

Annual Report for the Pennsylvania Vegetable Research and Marketing Program and the Pennsylvania Vegetable Growers Association

Keeping PA Vegetable Growers Profitable: Statewide Cultivar Trials

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**See also article with a table of comparisons and pictures of the varieties at
<https://extension.psu.edu/selecting-muskmelon-varieties>**

Selecting which cultivar to grow is critical to successful commercial production. When a cultivar suited to an area and having high yield and quality for market is grown, growers can make a profit. Muskmelons are an important crop for diversified vegetable operations in Pennsylvania. Between 2012 and 2017 the number of farms growing muskmelons increased by 8% from 549 to 597. Acreage devoted to muskmelon decreased 13% from 1,121 to 978 during the same period. Nationally, Pennsylvania ranks 2nd in number of farms and 7th in acreage planted in muskmelons (2017 Census of Agriculture). In 2018-19 we evaluated muskmelon cultivars at three sites.

This study was conducted in central Pennsylvania at Pennsylvania State University's Russell E. Larson Research Center in Pennsylvania Furnace, in southeastern Pennsylvania at Pennsylvania State University's Southeast Research and Extension Center in Manheim and in western Pennsylvania in Indiana County on a grower's farm.

Nineteen (20 at the southeastern site) muskmelon cultivars on their own rootstocks and two grafted cultivars (Table 1) were evaluated in a conventional plasticulture system. At all sites, 4-week-old transplants were set in rows spaced 6 feet apart with 2 feet between plants in a row. Four plots of each cultivar were planted with each plot consisting of 6 plants. Data were collected from all 6 plants.

Pests were managed following recommendations in the 2018 Commercial Vegetable Production Recommendation guide.

In 2018, melons were harvested from July 31 to August 28 at the western site, August 4 to 29 at the central site, and July 13 to August 13 at the southeastern site. In 2019, melons were harvested from July 30 to August 19 at the western site, August 4 to September 16 at the central site, and August 5 to 30 at the southeastern site.

The standard used was 'Aphrodite' based on conversations with growers.

Data were combined by site and analyzed using GLIMMIX. Means were separated at the 5% level using the slice option to perform Tukey’s multiple comparison test. Year by cultivar interactions were significant for all variables. Therefore, data were analyzed by site year using the mixed procedure and means were separated at the 5% level using pdiff.

Table 1. Cultivars and seed sources of muskmelon cultivars evaluated in 2018-19.

Cultivar^z	Seed Source
Sun Blushed	Seminis, St. Louis, MO
Afterglow	Seedway LLC, Mifflinburg, PA
Aphrodite	Seedway LLC, Mifflinburg, PA
Atlantis	Seedway LLC, Mifflinburg, PA
Goddess	Seedway LLC, Mifflinburg, PA
Minerva	Seedway LLC, Mifflinburg, PA
Shockwave	Seedway LLC, Mifflinburg, PA
Sugar Cube	Seedway LLC, Mifflinburg, PA
Verona	Seedway LLC, Mifflinburg, PA
Accolade	Syngenta, Greensboro, NC
Astound	Syngenta, Greensboro, NC
Athena	Syngenta, Greensboro, NC
Aphrodite	Syngenta, Greensboro, NC
Atlantis	Sakata, Morgan Hill, CA
Avatar	Sakata, Morgan Hill, CA
Infinite Gold	Sakata, Morgan Hill, CA
Ariel	Syngenta, Greensboro, NC
Accolade	Clifton Seed, Faison, NC
Carousel	Clifton Seed, Faison, NC
Lani	Clifton Seed, Faison, NC
Fiji	Clifton Seed, Faison, NC
Tirreno	Rupp, Wauseon, OH
Ambassador	Rupp, Wauseon, OH
Aphrodite/Flexifort	Grafted entry
Aphrodite/RS841	Grafted entry

^z‘Sugar Rush’ was evaluated at the Manheim site only. The rest of the cultivars were evaluated at all three sites.

Results

Western Site

In 2018, the mean number of marketable melons produced by cultivar ranged from 0.00 to 11.50 per plot (6 plants) (Table 2). ‘Lani’, ‘Infinite Gold’, ‘Shockwave’ and ‘Fiji’ produced fewer melons and ‘Sugar Cube’ produced more melons than ‘Aphrodite’ (6.00 per plot). The number produced by all other cultivars was not different than ‘Aphrodite’. The mean for grafted cultivars was 6.00 per plot for Aphrodite/Flexifort and 7.25 per plot for Aphrodite/RS841.

In 2019, the mean number of marketable melons produced by cultivar ranged from 0.00 to 11.25 per plot (Table 2). 'Sugar Cube', 'Tirreno', 'Carousel', 'Astound', 'Goddess', and 'Athena' produced more melons than 'Aphrodite' (1.75 per plot). The number produced by all other cultivars was not different than 'Aphrodite'. The mean for grafted cultivars was 2.75 per plot for Aphrodite/Flexifort and 1.00 per plot for Aphrodite/RS841.

In 2018, the mean weight of marketable melons produced by each cultivar ranged from 0.00 lb to 53.41 lb per plot (Table 2). Weights from 'Infinite Gold', 'Lani', and 'Shockwave' were lower (0.00 lb for all three cultivars) than from 'Aphrodite' (34.63 lb per plot). All other cultivars were not different than 'Aphrodite'. The mean for Aphrodite/Flexifort was 42.69 lb per plot and for Aphrodite/RS841 was 53.41 lb per plot.

In 2019, the mean weight of marketable melons produced by each cultivar ranged from 0.00 lb to 29.05 lb per plot (Table 2). Mean weights from 'Carousel' and 'Tirreno' were higher than from 'Aphrodite' (8.65 lb per plot). All other cultivars were not different than 'Aphrodite'. Mean weight from Aphrodite/Flexifort was 12.27 lb per plot and for Aphrodite/RS841 was 5.14 lb per plot.

In 2018, the mean number of unmarketable melons produced by each cultivar ranged from 0.00 to 7.50 per plot (Table 3). All cultivars were not different than 'Aphrodite' (4.00 per plot). The mean for Aphrodite/Flexifort was 2.50 per plot and Aphrodite/RS841 was 1.50 per plot.

In 2019, the mean number of unmarketable melons produced by each cultivar ranged from 0.00 to 7.25 per plot (Table 3). 'Shockwave' and 'Infinite Gold' produced more unmarketable melons than 'Aphrodite' (0.00 per plot). All other cultivars were not different than 'Aphrodite'. The mean for Aphrodite/Flexifort was 0.75 per plot and for Aphrodite/RS841 was 0.25 per plot.

In 2018, the mean weight of unmarketable melons produced by each cultivar ranged from 2.57 lb to 25.05 lb per plot (Table 3). All cultivars were not different than 'Aphrodite' (14.76 lb per plot). The mean for Aphrodite/Flexifort was 17.11 lb per plot and for Aphrodite/RS841 was 8.69 lb per plot.

In 2019, the mean weight of unmarketable melons produced by each cultivar ranged from 0.00 lb to 25.59 lb per plot (Table 3). Mean unmarketable weight from 'Infinite Gold' and 'Shockwave' were higher than from 'Aphrodite' (0.00 lb per plot). All other cultivars were not different than 'Aphrodite'. The mean for Aphrodite/Flexifort was 2.35 lb per plot and for Aphrodite/RS841 was 0.85 lb per plot.

Central Site

In 2018, the mean number marketable melons produced by each cultivar ranged from 0.00 to 23.75 per plot (Table 4). 'Lani' produced more melons (23.75 per plot) than 'Aphrodite' (7.50 per plot). The number produced by all other cultivars was not different than 'Aphrodite'. The

mean for the grafted cultivars was 8.25 per plot for Aphrodite/Flexifort and 7.00 per plot for Aphrodite/RS841.

In 2019, the mean number marketable melons produced by each cultivar ranged from 1.75 to 21.25 per plot (Table 4). 'Sugar Cube' and 'Lani' produced more melons and 'Shockwave', 'Infinite Gold', 'Goddess' and 'Fiji' produced fewer melons than 'Aphrodite' (10.75 per plot). The number produced by all other cultivars was not different than 'Aphrodite'. The mean for grafted cultivars was 7.50 per plot for Aphrodite/Flexifort and 10.50 per plot for Aphrodite/RS841.

In 2018, the mean weight of marketable melons produced by each cultivar ranged from 0.00 lb to 88.83 lb per plot (Table 4). All cultivars were not different than 'Aphrodite' (44.65 lb per plot). The mean for Aphrodite/Flexifort was 65.23 lb per plot and for Aphrodite/RS841 was 49.10 lb per plot.

In 2019, the mean weight of marketable melons produced by each cultivar ranged from 0.00 lb to 72.00 lb per plot (Table 4). 'Tirreno', 'Shockwave', 'Goddess', 'Infinite Gold' and 'Fiji' had lower marketable weights per plot than 'Aphrodite' (62.63 lb per plot). All other cultivars were not different than 'Aphrodite'. The mean for Aphrodite/Flexifort was 44.25 lb per plot and for Aphrodite/RS841 was 69.50 lb per plot.

In 2018, the mean number of unmarketable melons produced by each cultivar ranged from 0.00 to 9.00 per plot (Table 5). 'Fiji' produced more unmarketable melons than 'Aphrodite' (3.00 per plot). All other cultivars were not different than 'Aphrodite'. The mean for Aphrodite/Flexifort was 2.25 per plot and for Aphrodite/RS841 was 1.50 per plot.

In 2019, the mean number of unmarketable melons produced by each cultivar ranged from 0.00 to 13.00 per plot (Table 5). 'Fiji' and 'Shockwave' produced more unmarketable melons than 'Aphrodite' (0.50 per plot). All other cultivars were not different than 'Aphrodite'. The mean for Aphrodite/Flexifort was 0.25 per plot and for Aphrodite/RS841 was 1.25 per plot.

In 2018, the mean weight of unmarketable melons produced by each cultivar ranged from 0.00 lb to 37.15 lb per plot (Table 5). All were not different than 'Aphrodite' (17.48 lb per plot). The mean for Aphrodite/Flexifort was 7.20 lb per plot and for Aphrodite/RS841 was 9.03 lb per plot.

In 2019, the mean weight of unmarketable melons produced by each cultivar ranged from 0.00 lb to 37.75 lb per plot (Table 5). All were not different than 'Aphrodite' (1.25 lb per plot). The mean for Aphrodite/Flexifort was 2.38 lb per plot and for Aphrodite/RS841 was 7.75 lb per plot.

Southeastern Site

In 2018, the mean number of marketable melons produced by each cultivar ranged from 0.25 to 15.00 per plot (Table 6). 'Sugar Cube' produced more melons than 'Aphrodite' (7.50 per plant) and 'Shockwave', 'Lani', 'Fiji' and 'Infinite Gold' produced fewer melons. The number

produced by all other cultivars was not different than 'Aphrodite'. The mean for the grafted cultivars was 7.00 per plot for Aphrodite/Flexifort and 8.50 per plot for Aphrodite/RS841.

In 2019, the mean number of marketable melons produced by each cultivar ranged from 0.50 to 16.50 per plot (Table 6). 'Sugar Cube', 'Sugar Rush', 'Astound', and 'Atlantis' produced more melons and 'Fiji' produced fewer melons than 'Aphrodite' (6.25 per plot). The number produced by all other cultivars was not different than 'Aphrodite'. The mean for grafted cultivars was 3.75 per plot for Aphrodite/Flexifort and 4.25 per plot for Aphrodite/RS841.

In 2018, the mean weight of marketable melons produced by each cultivar ranged from 0.97 lb to 77.00 lb per plot (Table 6). 'Shockwave', 'Lani', 'Fiji' and 'Infinite Gold' produced a lower weight than 'Aphrodite' (56.39 lb per plot). The weight produced by all other cultivars was not different than 'Aphrodite'. The mean for the grafted cultivars was 67.61 lb for per plot Aphrodite/Flexifort and 72.56 lb per plot for Aphrodite/RS841.

In 2019, the mean weight of marketable melons produced by each cultivar ranged from 2.80 lb to 78.49 lb per plot (Table 6). 'Shockwave', 'Goddess', 'Infinite Gold', 'Lani' and 'Fiji' produced a lower weight than 'Aphrodite' (52.55 lb per plot). The weight produced by all other cultivars was not different than 'Aphrodite'. The mean for the grafted cultivars was 30.83 lb for per plot Aphrodite/Flexifort and 36.43 lb per plot for Aphrodite/RS841.

In 2018, the mean number of unmarketable melons produced by each cultivar ranged from 0.00 to 9.50 per plot (Table 7). 'Goddess' and 'Sugar Rush' produced more than 'Aphrodite' (2.25 per plot). All other cultivars were not different than 'Aphrodite'. The mean for Aphrodite/Flexifort was 4.25 per plot and for Aphrodite/RS841 was 2.75 per plot.

In 2019, the mean number of unmarketable melons produced by each cultivar ranged from 0.75 to 8.25 per plot (Table 7). 'Avatar' and 'Fiji' produced fewer than 'Aphrodite' (6.00 per plot). All other cultivars were not different than 'Aphrodite'. The mean for Aphrodite/Flexifort was 6.75 per plot and for Aphrodite/RS841 was 6.25 per plot.

In 2018, the mean weight of unmarketable melons produced by each cultivar ranged from 0.00 lb to 54.45 lb per plot (Table 7). 'Goddess' produced a higher weight than 'Aphrodite' (17.50 lb per plot). All other cultivars were not different than 'Aphrodite'. The mean for Aphrodite/Flexifort was 35.83 lb per plot and for Aphrodite/RS841 was 29.93 lb per plot.

In 2019, the mean weight of unmarketable melons produced by each cultivar ranged from 4.15 lb to 58.91 lb per plot (Table 7). 'Sugar Rush', 'Sugar Cube', 'Accolade', 'Tirreno', 'Lani', 'Afterglow', 'Infinite Gold', 'Atlantis', 'Avatar' and 'Fiji' produced lower weights than 'Aphrodite' (43.76 lb per plot). All other cultivars were not different than 'Aphrodite'. The mean for Aphrodite/Flexifort was 58.91 lb per plot and for Aphrodite/RS841 was 58.43 lb per plot.

Discussion

Most cultivars produced yields that were not different than 'Aphrodite' over the 2-year period. 'Sugar Cube' produced more melons than 'Aphrodite' in 4 site years. Additionally, it was not different than 'Aphrodite' for mean marketable weight. 'Sugar Cube' fruit were generally smaller than 'Aphrodite', but the number produced was larger. Because of its size, this cultivar maybe a good option for selling separate from other cultivars. Indeed, we have observed this cultivar for sale individually by name at farmers markets.

'Infinite Gold' produced fewer melons than 'Aphrodite' in 3 site years and had a lower mean marketable weight in 4 site years. It has a longer time to maturity (85 days listed in seed catalogs) than 'Aphrodite' (72 days). This could be a factor in the yields observed. 'Shockwave' and 'Fiji' produced lower mean marketable weight in 4 site years and 'Lani' in 3 site years. When high marketable weights are desired other cultivars may be better options.

Grafted entries did not result in higher marketable yields by number or weight than 'Aphrodite'. Disease pressure was low during this experiment. It is possible than under higher disease pressure, grafting muskmelons may provide a yield advantage.

Table 2. Mean marketable number^z and weight per plant of 21 muskmelon cultivars evaluated in Indiana, Pennsylvania (western site) in 2018-19.

Cultivar	Marketable yield per 6 plots ^y			
	2018		2019	
	Number	Weight (lb)	Number	Weight (lb)
Accolade	4.50 bcd	23.64 a-d	1.75 ef	10.31 c-h
Afterglow	7.75 ab	35.21 abc	1.25 f	4.87 e-h
Aphrodite	6.00 bc	34.63 abc	1.75 ef	8.65 c-h
Aphrodite/Flexifort	6.00 bc	42.69 ab	2.75 c-f	12.27 b-h
Aphrodite/RS48	7.25 abc	53.41 a	1.00 f	5.14 e-h
Ariel	6.50 abc	34.63 abc	3.00 c-f	12.95 b-h
Astound	8.75 ab	43.31 ab	5.75 bc	19.95 abc
Athena	3.75 bcd	18.87 bcd	5.00 bcd	19.85 a-d
Atlantis	7.00 abc	35.30 abc	4.50 b-e	17.84 a-e
Avatar	4.75 bcd	37.52 abc	2.75 c-f	15.20 b-g
Carousel	8.00 ab	44.04 ab	7.25 b	29.05 a
Fiji	0.50 d	16.58 bcd	0.50 f	1.48 gh
Goddess	4.50 bcd	22.30 a-d	5.25 bc	21.31 abc
Infinite Gold	0.00 d	0.00 d	0.50 f	1.81 gh
Lani	0.00 d	0.00 d	0.00 f	0.00 h
Minerva	3.50 bcd	18.47 bcd	1.75 ef	10.57 c-h
Shockwave	0.00 d	0.00 d	2.00 def	6.14 d-h
Sugar Cube	11.5 a	24.54 a-d	11.25 a	15.69 a-f
Sun Blushed	2.25 cd	11.37 cd	1.00 f	3.79 fgh
Tirreno	7.00 abc	33.24 abc	7.50 b	24.60 ab
Verona	5.25 bcd	38.50 abc	2.00 def	11.83 b-h

^zValues are the mean of 4 replications; data were analyzed using the mixed procedure and means were separated using pdiff; values followed by different letters within a column are significantly different at the 5% level; 'Aphrodite' was considered the standard; values in green are statistically higher than 'Aphrodite' and red lower.

^yplots consisted of 6 plants

Table 3. Mean unmarketable number^z and weight per plant of 21 muskmelon cultivars evaluated in Indiana, Pennsylvania (western site) in 2018-19.

Cultivar	Unmarketable yield per 6 plots ^y			
	2018		2019	
	Number	Weight (lb)	Number	Weight (lb)
Accolade	2.00	6.92	0.75 b	1.23 b
Afterglow	3.25	11.07	0.00 b	0.00 b
Aphrodite	4.00	14.76	0.00 b	0.00 b
Aphrodite/Flexifort	2.50	17.11	0.75 b	2.35 b
Aphrodite/RS48	1.50	8.69	0.25 b	0.85 b
Ariel	2.25	10.81	0.50 b	1.04 b
Astound	1.75	6.06	0.00 b	0.00 b
Athena	1.25	4.59	0.25 b	0.39 b
Atlantis	0.50	2.83	0.00 b	0.00 b
Avatar	0.50	2.57	0.25 b	1.12 b
Carousel	2.25	11.59	0.00 b	0.00 b
Fiji	7.50	14.70	1.00 b	3.55 b
Goddess	2.00	8.14	2.00 b	4.35 b
Infinite Gold	3.25	11.96	7.00 a	26.59 a
Lani	3.25	9.00	0.50 b	1.09 b
Minerva	1.00	4.46	1.25 b	3.16 b
Shockwave	2.75	12.91	7.25 a	22.84 a
Sugar Cube	2.50	5.08	0.00 b	0.00 b
Sun Blushed	6.25	25.05	0.00 b	0.00 b
Tirreno	3.75	13.46	0.25 b	0.24 b
Verona	1.75	9.22	0.25 b	0.45 b

^zValues are the mean of 4 replications; data were analyzed using the mixed procedure and means were separated using pdiff; values followed by different letters within a column are significantly different at the 5% level; 'Aphrodite' was considered the standard; values in green are statistically higher than 'Aphrodite' and red lower.

^yplots consisted of 6 plants

Table 4. Mean marketable number^z and weight per plant of 21 muskmelon cultivars evaluated in Pennsylvania Furnace, Pennsylvania (western site) in 2018-19.

Cultivar	Marketable yield per 6 plots ^y			
	2018		2019	
	Number	Weight (lb)	Number	Weight (lb)
Accolade	11.43 a-d	62.90 abc	11.25 cde	46.63 a-d
Afterglow	18.50 ab	86.38 ab	14.00 bc	50.50 a-d
Aphrodite	7.50 bcd	44.65 a-d	10.75 cde	62.63 abc
Aphrodite/Flexifort	8.25 bcd	65.23 abc	7.50 d-g	44.25 a-d
Aphrodite/RS48	7.00 bcd	49.10 a-d	10.50 cde	69.50 a
Ariel	13.75 abc	80.25 ab	11.50 b-e	52.63 a-d
Astound	13.25 abc	79.18 ab	13.75 bcd	62.38 abc
Athena	16.25 ab	59.38 abc	10.75 cde	48.88 a-d
Atlantis	3.50 cd	17.40 cd	7.00 efg	35.88 cde
Avatar	9.75 bcd	78.13 ab	10.00 cde	65.75 ab
Carousel	10.50 bcd	55.05 a-d	8.25 c-f	45.63 a-d
Fiji	9.00 bcd	75.78 ab	1.75 g	5.75 f
Goddess	13.25 abc	66.60 abc	2.50 fg	8.75 ef
Infinite Gold	0.00 d	0.00 d	2.58 fg	8.04 ef
Lani	23.75 a	53.45 a-d	17.75 ab	44.75 a-d
Minerva	10.00 bcd	70.08 abc	11.00 cde	58.88 a-d
Shockwave	10.25 bcd	55.63 a-d	3.00 fg	9.13 ef
Sugar Cube	13.17 abc	32.65 bcd	21.25 a	43.50 a-d
Sun Blushed	11.75 a-d	67.30 abc	7.75 c-g	38.00 b-e
Tirreno	19.00 ab	88.83 a	8.25 c-f	29.50 def
Verona	9.25 bcd	63.60 abc	11.00 cde	72.00 a

^zValues are the mean of 4 replications; data were analyzed using the mixed procedure and means were separated using pdiff; values followed by different letters within a column are significantly different at the 5% level; 'Aphrodite' was considered the standard; values in green are statistically higher than 'Aphrodite' and red lower.

^yplots consisted of 6 plants

Table 5. Mean unmarketable number^z and weight per plant of 21 muskmelon cultivars evaluated in Pennsylvania Furnace, Pennsylvania (western site) in 2018-19.

Cultivar	Unmarketable yield per 6 plots ^y			
	2018		2019	
	Number	Weight (lb)	Number	Weight (lb)
Accolade	1.33 bc	8.33 b	4.75 bc	1.88 b
Afterglow	0.75 c	2.28 b	0.25 c	0.63 b
Aphrodite	3.00 bc	17.47 ab	0.50 c	1.25 b
Aphrodite/Flexifort	2.25 bc	7.20 b	0.25 c	2.38 b
Aphrodite/RS48	1.50 bc	9.03 b	1.25 c	7.75 b
Ariel	0.25 c	1.38 b	0.00 c	0.00 b
Astound	0.00 c	0.00 b	0.75 c	1.75 b
Athena	0.50 c	1.98 b	0.75 c	2.63 b
Atlantis	7.00 ab	37.15 a	0.00 c	0.00 b
Avatar	2.00 bc	16.05 b	0.00 c	0.00 b
Carousel	0.50 c	3.58 b	2.25 c	11.13 b
Fiji	9.00 a	0.00 b	13.00 a	37.75 a
Goddess	3.00 bc	12.90 b	2.25 c	7.25 b
Infinite Gold	0.00 c	0.00 b	4.69 bc	10.58 b
Lani	0.00 c	0.00 b	0.25 c	0.25 b
Minerva	2.00 bc	12.15 b	0.00 c	0.00 b
Shockwave	0.00 c	0.00 b	10.50 ab	30.75 a
Sugar Cube	0.00 c	0.00 b	0.25 c	0.63 b
Sun Blushed	1.25 c	8.43 b	0.75 c	2.13 b
Tirreno	0.00 c	0.00 b	0.00 c	0.00 b
Verona	1.50 bc	8.05 b	1.00 c	1.38 b

^zValues are the mean of 4 replications; data were analyzed using the mixed procedure and means were separated using pdiff; values followed by different letters within a column are significantly different at the 5% level; 'Aphrodite' was considered the standard; values in green are statistically higher than 'Aphrodite' and red lower.

^yplots consisted of 6 plants

Table 6. Mean marketable number^z and weight per plant of 22 muskmelon cultivars evaluated in Manheim, Pennsylvania (southeastern site) in 2018-19.

Cultivar	Marketable yield per 6 plots ^y			
	2018		2019	
	Number	Weight (lb)	Number	Weight (lb)
Accolade	9.00 bcd	60.21 a-d	9.75 b-e	56.71 a-e
Afterglow	8.75 bcd	53.34 a-d	8.00 b-g	42.34 d-g
Aphrodite	7.50 bcd	56.39 a-d	6.25 e-i	52.55 a-e
Aphrodite/Flexifort	7.00 bcd	67.61 abc	3.75 g-j	30.83 efg
Aphrodite/RS48	8.50 bcd	72.56 ab	4.25 f-j	36.43 d-g
Ariel	6.75 bcd	45.99 cd	7.50 c-h	55.48 a-e
Astound	9.50 bc	58.96 a-d	11.25 bc	59.98 a-d
Athena	10.50 b	65.66 a-d	10.50 b-e	59.06 a-d
Atlantis	7.25 bcd	50.00 bcd	11.00 bcd	72.67 abc
Avatar	7.75 bcd	77.00 a	8.50 b-f	74.83 ab
Carousel	7.75 bcd	64.08 a-d	10.50 b-e	78.49 a
Fiji	0.50 e	2.34 e	0.50 j	2.80 h
Goddess	7.25 bcd	42.45 cd	3.00 ij	20.11 gh
Infinite Gold	0.25 e	0.98 e	3.5 hij	18.74 gh
Lani	0.75 e	2.41 e	5.00 f-i	18.69 gh
Minerva	5.50 d	47.50 bcd	6.75 d-i	55.20 a-e
Shockwave	1.25 e	7.61 e	3.75 g-j	20.96 fgh
Sugar Cube	15.00	39.78 d	16.50 a	48.38 b-f
Sun Blushed	7.00 bcd	42.61 cd	6.50 e-i	39.33 d-g
Sugar Rush	9.00 bcd	44.76 cd	12.00 b	45.45 c-g
Tirreno	8.00 bcd	42.31 cd	9.50 b-e	51.10 a-e
Verona	6.50 cd	55.33 a-d	7.00 c-i	62.00 a-d

^zValues are the mean of 4 replications; data were analyzed using the mixed procedure and means were separated using pdiff; values followed by different letters within a column are significantly different at the 5% level; 'Aphrodite' was considered the standard; values in green are statistically higher than 'Aphrodite' and red lower.

^yplots consisted of 6 plants

Table 7. Mean unmarketable number^z and weight per plant of 22 muskmelon cultivars evaluated in Manheim, Pennsylvania (southeastern site) in 2018-19.

Cultivar	Unmarketable yield per 6 plots ^y			
	2018		2019	
	Number	Weight (lb)	Number	Weight (lb)
Accolade	2.00 cde	13.00 c-f	3.25 c-g	19.44 efg
Afterglow	2.25 cde	12.90 c-f	2.75 efg	15.14 efg
Aphrodite	2.25 cde	17.50 b-f	6.00 a-f	43.76 a-d
Aphrodite/Flexifort	4.25 bc	35.83 ab	6.75 abc	58.91 a
Aphrodite/RS48	2.75 cde	25.93 bcd	6.25 a-e	58.43 a
Ariel	3.75 bcd	30.43 abc	3.50 b-g	23.17 d-g
Astound	2.25 cde	14.29 b-f	4.00 b-g	22.01 d-g
Athena	2.50 cde	17.38 b-f	4.50 b-f	25.01 d-g
Atlantis	1.50 cde	9.96 c-f	2.50 fg	14.46 efg
Avatar	2.50 cde	24.38 bcd	0.75 g	8.58 fg
Carousel	3.00 cde	20.63 b-f	3.50 b-g	25.95 d-g
Fiji	0.75 de	1.50 ef	0.74 g	4.15 g
Goddess	9.50 a	52.45 a	8.25 a	48.95 abc
Infinite Gold	0.00 e	0.00 f	2.50 fg	15.09 efg
Lani	1.00 de	3.63 def	4.75 a-f	16.78 efg
Minerva	2.75 cde	23.79 b-e	6.50 a-d	52.63 ab
Shockwave	1.75 cde	11.34 c-f	4.75 a-f	27.14 c-f
Sugar Cube	4.25 bc	11.21 c-f	7.00 ab	20.94 efg
Sun Blushed	3.50 bcd	18.28 b-f	4.50 b-f	25.03 d-g
Tirreno	2.75 cde	15.59 b-f	3.00 d-g	17.61 efg
Verona	3.50 bcd	32.06 abc	4.00 b-g	31.65 b-e

^zValues are the mean of 4 replications; data were analyzed using the mixed procedure and means were separated using pdiff; values followed by different letters within a column are significantly different at the 5% level; 'Aphrodite' was considered the standard; values in green are statistically higher than 'Aphrodite' and red lower.

^yplots consisted of 6 plants