UF IFAS Extension UNIVERSITY of FLORIDA

HS1236

2013 Sweet Corn Variety Performance Trial, Jay, Florida[1]

Darcy Telenko, Libbie Johnson, and William Wendt[2]

This report includes a summary of the 2013 sweet corn variety trial at the UF West Florida Research and Education Center Jay Research farm in Jay, Florida. It shows the performance of fifteen commercial and experimental Sh_2 (supersweet) sweet corn varieties. This data only represents one year and one location; test results should be considered over several years and locations before final conclusions are valid.

Sh_2 Supersweet Varieties Evaluated

Yellow	White	Bicolor
SC1336	QHW6RH1229	EX08767143
Passion	1760 MR	Obsession
ACR 3181 MR	8909 MR	Obsession II
GSS 0966	WSS 0987	7932 MR
	Munition	2760 MR
		BSS 0977

2013 Growing Conditions and Experimental Design

On 2 April 2013, sweet corn varieties were planted 3 seed/ft under conventional tillage in a Red Bay sandy loam soil that was planted in a rotation of peanut in 2012 and fallow in 2011. Prior to planting, granular fertilizer (5-55-30, 500 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 nitrogen was applied on 6 May (33-0-0, 400 lb/A). No herbicides were applied, but plots were cultivated twice (when crop was 6 in. tall and at fertilization on 6 May). Subsurface drip irrigation provided approximately 1 in. of water per week from time of silking until harvest. No subsurface drip was applied before silking. Lannate (methomyl) 1.3 pt/A was applied on 27 May, 30 May, and 4 June. Asana (esfenvalerate) 9.6 oz/A was applied on 29 May and 4 June. Wet conditions limited spraying of three additional planned insecticide sprays. Data was collected from two center rows of each plot. Plots were hand harvested on 20 June (reps 1 and 2) and 21 June (reps 3 and 4); this was 79 and 80 days after planting and corresponded to the average maturity of the varieties (78–82 days). Rainfall for April, May and June was 2.3, 7.1, and 0.7 in. below normal in Jay, Florida for 2013 (Table 1). Normal represented the mean for the past 53 years of record.

Summary

Stand count for all varieties ranged from 1.58 to 1.97 plants/ft (22,869 to 28,532 plants/A), with no significant differences between varieties (Table 2). The bicolor varieties

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2. Darcy E. P. Telenko, postdoctoral research associate, West Florida Research and Education Center, Jay, 32565; Libbie Johnson, Extension agent, Escambia County, Cantonment, FL 32533; William Wendt, specialty crop project manager, West Florida Research and Education Center, Jay, FL 32565; UF/IFAS Extension, Gainesville, FL 32611.

overall averaged higher US Fancy yields (549 crates/A) than both the yellow (448 crates/A) and white (423 crates/A) varieties (Table 3). BSS 0977 was the highest yielding variety with 58,516 total ears/A, 46,609 marketable ears/A, and 616 US Fancy crates/A. Obsession and Obsession II were the next highest yielding varieties, followed by EX08767143 and 7932 MR. The lowest yielding bicolor was 2760 MR. Among the yellow varieties, SC1336 showed the highest yield, followed by GSS 0966 and Passion. ACR 3181 MR was the lowest yielding variety of all those tested, with only 368 crates/A. Munition and 1760 MR were the highest yielding white varieties, but they were not significantly different from QHW6RH1229, 8909 MR, and WSS 0987.

Ratings for the shanks of the sweet corn ranged from 3.3 to 4.2 across all varieties, with GSS 9066 having the longest shank and QHW6RH1229 the shortest (Table 4). Husk quality ranged from 4.6 to 5.0, so in general all husks were above average in color. Flag leaf ratings ranged from 2.2 to 4.5, with 1760 MR and 7932 MR having the highest rating of all the varieties. In general most ears evaluated had less than one-inch gag. GSS 0966, 1760 MR, and WSS 0987 had the greatest tip fill, while SC1336 and Passion had the least. Average number of rows per ear ranged from 14.1 in WSS 0987 to 18.4 in SC1336. Average ear length ranged from 7.1 to 8.3 inches across all varieties. ACR 3181 MR and 2760 MR had the longest ears of all varieties evaluated. Significant ear worm developed in the plots, because three planned sprays were missed before harvest. Conventional varieties that did not have insecticide resistance averaged 55% ear worm damage. Four varieties with insecticide resistance packages (GSS 0966, WSS 0987, Obsession II, and BSS 0977) had 32% less ear worm damage than the conventional varieties, with Obsession II showing as little as 2.5% damage.

Table 1. Weather conditions during 2013 sweet corn trial

Month	Total rainfall (in.)	Average minimum air temperature (°F)	Average maximum air temperature (°F)
April	4.7 (2.3 below normal*)	40.6	83.7
May	0.7 (7.1 below normal)	43.0	91.8
June	5.8 (0.7 below normal)	65.5	93.8

* Normal represents the mean for the past 53 years of record.

Table 2. Sweet corn variety emergence for in Jay, Florida, 2013

Cultivar	Maturity (days)	Type	Color	Plants/ft* (20 Jun)	Plants/A* (20 Jun)
SC1336	81	Sh_2	Yellow	1.88	27,298
Passion	80	Sh_2	Yellow	1.80	26,136
ACR 3181 MR	80	Sh_2	Yellow	1.58	22,869
GSS 0966	79	Sh_2	Yellow	1.75	25,410
QHW6RH1229	82	Sh_2	White	1.61	23,305
1760 MR	82	Sh_2	White	1.77	25,700
8909 MR	79	Sh_2	White	1.93	27,951
WSS 0987	78	Sh_2	White	1.83	26,572
Munition	78	Sh_2	White	1.82	26,354
EX08767143	80	Sh_2	Bicolor	1.79	25,991
Obsession	78	Sh_2	Bicolor	1.92	27,806
Obsession II	78	Sh_2	Bicolor	1.80	26,136
7932 MR	78	Sh_2	Bicolor	1.89	27,370
2760 MR	82	Sh_2	Bicolor	1.91	27,661
BSS 0977	78	Sh_2	Bicolor	1.97	28,532
LSD				*ns*	*ns*
CV				*12.6*	*12.6*

* Determined from counts of two, 25 ft rows per plot.
Means are not significantly different according to Fisher's Protected LSD (*P*=0.05).

Table 3. Sweet corn variety trial, WFREC, Jay, Florida

Cultivar	Ear height (in.)[v]	Picking ease[w]	% Large ears[x]	% Medium ears[x]	% Cull ears[x]	Total ears/A	Marketable ears/A[y]	US Fancy crate/A[z]
SC1336	16.7 de	4.0 c	63.7 abc	24.5 a-d	11.7 def	36,518 cd	32,162 bcd	490 a-e
Passion	16.8 cde	4.0 c	65.2 ab	24.8 a-d	10.0 f	34,122 d-f	30,637 b-e	466 b-e
ACR 3181 MR	16.5 e	4.8 ab	55.5 b-e	21.6 bcd	22.9 bc	30,928 f	23,958 e	368 e
GSS 0966	20.1 a	4.5 abc	53.7 cde	27.1 abc	19.3 b-e	40,583 b-f	32,960 bcd	469 b-e
QHW6RH1229	19.2 a-d	4.8 ab	65.1 ab	23.2 a-d	11.7 def	31,145 ef	27,443 cde	425 de
1760 MR	13.1 f	4.5 abc	58.7 bcd	19.1 cd	22.2 bc	34,412 def	27,007 de	436 cde
8909 MR	11.7 f	5.0 a	53.3 cde	26.1 a-d	20.6 bcd	35,937 c-f	28,604 cde	413 de
WSS 0987	20.2 a	4.5 abc	44.6 ef	31.9 a	23.6 bc	40,801 b-e	31,799 b-e	404 de
Munition	17.4 b-e	4.8 ab	37.9 f	29.6 ab	32.5 a	48,569 b	34,122 bcd	439 cde
EX08767143	16.6 e	4.8 ab	66.4 ab	18.6 cd	15.0 c-f	38,696 c-f	32,743 bcd	534 a-d
Obsession	19.7 ab	5.0 a	70.2 a	18.2 d	11.6 ef	40,003 b-f	35,066 bc	572 abc
Obsession II	19.3 a-c	4.5 abc	64.3 abc	20.8 cd	14.9 c-f	45,157 bc	37,752 b	599 ab
7932 MR	13.9 f	4.5 abc	59.9 abc	24.6 a-d	15.6 b-f	41,527 bcd	34,848 bcd	522 a-d
2760 MR	17.2 cde	4.8 ab	56.4 bcd	19.3 cd	24.3 ab	36,663 c-f	27,515 cde	452 cde
BSS 0977	21.5 a	4.3 bc	47.7 def	31.3 a	21.0 bc	58,516 a	46,609 a	616 a
LSD	*2.5*	*0.7*	*11.3*	*8.8*	*8.9*	*9666*	*7895*	*140*
CV	*10.2*	*11.0*	*13.8*	*25.6*	*33.9*	*17*	*17*	*20*

[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 inches in length, US Fancy*), % medium ears (5–7 inches 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] US Fancy crate/A is based on a four-dozen crate size and includes only large ears (U.S. Fancy grade).
Means followed by the same letter(s) are not significantly different according to Fisher's Protected LSD (*P=0.05*).
*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 trial, individual ear evaluation, WFREC, Jay, Florida

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]
SC1336	3.7 b-f	4.8 bc	2.2 g	3.8 fg	18.4 a	7.6 ef	57.5 ab
Passion	3.7 bcd	4.6 e	2.8 ef	3.7 g	17.0 cd	7.7 cde	60.0 ab
ACR 3181 MR	4.0 abc	5.0 a	3.7 c	4.3 b-e	17.3 bc	8.2 a	67.5 a
GSS 0966	4.2 a	4.9 ab	3.9 bc	4.8 a	14.8 gh	7.2 gh	32.5 cd
QHW6RH1229	3.2 g	4.6 de	2.6 efg	4.2 cde	16.2 ef	7.8 bc	55.0 ab
1760 MR	4.0 ab	5.0 a	4.5 a	4.7 a	17.0 cd	7.9 b	52.5 abc
8909 MR	3.5 efg	4.9 ab	3.7 c	4.5 a-d	15.5 fg	7.6 ef	55.0 ab
WSS 0987	3.8 b-e	5.0 a	3.5 cd	4.8 a	14.1 h	7.1 h	17.5 de
Munition	3.7 b-f	5.0 a	3.6 c	4.1 ef	15.9 ef	7.5 f	52.5 abc
EX08767143	3.5 efg	4.8 bcd	2.5 efg	4.2 de	17.1 bcd	7.8 bcd	57.5 ab
Obsession	3.3 fg	4.7 cde	2.5 fg	4.2 de	16.5 de	7.7 cde	42.5 bc
Obsession II	3.5 d-g	4.7 cde	3.0 de	4.1 ef	17.0 cd	7.6 de	2.5 e
7932 MR	3.9 a-d	4.9 ab	4.3 ab	4.6 abc	15.9 ef	7.9 bc	57.5 ab
2760 MR	3.7 b-f	5.0 a	3.9 bc	4.6 ab	17.8 ab	8.3 a	47.5 abc
BSS 0977	3.6 c-f	4.9 ab	3.6 c	4.2 e	15.8 f	7.3 g	17.5 de
LSD	*0.4*	*0.2*	*0.5*	*0.3*	*0.7*	*0.2*	*20.6*
CV	*25.1*	*8.2*	*33.9*	*18.1*	*9.8*	*5.4*	*104.2*

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 gag, 3 = 1 inch gag, 5 = complete tip fill.
[z] % Ear worm damage calculated from number of the ten ears with visible damage.
Means followed by the same letter(s) are not significantly different according to Fisher's Protected LSD (*P=0.05*).