

# 2021 North Carolina Orange Flesh and Specialty Melon Cultigen Evaluations



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General Cultural Practices

This melon study was grown using recommended practices for commercial melon production in North Carolina. All plots in the study used black plastic mulch and were fertigated with drip irrigation. Furthermore, pesticides used on all plots were chemicals labeled for use on that crop, (2021 North Carolina Agricultural Chemicals Manual, <https://content.ces.ncsu.edu/north-carolina-agricultural-chemicals-manual>).

Acknowledgments

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Disclaimer

This publication presents data from the orange flesh and specialty melon cultigen evaluation studies conducted during 2021. Information in this report is believed to be reliable but should **not** be relied upon as a sole source of information. Limited accompanying detail is included but excludes some pertinent information, which may aid interpretation.

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# Orange Flesh and Specialty Melon Cultural Practices for 2021 Cultigen Study, Central Crops Research Station, Clayton, NC 2021

## Introduction

There has not been a dramatic change in acreage for orange flesh and specialty melon production in North Carolina and data has not been published in recent years, however, it is estimated that 3,000 to 4,000 acres are produced in the state. In 2017 a survey of US growers estimated orange flesh melon production was 58,000 acres (USDA, National Agriculture Statistics Service). Since 2013, the US orange flesh melon crop has seen significant decreases in acreage. In 2013 there were 74,000 acres valued at 319 million whereas in 2017 US acreage was reported to be 58,000 with a total crop value of \$267 million. Further reporting showed domestic orange flesh melon prices have steadily declined from their peak of 0.25/lb in 1980 to a season-average of 0.15/lb in 2018 (USDA, National Agriculture Statistics Service). The majority of melons grown in North Carolina are an eastern shipping type with ‘Athena’ being the principal cultivar produced for more than two decades. In addition to the eastern shipper type orange flesh melon, other orange flesh melons being grown on much smaller acreage include Extended Shelf Life (ESL), Long Shelf Life (LSL) melons, often termed Harper melons, and a third type termed Italian (Tuscan) melons. The ESL or LSL melons, as the name suggests, will hold for a longer period than the eastern type melons. Flesh firmness and sweetness tend to be higher in the ESL or LSL type melons than in eastern type melons. Greater flesh firmness allows the fruit to have a better shelf life after harvest. This trait increases the “shipability”, a term often referred to as giving the fruit “better legs”. It can be more difficult to determine readiness on LSL melons and this has delayed willingness from some growers, especially in North Carolina, to move into larger scale production of these melons. In 2021, several new cultigens were evaluated in our melon field study that included 26 advanced lines (cultigens) or cultivar entries from 4 seed companies and 1 University. All entries were evaluated for yields, earliness, and various other qualities.

## Materials and Methods

### *Sowing and Transplant Production*

Once all seeds were received from participating companies, they were planted into 72 cell Poly trays to grow transplants (Hummert Int.; Earth City, MO). Seeds of orange flesh and specialty melons were sown on 30 March 2021. The trays of sown seeds were placed in a germination room for about one day. Temperature in the germination room averaged about 85°F and moisture was elevated to around 70%. The planting medium used was a “Fine Germinating Mix”, a commercial soilless mix (SunGro, Agawam, MA). Approximately 3 weeks after seeding, transplants were placed in a “hardening” greenhouse for approximately one week before being transplanted in the field.

### *Field Preparations*

On 28 November 2020, the field study area (0.28 acres) was fumigated with Telone II at 10 gal/ac. A complete fertilizer (12-6-24) (400 lb/ac) was applied broadcast and black polyethylene plastic mulch (0.70 mil thick high density plastic film, 48 inches wide; B.B. TriEst Ag Group Inc., Clinton, NC) was laid in the field on 14 April 2021. Drip tape (NETAFIM, 12 inch spacing, 0.24 gph; NETAFIM, Tel Aviv, Israel) was installed beneath the plastic mulch and was utilized to fertigate the crop throughout the growing season.

### *Planting*

Orange flesh and specialty melon plants were established in the field on 23 April 2021. Plot size was one row with 10 plants per plot (20 ft) with in-row spacing of 2 feet and between-row spacing of 5 feet. Field arrangement for the orange flesh melon cultigen study was a Randomized Complete Block Design (RCBD) with four replications. Plots that were missing plants were replanted approximately 7 days after transplanting to achieve 100% stand, in most cases.

### *Fertilizer and Pest Management*

A total of 48 lb/ac N, 24 lb/ac P, and 96 lb/ac K were applied broadcast (pre-plant) to the entire study area. Liquid fertilizer with a 7-0-7 analysis was initially applied through drip fertigation on 5 May 2021 and subsequently on the following dates: 12, 19, and 26 May 2021; 2, 9, 15, 21, and 30 June 2021; 7 and 14 July 2021. A total 115 lb/ac of N and 115 lb/ac of K were applied via fertigation throughout the growing season.

Herbicide Strategy (3 pts/ac) was applied to row middles for pre-emergent weed control on 26 April 2021. Gramoxone (3 pts/ac) was applied to row middles on 13 May 2021.

Fungicides were initially applied on 2 June 2021 and subsequently on the following dates: 9, 16, 23 and 29 June 2021; 7, 14, and 21 July 2021. The following fungicides were rotated to avoid potential development of resistance from disease: Procure (6 oz/ac), Ranman (2.75 oz/ac), Previcur Flex (1.2 pts/ac), Vivando (15.4 oz/ac), and Orondis Opti (2 pts/ac).

Insecticides were applied as needed throughout the growing season beginning 26 May 2021 and subsequently on the following dates: 2, 9, 16, 23, and 29 June 2021; 7, 14, and 21 July 2021. The following insecticide products were alternated throughout the season to avoid potential resistance development in insect species: Assail (4 oz/ac) (5.5 oz/ac) (5.4 oz/ac), FanFare (5 oz/ac), Perm-up (6 oz/ac) (4 oz/ac), and Bifenture EC (4 oz/ac). Miticide Agrimite (.75 lb/ac) was applied on 29 June 2021.

### *Harvest and Yield Data Collection*

There were 15 total harvests of the orange flesh and specialty melon cultigens. The first harvest was 28 June 2021, followed by: 30 June 2021; 2, 6, 7, 9, 10-12, 13-14, 16, 19, 22, 23, 26, 28, and 30 July 2021. Some harvests have date ranges and were done over multiple days and counted as

one harvest time to be consistent with yield and quality data collection and evaluations. Daily harvests in some cases were done to optimize fruit quality for shipment to Texas and Arizona to evaluate internal fruit quality and microbes, respectively.

### *Quality Evaluations*

Evaluations of each melon entry included: yield, fruit size, production earliness, soluble solids, fruit shape and size, and interior flesh firmness. Soluble solids were measured by cutting a piece of fruit from the center and squeezing out the fruit juice onto a digital refractometer (Atago, Vernon Hills, IL). Flesh firmness was measured (recorded in pounds) by using a Penetrometer FT 011 with a 7/16" plunger tip, (QA Supplies LLC, Norfolk, VA). Melon samples were obtained by cutting through the ground spot of the fruit, lengthwise, from the fruit's stem end to blossom end. Flesh firmness measurements were taken in four areas of the fruit: top side, ground spot side, stem end, and blossom end. The reported measures on flesh firmness are an average of three fruit per plot or 12 fruit per cultigen. The majority of quality measurements were taken when the melons became ripe between the first and fourth harvests for a given cultigen, with some exceptions.

### **Results**

A representative photograph was taken of each cultigen which aimed to illustrate key characteristics that provided the best representation when harvested at the appropriate harvest stage (Fig.1).

### *Yield and Size*

The highest yielding orange flesh and specialty melon cultigens for marketable fruit weight for the early-season harvests (1-5) were Athena (250 cwt/ac), Flavor Time (232 cwt/ac), and VM18011260(LSL) (182 cwt/ac) (Table 1). The average marketable yield for the early-season harvests (1-5) was 65 cwt/ac. The orange flesh and specialty melon cultigens with the highest average fruit weight for the early-season harvests (1-5) were Flavor Time (6.0 lb/fruit), Charlotte (HD) (5.4 lb/fruit), Heidi (5.2 lb/fruit), and VM18011260(LSL) (5.1 lb/fruit). The average fruit weight for the early-season harvests (1-5) was 3.7 lb/fruit.

The highest yielding orange flesh and specialty melon cultigens for marketable fruit weight for the mid-season harvests (6-10) were TH-5 (408 cwt/ac), TH-17 (390 cwt/ac), TH-6 (364 cwt/ac), and TH-12 (359 cwt/ac) (Table 2). The average marketable yield for the mid-season harvests (6-10) was 249 cwt/ac. The orange flesh and specialty melon cultigens with the highest average fruit weight for the mid-season harvests (6-10) were Charlotte (HD) (8.0 lb/fruit), Flavor Time (6.6 lb/fruit), and 252 HQ (HD) (6.4 lb/fruit). The average fruit weight for the mid-season harvests (6-10) was 4.6 lb/fruit. All TH lines were at or below the average fruit weight.

The highest yielding orange flesh and specialty melon cultigens for marketable fruit weight for the late-season harvests (11-15) were Charlotte (HD) (231 cwt/ac), 252 HQ (HD) (199 cwt/ac), and VM18011260(LSL) (140 cwt/ac) (Table 3). The average marketable yield for the late-season

harvests (11-15) was 73 cwt/ac. The orange flesh and specialty melon cultigens with the highest average fruit weight for the late-season harvests (11-15) were Heidi (6.5 lb/fruit), Charlotte (HD) (6.1 lb/fruit), TH-20 (5.8 lb/fruit), and 252 HQ (HD) (5.8 lb/fruit). The average fruit weight for the late season harvests (11-15) was 4.2 lb/fruit.

The top five highest yielding orange flesh and specialty melon cultigens for marketable fruit weight for the cumulative harvests (1-15) were VM18011260(LSL) (576 cwt/ac), Flavor Time (528 cwt/ac), TH-5 (481 cwt/ac), Charlotte (456 cwt/ac), and TH-17 (446 cwt/ac) (Table 4). The lowest yielding orange flesh and specialty melon cultigen for marketable fruit for the cumulative harvests (1-15) was TH-10 (125 cwt/ac). This is because most fruits were less than 3 lb, which was considered the minimal size threshold for a marketable fruit. The average marketable yield for the cumulative harvests (1-15) was 376 cwt/ac. At significance level 0.05, the LSD for marketable yield was 111. The orange flesh and specialty melon cultigens with highest average fruit weight for the cumulative harvests (1-15) were Charlotte (HD) (6.8 lb/fruit), Flavor Time (6.1 lb/fruit), 252 HQ (HD) (6.1 lb/fruit), and Heidi (6.0 lb/ac). The average fruit weight for the cumulative harvests (1-15) was 4.3 lb/fruit.

The orange flesh and specialty melon cultigens with the highest number of marketable fruit per acre for the early-season harvests (1-5) were Athena (5808 fruit/ac), Tanager (3872 fruit/ac), and Flavor Time) (3630 fruit/ac) (Table 5). The average marketable fruit number for the early-season harvests (1-5) was 1419 fruit/ac.

The orange flesh and specialty melon cultigens with the highest number of marketable fruit per acre for the mid-season harvests (6-10) were TH-17 (9922 fruit/ac), TH-5 (9317 fruit/ac), TH-12 (9317 fruit/ac), and TT-DV (Da Vinci) (7502 fruit/ac) (Table 6). The average marketable fruit number for the mid-season harvests (6-10) was 5510 fruit/ac.

The orange flesh and specialty melon cultigens with the highest number of marketable fruit per acre for the late-season harvests (11-15) were Charlotte (HD) (3630 fruit/ac), 252 HQ (HD) (3388 fruit/ac), and VM18011260(LSL) (2783 fruit/ac) (Table 7). The average marketable fruit number for the late-season harvests (11-15) was 1489 fruit/ac.

The orange flesh and specialty melon cultigens with the highest number of marketable fruit per acre for the cumulative harvests (1-15) were TH-17 (11374 fruit/ac), VM18011260(LSL) (11011 fruit/ac), and TH-5 (10890 fruit/ac) (Table 8). The orange flesh and specialty melon cultigen with the lowest number of marketable fruit per acre for the cumulative harvests (1-15) was TH-10 (3388 fruit/ac). The average marketable fruit number for the cumulative harvests (1-15) was 8200 fruit/ac. At significance level 0.05, the LSD for marketable fruit number per acre was 2399.

Percent fruit weight per indicated size category are provided for early-season harvests (1-5), mid-season harvests (6-10), late-season harvests (11-15), and cumulative harvests (1-15), respectively (Tables 9, 10, 11, 12).

An average of 66% of orange flesh and specialty melon fruit weight was harvested in the mid-season harvest (6-10) (Table 13). 15% and 20% of orange flesh and specialty melon fruit weight was harvested in the early-season harvests (1-5) and late-season harvests (11-15), respectively.



Percent fruit number per indicated size category are provided for early-season harvests (1-5), mid-season harvests (6-10), late-season harvests (11-15), and cumulative harvests (1-15), respectively (Tables 14, 15, 16, 17).

An average of 64% of orange flesh and specialty melon fruit number was harvested in the mid-season harvests (6-10) (Table 18). 16% and 20% of orange flesh and specialty melon fruit number was harvested in the early-season harvests (1-5) and late-season harvests (11-15), respectively.

### *Quality*

Interior fruit quality measurements for orange flesh and specialty melon included: soluble solids, length and diameter, and flesh firmness. The orange flesh and specialty melon cultigens with the highest Brix rating were Flavor Time (14.5), Heidi (14.5), and SV942ML (14.1) (Table 19). The orange flesh melon across cultigens with the lowest Brix reading was F-39 (10.0). The average Brix reading was 12.3. The length and diameter ratio was consistent across all orange flesh and specialty melon cultigens with an average length and diameter ratio of 1.0. At significance level 0.05, the LSD for average length and diameter was 0.1. The orange flesh and specialty melon cultigens with the highest flesh firmness rating were SV942ML (6.7), Heidi (6.4), and Mokaya (6.1). The orange flesh and specialty melon cultigen with the lowest flesh firmness rating was TH-6 (2.4). The average flesh firmness rating was 4.1.

### **Summary**

The field and growing conditions throughout the harvest period were relatively wet for eastern North Carolina; a total of 13.7 inches of precipitation in June and July of 2021 at the Central Crops Research Station in Clayton, NC. Seventeen entries included in the study were submitted from Texas A&M. Those cultigens were F-39, HD-150, HT-IG, TH-1, TH-5, TH-6, TH-9, TH-10, TH-12, TH-13, TH-16, TH-17, TH-18, TH-19, TH-20, TT-DV, and 252 HQ (HD). Fruits from these cultigens were shipped to Texas and Arizona to be evaluated for internal chemistry, and as part of a food safety and soil-borne pathogen evaluation study, respectively. These results will be published in another periodical or journal. Charlotte (HD), HD-150, and 252 HQ (HD) are honeydew melons. VM18011249 (LSL) and VM18011260 (LSL) are long shelf life melons.

### **Financial Support**

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**Figure 1.** Orange flesh and specialty melon photographs. Clayton, NC 2021.





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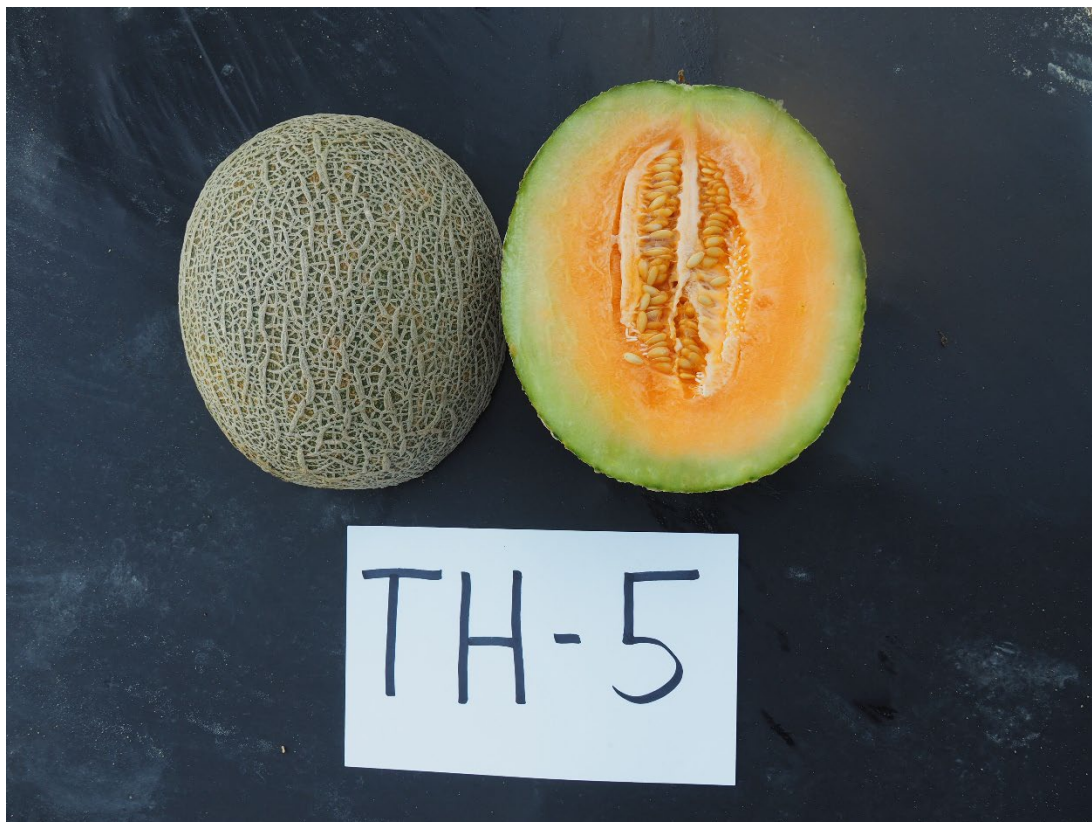


**Figure 1.** Orange flesh and specialty melon photographs. Clayton, NC 2021.





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**Table 1. Orange flesh and specialty melon cultigen study. Fruit weight (cwt) per acre by size category including average fruit size for early-season harvests (1-5)<sup>1</sup>, Clayton, NC 2021.**

<u>Cultigen</u>	<u>Cull</u> <sup>2</sup>	<u>cwt (x100) by size</u>			<u>Total Fruit</u>	<u>Mkt. Fruit</u>	<u>Avg Mkt.</u>	<u>Avg. Fruit</u>
		<u>&lt; 3 lb</u>	<u>3 - 7 lb</u>	<u>≥ 7.1 lb</u>	<u>cwt / ac</u> <sup>3</sup>	<u>cwt / ac</u>	<u>Fruit wt. / ac</u>	<u>Weight</u> <sup>4</sup>
ATHENA	.	9	250	.	259	250	4.3	4.2
CHARLOTTE (HD)	.	.	20	.	20	20	5.4	5.4
F-39	.	26	9	.	35	9	3.7	2.8
FLAVOR TIME	.	6	142	90	238	232	6.3	6.0
HD-150	.	.	5	.	5	5	3.8	3.8
HEIDI	.	3	101	18	121	118	5.3	5.2
HT-IG (Infinite Gold)	.	7	71	.	77	71	4.0	3.8
MOKAYA	.	4	74	.	78	74	4.8	4.8
SV942ML	.	39	57	.	96	57	3.3	2.8
TANAGER	.	16	160	.	176	160	4.2	3.9
TH-1	.	10	13	.	24	13	3.8	3.3
TH-5	.	3	12	.	15	12	4.9	4.2
TH-6	.	7	13	.	20	13	3.7	3.2
TH-9	.	7	17	.	24	17	3.5	3.2
TH-10	.	13	8	.	21	8	3.2	2.6
TH-12	.	12	.	.	12	.	.	2.6
TH-13	.	.	.	.	.	.	.	.
TH-16	.	.	17	.	17	17	3.3	3.3
TH-17	.	9	27	.	36	27	3.7	3.3
TH-18	.	28	27	.	55	27	3.7	2.9
TH-19	.	8	.	.	8	.	.	2.1
TH-20	.	3	6	.	9	6	4.7	3.8
TT-DV (Da Vinci)	.	3	21	.	24	21	3.6	3.5
VM18011249(LSL)	.	6	87	.	93	87	4.3	4.1
VM18011260(LSL)	.	3	173	9	186	182	5.3	5.1
252 HQ (HD)	.	.	.	.	.	.	.	.
<b>Average</b>	--	11	59	39	69	65	4.2	3.7
<b>LSD (0.05)</b>	--	17	39	98	54	56	1.0	1.1

<sup>1</sup> Early-season harvests (1-5): 28 June - 7 July 2021 (66 - 75 days after planting).

<sup>2</sup> Culls consisted of decayed or misshaped fruits.

<sup>3</sup> Total fruit weight per acre includes all size categories, less the culls, and is rounded to the nearest whole number.

<sup>4</sup> Average fruit weight (lb) were determined using total weights and numbers from respective harvests.

**Table 2. Orange flesh and specialty melon** cultigen study. **Fruit weight (cwt)** per acre by size category including **average fruit size for mid-season harvests (6-10)<sup>1</sup>**, Clayton, NC 2021.

Cultigen	cwt (x100) by size				Total Fruit cwt / ac <sup>3</sup>	Mkt. Fruit cwt / ac	Avg Mkt. Fruit wt. / ac	Avg. Fruit Weight <sup>4</sup>
	Cull <sup>2</sup>	< 3 lb	3 - 7 lb	≥ 7.1 lb				
ATHENA	.	.	61	19	80	80	5.6	5.6
CHARLOTTE (HD)	8	.	22	184	206	206	8.0	8.0
F-39	7	114	177	.	291	177	3.8	3.3
FLAVOR TIME	.	.	85	105	190	190	6.6	6.6
HD-150	55	10	269	28	307	297	5.0	4.9
HEIDI	6	.	126	66	192	192	6.2	6.2
HT-IG (Infinite Gold)	.	3	205	10	218	215	4.8	4.8
MOKAYA	11	.	231	58	289	289	5.6	5.6
SV942ML	5	44	150	.	194	150	4.4	4.1
TANAGER	10	.	119	9	128	128	4.5	4.2
TH-1	42	43	323	.	366	323	4.0	3.8
TH-5	24	32	397	10	440	408	4.1	3.7
TH-6	5	34	364	.	398	364	3.8	2.9
TH-9	13	56	291	.	347	291	3.8	3.6
TH-10	3	179	110	.	289	110	4.8	4.6
TH-12	.	76	350	9	434	359	4.8	4.5
TH-13	38	22	256	35	313	290	3.9	3.7
TH-16	7	28	321	.	349	321	4.2	3.8
TH-17	14	57	390	.	446	390	3.5	3.1
TH-18	2	40	282	.	322	282	4.9	4.5
TH-19	18	110	207	.	317	207	4.9	4.9
TH-20	48	27	242	40	308	281	3.5	3.2
TT-DV (Da Vinci)	9	88	265	.	353	265	3.6	3.4
VM18011249(LSL)	5	60	201	.	261	201	4.0	3.7
VM18011260(LSL)	8	.	243	11	254	254	5.5	5.5
252 HQ (HD)	6	.	103	95	199	199	6.4	6.4
<b>Average</b>	16	57	223	48	288	249	4.8	4.6
<b>LSD (0.05)</b>	<b>30</b>	<b>52</b>	<b>105</b>	<b>64</b>	<b>109</b>	<b>109</b>	<b>0.7</b>	<b>0.7</b>

<sup>1</sup> Mid-season harvests (6-10): 9 July - 19 July 2021 (77- 87 days after planting).

<sup>2</sup> Culls consisted of decayed or misshaped fruits.

<sup>3</sup> Total fruit weight per acre includes all size categories, less the culls, and is rounded to the nearest whole number.

<sup>4</sup> Average fruit weight (lb) were determined using total weights and numbers from respective harvests.



**Table 3. Orange flesh and specialty melon** cultigen study. **Fruit weight (cwt)** per acre by size category including **average fruit size for late-season harvests (11-15)<sup>1</sup>**, Clayton, NC 2021.

<u>Cultigen</u>	<u>cwt (x100) by size</u>				<u>Total Fruit cwt / ac<sup>3</sup></u>	<u>Mkt. Fruit cwt / ac</u>	<u>Avg Mkt. Fruit wt. / ac</u>	<u>Avg. Fruit Weight<sup>4</sup></u>
	<u>Cull<sup>2</sup></u>	<u>&lt; 3 lb</u>	<u>3 - 7 lb</u>	<u>≥ 7.1 lb</u>				
ATHENA	.	3	47	10	60	57	5.6	4.9
CHARLOTTE (HD)	53	3	136	95	234	231	6.3	6.1
F-39	.	16	17	.	33	17	4.2	3.1
FLAVOR TIME	26	9	67	39	115	106	5.5	5.0
HD-150	34	11	77	.	88	77	4.3	3.7
HEIDI	14	.	65	23	89	89	6.5	6.5
HT-IG (Infinite Gold)	3	12	85	.	96	85	4.4	4.0
MOKAYA	4	.	70	9	78	78	5.1	5.1
SV942ML	10	56	61	.	117	61	3.5	2.9
TANAGER	7	7	22	.	29	22	4.4	4.0
TH-1	11	3	56	.	60	56	4.2	4.1
TH-5	12	11	61	.	72	61	4.4	3.9
TH-6	5	25	57	.	81	57	3.9	3.4
TH-9	31	23	93	.	115	93	4.2	3.8
TH-10	.	45	7	.	53	7	3.1	2.6
TH-12	5	18	52	.	70	52	3.6	3.3
TH-13	4	10	28	.	38	28	4.7	3.6
TH-16	4	7	61	.	68	61	5.5	5.2
TH-17	.	16	29	.	45	29	4.2	3.4
TH-18	4	3	40	.	43	40	4.8	4.7
TH-19	27	45	61	.	105	61	3.5	3.0
TH-20	.	.	78	26	105	105	5.8	5.8
TT-DV (Da Vinci)	29	46	32	.	78	32	3.3	2.8
VM18011249(LSL)	.	7	52	.	59	52	4.4	4.2
VM18011260(LSL)	32	3	131	9	143	140	5.1	4.9
252 HQ (HD)	38	3	136	64	202	199	5.9	5.8
<b>Average</b>	18	17	62	34	88	73	4.6	4.2
<b>LSD (0.05)</b>	<b>31</b>	<b>26</b>	<b>61</b>	<b>56</b>	<b>75</b>	<b>68</b>	<b>1.1</b>	<b>0.9</b>

<sup>1</sup> Late-season harvests (11-15): 22 July - 30 July 2021 (90 - 98 days after planting).

<sup>2</sup> Culls consisted of decayed or misshaped fruits.

<sup>3</sup> Total fruit weight per acre includes all size categories less the culls and is rounded to the nearest whole number.

<sup>4</sup> Average fruit weight (lb) were determined using total weights and numbers from respective harvests.

**Table 4. Orange flesh and specialty melon cultigen study. Fruit weight (cwt) per acre by size category including average fruit size for cumulative harvests (1-15)<sup>1</sup>, Clayton, NC 2021.**

Cultigen	Company	Rank <sup>2</sup>	Cull <sup>3</sup>	cwt (x100) by size category			Total Fruit cwt / ac <sup>4</sup>	Mkt. Fruit cwt / ac	Avg Mkt. Fruit wt. / ac	Avg. Fruit Weight <sup>5</sup>
				< 3 lb	3 - 7 lb	≥ 7.1 lb				
ATHENA	Syngenta	15	.	12	358	29	399	387	4.6	4.5
CHARLOTTE (HD)	US Agriseeds	4	61	3	177	279	460	456	6.9	6.8
F-39	Texas A & M	25	7	156	202	.	358	202	3.8	3.2
FLAVOR TIME	Seminis	2	26	15	293	235	543	528	6.3	6.1
HD-150	Texas A & M	16	89	22	350	28	400	378	4.9	4.6
HEIDI	Syngenta	10	20	3	292	106	402	398	6.0	6.0
HT-IG (Infinite Gold)	Texas A & M	17	3	22	360	10	392	370	4.5	4.3
MOKAYA	BASF/Nunhems	6	15	4	375	67	445	441	5.3	5.2
SV942ML	Seminis	24	15	140	267	.	407	267	3.5	3.1
TANAGER	BASF/Nunhems	22	17	23	301	9	333	310	4.4	4.2
TH-1	Texas A & M	13	53	57	393	.	450	393	4.3	4.0
TH-5	Texas A & M	3	36	46	471	10	526	481	4.5	4.2
TH-6	Texas A & M	7	10	66	434	.	499	434	4.0	3.7
TH-9	Texas A & M	9	45	85	401	.	487	401	4.1	3.7
TH-10	Texas A & M	26	3	238	125	.	363	125	3.7	2.8
TH-12	Texas A & M	8	5	106	402	9	517	411	3.8	3.5
TH-13	Texas A & M	21	42	32	284	35	350	318	4.9	4.5
TH-16	Texas A & M	11	10	35	398	.	433	398	4.9	4.5
TH-17	Texas A & M	5	14	81	446	.	527	446	3.9	3.6
TH-18	Texas A & M	18	11	71	349	.	420	349	4.2	3.7
TH-19	Texas A & M	23	45	162	268	.	430	268	3.5	3.1
TH-20	Texas A & M	14	48	31	326	66	422	391	5.2	4.7
TT-DV (Da Vinci)	Texas A & M	20	38	137	318	.	456	318	3.5	3.1
VM18011249(LSL)	US Agriseeds	19	5	73	340	.	414	340	4.1	3.8
VM18011260(LSL)	US Agriseeds	1	41	7	547	29	583	576	5.2	5.2
252 HQ (HD)	Texas A & M	12	44	3	239	159	401	398	6.2	6.1
<b>Average</b>			28	63	335	76	439	376	4.6	4.3
<b>LSD (0.05)</b>			<b>41</b>	<b>50</b>	<b>111</b>	<b>80</b>	<b>110</b>	<b>111</b>	<b>0.5</b>	<b>0.5</b>

<sup>1</sup> Cumulative harvests (1-15): 28 June - 30 July 2021 (66 - 98 days after planting).

<sup>2</sup> Ranked by marketable fruit cwt per acre in descending order.

<sup>3</sup> Culls consisted of decayed or misshaped fruits.

<sup>4</sup> Total fruit weight per acre includes all size categories, less the culls, and is rounded to the nearest whole number.

<sup>5</sup> Average fruit weight (lb) were determined using total weights and numbers from respective harvests.



**Table 5. Orange flesh and specialty melon cultigen study. Fruit number per acre by size category for early-season harvests (1-5)<sup>1</sup>, Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>			<b>Total Mkt.</b>	<b>Total</b>	
	<b>Cull<sup>3</sup></b>	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>	<b>no. / ac</b>	<b>no. / ac<sup>4</sup></b>
ATHENA	.	363	5808	.	5808	6171
CHARLOTTE (HD)	.	.	363	.	363	363
F-39	.	1089	242	.	242	1331
FLAVOR TIME	.	242	2541	1089	3630	3872
HD-150	.	.	121	.	121	121
HEIDI	.	121	1936	242	2178	2299
HT-IG (Infinite Gold)	.	242	1815	.	1815	2057
MOKAYA	.	121	1573	.	1573	1694
SV942ML	.	1573	1694	.	1694	3267
TANAGER	.	605	3872	.	3872	4477
TH-1	.	363	363	.	363	726
TH-5	.	121	242	.	242	363
TH-6	.	242	363	.	363	605
TH-9	.	242	484	.	484	726
TH-10	.	605	242	.	242	847
TH-12	.	484	.	.	.	484
TH-13	.	.	.	.	.	.
TH-16	.	.	484	.	484	484
TH-17	.	363	726	.	726	1089
TH-18	.	1089	726	.	726	1815
TH-19	.	363	.	.	.	363
TH-20	.	121	121	.	121	242
TT-DV (Da Vinci)	.	121	605	.	605	726
VM18011249(LSL)	.	242	2057	.	2057	2299
VM18011260(LSL)	.	121	3388	121	3509	3630
252 HQ (HD)	.	.	.	.	.	.
<b>Average</b>	--	421	1353	484	1419	1669
<b>LSD (0.05)</b>	--	<b>679</b>	<b>968</b>	<b>1201</b>	<b>1111</b>	<b>1182</b>

<sup>1</sup> Early-season harvests (1-5): 28 June - 7 July 2021 (66 - 75 days after planting).

<sup>2</sup> Each number for fruit size category and total is rounded to the nearest whole number.

<sup>3</sup> Culls consisted of decayed or misshaped fruits.

<sup>4</sup> Total number per acre includes all fruit size categories, less culls, and is rounded to the nearest whole number.

**Table 6. Orange flesh and specialty melon cultigen study. Fruit number per acre by size category for mid-season harvests (6-10)<sup>1</sup>, Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>				<b>Total Mkt.</b>	<b>Total</b>
	<b>Cull<sup>3</sup></b>	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>	<b>no. / ac</b>	<b>no. / ac<sup>4</sup></b>
ATHENA	.	.	1210	242	1452	1452
CHARLOTTE (HD)	121	.	363	2178	2541	2541
F-39	242	4356	4598	.	4598	8954
FLAVOR TIME	.	.	1573	1331	2904	2904
HD-150	847	363	5566	363	5929	6292
HEIDI	121	.	2178	847	3025	3025
HT-IG (Infinite Gold)	.	121	4235	121	4356	4477
MOKAYA	242	.	4477	726	5203	5203
SV942ML	121	1694	4235	.	4235	5929
TANAGER	363	.	2541	121	2662	2662
TH-1	1089	1694	7260	.	7260	8954
TH-5	605	1210	9196	121	9317	10527
TH-6	121	1331	8954	.	8954	10285
TH-9	363	2178	7018	.	7018	9196
TH-10	121	7139	2904	.	2904	10043
TH-12	.	2904	9196	121	9317	12221
TH-13	847	847	5566	484	6050	6897
TH-16	242	1089	6776	.	6776	7865
TH-17	363	2178	9922	.	9922	12100
TH-18	121	1573	6776	.	6776	8349
TH-19	484	4235	5929	.	5929	10164
TH-20	1089	1089	5203	484	5687	6776
TT-DV (Da Vinci)	363	3509	7502	.	7502	11011
VM18011249(LSL)	121	2178	5082	.	5082	7260
VM18011260(LSL)	242	.	4598	121	4719	4719
252 HQ (HD)	121	.	1936	1210	3146	3146
<b>Average</b>	380	2205	5184	605	5510	7037
<b>LSD (0.05)</b>	<b>754</b>	<b>1947</b>	<b>2379</b>	<b>785</b>	<b>2397</b>	<b>2643</b>

<sup>1</sup> Mid-season harvests (6-10): 9 July - 19 July 2021 (77- 87 days after planting).

<sup>2</sup> Each number for fruit size category and total is rounded to the nearest whole number.

<sup>3</sup> Culls consisted of decayed or misshaped fruits.

<sup>4</sup> Total number per acre includes all fruit size categories, less culls, and is rounded to the nearest whole number.

**Table 7. Orange flesh and specialty melon cultigen study. Fruit number per acre by size category for late-season harvests (11-15)<sup>1</sup>, Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>				<b>Total Mkt.</b>	<b>Total</b>
	<b>Cull<sup>3</sup></b>	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>	<b>no. / ac</b>	<b>no. / ac<sup>4</sup></b>
ATHENA	.	121	968	121	1089	1210
CHARLOTTE (HD)	1089	121	2541	1089	3630	3751
F-39	.	605	363	.	363	968
FLAVOR TIME	726	363	1331	484	1815	2178
HD-150	968	484	1694	.	1694	2178
HEIDI	242	.	1089	242	1331	1331
HT-IG (Infinite Gold)	121	484	1936	.	1936	2420
MOKAYA	121	.	1452	121	1573	1573
SV942ML	242	2178	1694	.	1694	3872
TANAGER	121	242	484	.	484	726
TH-1	363	121	1331	.	1331	1452
TH-5	363	484	1331	.	1331	1815
TH-6	121	968	1452	.	1452	2420
TH-9	847	847	2178	.	2178	3025
TH-10	.	1815	242	.	242	2057
TH-12	121	726	1452	.	1452	2178
TH-13	121	363	605	.	605	968
TH-16	121	242	1089	.	1089	1331
TH-17	.	605	726	.	726	1331
TH-18	121	121	847	.	847	968
TH-19	726	1815	1694	.	1694	3509
TH-20	.	.	1452	363	1815	1815
TT-DV (Da Vinci)	968	1815	968	.	968	2783
VM18011249(LSL)	.	242	1210	.	1210	1452
VM18011260(LSL)	726	121	2662	121	2783	2904
252 HQ (HD)	726	121	2541	847	3388	3509
<b>Average</b>	448	652	1359	424	1489	2066
<b>LSD (0.05)</b>	<b>815</b>	<b>1026</b>	<b>1291</b>	<b>663</b>	<b>1339</b>	<b>1773</b>

<sup>1</sup> Late-season harvests (11-15): 22 July - 30 July 2021 (90 - 98 days after planting).

<sup>2</sup> Each number for fruit size category and total is rounded to the nearest whole number.

<sup>3</sup> Culls consisted of decayed or misshaped fruits.

<sup>4</sup> Total number per acre includes all fruit size categories, less culls, and is rounded to the nearest whole number.

**Table 8. Orange flesh and specialty melon cultigen study. Fruit number per acre by size category for cumulative harvests (1-15)<sup>1</sup>, Clayton, NC 2021.**

Cultigen	Company	Rank <sup>3</sup>	Cull <sup>4</sup>	Fruit size category <sup>2</sup>			Total Mkt. no. / ac	Total no. / ac <sup>5</sup>
				< 3 lb	3 - 7 lb	≥ 7.1 lb		
ATHENA	Syngenta	9	.	484	7986	363	8349	8833
CHARLOTTE (HD)	US Agriseeds	22	1210	121	3267	3267	6534	6655
F-39	Texas A & M	25	242	6050	5203	.	5203	11253
FLAVOR TIME	Seminis	10	726	605	5445	2904	8349	8954
HD-150	Texas A & M	16	1815	847	7381	363	7744	8591
HEIDI	Syngenta	23	363	121	5203	1331	6534	6655
HT-IG (Infinite Gold)	Texas A & M	15	121	847	7986	121	8107	8954
MOKAYA	BASF/Nunhems	11	363	121	7502	847	8349	8470
SV942ML	Seminis	17	363	5445	7623	.	7623	13068
TANAGER	BASF/Nunhems	20	484	847	6897	121	7018	7865
TH-1	Texas A & M	8	1452	2178	8954	.	8954	11132
TH-5	Texas A & M	3	968	1815	10769	121	10890	12705
TH-6	Texas A & M	4	242	2541	10769	.	10769	13310
TH-9	Texas A & M	6	1210	3267	9680	.	9680	12947
TH-10	Texas A & M	26	121	9559	3388	.	3388	12947
TH-12	Texas A & M	5	121	4114	10648	121	10769	14883
TH-13	Texas A & M	21	968	1210	6171	484	6655	7865
TH-16	Texas A & M	12	363	1331	8349	.	8349	9680
TH-17	Texas A & M	1	363	3146	11374	.	11374	14520
TH-18	Texas A & M	13	363	2783	8349	.	8349	11132
TH-19	Texas A & M	18	1210	6413	7623	.	7623	14036
TH-20	Texas A & M	19	1089	1210	6776	847	7623	8833
TT-DV (Da Vinci)	Texas A & M	7	1331	5445	9075	.	9075	14520
VM18011249(LSL)	US Agriseeds	14	121	2662	8349	.	8349	11011
VM18011260(LSL)	US Agriseeds	2	968	242	10648	363	11011	11253
252 HQ (HD)	Texas A & M	24	847	121	4477	2057	6534	6655
<b>Average</b>			697	2443	7688	951	8200	10643
<b>LSD (0.05)</b>			<b>1046</b>	<b>1926</b>	<b>2466</b>	<b>983</b>	<b>2399</b>	<b>2662</b>

<sup>1</sup> Cumulative harvests (1-15): 28 June - 30 July 2021 (66 - 98 days after planting).

<sup>2</sup> Each number for fruit size category and total is rounded to the nearest whole number.

<sup>3</sup> Ranked by total marketable fruit number per acre in descending order.

<sup>4</sup> Culls consisted of decayed or misshaped fruits.

<sup>5</sup> Total number per acre includes all fruit size categories, less culls, and is rounded to the nearest whole number.

**Table 9. Orange flesh and specialty melon cultigen study. Percent fruit weight by size category for early-season harvests (1-5)<sup>1</sup>. Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>		
	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>
ATHENA	4	96	0
CHARLOTTE (HD)	0	100	0
F-39	75	25	0
FLAVOR TIME	3	60	38
HD-150	0	100	0
HEIDI	3	83	14
HT-IG (Infinite Gold)	9	91	0
MOKAYA	5	95	0
SV942ML	41	59	0
TANAGER	9	91	0
TH-1	43	57	0
TH-5	18	82	0
TH-6	33	67	0
TH-9	27	73	0
TH-10	64	36	0
TH-12	100	0	0
TH-13	0	0	0
TH-16	0	100	0
TH-17	26	74	0
TH-18	51	49	0
TH-19	100	0	0
TH-20	38	62	0
TT-DV (Da Vinci)	13	87	0
VM18011249(LSL)	7	93	0
VM18011260(LSL)	2	93	5
252 HQ (HD)	0	0	0
<b>Average</b>	<b>26</b>	<b>64</b>	<b>2</b>

<sup>1</sup> Early-season harvests (1-5): 28 June - 7 July 2021 (66 - 75 days after planting).

<sup>2</sup> Percentages of each fruit size category for each cultigen were rounded to the nearest whole number.

**Table 10. Orange flesh and specialty melon cultigen study. Percent fruit weight by size category for mid-season harvests (6-10)<sup>1</sup>. Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>		
	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>
ATHENA	0	77	23
CHARLOTTE (HD)	0	11	89
F-39	39	61	0
FLAVOR TIME	0	45	55
HD-150	3	87	9
HEIDI	0	66	34
HT-IG (Infinite Gold)	1	94	4
MOKAYA	0	80	20
SV942ML	23	77	0
TANAGER	0	93	7
TH-1	12	88	0
TH-5	7	90	2
TH-6	9	91	0
TH-9	16	84	0
TH-10	62	38	0
TH-12	17	81	2
TH-13	7	82	11
TH-16	8	92	0
TH-17	13	87	0
TH-18	12	88	0
TH-19	35	65	0
TH-20	9	78	13
TT-DV (Da Vinci)	25	75	0
VM18011249(LSL)	23	77	0
VM18011260(LSL)	0	96	4
252 HQ (HD)	0	52	48
<b>Average</b>	<b>12</b>	<b>75</b>	<b>12</b>

<sup>1</sup> Mid-season harvests (6-10): 9 July - 19 July 2021 (77- 87 days after planting).

<sup>2</sup> Percentages of each fruit size category for each cultigen were rounded to the nearest whole number.



**Table 11. Orange flesh and specialty melon cultigen study. Percent fruit weight by size category for late-season harvests (11-15)<sup>1</sup>. Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>		
	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>
ATHENA	5	79	16
CHARLOTTE (HD)	1	58	41
F-39	50	50	0
FLAVOR TIME	8	58	34
HD-150	13	87	0
HEIDI	0	74	26
HT-IG (Infinite Gold)	12	88	0
MOKAYA	0	89	11
SV942ML	48	52	0
TANAGER	24	76	0
TH-1	6	94	0
TH-5	15	85	0
TH-6	31	69	0
TH-9	20	80	0
TH-10	86	14	0
TH-12	25	75	0
TH-13	26	74	0
TH-16	10	90	0
TH-17	35	65	0
TH-18	8	92	0
TH-19	42	58	0
TH-20	0	75	25
TT-DV (Da Vinci)	59	41	0
VM18011249(LSL)	12	88	0
VM18011260(LSL)	2	91	6
252 HQ (HD)	1	67	31
<b>Average</b>	<b>21</b>	<b>72</b>	<b>7</b>

<sup>1</sup> Late-season harvests (11-15): 22 July - 30 July 2021 (90 - 98 days after planting).

<sup>2</sup> Percentages of each fruit size category for each cultigen were rounded to the nearest whole number.

**Table 12. Orange flesh and specialty melon cultigen study. Percent fruit weight by size category for cumulative harvests (1-15)<sup>1</sup>. Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>		
	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>
ATHENA	3	90	7
CHARLOTTE (HD)	1	39	61
F-39	44	56	0
FLAVOR TIME	3	54	43
HD-150	5	88	7
HEIDI	1	73	26
HT-IG (Infinite Gold)	6	92	2
MOKAYA	1	84	15
SV942ML	34	66	0
TANAGER	7	90	3
TH-1	13	87	0
TH-5	9	89	2
TH-6	13	87	0
TH-9	17	83	0
TH-10	66	34	0
TH-12	21	78	2
TH-13	9	81	10
TH-16	8	92	0
TH-17	15	85	0
TH-18	17	83	0
TH-19	38	62	0
TH-20	7	77	16
TT-DV (Da Vinci)	30	70	0
VM18011249(LSL)	18	82	0
VM18011260(LSL)	1	94	5
252 HQ (HD)	1	60	40
<b>Average</b>	<b>15</b>	<b>76</b>	<b>9</b>

<sup>1</sup> Cumulative harvests (1-15): 28 June - 30 July 2021 (66 - 98 days after planting).

<sup>2</sup> Percentages of each fruit size category for each cultigen were rounded to the nearest whole number.



**Table 13. Orange flesh and specialty melon cultigen study. Percentage of fruit weight harvested by harvest period, Clayton, NC 2021.**

<b>Percentage harvested among harvest periods</b>				
<b>Cultigen</b>	<b>Company</b>	<b>Early Season (1-5)<sup>1</sup></b>	<b>Mid Season (6-10)<sup>2</sup></b>	<b>Late Season (11-15)<sup>3</sup></b>
ATHENA	Syngenta	65	20	15
CHARLOTTE (HD)	US Agriseeds	4	45	51
F-39	Texas A & M	10	81	9
FLAVOR TIME	Seminis	44	35	21
HD-150	Texas A & M	1	77	22
HEIDI	Syngenta	30	48	22
HT-IG (Infinite Gold)	Texas A & M	20	56	25
MOKAYA	BASF/Nunhems	17	65	18
SV942ML	Seminis	24	48	29
TANAGER	BASF/Nunhems	53	39	9
TH-1	Texas A & M	5	81	13
TH-5	Texas A & M	3	84	14
TH-6	Texas A & M	4	80	16
TH-9	Texas A & M	5	71	24
TH-10	Texas A & M	6	80	15
TH-12	Texas A & M	2	84	14
TH-13	Texas A & M	0	89	11
TH-16	Texas A & M	4	81	16
TH-17	Texas A & M	7	85	9
TH-18	Texas A & M	13	77	10
TH-19	Texas A & M	2	74	24
TH-20	Texas A & M	2	73	25
TT-DV (Da Vinci)	Texas A & M	5	78	17
VM18011249(LSL)	US Agriseeds	23	63	14
VM18011260(LSL)	US Agriseeds	32	44	25
252 HQ (HD)	Texas A & M	0	50	50
<b>Average</b>		<b>15</b>	<b>66</b>	<b>20</b>

<sup>1</sup> Early harvests (1-5): 28 June - 7 July 2021 (66 - 75 days after planting).

<sup>2</sup> Mid season harvests (6-10): 9 July - 19 July 2021 (77- 87 days after planting).

<sup>3</sup> Late season harvests (11-15): 22 July - 30 July 2021 (90 - 98 days after planting).

**Table 14. Orange flesh and specialty melon cultigen study. Percent fruit number by size category for early-season harvests (1-5)<sup>1</sup>. Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>		
	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>
ATHENA	6	94	0
CHARLOTTE (HD)	0	100	0
F-39	82	18	0
FLAVOR TIME	6	66	28
HD-150	0	100	0
HEIDI	5	84	11
HT-IG (Infinite Gold)	12	88	0
MOKAYA	7	93	0
SV942ML	48	52	0
TANAGER	14	86	0
TH-1	50	50	0
TH-5	33	67	0
TH-6	40	60	0
TH-9	33	67	0
TH-10	71	29	0
TH-12	100	0	0
TH-13	0	0	0
TH-16	0	100	0
TH-17	33	67	0
TH-18	60	40	0
TH-19	100	0	0
TH-20	50	50	0
TT-DV (Da Vinci)	17	83	0
VM18011249(LSL)	11	89	0
VM18011260(LSL)	3	93	3
252 HQ (HD)	0	0	0
<b>Average</b>	<b>30</b>	<b>61</b>	<b>2</b>

<sup>1</sup> Early-season harvests (1-5): 28 June - 7 July 2021 (66 - 75 days after planting).

<sup>2</sup> Percentages of each fruit size category for each cultigen were rounded to the nearest whole number.



**Table 15. Orange flesh and specialty melon cultigen study. Percent fruit number by size category for mid-season harvests (6-10)<sup>1</sup>. Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>		
	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>
ATHENA	0	83	17
CHARLOTTE (HD)	0	14	86
F-39	49	51	0
FLAVOR TIME	0	54	46
HD-150	6	88	6
HEIDI	0	72	28
HT-IG (Infinite Gold)	3	95	3
MOKAYA	0	86	14
SV942ML	29	71	0
TANAGER	0	95	5
TH-1	19	81	0
TH-5	11	87	1
TH-6	13	87	0
TH-9	24	76	0
TH-10	71	29	0
TH-12	24	75	1
TH-13	12	81	7
TH-16	14	86	0
TH-17	18	82	0
TH-18	19	81	0
TH-19	42	58	0
TH-20	16	77	7
TT-DV (Da Vinci)	32	68	0
VM18011249(LSL)	30	70	0
VM18011260(LSL)	0	97	3
252 HQ (HD)	0	62	38
<b>Average</b>	<b>17</b>	<b>73</b>	<b>10</b>

<sup>1</sup> Mid-season harvests (6-10): 9 July - 19 July 2021 (77- 87 days after planting).

<sup>2</sup> Percentages of each fruit size category for each cultigen were rounded to the nearest whole number.

**Table 16. Orange flesh and specialty melon cultigen study**  
**Percent fruit number by size category for late-season**  
**harvests (11-15)<sup>1</sup>, Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>		
	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>
ATHENA	10	80	10
CHARLOTTE (HD)	3	68	29
F-39	63	38	0
FLAVOR TIME	17	61	22
HD-150	22	78	0
HEIDI	0	82	18
HT-IG (Infinite Gold)	20	80	0
MOKAYA	0	92	8
SV942ML	56	44	0
TANAGER	33	67	0
TH-1	8	92	0
TH-5	27	73	0
TH-6	40	60	0
TH-9	28	72	0
TH-10	88	12	0
TH-12	33	67	0
TH-13	38	63	0
TH-16	18	82	0
TH-17	45	55	0
TH-18	13	88	0
TH-19	52	48	0
TH-20	0	80	20
TT-DV (Da Vinci)	65	35	0
VM18011249(LSL)	17	83	0
VM18011260(LSL)	4	92	4
252 HQ (HD)	3	72	24
<b>Average</b>	<b>27</b>	<b>68</b>	<b>5</b>

<sup>1</sup> Late-season harvests (11-15): 22 July - 30 July 2021 (90 - 98 days after planting).

<sup>2</sup> Percentages of each fruit size category for each cultigen were rounded to the nearest whole number.

**Table 17. Orange flesh and specialty melon cultigen study.**  
**Percent fruit number by size category for cumulative**  
**harvests (1-15)<sup>1</sup>. Clayton, NC 2021.**

<b>Cultigen</b>	<b>Fruit size category<sup>2</sup></b>		
	<b>&lt; 3 lb</b>	<b>3 - 7 lb</b>	<b>≥ 7.1 lb</b>
ATHENA	5	90	4
CHARLOTTE (HD)	2	49	49
F-39	54	46	0
FLAVOR TIME	7	61	32
HD-150	10	86	4
HEIDI	2	78	20
HT-IG (Infinite Gold)	9	89	1
MOKAYA	1	89	10
SV942ML	42	58	0
TANAGER	11	88	2
TH-1	20	80	0
TH-5	14	85	1
TH-6	19	81	0
TH-9	25	75	0
TH-10	74	26	0
TH-12	28	72	1
TH-13	15	78	6
TH-16	14	86	0
TH-17	22	78	0
TH-18	25	75	0
TH-19	46	54	0
TH-20	14	77	10
TT-DV (Da Vinci)	38	63	0
VM18011249(LSL)	24	76	0
VM18011260(LSL)	2	95	3
252 HQ (HD)	2	67	31
<b>Average</b>	<b>20</b>	<b>73</b>	<b>7</b>

<sup>1</sup> Cumulative harvests (1-15): 28 June - 30 July 2021 (66 - 98 days after planting).

<sup>2</sup> Percentages of each fruit size category for each cultigen were rounded to the nearest whole number.



**Table 18. Orange flesh and specialty melon cultigen study. Percentage of fruit number harvested by harvest period, Clayton, NC 2021.**

<b><u>Percentage harvested among harvest periods<sup>1</sup></u></b>				
<b><u>Cultigen</u></b>	<b><u>Company</u></b>	<b><u>Early Season (1-5)<sup>2</sup></u></b>	<b><u>Mid Season (6-10)<sup>3</sup></u></b>	<b><u>Late Season (11-15)<sup>4</sup></u></b>
ATHENA	Syngenta	70	16	14
CHARLOTTE (HD)	US Agriseeds	5	38	56
F-39	Texas A & M	12	80	9
FLAVOR TIME	Seminis	43	32	24
HD-150	Texas A & M	1	73	25
HEIDI	Syngenta	35	45	20
HT-IG (Infinite Gold)	Texas A & M	23	50	27
MOKAYA	BASF/Nunhems	20	61	19
SV942ML	Seminis	25	45	30
TANAGER	BASF/Nunhems	57	34	9
TH-1	Texas A & M	7	80	13
TH-5	Texas A & M	3	83	14
TH-6	Texas A & M	5	77	18
TH-9	Texas A & M	6	71	23
TH-10	Texas A & M	7	78	16
TH-12	Texas A & M	3	82	15
TH-13	Texas A & M	0	88	12
TH-16	Texas A & M	5	81	14
TH-17	Texas A & M	8	83	9
TH-18	Texas A & M	16	75	9
TH-19	Texas A & M	3	72	25
TH-20	Texas A & M	3	77	21
TT-DV (Da Vinci)	Texas A & M	5	76	19
VM18011249(LSL)	US Agriseeds	21	66	13
VM18011260(LSL)	US Agriseeds	32	42	26
252 HQ (HD)	Texas A & M	0	47	53
<b>Average</b>		<b>16</b>	<b>64</b>	<b>20</b>

<sup>1</sup> Percentages of each harvest period for each cultigen were rounded to the nearest whole number.

<sup>2</sup> Early harvests (1-5): 28 June - 7 July 2021 (66 - 75 days after planting).

<sup>3</sup> Mid season harvests (6-10): 9 July - 19 July 2021 (77- 87 days after planting).

<sup>4</sup> Late season harvests (11-15): 22 July - 30 July 2021 (90 - 98 days after planting).

**Table 19. Orange flesh and specialty melon cultigen study.**  
**Interior fruit quality, Clayton, NC 2021.**

<b>Cultigen</b>	<b>SS<sup>1</sup></b>	<b>LD<sup>2</sup></b>	<b>Flesh Firmness<sup>3</sup></b>
<b>ATHENA</b>	12.6	1.0	2.9
<b>CHARLOTTE (HD)</b>	13.6	0.9	4.5
<b>F-39</b>	10.0	1.1	2.5
<b>FLAVOR TIME</b>	14.5	1.0	5.7
<b>HD-150</b>	12.6	1.2	3.3
<b>HEIDI</b>	14.5	1.0	6.4
<b>HT-IG (Infinite Gold)</b>	13.3	1.0	5.5
<b>MOKAYA</b>	12.4	1.0	6.1
<b>SV942ML</b>	14.1	0.9	6.7
<b>TANAGER</b>	13.4	1.0	3.3
<b>TH-1</b>	11.4	1.1	4.3
<b>TH-5</b>	11.1	1.1	3.7
<b>TH-6</b>	11.2	1.0	2.4
<b>TH-9</b>	11.5	1.0	3.6
<b>TH-10</b>	11.4	1.0	3.3
<b>TH-12</b>	11.9	1.1	3.6
<b>TH-13</b>	12.0	1.1	3.0
<b>TH-16</b>	10.6	1.1	3.7
<b>TH-17</b>	11.5	1.0	3.0
<b>TH-18</b>	10.8	1.0	3.8
<b>TH-19</b>	11.1	1.0	4.1
<b>TH-20</b>	11.3	1.0	3.4
<b>TT-DV (Da Vinci)</b>	12.6	1.1	3.9
<b>VM18011249(LSL)</b>	13.4	1.1	4.6
<b>VM18011260(LSL)</b>	14.0	1.0	4.0
<b>252 HQ (HD)</b>	13.8	1.0	4.6
<b>Average</b>	<b>12.3</b>	<b>1.0</b>	<b>4.1</b>
<b>LSD(0.05)</b>	<b>1.2</b>	<b>0.1</b>	<b>1.3</b>

<sup>1</sup> SS = Indicates sweetness, average of 3 melons per replication (12 total).

<sup>2</sup> LD = Length and diameter ratio, average of 3 melons per replication (12 total).

<sup>3</sup> Fruit pressure was taken by a penetrometer, Fruit Pressure Tester - FT011.

from QA Supplies LLC, Norfolk Va.