

# **Trial Report: Cantaloupe Variety Evaluation 2015**

## **Conducted by:**

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***We would like to thank participating companies for their support.***

## **Production**

Location: Tifton, GA

Entries: 9 Cantaloupes (Eastern, Western, LSL) 1 honeydew

Planting date: Seeded into 200 cell trays on 25 Feb. Transplanted 24 March.

Plant Spacing: 6' centers black polyethylene mulch (42- inch wide plastic), 22-inch in-row spacing (3967 per acre pop.)

Plot Size: 12 plants per plot (single row) with 8 foot alleys between adjacent plots in-row

Fumigation: None

Fertility: 1000 lbs 5-10-15 under plastic when laid. Overhead irrigation used 2 sidedress applications of calcium nitrate at 45 lb/acre N each (140 lbs N total). Irrigation approximately 1.5 inch per week.

Herbicide: Curbit broadcast preplant. Select Max used for grasses.

Pest Control: Weekly fungicide sprays according to UGA recommendations. Imidacloprid at planting followed by bifenthrin during growth.

Pollination Services: 1 bumblebee quad located in planting.

## Data Collection

Stand count conducted 20 April.

Harvests conducted: 65, 69, 71, 74, 77, 81, 84, 88 days after transplant.

Fruit weighing less than 2 lbs were discarded. Fruit were harvested at ¼ slip on eastern melons, while LSL melons were cut when netting reached the stem. Western melons and honeydews were cut after testing representative fruit in plots. Fruit were placed into the following groups for boxes:

**15 count:-2.35-3.00 lbs; 12 count: 3.01-3.89 lbs; 9 count: 3.90 lbs-5.60 lbs; 6 count >5.61 lbs**

Fruit from the 2-5<sup>th</sup> harvests were utilized for quality measurements. Average firmness was determined using an 8 mm probe with a hand-held firmness tester from 2 locations on 4 melons (8 readings) per replication. Average brix was obtained from teaspoon sample of flesh from each of the 4 melon subsets from each replicate which was crushed using a hand-held lemon press and read using a hand-held refractometer. Statistics were conducted using SAS Version 9.3. Proc GLM and Fisher's least significant test were conducted when appropriate. Subsampling procedures were used for firmness ratings.

Table 1. Entries in Trial

Harris Moran	Hollar	Sakata	Seminis	Syngenta	US Agriseeds
Fiji (LSL)	EarliChamp (E)	Atlantis (E)	SV5196MF	Athena (E)	USAMR15336
	Grand Slam (E)			Aphrodite (E)	Full Moon (H)
	Yuma Grande (W)				

*E-eastern, W-western, LSL-long shelf life, H-honeydew*

## Results

Yields were highest in 'Athena', though statistically they were not significantly different from 'USAMR15336', 'Grand Slam', 'Atlantis', and 'Yuma Grande'. 'Athena', 'Grand Slam', and 'Atlantis' are all eastern shipping type melons, while 'Yuma Grande' is a western style melon. The highest yielding variety in the 15 and 12 count categories was 'USAMR15336', while 'Atlantis' and 'Athena' were the highest yielding varieties in the 9 count category with 460 and 450 boxes per acre, respectively. Yields of 6 count boxes were low overall, with 'Atlantis' and 'Yuma Grande' having the greatest number of boxes per acre (70) of 6 count melons. Melons overall were smaller than in previous years with average fruit weight ranging from 4.3 lb/fruit for 'Atlantis' to 2.7 lb/fruit for 'Fiji', 'Earlichamp', and 'SV5196MF'. 'Full Moon', a honeydew included in the trial, had an average weight of 2.9 lb/fruit. Average brix was highest in 'USAMR15336' and 'SV5196 MF' with 12.7% and 12.4%, respectively. For cantaloupes, 'Fiji' was clearly the firmest melon with an average firmness reading of 10.9 lbs force compared to 4.1 lbs force in 'Athena'. When yield per harvest was determined, 'Earlichamp' was clearly the earliest maturing melon, followed by 'Aphrodite'. It should be noted that the yields for the harvest conducted at 74 days post-transplant were low, likely due to poor weather during the corresponding period of fruit set earlier in the season. 'Fiji' was the latest maturing cantaloupe, followed by 'Yuma Grande'. 'Full Moon' was the latest of any melon trialed with more than half of the fruit being harvested on the final (88 day post-transplant) date.

Table 2. Total yield in (40 lb) boxes and weight per acre. *Note that due to rounding to maintain significant digits (to nearest ten boxes or lbs) boxes per acre and lbs per acre may not always match exactly they would if no rounding were done.*

Variety	Total Yield			15 Count			12 Count			9 Count			6 Count					
	lb/acre		Boxes/acre	lb/acre		Boxes/acre	lb/acre		Boxes/acre	lb/acre		Boxes/acre	lb/acre					
Athena	30440	a	60	d	2540	d	180	abc	7430	abc	450	a	18970	a	40	a	1490	a
USAMR15336	29879	a	260	a	10620	a	220	a	9120	a	210	bc	8100	cde	60	a	2040	a
Grand Slam	29720	a	120	bcd	4970	bcd	180	ab	7420	abc	390	ab	15830	ab	40	a	1510	a
Atlantis	27760	ab	50	d	2140	d	100	bcd	4070	bcd	460	a	19160	a	70	a	2400	a
Yuma Grande	27730	ab	110	bcd	4610	bcd	130	a-d	5290	a-d	390	ab	15430	abc	70	a	2400	a
Aphrodite	21200	bc	80	cd	3180	cd	200	ab	8400	ab	230	bc	9140	bcd	10	a	480	a
EarliChamp	17740	cd	230	ab	9200	ab	50	d	1870	d	170	cd	6670	def	0	a	0	a
SV5196MF	11640	de	200	abc	7540	abc	80	cd	3240	cd	20	d	870	ef	0	a	0	a
Fiji	9230	e	170	a-d	6490	a-d	60	d	2420	d	10	d	320	f	0	a	0	a
Full Moon	22210	abc	280	a	10783	a	180	abc	7230	abc	110	cd	4200	def	0	a	0	a

Table 3. Average melon weight, brix, and firmness.

Variety	Avg. Wt.		Brix		Firmness	
	lb		%		lb Force <sup>z</sup>	
Atlantis	4.3	a	10.2	bc	3.4	de
Athena	4.1	ab	11.1	ab	4.1	de
Yuma Grande	3.9	ab	9.0	c	4.5	d
Grand Slam	3.8	bc	11.3	ab	6.1	c
Aphrodite	3.8	bc	11.6	ab	3.6	de
USAMR15336	3.4	c	12.7	ab	8.7	b
EarliChamp	2.7	d	11.7	ab	3.1	e
Fiji	2.7	d	11.9	ab	10.9	a
SV5196MF	2.7	d	12.4	a	6.8	c
Full Moon	2.9	d	10.4	bc	10.0	a

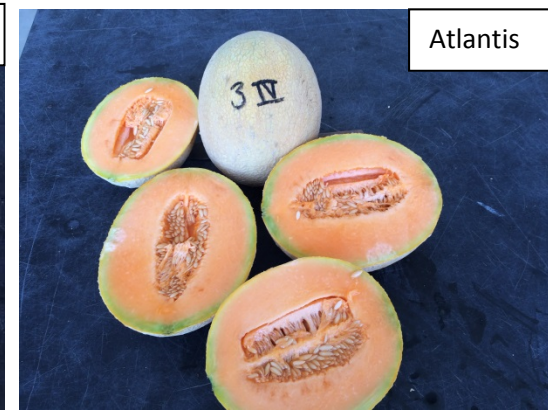
<sup>z</sup>Firmness determined using an 8 mm probe.

Table 4. Yield by harvest date.

Variety	Percent harvested at each harvest date (%)							
	65 <sup>z</sup>	69	71	74	77	81	84	88
Athena	3.2	17.4	12.6	4	30.3	14.7	7.3	10.6
SV5196MF	1.5	27.7	38.7	6.1	3.7	10.0	6.9	5.4
Atlantis	0.0	2.0	9.2	19.8	9.2	36.9	21.4	1.6
Earlichamp	25.9	45.6	6.2	6.8	8.2	4.6	2.7	0.0
Grand Slam	2.3	23.6	24.8	14.7	8.3	8.0	11.9	6.3
Yuma Grande	0.9	18.8	27.4	17.2	10.4	6.6	14.4	4.4
USAMR15336	0.0	0.0	0.0	0.0	38.9	5.2	18.9	37.0
Fiji	0.0	0.0	0.0	0.0	6.4	42.9	50.7	0.0
Aphrodite	15.9	30.2	8.1	7.6	21.1	13.7	3.5	0.0
Full Moon	0.0	0.0	0.0	0.0	0.0	25.1	21.9	53.0

<sup>z</sup>Days from transplanting.

Figure 1. Melons included in trial.





USAMR15336



Fiji



Aphrodite



Full Moon