

Regional Bulletin 05
Auburn University
The University of Florida
The University of Georgia
Mississippi State University
North Carolina State University

Spring 2000 Commercial Vegetable Variety Trials

The central graphic features a dark green background with large, multi-colored text labels for various vegetables. Each label is accompanied by a small, square photograph of the corresponding vegetable variety. The labels and images are arranged in a grid-like fashion, with some overlapping. The colors used for the text include yellow, green, pink, orange, and purple. The vegetables shown include green beans, onions, okra, asparagus, strawberries, yellow squash, cantaloupe, garlic, watermelon, and cucumber.

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

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Introduction: Tips for Interpreting Vegetable Variety Trial Results

Joe Kemble and Edgar Vinson

The spring 2000 variety trial regional bulletin includes results from Alabama (Auburn University), Georgia (University of Georgia), Mississippi (Mississippi State University), North Carolina (North Carolina State University), and Florida (University of Florida). Trials conducted at various locations offer a wealth of information to growers, extension specialists, researchers, and seed companies. In addition, these trials provide information as to how well a particular variety is performing in several areas within the southern United States. The main purpose of vegetable variety evaluation, however, is to provide growers and seed retailers practical information on varieties and to assist them in selecting a “good” variety. Here are a few tips for interpreting the results of vegetable variety performance.

Open Pollinated vs. Hybrids

In general, hybrids (also referred to as F_1) mature earlier and produce a more uniform crop. Often, they have improved horticultural qualities as well as multiple pest tolerances and/or resistances. Generally, hybrid seed is more expensive than that of open-pollinated (OP) cultivars. With hybrid cultivars, seeds cannot be collected and saved for planting next year’s crop. Hybrid seed is available for most crops that are grown throughout the southeastern United States. Despite the advantages hybrids offer, OP varieties are still planted in Alabama. Selecting a hybrid variety is the first step toward improved crop quality and crop uniformity.

Yield Potential

Yields reported in variety trial results are extrapolated from small plots. Depending on the vegetable crop, plot sizes range from 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 can be amplified, and estimated yields per acre may not be realistic. Therefore, locations cannot be compared to one another by just looking at the range of yields actually reported. The relative differences, however, in perfor-

mance among varieties within a location are realistic and can be used to identify the 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 differences due to small plots (sampling error) and true (but unknown) differences among entries.

R^2 values range between zero and one. Values close to one suggest that the test was conducted under good conditions and most of the variability observed was mainly due to the effect of cultivars and replication. Random, uncontrolled errors were of lesser importance.

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

There must be a minimum yield difference between two cultivars before one can statistically conclude that one cultivar actually performs better than another does. 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 cultivars. For example, in the 2000 canteloupe trial at the Chilton Area Research and Extension Center, ‘Eclipse’ yielded 41,892 pounds per acre, while ‘Athena’ and ‘Classic’ yielded 39,317 pounds per acre and 28,935 pounds per acre, respectively. Since there was less than a 11,616 pounds per acre (the Lsd value for yield) difference between ‘Eclipse’ and ‘Athena’, there is no statistical difference between the yields of these two varieties. However, the difference between ‘Eclipse’ and ‘Classic’ was 12,957 pounds per acre, indicating that there is a real difference between the yields of these two varieties. From a practical point of view, producers should place the greatest importance on Lsd values when interpreting results.

Testing Conditions

AU vegetable variety trials are conducted under standard, recommended commercial production practices. In-

formation on soil type (Table 1), planting dates, fertilizer rates, and detailed spray schedule is provided to help producers compare their own practices to the standard practices used in the trials.

Ratings of Trials

At each location of the AU tests, the growing conditions of each variety trial 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.

Where to Get Seeds

Because seeds are alive, their performance and germination rate depend on how old they are, where and how they were collected, and how they have been handled and stored. It is always preferable to purchase certified seeds from a reputable seedsman.

Several factors other than yield should be considered when choosing which variety to grow. The main factors are type, resistance and/or tolerance to pests, earliness, and seed cost. It is important to remember that some varieties may perform differently under different management systems as compared to the trial results re-

ported here. Producers should test some varieties for themselves by trying two to three varieties on a small scale before making a large planting of a single variety. This will be the best test in determining how well suited a particular variety is for a particular operation.

Vegetable Variety Trial Information Available Online

Vegetable variety trial information can now be viewed on the web. With just a few clicks of the mouse, several practical features can be accessed: a list of vegetable crops, an explanation of the ratings system and database, a description of variety types and crops, as well as information on participating seed companies. Is there a variety that could not be found in the AU variety trial reports? Check the list of vegetable crops. This is long list that allows people to search by name, type, and source. The Auburn University Vegetable Variety Trial website can be found at www.ag.auburn.edu/dept/hf/faculty/esimonne. More descriptive information on how to use this site can be found in "AU Vegetable Varieties Online," ANR-1166 from the Alabama Cooperative Extension System.

"Spring 2000 Commercial Vegetable Variety Trials," Regional Bulletin 05, is on the web at the following URL: <http://www/ag.auburn.edu/resinfo/vegetables/spring2000.pdf>

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

Location	Water-holding	Soil type capacity (in./in.)
Gulf Coast Research and Extension Center (Fairhope)	0.09 - 0.19	Malbis fine sandy loam
Brewton Research Field (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 Research Center (Camden)	0.13 - 0.15	Forkland fine sandy loam
Horticultural Unit, EV Smith Research Center (Shorter)	0.15 - 0.17	Norfolk-orangeburg loamy sand
Chilton Area Research and Extension Center (Clanton)	0.13 - 0.15	Luvernue sandy loam
Upper Coastal Plain 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	Wynnvile 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



Asparagus Cultivar Evaluation, 1997-2000

Carl Cantaluppi

In May 1995, a half acre replicated asparagus cultivar trial was planted at the Tim Moore Farm in Stovall, North Carolina, with 24 cultivars and crosses. Seeds were sown in the greenhouse in late January 1995 and transplants were planted into the field in May and June 1995.

A randomized complete block design with 12 plants per plot and four replications was used.

The purpose of this trial was to evaluate new cultivars and crosses of asparagus to see which were suitable for commercial production. Since the asparagus trial was started by using seedling transplants, no harvest was taken in 1996.

The first harvest season was in 1997 from April 15 to April 30 (two weeks) with a total of four harvests. The second harvest season was in 1998 from April 10 to May 6 (four weeks) with a total of 11 harvests. The third harvest season was in 1999 from April 15 to May 18 (four weeks) for a total of six harvests. The 1999 harvest should have lasted for six weeks, but other commitments prevented the researchers from taking additional harvests. However, the grower was able to harvest the plot for the remaining two weeks without taking the additional data. Even though data was recorded for only four weeks, yields were very low due to a very dry April and May. The fourth harvest season was in 2000 from April 5 to May 25 (seven weeks) for a total of eight harvests; how-

TABLE 1. YEARLY YIELD¹ OF ASPARAGUS VARIETIES IN GRANVILLE COUNTY, NORTH CAROLINA

Cultivar	1997	1998	1999	2000	Spear height ² in
E3 X Ghse.	738	6,316	420	1,253	15
UC 157 (F ₁)	594	4,320	521	1,188	15
NJ 878	573	4,738	710	2,048	10.5
Atlas	572	5,179	699	1,449	16
Jersey Giant	514	5,046	612	1,788	14
G24 X G317	457	4,302	623	1,465	11
NJ 792	397	4,211	732	1,632	14
44P X 22-8	350	3,340	781	1,795	14
Apollo	328	3,340	441	1,236	16
NJ 877	326	2,359	454	975	11
NJ 860	310	3,267	517	1,216	12
G52 X G305	294	3,993	416	1,410	14
NJ 855	286	2,977	327	1,169	15
Purple Passion	261	2,868	445	1,243	17
Grande	248	3,218	341	1,251	18
Jersey Knight	247	3,291	467	1,035	11
Jersey General	246	2,849	453	1,200	11.5
Greenwich	226	3,412	400	1,425	15
Jersey King	225	2,439	584	1,338	13
Jersey Jewel	196	3,812	592	1,281	11
Jersey Prince	190	2,596	429	1,064	11
NJ 786	177	3,450	628	1,287	9.5
Jersey Gem	159	2,632	523	1,301	11.5
NJ 498	146	2,450	430	1,162	11.5

¹Yield is in pounds per acre.

²Spear height refers to the shortest height at which the spear tip opens up or "ferns out" initiating fiber development in the base of the spear, causing them to be tough or woody. Harvesting taller spears before they fern out will give the grower the highest yield (weigh) of spears that will be tender. This rating was taken at one observation done in late April when the weather was very cool, causing the spears to get quite tall before ferning out. Warmer temperatures would cause spears to fern out at much shorter heights.

ever, the grower harvested for an additional 15 harvests between April and May without yield data being recorded.

Yearly yields and total yields in pounds per acre are presented in Tables 1 and 2, respectively. Ranking of asparagus varieties from highest to lowest yielding in shown in Table 3.

TABLE 2. TOTAL YIELD¹ OF ASPARAGUS VARIETIES IN GRANVILLE COUNTY, NORTH CAROLINA

Cultivar	Total yield ²	Pounds greater than 3/8" in diam	Pounds less than 3/8" in diam	Spears per plant
NJ 878	2,048 a	1,730 a	318 a	5.0 a
44PX22-8	1,795 ab	1,517 abcd	278 bcd	4.8 a
Jersey Giant	1,788 ab	1,608 ab	180 bcdef	4.2 abc
NJ 792	1,632 abc	1,532 abc	100 efg	3.6 abcd
G24XG317	1,465 abc	1,224 abcde	242 bcdef	3.2 bcde
Atlas	1,449 abc	1,338 abcde	111 defg	2.8 bcde
Greenwich	1,425 abc	1,285 abcde	140 cdefg	3.3 bcde
G52XG305	1,410 abc	1,136 abcde	274 bcde	3.7 abcd
Jersey King	1,338 abc	1,058 abcde	280 bcd	3.4 bcd
Jersey Gem	1,301 bc	1,158 abcde	143 cdefg	3.3 bcd
NJ 786	1,287 bc	1,087 abcde	200 bcdef	3.6 abcd
Jersey Jewel	1,281 bc	699 e	583 a	4.3 ab
E3XGhse.	1,253 bc	1,024 abcde	230 bcdef	3.2 bcde
Grande	1,251 bc	1,140 abcde	111 defg	2.5 de
P.Passion	1,243 bc	1,243 abcde	0 g	1.8 e
Apollo	1,236 bc	1,126 abcde	111 defg	2.8 cde
NJ 860	1,216 bc	1,104 abcde	113 defg	3.0 bcde
Jer.General	1,200 bc	1,006 abcde	194 bcdef	2.8 bcde
UC 157 (F ₁)	1,188 bc	878 bcde	310 bc	3.2 bcde
NJ 855	1,169 bc	1,091 abcde	78 fg	2.8 cde
NJ 498	1,162 bc	984 abcde	178 bcdef	3.0 bcde
Jer. Prince	1,064 bc	837 cde	227 bcdef	2.8 bcde
Jer. Knight	1,035 bc	766 de	209 bcdef	2.5 de

¹ Yield is in pounds per acre. ²Means with the same letter within columns are not statistically significant, Duncan's Multiple Range Test, .05 level.

TABLE 3. NUMERICAL RANKING¹ OF ASPARAGUS CULTIVARS

Cultivar	1997	1998	1999	2000	Cultivar	1997	1998	1999	2000
E3 X Greenhouse	1	1	20	13	NJ 855	13	17	24	20
UC 157 (F ₁)	2	5	11	19	Purple Passion	14	18	16	15
NJ 878	3	4	3	1	Grande	15	16	23	14
Atlas	4	2	4	6	Jersey Knight	16	14	13	23
Jersey Giant	5	3	7	3	Jersey General	17	19	15	18
G24 X G317	6	6	6	5	Greenwich	18	11	22	7
NJ 792	7	7	2	4	Jersey King	19	23	9	9
44P X 22-8	8	13	1	2	Jersey Jewel	20	9	8	12
Apollo	9	12	17	16	Jersey Prince	21	21	19	22
NJ 877	10	24	14	24	NJ 786	22	10	5	11
NJ 860	11	15	12	17	Jersey Gem	23	20	10	10
G52 X G305	12	8	21	8	NJ 498	24	22	18	21

¹ Ranking is from highest yielding (1) to lowest yielding (24).



Green Bean Trial At Sand Mountain



Joe Kemble, Edgar Vinson, and Tony Dawkins

A green bean variety trial was conducted at the Sand Mountain Research and Extension Center (SMREC) in Crossville, Alabama (Tables 1 and 2).

Green beans were direct seeded on bare ground into 20 foot long plots at a within row spacing of one foot on May 4. Soils were fertilized according to the recommendations of the Auburn University Soil Testing Laboratory. Names of the chemicals are mentioned only for describing the production practices used. This represents neither a recommendation nor an endorsement of these products. 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 00IPM-2 from the Alabama Cooperative Extension System).

Fertilization consisted of a preplant application of 5-10-15 at a rate of 1,000 pounds per acre on May 1 and an application of ammonium nitrate at a rate of 120 pounds per acre on May 29. Insecticides used were Dual (at a rate of one quart per acre) and Asana (at a rate of eight ounces per acre) on May 4 and May 9, respec-

TABLE 1. RATINGS OF 2000 GREEN BEAN VARIETY TRIAL¹

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

¹See introduction for a description of rating scales.

tively. Bravo fungicide was applied at a rate of two pints per acre on June 9 and June 14.

Several new green bean varieties were added to the list of entries this year but there were very few differences in yield among varieties. New varieties such as 'Festina', 'Grenoble', 'Fandango' and 'Unidor' all performed as well as the more well-known varieties such as 'Benchmark', 'Bronco' and 'Hialeah'. 'Mercury', which was recently named, exhibited yields comparable to the others while 'Capricorn' (also named recently) had the lowest yield.

TABLE 2. SEED SOURCE, EARLINESS, AND DISEASE CLAIMS OF SELECTED GREEN BEAN VARIETIES

Variety	Type	Seed source	Days to harvest	Growth habit	Pod color	Pod shape	Disease claims ¹	Years evaluated
Benchmark	OP	Novartis	55	Bush	Green	Round	CBMV, NY15MV	97-00
Bronco	OP	Asgrow	53	Bush	Green	Round	CBMV	97-00
Hialeah	OP	Ferry-Morse	53	Bush	Green	Oval	NY15MV	97-00
Capricorn(MB-8007)	OP	Novartis	59	Bush	Green	Round	CBMV, NY15MV	98-00
Stallion	OP	Asgrow	53	Bush	Green	Round	CBMV, HB	98-00
Mercury (SB 4136)	OP	Novartis	55	Bush	Green	Round	NY15	98-00
Jade	OP	Novartis	60	Bush	Green	Round	CTV,CBMV,NY15	00
Festina	-	Petoseed	-	-	-	-	-	00
Fandango	-	Petoseed	56	Bush	Green	Round	ANT, CBMV,HB	00
Grenoble	OP	Petoseed	52	Bush	Green	Round	CBMV, HB	00
Unidor	OP	Petoseed	54	Bush	Yellow	Round	ANT, CBMV	00

¹Disease Claims: CBMV= Common Bean Mosaic Virus; HB=Halo Blight; NY15MV = Mosaic Virus race NY 15; ANT=Anthracnose; CTV = Curly Top Virus. - = not found

TABLE 3. YIELD AND POD CHARACTERISTICS OF SELECTED GREEN BEAN VARIETIES GROWN AT THE SAND MOUNTAIN RESEARCH AND EXTENSION CENTER

Variety	Plant stand %	Marketable yield <i>lbs/a</i>	Pod weight <i>lbs/100 pods</i>	Pod length <i>in/pod</i>
Festina	91	2,315	1.25	4.8
Stallion	90	1,542	1.20	5.3
Benchmark	74	1,393	1.00	5.0
Grenoble	86	1,322	1.13	5.1
Bronco	80	1,312	1.16	5.2
Hialeah	68	1,285	1.01	5.1
Mercury	66	1,205	1.46	5.3
Fandango	78	1,087	0.86	4.6
Unidor	95	953	0.96	4.9
Jade	64	803	0.72	3.7
Capricorn	63	545	1.00	5.1
<i>R</i>²	0.26	0.27	0.31	0.25
<i>CV</i>	29	65	31	17
<i>lsd</i>	31	1,460	0.48	1.25



'Indy' Among Top Cucumber Varieties

Joe Kemble, Edgar Vinson, and Arnold Caylor



A slicer cucumber variety trial was conducted at the North Alabama Horticulture Research Center (NAHRC) in Cullman, Alabama (Tables 1 and 2).

Nine cucumber varieties were direct seeded on May 9. Plastic mulch and drip irrigation were used. Plots consisted of a single 20 foot row with a within row spacing of eight inches. This provided a stand of approximately 17,000 plants per acre.

Preplant fertilization consisted of an application of 15-0-0 at a rate of 50 pounds of N per acre. Fertilization consisted of weekly injections of six pounds N per acre as calcium nitrate until harvest. Fungicides used were Kocide 101 (at a rate of two pounds per acre on June 19); Bravo Ultra (at a rate of two pounds per acre) on June 26, July 3, July 11, and July 17; and Benlate (at a rate of 0.5 pounds per acre) on June 26, July 11, and July 17. Insecticides used were Asana XL (at a rate of 9.6 ounces per acre) on June 3.

Cucumbers were harvested 11 times between June 19 and July 14. After each harvest, fruits were weighed and graded according to the *Cucumber Grader's Guide*

TABLE 1. RATINGS OF 2000 CUCUMBER VARIETY TRIAL¹

Location	NAHRC
Weather	3
Fertility	5
Irrigation	5
Pests	5
Overall	5

¹See introduction for a description of rating scales.

(Circular ANR-771 from the Alabama Cooperative Extension System). Early and total yields were calculated by combining the marketable yields of the first four harvests (Tables 3 and 4).

'Dasher II' and 'Speedway' had significantly higher yields in both early and total yield (Tables 3 and 4). 'Indy' was among the highest early producers but did not perform as well as 'Speedway' and 'Dasher II' overall. 'Panther' had the highest total yield along with 'Speedway' and 'Dasher II'. 'General Lee', a well known standard-variety, had yields that were significantly lower than these three varieties.

TABLE 2. SEED SOURCE, FRUIT CHARACTERISTICS, AND RELATIVE EARLINESS OF SELECTED SMALL MELONS

Variety	Type ¹	Seed source	Days to harvest	Disease claims ⁴	Years eval.
Dasher II	F1	Petoseed	58	ALS,ANT,CMV,DM,PM,Sc	94-97
Daytona	F1	Petoseed	–	–	00
General Lee	F1	Ferry-Morse	65	CMV,DM,PM,Sc	00
Indy	F1	Petoseed	59	ALS,ANT,CMV,PM,PRSV, STM,ZYMV	96,97
Panther	F1	Sunseed	57	ANT, CMV, DM, PM, Sc	00
Prolific	F1	Sakata	–	ALS, DM, PM, Sc	00
Slice Max	F1	Sakata	50	PM	96,98,00
Speedway	F1	Petoseed	56	ALS,ANT,CMV,DM,PM,Sc	94-97
Tasty Green	F1	Sakata	–	DM, PM	00

– = Not found; from seed catalogue. Type: F1 = Hybrid

Disease claims: ANT = Anthracnose; ALS = Angular Leaf Spot; CMV = Cucumber Mosaic Virus; DM = Downy Mildew; PM = Powdery Mildew PRSV2 = Papaya Ring Spot Virus; Sc = Scab; STM = Stemphylium; ZYMV = Zucchini Yellow Mosaic Virus.



Garlic Shows Promise For Southeast Georgia



George E. Boyhan, Ray Hicks, and C. Randy Hill

Two garlic variety trials were conducted during the 1999-2000 growing season. One trial was held on-farm in Screven County, Georgia, and one was held at the Vidalia Onion and Vegetable Research Center (VOVRC) in Reidsville, Georgia. Garlic cloves were planted on October 25 at the on-farm location and on October 27 at the VOVRC (Tables 1 and 2). The trials were randomized complete block designs with three replications at the on-farm location and four replications at the VOVRC.

The fertility program at the on-farm location followed standard soil test recommendations for onion production. At the VOVRC the fertility program began with 400 pounds per acre of 5-10-15 with 9% sulfur applied preplant. This was followed with 300 pounds per acre of 6-12-18 with 4% sulfur applied on January 18 and 150 pounds per acre of diammonium phosphate applied on January 25. On February 10, 300 pounds per acre of 6-12-18 with 4% sulfur was applied followed by 300 pounds per acre of CaNO_3 applied on March 1. Finally, 200 pounds of CaNO_3 was applied on May 15.

Weed control consisted of one application of bromoxynil (Buctril) herbicide at one pint per acre at both the on-farm location and at the VOVRC applied in January 2000. In addition, hand weeding was done at both locations as needed.

TABLE 1. RATINGS OF 2000 GARLIC VARIETY TRIAL¹

Location	Screven Co.	VOVRC
Weather	5	5
Fertility	5	5
Irrigation	5	5
Pests	5	5
Overall	5	5

¹See introduction for a description of rating scales.

The first harvest was conducted at the VOVRC on May 9 for those varieties deemed mature. A second harvest of the later varieties was conducted at the VOVRC on June 7. All garlic varieties were harvested on June 6 at the on-farm location.

The first harvest at the VOVRC was made based on an assessment of crop maturity based on bulb size alone. Subsequent information indicated that a better assessment would include a count of wrapper leaves on the bulbs. Garlic are judged to be mature when there are only three to four wrapper leaves still present. In our case there were eight to 10 wrapper leaves, so the first harvest was done too early.

TABLE 2. THE 2000 GARLIC VARIETY TRIALS AT THE VIDALIA ONION AND VEGETABLE RESEARCH CENTER

Entry	Source	Vidalia Farm			Screven County		
		Yield 50 lb bags/ac	Bulb diameter in	Harvest date	Yield 50 lb bags/ac	Bulb diameter in	Harvest date
VE-2550	Basic Vegetable Products	273	1.8	5/9/00	301	— ¹	6/6/00
L-5150	Basic Vegetable Products	176	2.3	6/7/00	295	—	6/6/00
VE-1750	Basic Vegetable Products	332	2.3	5/9/00	220	—	6/6/00
LE-4050	Basic Vegetable Products	285	2.7	5/9/00	304	—	6/6/00
Elephant Garlic D	Shad Dasher	240	2.7	6/7/00	459	—	6/6/00
Elephant Garlic S	Norman Schmidt	292	2.9	6/7/00	528	—	6/6/00
California Early	Empire Garlic	324	2.4	5/9/00	295	—	6/6/00
California Late	Empire Garlic	260	1.8	6/7/00	265	—	6/6/00
R²		0.572	0.879		0.933		
CV		33%	14%		32%		
lsd		108	0.3		80		

¹ Data not included.

The on-farm harvest on June 6 and the second VOVRC harvest on June 7 were too late for several of the varieties. An optimum time for harvest this season in southeast Georgia would have been between the early and late harvests. The late varieties 'L-5150' and 'California Lat'e are inappropriate for southeast Georgia. Typically under California production, these varieties would

not be harvested until late summer. Summers in Georgia are too hot for these varieties to continue to grow and thrive.

The elephant garlic types do very well in southeast Georgia, producing cloves that are twice as large or larger than regular garlic; however, the flavor is considerably milder than regular garlic. In conclusion, there is potential for garlic production in southeast Georgia of early garlic varieties, but late varieties are unsuitable for Georgia's climate.



‘Eclipse’ Casts a Shadow on other Eastern Melons



Joe Kemble, Edgar Vinson, Jim Pitts, and Tony Dawkins

A small melon variety trial was conducted at the Chilton Area Research and Extension Center (CAREC) in Clanton and the Sand Mountain Research and Extension Center (SMREC) in Crossville (Tables 1 and 2).

At both locations, fifteen varieties of cantaloupe and honey dew melons were direct seeded on bare ground. Plots were seeded on June 19 at CAREC and May 17 at SMREC.

At Clanton, fertilization consisted of a preplant application of 54 pounds of N and K₂O and weekly injections ranging between seven and 14 pounds of N and K₂O between May 3 and July 12. A total of 160 pounds of N and K₂O were injected during the growing season. Insect control was provided by applications of Spintor (at a rate of eight ounces per acre) on June 27 and July 5; and Lannate LV (at a rate of two pints per acre) on June 7, June 14, June 21, June 28, July 3, July 24, and August 3.

TABLE 1. RATINGS OF 2000 MELON VARIETY TRIAL¹

Location	CAREC	SMREC
Weather	3	4
Fertility	5	5
Irrigation	5	5
Pests	5	5
Overall	4	5

¹See introduction for a description of rating scales.

Fungicides used were Kocide (at a rate of 2.7 pounds per acre) on May 12 and Ridomil/Bravo 81W (at a rate of two pounds per acre) on June 27.

At Sand Mountain, fertilization consisted of a preplant application of 5-10-15 at a rate of 1,000 pounds per acre on May 1. On June 30 calcium nitrate was ap-

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

Variety	Type ¹	Seed source	Rind aspect ²	Flesh color	Days to harvest	Disease claims ³	Years eval.
Athena	F1	Novartis	E	Orange	80	FW,PM	94-00
Classic	F1	Petoseed	E	Salmon	86	–	00
Durango	F1	Petoseed	E	Orange	84	FW,PM,Su	00
Earli-Dew	F1	Petoseed	Ho	Green	80	FW	95-00
Eclipse	F1	SeedWay/Petoseed	E	Orange	85	FW,PM	96-00
Edonis	F1	Johnny’s	Sp	Orange	70	FW,PM	00
HD-85	F1	Takii	Ho	Green	–	–	00
Honey Brew	F1	Sakata	Ho	Green	105	FW,PM	00
Honey Star	F1	Sunseed	Ho	Green	85	FW,PM	00
HY-Mark	F1	Petoseed	W	Orange	83	PM,Su	94-00
Primo	F1	Novartis	W	Orange	77	PM	00
Rocio	F1	Sunseed	Ho	Green	85	FW,PM	00
SMX 7204	F1	Sunseed	E	Orange	–	FW,PM	00
ATX-542 (Honey Ace)	F1	Takii	Ho	–	–	–	00

– = not found; from seed catalogues

¹ Type: F1=hybrid; OP=open pollinated. ² Rind aspect: W = Western, E = Eastern, Ho = Honey dew, Sp = specialty. ³ Disease claims: FW = Fusarium Wilt; PM = Powdery Mildew; Su = Sulfur.

plied at a rate of 350 pounds per acre. Insecticides used were Asana (at a rate of eight ounces per acre) on May 19 and Curbit (at a rate of 1.5 quarts per acre) on May 17. Bravo fungicide was applied on June 4, June 9, June 21, July 19, and July 27. Benlate fungicide was applied at a rate of 0.5 pounds per acre on July 12. Weeds were controlled with an application of Poast Plus (at a rate of 1.5 pints per acre) and crop oil (at a rate of one pint per acre) on July 13.

Cantaloupes and honey dews were harvested on July 7, July 9, July 12, July 14, and July 19 at CAREC and on August 8, August 11 August 15 and August 21 at SMREC (Table 3).

The list of entries for the small melons was the same at both locations. Of the eastern melons, the experimental variety ‘SMX7204’ had yields that were comparable to the standard variety ‘Athena’. At CAHS, ‘SMX7204’ had a marketable yield that was significantly higher than the other eastern melons. ‘Rocio’, ‘Creme De Menthe’, and ‘Honey Dew’ had the three highest yields among the honey dew melons while the western melons exhibited no differences in yield.

TABLE 3. YIELD OF SELECTED SMALL MELON VARIETIES

Variety	Type ¹	Marketable yield lbs/a	Marketable fruits #/a	Individual fruit weight lbs	Soluble solids °Brix
Chilton Area Research and Extension Center					
Eclipse	E	41,892	13,250	3.2	10.0
Athena	E	39,317	16,426	2.4	10.0
SMX 7204	E	37,203	15,791	2.4	12.2
Classic	E	28,935	12,614	2.3	•
Early Brew	Ho	56,288	14,792	3.8	11.1
Rocio	Ho	49,831	16,517	3.0	10.0
Creme De Menthe	Ho	48,682	16,789	2.9	9.0
Honey Brew	Ho	47,971	17,243	2.8	•
Earli Dew	Ho	44,030	19,421	2.3	12.4
HD-85	Ho	37,295	12,251	3.1	10.0
ATX-542	Ho	36,213	12,342	2.9	13.5
Edonis	Sp	16,682	11,616	1.4	10.2
Primo	W	32,616	14,520	2.3	11.5
HY-Mark	W	32,418	20,237	1.6	11.0
Durango	W	28,413	13,794	2.1	11.2
R²		0.65	0.61	0.71	
CV		21	16	17	
lsd		11,616	3,166	0.63	
Sand Mountain Research and Extension Center					
SMX7204	E	26,687	6,090	4.4	10.5
Eclipse	E	16,139	3,698	4.3	10.4
Athena	E	16,052	3,806	4.2	11.8
Classic	E	11,386	3,263	3.5	•
Edonis	Sp	7,569	2,719	2.8	•
Rocio	Ho	24,273	3,915	6.0	8.3
Creme De Menthe	Ho	22,511	4,133	5.5	•
Honey Brew	Ho	18,237	2,936	6.3	•
ATX-542	Ho	14,649	2,501	5.4	11.3
Early Brew	Ho	11,397	2,066	5.4	10.6
HD-85	Ho	6,144	979	5.8	•
Earli Dew	Ho	5,786	1,305	4.1	8.4
HY-Mark	W	21,978	6,743	3.0	13.8
Durango	W	21,293	6,199	3.6	10.0
Primo	W	20,804	5,438	3.7	9.9
R²		0.26	0.34	0.74	
CV		77	74	17	
lsd		8,972	1,952	2	

¹ Type: W = Western, E = Eastern, Ho = Honey dew, Sp = specialty. • = not available.



Evaluation of Okra Varieties for Plasticulture Production in North Florida



Eric Simonne and Bob Hochmuth

An okra variety trial was conducted in the spring of 2000 at the North Florida Research and Education Center — Suwannee Valley near Live Oak, Florida, (Tables 1 and 2) on a Lakeland fine sand soil. Okra was transplanted on April 7 in double rows one foot apart, onto 10-foot long plots at a within row spacing of one foot. Black plastic mulch and drip irrigation were used. Center-to-center distance between beds was five feet, which created a stand of approximately 8,700 plants per acre.

Preplant fertilization consisted of an application of a 13-4-13 fertilizer at the rate of 500 pounds per acre. Beginning four weeks after transplanting and through final harvest, additional N and K were injected daily through the drip system. Total N and K used

TABLE 2. SEED SOURCE, EARLINESS AND POD COLOR OF SELECTED OKRA VARIETIES

Variety	Seed source ¹	DTH ²		Pod Color, Shape
		1	2	
Annie Oakley (F1)	1	48	40	Green, Ridged
Baby Bubba (F1)	2	53	40	Green, Ridged
Big Un ³ (OP)	9	NA	42	Green, Ridged
Cajun Delight (F1)	3	52	40	Green, Ridged
Clemson Spineless (OP)	1,4,5	55	40	Green, Ridged
Clemson Spineless 80 (OP)	6	58	40	Green, Ridged
Emerald Green (OP)	6,7	55	40	Green, Smooth
Green Best (F1)	3,8	48	40	Green, Ridged
Lee (OP)	3	56	40	Green, Ridged
Long Green Pod (OP)	2	50	42	Green, Ridged
Louisiana Green Velvet (OP)	9	58	42	Green, Smooth
Mita #7 (F1)	9	49	40	Green, Ridged
North & South (F1)	10	46	40	Green, Ridged
Penta Green (OP)	8	50	40	Green, Ridged
SOK 601 (F1)	8	NA	40	Green, Ridged
Spike (F1)	9	48	40	Green, Ridged

¹1=Petoseed; 2=Burpee Seeds; 3=Park Seed; 4=Asgrow; 5=Kelly Seeds; 6=Ferry-Morse; 7=Advance Seed; 8=Sakata; 9=Wilhite; 10=SeedWay

²DTH=Days to harvest; 1=from commercial literature; 2=observed from transplant.

³ Large variety.

TABLE 1. RATINGS OF 2000 OKRA VARIETY TRIAL¹

Location	NFREC-SV
Weather	5
Fertility	5
Irrigation	5
Pests	5
Overall	5

¹See introduction for a description of rating scales.

(applied+injected) was 175 pounds per acre for the whole season. No fungicides were used, but Malathion was applied on June 16 and June 30 to control stink bugs.

Okra was harvested three times weekly between May and July for a total number of 21 harvests. Early yield was determined by adding the production of the first three harvests (Table 3).

Reference varieties for the area are the hybrid 'North & South' and the open-pollinated 'Clemson Spineless'. The experimental line 'SOK-601' had the numerically highest early yield (1,545 pounds per acre), while 'Louisiana Green Velvet' had the lowest (712 pounds per acre). 'North & South' (4,059 pounds per acre) and 'SOK 601' (4,113 pounds per acre) had significantly higher May yields than the other entries. 'Mita #7' (17,500 pounds per acre) and 'North & South' (16,782 pounds per acre) had significantly higher season yields, and 'Louisiana Green Velvet' had the lowest (11,109 pounds per acre). In this test, average pod production per harvest ranged between 833 pounds per acre ('Mita #7') to 529 ('Louisiana Green velvet'). Yield differences in 'Clemson Spineless' and 'Clemson Spineless 80' were small.

The unusually large pods of 'Big Un' made this variety a 'specialty okra'. The bushy, compact growth habit of 'Babby Bubba' made harvest difficult. This variety is not suited for commercial production.

Overall, hybrids tended to perform better than open pollinated varieties and to produce earlier. The best per-

forming hybrid varieties in this test were 'Mita #7', 'North & South', 'Annie Oakley', and 'Spike', while the best performing open pollinated varieties were the standard

'Clemson Spineless', 'Clemson Spineless 80', and 'Penta Green'. The experimental hybrid 'SOK-601' showed good potential for the area.

TABLE 3. YIELD OF OKRA VARIETIES IN THE SPRING OF 2000 AT THE NORTH FLORIDA RESEARCH AND EDUCATION CENTER, SUWANNEE VALLEY

Variety	Early ^{1,2} mkt. wt lbs/ac	May mkt. wt lbs/ac	June mkt. wt lbs/ac	July mkt. wt. lbs/ac	Season mkt. wt lbs/ac	Average mkt. wt lbs/ac
Mita #7	1,269 a	3,683 ab	10,089 a	3,729 a	17,500 a	833
North & South	1,275 a	4,059 a	9,225 a	3,498 a	16,782 ab	799
Clemson Spineless	1,262 a	3,508 a-c	9,447 a	3,711 a	16,667 a-c	794
SOK 601	1,545 a	4,113 a	8,863 a	3,247 a	16,223 a-c	773
Green Best	1,206 a	3,274 a-d	8,898 a	3,951 a	16,123 a-c	768
Annie Oakley	1,425 a	3,540 ab	8,417 a	3,983 a	15,940 a-c	759
Clemson Spineless 80	1,140 a	3,631 ab	8,254 a	3,449 a	15,334 a-c	730
Spike	1,377 a	3,648 ab	7,993 a	3,043 a	14,684 a-c	699
Penta Green	981 a	3,312 a-d	8,071 a	3,130 a	14,513 a-c	691
Cajun Delight	1,188 a	3,264 a-d	6,828 a	3,281 a	13,372 a-c	637
Big Un	852 a	2,141 d	8,020 a	2,501 a	12,662 a-c	603
Emerald Green	1,007 a	2,749 b-d	6,573 a	2,817 a	12,139 a-c	578
Lee	673 a	2,271 cd	7,167 a	2,695 a	12,133 a-c	578
Baby Bubba	886 a	2,473 b-d	5,623 a	3,549 a	11,645 bc	555
Long Green Pod	781 a	2,635 b-d	6,110 a	2,509 a	11,254 bc	536
La. Green Velvet	712 a	2,271 cd	5,966 a	2,872 a	11,109 c	529
R²	0.59	0.70	0.59	0.59	0.67	
CV	43	20	26	23	20	

¹ Early yield was the sum of the first three harvests; six harvests in May; 11 harvests in June; four harvests in July; 21 harvests for season yield.

² Within columns, means followed by different letters are significantly different according to Duncan Multiple Range Test (5% level).



Vidalia Onion Variety Trials in Georgia



George E. Boyhan, William M. Randle, Reid L. Torrance, David E. Curry, Robert T. Boland, C. Randy Hill, M. Jeff Cook, and Myron D. Graham

Four short-day onion variety trials were held at two on-farm locations and at the Vidalia Onion and Vegetable Research Center (VOVRC). One on-farm trial was held in Brantley County and one was held in Tattnall County, Georgia. Two additional trials were held at the VOVRC (Table 1).

Onion seed were planted at the Brantley County on-farm location on September 14 or September 24. Seed were sown with an Earthway push planter using a 1002-5 Radish medium plate (Bristol, IN). Onions were transplanted from these direct-seeded onions to their final spacing on December 1 onto raised plastic beds. Two rows of onions were planted approximately six inches apart in the row with a between row spacing of approximately 14 inches. The onions were planted in a randomized complete block design with three replications. Each plot consisted of 40 bulbs. The fertility program followed Georgia soil test recommendations. Disease, insect, and weed control followed Georgia Cooperative Extension Service recommendations.

At the Tattnall County on-farm location, onions were seeded on September 13 onto beds treated with Busan 21 days prior. These onions were transplanted to their final spacing on November 15. Plots consisted of four rows of onions planted 18 inches apart and five inches in the row. Each plot was 50 feet long. This is typical of onion production with a 72-inch wheel row spacing. The experimental design was a randomized complete block design. The fertility program consisted of 350 pounds per acre of 6-18-18 with 6% sulfur applied on November 24. A 5-10-15 fertilizer was applied on January 6 at 300 pounds per acre. Three hundred sixty-five pounds of 6-12-18 was applied on January 20. Finally, two applications of CaNO_3 at 200 pounds per acre each was applied on February 7 and March 1. Disease and weed control followed Georgia Cooperative Extension Service recommendations. Harvests occurred on April 6, April 13, April 20, April 27, May 3, and May 10 as the various varieties matured.

At the VOVRC, two variety trials were conducted. The first trial had seed sown on September 23 in high density plant beds (30-50 seed per foot) that had been fumigated with Busan three weeks prior. The fertility program for the seeded onions started with preplant ap-

TABLE 1. RATINGS OF 2000 VIDALIA ONION VARIETY TRIAL¹

Rating based on	All locations
Weather	5
Fertility	5
Irrigation	5
Pests	5
Overall	5

¹See introduction for a description of rating scales.

plication of 800 pounds of 5-10-15 with 9% sulfur. The fertility program for the seeded onions included 180 pounds per acre of diammonium phosphate applied on September 24. In addition, 180 pounds of CaNO_3 was applied on October 21 as well as 300 pounds of 10-10-10 applied on October 28. Finally, 200 pounds of CaNO_3 was applied on November 8. Transplants were pulled from the plant beds and set at their final spacing on November 23. The fertility program on these plots consisted of 300 pounds of 6-12-18 with 4% sulfur applied on January 18. In addition, 150 pounds of diammonium phosphate was applied on January 25 as well as 300 pounds of 6-12-18 with 4% sulfur on February 10. The final fertilizer application was on March 1 with 300 pounds of CaNO_3 . Harvests occurred on April 6, April 12, April 19, April 26, May 4, and May 11 as the onion varieties matured. Weed control consisted of applications of Goal and Prowl herbicides at the rate of 1.5 pints per acre applied on December 3. Disease and insect control followed current Georgia Cooperative Extension Service recommendations. The experimental design was a randomized complete block design with four replications. The plot size was 50 feet long with plant spacing similar to the on-farm spacing described above.

The second trial at the VOVRC had transplants produced concurrently with transplants for the first trial. Transplants were set on December 21 at the same spacing as the first trial, but consisted of plots 10 feet long. The fertility, weed control, disease, and insect control were the same as the first trial.

The trial at the VOVRC is summarized in Table 2. Field yields ranged from 1,107 50-pound bags per acre for ‘Savannah Sweet’ to 554 50-pound bags per acre for ‘SSC 6372’. Post-cure yields ranged from 879 50-pound bags per acre for ‘Savannah Sweet’ to 15 50-pound bags per acre for ‘Centaur’. This points out one of the problems with the later harvested onions. They tend to have much higher disease incidence, which dramatically reduces yields through the curing and grading process. This was also the case at the on-farm location in Tattnall County. Pungency is measured as umoles pyruvate per gram fresh weight. Values above 5 will have a detectable pungency to the taste. The pungency values at the VOVRC ranged from 5.4 for ‘Georgia Pride’ to 2.4 for ‘Sweet Sun’.

At the on-farm location in Tattnall County field yields ranged from 1,164 50-pound bags per acre for ‘DPS 1033’ to 508 50-pound bags per acre for ‘DPS 1058’ (Table 3). The post cure yields ranged from 916 50-pound bags per acre for ‘DPS 1033’ and 0 50-pound bags per acre for ‘Centaur’. Pungency ranged from 4.0 umoles per gram of fresh weight (umole/gfw) for ‘Evita’ to 2.1 umole/gfw for ‘Centaur’.

The two additional trials were of grano-type short-day onions. These onions differ from the typical short-day onions grown in southeast Georgia in that they are round, instead of flattened, yellow onions. In addition, these onions tend to mature later than the granex types typical in this part of Georgia.

TABLE 2. THE 2000 VIDALIA ONION VARIETY TRIAL, VIDALIA ONION AND VEGETABLE RESEARCH CENTER

Entry	Seed source	Field yield 50-lb bags/ac	Post cure yield 50-lb bags/ac	Large <3.5 in.	Jumbo >3.5 in.	Harvest date	Bacterial diseases no/50-ft plot	Pungency um/gfw
Savannah Sweet	Petoseed	1,107	879	184	654	5/4/2000	32	3.4
SXO 1519	Sunseeds	1,064	861	233	487	4/26/2000	26	4.5
DPS 1032	D. Palmer Seed	956	821	519	79	4/19/2000	42	4.8
WI-609	Wannamaker Intern.	882	783	339	291	4/6/2000	13	4.4
DPS 1039	D. Palmer Seed	850	755	481	124	4/19/2000	29	4.5
Sweet Vidalia	Rio Colorado	916	749	292	328	4/26/2000	17	4.6
Sweet Success	Sunseeds	1,014	720	159	486	5/4/2000	56	4.0
SSC 6371 F1	Shamrock	764	688	339	89	4/12/2000	20	4.9
Granex 1035	Seedway	849	670	423	85	4/26/2000	47	4.7
WI-3115	Wannamaker Intern.	746	658	344	91	4/6/2000	28	5.2
Yellow Granex Imp. (Sun F1)	Sunseeds	858	657	339	239	4/26/2000	29	4.4
Sweet Melody	Rio Colorado	860	656	342	190	4/26/2000	42	3.9
DPS 1033	D. Palmer Seed	1,020	647	254	302	5/11/2000	50	4.1
PS 7092	Petoseed	752	631	316	88	4/19/2000	58	4.3
Granex 33 (Y33)	Asgrow	891	612	291	244	5/4/2000	77	3.5
SSC 6436 F1	Shamrock	711	606	287	36	4/12/2000	55	5.1
XP 6995	Asgrow	953	579	228	265	5/4/2000	74	3.1
Georgia Pride F1	Shamrock	663	563	252	83	4/6/2000	18	5.4
RCS 1919	Rio Colorado	622	556	243	12	4/12/2000	70	5.0
DPS 1058	D. Palmer Seed	611	547	199	21	4/12/2000	30	4.7
SSC 6372 F1	Shamrock	554	481	169	17	4/12/2000	33	5.0
Sweet Sun	Sunseeds	697	472	243	64	5/4/2000	71	2.4
Nikita	Rio Colorado	560	362	135	107	5/4/2000	187	3.7
1015Y	Asgrow	815	204	78	83	5/11/2000	50	3.1
Pegasus	Asgrow	967	197	93	74	5/11/2000	131	2.5
Evita F1	Shamrock	1,045	160	54	66	5/11/2000	41	4.3
Centaur	Asgrow	880	15	10	4	5/11/2000	131	3.3
R²		0.769	0.865				0.720	0.741
CV		21%	41%				90%	23%
lsd		140	142				42.4	0.8

TABLE 3. THE 2000 VIDALIA ONION VARIETY TRIAL, TATTNALL COUNTY

Entry	Seed source	Yield 50-lb bags/ac	Post cure yield 50-lb bags/ac	First harvest date	Large <3.5 in.	Jumbo >3.5 in.	Bacterial diseases no/50-ft plot	Pungency um/gfw
DPS 1033	D. Palmer Seed	1,164	916	5/3/2000	194	660	10	3.2
DPS 1039	D. Palmer Seed	1,027	880	4/20/2000	348	444	13	3.5
Sweet Vidalia	Rio Colorado	972	813	4/20/2000	234	483	11	3.0
Sweet Success	Sunseeds	973	787	4/27/2000	240	471	11	3.5
SSC 6436 F1	Shamrock	818	715	4/13/2000	380	191	12	3.4
WI-609	Wannamaker Intern.	735	688	4/6/2000	220	327	4	3.5
Granex 33 (Y33)	Asgrow	955	682	5/3/2000	193	428	38	3.4
SXO 1519	Sunseeds	1,034	679	4/27/2000	190	370	6	3.2
WI-3115	Wannamaker Intern.	740	650	4/6/2000	275	260	3	3.2
Granex 1035	Seedway	838	638	4/27/2000	318	184	11	3.5
Savannah Sweet	Petoseed	1,015	623	4/27/2000	251	325	20	3.1
XP 6995	Asgrow	1,013	621	5/3/2000	159	427	15	3.0
SSC 6371 F1	Shamrock	711	610	4/13/2000	271	191	4	3.5
SSC 6372 F1	Shamrock	726	605	4/13/2000	325	90	19	3.9
Yellow Granex Imp. (Sun F1)	Sunseeds	896	568	4/27/2000	198	281	18	3.4
PS 7092	Petoseed	888	557	4/27/2000	234	232	17	3.2
Georgia Pride F1	Shamrock	591	483	4/6/2000	203	137	8	3.5
Sweet Melody	Rio Colorado	921	451	5/3/2000	118	284	27	3.2
DPS 1058	D. Palmer Seed	508	432	4/13/2000	135	37	7	2.9
Pegasus	Asgrow	979	64	5/10/2000	14	42	20	3.1
Evita F1	Shamrock	717	9	5/10/2000	2	3	13	4.0
Centaur	Asgrow	914	0	5/10/2000	0	0	45	2.1
R²		0.786	0.818				0.710	0.407
CV		21%	49%				84%	18%
lsd		139	197				11	0.8



Strawberry Cultivars 'Camarosa' and 'Chandler' Still Best



Kent Cushman and Thomas Horgan

Eight strawberry cultivars were planted in a plasticulture production system at the North Mississippi Research and Extension Center located in Verona. Soil type was a Quitman silt loam soil and the experimental design was a randomized complete block design with four replications. Yield data from only six of the entries were analyzed due to the extremely poor performance of two entries: 'Gaviota' and 'Cardinal'.

Plant beds were formed six inches high and 30 inches across the top with a press-pan-type bed shaper. Beds were spaced five feet apart, center to center. Black plastic mulch and drip irrigation tubing were applied immediately after bedding.

Fresh-dug, bare-rooted runners of 'Chandler', 'Camarosa', 'Diamante', 'Gaviota', and 'Seascape' were obtained from Norcal Nursery Inc. of Red Bluff, California. Fresh-dug, bare-rooted runners of 'Sweet Charlie', 'Earliglow', and 'Cardinal' were obtained from Lewis Nursery and Farms Inc. of Rocky Point, North Carolina. All plants were planted through the plastic by hand November 4, 1999. Two rows were planted on top of each bed. Plants were spaced 12 inches apart within rows and between rows. Plots were 15 feet long and contained 30 plants. Sprinkler irrigation was applied daily for a week to establish plants.

Preplant fertilizer was broadcast before bed formation at the rate of 50 pounds N, 100 pounds P₂O₅, and 60 pounds K₂O per acre. Soluble fertilizer was applied throughout the spring growing season via the drip (trickle) irrigation system. Soluble fertilizers contributed an additional 70 pounds N and 70 pounds K₂O per acre. Frost protection was provided once, on April 9, during this study. Pesticides were not used due to low levels of insect damage or disease.

Harvest began April 4 and ended May 31 for a total of 22 harvests. Fruit were normally picked on Monday, Wednesday, and Friday. Fruit from each plot was separated into marketable and cull and then counted and weighed. Cull categories were established as small, diseased, misshapen, and insect or bird damage. Most culls were in the small category.

'Camarosa' and 'Chandler' again produced the greatest total marketable yields in trials located in northern Mississippi (see table). 'Camarosa' and 'Chandler' were also the highest yielding cultivars in the 1999 trial. 'Diamante' and 'Seascape' were included for the first time, but yields were low for both of these new cultivars. Percent marketable yield and average fruit weight, however, were significantly greater for 'Diamante' compared to 'Camarosa' or 'Chandler'. The 1999 trial did not include 'Seascape', 'Diamante', or 'Earliglow'. 'Sweet Charlie' and 'Earliglow' performed poorly in the 2000 trial. The cultivars 'Gaviota' and 'Cardinal' were also included in this trial, but yields were so poor that they were not included in the analysis of yield data.

STRAWBERRY MARKETABLE YIELD

Entry	Total marketable yield ¹	Average weight ²	
	lbs/ac	% ³	oz
Camarosa	18,400	89	0.93
Chandler	17,800	85	0.93
Seascape	13,800	85	0.69
Diamante	13,000	90	1.08
Sweet Charlie	5,800	82	0.62
Earliglow	3,200	58	0.53
R²	0.90	0.97	0.87
CV	20	3	12
lsd	3,600	4	0.144

¹ Total marketable yield of 22 harvests.

² Average weight per marketable fruit.

³ Relative number of marketable fruit as percent of total harvested (marketable plus culls).



Tomato Varieties Produce High Yields in North Alabama



Joe Kemble, Edgar Vinson, and Arnold Caylor

A tomato variety trial was conducted at the North Alabama Horticulture Research Center (NAHRC) in Cullman, Alabama (Tables 1 and 2).

Five-week-old tomato plants were transplanted on May 9 on to raised beds covered with silver plastic mulch. Drip irrigation was used. Plots were 12 feet long and five feet wide. Within-row spacing was 18 inches which created a stand of approximately 5,800 plants per acre. Plants were staked and tied.

Preplant fertilizaion 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. Insects were controlled by applications of Spintor (at a rate of three ounces per acre), Mattach (at a rate of two quarts per acre), and Asana XL (at a rate of 9.6 ounces per acre). Fungicides used were Bravo (at a rate of three pints per acre), Ridomil (at a rate of 2.5 pounds per acre), and Man-Kocide (at a rate of 2.5 pounds per acre).

Tomatoes were harvested once per week beginning July 25 and ending August 14 for a total of five harvests. Fruits were harvested at the breaker stage, weighed, and graded. Grades and corresponding fruit diameters (D) of fresh-market tomato were adapted from the *Tomato*

TABLE 1. RATINGS OF 2000 TOMATO VARIETY TRIAL¹

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

¹See introduction for a description of rating scales.

Grader's Guide (Circular ANR 643 from the Alabama Cooperative Extension System) and were Jumbo (D>3.5 inch), Extra-large (D>2.9 inch), Large (D>2.5 inch) or Medium, (D>2.3 inch). Marketable yield was calculated by combining the Jumbo, Extra-large, and Large grades (Tables 3 and 4).

There was very little difference in yield overall. The experimental varieties 'PS861894' and 'PS870494' performed as well as standard varieties such as 'Sunpride'. 'Floralina', a variety developed from a collaboration between the University of Florida and the University of North Carolina, did not perform as well as most other varieties in the early season but performed well overall.

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
Floralina	OP, FM	PetoSeed	Det.	Red	74	FW,VW	00
Marina	F1, RO	Sakata	Det	Red	–	ASC,FW,ST,VW	00
PS864894	F1, FM	PetoSeed	Det	Red	–	–	00
PS870494	F1, FM	PetoSeed	Det	Red	–	–	00
Sunguard	F1, FM	Asgrow	Det	Red	–	–	00
Sunpride	F1, FM	Sunpride	Det	Red	80	ASC,FW,ST,VW	94-00

– = not available from seed catalogues.

¹Type: F1 = Hybrid; OP = Open pollinated; FM = Fresh Market; RO = Roma (Elongated Fruits);

²Plant habit: Det = Determinate

³Disease claims: FW = Fusarium Wilt; VW = Verticillium Wilt; ASC = Alternaria Stem Canker; ST = Stemphyllium (gray leaf spot).

TABLE 3. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED FRESH-MARKET TOMATO VARIETIES GROWN AT THE NORTH ALABAMA HORTICULTURE RESEARCH CENTER

Variety	Early marketable weight lbs/a	Early jumbo weight lbs/a	Early jumbo number #/a	Early extra-large weight lbs/a	Early extra-large number #/a	Early large weight lbs/a	Early large number #/a	Early medium weight lbs/a	Early medium number #/a
PS861894	20,258	12,013	20,873	6,755	16,517	1,491	5,445	5,196	16,517
Sunpride	17,646	12,841	19,330	4,115	10,255	691	2,450	3,614	9,347
Sunguard	14,616	9,780	16,880	3,793	9,983	1,043	3,630	2,764	9,166
PS870494	13,493	10,688	17,424	2,517	5,354	288	1,089	3,545	9,166
Floralina	12,660	9,981	17,333	2,246	5,990	433	2,178	2,451	6,262
Marina	0	0	0	0	0	0	0	485	2,269
<i>R</i> ²	0.70	0.53							
<i>CV</i>	38	50							
<i>lsd</i>	7,441	6,791							

TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED FRESH-MARKET TOMATO VARIETIES GROWN AT THE NORTH ALABAMA HORTICULTURE RESEARCH CENTER

Variety	Total marketable weight lbs/a	Total jumbo weight lbs/a	Total jumbo number #/a	Total extra-large weight lbs/a	Total extra-large number #/a	Total large weight lbs/a	Total large number #/a	Total medium weight lbs/a	Total medium number #/a
PS870494	41,928	26,757	28,949	8,030	20,328	1,832	6,534	5,309	12,977
Sunpride	36,701	18,480	29,222	11,804	29,131	2,254	8,258	4,163	10,890
PS861894	34,986	14,780	27,407	11,540	28,314	2,654	9,529	6,013	17,969
Sunguard	31,633	15,564	27,951	9,962	25,501	2,542	9,983	3,566	12,614
Floralina	30,516	17,062	29,131	8,323	20,963	1,871	8,258	3,261	8,621
Marina	12,400	415	3,721	5,015	9,801	6,486	16,244	485	2,269
<i>R</i> ²	0.40	0.41							
<i>CV</i>	46	70							
<i>lsd</i>	20,473	16,055							



Watermelon and Cantaloupe Variety Trials in Southeast Georgia



George E. Boyhan, Darbie M. Granberry, and C. Randy Hill

Two watermelon variety trials and one cantaloupe trial were held at the Vidalia Onion and Vegetable Research Center (VOVRC) in Toombs County, Georgia. Thirty-nine watermelon varieties and seven cantaloupe varieties were included in the trials. Initially, 33 varieties were to be tested, but four of the varieties had insufficient germination to be included in the trial. These varieties included 'Revolution (4034)', 'EX 4590339', 'EX 4590249', and 'AU-Sweet Scarlet SS'. Three of the four, 'Revolution (4034)', 'EX 4590339', and 'EX 4590249' were triploid varieties, which are known to be difficult to germinate.

Watermelon plants for the first trial and the cantaloupe plants were started in the greenhouse on April 14 in a peatlite mix. All trials were arranged in a randomized complete block design with four replications. Each plot within the trials consisted of ten hills planted five feet apart in the row with six feet between rows. A 10-10-10 fertilizer was applied on May 15 at a rate of 800 pounds per acre. Transplants for the first watermelon trial and the cantaloupe trial were planted on May 15. On May 26 Sonolan herbicide was applied at a rate of one quart per acre to the first watermelon and the cantaloupe trials. In addition, Poast was applied on June 1 (at a rate of one pint per acre), Basagran was applied on June 9 (at a rate of 1.5 pints per acre), and Alanap was applied on June 13 (at a rate of five quarts per acre). Hand weeding was also done as needed. Finally, 400 pounds per acre of 15-0-14 was applied on June 14.

The second watermelon trial was seeded in the greenhouse on May 3 and transplanted to the field on May 31. The second watermelon trial had 800 pounds of 10-10-10 broadcast preplant. In addition 400 pounds of 15-0-14 was sidedressed on the crop one month after transplanting. Weed control consisted of Sonolan herbicide applied as a preemergent herbicide applied at one quart per acre directly after transplanting. In addition, hand weeding was done as necessary. Herbicide selection and application rates and timing for all these trials do not reflect current accepted practices for Georgia.

TABLE 1. RATINGS OF 2000 WATERMELON VARIETY TRIALS¹

Location	All locations
Weather	5
Fertility	5
Irrigation	5
Pests	5
Overall	5

¹See introduction for a description of rating scales.

Three harvests were made on the first watermelon trial and two harvests on the cantaloupe trial. The first harvest was on July 24 and the second on July 27 as the melons ripened. The number of fruit and the total weight was recorded for each plot. In addition, two representative fruit from each plot were cut and measured for length, width, rind thickness, and soluble solids (percent sugar). In addition, melon type and flesh color was noted. Melon types are indicated by representative varieties, which help describe the melon types. 'Jubilee' is a relatively large oblong melon with a dark green stripe on a light green background. 'Crimson Sweet' is a round, medium-sized melon with a stripe pattern similar to 'Jubilee'. 'Allsweet' is a medium-sized oblong melon with a light stripe on a dark green background. 'Sugar Baby' is a small dark green melon usually weighting less than 10 pounds. Seedless melons are not really seedless, but have a 3n (triploid) number of chromosomes. This prevents the development of hard, mature seed, which instead remain soft and edible. The second watermelon trial was harvested on August 14 and the same data as mentioned previously was collected.

In the first watermelon trial, the range of yields was from 48,627 pounds per acre for 'Stars n Stripes' to 12,828 pounds per acre for 'WX 57' with a least significant difference (Lsd) of 17,910 pounds per acre (Table 1). The highest yield for a seedless variety was 39,229 pounds per acre for Asgrow's experimental variety 'EX 4203337'. Seedless varieties performed much better in

these trials compared to previous years. In the 1998 trials, for example, all of the seedless varieties had yields at least 5,000 pounds per acre less than the lowest yielding F_1 hybrid. In contrast, in this year's trial two of the five top-yielding varieties were seedless varieties.

The second watermelon trial consisted primarily of varieties from D. Palmer Seed Company, which arrived late for the first trial. Included in this trial were 'Piñata' and 'Stars n Strips' both of which are good yielding F_1 hybrid varieties. The range of yields for this trial was from 30,401 pounds per acre to 4,622 pounds per acre with an lsd of 11,126 pounds per acre (Table 2). The best yielding D. Palmer variety was 'Buttercup' a yellow-fleshed, small, Crimson Sweet type melon. This trial in-

cluded several Sugar Baby seedless types. These varieties yielded significantly lower than the top performing varieties in this trial. Of the top five yielders in this trial, two were seedless varieties. The trend to seedless watermelons in the Southeast continues with an increase in performance overall for these varieties.

The cantaloupe trial consisted of seven varieties. Four of these varieties were actually seed saved from specific melon types and are indicated as open-pollinated in Table 3. The other three varieties, 'Vienna', 'Athena', and 'SXM 7119' are Eastern types from their respective companies. The range of yields was from 18,263 pounds per acre to 8,770 pounds per acre; however, the difference was not significant.

TABLE 1. FIRST WATERMELON VARIETY TRIAL, VIDALIA ONION AND VEGETABLE RESEARCH CENTER¹

Variety	Seed source	Yield lbs/ac	Sugar content %	Fruit length in	Fruit width in	Rind thickness in	Fruit weight lbs	Melon type	Flesh color
Stars n Stripes	Asgrow	48,627	9.9	17.4	8.2	1.0	15.6	1	Red
AU-Jubilant	Hollar Seed Co.	43,549	9.4	16.9	8.4	0.9	19.4	1	Red
WX55	Willhite Seed	30,242	10.7	10.3	9.2	0.9	12.6	1	Red
WX22	Willhite Seed	47,956	10.4	14.1	9.4	0.7	17.9	2	Red
EX 4203337	Asgrow	39,229	9.8	10.8	8.7	0.9	11.7	3	Red
W 5036	Sunseeds	39,160	10.1	15.5	8.2	0.9	15.6	3	Red
EX 4510759	Asgrow	38,434	10.6	11.5	8.9	0.9	13.9	3	Red
Slice N Serve 830	Southwestern	27,824	10.3	10.7	8.5	0.9	11.8	3	Red
W 5052	Sunseeds	26,169	10.4	10.7	8.5	0.8	12.6	3	Red
Premiere F1	Southwestern	22,800	10.6	10.9	8.5	0.7	10.8	3	Red
WX57	Willhite Seed	12,828	9.9	11.6	8.7	0.9	13.1	3	Red
Dumara	Sunseeds	38,355	10.3	14.0	9.2	0.8	16.0	4	Red
EX 4569319	Asgrow	37,981	10.0	15.3	8.5	0.9	16.9	4	Red
WX15	Willhite Seed	37,175	10.0	12.6	9.3	0.8	15.8	4	Red
Legacy	Willhite Seed	35,044	9.7	16.2	8.6	0.8	19.3	4	Red
Athens (5025)	Sunseeds	34,478	10.0	14.2	8.9	0.9	15.8	4	Red
Festival	Willhite Seed	32,975	9.6	13.8	8.2	0.8	17.1	4	Red
Piñata	Willhite Seed	31,704	9.1	15.1	9.2	0.8	16.8	4	Red
WX8	Willhite Seed	31,164	10.1	14.5	8.9	0.8	15.9	4	Red
SXW 5023	Sunseeds	29,138	10.7	15.3	8.9	0.9	15.1	4	Red
AU-Allsweet BL	Auburn Univ.	19,947	10.6	15.1	9.7	0.8	16.2	4	Red
W 5051	Sunseeds	15,863	10.3	12.5	8.2	0.9	13.2	4	Red
AU-Golden Producer	Hollar Seed Co.	37,552	10.7	11.1	9.6	0.9	15.0	5	Yellow
AU Producer ZYMV	Auburn Univ.	37,066	9.7	11.0	9.7	0.8	14.4	5	Red
AU Sweet Scarlet	Hollar Seed Co.	35,465	10.3	11.3	9.8	0.6	14.6	5	Red
Lady	Sunseeds	34,129	9.6	12.3	8.9	0.9	15.4	6	Red
WX30	Southwestern	32,176	9.9	13.4	9.0	0.9	15.0	6	Red
Freedom (3022)	Sunseeds	23,512	11.1	12.5	8.2	0.9	17.5	7	Red
XP 452547	Asgrow	20,441	10.5	16.1	8.0	0.6	13.1	8	Red
R²		0.429	0.371						
CV		44%	8%						
lsd		17,910	NS						

¹ Harvested July 24, July 27, and August 2. ² Melon type: 1=Jubilee, 2=Blocky Crimson Sweet, 3=Crimson Sweet Seedless, 4=Allsweet, 5=Crimson Sweet, 6=Blocky Jubilee, 7=Seedless Jubilee, 8=Smokey Jubilee.

TABLE 2. SECOND WATERMELON VARIETY TRIAL, VIDALIA ONION AND VEGETABLE RESEARCH CENTER¹

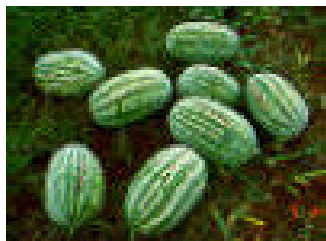
Variety	Seed source	Yield <i>lbs/ac</i>	Sugar content %	Fruit length <i>in</i>	Fruit width <i>in</i>	Rind thickness <i>in</i>	Fruit weight <i>lbs</i>	Melon type ²	Flesh color
Piñata	Willhite	30,401	9.2	13.7	8.2	0.7	15.0	4	Red
Sweet Amigo	D. Palmer	11,986	9.3	16.2	8.3	0.4	16.5	4	Red
Buttercup	D. Palmer	28,085	10.4	10.7	8.5	0.5	11.5	5	Yellow
DPS 4571	D. Palmer	27,791	10.1	11.6	8.8	0.5	12.6	3	Red
Big Charlie	D. Palmer	24,216	10.5	10.8	9.3	1.0	12.1	3	Red
Sweet Caroline Imp	D. Palmer	19,410	10.9	9.4	8.7	0.5	10.3	3	Red
Enchantment	D. Palmer	19,097	10.9	11.6	9.3	0.6	13.2	3	Red
DPS 4586	D. Palmer	12,084	11.5	10.5	7.9	0.5	10.7	3	Red
Stars n Stripes	Asgrow	20,797	10.4	15.5	7.4	0.4	12.6	1	Red
DPSX 4599	D. Palmer	7,560	10.9	7.6	7.3	0.8	6.5	9	Red
DPSX 4598	D. Palmer	5,496	11.9	8.2	7.4	0.5	7.2	9	Red
WT-1	D. Palmer	4,622	10.4	7.6	6.9	0.5	6.4	9	Red
R²		0.667	0.672						
CV		61%	10%						
lsd		11,126	1.0						

¹ Harvested August 14. ² Melon type: 1=Jubilee, 2=Blocky Crimson Sweet, 3= Crimson Sweet Seedless, 4=Allsweet, 5=Crimson Sweet, 6=Blocky Jubilee, 7=Seedless Jubilee, 8=Smokey Jubilee 9=Sugar Baby Seedless.

TABLE 3. CANTALOUPE VARIETY TRIAL, VIDALIA ONION AND VEGETABLE RESEARCH CENTER¹

Variety	Seed source	Yield <i>lbs/ac</i>	Sugar content %	Fruit length <i>in</i>	Fruit width <i>in</i>	Rind thickness <i>in</i>	Fruit weight <i>lbs</i>	Melon type	Flesh color
Vienna	Asgrow	18,263	7.9	7.5	7.1	2.0	5.2	Eastern	Orange
Athena	Rogers	13,914	9.3	6.9	6.4	1.9	4.1	Eastern	Orange
SXM 7119	Sunseeds	13,449	7.2	7.4	6.9	1.9	4.3	Eastern	Orange
Santa Claus	Open-pollinated	14,353	6.2	10.3	6.3	2.1	4.9	Santa Claus	Green
Western Shipping	Open-pollinated	11,514	8.4	6.0	5.6	1.6	2.3	Western	Orange
Juan Canary	Open-pollinated	10,222	8.0	8.2	5.7	1.6	3.6	Juan Canary	Green
Crenshaw	Open-pollinated	8,770	8.3	8.1	7.1	2.0	5.7	Crenshaw	Salmon
R²		0.367	0.530						
CV		40%	22%						
lsd		NS	NS						

¹ Harvested July 24.



Several New Watermelon Varieties In 2000



**Joe Kemble, Edgar Vinson, Ron McDaniel, Malcomb Pegues,
Larry Wells, Brian Gamble, and Arnold Caylor**

Watermelon trials were conducted at the Gulf Coast Research and Extension Center (GCREC) in Fairhope, Alabama, the Wiregrass Research and Extension Center (WREC) in Headland, Alabama, and the North Alabama Horticulture Research Center (NAHRC) in Cullman, Alabama. A watermelon trial was also conducted at the Lower Coastal Plain Research Station in Camden (Tables 1 and 2). Low yields due to excessive predation led to the termination of the study.

TABLE 1. RATINGS OF 2000 WATERMELON VARIETY TRIALS¹

Location	GCREC	WREC	NAHRC
Weather	3	3	4
Fertility	5	5	5
Irrigation	5	5	5
Pests	5	5	5
Overall	4	4	5

¹See introduction for a description of rating scales.

TABLE 2. 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 eval.
Athens	AS	Sunseeds	Blocky	Red	—	—	00
Big Stripe	AS, F1	Willhite	Oblong	Red	85	FW	99
Carnival	AS, F1	Novartis	Blocky	Red	86	ANT,FW	97
Crimson Glory	CS, F1	Petoseed	Round	Red	82	FW	96,97
Dumara	AS	Sunseeds	Elongated	Red	—	—	00
Festival	IB, F1	Johnny's	Round	Red	75	—	99
Fiesta	AS, F1	Novartis	Elongated	Red	85	—	97
Jubilee II	JU, OP	Asgrow	Elongated	Red	90	*ANT, *FW	94,97,98
Pinata	AS, F1	Willhite	—	Red	85	—	99
Royal Sweet	AS, F1	Petoseed	Elongated	Red	85	ANT,FW	94,96,97
Stars'N Stripes	AS, F1	Asgrow	Elongated	Red	85	*ANT, *FW	97-99
Starbrite	JU, F1	Asgrow	Oblong	Red	85	FW	97
StarGazer	AS, F1	Asgrow	Elongated	Red	85	*ANT, *FW	98,99
SWD 7303	AS	Sakata	Elongated	Red	85	—	00
Sweet Favorite	JU	Sakata	Oblong	Red	83	—	00
SXW 5040	CS	Sunseeds	Oblong	Red	—	*FW	00
Tigar Baby	CS	Petoseeds	Round	Yellow	80	*ANT,*FW	00
Variety #800	AS	Abbott & Cobb	Oblong	Red	—	—	00
WX8	IB	Willhite	Round	Red	—	—	00
WX22	AS	Southwest	—	—	—	—	00
WX30	AS	Southwest	—	—	—	—	00
Yellow Doll	IB	Petoseed	Oval	Yellow	68	—	00

*Race 1 only. — = not available from seed catalogues.

Disease claims: ANT = Anthracnose; FW = Fusarium Wilt; AS = Allsweet.

CS = Crimson Sweet; IB = Icebox; JU = Jubilee; xxx = Triploid (seedless).

At all locations, watermelons were direct seeded on five foot by 60 foot plots. At NAHRC watermelons were grown on silver plastic mulch with a five-foot within row spacing. At WREC and GREC plants were grown on bare ground with a within row spacing six feet and were planted on April 26 and April 10, respectively.

At NAHRC, 55 pounds per acre of ammonium nitrate was applied on May 9. Fertilization consisted of weekly injections of six pounds of nitrogen per acre until harvest. Alnap 4L fertilizer was applied on June 1 at a rate of eight quarts per acre. Other herbicides used were Round-Up Ultra on July 29 at a rate of 4.7 pints per acre and Gramoxzone at a rate of three pints per acre on June 1. Fungicides used were Bravo Weather Stik at a rate of three pints per acre on June 9, June 26, and July 10. Insecticides used were Adios (at a rate of 1.5 pints per acre) on June 9 and Asana XL (at a rate of six ounces per acre) on June 19, June 26, and July 10.

At GREC, 500 pounds per acre of 10-10-10 were applied preplant on March 23. Fertilization consisted of 220 pounds per acre of ammonium nitrate on May 16

and May 24. Preemergence herbicides used were Curbit (at a rate of three pints per acre) and Roundup (at a rate of 1.5 pints per acre) on April 10. Bravo fungicide was applied weekly between May 25 and June 30 at a rate of 1.5 pints per acre.

At WREC, 50 pounds per acre of nitrogen, phosphorus, and potassium were applied preplant on April 17 to meet soil test recommendations. Fertilization consisted of one application of ammonium nitrate (at a rate of 60 pounds nitrogen per acre) on May 26. Fungicides used were Bravo 720 (at a rate of three pints per acre) on June 2, and Bravo Ultrex (at a rate of 2.8 pounds per acre) on June 16 and 26. Weeds were controlled with one application of Sonalan (at a rate of three pints per acre) on April 26.

High yields were observed at all locations despite this year's drought. At GREC and NAHS there were little or no differences among all sweet types. At WREC several types of varieties were included in the trial. 'Sweet Favorite' (a jubilee type) had the highest yield though not significantly higher than that of the experimental variety 'WX8'.

TABLE 3. THE 2000 DIPLOID WATERMELON VARIETY TRIAL

Variety	Type	Stand %	Marketable yield lbs/a	Marketable fruits #/a	Cull weight lbs/a	Cull number #/a	Individual fruit wt. lbs	Soluble solids °Brix	Hollow heart in
Gulf Coast Research and Extension Center									
Starbrite	AS	•	61,050	3,330	•	•	18	11.0	4
Stars and Stripes	AS	•	59,977	3,312	•	•	18	10.9	4
Variety #800	AS	•	48,803	2,831	•	•	17	10.9	2
Pinata	AS	•	47,397	2,424	•	•	20	11.1	2
WX22	AS	•	46,472	2,590	•	•	18	10.8	2
Royal Sweet	AS	•	46,102	2,720	•	•	17	10.6	1
Stargazer	AS	•	45,769	2,757	•	•	17	11.1	2
Fiesta	AS	•	42,106	2,923	•	•	15	11.1	1
Dumara	AS	•	41,588	2,590	•	•	16	10.8	0
WX30	AS	•	41,070	2,276	•	•	18	11.2	0
Athens	AS	•	40,626	2,276	•	•	18	10.3	0
SWD7303	AS	•	36,075	2,442	•	•	15	11.0	1
R²			0.59				0.55	0.15	0.30
CV			15				9	6	158
lsd			19,363				2.09	0.96	3
Wiregrass Research and Extension Center									
Sweet Favorite	JU	100	53,056	2,719	2,422	181	19	•	•
WX8	JU	73	45,907	1,921	2,610	145	24	•	•
Jubilee II	JU	100	39,668	1,740	4,133	145	27	•	•
Yellow Doll	IB	100	20,238	2,864	0	0	7	•	•
Tiger Baby	CS	93	51,345	5,836	0	0	9	•	•
SXW 5023	CS	100	47,890	2,719	2,001	109	18	•	•
Crimson Glory	CS	100	40,495	2,465	1,646	73	18	•	•
TWC-7	CS	93	36,395	2,538	2,066	145	14	•	•
TWC-9	CS	100	33,771	1,921	964	73	18	•	•
TWC-5	CS	100	25,669	2,501	355	36	10	•	•
Festival	AS	100	45,639	2,429	3,745	181	19	•	•
R²			0.50		0.27		0.76		
CV			30		140		20		
lsd			17,110		3,669		7		
North Alabama Horticulture Research Center									
Pinata	AS	•	46,546	•	•	•	•	8.0	•
Starbrite	AS	•	43,000	•	•	•	•	11.2	•
Royal Sweet	AS	•	42,547	•	•	•	•	•	•
WX22	AS	•	36,510	•	•	•	•	•	•
Fiesta	AS	•	35,268	•	•	•	•	•	•
Dumara	AS	•	34,443	•	•	•	•	11.3	•
SWD7303	AS	•	34,414	•	•	•	•	10.5	•
Stars and Stripes	AS	•	33,638	•	•	•	•	11.0	•
Variety #800	AS	•	32,099	•	•	•	•	11.2	•
Stargazer	AS	•	30,973	•	•	•	•	11.2	•
WX30	AS	•	30,035	•	•	•	•	•	•
Athens	AS	•	29,051	•	•	•	•	11.0	•
R²			0.13					0.93	
CV			45					22	
lsd			18,780					3	

• = not available.



'Gold Slice' Squash Outperforms Standard Varieties Early



Joe Kemble, Edgar Vinson, and Randy Akridge

A yellow summer squash variety trial was conducted at the Brewton Research Field (BRF) in Brewton, Alabama (Tables 1 and 2). Squash varieties were direct seeded at a one inch depth in single row plots, five feet wide and 20 feet long. In-row spacing was 18 inches, which provided a stand of approximately 6,000 plants per acre. Beds were drip irrigated and covered with plastic mulch.

Preplant fertilization consisted of 60 pounds of nitrogen per acre. Insect control was provided by Sevin at a rate of two quarts per acre on June 17. To control weeds, atrazine was applied at a rate of two quarts per acre on May 9.

Squash were harvested eight times between June 7 and June 23. In order to be graded as US#1, summer squash must be harvested frequently while they are fairly young and tender. Fruits were graded as US#1, US#2, or cull according to the United States Standards for

TABLE 1. RATINGS OF 2000 SUMMER SQUASH VARIETY TRIAL¹

Location	BRF
Weather	3
Fertility	5
Irrigation	5
Pests	5
Overall	5

¹See introduction for a description of rating scales.

Grades of Summer Squash (U.S. Dept. Agr. G.P.O. 1987-180-916:40730 AMS). Marketable yield was calculated by adding the US#1 and US#2 yields. Early yields were determined by combing the yields of the first four harvests.

During the early harvests (Table 3) there were no significant differences between the standard variety 'Prelude II' and other varieties such as 'Gold Slice', 'HMX8714' and 'General Patton'. Total production (Table 4) reveals that 'Gold Slice' and 'HMX8714' outperformed 'Prelude II'.

TABLE 2. SEED SOURCE, FRUIT TYPE, AND RELATIVE EARLINESS OF SELECTED SQUASH VARIETIES

Variety	Type ¹	Seed source	Days to harvest	Disease claims ²	Years evaluated
Destiny III*	F1	Asgrow	–	CMV,WMV,ZYMV	97-00
Dixie	F1	Asgrow	41	–	94-96,98,00
General Patton	F1	Asgrow	41	PYG	00
Gold Slice	F1	Petoseed	45	–	00
HMX 8714	F1	Harris Moran	45	WMV,ZYMV,PRSV	00
Hurricane (Z)	F1	Sunseed	42	–	00
Independence II (Z)	F1	Asgrow	43	WMV,ZYMV	00
Meigs(Z)	F1	Asgrow	41	PYG	00
Midas	F1	Willhite	53	PM	00
Pic-N-Pic	–	Seedway	50	–	00
Prelude II	F1	Asgrow	40	PM,WMV,ZYMV	97,98,00
Suwannee	F1	Sunseed	42	–	00
Sundance	F1	Petoseed	45	–	00

* Precocious Variety; – = none; from seed catalogues

PYG = Precocious Yellow Gene, masks symptoms of some viruses

Disease claims: PM = Powdery Mildew; CMV= Cucumber Mosaic Virus; ZYMV = Zucchini Yellow Mosaic Virus; WMV = Watermelon Mosaic Virus; PRSV=Papaya Ringspot Virus

TABLE 3. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED SUMMER SQUASH VARIETIES GROWN AT BREWTON RESEARCH FIELD

Variety	Stand %	Early marketable wt. lbs/a	Early US#1 wt. lbs/a	Early US#2 wt. lbs/a	Early US#1 no. #/a	Early US#2 no. #/a
Yellow Crookneck						
Gold Slice	100	6,922	3,268	3,654	11,745	7,939
HMX8714	98	6,128	2,876	3,252	6,308	4,350
Prelude II	100	6,030	2,795	3,235	15,986	7,721
General Patton	100	5,579	3,105	2,474	12,398	5,220
Sundance	100	5,476	2,648	2,828	15,116	7,721
Suwanne	100	5,019	2,327	2,692	11,854	8,265
Dixie	75	4,829	2,354	2,474	12,289	6,416
Destiny III	100	4,627	2,398	2,229	11,963	7,504
Midas	100	4,366	1,604	2,762	6,416	7,178
Zucchini						
Hurricane	100	5,410	2,811	2,599	6,199	3,480
Meigs	100	4,709	2,485	2,224	15,008	6,525
Independence II	100	4,187	1,577	2,610	3,371	3,589
<i>R</i> ²		0.47	0.41			
<i>CV</i>		18	28			
<i>lsd</i>		1,354	993			

TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED SUMMER SQUASH VARIETIES GROWN AT BREWTON RESEARCH FIELD

Variety	Stand %	Total marketable wt. lbs/a	Total US#1 wt. lbs/a	Total US#2 wt. lbs/a	Total Cull lbs/a	Total US#1 no. #/a	Total US#2 no. #/a	Individual US#1 fruit wt. lb
Yellow Crookneck								
Gold Slice	100	13,806	6,840	6,965	2,267	23,490	13,594	0.29
HMX8714	98	12,474	4,671	7,803	7,058	11,419	9,135	0.41
Prelude II	100	11,707	6,199	5,508	3,485	30,015	12,724	0.21
General Patton	100	13,077	7,047	6,030	2,789	26,861	11,854	0.27
Sundance	100	11,098	5,851	5,247	2,577	29,689	13,050	0.20
Suwanne	100	8,961	4,709	4,252	2,659	23,708	12,071	0.20
Dixie	75	8,488	4,676	3,812	3,703	26,100	8,809	0.18
Destiny III	100	10,271	5,274	4,997	3,154	27,079	13,811	0.20
Midas	100	9,015	3,899	5,117	2,909	17,618	12,180	0.22
Zucchini								
Hurricane	100	9,923	4,100	5,824	8,928	10,331	7,178	0.40
Meigs	100	9,701	5,644	4,056	2,251	32,734	10,331	0.17
Independence II	100	6,617	1,892	4,725	10,391	4,785	6,199	0.40
<i>R</i> ²		0.72	0.73					
<i>CV</i>		14	19					
<i>lsd</i>		2,074	1,357					

Seed Sources

Abbott and Cobb, Inc.

To order: (800)-345-SEED
 In TX: (800) 227-8177
 Tech Rep: Pete Suddarth
 4517 Tillman Bluff Rd.
 Valdosta, GA 31602
 Ph: (912) 249-8135

Asgrow Seed Co.

To order: (800) 234-1056
 Tech. Rep: Duaine E. Kief
 412 Holly Hill Ct.
 Tallahassee, FL 32312
 Ph: (805) 570-1791
 E-mail: duaine.kief@svseed.com

Tech Rep: Rusty Autry
 2221 North Park Ave.
 Tifton, GA 31796
 Ph: (912) 392-0255

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

Ferry-Morse Seed Co.

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 Sun Prairie, WI 53590
 Ph: (608) 837-6574

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To order: (800) 544-7938
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 Rochester, NY 14692-2960
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 Fax: (716) 442-9386

Tech Rep: John Kemery
 615 Weston Ridge Dr.
 Walland, TN 37886-2010
 Ph: (423) 681-3509
 Fax: (423) 983-7034
 E-mail: jkemery998@aol.com

Harry Moran Seed Co.

To order: (209) 579-7333
 Tech. Rep: Laura Isaac
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 Modesto, CA 95352
 Ph: (209) 579-7333
 Fax: (209) 527-8674

Hollar Seeds

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

Johnny's Select Seeds

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 Tech. Rep: Steve Woodward
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 RR1 Box 2580
 Albion, ME 04910-9731
 Fax: (800) 437-4290

Kelly Seed Company

To order: (800) 654-0726
 Tech. Rep: Jack Stuckey
 100 Shilo Rd
 P.O. Box 370
 Hartford, AL 36344
 Fax: (334) 588-6144

Lewis Taylor Farms

Bill Brim
 P.O. Box 822
 Tifron, GA 31793
 Ph: (912) 382-4454
 (Produced transplants for Alabama trials)

Liberty Seed Co.

To order: (800) 541-6022
 New Philadelphia, OH 44663-0806
 Ph: (330) 364-1611
 Fax: (330) 364-6415

Petoseed

To order: (850) 894-8026
 Tech. Rep: Cameron Sutherland
 6604 Tomy Lee
 Tallahassee, FL 32308-1643
 Ph: (850) 894-8026
 Fax: (850) 894-8036

Rupp Seeds

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 Fax: (419) 337-5491

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Sakata Seed America, Inc.

To order: (914) 369-0032
Tech. Rep: Atlee Burpee
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Lehigh, FL 33970-1103
Ph: (941) 369-0032

Sandoz Rogers/Novartis

To order: (912) 560-1863
Tech. Rep: Curt Pollard
Ph: (912) 560-1863, (912) 244-2922
E-mail: curt.pollard@seeds.novartis.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

Shamrock Seed Co., Inc

To order: (408) 351-4443
Tech Rep: Estella Barajas, Jim Davis
3 Harris Place
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Ph: (800) 351-4443
Fax: (408) 771-1517

Stokes Seeds Inc.

To order: (800) 263-7133
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Fax: (905) 684-8499

Willhite

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Tech Rep: Don Dobbs
P.O. Box 23
Poolville, TX 76487
Fax: (817) 599-5843

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 2000).

When: March 29, 2001

Deadline for fall 2000 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 first five regional bulletins.
- Include author's complete mailing address, e-mail address, and phone number.
- 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:

evinson@acesag.auburn.edu, or

jkemble@acesag.auburn.edu