

**2014 Watermelon Variety Trial Report for Tifton, GA. Provided
by The University of Georgia.**



Trial Report: Seedless Watermelon Variety Evaluation 2014

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Methods

Production

Location: Tifton, GA

Entries: 25 varieties & advanced selections

Planting Date: Watermelons seeded on 14 Feb. into 200 cell trays. Transplanted on 31 Mar.

Plant Spacing: 6' centers plastic mulch, 36" in-row spacing (2420 per acre population).

Plot size: 10 plants per plot with 15 foot alleys between adjacent plots

Plastic mulch: Black, TIF plastic

Fumigation: Pic-Chlor 60 applied in February when plastic was laid

Fertility: 1000 lbs/acre 5-10-15 preplant and soluble urea or 7-0-7 weekly at 10-12 lbs N/acre per week starting 2 week after planting. Magnesium sulfate applied 3x through drip irrigation at a rate of 3 lb/acre Mg. Total application of N for the season was 180 lb/acre N.

Irrigation: 1 inch per week until full vining, then 2 inches per week, reduced to 1 inch 2 weeks prior to initial harvest (irrigation reduced approx. 10 June).

Herbicide: Between rows- Dual II Magnum + Curbit (Sonalan) + Reflex

Pest Control: Weekly fungicide sprays according to UGA recommendations (+ copper initially for *Pseudomonas sp.*), Imidacloprid at planting, Venom and Agrimek applied during growth.

Pollenizer: SP-6, placed after every 3rd plant (3 per plot) in all plots. Wildcard pollinizer placed in plots of Bold Ruler, Charismatic, and Secretariat in addition to SP-6 pollenizer.

Bees: 3 honeybee hives located approximately 500 feet from planting.

Data Collection:

Final stand count conducted: 11 July.

Harvest dates: 24 June and 2, 9 July. Fruit harvested when tendril at attachment node had browned and ground-spot yellowed. Fruit below 10 lb and misshapen/cull fruit were not harvested.

Fruit weighed individually for grading into 60, 45, 36, and 30 count classes. The following classes and weights were determined by the National Watermelon Research and Development Group to be used for watermelon variety trials to aid in unifying trial results:

60 count: 9-13.5 lb, 45 count: 13.6-17.5 lb, 36 count: 17.6-21.4 lb, 30 count: 21.5+ lb

At harvest 2 (2 July) a subset of 4 representative fruit from each treatment/rep (16 per variety total) were utilized for quality measurements. Average firmness was determined using a 11 mm probe with a hand-held firmness tester from 2 locations in 4 melons (8 readings) per replication. Average brix was obtained from a teaspoon sample of flesh from each of the 4 melon subset per replication, which was crushed using a hand-held lemon press and read using a hand-held refractometer (Figure 1).

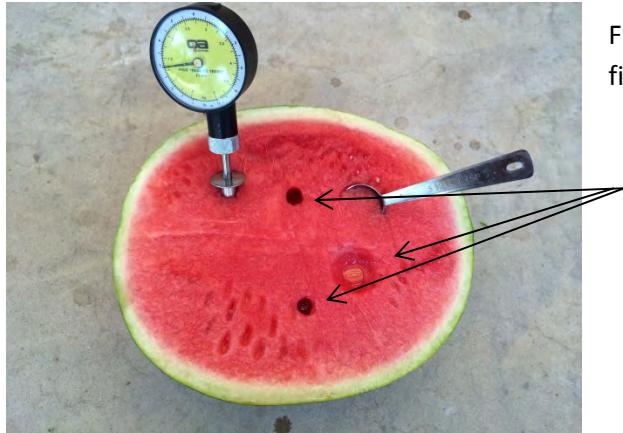


Figure 1: Approximate locations for firmness and brix testing

Average number of hard seed was determined by counting the total number of hard seed per 4 melon subsample. Each melon was quartered and the number of black, hard seed counted in two quarters of each melon. Average hollow heart was rated by slicing melons in half (length-wise) and ranking melons on a 1-4 scale (See figure 3 below). On this scale: 1 < 0.25 inch-wide, cracking in one direction, still marketable, 2 = 0.25-0.75 inch, cracking in a single or multiple directions, not marketable, 3= 0.75-1.5 cracking in one or multiple directions, not marketable, 4 > 1.5 inch cracking in multiple directions, not marketable. Average length and width of each of the melons were also recorded. Climate conditions: cool and wet initially, turning to warm and dry during harvest (Appendix A). Data analysis conducted using SAS version 9.3. Proc GLM and Fisher's least significant test were conducted when appropriate.

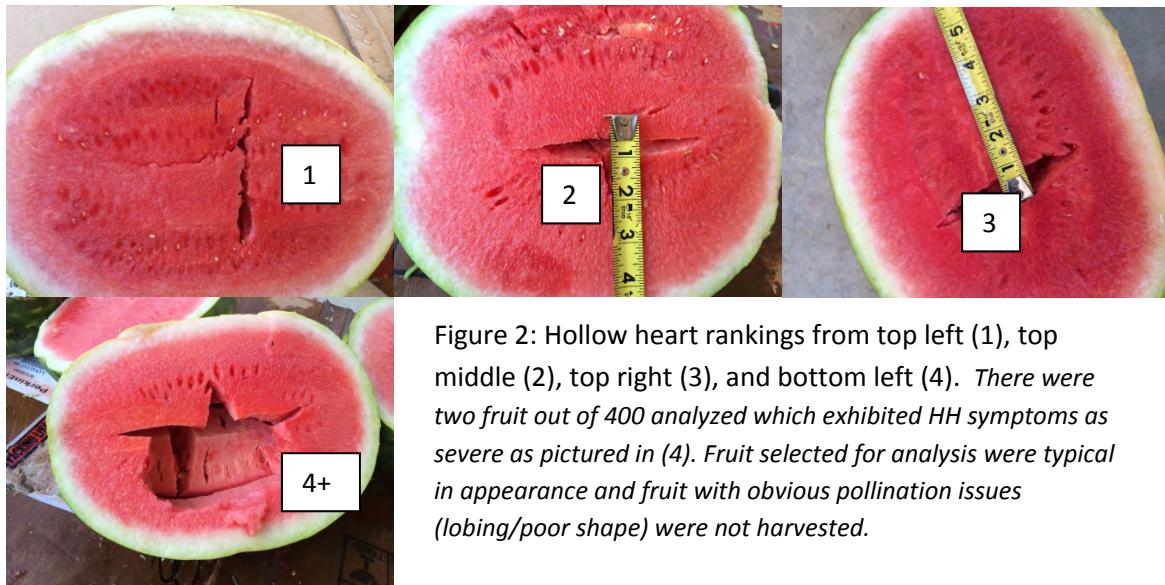


Figure 2: Hollow heart rankings from top left (1), top middle (2), top right (3), and bottom left (4). There were two fruit out of 400 analyzed which exhibited HH symptoms as severe as pictured in (4). Fruit selected for analysis were typical in appearance and fruit with obvious pollination issues (lobing/poor shape) were not harvested.

Table 1. Entries included in the Spring 2014 trial.

| US Agriseeds | Harris Moran | High Mark | Nunhems | Sakata | Seminis | Syngenta |
|---------------------|---------------------|------------------|----------------|---------------|----------------|-----------------|
| USAWX90020 | Crunchy Red | Razorback | ACX6177 | Bold Ruler | SV0241WA | Fascination |
| | Traveler | Wolverine | 5234 Plus | Charismatic | | Exclamation |
| | Troubadour | | 7187HQ | Secretariat | | Distinction |
| | | | 7197HQ | | | Melody |
| | | | 7387HQ | | | |
| | | | 9651HQ | | | |
| | | | Declaration | | | |
| | | | Nun01009 | | | |

Results

Yield data from the first 2 harvests (Tables 2, 3) and the total from all harvests are presented (Tables 4-7). Average melon weight for each harvest in Table 8 and quality data presented in Table 9. Representative pictures of each variety presented in figure 3. *There are three advanced selections which have data blacked-out in the tables out of request from the participant.*

After planting cold temperatures were experienced for several weeks, slowing initial growth. Fruit were estimated to be approximately 1 week behind previous years in the Tifton, GA region due to this cool weather. Yields were high for all varieties tested. The highest yielder was 9651 HQ, which was a solid-patterned fruit producing a large number of 45 and 36 count fruit. It had an average weight of 16.0 lbs, which would put it in a 45 count category. There were 10 varieties that had yields that were not significantly different from 9651 HQ. Other varieties in this group included ACX6177, Wolverine, Declaration, Troubadour, Nun01009, 7387 HQ, Crunchy Red, and Distinction. The largest average fruit were USAWX90020, 7387 HQ, and Crunchy Red. Average fruit weight declined over the three harvest periods in most, but not all fruit. Several varieties increased in average fruit weight. Quality of all fruit was high with sugar content ranging from 10.8-12.3%. Firmness was highest in Crunchy red. Hollow heart was ranked on a 1-4 scale and there was not a significant difference between varieties. Most varieties with the highest scores for hollow heart (Wolverine, Melody, 7187) had a small number of fruit with severe (4) ratings of hollow heart allowing for a higher average. Several varieties had no symptoms of hollow heart visible in any fruit rated. Firmness was not significantly correlated with hollow heart (data not shown). Hard seed were low in all melons. Typically when a large number of hard seeds were found it was in a single fruit sampled.

We would like to thank the participating seed companies for their support.

Table 2. Yield in pounds and bins per acre as well as percent of melons in each size category for the first watermelon harvest (24 June 2014). Varieties ranked in descending order based on total yield in lbs/acre.

| Variety | | | | | | | | | | Percent | Percent | Percent | Percent | |
|-------------|-------------|-----------------|------------|-------------|------------|-------------|------------|-------------|------------|------------------|----------|----------|----------|----------|
| | Total Yield | | 60 Count | | 45 Count | | 36 Count | | 30 Count | | 60 count | 45 count | 36 count | 30 count |
| | (lbs/acre) | (bins/acre) | (lbs/acre) | (bins/acre) | (lbs/acre) | (bins/acre) | (lbs/acre) | (bins/acre) | (lbs/acre) | (%) ^z | | | | |
| 9651HQ | 89943 | 22 ^y | 15932 | 62 | 42350 | 43 | 29620 | 3 | 2042 | 14.1 | 57.5 | 24.8 | 3.6 | |
| Nun01009 | 65106 | 7 | 5790 | 38 | 26876 | 37 | 26861 | 7 | 5579 | 9.1 | 39.9 | 41.2 | 9.8 | |
| Exclamation | 60791 | 12 | 8628 | 25 | 17797 | 36 | 26089 | 10 | 8277 | 12.0 | 34.7 | 40.5 | 12.8 | |
| Melody | 59688 | 23 | 16759 | 29 | 20010 | 33 | 22919 | 0 | 0 | 26.5 | 33.6 | 39.9 | 0.0 | |
| Declaration | 58858 | 8 | 5452 | 26 | 18194 | 39 | 27650 | 9 | 7563 | 11.6 | 32.8 | 46.3 | 9.4 | |
| Troubadour | 58134 | 30 | 22067 | 32 | 21415 | 20 | 14651 | 0 | 0 | 39.9 | 34.5 | 25.6 | 0.0 | |
| ACX6177 | 55341 | 11 | 8420 | 30 | 20704 | 34 | 24267 | 2 | 1949 | 14.9 | 33.6 | 48.1 | 3.4 | |
| 7387HQ | 51477 | 4 | 2904 | 11 | 7744 | 35 | 23186 | 22 | 17643 | 8.3 | 18.7 | 49.2 | 23.8 | |
| Charismatic | 49086 | 17 | 12483 | 27 | 18335 | 22 | 16377 | 3 | 1891 | 23.4 | 40.4 | 33.1 | 3.1 | |
| Crunchy Red | 47872 | 4 | 3351 | 19 | 12873 | 39 | 28099 | 4 | 3549 | 7.3 | 22.4 | 63.4 | 6.9 | |
| Razorback | 45345 | 13 | 9211 | 21 | 13945 | 28 | 20615 | 2 | 1573 | 21.0 | 32.4 | 41.1 | 5.5 | |
| Traveler | 44649 | 22 | 15730 | 28 | 19723 | 13 | 9196 | 0 | 0 | 37.0 | 44.0 | 19.0 | 0.0 | |
| Wolverine | 44502 | 9 | 6357 | 31 | 21821 | 15 | 11257 | 5 | 5067 | 17.4 | 48.3 | 27.5 | 6.8 | |
| Fascination | 43950 | 6 | 4235 | 14 | 9472 | 27 | 18728 | 15 | 11515 | 14.4 | 28.2 | 38.6 | 18.8 | |
| 7187HQ | 42553 | 13 | 9310 | 21 | 14510 | 24 | 17281 | 2 | 1452 | 15.4 | 26.8 | 55.4 | 2.4 | |
| Distinction | 42283 | 11 | 7663 | 19 | 13075 | 20 | 14260 | 9 | 7285 | 15.0 | 33.8 | 28.6 | 22.6 | |
| 7197HQ | 40607 | 13 | 9371 | 23 | 15911 | 17 | 12005 | 4 | 3321 | 20.9 | 40.9 | 23.4 | 14.7 | |
| SV0241WA | 37615 | 6 | 4540 | 25 | 16999 | 23 | 16076 | 0 | 0 | 14.3 | 45.7 | 40.0 | 0.0 | |
| USAWX90020 | 34228 | 1 | 787 | 10 | 7381 | 30 | 21115 | 7 | 4946 | 1.4 | 14.1 | 47.9 | 11.6 | |
| 5234 Plus | 33268 | 7 | 5210 | 16 | 10648 | 19 | 13982 | 4 | 3428 | 19.4 | 35.2 | 39.7 | 5.7 | |
| Secretariat | 30808 | 16 | 11145 | 21 | 14211 | 5 | 3771 | 2 | 1681 | 34.0 | 55.4 | 7.8 | 2.9 | |
| Bold Ruler | 28309 | 14 | 9613 | 9 | 6672 | 13 | 9403 | 3 | 2622 | 35.5 | 24.2 | 30.6 | 9.7 | |

^zPercent of fruit in each category determined by dividing the yield of a given size class by the total yield for that variety.

^yNumber of bins per acre determined by dividing the number of fruit per acre by the count of each bin.

Table 3. Yield in pounds and bins per acre as well as percent of melons in each size category for the second watermelon harvest (2 July 2014). Varieties ranked in descending order based on total yield in lbs/acre.

| Variety | | | | | | | | | | Percent 60 count | Percent 45 count | Percent 36 count | Percent 30 count |
|-------------|------------------------------|-----------------|------------|-------------|------------|-------------|------------|-------------|------------|------------------------|------------------------|------------------------|------------------------|
| | Total Yield (lbs/acre) | 60 Count | | 45 Count | | 36 Count | | 30 Count | | | | | |
| | | (bins/acre) | (lbs/acre) | (bins/acre) | (lbs/acre) | (bins/acre) | (lbs/acre) | (bins/acre) | (lbs/acre) | (%) ^z | | | |
| ACX6177 | 66167 | 13 ^y | 9850 | 27 | 18758 | 44 | 31245 | 8 | 6315 | 19.1 | 29.5 | 46.5 | 4.9 |
| Wolverine | 59061 | 13 | 9370 | 27 | 18145 | 39 | 27428 | 5 | 4119 | 21.0 | 34.9 | 37.4 | 6.8 |
| Troubadour | 58390 | 26 | 18520 | 44 | 30750 | 13 | 9120 | 0 | 0 | 37.5 | 46.7 | 15.8 | 0.0 |
| USAWX90020 | 57436 | 7 | 4858 | 23 | 15975 | 37 | 27567 | 12 | 9036 | 1.3 | 25.5 | 50.3 | 13.9 |
| Nun01009 | 51985 | 7 | 5563 | 22 | 15083 | 45 | 31340 | 0 | 0 | 7.7 | 25.0 | 67.3 | 0.0 |
| Crunchy Red | 50938 | 4 | 3286 | 20 | 14014 | 45 | 32004 | 2 | 1634 | 6.7 | 27.2 | 61.3 | 4.8 |
| Distinction | 47135 | 6 | 4415 | 31 | 21314 | 20 | 15099 | 7 | 6307 | 10.0 | 43.5 | 36.1 | 10.4 |
| 7187HQ | 45710 | 6 | 4436 | 30 | 20234 | 28 | 19454 | 2 | 1585 | 9.1 | 47.0 | 41.5 | 2.5 |
| SV0241WA | 45705 | 13 | 9807 | 26 | 18057 | 25 | 17842 | 0 | 0 | 17.5 | 35.2 | 47.2 | 0.0 |
| 9651HQ | 43497 | 5 | 3600 | 20 | 13295 | 34 | 24145 | 3 | 2458 | 7.2 | 32.4 | 53.2 | 7.2 |
| Razorback | 43020 | 11 | 7780 | 19 | 13159 | 26 | 19008 | 4 | 3073 | 25.6 | 21.2 | 47.0 | 3.2 |
| Traveler | 42653 | 15 | 11301 | 23 | 15869 | 22 | 15482 | 0 | 0 | 22.7 | 39.9 | 37.4 | 0.0 |
| Charismatic | 39315 | 9 | 6583 | 20 | 13640 | 21 | 15584 | 5 | 3509 | 15.1 | 37.6 | 42.0 | 5.3 |
| 7197HQ | 38985 | 7 | 5372 | 13 | 9328 | 33 | 22672 | 2 | 1613 | 11.5 | 28.6 | 56.3 | 3.7 |
| Declaration | 38376 | 6 | 4648 | 22 | 15096 | 23 | 17120 | 2 | 1513 | 10.8 | 41.9 | 44.7 | 2.6 |
| Exclamation | 38243 | 7 | 5196 | 18 | 12354 | 26 | 19127 | 2 | 1566 | 15.9 | 30.7 | 49.2 | 4.2 |
| Fascination | 38242 | 6 | 4593 | 16 | 10874 | 31 | 21305 | 2 | 1470 | 12.7 | 31.9 | 52.7 | 2.7 |
| 5234 Plus | 35052 | 16 | 12280 | 11 | 8047 | 20 | 14725 | 0 | 0 | 48.5 | 17.4 | 34.1 | 0.0 |
| Bold Ruler | 32870 | 14 | 9952 | 22 | 15025 | 11 | 7893 | 0 | 0 | 30.3 | 46.8 | 22.9 | 0.0 |
| 7387HQ | 31409 | 7 | 4921 | 10 | 6647 | 14 | 11057 | 11 | 8784 | 12.6 | 25.5 | 41.4 | 20.5 |
| Secretariat | 29077 | 2 | 1620 | 25 | 17468 | 13 | 9989 | 0 | 0 | 4.0 | 62.5 | 33.5 | 0.0 |
| Melody | 18504 | 10 | 7909 | 8 | 5516 | 8 | 5079 | 0 | 0 | 57.1 | 23.6 | 19.3 | 0.0 |

^zPercent of fruit in each category determined by dividing the yield of a given size class by the total yield for that variety.

^yNumber of bins per acre determined by dividing the number of fruit per acre by the count of each bin.

Table 4. Total harvested yield in pounds and bins per acre as well as percent of melons in each size category for 3 harvests. Varieties ranked in descending order based on total yield in lbs/acre.

| Variety | Yield (45 + 36) | | | | | | | | | | | | |
|-------------|---------------------------|----------------|---------------------|-------|------------------------|-------|------------------------|-------|------------------------|-------|------------------------|-------|----|
| | Total Yield (lbs/acre) | | Count (lbs/acre) | | 60 Count (lbs/acre) | | 45 Count (lbs/acre) | | 36 Count (lbs/acre) | | 30 Count (lbs/acre) | | |
| | 157439 | a ^z | 124461 | a | 28478 | bc | 66205 | a | 58257 | a-e | 4500 | b | |
| 9651HQ | 139945 | abc | 113867 | ab | 16894 | c-g | 57525 | abc | 56341 | a-f | 9185 | b | |
| Wolverine | 139733 | a-d | 111284 | abc | 18270 | c-g | 49937 | a-d | 61347 | abc | 10180 | b | |
| ACX6177 | 134150 | a-d | 110644 | abc | 14431 | c-g | 49572 | a-d | 61072 | abc | 9075 | b | |
| Declaration | 132263 | a-e | 87474 | b-g | 44789 | a | 61243 | ab | 26232 | hi | 0 | c | |
| Troubadour | 130031 | a-e | 108842 | a-d | 15610 | c-g | 48053 | a-e | 60789 | abc | 5579 | b | |
| Nun01009 | 121257 | a-f | 84907 | b-g | 9922 | fg | 31114 | def | 53793 | a-g | 26428 | a | |
| 7387HQ | 119176 | a-f | 103606 | a-e | 8917 | fg | 31855 | def | 71752 | ab | 6653 | b | |
| Crunchy Red | 117792 | a-g | 88613 | b-g | 15587 | c-g | 47489 | a-e | 41125 | c-i | 13593 | ab | |
| Distinction | 117294 | b-g | 84654 | b-g | 27241 | b-e | 44405 | b-f | 40249 | c-i | 5400 | b | |
| Charismatic | 115116 | b-g | 89832 | a-f | 18498 | c-g | 41408 | c-f | 48784 | b-h | 6785 | b | |
| 7187 HQ | 112015 | b-g | 87602 | b-g | 14570 | c-g | 39134 | c-f | 48468 | b-h | 9843 | b | |
| Exclamation | 111745 | b-g | 87733 | b-g | 10031 | fg | 28862 | ef | 58871 | a-d | 13982 | ab | |
| USAWX90020 | 111223 | b-g | 77023 | c-g | 34201 | ab | 47420 | a-f | 29603 | f-i | 0 | c | |
| Traveler | Razorback | 99500 | c-g | 72752 | efg | 13762 | efg | 28585 | ef | 44167 | c-i | 12986 | ab |
| Fascination | SV0241WA | 98992 | d-g | 78834 | c-g | 20159 | b-g | 40880 | c-f | 37955 | c-i | 0 | c |
| 7197HQ | Melody | 92886 | efg | 66511 | fg | 21441 | b-g | 28150 | f | 38361 | c-i | 4934 | b |
| 5234 Plus | 88975 | fg | 61010 | gf | 27965 | bcd | 29248 | ef | 31762 | e-i | 0 | c | |
| Secretariat | 88680 | fg | 62938 | fg | 22315 | b-f | 29464 | ef | 33474 | d-i | 3428 | b | |
| Bold Ruler | 80712 | fg | 62170 | fg | 16862 | c-g | 43191 | b-f | 18979 | i | 1681 | c | |
| | 77671 | g | 53764 | g | 21286 | b-g | 30603 | def | 23161 | hi | 2622 | b | |

^z Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, P<0.05.

Table 5. Total harvested yield in pounds and bins per acre as well as percent of melons in each size category for 3 harvests. Varieties ranked in descending order based on total combined yield of 36 and 45 count fruit.

| Variety | Yield (45 + 36) | | | | | | | | | | | |
|-------------|---------------------------|------------|---------------------|--|------------------------|--|------------------------|--|------------------------|--|------------------------|--|
| | Total Yield (lbs/acre) | | Count (lbs/acre) | | 60 Count (lbs/acre) | | 45 Count (lbs/acre) | | 36 Count (lbs/acre) | | 30 Count (lbs/acre) | |
| | | | | | | | | | | | | |
| 9651HQ | 157439 a ^z | 124461 a | 28478 bc | | 66205 a | | 58257 a-e | | 4500 b | | | |
| Wolverine | 139945 abc | 113867 ab | 16894 c-g | | 57525 abc | | 56341 a-f | | 9185 b | | | |
| ACX6177 | 139733 a-d | 111284 abc | 18270 c-g | | 49937 a-d | | 61347 abc | | 10180 b | | | |
| Declaration | 134150 a-d | 110644 abc | 14431 c-g | | 49572 a-d | | 61072 abc | | 9075 b | | | |
| Nun01009 | 130031 a-e | 108842 a-d | 15610 c-g | | 48053 a-e | | 60789 abc | | 5579 b | | | |
| <hr/> | | | | | | | | | | | | |
| Crunchy Red | 119176 a-f | 103606 a-e | 8917 fg | | 31855 def | | 71752 ab | | 6653 b | | | |
| 7187 HQ | 115116 b-g | 89832 a-f | 18498 c-g | | 41408 c-f | | 48784 b-h | | 6785 b | | | |
| Distinction | 117792 a-g | 88613 b-g | 15587 c-g | | 47489 a-e | | 41125 c-i | | 13593 ab | | | |
| USAWX90020 | 111745 b-g | 87733 b-g | 10031 fg | | 28862 ef | | 58871 a-d | | 13982 ab | | | |
| Exclamation | 112015 b-g | 87602 b-g | 14570 c-g | | 39134 c-f | | 48468 b-h | | 9843 b | | | |
| Troubadour | 132263 a-e | 87474 b-g | 44789 a | | 61243 ab | | 26232 hi | | 0 c | | | |
| 7387HQ | 121257 a-f | 84907 b-g | 9922 fg | | 31114 def | | 53793 a-g | | 26428 a | | | |
| Charismatic | 117294 b-g | 84654 b-g | 27241 b-e | | 44405 b-f | | 40249 c-i | | 5400 b | | | |
| <hr/> | | | | | | | | | | | | |
| Razorback | 105252 b-g | 79309 b-g | 21296 b-g | | 33550 def | | 45759 b-i | | 4647 b | | | |
| SV0241WA | 98992 d-g | 78834 c-g | 20159 b-g | | 40880 c-f | | 37955 c-i | | 0 c | | | |
| Traveler | 111223 b-g | 77023 c-g | 34201 ab | | 47420 a-f | | 29603 f-i | | 0 c | | | |
| <hr/> | | | | | | | | | | | | |
| Fascination | 99500 c-g | 72752 efg | 13762 efg | | 28585 ef | | 44167 c-i | | 12986 ab | | | |
| 7197HQ | 92886 efg | 66511 fg | 21441 b-g | | 28150 f | | 38361 c-i | | 4934 b | | | |
| 5234 Plus | 88680 fg | 62938 fg | 22315 b-f | | 29464 ef | | 33474 d-i | | 3428 b | | | |
| Secretariat | 80712 fg | 62170 fg | 16862 c-g | | 43191 b-f | | 18979 i | | 1681 c | | | |
| Melody | 88975 fg | 61010 gf | 27965 bcd | | 29248 ef | | 31762 e-i | | 0 c | | | |
| Bold Ruler | 77671 g | 53764 g | 21286 b-g | | 30603 def | | 23161 hi | | 2622 b | | | |

^z Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, P<0.05.

Table 6. Total harvested yield in pounds per acre as well as percent of melons in each size category for 3 harvests. Varieties ranked in descending order based on total yield of 36 count fruit.

| Variety | Yield (45 + 36) | | | | | | | | | | | |
|-------------|---------------------------|----------------|---------------------|-----|------------------------|-----|------------------------|-----|------------------------|-----|------------------------|----|
| | Total Yield (lbs/acre) | | Count (lbs/acre) | | 60 Count (lbs/acre) | | 45 Count (lbs/acre) | | 36 Count (lbs/acre) | | 30 Count (lbs/acre) | |
| | | | | | | | | | | | | |
| Crunchy Red | 119176 | a-f | 103606 | a-e | 8917 | fg | 31855 | def | 71752 | ab | 6653 | b |
| ACX6177 | 139733 | a-d | 111284 | abc | 18270 | c-g | 49937 | a-d | 61347 | abc | 10180 | b |
| Declaration | 134150 | a-d | 110644 | abc | 14431 | c-g | 49572 | a-d | 61072 | abc | 9075 | b |
| Nun01009 | 130031 | a-e | 108842 | a-d | 15610 | c-g | 48053 | a-e | 60789 | abc | 5579 | b |
| USAWX90020 | 111745 | b-g | 87733 | b-g | 10031 | fg | 28862 | ef | 58871 | a-d | 13982 | ab |
| 9651HQ | 157439 | a ^z | 124461 | a | 28478 | bc | 66205 | a | 58257 | a-e | 4500 | b |
| Wolverine | 139945 | abc | 113867 | ab | 16894 | c-g | 57525 | abc | 56341 | a-f | 9185 | b |
| 7387HQ | 121257 | a-f | 84907 | b-g | 9922 | fg | 31114 | def | 53793 | a-g | 26428 | a |
| 7187 HQ | 115116 | b-g | 89832 | a-f | 18498 | c-g | 41408 | c-f | 48784 | b-h | 6785 | b |
| Exclamation | 112015 | b-g | 87602 | b-g | 14570 | c-g | 39134 | c-f | 48468 | b-h | 9843 | b |
| Razorback | 105252 | b-g | 79309 | b-g | 21296 | b-g | 33550 | def | 45759 | b-i | 4647 | b |
| Fascination | 99500 | c-g | 72752 | efg | 13762 | efg | 28585 | ef | 44167 | c-i | 12986 | ab |
| Distinction | 117792 | a-g | 88613 | b-g | 15587 | c-g | 47489 | a-e | 41125 | c-i | 13593 | ab |
| Charismatic | 117294 | b-g | 84654 | b-g | 27241 | b-e | 44405 | b-f | 40249 | c-i | 5400 | b |
| 7197HQ | 92886 | efg | 66511 | fg | 21441 | b-g | 28150 | f | 38361 | c-i | 4934 | b |
| SV0241WA | 98992 | d-g | 78834 | c-g | 20159 | b-g | 40880 | c-f | 37955 | c-i | 0 | c |
| 5234 Plus | 88680 | fg | 62938 | fg | 22315 | b-f | 29464 | ef | 33474 | d-i | 3428 | b |
| Melody | 88975 | fg | 61010 | gf | 27965 | bcd | 29248 | ef | 31762 | e-i | 0 | c |
| Traveler | 111223 | b-g | 77023 | c-g | 34201 | ab | 47420 | a-f | 29603 | f-i | 0 | c |
| Troubadour | 132263 | a-e | 87474 | b-g | 44789 | a | 61243 | ab | 26232 | hi | 0 | c |
| Bold Ruler | 77671 | g | 53764 | g | 21286 | b-g | 30603 | def | 23161 | hi | 2622 | b |
| Secretariat | 80712 | fg | 62170 | fg | 16862 | c-g | 43191 | b-f | 18979 | i | 1681 | c |

^z Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, P<0.05.

Table 7. Total harvested yield in pounds and bins per acre as well as percent of melons in each size category for 3 harvests. Varieties ranked in descending order based on total yield of 45 count fruit.

| Variety | Yield (45 + 36) | | | | | | | | | | | |
|-------------|---------------------------|------------|---------------------|--|------------------------|--|------------------------|--|------------------------|--|------------------------|--|
| | Total Yield (lbs/acre) | | Count (lbs/acre) | | 60 Count (lbs/acre) | | 45 Count (lbs/acre) | | 36 Count (lbs/acre) | | 30 Count (lbs/acre) | |
| | | | | | | | | | | | | |
| 9651HQ | 157439 a ^z | 124461 a | 28478 bc | | 66205 a | | 58257 a-e | | 4500 b | | | |
| Troubadour | 132263 a-e | 87474 b-g | 44789 a | | 61243 ab | | 26232 hi | | 0 c | | | |
| Wolverine | 139945 abc | 113867 ab | 16894 c-g | | 57525 abc | | 56341 a-f | | 9185 b | | | |
| ACX6177 | 139733 a-d | 111284 abc | 18270 c-g | | 49937 a-d | | 61347 abc | | 10180 b | | | |
| Declaration | 134150 a-d | 110644 abc | 14431 c-g | | 49572 a-d | | 61072 abc | | 9075 b | | | |
| Nun01009 | 130031 a-e | 108842 a-d | 15610 c-g | | 48053 a-e | | 60789 abc | | 5579 b | | | |
| Distinction | 117792 a-g | 88613 b-g | 15587 c-g | | 47489 a-e | | 41125 c-i | | 13593 ab | | | |
| Traveler | 111223 b-g | 77023 c-g | 34201 ab | | 47420 a-f | | 29603 f-i | | 0 c | | | |
| Charismatic | 117294 b-g | 84654 b-g | 27241 b-e | | 44405 b-f | | 40249 c-i | | 5400 b | | | |
| Secretariat | 80712 fg | 62170 fg | 16862 c-g | | 43191 b-f | | 18979 i | | 1681 c | | | |
| 7187 HQ | 115116 b-g | 89832 a-f | 18498 c-g | | 41408 c-f | | 48784 b-h | | 6785 b | | | |
| SV0241WA | 98992 d-g | 78834 c-g | 20159 b-g | | 40880 c-f | | 37955 c-i | | 0 c | | | |
| Exclamation | 112015 b-g | 87602 b-g | 14570 c-g | | 39134 c-f | | 48468 b-h | | 9843 b | | | |
| Razorback | 105252 b-g | 79309 b-g | 21296 b-g | | 33550 def | | 45759 b-i | | 4647 b | | | |
| Crunchy Red | 119176 a-f | 103606 a-e | 8917 fg | | 31855 def | | 71752 ab | | 6653 b | | | |
| 7387HQ | 121257 a-f | 84907 b-g | 9922 fg | | 31114 def | | 53793 a-g | | 26428 a | | | |
| Bold Ruler | 77671 g | 53764 g | 21286 b-g | | 30603 def | | 23161 hi | | 2622 b | | | |
| 5234 Plus | 88680 fg | 62938 fg | 22315 b-f | | 29464 ef | | 33474 d-i | | 3428 b | | | |
| Melody | 88975 fg | 61010 gf | 27965 bcd | | 29248 ef | | 31762 e-i | | 0 c | | | |
| USAWX90020 | 111745 b-g | 87733 b-g | 10031 fg | | 28862 ef | | 58871 a-d | | 13982 ab | | | |
| Fascination | 99500 c-g | 72752 efg | 13762 efg | | 28585 ef | | 44167 c-i | | 12986 ab | | | |
| 7197HQ | 92886 efg | 66511 fg | 21441 b-g | | 28150 f | | 38361 c-i | | 4934 b | | | |

^z Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, P<0.05.

Table 8. Average fruit weight for each variety for the total trial and each harvest (1,2, and 3) as well as the percentage of fruit in each class (60,45,36, and 30).

| Variety | Avg. Fruit Weight (total) | Avg. Fruit Weight (Harvest 1) | Avg. Fruit Weight (Harvest 2) | Avg. Fruit Weight (Harvest 3) | 60 Count | 45 Count | 36 Count | 30 Count |
|-------------|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------|----------|----------|----------|
| | (lb/fruit) | | (%) ^z | | | | | |
| USAWX90020 | 18.2 | 19.1 | 18.4 | 18.1 | 9.8 | 25.5 | 53.2 | 11.6 |
| 7387HQ | 18.2 | 19.0 | 18.3 | 16.7 | 9.0 | 26.5 | 43.5 | 20.9 |
| Crunchy Red | 18.2 | 18.5 | 18.3 | 17.2 | 7.7 | 26.1 | 59.8 | 6.4 |
| Nun01009 | 17.3 | 17.8 | 17.6 | 14.0 | 11.1 | 36.3 | 47.8 | 4.7 |
| Distinction | 17.3 | 17.7 | 17.7 | 16.3 | 13.2 | 40.0 | 34.8 | 11.9 |
| Exclamation | 17.3 | 17.5 | 17.3 | 15.9 | 13.1 | 35.3 | 43.4 | 8.2 |
| ACX6177 | 17.2 | 17.0 | 17.0 | 17.1 | 13.4 | 35.8 | 44.2 | 6.8 |
| Declaration | 17.1 | 17.4 | 16.8 | 15.7 | 11.8 | 38.4 | 44.3 | 5.5 |
| Fascination | 16.9 | 17.9 | 16.7 | 15.5 | 16.8 | 30.2 | 41.9 | 11.2 |
| Wolverine | 16.6 | 16.5 | 16.3 | 16.9 | 13.7 | 44.0 | 37.1 | 5.2 |
| 7187 HQ | 16.4 | 16.9 | 16.6 | 16.7 | 16.8 | 36.6 | 41.6 | 5.0 |
| 7197HQ | 16.3 | 16.6 | 17.0 | 13.9 | 22.3 | 30.0 | 41.6 | 6.2 |
| Razorback | 16.2 | 16.3 | 16.4 | 15.3 | 21.6 | 32.5 | 41.6 | 4.2 |
| SV0241WA | 16.1 | 16.4 | 16.4 | 15.0 | 19.3 | 41.0 | 39.7 | 0.0 |
| Charismatic | 16.1 | 16.1 | 16.6 | 15.3 | 22.4 | 38.0 | 36.0 | 3.5 |
| 9651HQ | 16.0 | 15.6 | 17.9 | 13.9 | 18.5 | 41.9 | 36.1 | 3.5 |
| SV2757WA | 15.6 | 15.7 | 16.0 | 13.5 | 18.1 | 51.8 | 30.0 | 0.0 |
| Bold Ruler | 15.5 | 16.0 | 14.9 | 16.4 | 28.8 | 37.8 | 30.6 | 4.0 |
| Melody | 15.5 | 15.6 | 14.5 | 14.8 | 27.6 | 33.7 | 37.5 | 0.0 |
| Secretariat | 15.5 | 14.3 | 16.9 | 15.3 | 20.1 | 54.2 | 24.3 | 1.5 |
| Traveler | 15.0 | 14.4 | 15.9 | 14.7 | 30.7 | 42.3 | 27.0 | 0.0 |
| Troubadour | 14.6 | 14.8 | 14.5 | 14.7 | 35.1 | 44.5 | 20.4 | 0.0 |

^zPercent of fruit in each category determined by dividing the yield of a given size class by the total yield for that variety.

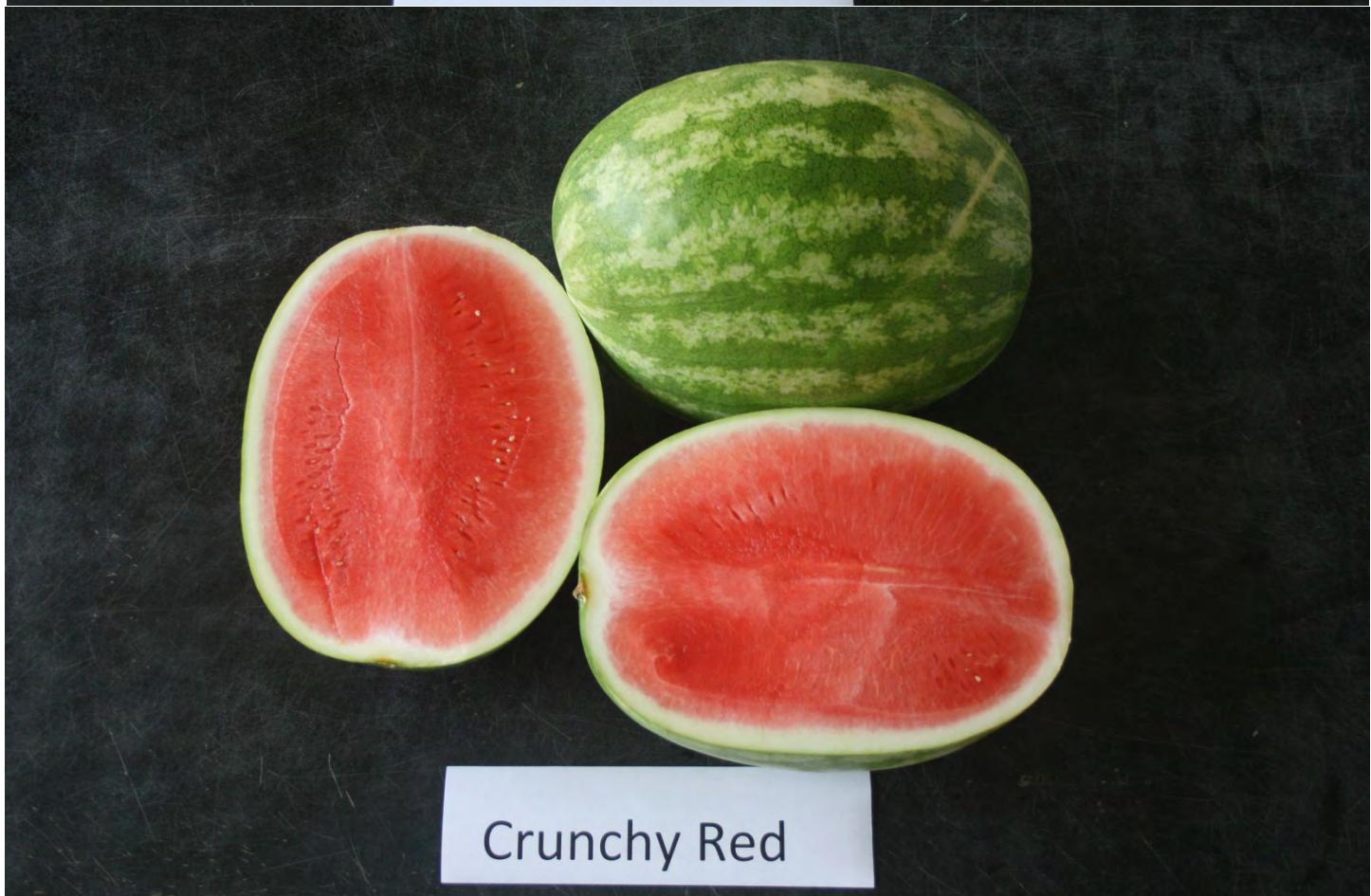
Table 9. Quality data including firmness, sugars (brix), hollow heart incidence, hard seed incidence, length and width of 4 harvested fruit from each variety from the second (2 July) harvest.

| Variety | Avg. Hollow Heart | | | | | | Length (in) | Width (in) |
|-------------|-------------------------|-----|-------------------------|-----|-------|--------------------------------------|----------------|---------------|
| | Sugars (Brix) (%) | | Firmness (lbs force) | | (1-4) | Hard Seed ^y seed/melon | | |
| Wolverine | 12.0 | ab | 4.1 | b-e | 1.25 | 1.4 | 10.3 | 9.3 |
| 7187 HQ | 11.8 | abc | 3.9 | b-g | 0.88 | 0.3 | 11.2 | 8.8 |
| Troubadour | 11.7 | a-e | 4.3 | a-d | 0.00 | 0.9 | 10.4 | 8.3 |
| Bold Ruler | 11.7 | a-e | 3.8 | c-g | 0.33 | 0.4 | 10.5 | 8.6 |
| 9651HQ | 11.7 | a-e | 3.8 | d-g | 0.44 | 1.0 | 10.0 | 8.6 |
| Declaration | 11.7 | a-f | 3.7 | e-g | 0.38 | 0.0 | 11.4 | 8.8 |
| 7197HQ | 11.6 | a-g | 4.2 | a-e | 0.69 | 0.3 | 11.0 | 8.5 |
| USAWX90020 | 11.5 | a-g | 3.3 | hi | 0.75 | 0.5 | 11.9 | 9.0 |
| ACX6177 | 11.4 | b-g | 4.4 | ab | 0.44 | 0.1 | 10.6 | 9.0 |
| Nun01009 | 11.4 | b-g | 3.7 | e-i | 0.69 | 0.4 | 11.5 | 8.8 |
| Crunchy Red | 11.3 | b-g | 4.7 | a | 0.38 | 0.4 | 11.8 | 8.9 |
| Exclamation | 11.3 | b-g | 3.8 | c-g | 0.06 | 0.3 | 10.5 | 9.3 |
| 5234 Plus | 11.2 | b-g | 4.0 | b-f | 0.81 | 1.6 | 11.5 | 8.6 |
| SV0241WA | 11.2 | c-g | 3.4 | ghi | 0.75 | 0.8 | 11.2 | 8.7 |
| Razorback | 11.0 | d-g | 4.3 | abc | 0.00 | 0.4 | 10.3 | 9.1 |
| Traveler | 11.0 | d-g | 4.1 | b-f | 0.00 | 0.8 | 10.1 | 8.8 |
| Secretariat | 11.0 | d-g | 4.0 | b-f | 0.25 | 0.3 | 10.3 | 8.6 |
| 7387HQ | 10.9 | efg | 4.2 | a-e | 0.33 | 0.2 | 11.5 | 9.3 |
| Distinction | 10.9 | efg | 3.8 | c-g | 0.44 | 0.1 | 10.3 | 9.4 |
| Melody | 10.9 | efg | 3.2 | i | 1.19 | 0.1 | 9.9 | 9.2 |
| Charismatic | 10.8 | g | 4.0 | b-f | 1.06 | 1.0 | 10.0 | 9.0 |
| Fascination | 10.8 | g | 3.9 | b-g | 0.69 | 0.6 | 11.1 | 8.9 |

^z Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, P<0.05.

^y Hard seed counted in quartered melons (4 melons quartered) and then divided by number of quarters counted to determine average seed per melon.

Figure 3. Photos of melons trialed. z





Troubadour



Traveler



Wolverine





9651 HQ



5234 Plus



7197 HQ



7187 HQ



7387 HQ



Declaration



ACX6177



Nun01009



Charismatic



Secretariat



Bold Ruler



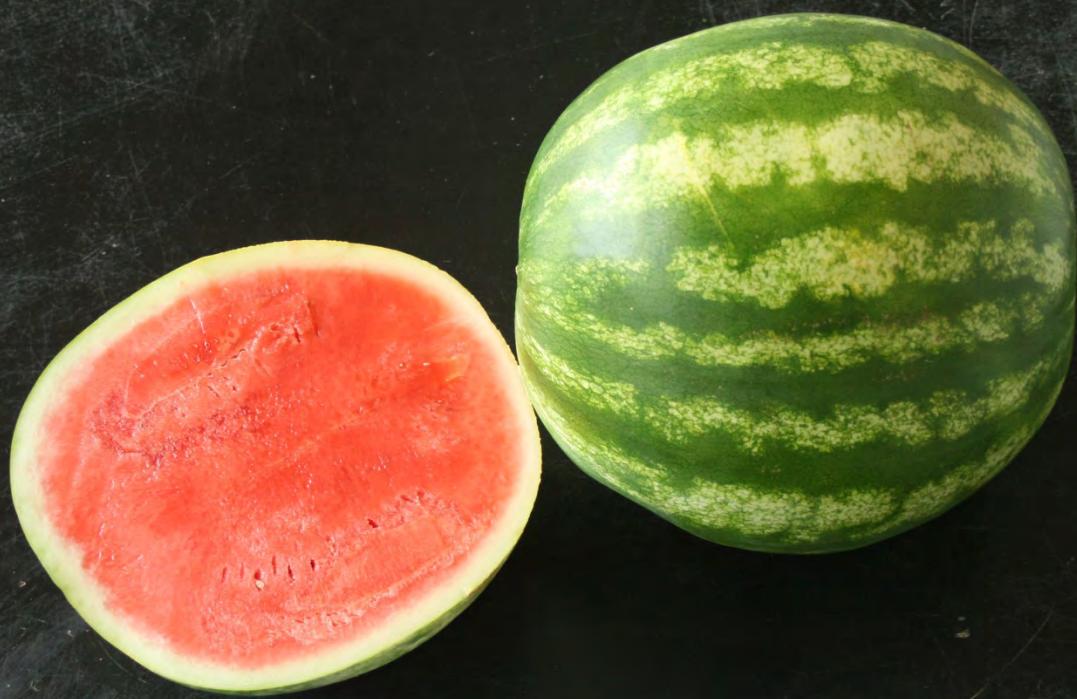
SV0241



Exclamation



Fascination



Distinction



Melody

Appendix A: Weather conditions for Tifton, GA research site.

| Date | Max Temp. | Min. Temp. | Rainfall (in.) | Date | Max Temp. | Min. Temp. | Rainfall (in.) |
|--------------|-----------|------------|----------------|--------------|-----------|------------|----------------|
| Mar 31, 2014 | 77.9 | 42.6 | 0.00 | May 16, 2014 | 74.7 | 48.9 | 0.00 |
| Apr 1, 2014 | 80.4 | 48.9 | 0.00 | May 17, 2014 | 78.6 | 50.2 | 0.00 |
| Apr 2, 2014 | 80.4 | 49.8 | 0.00 | May 18, 2014 | 82.8 | 57.7 | 0.00 |
| Apr 3, 2014 | 82.8 | 55.8 | 0.00 | May 19, 2014 | 80.4 | 59.2 | 0.00 |
| Apr 4, 2014 | 80.1 | 58.6 | 0.00 | May 20, 2014 | 83.1 | 61.0 | 0.00 |
| Apr 5, 2014 | 76.1 | 61.3 | 0.03 | May 21, 2014 | 85.8 | 63.0 | 0.00 |
| Apr 6, 2014 | 64.6 | 58.6 | 0.76 | May 22, 2014 | 87.8 | 65.1 | 0.00 |
| Apr 7, 2014 | 70.9 | 62.4 | 2.25 | May 23, 2014 | 90.1 | 67.8 | 0.00 |
| Apr 8, 2014 | 67.6 | 54.1 | 0.02 | May 24, 2014 | 88.9 | 68.2 | 0.00 |
| Apr 9, 2014 | 69.6 | 48.2 | 0.00 | May 25, 2014 | 91.8 | 68.2 | 0.00 |
| Apr 10, 2014 | 74.1 | 47.1 | 0.00 | May 26, 2014 | 87.6 | 64.9 | 0.00 |
| Apr 11, 2014 | 75.6 | 50.4 | 0.00 | May 27, 2014 | 84.6 | 66.7 | 0.00 |
| Apr 12, 2014 | 80.8 | 54.3 | 0.00 | May 28, 2014 | 88.2 | 69.1 | 0.08 |
| Apr 13, 2014 | 80.8 | 59.0 | 0.00 | May 29, 2014 | 87.8 | 67.8 | 0.00 |
| Apr 14, 2014 | 80.6 | 63.7 | 0.00 | May 30, 2014 | 88.3 | 67.8 | 0.94 |
| Apr 15, 2014 | 68.9 | 43.2 | 1.14 | May 31, 2014 | 88.0 | 68.5 | 0.01 |
| Apr 16, 2014 | 61.7 | 37.4 | 0.00 | Jun 1, 2014 | 80.4 | 68.9 | 0.02 |
| Apr 17, 2014 | 66.9 | 46.0 | 0.00 | Jun 2, 2014 | 80.6 | 67.6 | 0.00 |
| Apr 18, 2014 | 59.2 | 53.6 | 2.82 | Jun 3, 2014 | 83.1 | 68.2 | 0.00 |
| Apr 19, 2014 | 58.8 | 52.3 | 0.20 | Jun 4, 2014 | 88.2 | 65.5 | 0.00 |
| Apr 20, 2014 | 66.2 | 51.3 | 0.01 | Jun 5, 2014 | 89.1 | 70.5 | 0.00 |
| Apr 21, 2014 | 76.5 | 49.1 | 0.00 | Jun 6, 2014 | 91.8 | 68.5 | 0.43 |
| Apr 22, 2014 | 78.3 | 55.4 | 0.00 | Jun 7, 2014 | 85.6 | 66.6 | 0.02 |
| Apr 23, 2014 | 80.6 | 60.4 | 0.00 | Jun 8, 2014 | 89.4 | 69.3 | 0.02 |
| Apr 24, 2014 | 83.3 | 60.3 | 0.00 | Jun 9, 2014 | 89.8 | 69.8 | 0.00 |
| Apr 25, 2014 | 80.8 | 62.4 | 0.01 | Jun 10, 2014 | 89.4 | 69.3 | 0.61 |
| Apr 26, 2014 | 83.1 | 57.7 | 0.00 | Jun 11, 2014 | 86.2 | 69.6 | 0.01 |
| Apr 27, 2014 | 82.9 | 61.3 | 0.00 | Jun 12, 2014 | 86.9 | 70.9 | 0.00 |
| Apr 28, 2014 | 83.8 | 64.8 | 0.00 | Jun 13, 2014 | 85.5 | 68.4 | 0.00 |
| Apr 29, 2014 | 72.1 | 64.0 | 0.57 | Jun 14, 2014 | 88.0 | 68.2 | 0.35 |
| Apr 30, 2014 | 72.3 | 64.8 | 0.90 | Jun 15, 2014 | 91.0 | 69.8 | 0.10 |
| May 1, 2014 | 65.5 | 57.0 | 0.36 | Jun 16, 2014 | 90.7 | 70.7 | 0.17 |
| May 2, 2014 | 67.1 | 56.1 | 0.01 | Jun 17, 2014 | 90.9 | 69.3 | 0.00 |
| May 3, 2014 | 74.7 | 54.7 | 0.00 | Jun 18, 2014 | 91.8 | 70.5 | 0.00 |
| May 4, 2014 | 84.0 | 55.9 | 0.00 | Jun 19, 2014 | 92.3 | 70.9 | 0.00 |
| May 5, 2014 | 87.4 | 59.5 | 0.00 | Jun 20, 2014 | 92.3 | 70.5 | 0.00 |
| May 6, 2014 | 84.6 | 60.8 | 0.00 | Jun 21, 2014 | 93.0 | 70.9 | 0.23 |
| May 7, 2014 | 86.7 | 58.8 | 0.00 | Jun 22, 2014 | 89.6 | 68.7 | 0.24 |
| May 8, 2014 | 86.5 | 64.4 | 0.00 | Jun 23, 2014 | 87.4 | 69.3 | 0.00 |
| May 9, 2014 | 84.2 | 67.5 | 0.00 | Jun 24, 2014 | 86.5 | 68.0 | 0.64 |
| May 10, 2014 | 83.8 | 67.1 | 0.50 | Jun 25, 2014 | 88.9 | 70.2 | 0.04 |
| May 11, 2014 | 87.6 | 67.6 | 1.21 | Jun 26, 2014 | 88.2 | 72.3 | 0.00 |
| May 12, 2014 | 87.1 | 66.6 | 0.00 | Jun 27, 2014 | 89.4 | 72.7 | 0.00 |
| May 13, 2014 | 86.4 | 65.1 | 0.00 | Jun 28, 2014 | 91.2 | 71.8 | 0.00 |

| | | | | | | | | |
|--------------|------|------|------|--|--------------|------|------|------|
| May 14, 2014 | 86.0 | 67.1 | 3.22 | | Jun 29, 2014 | 92.3 | 71.2 | 0.00 |
| May 15, 2014 | 70.9 | 54.3 | 2.08 | | Jun 30, 2014 | 92.8 | 74.1 | 0.00 |
| Jul 1, 2014 | 93.2 | 71.2 | 0.00 | | | | | |
| Jul 2, 2014 | 95.0 | 72.1 | 0.00 | | | | | |
| Jul 3, 2014 | 93.2 | 74.5 | 0.00 | | | | | |
| Jul 4, 2014 | 86.2 | 67.1 | 0.00 | | | | | |
| Jul 5, 2014 | 91.0 | 67.1 | 0.00 | | | | | |
| Jul 6, 2014 | 90.0 | 70.5 | 0.79 | | | | | |
| Jul 7, 2014 | 89.4 | 69.4 | 0.00 | | | | | |
| Jul 8, 2014 | 90.7 | 71.4 | 0.00 | | | | | |
| Jul 9, 2014 | 91.6 | 72.1 | 0.00 | | | | | |