Pennsylvania Vegetable Marketing and Research Program
Pennsylvania Vegetable Growers Association

2011 Cantaloupe Variety Trial

Mike Orzolek
Horticulture Research Farm, Rock Springs, PA

Trial Location: Horticulture Research Farm, Rocksprings, PA

Design: Randomized Complete Block with 3 replications.

Plot size: Replicated: 6 plants spaced 2' in-row and 7' between rows.
Observational – 8 plants spaced 2' in-row and 2 reps/variety.

Transplanting date: June 3, 2011.

Production system: Raised beds with black plastic mulch and drip irrigation tape (0.45 gal/100 linear ft./min).

Herbicide application: Sandea @ 0.5 dry ounce/A postemergence on June 27, 2011 at 5:00 am with a heavy due on the plants. Injury symptoms from Sandea appeared on the plants by 2:00 pm. The plant growth regulator BioForge at 1.0 pt/A was applied to all cantaloupe varieties in the trial at 4:00 pm. See Table

Harvest dates: August 9 through September 8, 2011 – 4 harvests.

Comments:
2011 was a very interesting production year with weather extremes occurring throughout the year. The hot, dry mid June and July weather did help increase carbohydrate levels in plants as reflected in the high soluble solids levels in cantaloupe varieties. The cooler and wetter months of August and September did extend the maturity dates of most varieties. The application of a postemergence application of Sandea on cantaloupes did produce some unexpected results. Sandea was applied to cantaloupes in several different fields located throughout the Research Farm. Only the field with the cantaloupe variety trial had injury symptoms from the Sandea application, even though all the cantaloupe production fields were treated the same day. Injury to cantaloupe plants was moderate and after an application of BioForge, all varieties produced fruit about 2 weeks later than normal. The most sensitive varieties to the Sandea application were Atlantis, Cutie and Pacifico ((rating of 3 out of 5) and the most resistant varieties to the Sandea application were Oro Duro and Napoli (rating of 2 out of 5). All other varieties injury ratings fell between 2 and 3.
The most productive cantaloupe (greater than 5,000 fruit/A) varieties in the replicated trial were Oro Duro, Napoli, Pacifico and Cutie. The most productive cantaloupe (greater than 5,000 fruit/A) varieties in the observational trial were Maverick, Carousel, Grand Slam, Samoa and Sarah's Choice. Cantaloupe varieties in the replicated trial with average fruit weight greater than 6 pounds included: Odyssey, Journey, ACX 4067 and ACX 428. Cantaloupe varieties in the

observational trial with average fruit weight greater than 6 pounds included: Verona and Carousel. Varieties in the replicated trial with high soluble solids (greater than 14% brix) Included: Aphrodite, Olympic Express, Globstar, Oro Duro, Athena, Ariel, ACX 351, ACX 252 and ACX 428. The variety with the highest percent soluble solids was Cutie with a 17.8% brix reading. Varieties in the observational trial with high soluble solids (greater than 14% brix) Included: Grand Slam, Origami and Sarah's Choice.

Variety	**Seed Source**	**Maturity**	Disease Resist
Replicated – 27 design 6 plants/rep 3 reps			
Ariel	Seedway	82	F(0,1,2), PM
Atlantis	Seedway	82	F(0,1,2), PM
Athena	Seedway	83	F(0,1,2), PM
Napoli	NE Seed	73	F(0,1,2), PM
Victoria	NE Seed	80	F(0,1,2), PM
Halona	Stokes	70	PM
Fastbreak	Stokes	74	F(2), PM
Primo	Stokes	79	F, PM, DM
Odyssey	Stokes	81	F(2), PM
Globstar	Rogers/Syngenta	65	F(0,1,2), PM
Aphrodite	Rogers/Syngenta	80	F (0.1), PM
ACX 9276	Abbott & Cobb		Long Shelf Life
ACR 4067ES	Abbott & Cobb		
ACX 9000	Abbott & Cobb		Long Shelf Life
ACX 351	Abbott & Cobb		For High Tunnel
ACX 252 HQ	Abbott & Cobb		Honeydew for HT
SME 1081	Sakata	mid	F, PM
Pacifico	Sakata	mid	F, PM
Qro Duro	Sakata	mid	F, PM
Olympic Express	Sakata	early	F, PM
Journey	Sakata	early	F. PM
Olympic Gold	Sakata	mid	F,PM
XME 1081	Sakata	mid	F, PM
Trinity	Takii	80	F, PM
Fantasista	Takii	77	F, PM
Saguaro	Takii	80	F, PM
Cutie (TI-088)	Takii		
Observational- 8 design – 8 plants/rep 2 reps			
Verona	Seedway	76	F, PM
Strike	Seedway	85	F, PM
Samoa	Harris-Moran	Mid	F, PM
Origami	Harris-Moran	early	F, PM
Carousel	Hollar	83	F, PM
Maverick	Hollar	83	F,PM
Grand Slam	Hollar	85	F, PM
Home Run	Hollar	82	F, PM

Table 1. The marketable yield and percent soluble solids (%SS) of 25 replicated cantaloupe varieties grown on the Horticulture Research Farm, Rock Springs,, PA – 2011

variety	Fruit/A	Wt/A –T	Avg. fruit wt.-lbs	% SS
Ariel	3,500	8.9	5.1	14.2
Atlantis	4,550	13.0	5.7	13.4
Athena	3,842	12.9	5.0	14.5
Napoli	5,328	8.7	3.3	12.4
Victoria	3,617	8.1	4.5	13.5
Halona	2,463	3.5	2.9	13.6
Fastbreak	4,161	4.9	2.3	10.6
Primo	3,383	8.3	4.9	14.0
Odyssey	4,395	13.2	6.0	12.8
Globstar	4,278	5.3	2.5	15.2
Aphrodite	3,228	8.8	5.5	14.4
ACX 9276	4,161	10.0	4.8	14.0
ACR 4067ES	3,889	12.4	6.4	13.9
ACX 9000	3,111	6.9	4.4	13.5
ACX 351	2,217	5.3	4.8	14.3
ACX 252 HQ	2,839	8.1	5.7	15.4
Pacifico	5,172	8.1	3.2	14.1
Qro Duro	6,495	10.1	3.1	15.0
Olympic Express	2,722	4.4	3.2	14.7
Journey	3,500	11.0	6.3	13.7
Olympic Gold	5,950	10.1	3.4	13.5
XME 1081	4,161	5.8	2.8	
Trinity	2,606	6.1	4.7	10.4
Fantasista	3,889	7.6	3.9	13.9
Saguaro	3,111	9.0	5.8	10.9
Cutie (TI-088)	14,895	6.4	0.9	17.8

Table 2. The marketable yield and percent soluble solids (%SS) of 9 observational cantaloupe varieties grown on the Horticulture Research Farm, Rock Springs,, PA – 2011

Variety	Fruit/A	Wt./A-T	Avg fruit wt-lbs	%SS
Verona	3,889	13.8	7.1	13.3
Strike	3,695	8.8	4.7	13.6
Samoa	5,834	17.2	5.9	13.8
Origami	2,917	7.2	4.9	14.4
Carousel	5,834	18.5	6.3	13.4
Maverick	8,361	10.1	2.4	13.9
Grand Slam	5,056	12.6	5.0	14.6
Home Run	3,306	5.9	3.6	13.0
Sarah’s Choice	8,167	21.9	5.4	14.0

Table 3. Fruit characteristics and Sandea injury ratings of 25 replicated cantaloupe varieties grown on the Horticulture Research Farm, Rock Springs,, PA – 2011

variety	Sandea Inj	Stem Scar	Flesh Thickness-cm	Netting
Ariel	2.2	3	5.0	3
Atlantis	3.0	2	5.0	3
Athena	2.3	2	5.0	1
Napoli	2.0	1	4.5	2
Victoria	2.7	2	5.0	1
Halona	2.3	3	5.0	1
Fastbreak	2.5	3	4.0	1
Primo	2.5	1	5.3	1
Odyssey	2.7	3	5.0	1
Globstar	2.5	1	4.3	3
Aphrodite	2.3	2	4.0	4
ACX 9276	2.8	2	5.0	1
ACR 4067ES	2.5	2/3	4.4	4
ACX 9000	2.2	3	4.5	3
ACX 351	2.2	2	5.5	4
ACX 252 HQ	2.1	1	4.8	4
Pacifico	3.0	2	3.5	1
Qro Duro	2.0	2	4.3	1
Olympic Express	2.2	2	5.0	1
Journey	2.3	1	5.0	1
Olympic Gold	2.5	1	3.8	3
XME 1081	2.8	2	4.3	1
Trinity	2.3	1	4.5	1
Fantasista	2.5	1	3.8	3
Saguaro	2.7	2/3	5.3	1
Cutie (TI-088)	3.0	1	2.3	4

Sandea injury rating = 1-no injury to 5 – plants dead.
Stem scar rating = 1- small, 2 – medium, and 3- large.
Flesh thickness was measured by measuring the length of the plug used to determine percent soluble solids.
Netting rating = 1 –heavy coarse netting, 2 – light coarse netting, 3 – heavy fine netting and 4 – light fine netting.

Table 4. Fruit characteristics and Sandea injury ratings of 9 observational cantaloupe varieties grown on the Horticulture Research Farm, Rock Springs,, PA – 2011

Variety	Sandea Inj.	Stem Scar	Flesh Thickness-cm	Netting
Verona	3.0	2	5.5	3
Strike	2.8	2	5.3	4
Samoa	2.3	1	5.5	1
Origami	2.8	1	4.8	4
Carousel	2.5	2	5.5	3
Maverick	2.3	2	5.0	1
Grand Slam	2.8	½	4.5	3
Home Run	2.5	3	4.0	3
Sarah's Choice	2.0	2	5.0	3

Sandea injury rating = 1-no injury to 5 – plants dead.
Stem scar rating = 1- small, 2 – medium, and 3- large.
Flesh thickness was measured by measuring the length of the plug used to determine percent soluble solids.
Netting rating = 1 –heavy coarse netting, 2 – light coarse netting, 3 – heavy fine netting and 4 – light fine netting.