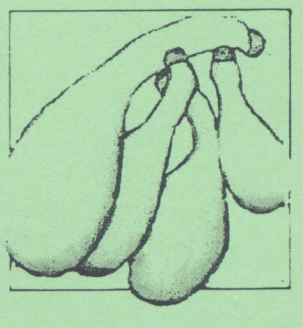
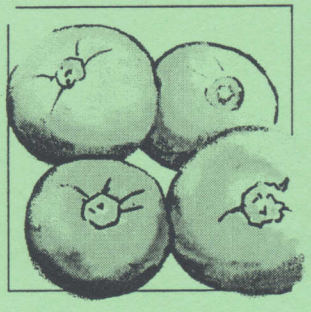
SPRING 2003

COMMERCIAL VEGETABLE VARIETY TRIALS





December 2003 • Regional Bulletin 11
Auburn University • Clemson University • University of Georgia
Alabama Agricultural Experiment Station • John Jensen, Interim Director
Auburn University, Alabama
Printed in cooperation with the Alabama Cooperative Extension System
(Alabama A&M University and Auburn University

Contents

Authors ____ 4

Introduction: Tips for Interpreting Vegetable Variety Performance ____ 5

Summer Squash Trials Include Patty Pan Types ____ 7

Experimental Sweet Corn Variety Displays Good Yield and High Quality ____ 9

Vidalia Onion Variety Trial, 2003 ____ 12

Market Standards Perform Well Among New Tomato Varieties ____ 16

Cantaloupe Experimental Varieties are Named ____ 18

Watermelon and Cantaloupe Trials in Georgia, 2003 ____ 20

Seedless Watermelon Increases in Popularity ____ 23

Palm or Personal-Size Melon Variety Trial ____ 26

Seed Sources for Alabama Trials ____ 28

Guidelines for Contributions to the Vegetable Variety Regional Bulletin

Names of chemicals are mentioned only for describing the production practices used. This represents neither a recommendation nor an endorsement of these products.

Information contained herein is available to all persons without regard to race, color, sex, or national origin.

Authors

Randy Akridge
Superintendent
Brewton Agricultural Research Unit
Brewton, AL
(334) 867-3139

Ronnie Blackley
County Extension Agent
Toombs County Extension Office
Courthouse Square
Lyons, GA 30436
(912) 526-3101

George E. Boyhan
Assistant Professor and Ext. Specialist
Georgia Cooperative Extension Service, Statesboro, GA
(912) 386-3442

Jason Burkett
Superintendent, Horticulture Unit
E.V. Smith Research Center
Shorter, AL
(334) 727-6159

Arnold Caylor
Superintendent
North Alabama Horticulture Research Center, Cullman, AL
(256) 734-5820

M. Jefferson Cook
County Extension Agent
Tattnall County Extension Office
P.O. Box 580
Reidsville, GA 30453

Joey Davis
Vegetable Research Intern
Edisto Research and Extension Center
64 Research Road
Blacksville, SC 29817

Jonathan Davis
Vegetable Research Intern
Edisto Research and Extension Center
64 Research Road
Blacksville, SC 29817

Tony Dawkins
Superintendent
Sand Mountain Research and Extension Center, Crossville, AL
(256) 528-7133

Darbie Gransberry
Professor and Extension Horticulturist
Rural Development Center
P.O. Box 1209
Tifton, GA 31793
(229) 386-3410

Greg Hardison
County Extension Coordinator
Montgomery County Extension Office
P.O. Box 276
Mount Vernon, GA 30445

C. Randell Hill
Research Station Superintendent
8163 Hwy 178
Lyons, GA 30436

Joe Kemble
Associate Professor and Extension Vegetable Specialist
Department of Horticulture
Auburn University, AL
(334) 844-3050

Heath Paradice
County Extension Agent
Treutlen County Extension Office
206 Third Street
Soperton, GA 30457

Gilbert Miller
Clemson Extension Service
P. O. Box 299, Bamberg, SC 29003
GMLLR@CLEMSON.EDU
(803) 245-2661

J. Thad Paulk
Agricultural Research Assistant III
Department of Horticulture
Coastal Plain Experiment Station
Tifton, GA 31793-5401

Albert C. Purvis
Professor
Department of Horticulture
Coastal Plain Experiment Station
Tifton, GA 31793-5401

William M. Randle
Professor
Department of Horticulture
University of Georgia
Athens, GA 30602-7273

Anna Resurreccion
Professor
University of Georgia
Griffin, GA 30223-1797
(770) 412-4736

Reid L. Torrance
County Extension Coordinator
Tattnall County Extension Office
P.O. Box 580
Reidsville, GA 30453

Edgar Vinson, III
Research Associate
Department of Horticulture
Auburn University, AL
(334) 844-3041

Larry Wells
Superintendent
Wiregrass Research and Extension Center, Headland, AL
(334) 693-2363

Introduction: Tips for Interpreting Vegetable Variety Performance

Edgar Vinson and Joe Kemble

The spring 2003 variety trials regional bulletin is a compilation of vegetable variety information from Auburn University, the University of Georgia, and Clemson University. In this bulletin, growers, extension specialists, and seed companies will be able to see the performance of standard market varieties as well as their favorite varieties in other areas of the Southeast.

The main purpose of vegetable variety evaluation, however, is to provide growers and seed retailers with practical information on varieties and to assist growers in selecting a good variety. Here are a few tips to get the most out of vegetable variety trials results.

Open pollinated or hybrid varieties

In general, hybrids (also referred to as F_1) are earlier and produce a more uniform crop. Often they have improved disease, pest, or virus tolerance/resistance. Hybrid varieties are often more expensive than open pollinated varieties (OP), and seeds cannot be collected from one crop to plant the next. Despite the advantages hybrids offer, OP are still often planted in Alabama. Selecting a hybrid variety is the first step toward earliness and quality.

Yield potential

Yields reported in variety trial results are extrapolated from small plots. Depending on the vegetable crop, plot sizes range between 100 to 500 square feet. Yields per acre are estimated by multiplying plot yields by corrective factors ranging from 100 to 1,000. Small errors are thus amplified, and estimated yields per acre may not be realistic. Therefore, locations cannot be compared by just looking at the range of yields actually reported. However, the relative differences in performance among varieties are realistic, and can be used to identify best-performing varieties.

Statistical interpretation

The coefficient of determination (R^2), coefficient of variation (CV), and least significant difference (LSD, 5%) are reported for each test. These numbers are helpful in separating the differences due to small plots (sampling error) and true (but unknown) differences among entries.

R^2 ranges between 0 and 1. Values close to 1 suggest that the test was conducted under good conditions and most of the variability observed was mainly due to the effect of variety and replication. Random, uncontrolled errors were of lesser importance.

CV is an expression of yield variability relative to yield mean. Low CVs are desirable (under 20%), but are not always achieved.

There must be a minimum yield difference between two varieties before one can statistically conclude that one variety actually performs better than another. This is known as the least significant difference (LSD). When the difference in yield is less than the LSD value, one cannot conclude that there is any real difference between two varieties. For example, in the watermelon trial presented in this issue conducted at the Wiregrass Research and Extension Center, 'WX 260' yielded 37,573 pounds per acre, while 'Variety 710' and 'Fiesta' yielded 24,730 and 12,953 pounds per acre, respectively. The LSD value for this experiment was 18,995 pound per acre. Since there was less than a 18,995 pounds per acre difference between 'WX 260' and 'Variety 710', there is no statistical difference between these two varieties. However, the yield difference between 'WX 260' and 'Fiesta' was 24,620 (i.e. greater than 18,995), indicating that there is a real difference between these two varieties. From a practical point of view, producers should place the most importance on LSD values when interpreting results.

Testing conditions

AU vegetable variety trials are conducted under standard, recommended commercial production practices. If the cropping system to be used is different from that used in the trials, the results of the trials may not apply. Information on soil type (Table 1), planting dates, fertilizer rates, and spray schedules is provided to help producers compare their own practices to the standard one used in the trials, and make relevant adjustments.

Ratings of trials

At each location, variety trials were rated on a 1 to 5 scale, based on weather conditions, fertilization, irrigation, pest pressure, and overall performance (Table 2). Results from trials with ratings of 2 and under are not reported. These numbers may be used to interpret differences in performance from location to location. The overall rating may be used to give more importance to the results of variety performance under good growing conditions.

Where to get seeds

Because seeds are alive, their performance and germination rate depends on how old they are, where and how they were collected, and how they have been handled and stored. It is always preferable to get certified seeds from a reputable source, such as the ones listed in Seed Sources for Alabama Trials (p. 28).

Several factors other than yield have to be considered when choosing a vegetable variety from a variety trial report. The main factors are type, resistance and tolerance to diseases, earliness, and, of course, availability and cost of seeds. It is always better to try two to three varieties on a small scale before making a large planting of a single variety.

Vegetable trials on the Web

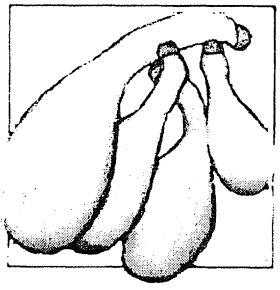
For more vegetable variety information be sure to visit the vegetable varieties Web page at www.aces.edu/department/com_veg/veg_trial/vegetabl.htm. This Web site describes variety types, explains the ratings system, and presents information about participating seed companies.

TABLE 1. SOIL TYPES AT THE LOCATIONS OF THE ALABAMA TRIALS

Location	Water-holding capacity *(in/in)*	Soil type
Gulf Coast Research and Extension Center (Fairhope)	0.09 - 0.19	Malbis fine sandy loam
Brewton Agricultural Research Unit (Brewton)	0.12 - 0.14	Benndale fine sandy loam
Wiregrass Research and Extension Center (Headland)	0.14 - 0.15	Dothan sandy loam
Lower Coastal Plain Substation (Camden)	0.13 - 0.15	Forkland fine sandy loam
E.V. Smith Research Center, Horticultural Unit (Shorter)	0.15 - 0.17	Norfolk-orangeburg loamy sand
Chilton Research and Extension Center (Clanton)	0.13 - 0.15	Luvernue sandy loam
Upper Coastal Plain Agricultural Research Center (Winfield)	0.13 - 0.20	Savannah loam
North Alabama Horticultural Research Center (Cullman)	0.16 - 0.20	Hartsells-Albertville fine sandy loam
Sand Mountain Research and Extension Center (Crossville)	0.16 - 0.18	Wynnville fine sandy loam

TABLE 2. DESCRIPTION OF RATINGS

Rating	Weather	Fertilizer	Irrigation	Pests	Overall
5	Very Good	Very Good	Very Good	None	Excellent
4	Favorable	Good	Good	Light	Good
3	Acceptable	Acceptable	Acceptable	Tolerable	Acceptable
2	Adverse	Low	Low	Adverse	Questionable
1	Destructive	Very Low	Insufficient	Destructive	Useless



Summer Squash Trials Include Patty Pan Types

Joe Kemble, Edgar Vinson, Jason Burkett, and Tony Dawkins

Summer squash variety trials were conducted at the E.V. Smith Research Center (EVSRC) in Shorter, Alabama, and the Sand Mountain Research and Extension Center (SMREC) in Crossville (Tables 1 and 2).

Soils were fertilized according to the recommendations of the Auburn University Soil Testing Laboratory. Current production practices for summer squash can be found in *Vegetable Crop Guidelines for the Southeastern United States* (bulletin published by the North Carolina Vegetable Growers Association).

At both locations, plants were set on plots that were 20 feet long with 5-foot spacing between rows and a within row spacing of 2 feet. Silver plastic mulch and drip irrigation were used. Squash were direct seeded on May 8 at EVSRC and April 30 at SMREC.

At EVSRC, fertilization consisted of an application of calcium nitrate (15.5-0-0) and muriate of potash (0-0-60) at rates of 400 pounds per acre and 200 pounds per acre respectively on April 13. Alternate injections of calcium nitrate and 20-20-20 were made twice weekly.

Table 1. Ratings of 2003 Summer Squash Variety Trial[1]

Location	EVSRC	SMREC
Weather	5	5
Fertility	5	5
Irrigation	5	5
Pests	5	5
Overall	5	5

[1]See introduction for a description of rating scales.

At SMREC, preplant fertilization consisted of 400 pounds per acre of 5-20-20. Fertilization consisted of 60 pounds per acre of potassium nitrate and 6 pounds per acre of N as 20-20-20 and as calcium nitrate.

Squash were harvested three times per week between June 16 and July 9 at EVSRC and between June 16 and July 11 at SMREC. Squash were graded as marketable or nonmarketable according to the United States Standards for Grades of Summer Squash (U.S. Dept. Agr. G.P.O 1987-180-916:40730 AMS) (Tables 3 and 4).

Neither the patty pan or yellow summer squash varieties exhibited differences in total yield at either location. The patty pan type 'Starship' had significantly higher yields at EVSRC.

Table 2. Seed Source, Fruit Type, and Relative Earliness of Selected Squash Varieties

Variety	Type	Seed source	Days to harvest	Disease claims[1]	Years evaluated
ACX 204	F1	A&C	—	—	02,03
Butter Scallop	F1	Novartis	48	—	03
Dixie	F1	Seminis	41	—	94-96,98-00,03
Gentry	F1	Novartis	43	—	95-99,02,03
Medallion	F1	A&C	53	—	96,02,03
Patty Green Tint	F1	Seminis	52	—	03
Pic-N-Pic	F1	Seedway	50	—	99-03
Precious II[3]	F1	Harris	53	—	02,03
Prelude II	F1	Seminis	40	PM,WMV,ZYMV	97-01,03
Seneca Supreme[3]	F1	Rupp	45	CMV,WMV	94,97,98,03
Starship	F1	Novartis	45	—	03
Supersette[3]	F1	Harris Moran	—	CMV,WMV	94,96,03
Sunburst	F1	Novartis	50	—	03
Sunray[3]	F1	Seedway	—	CMV,PM,WMV	03
Zephyr[3]	F1	Johnny's Select	54	—	99,01-03

[1] Disease claims: PM = Powdery Mildew; CMV = Cucumber Mosaic Virus; ZYMV = Zucchini Yellow Mosaic Virus, WMV = Watermelon Mosaic Virus.
[2] — = none; from seed catalogues. [3] Precocious variety.

Among the yellow summer squash types, 'Prelude II', a market standard, performed as well as 'Gentry', 'Medallion', 'Precious', 'ACX 204', and 'Seneca Supreme'. At SMREC, 'Seneca Supreme' and 'ACX 204' produced yields that were significantly higher than 'Prelude II'.

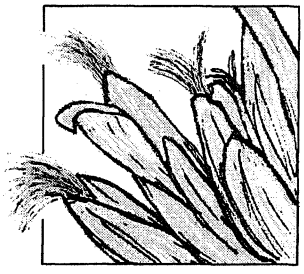
TABLE 3. EARLY PRODUCTION[1] OF SELECTED SUMMER SQUASH VARIETIES, 2003

Variety	Type[2]	Early marketable yield *lbs/ac*
E.V. Smith Research Center		
Starship	P	2,700
Sunburst	P	1,171
Patty Green Tint	P	1,092
Butterscotch	P	887
Gentry	Y	1,992
Medallion	Y	1,723
Prelude II	Y	1,517
Precious	Y	1,317
ACX 204	Y	1,193
Seneca Sun	Y	1,175
Sunray	Y	979
Zephyr	Y	634
Dixie	Y	608
Supersett	Y	500
Pic-N-Pic	Y	474
r^2		*0.50*
CV		*58*
LSD		*957*
Sand Mountain Research and Extension Center		
Patty Green Tint	P	1,234
Starship	P	838
Sunburst	P	691
Butterscotch	P	403
Seneca Supreme	Y	1,957
Zephyr	Y	1,405
ACX 204	Y	1,349
Supersette	Y	926
Medallion	Y	809
Precious	Y	686
Dixie	Y	579
Sunray	Y	399
Prelude II	Y	362
Pic-N-Pic	Y	•
Gentry	Y	•
r^2		*0.50*
CV		*90*
LSD		*1,011*

[1] Early production is represented by the first three harvests.
[2] Type: P = Patty pan; Y = Yellow crookneck squash.
• = not reported.

TABLE 4. TOTAL SEASON YIELD OF SELECTED SUMMER SQUASH VARIETIES, 2003

Variety	Type[1]	Total marketable yield *lbs/ac*	Individual fruit weight *lbs*
E.V. Smith Research Center			
Starship	P	5,695	0.28
Patty Green Tint	P	2,714	0.15
Sunburst	P	2,580	0.30
Butterscotch	P	1,687	0.14
Gentry	Y	4,824	0.13
Medallion	Y	3,639	0.29
Prelude II	Y	3,148	0.34
Precious	Y	2,962	0.12
Sunray	Y	2,159	0.13
ACX 204	Y	1,925	0.16
Seneca Supreme	Y	1,869	0.12
Pic -N-Pic	Y	1,793	0.11
Dixie	Y	1,591	0.13
Zephyr	Y	1,484	0.15
Supersette	Y	897	0.17
r^2		*0.70*	*0.93*
CV		*38*	*14*
LSD		*1,392*	*0.04*
Sand Mountain Research and Extension Center			
Sunburst	P	9,856	0.44
Starship	P	9,660	0.47
Patty green Tint	P	8,776	0.52
Butterscotch	P	4,962	0.31
Seneca Supreme	Y	12,468	0.55
Supersette	Y	12,104	0.54
Zephyr	Y	10,080	0.47
Precious	Y	9,820	0.34
Medallion	Y	9,624	0.44
Sunray	Y	9,505	0.60
ACX 204	Y	9,367	0.37
Dixie	Y	9,070	0.53
Pic-N-Pic	Y	7,169	0.46
Prelude II	Y	7,103	0.38
Gentry	Y	6,086	0.36
r^2		*0.20*	*0.30*
CV		*53*	*35*
LSD		*5,615*	*0.22*



Experimental Sweet Corn Variety Displays Good Yield and High Quality

Joe Kemble, Edgar Vinson, Jason Burkett, and Arnold Caylor

Yellow and white supersweet (sh^2) sweet corn varieties were evaluated at E.V. Smith Research Center (EVSRC) in Shorter, Alabama, and the North Alabama Horticulture Research Center (NAHRC) in Cullman (Tables 1 and 2).

Two-row plots 20 feet by 3 feet were established with a within row spacing of 8 to 10 inches creating a stand of approximately 26,000 plants per acre. To prevent cross pollination, yellow and white sh^2 corn types were separated by 300 feet. Cross pollination between corn types will alter grain characteristics. Corn varieties were planted on May 9 at EVSRC and on April 23 at NAHRC.

Soils were fertilized according to the recommendations of the Auburn University Soil Testing Laboratory. Current recommendations for pest and weed control in vegetable production in Alabama may be found in *IPM Commercial Vegetable: Insect, Disease, Nematode and Weed Control Recommendations* (Publication 02IPM-2 from the Alabama Cooperative Extension System).

At NAHRC, 80 pounds of nitrogen (N) per acre as ammonium nitrate were applied preplant. One sidedress of ammonium nitrate at a rate of 40 pounds N per acre was also applied.

TABLE 1. RATINGS OF 2003 SWEET CORN VARIETY TRIAL[1]

Location	EVSRC	NAHRC
Weather	5	5
Fertility	5	5
Irrigation	5	5
Pests	5	5
Overall	5	5

[1]See introduction for a description of rating scales.

TABLE 2. SEED SOURCE, TYPE, COLOR, AND EARLINESS OF SELECTED SWEET CORN VARIETIES

Variety	Seed source	Color	Type	Days to harvest	Disease resistance tolerance[2]	Years evaluated
Attribute (GSS-0966)[1]	Novartis	Y	sh_2	78	CR, NCLB, SBW	99,02,03
Boreal	Novartis	W	sh_2	78	CR, NCLB, SBW	02,03
Envy	Seedway	Y	sh_2	81	CR, NCLB, SBW,SCLB	02,03
EX 8462518	Seminis	Y	sh_2	—	CR,NCLB,SBW,SCLB	03
Flagship	Seedway	W	sh_2	84	NCLB, SBW	02,03
Ice Queen	Harris	W	sh_2	77	CR, MDMV, NCLB, SBW	02,03
Jubilee	Novartis	Y	sh_2	82	—	03
Millennium	Seedway	W	sh_2	82	CR, NCLB, SBW	02,03
Prime Time	Novartis	Y	sh_2	79	NCLB, SBW	97-99,02,03
SS 8101	Abbott & Cobb	W	sh_2	81	NCLB, SBW	96,97,99,02,03
Treasure	SeedWay	W	sh_2	83	NCLB, SBW	95,96,99,02,03
Variety 6800	Abbott&Cobb	Y	sh_2	72	NCLB, SBW	02,03
Variety 7311	Abbott&Cobb	W	sh_2	73	NCLB, SBW	02,03
Variety 8100	Abbott&Cobb	Y	sh_2	81	NCLB, SBW	02,03
Windham	Novartis	W	sh_2	79	CR, NCLB, SBW	02,03

[1]Insect-protected hybrid.

[2]Disease resistance/tolerance: CR = Corn Rust; MDMV = Maize Dwarf Mosaic Virus; NCLB = Northern Corn Leaf Blight; SBW = Stewart's Bacterial Wilt; SCLB = Southern Corn Leaf Blight.

— = no information available.

Sweet corn varieties were harvested on July 28 and 29 at EVSRC. At NAHRC corn was harvested on July 8. Corn ears were graded following the *Sweet Corn Grader's Guide* (Circular ANR-680 of the Alabama Cooperative Extension System). Yield (Tables 3 and 4) and ear characteristics (Table 4) were also determined.

At both locations, corn stalks began to tassel very early. Early tasseling was probably due to cold temperatures early in the development of the stalks. This did not seem to interfere with yield or quality. There were few differences among the white and yellow types at NAHRC. In the white sweet corn category, 'Boreal' and 'Millennium' produced the lowest yields. These two varieties also had significantly higher overall quality ratings. Among the yellow types, the experimental variety 'EX 8462518' produced yields that were statistically similar to some of the more proven varieties such as 'Primetime'. In the overall quality ratings, 'EX 8462518" was statistically superior to 'Primetime'. At EVSRC, no statistical differences were found among white or yellow sweet corn varieties.

TABLE 3. PERFORMANCE OF SELECTED WHITE AND YELLOW SUPERSWEET CORN VARIETIES

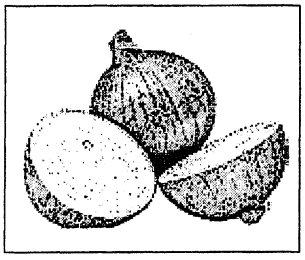
Variety	Type[1]	Yield *lbs/ac*	Ear number *no/ac*	Stand *%*
E. V. Smith Research Center				
Variety 8101w	W	7,936	16,154	68
Windham	W	6,277	12,433	65
Variety 7311	W	4,946	13,431	67
Ice Queen	W	4,442	12,977	63
Millennium	W	4,259	12,705	72
Treasure	W	4,062	12,705	64
Boreal	W	3,014	11,162	74
EX8462518	Y	10,967	21,236	75
Envy	Y	10,480	19,965	76
GSS-0966	Y	9,709	20,147	73
Variety 800	Y	7,701	15,609	66
Primetime	Y	5,018	14,066	75
Jubilee	Y	4,958	13,885	55
Variety 6800	Y	4,468	11,798	55
r^2		*0.31*	*0.51*	*0.43*
CV		*37*	*45*	*13*
LSD		*7,840*	*4,029*	*2*
North Alabama Horticulture Research Center				
Ice Queen	W	15,347	23,414	72
Variety 7311	W	13,660	19,602	59
Windham	W	12,647	19,330	60
Treasure	W	12,227	20,782	55
Variety 8101w	W	12,045	19,239	58
Flagship	W	11,145	20,056	64
Millennium	W	9,361	16,063	58
Boreal	W	9,142	18,604	59
EX 8462518	Y	15,097	25,682	79
GSS0966	Y	14,403	24,230	85
Envy	Y	13,935	22,688	76
Primetime	Y	12,428	22,688	75
Variety 6800	Y	10,074	16,063	63
Variety 800	Y	8,746	16,154	61
Jubilee	Y	2,950	5,445	26
r^2		*0.70*	*0.70*	*0.80*
CV		*22*	*18*	*15*
LSD		*5,154*	*3,684*	*14*

[1]Type: W = White, Y = Yellow.

TABLE 4. QUALITY RATINGS OF SELECTED WHITE AND YELLOW SWEET CORN VARIETIES

Variety	Type[1]	Quality rating[2]	Tip cover[3]	Ear tip fill[3]	Eye appeal[3]	Ear length *in*	Ear diameter *in*
E.V. Smith Research Center							
GSS-0966	Y	12.95	4.30	4.40	4.25	7.3	1.7
Envy	Y	12.85	4.65	4.20	4.00	7.3	1.7
EX8462581	Y	12.10	4.40	3.95	3.75	7.5	1.8
Variety 800	Y	11.80	4.25	4.05	3.50	8.3	1.9
Primetime	Y	11.25	4.20	4.30	2.75	7.8	1.7
Variety 6800	Y	11.05	4.30	3.75	3.00	7.0	1.7
Jubilee	Y	10.75	4.15	3.85	2.75	6.0	1.3
Windham	W	13.30	4.97	4.33	4.00	7.6	2.0
Variety 8101w	W	13.10	4.67	4.47	4.25	8.1	2.0
Ice Queen	W	11.60	4.93	3.67	3.00	7.4	1.7
Variety 7311	W	11.40	4.93	3.47	3.00	6.7	1.7
Boreal	W	10.30	4.70	3.60	2.00	6.2	1.6
Millennium	W	9.95	4.40	3.55	2.00	6.9	1.7
Treasure	W	9.90	4.27	3.40	2.25	6.7	1.7
r^2		***0.86***	***0.17***	***0.23***	***0.75***	***0.58***	***0.57***
CV		***6.22***	***15.52***	***17.30***	***17.09***	***8***	***8.61***
LSD		***0.68***	***0.46***	***0.45***	***0.77***	***0.38***	***0.10***
North Alabama Horticulture Research Center							
Variety 8101w	W	14.60	5.00	4.60	5.00	7.4	1.7
Boreal	W	14.35	4.40	5.00	4.95	7.2	1.7
Millennium	W	14.35	4.90	4.45	5.00	7.3	1.7
Ice Queen	W	14.20	4.50	4.70	5.00	7.2	1.8
Windham	W	13.90	4.10	4.95	4.85	7.2	1.7
Variety 7311	W	13.15	3.65	4.50	5.00	7.1	1.9
Treasure	W	11.65	3.25	4.15	4.25	7.2	1.8
Flagship	W	9.60	2.40	3.20	4.00	7.3	1.9
Envy	Y	14.80	5.00	4.80	5.00	7.2	1.7
GSS-0966	Y	14.60	4.60	5.00	5.00	6.7	1.7
Variety 800	Y	14.35	4.85	4.50	5.00	7.3	1.6
EX 8462518	Y	14.30	4.70	4.65	4.95	7.1	1.6
Variety 6800	Y	13.80	4.10	4.70	5.00	7.0	1.9
Primetime	Y	13.45	3.45	5.00	5.00	7.3	1.6
Jubilee	Y	11.75	5.00	3.40	3.35	7.0	1.7
r^2		***0.60***	***0.60***	***0.40***	***0.21***		***0.30***
CV		***7***	***13***	***13***	***7***		***10***
LSD		***0.62***	***0.40***	***0.40***	***0.21***		***0.11***

[1]Type: W = White, Y = Yellow.
[2]Quality rating is the sum of tip cover, ear fill, and eye appeal ratings.
[3]Tip cover, ear fill, and eye appeal ratings: 5=excellent; 4=good; 3=fair; 2=poor; 1=very poor.



Vidalia Onion Variety Trial, 2003

George E. Boyhan, William M. Randle, Anna Resurreccion, Albert C. Purvis, Reid L. Torrance, Ronnie Blackley, Greg Hardison, Heath Paradice, Jeff Cook, Randell Hill, and Thad Paulk

Vidalia onion variety trials are part of a mandated testing program of the Georgia Department of Agriculture to insure mild onions. New varieties are required to undergo three years of trials and must have favorable results in comparison to the standard variety 'Savannah Sweet'. Criteria used to assess varieties are color, shape, pungency, and taste panel evaluations. These onions must be a yellow Granex type over-wintering onion with a height to width ratio not greater than one. In addition, they must test favorably for pungency and in taste panel evaluations compared to 'Savannah Sweet'. Varieties on the official list are required to remain in the trials in order to maintain their status. These trials are conducted annually by the University of Georgia.

Along with the mandated testing criteria, varieties are evaluated for yield, graded yield, seedstems, doubles, disease (when possible), storability in controlled atmosphere storage, and single centers. These trials are supported by the Georgia Department of Agriculture, the Vidalia Onion Committee, various seed companies, and the University of Georgia.

The trial begins in the fall with the sowing of seed for transplant production. This year seed were sown on September 20, 2002. These plants were harvested for transplanting to final spacing on December 3, 2002. Plants were set four rows to a bed, which was prepared with a six-foot center-to-center spacing. Rows were 12 inches apart with a 5.25 inch in-row spacing. Each plot was 50 feet long with a 5-foot alley between plots on the same bed. Fertility, disease, and weed control followed University of Georgia Cooperative Extension Service recommendations for onion production. The experimental design was a randomized complete block design with four replications. Twenty-five feet of each plot were harvested for yield data. Yield data consisted of reporting field yield, which represents yield at harvest, cured yield (after heat curing), jumbos (greater than three inches in diameter), and mediums (between two and three inches in size). Data on stand count, seedstems, and doubles are based on the entire 50-foot plot. The trial was held at the Vidalia Onion and Vegetable Research Center in Lyons, Georgia.

A ten-bulb sample from each replication was composited for pyruvate testing, which is reported as micromoles per gram fresh weight. In addition, a ten-bulb sample from replications one and two were evaluated by a professional taste panel for total sulfur, pungency, bitterness, heat, and sweetness. The scale with the taste panel parameters is from 0-150.

R^2, coefficient of variation, and an adjusted least significant difference (lsd) were calculated. The adjusted lsd is a Fisher's protected lsd that has been adjusted to allow five comparisons. It is equivalent to a Fisher's protected lsd at $p<0.01$.

The maximum number of onions (stand count) within a plot was 424. Reduction in stand count then is a measure of how well a variety has withstood the rigors of winter production (Table 1). This season had much colder weather from about mid-January to mid-February than the previous season and also had about 20 inches of rain during the growing season, which was about double from the previous season. It is not clear if these events per se affected production, but yields were about 100 50-pound bags per acre fewer in the 2002-2003 season compared to the 2001-2002 season. Reduced stand in a particular variety was also reflected in yield reduction.

Every year has seen significant differences in seedstems among the varieties tested, but no specific varieties consistently have more or less seedstems from year to year. It is known that in years when cool temperatures occur near the end of the season, the onions are more apt to develop seedstems. Seedstem formation or bolting is a function of both temperature and plant size. Plants must have a minimum amount of biomass in conjunction with low temperatures to bolt. Doubles are also a function of adverse weather conditions. Freezing temperatures that affect the growing point can result in an increase in double formation. 'Georgia Boy', 'SSC 6371 F1', and 'Sapelo Sweet' had the highest number of doubles this season. 'Sapelo Sweet' also had high numbers of doubles the previous season.

Typically, the onions that are to be harvested are pulled two days before clipping and left in the field to dry

before clipping. Onion clipping began on April 9, 2003 and the last clipping date was May 14, 2003. Onions were harvested at approximately one week intervals as they matured. The greatest number of varieties harvested occurred on May 7, 2003.

Field yields ranged from 317 50-pound bags per acre for 'Sweet Advantage' to 911 50-pound bags per acre for 'SRO 1001' (Table 2). The best field yields were among the later harvested varieties. Cured yield was not reported for all varieties because heat curing was abandoned for late-harvested varieties. Warm season bacterial diseases continue to be a problem with late-harvested onions. This is exacerbated with heat curing, which sets up an environment for rapid spread of these diseases that reduces graded yields. In future trials reporting cured yield data will probably be abandoned.

Varieties with the highest field yields tended to have the highest yields of jumbo onions. 'SRO 1001' and 'EX 19013' with the highest field yields also had the highest jumbo yields of 814 and 521 50-pound bags per acre, respectively. Finally, lower yielding varieties had higher yields of mediums.

Table 3 summarizes the taste panel evaluations, pyruvate test, and sugar content. Total sulfur and sweetness in the taste test did not show any significant differences. This year the standard variety has been changed from 'Granex 33' to 'Savannah Sweet'. All of the varieties eligible for addition to the official variety list were recommended. These include 'Sapelo Sweet' (DPS 1039), 'Granex Yellow PRR Asgrow', 'EX 19013', 'Sugar Belle F1' (SSC 6371 F1), 'SRO 1001' (RCX 5195-1), 'SSC 6372 F1', 'SRO 1000' (RCX 6043), and '99C 5092'. In addition, we have recommended the following be removed from the list: 'Rio Bravo', 'Yellow Granex Improved' (Sun F1), 'Adonis', 'Dessex', and 'Mr. Max'. Finally, 'Southern Belle', 'PS 7092', 'Sweet Success' (1514), and 'Sweet Melissa' (SXO 1519), which are on the official list, were not entered in the trial. Presumably, if these varieties are not entered in the 2003-2004 season they will have one more year of eligibility before being dropped from the official list. Finally, 'Southern Honey', also on the official list, had poor seed germination and was not tested in 2002-2003. This counts against this variety.

TABLE 1. EVALUATION FOR STAND COUNT, SEEDSTEMS, DOUBLES, YIELD, AND HARVEST DATE

Variety	Company	Stand count[1] *no/50-ft plot*	Seedstems *no.50-ft plot*	Doubles *no/50-ft plot*
Ohoopee Sweet (DPS 1024)	D. Palmer Seed	412	2	10
Georgia Boy (DPS 1032)	D. Palmer Seed	403	8	41
Mr. Buck (DPS 1033)	D. Palmer Seed	394	24	13
Sweet Advantage	D. Palmer Seed	389	0	12
Sapelo Sweet (DPS 1039)	D. Palmer Seed	383	2	20
Southern Honey	D. Palmer Seed	—[2]	—	—
Yellow Granex EM 90 F1	Emerald Seeds (Clifton Seed Co.)	405	22	3
2012Y	K & B Development	405	25	1
2045Y	K & B Development	410	1	14
Savannah Sweet	Petoseed	401	1	0
99C 5092	Sakata Seed America, Inc	401	0	2
01ZG 5034	Sakata Seed America, Inc	406	11	6
Century (EX 07592000)	Seminis	389	2	3
Granex Yellow PRR	Seminis	401	8	6
EX 19013	Seminis	352	8	3
Granex 33	Seminis/Asgrow	409	6	5
Pegasus	Seminis/Asgrow	384	7	9
Cyclops (XP 6995)	Seminis/Asgrow	394	27	6
606 DY	Shaddy	401	1	1
72766 DY	Shaddy	380	1	3
SSC 6371 F1	Shamrock	418	1	26
SSC 6372 F1	Shamrock	383	9	5
SSC 33076	Shamrock	397	0	1
Nirvana	Sunseed	339	0	1
Sweet Vidalia	Sunseed	396	3	4
Sweet Melody	Sunseed	295	2	4
SRO 1000 (RCX 6043)	Sunseed	346	1	1
SRO 1001 (RCX 5195-1)	Sunseed	412	4	3
WI-3115	Wannamaker	400	2	4
WI-609	Wannamaker	408	3	5
WI-129	Wannamaker	410	2	4
r^2		***0.504***	***0.773***	***0.661***
CV		***39***	***36***	***37***
lsd		***15***	***2***	***2***

[1] Maximum stand count was 424. [2] — = poor germination.

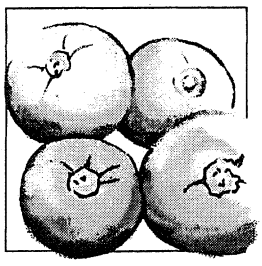
TABLE 2. HARVEST DATE AND SUMMARY OF YIELD

Variety	Clipping date	Field yield	Cured yield	Jumbos	Mediums
		50-lb bags/ac			
SRO 1001 (RCX 5195-1)	5/14/03	911		814	9
EX 19013	5/14/03	707		521	22
99C 5092	5/14/03	690		483	14
SSC 6371 F1	4/23/03	654	631	515	90
Ohoopee Sweet (DPS 1024)	5/2/03	644	609	420	53
WI-129	4/9/03	635	559	372	84
Century (EX 07592000)	5/7/03	614		419	53
Mr. Buck (DPS 1033)	5/7/03	607		445	95
Georgia Boy (DPS 1032)	5/7/03	599		313	58
01ZG 5034	4/23/03	569	547	409	76
Sapelo Sweet (DPS 1039)	5/2/03	564	529	393	90
Savannah Sweet	5/7/03	561		388	60
Granex Yellow PRR	5/14/03	555		388	30
Nirvana	5/7/03	547		230	22
Granex 33	5/7/03	546		252	59
Yellow Granex EM 90 F1	5/7/03	539		348	44
2045Y	5/2/03	535	497	319	124
Cyclops (XP 6995)	5/14/03	533		350	19
WI-3115	4/16/03	523	501	352	109
Pegasus	5/14/03	514		365	26
2012Y	5/7/03	511		307	37
WI-609	4/16/03	501	467	342	93
Sweet Vidalia	5/2/03	490	465	325	74
SRO 1000 (RCX 6043)	5/7/03	484		215	34
606 DY	4/9/03	437	384	149	117
SSC 6372 F1	4/23/03	415	396	259	109
SSC 33076	4/9/03	410	358	134	168
Sweet Melody	5/7/03	378		158	23
72766 DY	4/9/03	356	312	92	155
Sweet Advantage	4/16/03	317	297	85	178
r^2		***0.542***	***0.648***	***0.626***	***0.780***
CV		***22***	***17***	***38***	***40***
LSD		***221***	***154***	***240***	***52***

TABLE 3. TASTE PANEL EVALUATIONS, PYRUVATE ANALYSIS, AND SUGAR CONTENT

Variety	Total sulfur[1]	Pungency[1]	Bitterness[1]	Heat[1]	Sweet[1]	Pungency *um/gfw*	Sugar *%*
99C 5092	23.1	23.6	12.8	21.4	27.7	4.4	8.0
01ZG 5034	22.2	29.1	14.9	28.3	28.2	4.0	8.5
Pegasus	25.8	30.4	15.3	27.7	23.6	5.0	7.5
Century (EX 07592000)	24.3	25.5	12.4	22.5	27.1	4.8	7.6
Cyclops (XP 6995)	24.3	27.5	12.9	22.0	24.2	4.6	10.7
EX 19013	24.9	26.0	13.8	24.4	24.4	4.4	7.2
Granex 33	27.6	29.6	15.6	27.7	21.8	5.0	7.7
Granex Yellow PRR						4.5	
Savannah Sweet	23.6	27.3	13.7	23.4	23.9	4.1	7.1
Nirvana	27.0	28.2	17.7	26.4	23.5	4.5	7.5
Sweet Melody	24.7	26.0	13.6	22.7	24.7	4.4	7.4
Sweet Vidalia	24.9	29.3	14.3	25.4	27.5	4.4	7.8
SRO 1000 (RCX 6043)	24.5	25.9	13.8	23.2	24.2	3.9	7.2
SRO 1001 (RCX 5195-1)	22.6	23.3	11.1	19.5	25.8	3.7	7.2
WI-609	20.6	25.0	13.0	24.6	28.3	3.7	7.2
WI-129	24.1	28.6	13.7	29.0	24.0	3.4	7.1
WI-3115	23.0	30.6	15.8	29.4	26.7	3.9	7.2
Yellow Granex EM 90 F1	23.2	23.9	12.4	20.3	25.4	4.3	8.1
SSC 6371 F1	24.8	33.0	17.9	28.5	22.4	4.9	8.5
SSC 6372 F1	23.5	31.9	14.5	27.3	25.5	4.7	9.7
SSC 33076	20.4	28.0	12.7	26.9	25.2	2.8	6.5
2012Y	24.5	26.1	13.1	24.0	24.3	5.0	7.8
2045Y	24.6	31.8	14.2	28.0	25.7	4.8	8.3
606 DY	21.8	29.9	14.2	27.7	25.2	3.2	6.3
72766 DY	20.7	26.0	12.3	22.0	25.1	3.0	6.9
Mr. Buck (DPS 1033)	24.3	27.2	13.8	24.5	24.3	4.6	7.6
Georgia Boy (DPS 1032)	27.0	29.3	16.6	28.5	22.6	4.7	8.8
Sweet Advantage	23.4	32.9	18.4	29.5	23.4	4.6	8.6
Ohoopee Sweet (DPS 1024)	26.7	26.9	15.6	23.9	25.0	4.7	8.4
Sapelo Sweet (DPS 1039)	26.9	28.9	14.2	25.2	25.8	3.8	9.1
r^2	***0.090***	***0.170***	***0.160***	***0.212***	***0.123***	***0.537***	***0.707***
CV	***26***	***22***	***30***	***23***	***19***	***14***	***11***
LSD	***ns***	***7.5***	***5.2***	***7.1***	***ns***	***3.0***	***1.6***

[1] 0-150 scale with 0-no taste, 150 intense taste; Total sulfur-yolk of hard cooked egg=40; Pungency-horseradish=150, garlic=80; Bitterness-0.05%, 0.08%, 0.15% caffeine solutions=20, 50, 100; Heat-garlic=50, salsa=90; Sweet-2%, 5%, 10%, 16% sucrose solution=20, 50, 100, 150.



Market Standards Perform Well Among New Tomato Varieties

Joe Kemble, Edgar Vinson, and Arnold Caylor

A spring tomato variety trial was conducted at the Brewton Agricultural Research Unit (BARU) in Brewton and the North Alabama Horticulture Research Center (NAHRC) in Cullman (Tables 1 and 2). Seven-week-old tomato transplants were established on June 5 at BARU and June 12 at NAHRC. At both locations tomato seedlings were transplanted onto 20-foot long plots, at a within row spacing of 1.5 foot.

At BARU 75 pounds of nitrogen (N) per acre was injected preplant. After planting, beds received weekly alternate injections of calcium nitrate (at a rate of 10 pounds of nitrogen per acre) and potassium nitrate (at a rate of 20 pounds of nitrogen per acre) between May 27 and July 21. Pesticides were applied twice weekly from June 3 through July 21.

Table 1. Ratings of 2003 Tomato Variety Trial[1]

Location	BARU	NAHRC
Weather	5	5
Fertility	5	5
Irrigation	5	5
Pests	5	5
Overall	5	5

[1]See introduction for a description of rating scales.

At NAHRC, preplant fertilization consisted of 80 pounds per acre of N as ammonium nitrate. Fertilization consisted of weekly injections of ammonium nitrate at a rate of 10 pounds per acre. Pesticides were applied weekly.

Table 2. Seed Source, Fruit Characteristics, and Relative Earliness of Selected Tomato Varieties

Variety	Type[1]	Seed source	Plant habit[2]	Fruit color	Days to harvest	Disease claims[3]	Years evaluated
Amelia VR	F1/FM	Harris Moran	Det	Red	—[4]	**FW,TSW,VW	03
BHN 444	F1/FM	BHN	Det	Red	—	*FW,TSW,VW	03
BHN 586	F1/FM	BHN	Det	Red	—	*FW,FCR,NE,VW	02,03
BHN 591	F1/FM	BHN	Det	Red	—	*FW,NE,VW	02,03
BHN 640	F1/FM	BHN	Det	Red	—	**FW,TSW,VW	03
Carolina Gold	F1/FM	Novartis	Det	Yellow	75	*FW,VW	99,03
EX 1405037R	F1/FM	Seminis	Det	Red	—	TSW	03
EX 1432427	F1/FM	Seminis	Det	Red	—	—	03
Floralina	F1/FM	Seminis	Det	Red	72	ASC,**FW,St,*VR	03
Florida 47	F1/FM	Seminis	Det	Red	75	ASC,FW,St,VW	97-99,02,03
Florida 91	F1/FM	Seminis	Det	Red	—	ASC,FW,St,VW	02,03
Sun Gem	F1/FM	Seminis	Det	Red	70	ASC,*FW,St,VW	03
Sunleaper	F1/FM	Novartis	Det	Red	70	FW,VW	98,99,02,03
Sun Pride	F1/FM	Seminis	Det	Red	80	ASC,*FW,St,VW	94-00,03
Sanibel	F1/FM	Seminis	Det	Red	75	ASC,*FW,NE,St,VW	03

[1] Type: F1 = Hybrid; FM = Fresh Market.

[2] Plant habit: Det = Determinate.

[3] Disease claims: FCR = Fusarium Crown Rot; FW = Fusarium Wilt; VW = Verticillium Wilt; ASC = Alternaria Stem Canker; St = Stemphylium (gray leaf spot); TSW = Tomato Spotted Wilt Virus; NE = Root Knot Nematode; * = Races 1 and 2; ** = Races 1, 2, and 3.

[4] — = not available; from seed catalogues.

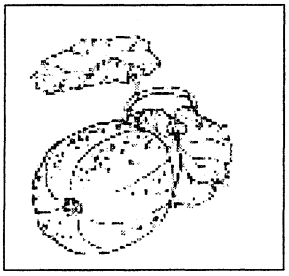
Tomatoes were harvested, weighed, and graded weekly between June 24 and July 21 at BARU and August 1 and August 25 at NAHRC (Table 3). Grades and corresponding fruit diameters (D) of fresh market tomato were adapted from the *Tomato Grader's Guide* (Circular ANR 643 from the Alabama Cooperative Extension System). Marketable yield was the sum of extra-large, large, and medium grades (Table 3).

At NAHRC, yields among varieties were high over all and few differences were noted. The standard varieties 'Florida 47' and 'Florida 91' were among the top performing varieties. The new variety 'Amelia VR' produced yields similar to the standard varieties. 'BHN 640' which is an improved 'BHN 444' had similar yields. The experimental variety 'EX1405037R' produced significantly high yields as well and should be included in next year's trials. At BARU, 'Florida 91' produced yields that were significantly lower than all varieties with the exception of the experimental variety 'EX1405037R'. All other varieties were similar in marketable yield.

TABLE 3. PERFORMANCE OF SELECTED TOMATO VARIETIES

Variety	Marketable yield[1]	Extra large		Large		Medium	
	lbs/ac	number *no/ac*	yield *lbs/ac*	number *no/ac*	yield *lbs/ac*	number *nos/ac*	yield *lbs/ac*
Brewton Agricultural Research Unit							
Mt Fresh	21,925	9,810	18,126	7,483	3,799	5,607	564
BHN 640	21,736	13,481	17,025	9,884	4,711	5,252	1,851
BHN 586	19,875	9,975	16,133	8,801	3,742	4,458	1,232
Carolina Gold	19,314	9,553	15,710	6,450	3,604	3,532	1,204
EX1432427	18,965	9,419	15,775	6,545	3,190	3,066	560
Amelia VR	17,694	9,636	14,878	7,055	2,816	4,832	962
BHN 591	16,062	9,992	13,544	6,210	2,519	6,122	1,444
Florida 47	15,792	10,357	12,481	5,842	3,310	4,118	1,070
BHN 444	13,669	7,590	11,181	6,087	2,488	8,514	1,750
Florida 91	11,899	7,634	9,786	3,241	2,113	2,811	1,803
EX1405037R	6,847	5,378	5,948	2,520	899	3,125	1,200
r^2	*0.41*		*0.40*				
CV	*35*		*37*				
LSD	*8,482*		*7,265*				
North Alabama Horticulture Research Center							
BHN 444	52,084	8,077	6,179	29,857	17,410	65,612	28,495
Amelia VR	50,861	10,346	7,592	35,03	19,341	55,085	22,303
Florida 47	47,999	9,166	7,358	30,038	17,139	51,546	23,502
Florida 91	45,689	13,976	10,683	31,218	18,662	37,752	16,344
BHN 591	45,578	6,625	4,657	29,312	16,893	55,993	24,028
BHN 586	44,724	3,267	2,239	25,138	13,289	69,515	29,197
Carolina Gold	44,648	13,794	10,451	27,407	15,794	41,654	18,403
Sanibel	43,928	6,625	5,018	25,682	14,957	53,361	23,953
BHN 640	43,622	2,541	1,713	17,606	9,413	75,958	32,496
EX1405037R	42,456	9,166	6,714	26,590	15,911	46,192	19,831
Sun Gem	41,327	9,710	7,396	30,492	17,503	37,661	16,428
Sunleaper	40,654	5,899	4,358	25,955	13,058	54,269	23,775
Floralina	39,768	4,356	2,919	29,312	11,073	60,077	25,775
EX1432427	37,979	9,075	6,740	24,200	14,216	41,140	17,023
r^2	*0.72*		*0.53*				
CV	*19*		*54*				
LSD	*10,527*		*4,319*				

[1]Marketable yield is the sum of extra-large, large, and medium fruit.



Cantaloupe Experimental Varieties Are Named

Joe Kemble, Edgar Vinson, Jason Burkett, Arnold Caylor, and Tony Dawkins

Cantaloupe trials were conducted at the E.V. Smith Research Center (EVSRC) in Shorter, Alabama, the North Alabama Horticulture Research Center (NAHRC) in Cullman, and the Sand Mountain Research and Extension Center (SMREC) in Crossville (Tables 1 and 2).

At EVSRC, preplant fertilization consisted of calcium nitrate at a rate of 400 pounds per acre. On May 8 cantalope were direct seeded on silver plastic-mulched plots that were 30 feet by 5 feet. Witin row spacing was 2 feet. Drip irrigation was used.

At NAHRC, ammonium nitrate was applied preplant. On May 12, cantaloupe were direct seeded on plots that were 60 feet by 5 feet. Within row spacing was 3 feet. Fertilization consisted of weekly injections of 6 pounds of nitrogen per acre. Fungicides were applied one week after planting and throughout harvest.

At SMREC, beds were roto tilled and 5-10-15 fertilizer was applied preplant at a rate of 1,000 pounds per acre on April 23. Small melons were directed seeded on May 9. Within row spacing was 3 feet. Silver mulch and drip irrigation were used. Fertilization consisted of applications of 20-20-20 at a rate of 14 pounds per acre on June 10, 16, and 23. Potash in the form of KNO_3 was applied at a rate of 14 and 7 pounds per acre on June 30 and July 8, respectively. Cantaloupes were direct seeded on 5-foot by 60-foot plots on May 9, 2003. Within row spacing was 3 feet. Drip irrigation and plastic mulch were used. Insec-

Table 1. Ratings of 2003 Small Melon Variety Trials[1]

Location	EVSRC	NAHRC	SMREC
Weather	4	5	4
Fertility	5	5	5
Irrigation	5	5	5
Pests	4	5	5
Overall	4	5	5

[1]See introduction for a description of rating scales.

Table 2. Seed Source, Fruit Characteristics, and Relative Earliness of Selected Small Melon Varieties

Variety	Type	Seed source	Rind aspect[1]	Flesh color[2]	Days to harvest	Disease claims[3]	Years evaluated
ACX 4757	F1	Abbott & Cobb	E	O	—[4]	—	03
Ambrosia*	F1	Rupp	E	O	86	PM	95,97,03
Aphrodite (RML 8793)	F1	Seedway/Novartis	E	O	—	—	02,03
Athena	F1	Seedway/Novartis	E	O	80	FW,PM,Su	94-03
Eclipse*	F1	Seminis	E	O	85	FW,PM	96-01,03
Minerva (RML 6969)	F1	Seedway/Novartis	E	O	77	FWPM	01-03
Moneyloupe (ACX 3908)	F1	Abbott & Cobb	E	O	—	—	02,03
Odyssey*	F1	Sunseeds	E	O	—	—	02,03
PCX 221	F1	Willhite/Polonica	E	O	77	FW,PM,Su	03
SVR1461-1013	F1	Seminis	E	O	—	—	03
Vienna	F1	Seminis	E	O	80	—	98,99,03

[1] Rind aspect: E= Eastern; HD=Honey Dew; W=Western.
[2] Flesh Color: O = Orange.
[3] Disease claims: FW = Fusarium Wilt; PM = Powdery Mildew; Su = Sulfur.
[4] — = not found; from seed catalogues.
* = local markets only.

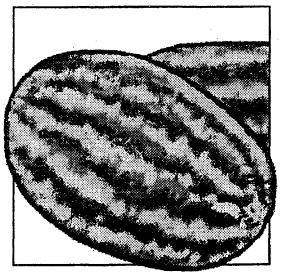
ticides were applied weekly between May 23 and June 11. Fungicides were applied weekly between June 16 and July 24, 2003.

At all three locations, melons were harvested at the half slip stage of maturity (Table 3). At SMREC, melons were harvested three times weekly over three weeks from August 1 through August 23 for a total of nine harvests. At EVSRC melons were harvested June 26 through July 1 for a total of three harvests. Melons were harvested on July 30, August 4, and August 12 at NAHRC.

One important data category is that of fruit number. At all three locations, 'Athena' consistently produced one of the highest fruit numbers on a per acre basis. Another important category is individual fruit size. For commercial purposes, the ideal melon weight should be between 4 and 6 pounds. 'Athena' produced fruit that were in this range more consistently than other varieties. Other melons that fell in this range were 'Ambrosia', 'Eclipse', and 'Odyssey', but these varieties should only be used for local markets.

TABLE 3. YIELD OF SMALL MELON VARIETIES

Variety	Marketable yield *lbs/ac*	Marketable fruits *no/ac*	Cull weight *lbs*	Individual fruit wt. *lbs*
E. V. Smith Research Center				
Minvera	29,623	4,114	2,945	7
Aphrodite (RML 8793)	23,070	3,207	2,221	7
Minerva	20,670	2,904	7,138	7
Vienna	20,623	2,662	3,497	8
Eclipse	20,386	3,388	2,668	6
Odyssey	20,035	2,602	8,415	8
Moneyloupe (ACX 3908)	16,594	1,997	4,384	8
PCX 221	15,728	1,755	7,733	9
ACX 4757	14,127	1,775	15,418	8
Ambrosia	13,994	2,767	3,524	6
Athena	13,432	2,481	3,413	5
r^2	***0.30***	***0.30***		***0.50***
CV	***42***	***40***		***20***
LSD	***10,914***	***1,645***		***2***
North Alabama Horticulture Research Center				
PCX221	55,513	5,889	-	9
Aphrodite (RML 8793)	53,143	5,526	-	9
Ambrosia	50,408	5,566	-	9
Athena	46,360	6,494	-	7
ACX4757	45,512	5,163	-	9
Odyssey	44,642	8,147	-	6
Moneyloupe (ACX 3908)	44,557	5,969	-	8
Vienna	42,987	5,163	-	8
SVR1461-1013	35,784	5,203	-	7
Eclipse	26,965	3,590	-	8
r^2	***0.20***	***0.20***		***0.40***
CV	***54***	***57***		***20***
LSD	***20,449***	***2,285***		***2***
Sand Mountain Research and Extension Center				
Minerva	28,134	3,335	-	8
Odyssey	27,072	3,190	-	9
SVR1461-10-13	27,028	3,988	-	7
ACX 4757	26,825	3,480	-	8
Athena	26,470	4,241	-	6
Vienna	23,494	2,973	-	8
Ambrosia	23,443	4,785	-	5
Eclipse	20,663	3,226	-	6
Aphrodite (RML 8793)	19,481	2,864	-	7
Moneyloupe (ACX 3908)	17,313	2,139	-	8
PCX221	1,842	145	-	13
r2	***0.40***	***0.50***		***0.70***
CV	***31***	***27***		***13***
LSD	***10,346***	***1,430***		***1***



Watermelon and Cantaloupe Variety Trials in Georgia, 2003

George E. Boyhan, Darby Granberry, and C. Randell Hill

Watermelon and cantaloupe are important crops in Georgia with values of almost $95 million and more than $25 million, respectively. Because of the crops' value and since the industry has changed over the past few years with the greater use of seedless or triploid melons, assessing new varieties is important to growers and seed companies.

Thirty-two watermelon varieties and six cantaloupe varieties were entered in the 2003 watermelon and canteloupe variety trials in Georgia. Seed of watermelon were sown in greenhouses at the Bamboo Farm and Coastal Garden in Savannah, Georgia, on April 11, 2003 and cantaloupe seed were sown on April 18,2003. Plants were grown in flats with 72-cell inserts using a peat-based soilless mix. Care was taken to avoid overwatering triploid watermelon seed during the first 72 hours to insure a high germination rate. Plants were transported to the Vidalia Onion and Vegetable Research Center in Lyons, Georgia, and set out on May 15, 2003. Both trials were laid out as randomized complete block designs with four replications.

Fertilization and weed control followed University of Georgia extension service recommendations. Neither fungicides nor insecticides were used.

Cantaloupe were harvested on July 15 and 16, 2003 and a final harvest was completed on July 22, 2003. Watermelons were also harvested on July 15 and 16, 2003 with a final harvest on July 21, 2003. Data on the cantaloupe trial included a weight and count of each plot. In addition, two cantaloupes were cut from each plot and the width, length, flesh diameter, and soluble solids were recorded. In the watermelon trial, melons were weighed individually so that that weight class data could be compiled. Two melons from each plot were also cut in the watermelon trial and length, width, rind depth, and soluble solids were recorded. In addition, the flesh color, melon type, and seedlessness were noted.

Data were analyzed and results reported for a Fisher's Protected and Bonferonni adjusted LSD at 0.05 probability. In addition, a coefficient of variation was calculated for each analysis.

Results of the cantaloupe trial are listed in Table 1. There were no yield differences between varieties either by weight or number of fruit. In addition, there were no soluble solids differences. Cantaloupe production in Georgia continues to be dominated by 'Athena' and similar varieties.

Table 2 lists the yield results for the watermelon trial. Yields ranged from 55,431 to 19,511 pounds per acre. The low yields of 'Variety 8282' were primarily due to low germination and, therefore, caution should be used in as-

TABLE 1. CANTALOUPE VARIETY TRIAL, 2003
VIDALIA ONION AND VEGETABLE RESEARCH CENTER, LYONS, GEORGIA

Variety	Company	Type	Yield *lbs/ac*	Yield *no/ac*	Length *in*	Weight *in*	Flesh depth *in*	Soluble solids *%*
SVR-1022	Seminis		38,345	3,449	9.6	8.2	2.1	7.4
ESC-02-08	D. Palmer Seed	NJ, MD, Biotype	26,275	3,812	9.2	7.3	1.9	6.9
Athena	Rogers	Athena	25,634	3,933	8.4	6.8	1.8	7.1
RML 8793-VP	Rogers		24,079	2,844	9.1	7.3	1.9	7.8
ESC-02-07	D. Palmer Seed	Eastern Shipper (Athena)	23,541	3,691	8.8	6.9	1.7	6.2
ESC-02-09	D. Palmer Seed	Eastern Shipper	19,729	3,812	7.5	6.3	1.5	6.6
CV			*39%*	*21%*				*20%*
Fisher's Protected & Adjusted LSD ($p \leq 0.05$)			*ns*	*ns*				*ns*

sessing this variety. Fourteen of the entries were triploids, which continues a trend in Georgia watermelon production. This year according to *The Packer* more than 60% of the watermelons sold from Georgia were triploids. This has resulted in the watermelon crop in Georgia almost doubling in value since 1999.

In the over-30-pound class, only six varieties had any melons. Most of the melons were in the 10-to-20 pound class. The highest yielding variety was 'WD-02-25' from D. Palmer Seed Co., but this variety did not differ significantly from 27 of the varieties tested. The CV of 26% is quite good for a watermelon trial and suggests that the yield data are reasonably reliable.

Three of the entries in this trial were yellow varieties. 'Butterball', a triploid variety, was the highest yielding, which was closely followed by 'Gold Strike'. 'Sunny', a seedless type, had the lowest yield among the three yellow varieties.

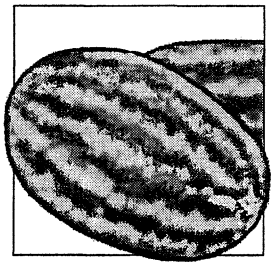
TABLE 2. WATERMELON VARIETY TRIAL, 2003
VIDALIA ONION AND VEGETABLE RESEARCH CENTER, LYONS, GEORGIA

Variety	Company	Description[1]	Yield	—Percent melons per weight class—			
			lbs/ac	10 lbs	>10-20 lbs	>20-30 lbs	>30 lbs
WD-02-25	D. Palmer Seed	Allsweet Smoke (2N)	55,431	17	73	10	0
WX-255	Willhite	Hybrid	54,712	11	86	3	0
Butterball	D. Palmer Seed	Triploid	53,780	28	72	0	0
Gold Strike	Willhite	Hybrid	52,622	7	81	11	1
WD-02-29	D. Palmer Seed	Diploid	51,911	7	84	8	0
Plantation Pride	D. Palmer Seed	Blocky Calsweet Type (2N)	48,407	11	67	21	1
FSW 9130	Florida Seed		48,137	4	52	42	1
WX-261	Willhite	Hybrid	48,098	14	70	16	0
WD-02-28	D. Palmer Seed	2N	47,165	14	62	23	1
SSW 9140	Florida Seed		46,867	4	59	37	0
WX-207	Willhite	Hybrid	46,292	23	61	17	0
SSW 9150	Florida Seed		45,172	21	71	8	0
Compodre	D. Palmer Seed	2N Watermelon	44,979	19	61	19	1
Sweet Slice	Willhite	Hybrid Triploid	44,515	24	72	3	0
PX 11052889	Seminis	Triploid Larger Tri X	43,316	26	72	2	0
WX-262	Willhite	Hybrid	42,033	20	60	20	0
SSW 9905	Florida Seed		41,763	32	68	0	0
XP 4510759	Seminis	Triploid	40,166	37	63	0	0
Cooperstown	Seminis	Triploid	39,709	17	80	4	0
Sweet Eat'n	D. Palmer Seed	313 Type (3N)	39,683	31	69	0	0
WX-266	Willhite	Hybrid	39,604	12	68	21	0
WD-02-23	D. Palmer Seed	2N	38,667	8	76	15	2
WX-28	Willhite	Hybrid Triploid	38,021	18	55	26	0
Genesis F.	Shamrock	Hybrid	37,713	46	54	0	0
ChaChaCha F,	Shamrock	Hybrid	36,688	25	72	2	0
Sunny	Willhite	Triploid	36,483	10	83	7	0
Ole'	Willhite	Hybrid	36,373	27	59	14	0
Afternoon Delight	D. Palmer Seed	Triploid	35,191	20	78	3	0
Olympia (5031)	Seminis	Triploid	34,104	25	69	6	0
WT-02-26	D. Palmer Seed	Triploid	32,329	25	71	4	0
PX80309020	Seminis	Triploid	28,325	35	62	3	0
8282	Seminis	Triploid	19,511	28	39	33	0
CV			***26%***				
Fisher's Protected & Adjusted LSD ($p \leq 0.05$)			***20,141***				

[1]Description: 2N or diploid = with seeds; 3N or triploid = without seeds.

TABLE 3. WATERMELON FRUIT CHARACTERISTICS, 2003
VIDALIA ONION AND VEGETABLE RESEARCH CENTER, LYONS, GEORGIA

Variety	Flesh color	Fruit length *in*	Width *in*	Rind thickness *in*	Soluble solids %	Fruit type
Sunny	Yellow	12.7	8.0	0.9	11.1	Allsweet, seedless
ChaChaCha F,	Red	11.1	8.4	0.7	10.9	Crimson Sweet, seedless
PX80309020	Red	11.1	7.9	0.9	10.6	Blocky Crimson Sweet
SSW 9905	Red	10.8	8.4	0.7	10.6	Crimson Sweet, seedless
Olympia (5031)	Red	11.8	8.8	0.9	10.6	Blocky Crimson Sweet, seedless
WD-02-25	Red	16.3	8.1	0.8	10.5	Jubilee
XP 4510759	Red	10.9	8.2	1.0	10.5	Blocky Crimson Sweet, seedless
Ole'	Red	15.1	8.4	0.9	10.5	Allsweet
Gold Strike	Yellow	13.7	8.5	0.8	10.4	Jubilee, Allsweet
Cooperstown	Red	11.1	8.2	0.7	10.3	Blocky Crimson Sweet, seedless
Sweet Slice	Red	11.6	8.6	1.0	10.3	Crimson Sweet, seedless
WX-207	Red	16.1	8.2	0.8	10.1	Jubilee
SSW 9140	Red	13.9	9.1	0.8	10.1	Blocky Jubilee
WT-02-26	Red	11.9	8.6	0.9	10.0	Crimson Sweet, seedless
Compodre	Red	11.3	9.7	0.8	10.0	Crimson Sweet
Genesis F.	Red	9.3	8.5	0.7	10.0	Crimson Sweet/Jubilee, seedless
Sweet Eat'n	Red	11.1	8.1	0.8	9.8	Allsweet
WX-266	Red	16.8	7.8	0.6	9.7	Allsweet
Afternoon Delight	Red	10.2	8.8	0.9	9.7	Crimson Sweet, seedless
FSW 9130	Red	16.6	8.1	0.9	9.7	Allsweet
SSW 9150	Red	14.2	7.7	0.7	9.7	Allsweet, light colored seed
WX-255	Red	13.3	8.2	0.8	9.5	Allsweet
PX 11052889	Red	11.5	8.8	0.8	9.5	Blocky Crimson Sweet, seedless
Plantation Pride	Red	15.3	8.2	1.0	9.4	Allsweet
WD-02-23	Red	15.5	8.9	0.9	9.3	Jubilee
Butterball	Yellow	9.1	8.8	1.4	9.3	Crimson Sweet, Seedless
WX-262	Red	16.4	7.7	0.7	9.3	Allsweet
WD-02-28	Red	12.1	10.0	0.8	9.2	Dark Crimson Sweet
WX-28	Red	17.0	8.4	0.8	8.9	Allsweet, Jubilee, seedless
WD-02-29	Red	11.9	8.7	0.8	8.9	Blocky Crimson Sweet
8282	Red	16.7	8.0	0.7	8.8	Jubilee, seedless
WX-261	Red	16.9	7.7	0.8	8.6	Allsweet
CV					***9%***	
Fisher's Protected & Adjusted LSD ($p \leq 0.05$)					***1.6***	



Seedless Watermelon Increases in Popularity

Joe Kemble, Edgar Vinson, Larry Wells, and Arnold Caylor

Watermelon trials were conducted at the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, and the North Alabama Horticulture Research Center (NAHRC) in Cullman (Tables 1 and 2).

At both locations, watermelon varieties were direct seeded on bare ground with a 60-foot by 10-foot spacing and a within row spacing of 5 feet. At WREC, allsweet watermelon types were direct seeded on April 7. At NAHRC, seedless watermelon transplants were set on May 15. Seedless watermelon plants require the use of transplants rather than direct seeding because of the low germination rate of seedless watermelons. A seeded variety, 'Companion', was used as a pollinator. One pollinator was planted for every three seedless transplants to insure proper pollenation. Watermelons were grown on silver plastic mulch.

At NAHRC, ammonium nitrate was applied preplant. Fertilization consisted of weekly injections of 6 pounds of nitrogen per acre. Fungicides were applied one week after planting and throughout harvest.

Watermelons were harvested on July 10 and 22 at WREC and August 5 at NAHRC. Watermelons were graded according to the *Watermelon Grader's Guide* (Circular ANR-681 from the Alabama Cooperative Extension System) and marketable yield was determined. Other useful information collected included sweetness, incidence of hollow heart, and rind thickness. Two melons from each plot were used to measure soluble solids (sweetness), hollow heart, and rind thickness. Sweetness was measured using a hand-held refractometer. Watermelons with soluble solids reading below 10° Brix do not taste sweet. Hollow heart is the measure of the fissure of space at the heart of the melon. Watermelons with excessive incidences of hollow heart are not desirable. The rind thickness of a melon determines how melons will endure shipping.

Table 1. Ratings of 2003 Watermelon Variety Trial[1]

Location	WREC	NAHRC
Weather	5	5
Fertility	5	5
Irrigation	5	5
Pests	5	5
Overall	5	5

[1]See introduction for a description of rating scales.

In the Allsweet trial at WREC, 'WX 260' produced the highest marketable yield (Table 3). Yield of 'WX 260' was similar to 'Arriba!', 'WX 264', and 'Variety 710'. Of the four varieties, 'WX 260' produced the smallest melon. 'Stargazer', which has been a high yielding variety in past, produced the lowest yields in the test.

Most varieties in the seedless trial at NAHRC produced yields that were similar to the standard variety 'Tri-X-313' (Table 4). 'Seedless Sangria', the seedless counterpart of 'Sangria', was one of the top yielding varieties. 'Seedless Sangria' had a low incidence of hollow heart but soluble solids were not in the desirable range (≥10%).

Table 2. Seed Source, Fruit Characteristics, and Relative Earliness of Selected Watermelon Varieties

Variety	Type[2]	Seed source	Fruit shape	Flesh color	Days to harvest	Disease claims[1]	Years evaluated
Arriba!	AS	Hollar	Oblong	Red	85	FW	97-99,03
Carson	AS	Hollar	Elongated	Red	85	ANT,FW	03
Celebration	AS	Seedway	Elongated	Red	88	ANT,FW	03
Fiesta	AS	Seedway	Blocky	Red	88	ANT,FW	94,97-00,03
Sangria	AS	Seedway	Elongated	Red	87	ANT,FW	94,97,99,03
Star Gazer	AS	Seminis	Elongated	Red	85	ANT*,FW	98-01,03
Stars-N-Stripes	AS	Seminis	Elongated	Red	85	ANT*,FW*	97-00,03

continued

TABLE 2, CONTINUED. SEED SOURCE, FRUIT CHARACTERISTICS, AND RELATIVE EARLINESS OF SELECTED WATERMELON VARIETIES

Variety	Type[1]	Seed source	Fruit shape	Flesh color	Days to harvest	Disease claims[2]	Years evaluated
Summer Flavor 790HQ (formerly ACX 5411)	AS	A&C	Elongated	Red	—[3]	—	02,03
Variety 800	AS	A&C	Oblong	Red	87	—	02,03
Variety 900	AS	A&C	Elongated	Red	86	—	02,03
Variety 910	AS	A&C	Elongated	Red	86	—	02,03
WX 260	AS	Willhite	Elongated	Red	—	—	03
WX 264	AS	Willhite	Elongated	Red	—	—	03
Variety 710	JU	A&C	Blocky	Red	85	—	02,03
Constitution	XXX	Seedway	Blocky	Red	87	ANT,FW	02,03
Cooperstown	XXX	Seedway	Round	Red	85	—	03
Freedom	XXX	Sunseeds	Blocky	Red	87	FW*	02,03
King of Hearts	XXX	Seminis	Blocky	Red	—	—	03
Olympia	XXX	Seminis	Blocky	Red	—	—	03
Omega	XXX	Seminis	Blocky	Red	85	—	93
Revolution	XXX	Sunseeds	Blocky	Red	83	FW*	02,03
Seedless Sangria (RWT8108-UP)	XXX	Novartis	Elongated	Red	87	ANT,FW	03
Sugarheart (8003)	XXX	Zeraim Gedera/Sieger	Blocky	Red	85	—	03
Summer Sweet 7177 HQ	XXX	A&C	Blocky	Red	—	—	02,03
Summer Sweet 7167	XXX	A&C	Blocky	Red	—	—	02,03
Summer Sweet 5244	XXX	A&C	Oblong	Red	90	—	02,03
Summer Sweet 5544	XXX	A&C	Oblong	Red	88	FW	03
Sweet Slice	XXX	Willhite	Round	Red	—	—	03
Trillion (ACX257)	XXX	Harris Moran	Oblong	Red	90	—	03
Tri-X-313	XXX	American Sun Melon	Oblong	Red	—	—	96-98,03
WX28	XXX	Willhite	Elongated	Red	—	—	03

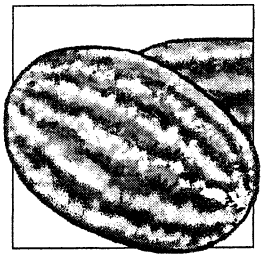
[1] Type: AS = Allsweet; JU=Jubilee; XXX=Triploid (seedless). [2] Disease claims: ANT = Anthracnose; FW = Fusarium Wilt; * = Race 1 only. [3] — = not available from seed catalogues.

TABLE 3. PERFORMANCE OF SELECTED DIPLOID WATERMELON VARIETIES, WIREGRASS RESEARCH AND EXTENSION CENTER

Variety	Marketable yield *lbs/ac*	Marketable fruits *no/ac*	Individual fruit wt. *lbs*
WX 260	37,573	2,211	17
Arriba!	33,350	1,643	20
WX 264	31,476	1,160	24
Variety 710	24,730	1,088	21
Fiesta	12,953	628	20
Variety 910	12,651	798	16
Variety 790 HQ	12,557	761	16
Celebration	12,263	906	15
Carson	9,570	435	22
Variety 800	7,613	435	17
Stars N Stripes	7,602	471	19
Sangria	7,033	471	15
Variety 900	5,394	326	16
Stargazer	4,321	338	13
r^2	*0.50*	*0.61*	*0.30*
CV	*83*	*58*	*33*
LSD	*18,995*	*710*	*8.3*

TABLE 4. PERFORMANCE OF SELECTED SEEDLESS WATERMELON VARIETIES, NORTH ALABAMA RESEARCH AND EXTENSION CENTER

Variety	Marketable yield *lbs/ac*	Marketable fruits *no/ac*	Individual fruit weight *lbs*	Soluble solids *brix*	Hollow heart *in*
Revolution	63,767	3,176	21	10.08	1.13
Summer Sweet 5244	60,264	3,509	17	10.85	0.00
Summer Sweet 7177 HQ	57,037	3,146	18	10.75	0.63
Sweet Slice	53,875	3,055	18	11.19	0.75
Summer Sweet 5544	53,234	3,086	17	8.04	0.00
Summer Sweet 7176	52,354	3,086	17	9.99	0.00
Sugarheart	52,024	2,723	19	10.65	1.13
Olympia	51,622	2,753	19	9.28	1.13
Seedless Sangria	50,309	2,481	20	9.60	0.25
Constitution	48,132	3,237	15	9.38	0.25
Cooperstown	47,819	2,783	17	10.38	1.13
Omega	46,606	2,360	20	10.88	0.38
Freedom	45,826	2,269	21	10.75	0.13
Tri-X-313	43,575	2,602	17	10.75	0.00
Trillion	39,727	2,450	16	11.00	0.13
King of Hearts	35,275	2,148	16	10.08	1.00
WX 28	33,991	1,724	18	11.24	1.00
r^2	***0.30***	***0.30***	***0.30***	***0.30***	***0.20***
CV	***32***	***30***	***16***	***16***	***14***
LSD	***21,780***	***1,180***	***4***	***2***	***1***



Palm or Personal-Size Melon Variety Trial

Gilbert Miller, Joey Davis, and Jonathan Davis

Palm, personal-size, or mini melons hit the market this year and have generated a lot of interest. Growers, buyers and brokers, produce stores, consumers, and researchers—all are interested.

Several potential palm melon varieties are being introduced by fruit and vegetable seed companies. Although no criteria have been established to define a palm melon, many are of the opinion that a palm melon will need to be in the 4- to 8-pound range. Ultimately the consumer and market will establish the palm melon criteria.

A palm melon demonstration variety trial was planted at Edisto Research and Education Center in Blackville, South Carolina, during the spring of 2003. Thirteen varieties were planted. Variety names or numbers and corresponding seed companies are included in Table 1.

The variety trial was grown on a Dolthan (DaB) soil with a medium water-holding capacity rated between 0.08 to 0.13 AWHC. Soil nutrient samples indicated very high phosphorus (145 pounds per acre), medium potassium (147 pounds per acre), medium calcium (679 pounds per acre) and high magnesium (157 pounds per acre). The Clemson fertility recommendation based on soil samples was 120 to 140 pounds per acre nitrogen (N), no phosphorus, 120 pounds per acre potassium (K). On March 13, 40-0-40 pounds per acre of fertilizer was banded and incorporated.

Plastic mulch and drip irrigation were applied immediately after fertilizer was incorporated. Fifty-four inch plastic mulch was used, giving a 30-inch bed top. Queen Gil drip tape rated at 0.66 gallons per minute per 100 feet was buried 2 inches beneath the bed surface.

The trial plots were 22 feet long with plants spaced 1.5 feet apart in the row. Each plot contained 13 seedless palm melon plants. Syngenta's 'SP-1' pollinator was planted between the third and fourth seedless palm melons. A wide row spacing of 12 foot on center was used to eliminate mixing of the varieties at harvest. A 10-foot buffer was established between each variety. Two replications of each variety were planted.

Seeds were planted in the greenhouse on March 27 and transplanted to the field on April 23. Both pollinator and seedless were planted at the same time in the field.

To allow for consistent and uniform water application, an automated irrigation system was employed. The program called for three water cycles per day at 56 minutes per cycle. Daily water application was to equal 3,880 gallons per acre. In 2002 the total rainfall for the growing season was 6.05 inches. In 2003 the total rainfall for the growing season totaled more than 30 inches. The drip system was used primarily to supply the daily plant nutrient needs.

A fertigation program was initiated May 2, nine days after transplanting. The liquid fertilizer, 7-0-7 was used for fertigation. Nutrients were injected during the afternoon irrigation cycle. The fertigation schedule started with a daily dose of 1 pound N and K per acre and gradually increased to 2 pounds N and K per acre per day during fruit set. Shortly before harvest, fertigation was reduced to 1.5 pounds N and K per acre per day. Total nutrients applied for the entire season were approximately 160 nitrogen, 0 phosphorous, 160 potassium.

The row middles were cultivated once and Strategy at 3 pints per acre was applied for weed control on May 9.

Table 1. Cultivar and Seed Company

Cultivar	Seed company
620	Sutter
681	Sutter
8905	Zeraim Gedera
8907	Zeraim Gedera
Valdora	Sun Seeds
SR 8101	Sun Seeds
SR 8102	Sun Seeds
SR 8103	Sun Seeds
SR 8035	Sun Seeds
SW 8002	Southwestern
RWT 8149	Rogers/Dulcinea
Precious Petite	Rogers/Dulcinea
Petite Perfection	Rogers/Dulcinea

Fungicide applications were made beginning May 9. Due to the extremely wet year fungicide applications were made at least once and sometimes twice per week. Following two initial applications of Bravo, alternate applications of the fungicides Quadris and Dithane DF plus Nova were made. Squash bugs were a problem early in the season and were controlled with Pounce.

The palm melon variety trial was harvested four times: the first was July 1[69 days after field planting (DAP)], the second harvest was July 7 (75 DAP), the third harvest was July 14 (82 DAP), and the fourth harvest was July 17 (85 DAP). The bulk of the melons were harvested on the first three harvest dates.

At harvest each fruit was weighed and a representative sample was taken of each cultivar to determine rind thickness, soluble solids, hollow heart, black and brown seed, and general flesh quality.The total yield, brix and size evaluations are included in Table 2. Table 3 contains the average weight of each cultivar for all four harvests.

TABLE 2. YIELD EVALUATION OF PALM OR PERSONAL-SIZE MELON VARIETIES

Cultivar	Avg. brix	——Fruit weight (pounds)——			Yield	Yield
		% < 6	*% 6 - 8*	*% > 8*	*lbs/ac*	*no/ac*
620	10.98	3.30	9.48	87.22	30,979	3,061
681	11.16	5.76	16.17	78.07	80,969	8,181
8905	9.79	64.08	35.92	0	53,450	10,000
8907	11.37	5.54	26.19	58.91	37,551	4,693
Valdora	10.33	9.38	37.54	53.06	43,311	5,051
8101	12.00	14.40	60.97	24.60	45,000	6,341
8102	11.00	14.06	60.17	25.67	90,583	12,916
8103	11.97	26.40	73.60	0	59,785	9,642
8035	10.83	61.92	33.68	4.38	38,163	7,142
8002	11.41	24.86	70.34	4.80	41,609	6,431
RWT 8149	12.08	92.70	7.30	0	43,700	9,000
Precious Petite	11.30	94.28	5.72	0	29,804	7,073
Petite Perfection	11.62	56.30	40.96	2.74	40,378	7,297

TABLE 3. AVERAGE WEIGHTS FOR FOUR HARVESTS OF PALM OR PERSONAL-SIZE MELON VARIETIES

Cultivar	Total weight weight	Number of melons	Average weight
Precious Petite	122.2	29	4.21
8149	87.4	18	4.85
8035	198.4	40	4.96
8905	207.7	39	5.32
Petite Perfection	447.8	84	5.33
8103	272.2	43	6.33
8102	256.8	40	6.42
8002	279.0	43	6.48
8101	360.5	54	6.67
8907	349.8	48	7.28
Valdora	408.6	49	8.33
620	234.6	24	9.77
618	403.2	39	10.33

Seed Sources

Seeds donated by the following:

Abbott and Cobb, Inc.
To order: (800)-345-SEED
In TX: (800) 227-8177
Tech Rep: Russ Becham
4517 Tilman Bluff Road
Valdosta, GA 31602
Fax: (912) 249-8135

Johnny's Select Seeds
To order: (207) 437-4395
Tech. Rep: Steve Woodward
955 Benton Ave
Winslow, ME 04901
Ph: (207) 861-3900
Email: info@johnnyseeds.com

Seedway
To order: (800) 952-7333
Tech. Rep: James J. Pullins
1225 Zeager Rd.
Elizabethtown, PA 17022
Ph: (717) 367-1075
Fax: (717) 367-0387
E-mail: info@seedway.com

Siegers Seed Company
13031 Reflections Drive
Holland, MI 49424
Fax: (616) 994-0333

Sunseeds
Richard Wojciak
12214 Lacewood Lane
Wellington, Florida 33414-4983
Phone: (561) 791-9061
Fax: (561) 798-4915
Mobile: (561) 371-2023
E-mail: richard.wojciak@sunseeds.com

Willhite
To order: (800) 828-1840
Tech Rep: Don Dobbs
P.O. Box 23
Poolville, TX 76487
Fax: (817) 599-5843

Other seed sources:

BHN
1310 McGee Avenue
Berkeley, CA 94703
Phone: (510) 526-4704
Email: mail@berkeleyhort.com

Harris Moran
P.O. Box 4938
Modesto, CA 95352
(209) 579-7333
(209) 527-8684

Harris Seeds
To order: (800) 544-7938
P.O. Box 22960
60 Saginow Dr.
Rochester, NY 14692-2960

Hollar
To order: (719) 254-7411
P.O. Box 106
Rocky Ford, CO 81067-0106
Ph: (719) 254-7411
Fax: (719) 254-3539
Website: www.hollarseeds.com

Rupp Seeds
To order: (800) 700-1199
17919 County Road B
Waseon, OH 43567

Sandoz Rogers/Novartis
To order: (912) 560-1863

Seminis Vegetable Seeds, Inc
Tech Rep: Rusty Autry
2221 North Park Ave.
Tifton GA 31796
Ph: (229) 386-0750

Tifton Seed Distribution Center
Tech. Rep: Van Lindsey
Ph: (912) 382-1815

Guidelines for Contributions to the Vegetable Variety Regional Bulletin

Vegetable variety evaluation and selection is an essential part of production horticulture. The vegetable variety regional bulletin is intended to report results of variety trials conducted by research institutions in the Southeast in a timely manner. Its intended audience includes growers, research/extension personnel, and members of the seed industry.

Timeliness and rapid turnaround are essential to better serve our audience. Hence, two bulletins are printed each year: one in November with results from spring crops, and another one in April with results from summer and fall crops. It is essential that trial results are available before variety decisions for the next growing season are made.

Here are a few useful guidelines to speed up the publication process for the next regional bulletin (fall 2003).

When: March 26, 2004
Deadline for fall 2003 variety trial report submissions.

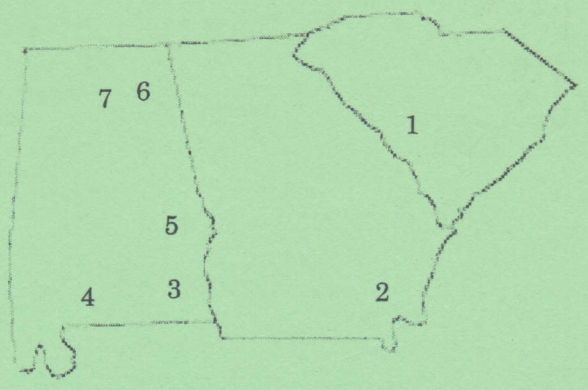
What: Results pertaining to variety evaluation in a broad sense. This includes field performance, quality evaluation, and disease resistance. Here are a few tips:

- Follow the format used in the pervious 10 regional bulletins.
- Include author's complete mailing address, e-mail address, and phone number.
- Express yields on a per acre basis or in typical measures used for the crop (i.e., number of 40 pound bushels per acre).
- Follow your own unit's internal review process. Contributions will be edited, but not formally reviewed.

How: Send a disk and hard copy to:

Edgar Vinson or Joe Kemble
Department of Horticulture
101 Funchess Hall
Auburn University, AL 36849-5408

Or send e-mail to:
vinsoed@auburn.edu, or
kembljm@auburn.edu



CLEMSON UNIVERSITY
1. Edisto Research and Education Center, Blackville, SC

UNIVERSITY OF GEORGIA
2. Vidalia Onion and Vegetable Research Center, Lyons, GA

AUBURN UNIVERSITY
3. Wiregrass Research and Extension Center, Headland, AL
4. Brewton Agricultural Research Unit, Brewton, AL
5. E.V. Smith Research Center, Shorter, AL
6. Sand Mountain Research and Extension Center, Crossville, AL
7. North Alabama Horticulture Research Center, Cullman, AL