munition	12. 7932 MR

2014 Growing Conditions and Experimental Design:

On 11 April 2014, sweet corn varieties were planted 3 seed/ft under conventional tillage in a Dothan sandy loam soil which had been planted to sweet corn in summer 2013 and cabbage fall 2013. Prior to planting, granular starter fertilizer (5-15-30, 300 lb/A) was broadcast and incorporated. Plots were 25-ft long and 12-ft wide, and rows were spaced 36-in. apart. Sweet corn varieties were replicated in four randomized complete blocks by color (yellow, white, and bicolor). Each color block was separated by 20 border rows to reduce cross-pollination. Supplemental fertilizer was applied on 13 May ($(NH)_4SO_4$, 100 lb/A; urea, 100 lb/A; K_2O_5, 85 lb/A). No herbicides were applied, but plots were cultivated twice (when crop was 6 in. tall and then at fertilization on 13 May). Tombstone (cyfluthrin) 2 oz./A was applied on 9 June for ear worm control. Data was collected from two center rows of each plot. Plots were hand harvested on 24 June, this was 74 days after. Rainfall for April and May was 11.9 and 5.8 in. above normal while June was 2.1 in. below normal in Jay, FL for 2014 (Table 1). Normal represents the mean for the past 53 years of records kept at WFREC, Jay.

Table 1. Weather conditions during 2014 sweet corn trial

Month	Total rainfall (in.)	Average minimum air temperature (°F)	Average maximum air temperature (°F)
April	16.73 (11.93 above normal)	38.8	85.4
May	10.29 (5.79 above normal)	49.1	93.9
June	5.27 (2.13 below normal)	65.8	95.2

Summary

Stand count for all varieties ranged from 0.81 to 1.56 plants/ft (11,689 to 22,579 plants/A) (Table 2). Obsession, QHW6RH1229, EX08767143, SV1580SC and Passion II had the highest stand counts while ACR 3181 MR and Obsession II had stands of less than 15,000 plants/A (Table 2). Marketable ears ranged from 29,984 to 18,223 ears/A. The varieties which produced the most marketable ears included Passion II, QHW6RH1229, WSS 0987, Obsession, Munition, EX08767143 and Passion. U.S. Fancy Crates ranged from 321 to 160 crates/A with EX0867143, QHW6RH1229, Passion, Passion II, Obsession and SV1580SC producing the most U.S. Fancy Crates (321 to 275 crates/A) (Table 3). Varieties which produced both the most marketable ears and highest number of Fancy Crates included Passion, Passion II, QHW6RH1229, Obsession and EX08767143. Passion II was the highest yielding yellow variety with 29984 marketable ears/A and 296 U.S. fancy crates/A. QHW6RH1229 was the highest yielding white variety with 29,476 marketable ears/A and 319 fancy crates/A. The highest yielding bicolor variety was Obsession with 29,113 marketable ears/A and 275 fancy crates/A.

The shank length rating of the sweet corn varieties ranged from 2.7 to 4.3 (1= short, 5 = long) across all varieties, with Munition having the longest shank and SV1580SC with the shortest (Table 4). Husk quality rating (1 = dull; 5 = very attractive) ranged from 4.1 to 4.6, so in general all husks had good color and attractive appearance. Flag leaf rating (1 = absent; 5 = very attractive) ranged from 2.2 to 4.5. ACR 3181 MR, WSS 0987 and Munition had the highest rating for flag leaf of all the varieties. In general most ears evaluated had less than one inch unfilled ear tip and none of the varieties tip fill rated less the 4. Average number of rows per ear ranged from 17.5 in SC1336 to 13.8 in 7932 MR. Average ear length ranged from 7.7 to 6.4 inches across all varieties, Passion, QHW6RH1229, SV1589SC and EX08767143 had the longest ears of all varieties evaluated. Passion II had no ear worm damage, Obsession II, WSS 0987 and Munition has 30% or less of the ears damaged while Passion, ACR 3181 MR, Obsession and 7932 MR had 50% or more damaged ears.

Table 2. Sweet corn variety emergence, Jay, FL, 2014.

Cultivar	Maturity	Type	Color	Plants/ft* (16 Jun)	Plants/A* (16 Jun)
SC1336	81	Sh_2	Yellow	1.12	16,262
Passion	80	Sh_2	Yellow	1.38	19,965
Passion II	81	Sh_2	Yellow	1.42	20,618
ACR 3181 MR	80	Sh_2	Yellow	0.81	11,689
QHW6RH1229	82	Sh_2	White	1.51	21,925
SV1580SC	80	Sh_2	White	1.43	20,691
WSS 0987	78	Sh_2	White	1.11	16,117
Munition	78	Sh_2	White	1.03	14,956
EX08767143	80	Sh_2	Bicolor	1.48	21,490
Obession	78	Sh_2	Bicolor	1.56	22,579
Obession II	78	Sh_2	Bicolor	0.96	13,939
7932 MR	78	Sh_2	Bicolor	1.18	17,061
LSD				*0.14*	*2,049*
CV				*7.84*	*7.84*

* Determined from counts of two, 25-ft rows per plot.

LSD = Fisher's Protected LSD (*P*=0.05).

Table 3. Sweet corn variety harvest characteristics, WFREC, Jay, FL

Cultivar	Ear height (in.)[v]	Picking ease[w]	% Large ears[x]	% Medium ears[x]	% Cull ears[x]	Total ears/A	Marketable ears/A[y]	U.S. Fancy crate/A[z]
SC1336	16.6	4.3	29.8	33.2	37.0	37,171	23,522	230
Passion	17.7	5.0	37.0	33.4	29.6	39,059	27,370	301
Passion II	18.0	4.8	33.0	36.7	30.3	43,125	29,984	296
ACR 3181 MR	15.3	5.0	24.7	33.7	41.6	31,218	18,223	160
QHW6RH1229	20.8	4.8	36.0	34.2	29.8	42,108	29,476	319
SV1580SC	18.5	4.8	30.2	32.2	37.6	43,633	27,152	274
WSS 0987	19.3	4.3	25.0	48.8	26.2	39,494	29,113	204
Munition	19.1	3.3	23.8	43.4	32.8	42,036	28,241	209
EX08767143	16.2	5.0	39.6	31.3	29.1	38,914	27,588	321
Obession	20.1	4.8	31.2	36.5	32.3	43,488	29,113	275
Obession II	15.0	4.8	30.9	30.5	38.6	29,911	18,949	194
7932 MR	13.8	4.8	24.4	37.2	38.4	38,333	23,740	197
LSD	*2.1*	*0.8*	*8.6*	*12.4*	*13.2*	*4,610*	*5,068*	*76*
CV	*8.4*	*12.2*	*19.5*	*23.8*	*27.3*	*8.2*	*13.5*	*21.1*

[v] Ear height determined from five plants per plot.

[w] Picking ease rated on a scale of 1-5 where 1= difficult and 5= easy.

[x] % of large (greater than 7 in. in length, U.S. fancy[*]), % medium ears (5-7 in. in length, U.S. No. 1), and % cull ears (unmarketable ears) were determined from all harvested ears.

[y] Marketable ears includes both large and medium ears.

[z] U.S. fancy crate/A is based on a four-dozen crate size and includes only large ears (U.S. fancy grade).

[*]United States Standards for Grades of Sweet Corn, USDA Agricultural Marketing Service, Fruit and Vegetables Programs, Fresh Produce Branch, February 12, 1992 (*Reprinted- January 1997*)

Table 4. Sweet corn variety individual ear evaluation, WFREC, Jay, FL

Cultivar	Shank (1-5)[v]	Husk quality (1-5)[w]	Flag leaf (1-5)[x]	Tip fill (1-5)[y]	Number of rows	Ear length (in.)	Ear worm damage[z] (0 or 1)
SC1336	3.6	4.4	3.4	4.6	17.5	7.5	0.4
Passion	3.1	4.4	2.8	4.3	14.7	7.7	0.5
Passion II	3.5	4.1	3.2	4.1	15.2	7.5	0.0
ACR 3181 MR	3.7	4.4	4.5	4.0	15.9	7.3	0.5
QHW6RH1229	3.4	4.2	3.5	4.7	15.0	7.7	0.4
SV1580SC	2.7	4.3	3.2	4.5	14.8	7.7	0.4
WSS 0987	3.7	4.3	4.4	4.8	14.1	6.4	0.2
Munition	4.3	4.3	4.4	4.6	15.8	6.7	0.3
EX08767143	3.4	4.1	3.0	4.1	14.9	7.7	0.4
Obession	3.0	4.3	2.9	4.2	15.5	7.6	0.6
Obession II	3.4	4.4	3.8	4.7	15.8	7.4	0.1
7932 MR	3.3	4.6	3.6	4.6	13.8	6.8	0.5
LSD	*0.5*	*0.4*	*0.6*	*0.2*	*0.7*	*0.3*	*0.2*
CV	*9.4*	*5.7*	*10.9*	*3.7*	*3.0*	*3.2*	*41.5*

Ten ears from each plot were evaluated.

[v] Shank rated on a scale of 1 to 5, where 1= short, 3= average, 5= long.

[w] Husk quality rated on a scale of 1 to 5, where 1= dull, 3= average, 5= very attractive.

[x] Flag leaf rated on a scale of 1 to 5, where 1= none, 3= somewhat attractive, 5= very attractive.

[y] Tip fill rated on a scale of 1 to 5, where 1= more than 2 inch unfilled, 3= 1 inch unfilled, 5= complete tip fill.

[z] Ear worm damage rating: 0= no damage; 1= damage visible.