FALL 2002 COMMERCIAL VEGETABLE VARIETY TRIALS

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Contents

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

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Introduction: Tips for Interpreting Vegetable Variety Performance Results

Joe Kemble and Edgar Vinson

The fall 2002 vegetable variety trial regional bulletin includes results from Alabama, Georgia, Mississippi, Missouri, and South Carolina. Trials conducted at various locations provide 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 throughout 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 growers in selecting an appropriate variety. Here are a few tips for interpreting vegetable variety trial resuslts.

Open Pollinated vs. Hybrid Varieties

In general, hybrids (also referred to as F1) mature earlier and produce a more uniform crop. Often, they have improved disease, pest, or virus tolerances and/or resistances. Generally, hybrid seed is more expensive than that of open-pollinated (OP) varieties, and seeds cannot be collected and saved for planting next year's crop. Despite the advantages hybrids offer, OP varieties are still planted in Alabama. Selecting a hybrid variety, however, is the first step toward earliness and improved crop quality.

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 performance 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 variety 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 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 2002 pumpkin trial conducted at the North Alabama Horticulture Research Center, 'Howdy Doody' yielded 45,368 pounds per acre, while 'Gold Medal' and 'Gold Bullion' yielded 35,071 and 34,959 pounds per acre, respectively. Since there was less than a 10,363 difference between 'Howdy Doody' and 'Gold Medal', there is no statistical difference between these two varieties. However, the yield difference between 'Howdy Doody' and 'Gold Bullion' was 10,409, indicating that there is a real difference between these two varieties.

From a practical point of view, producers should place the greatest importance on lsd values when interpreting results.

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 1). 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.

Results from trials with ratings of 2 and under are not reported.

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 2), planting dates, fertilizer rates, and detailed spray schedules are provided to help producers compare their own practices to the standard one used in the trials and make relevant adjustments.

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 source, such as the ones listed in Seed Sources for Alabama Trials at the end of this publication.

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 planting a large number of a single variety.

Vegetable Trials on the Web

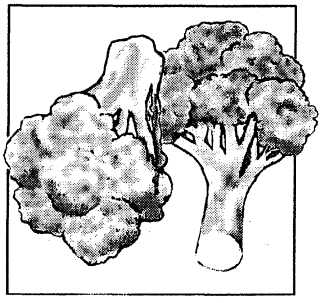
For more vegetable variety information be sure to visit the Commercial Vegetable Production at AU Web page at www.aces.edu/dept/com_veg/. Here you will find description of variety types, a ratings system, and information about participating seed companies.

TABLE 1. 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

TABLE 2. 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



Broccoli Trials Continue in Alabama's Wiregrass Area

Joe Kemble, Edgar Vinson, and Larry Wells

A broccoli variety trial was conducted using plastic mulch and drip irrigation at the Wiregrass Research and Extension Center, Headland, Alabama (Tables 1 and 2). Broccoli was transplanted in staggered double rows on October 10. Plants were established at a 1 foot in-row spacing, which created a stand of approximately 17,400 plants per acre.

Fertilizer was applied according to the recommendations of the Auburn University Soil Testing Laboratory. Names of 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 Vegetables: Insect, Disease, Nematode and Weed Control Recommendations* (Publication 2002IPM-2 from the Alabama Cooperative Extension System).

Plants received 7 pounds nitrogen per acre by alternate injections of $Ca(NO_3)_2$ solution (9-0-0-11) and 20-10-20. Injections were made between October 10 and November 30. Insecticide was applied weekly from October 11 through January 7.

TABLE 1. RATINGS OF THE 2002 BROCCOLI VARIETY TRIALS[1]

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

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

Heads were harvested when they reached 6 inches in diameter and graded according to USDA standards. Plants were harvested twice weekly as needed between January 9 and February 13, 2003. Marketable weight (in numbers of 23-pound cartons) and corresponding number of heads were recorded (Table 3).

The top-performing varieties were 'Nomad', 'Decathlon', and 'Heritage'.

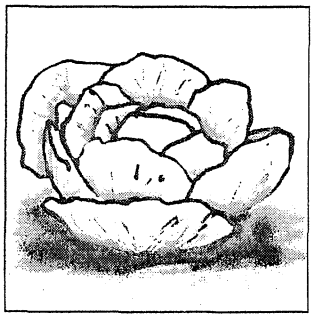
TABLE 2. SEED SOURCE, EARLINESS, AND DISEASE RESISTANCE/TOLERANCE OF SELECTED BROCCOLI VARIETIES

Variety	Type[1]	Seed source	Earliness	Disease resistance/tolerance[2]
Decathlon	F1	Sakata	86	DM
Heritage	F1	Siegers	—	—
Nomad	F1	Sakata	68	DM
Signal	F1	Novartis	57	—
Windsor	F1	Novartis	68	DM

[1] Type: F1=hybrid.
[2] Disease resistance/tolerance: DM=Downy mildew.
— = not available from seed catalogues.

TABLE 3. ACTUAL YIELD OF SELECTED BROCCOLI VARIETIES

Variety	Marketable 23-lb cart *no/ac*	Marketable yield *lbs/ac*	Marketable heads *no/ac*
Nomad	363	8,358	29,986
Decathlon	268	6,157	21,373
Heritage	264	6,061	25,201
Signal	212	4,881	7,115
Windsor	175	4,019	27,753
r^2		***0.44***	***0.30***
CV		***32***	***20***
lsd		***2,846***	***7,851***



Cooler Temperatures Delay Cabbage Head Formation

Joe Kemble, Edgar Vinson, and Larry Wells

Cabbage variety trials were conducted at the Wiregrass Research and Extension Center, Headland, Alabama. Six-week-old transplants were planted onto 20-foot long single row plots on October 11. Within row spacing was 1 foot, which created a stand of 9,100 plants per acre.

Fertilizer was applied according to the recommendations of the Auburn University Soil Testing Laboratory. Names of 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 Vegetables: Insect, Disease, Nematode and Weed Control Recommendations* (Publication 2002IPM-2 from the Alabama Cooperative Extension System).

Preplant fertilizers 13-13-13 were applied at a rate of 1,000 pounds per acre on October 10, and plants were treated with an insecticide on November 11. No other fertilizers or pesticides were applied.

Cabbage heads were harvested when they reached marketable size and graded according to United States Standards for Grades of Cabbage (U.S. Department of Agriculture 46 FR 63203). Cabbage heads were harvested on February 26 and March 9 (Table 3).

TABLE 1. RATINGS OF THE 2002 CABBAGE VARIETY TRIALS[1]

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

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

Overall, cabbage head numbers were low due to cool temperatures which delayed head formation. There were few differences in yield among varieties. Older varieties such as 'Cheers' and 'Blue Thunder' and 'Blue Dynasty' were among the top varieties despite cooler temperatures. 'Silver Dynasty' produced yields significantly lower than other cabbage varieties.

TABLE 2. SEED SOURCE, EARLINESS, AND DISEASE RESISTANCE/TOLERANCE OF SELECTED HEAD CABBAGE VARIETIES

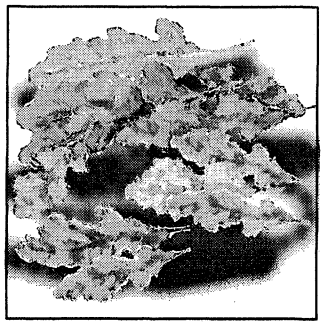
Variety	Type[1]	Head color	Seed source	Days to harvest	Disease resistance/tolerance[2]
Blue Dynasty	F1	Green	Seminis	75	BR, FY
Cheers	F1	Green	Takii	84	BR, FY, Thrips
Bravo	F1	Green	Harris	85	BR,FY
Bayou Dynasty	F1	Green	Seminis	70	BR,FY
Blue Thunder	F1	Green	Harris	80	BR,FY
Green Cup	F1	Green	Takii	73	BR,FY
Izalco	F1	Green	Novartis	87	BLS,BR,FY
Silver Dynasty	F1	Green	Seminis	80	BR,FY,TB

[1] Type: F1=hybrid.

[2] Disease resistance/tolerance: BLS=Bacterial leaf spot, BR=Black rot, FY=Fusarium Yellows, TB=Tip burn.

TABLE 3. PERFORMANCE OF SELECTED CABBAGE VARIETIES

Variety	Marketable yield *lbs/ac*	Total number *no/ac*	Marketable 50-lb cart *no/ac*
Bravo	10,450	4,157	209
Bayou Dynasty	10,314	4,350	206
Blue Dynasty	9,657	3,963	193
Cheers	9,087	4,157	182
Blue Thunder	9,000	3,867	180
Green Cup	7,965	3,770	159
Izalco	6,738	3,867	135
Silver Dynasty	6,738	2,997	135
r^2	***0.63***	***0.60***	***0.63***
CV	***15***	***10***	***15***
lsd	***2,244***	***688***	***45***



"New and Improved" Collard and Turnip Varieties Studied

Joe Kemble, Edgar Vinson, and Randy Akridge

A leafy green variety trial was conducted at the Brewton Agricultural Research Unit (BARU) in Brewton, Alabama (Tables 1 and 2). Collard and turnip greens were direct seeded on September 17 onto plots 20 feet long and 5 feet wide.

Fertilizer was applied according to the recommendations of the Auburn University Soil Testing Laboratory. Names of 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 Vegetables: Insect, Disease, Nematode and Weed Control Recommendations* (Publication 2002IPM-2 from the Alabama Cooperative Extension System).

Fertilization consisted of preplant applications of 13-13-13 (at a rate of 600 pounds per acre) on August 28. After planting, leafy greens received 60 pounds of nitrogen per acre from ammonium nitrate (NH_4NO_3) on October 9 and October 23. Plants received one preplant application of insecticide on September 6.

TABLE 1. RATINGS OF THE 2002 LEAFY GREENS VARIETY TRIALS[1]

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

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

Leafy greens were harvested when they reached marketable size (Table 3). Harvest dates were November 11 for turnips and December 2 for collards. Leaf yields were expressed in 30-pound bushels.

'Vates', the standard variety of collard, produced yields significantly lower than all other collard varieties with the exception of 'Champion'. 'Flash', which is a hybrid 'Vates' type, produced yields that were significantly higher than all other collard varieties. The top four varieties of turnip—'All Top', 'Top Star', 'Topper' and 'Seven Top'—are all grown for leaf harvest only. Yield of 'All Top' was significantly higher than all other turnip varieties. 'Topper', an improved 'Seven Top' variety, produced yields significantly higher than 'Seven

TABLE 2. SEED SOURCE AND EARLINESS OF SELECTED LEAFY GREEN VARIETIES

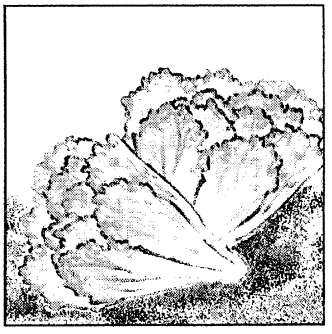
Variety	Type[1]	Crop	Seed source	Days to harvest
Champion	OP	Collard	Harris Seed	75
Flash	F1	Collard	A&C,Stokes	73
Heavi-Crop	F1	Collard	Takii	70
Top Bunch	F1	Collard	Sakata	70
Vates	OP	Collard	Stokes	56
All Top	F1	Turnip	Sakata	50
Purple Top White Globe	OP	Turnip	Asgrow,Stokes	60
Royal Crest	F1	Turnip	Siegers	45
Seven Top	OP	Turnip	Seminis,Stokes	45
Topper	F1	Turnip	Rupp	60
Top Star	F1	Turnip	Sakata	36
White Lady	F1	Turnip	Stokes	35

[1] Type: OP=open pollinated, F1=hybrid.
— = not available from seed catalogues.

Top'. Its non-pubescent leaves have a more desirable color and grow more vigorously. Yield of the standard variety 'Purple Top White Globe' was significantly lower than 'White Lady' but similar to 'Royal Crest'. These varieties are grown for both green and root production.

TABLE 3. YIELD OF SELECTED COLLARD AND TURNIP VARIETIES

Variety	Type	Leaf yield *bu/a*
Flash	Collard	813
Heavi-Crop	Collard	580
TopBunch	Collard	576
Champion	Collard	450
Vates	Collard	384
r^2		***0.60***
CV		***23***
lsd		***108***
All Top	Turnip	793
Top Star	Turnip	715
Topper	Turnip	708
Seven Top	Turnip	613
White Lady	Turnip	571
Purple Top White Globe	Turnip	461
Royal Crest	Turnip	413
r^2		***0.70***
CV		***16***
lsd		***65***



Several Lettuce Varieties Evaluated

Joe Kemble, Edgar Vinson, and Jason Burkett

A lettuce variety trial was conducted at the E.V. Smith Research Center (EVSRC) in Shorter, Alabama (Tables 1 and 2). Beds were covered with white plastic mulch and drip irrigation was used.

On September 24, six-week-old lettuce transplants were set in single row plots with a within-row spacing of 12 inches. Plots were 20 feet long on 5-foot centers. This created a stand of approximately 9,100 plants per acre.

Fertilizer was applied according to the recommendations of the Auburn University Soil Testing Laboratory. Names of 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 Vegetables: Insect, Disease, Nematode and Weed Control Recommendations* (Publication 2002IPM-2 from the Alabama Cooperative Extension System).

Table 1. Ratings of 2002 Lettuce Variety Trial[1]

Location	EVSRC
Weather	4
Fertility	5
Irrigation	5
Pests	3
Overall	4

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

A liquid calcium nitrate solution (9-0-0-11) and 20-10-20 were injected on September 19 and September 23 at a rate of 6 pounds of nitrogen per acre, respectively. Between September 26 and November 4, fertilization consisted of weekly injections of 6 pounds of nitrogen per acre, with alternate injections of calcium nitrate (9-0-0-11) and 20-10-20. Insecticides were applied between September 20 and November 1.

Table 2. Seed Source, Fruit Characteristics, Relative Earliness, and Disease Claims of Selected Lettuce Varieties

Variety	Head type	Seed source	Days to harvest	Leaf color	Disease claims[1]	Years evaluated
Slobolt	Looseleaf	Siegers	57	Green	TB	96,97,02
New Red Fire	Looseleaf	Takii	55	Red	—	95,96,02
Tango	Looseleaf	Johnny's	45	Green	—	98,02
Red Eye	Romaine	Stokes	.	Red	•	02
Parris Island	Romaine	Stokes	65	Green	TB	96,97,02
Optima	Butterhead	Vilmorin/Sieger's	55	Green	DM,LMV	95-97,02
Nancy	Butterhead	Johnny's	66	Red	—	96,97,02
Louisa	Looseleaf	Harris	56	Green	—	02
Esmeralda	Butterhead	Sieger's	65	Green	DM,LMV	02
Athena	Looseleaf	Enza Zaden/Siegers	63	Green	CRR,DM,LMV,TB	02
Tania	Butterhead	Harris	65	Green	DM	02
Green Towers	Romaine	Harris	74	Green	—	02
Harmony	Butterhead	Shamrock	68	Green	B,DM,TB	02

[1] Disease claims: B=Bolting, CRR=Cork root rot, DM=Downy mildew, LMV=Lettuce Mosaic Virus, TB=Tip burn.
— = not available from seed catalogues; •=not found.

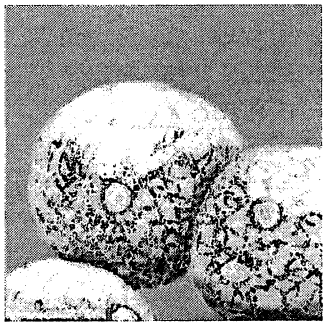
Lettuce was harvested on November 15 and graded according to the U.S. Standards for Grades of Romaine (U.S. Dept. Of Agriculture Publication 60-6130). Heads were culled because of bolting or insufficient head size (Table 3).

'Optima' and 'Harmony' ranked the highest in yield of the butterhead lettuce type. Both were significantly higher than 'Nancy' and 'Tania'. There were no significant differences in the loose leaf category. In the romaine category, 'Green Tower' and 'Parris Island' produced significantly higher yields than 'Red Eye'.

TABLE 3. YIELD OF SELECTED LETTUCE VARIETIES AT THE E.V. SMITH RESEARCH CENTER

Variety	Type[1]	Marketable weight *lbs/ac*	Marketable heads *no/ac*	Cull weight *lbs/ac*	Cull heads *no/ac*
Optima	B	4,042	7,250	316	1,305
Harmony	B	3,416	7,395	91	1,088
Nancy	B	1,767	3,480	2,045	4,350
Tania	B	1,582	4,060	262	1,450
Esmerald	B	1,400	4,205	798	2,465
Tango	L	4,176	7,540	38	435
Athena	L	3,876	8,410	91	653
Louisa	L	3,627	7,685	278	1,305
Slobolt	L	3,072	7,685	148	870
New Red Fire	L	3,002	7,540	239	1,088
Green Tower	R	4,574	9,135	48	435
Parris Island	R	3,898	7,250	105	435
Red Eye	R	2,220	6,815	160	1,015
r^2		***0.75***	***0.80***	***0.91***	***0.90***
CV		***23***	***17***	***61***	***42***
lsd		***1,202***	***1,892***	***913***	***2,052***

[1] Type: B=Butterhead, L=Leaf, R=Romaine.



2002 Galia Melon Cultivar Evaluation

William B. Evans, Richard G. Snyder, Keri Paridon, and Peter Hudson

Production of galia melons, a fairly new crop, is increasing in the southeastern United States. The fruit of galia melons resemble muskmelons on the outside, with a crisp, light green flesh on the inside. The flavor and texture have given galia melons a gourmet reputation. A trial was conducted at Crystal Springs, Missisippi, (Table 1) to evaluate galia melon cultivars for potential production by Mississippi growers.

Seeds of twelve cultivars were sown into 72-cell greenhouse flats filled with MetroMix 366 with two seeds per cell. Flats were thinned to one plant per cell and grown until the first true leaf was expanded. Transplants were set into raised beds with black plastic mulch and trickle irrigation. Plants were spaced 2 feet in the row, with 10 feet between rows. There were ten plants per plot. Plots were arranged in a randomized complete block design, with four replications. Harvest began June 18 and continued twice a week for approximately four weeks.

The plants had a growth habit similar to that of muskmelons in both leaf and vine characteristics. Most cultivars looked like "western" style cantaloupes, lacking sutures found on "eastern" types, but with netting similar to all cantaloupes. Fruit size was also similar to that of western melons for the most part. Early yields and fruit quality were hurt by rain. The early fruit losses impacted total and marketable yields for the whole season. However, as harvest progressed, fruit yield and quality improved. Melons harvested from mid-July onward were crisp and sweet, with good flavor, similar to but less musky than that of traditional muskmelons. 'Laigal', 'Arava', and 'Passport' produced the highest total yields (Table 2). 'Laigal', 'Galapago 47', 'Arava', 'Passport', and 'Galante 96' produced the highest marketable yields (Table 2). Mean fruit size did not differ significantly among cultivars (Table 2). Most produced fruit weighing 3 to 4 pounds.

Table 1. Ratings of 2002 Galia Melon Cultivar Trials[1]

Location	Crystal Springs, MS
Weather	2
Fertility	5
Irrigation	3
Pests	3
Overall	4

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

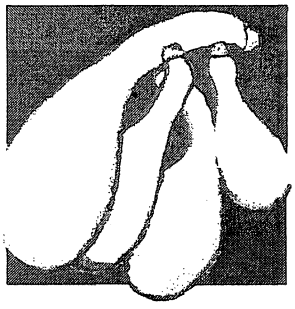
This study indicates that growers in Mississippi can grow galia melons using cultural practices similar to those employed for standard cantaloupe/muskmelon production. The melons are different from regular cantaloupes in internal appearance,in texture in the mouth, and in taste. Growers would be required to educate retail customers about the melons but may find restaurants and other niche markets within Mississippi. As consumption of these melons increases outside the state, growers looking to the wholesale market may want to consider trying galia melons in their product mix.

TABLE 2. YIELD AND NUMBER OF GALIA MELONS, CRYSTAL SPRINGS, MISSISSIPPI, 2002[1]

	Marketable number *fruit/plot*	Marketable yield *lbs/plot*	Mean weight *lbs/fruit*	Total number *fruit/plot*	Total yield *lbs/plot*
Laigal	**8.5**	**29.4**	3.3	**19.5**	**52.8**
Galapago 47	**9.0**	**25.6**	2.7	**14.5**	39.7
Arava (Hazera)	**7.0**	**24.2**	3.5	**15.3**	**96.3**
Galante 96	**7.3**	**23.8**	3.3	**13.8**	39.5
Passport	**6.3**	**22.3**	3.7	**19.8**	**69.8**
PX 4031197	4.3	**20.4**	4.4	11.3	47.3
EX 4031097	**5.5**	**15.9**	3.3	11.3	31.2
34101/1011	**5.3**	**15.9**	3.2	12.5	40.1
Eros	3.3	**15.7**	4.1	8.8	31.8
Arava (Johnny's)	2.8	12.2	4.7	11.8	34.7
Gallardo	2.8	11.4	4.6	12.5	47.4
Galileo	0.8	2.4	3.4	8.8	22.2
$LSD_{0.05}$[2]	4.1	14.4	n.s.	5.9	43.6

[1] All numbers are means of four plots, with 10 plants/plot.

[2] Entries with bolded numbers, within each column, are among the top performers for that category and do not differ from the top performer by more than the least significant difference (LSD).



Double-Cropped Yellow Squash, Zucchini, and Cucumber Variety Trial

Gilbert Miller

Many growers have started following their spring cantaloupe and watermelons with a double crop of fall squash, zucchini, or slicing cucumbers. The general recommendation has been not to follow a spring cucurbit crop with a fall cucurbit crop due to potential increased disease pressure. In spite of this, many growers feel that the risk is justifiable with an established field of plastic and drip irrigation ready for a second crop. The purpose of this study was to evaluate the yield and quality of yellow squash, zucchini, and cucumber planted after spring cantaloupe and watermelons.

The initial spring crop of watermelons had a row spacing of 8 foot on center with 5,445 linear feet of row per acre. Fifty-four inch plastic mulch was used, giving a 30-inch bed top. Eurodrip drip tape with 12-inch emitter spacing rated at 0.43 gallons per minute per 100 feet was buried 2 inches beneath the bed surface.

Soil nutrient samples taken prior to the spring crop of watermelons indicated very high phosphorus (122 pounds per acre), medium potassium (98 pounds per acre), medium calcium (750 pounds per acre), and high magnesium (170 pounds per acre). The Clemson fertility recommendation based on soil samples was 120 to 140 pounds per acre of nitrogen, no phosphorus, and 120 pounds per acre potassium. At the end of the watermelon crop, a total of 152.5 pounds of nitrogen and potassium had been applied pre-plant and through the drip emitter via fertigation. No phosphorous was applied.

The variety trials were grown on a Dolthan soil with a medium water-holding capacity rated between 0.08 to 0.13 available water-holding capacity. Soil texture determinations at 0 to 12 inches indicated 87.6 percent sand, 8 percent clay, and 6.4 percent silt. To allow for consistent and uniform water application, an automated irrigation system was employed. Two water cycles per day at 86 minutes per cycle were initiated prior to planting. Daily water application equaled 3,880 gallons per 5,445 linear feet.

Watermelon harvest was complete on July 22, 2002. On July 29 Glyphomax was applied to kill the watermelon vines. On August 1, the dead watermelon vines were removed. On August 7, the existing black plastic mulch was whitewashed with 4 gallons of latex white paint in 30 gallons of water. The yellow squash, zucchini, and slicing cucumber trials were direct seeded on August 12.

Six yellow squash varieties were planted, three straight neck, and three crook neck. Nine zucchini squash varieties and eight slicing cucumber varieties were also planted. Zucchini plots were replicated four times and contained eight plants per variety spaced 1.5 feet apart. Cucumber plots were also replicated four times and contained 10 plants per variety spaced 1.5 feet apart. Yellow squash plots were replicated eight times and contained 10 plants per variety spaced 1.5 feet apart.

Beginning August 16, liquid fertilizer (7-0-7) was injected daily at the rate of 2 pounds of nitrogen and potassium per acre. A total of 106 pounds of nitrogen and potassium was injected through the drip system. Weekly fungicide applications were made beginning August 16. Alternate weekly applications of the fungicides Quadris and Dithane DF plus Nova were made. Spin Tor or Pounce was alternately added to the fungicide spray for insect control.

The yellow squash and zucchini variety trial was harvested 10 times with the first harvest on September 16 (36 days after field planting). Subsequent harvests were made on Monday, Wednesday, and Friday until October 7. At harvest, squash were weighed and counted, and the number of yellow squash showing greening due to virus was quantified. Yield and quality evaluations for the yellow squash are included in Table 1. Table 2 includes yield evaluations for the zucchini squash variety trial.

The cucumber variety trial was harvested five times with the first harvest on September 27 (47 days after field planting). Cucumber harvests began on September 27.

Subsequent harvests were made on Monday, Wednesday, and Friday until October 7. At harvest, cucumbers were weighed and counted, and the percent of selects and supers was determined following USDA grade standards. Yield and quality evaluations for the cucumber varieties are included in Table 3.

TABLE 1. YIELD AND QUALITY EVALUATIONS FOR THE YELLOW SQUASH VARIETY TRIAL

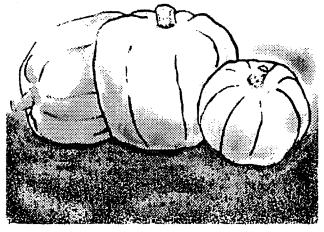
Harvest dates	Yellow squash varieties											
	—Dixie—		—Destiny III—		—Meigs—		—HMX 0709—		—Cougar—		—Prolific—	
	lbs	% grn	lbs	% grn	lbs	% grn	lbs	% grn	lbs	% grn	lbs	% grn
9/16	18.8	85	12.0	36	10.1	0	7.4	10	7.6	16	9.2	27
9/18	9.6	95	9.8	51	4.8	0	10.4	11	4.6	24	9.0	75
9/20	2.8	100	4.6	47	3.6	0	10.4	18	2.8	39	3.2	45
9/23	4.6	91	7.2	42	11.2	0	8.0	12	9.4	21	10.4	52
9/25	5.4	93	7.0	26	6.6	2	5.8	33	2.8	38	9.4	78
9/27	10.0	83	9.4	61	8.0	15	4.6	8	8.0	42	5.4	49
9/30	20.6	97	25.2	75	12.6	47	20.8	29	15.8	63	21.0	78
10/2	1.2	100	4.8	83	6.2	59	17.0	26	4.6	70	8.6	95
10/4	1.4	100	3.0	93	3.8	94	13.4	40	2.8	95	4.8	90
10/7	4.4	100	5.0	92	4.0	94	6.2	35	5.0	93	4.0	100
Total lbs	78.8		88		70.9		104		63.4		85	
Total lbs/ac @ 4840 plts/ac	9,535		10,648		8,579		12,584		7,671		10,285	

TABLE 2. YIELD EVALUATION FOR THE ZUCCHINI SQUASH VARIETY TRIAL

Repitition number	Zucchini squash varieties								
	HMX0710	Lynx	9523	Robuster	Monitor	592	593	Bronco	Stampede
1	30.4	37.4	32.6	31.0	24.4	20.6	33.2	26.4	22.2
2	21.6	29.8	25.2	20.2	19.2	9.0	23.9	26.0	14.6
3	14.2	12.6	18.8	23.8	21.6	8.4	30.6	32.6	19.8
4	32.4	27.8	24.6	23.4	30.2	8.0	34.6	32.4	25.8
Total lbs	98.6	107.6	101.2	98.4	95.4	46.0	122.3	117.4	82.4
Lbs/ac @ 4840 plts/ac	14,913	16,274	15,306	14,883	14,429	6,957	18,497	17,756	12,463

TABLE 3. YIELD AND QUALITY EVALUATIONS FOR THE CUCUMBER VARIETY TRIAL

Harvest dates	Cucumber varieties							
	Greensleaves	Stonewall	General Lee	Daytona	Speedwary	Intimidator	Indy	Ashley
9/27	21.8	12.0	18.2	9.8	27.4	30.4	17.0	10.8
9/30	51.0	43.8	49.4	62.6	47.2	46.4	60.2	23.6
10/2	42.2	45.0	38.0	60.2	32.2	47.0	59.8	17.4
10/4	31.4	24.4	47.4	38.0	20.4	23.4	27.4	30.4
10/7	20.0	14.6	29.8	17.4	16.4	14.6	21.6	14.0
Total lbs	166.4	139.8	182.8	188.0	143.6	161.8	186.0	96.2
Lbs/ac @ 4840 plts/ac	16,778	14,096	18,432	18,956	14,479	16,315	18,755	9,700
% supers	70%	64%	65%	68%	63%	64%	65%	39%
% selects	30%	36%	35%	32%	37%	36%	35%	61%



'Sorcerer' and 'Gold Medal' Pumpkins Are High Performers

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

Pumpkin variety trials were conducted at the North Alabama Horticulture Research Center (NAHRC) in Cullman, Alabama, and the Horticulture unit of the Sand Mountain Research and Extension Center (SMREC) in Crossville, Alabama (Tables 1 and 2).

Soils were fertilized according to the recommendations of the Auburn University Soil Testing Laboratory. Names of 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 Vegetables: Insect, Disease, Nematode and Weed Control Recommendations* (Publication 2002IPM-2 from the Alabama Cooperative Extension System).

Table 1. Ratings of the 2002 Pumpkin Variety Trials[1]

Location	NAHRC	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.

Planting dates were July 3 at NAHRC and July 2 at SMREC. At both locations, pumpkins were direct seeded in hills on rows that were 60 feet long. There was a 5-foot spacing between hills.

At NAHRC, pumpkin beds were made and weekly applications of ammonium nitrate (15 pounds per acre) were injected through the drip irrigation system from July 8 through August 22. Plots received no other fertilization. Pesticides were applied weekly from July 11 through September 12.

At SMREC, the ground was roto tilled on May 20, June 19, and July 1. Preplant fertilization consisted of one application of 5-20-20 (at a rate of 600 pounds per acre) on July 1.

Table 2. Seed Source, Relative Earliness, and Fruit Size of Selected Pumpkin Varieties

Variety	Type[1]	Seed source	Maturity (days)	Fruit weight (lbs)
Appalachian	F1	Seminis	90	20-25
Autumn King	F1	Novartis	95	2-3
Gold Bullion	F1	Rupp Seeds	110	15-25
Gold Medal	OP	Rupp Seeds	108	>25
Gold Rush	OP	Rupp Seeds	120	30-40
Howden	OP	Harris Moran	100	15-20
Howdy Doody	—	Rupp Seeds	—	—
Sorcerer	F1	Harris Moran	—	15-25
Pro Gold 500	F1	Abbott and Cobb	95	20-30
Phantom	F1	Seminis	110	20-30
Pro Gold 510	F1	Abbott and Cobb	95	20-30
Merlin[2]	F1	Harris Moran	115	15-25
Magic Lantern[2]	F1	Harris Moran	115	15-25

[1] Type: F1=hybrid, OP=open pollinated.
[2] Powdery mildew tolerant varieties.
— = not available from seed catalogues.

Fertilization consisted of one application of ammonium nitrate (at a rate of 150 pounds per acre) on August 14. Pesticides were applied weekly from July 12 through September 17.

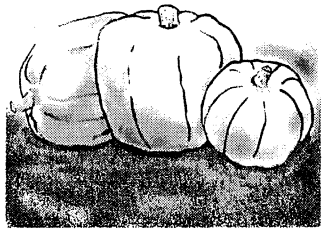
Pumpkins were harvest on October 1 at both NAHRC and SMREC. Because color development stops after harvest, pumpkins were harvested at the full-color stage and graded as marketable or nonmarketable (Tables 3).

A new variety 'Sorcerer' (which has a semi-bush plant habit) and 'Gold Medal' (vining plant habit) consistently produced significantly higher yields at both locations. These pumpkin varieties were also noted for their deep orange color and nice sturdy handles. The variety 'Howdy Doody' produced exceptionally high yields at NAHRC but was one of the lowest performing varieties at SMREC. 'Phantom' and 'Autumn King' produced yields higher than the market standard, 'Appalachian', at SMREC but produced yields significantly lower than other varieties in NAHRC. 'Appalachian', which has a bush plant habit, continued to produce attractive, uniform fruit as it has in past trials.

TABLE 3. YIELD OF SELECTED PUMPKIN VARIETIES

Variety	Marketable yield *lbs/ac*	Marketable number *no/ac*	Individual fruit weight *lbs*	Cull weight *lbs/ac*
North Alabama Horticulture Research Center				
Howdy Doody	45,368	4,730	10	•
Sorcerer	44,398	3,655	13	•
Merlin	44,140	3,698	12	•
Appalachian	37,375	3,053	12	•
Magic Lantern	35,256	2,838	13	•
Gold Medal	35,071	2,150	16	•
Gold Bullion	34,959	2,795	13	•
Gold Rush	31,558	1,763	18	•
Autumn King	29,696	2,064	15	•
Phantom	25,723	2,623	10	•
Pro Gold 510	25,327	2,322	11	•
Pro Gold 500	18,599	2,279	10	•
r^2	***0.50***	***0.60***	***0.40***	
CV	***25***	***28***	***27***	
lsd	***10,363***	***955***	***5***	
Sand Mountain Research and Extension Center				
Sorcerer	22,575	2,107	11	1,651
Gold Medal	22,265	1,634	14	1,479
Pro Gold 500	19,832	1,720	12	3,191
Phantom	19,436	1,763	11	•
Autumn King	19,208	1,591	12	2,288
Pro Gold 510	17,406	1,634	11	8,359
Appalachian	17,024	1,462	12	1,806
Merlin	16,718	1,548	11	•
Magic Lantern	16,684	1,376	12	2,012
Gold Bullion	16,245	1,462	12	2,030
Howdy Doody	16,000	1,462	11	2,460
Howden	15,278	1,376	11	5,900
r^2	***0.30***	***0.20***	***0.20***	***0.90***
CV	***26***	***28***	***19***	***40***
lsd	***4,490***	***551***	***3***	***750***

•=not found.



Pumpkins Produce Excellent Yields in Georgia Variety Trials

William Terry Kelly

The 2002 pumpkin growing season was very favorable (Table 1), and yields were good. Storage quality was less than average, however, due to late rains. Among the new varieties tested was a new introduction from Harris Moran Seed Company. HMX 6689 (now called 'Aladdin') was one of the leading varieties in the 2002 trial and should make a good addition to the market.

A separate trial was conducted in 2002 on speciality pumpkins to more accurately reflect differences among these varieties. Miniature and white pumpkins were included in this separate trial. Although, some varieties have now been in the Georgia trial for five to six years, many of the ones tested in 2002 were being evaluated in Georgia for the first or second time. Excellent yields were the trend, but growers should keep in mind that yields in these small plot trials are greater than would be expected in large field production. However, the comparison between varieties remains valid.

Twenty-four commercially available pumpkin varieties and two experimental lines were compared at the Georgia Mountain Branch Experiment Station (elev. 1900 feet) in Blairsville, Georgia. Eight commercially-available speciality pumpkins were evaluated at the same location in a separate field. All pumpkins were field-seeded on June 12, 2002 into a Transylvania clay loam soil. Plots consisted of single rows which contained an appropriate number of hills for each variety's plant habit. Vining types were planted with four hills per plot, semi-bush (or semi-vining) types with six hills, and bush types with eight hills. Plots were 16 feet in length with 12 feet between rows. The plantings were arranged in a randomized complete block design with three replications each.

Normal cultural practices were used for bare ground pumpkin culture in Georgia. Base fertilizer consisted of 300 pounds per acre of 10-10-10 incorporated prior to planting followed by two side dress applications of 10-10-10 (300 pounds per acre each). Ethafluralin (0.75 pound active ingredient per acre) was applied pre-emergence for weed control. Fungicide and insecticide applications were made according to current University of Georgia recommendations. Irrigation was applied as needed.

Table 1. Ratings of 2002 Pumpkin Trials[1]

Location	Blairsville, GA
Weather	4
Fertility	5
Irrigation	5
Pests	3
Overall	4

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

Pumpkins were harvested at maturity on October 1 and 2, 2002. Data were collected on yield, fruit number and weight, rind color, rind texture, and fruit shape. Results are summarized in Tables 2 and 3.

Overall yields were exceptional. Individual pumpkin weights were generally lower than those expected according to commercial variety descriptions. Conditions were generally favorable for pumpkins with dry conditions throughout most of the season. However, late rains reduced the storage quality of the crop. A late outbreak of downy and powdery mildew caused some defoliation; however, most pumpkins had achieved maximum size by that time. 'Prizewinner' produced the greatest yield and largest fruit size among all varieties; it was the only giant size variety in the test and the only pumpkin that averaged more than 25.1 pounds.

Many of the large- and medium-sized varieties produced yields and fruit numbers within the range of acceptability in north Georgia. There were really no poor performers in the test, although 'Autumn King' and 'Pankow's Field' probably trailed most other varieties. They did not produce yields and fruit numbers per acre that were competitive with other similarly sized pumpkins. 'Gold Gem', 'Gold Strike', 'Gold Rush', and HMX 6689 were all superior performers among the 20- to 25-pound pumpkins.

Among pumpkins in the 10- to 20-pound range, 'Aspen', Gold Buillion', 'Gold Standard', HMX 0681, 'Magic Lantern', 'Merlin', 'Mother Lode', 'Pro Gold #500', 'Sorceror', and 'Pro Gold # 200' were the best performers with yields above 70,000 pounds per acre. Among pumpkins in the 5 to 10-pound range, 'Autumn Gold' was the best performer. In the 2 to 5-pound size class, 'Pro Gold #100' outperformed the other varieties tested.

In the miniature trial, 'Jack-B-Quick' and 'Jack-Be-Little' both were superior to 'Munchkin'. They produced the greatest fruit numbers and yield. 'Lumina' had a much higher yield and fruit number than 'Casper' among the white pumpkins, although 'Casper' produced slightly larger fruit.

Marketability was exceptional at harvest for most varieties. Among smaller pumpkins, 'Pro Gold #100' had less than 85 percent marketability. All others were greater than 93 percent. In the larger trial, 'Gold Rush' (85 percent) and 'Ol' Zeb's' (87 percent) had the lowest marketability. All others were above 90 percent marketable. The variance among varieties for rind color and rind texture were in accordance with variety descriptions. Rind color ranged from deep orange to light orange. 'Lumina' and 'Casper' were the only pumpkins in the trial with a white rind. Fruit shape was generally in accordance with the type of pumpkin, with smaller pumpkins having a flatter shape.

Overall, HMX 6689 was the most exceptional performer. It achieved a size of just over 25 pounds on average with more than 4,000 fruit per acre. The yield of more than 100,000 pounds per acre was second only to 'Prizewinner'— a much larger variety. This new introduction from Harris Moran Seed Company has been named 'Aladdin'. It produce fruit as large as 43 pounds and has an excellent deep orange rind color with a strong stem. Among the many excellent varieties on the market today, this should be a good choice for growers wanting a large-fruited pumpkin.

TABLE 2. YIELD, NUMBER, MARKETABILITY, AND HORTICULTURAL CHARACTERISTICS OF SELECT PUMPKIN VARIETIES[1]

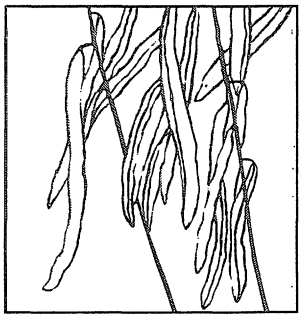
Variety	Sponsor	Fruit (no/ac)	Yield[2] (lbs/ac)	Fruit wt (lbs)	Market (%)	Weight large	Weight small	Rind[3] color	Fruit[4] shape	Rind[5] texture
Aspen	Rupp	4311	78877	17.9	91.1	33.0	7.1	1.3	3.0	2.0
Autumn Gold	Twilley	8697	75391	8.7	95.5	13.0	4.1	1.7	2.7	2.0
Autumn King	Rupp	2949	67344	23.4	96.2	38.8	9.3	2.0	4.0	2.0
Gold Bullion	Rupp	6353	90909	14.8	97.7	26.2	7.7	2.3	3.0	2.0
Gold Gem	Rupp	4311	85948	20.5	99.4	36.5	8.2	1.7	3.3	2.3
Gold Standard	Rupp	5974	80858	13.5	98.4	22.5	7.2	1.3	2.3	2.0
Gold Strike	Rupp	4008	84398	20.5	93.0	39.9	6.7	2.3	3.7	2.0
Gold Rush	Rupp	3101	79005	25.1	84.6	43.0	14.1	2.3	4.0	2.3
HMX 0681	Harris Moran	5823	79595	13.7	96.1	23.0	4.8	3.0	3.0	2.3
HMX6689	Harris Moran	4084	102737	25.5	94.4	43.0	12.4	1.0	3.0	2.0
Jackpot	Harris Seeds	3630	65786	18.0	91.1	27.4	6.7	2.3	2.8	2.0
Jumpin' Jack	Rupp	3328	71678	21.7	91.1	42.6	8.1	2.0	3.7	2.0
Magic Lantern	Harris Moran	5143	75663	14.7	100.0	23.0	6.5	1.0	2.7	2.3
Merlin	Harris Moran	5294	65325	12.3	100.0	22.3	5.4	1.3	2.7	2.0
Mother Lode	Rupp	4159	76532	18.6	94.8	29.5	7.7	2.0	4.0	2.0
Mystic Plus	Harris Moran	5748	30840	5.3	99.3	17.6	3.1	1.0	2.0	2.3
Ol' Zeb's	Rupp	3630	62156	17.3	87.3	33.5	8.8	1.3	3.0	1.7
Orange Smoothie	Twilley	6504	31483	4.8	94.9	6.7	2.7	1.7	2.0	2.7
Oz	Harris Moran	11646	39219	3.4	97.2	4.8	1.9	2.7	2.7	2.7
Pankow's Field	Harris Seeds	4386	56817	12.8	96.2	20.4	5.6	2.0	3.0	1.7
Prizewinner		2345	177008	75.3	100.0	119.0	33.3	2.7	1.7	2.7
Pro Gold #500	A&C	4084	77493	18.9	96.9	31.9	6.3	2.0	3.0	2.0
Pro Gold #510	A&C	3554	69999	20.1	95.6	34.2	7.8	2.0	4.0	1.7
Pro Gold #200	A&C	4916	76994	15.8	97.1	24.7	8.0	2.0	3.7	2.0
Sorceror	Harris Moran	6504	76472	11.8	95.9	21.4	3.7	1.3	2.3	2.3
Touch of Autumn	Rupp	14520	35445	2.4	99.2	4.1	0.7	2.3	2.0	2.3
Mean of Test		***5346.2***	***73614.2***	***17.6***	***95.5***	***29.7***	***7.6***	***1.9***	***2.9***	***2.1***
L.S.D. (0.05)		***2032.5***	***33127***	***3.4***	***9.4***	***9.1***	***5.4***	***0.8***	***0.9***	***0.8***
C.V. (%)		***23.18***	***27.44***	***11.84***	***5.99***	***18.69***	***42.98***	***26.06***	***20.02***	***21.36***

[1]One-row plot, 16 ft. long x 12 ft. wide. Hills/plot: Vine-4, Semi-bush-6, Bush-8. [2]Marketable yield. [3]Based on scale: 1=deep orange; 2=medium orange; 3=light orange; 4=yellow; 5=white. [4]Based on scale: 1=flat; 2=round; 3=oval; 4=oblong. [5]Based on scale: 1=coarse; 2=medium; 3=smooth

TABLE 3. YIELD, NUMBER, MARKETABILITY, AND HORTICULTURAL CHARACTERISTICS OF SELECT MINIATURE AND WHITE PUMPKIN VARIETIES

Variety	Sponsor	Fruit *(no/ac)*	Yield[2] *(lbs/ac)*	Fruit wt *(lbs)*	Market *(%)*	Weight large	Weight small	Rind[3] color	Fruit[4] shape	Rind[5] texture
Casper	Rupp	2647	21274	8.0	94.0	12.0	1.4	4.0	2.0	2.3
Jack-B-Quick	Rupp	20948	9385	0.4	99.8	0.8	0.2	2.7	1.0	2.0
Jack-Be-Little	Twilley	18377	7033	0.4	99.9	0.6	0.2	2.7	1.0	2.0
Lil Ironsides	Harris Moran	12024	27898	2.3	98.6	3.7	1.6	2.0	2.0	2.7
Lumina	Rupp	4235	30847	7.1	93.6	14.4	1.0	5.0	2.0	3.0
Munchkin	Harris Moran	15503	6474	0.4	97.5	0.6	0.2	2.3	1.0	2.0
Pick-a-Pie	Rupp	6277	33555	5.3	97.6	7.5	3.0	1.3	2.5	1.7
Pro Gold #100	Twilley	10285	27422	2.7	84.3	4.0	0.9	2.0	3.0	3.0
Mean of Test		***11287***	***20459***	***3.3***	***95.7***	***5.4***	***1.1***	***2.8***	***1.8***	***2.3***
L.S.D. (0.05)		***6772***	***9671***	***1.3***	***6.3***	***0.9***	***0.7***	***1.4***	***0.8***	***0.6***
C.V. (%)		***34.26***	***26.96***	***22.90***	***3.75***	***10.30***	***35.16***	***28.20***	***24.17***	***15.86***

[1]One-row plot, 16 ft. long x 12 ft. wide. Hills/plot: Vine-4, Semi-bush-6, Bush-8. [2]Marketable yield. [3]Based on scale: 1=deep orange; 2=medium orange; 3=light orange; 4=yellow; 5=white. [4]Based on scale: 1=flat; 2=round; 3=oval; 4=oblong. [5]Based on scale: 1=coarse; 2=medium; 3=smooth



Results of the 2002 Southernpea Cooperative Trials

Joe Kemble, Edgar Vinson, Randy Akridge, and Jason Burkett

Replicated and observational southernpea cooperative trials were conducted at the Brewton Experimental Field (BARU) in Brewton, Alabama, and the E.V. Smith Research Center (EVSRC) in Shorter, Alabama, (Table 1). The purpose of these trials is to evaluate the performance of southernpea cultigens that have not been released.

Southernpeas were planted onto bareground plots that were 20 feet long and 3 feet wide on June 18 at BARU and August 30 in EVSRC. Plots had a within-row spacing of 1 foot. Overhead irrigation was used.

At BARU, preplant fertilizer (5-10-15) was applied at a rate of 600 pounds per acre. Ammonium nitrate was applied bi-weekly at a rate of 60 pounds of nitrogen between June 24 and July 23. One application of a preplant herbicide was applied on June 18. Insecticide was applied on July 23 and July 31.

At EVSRC, preplant fertilizers were applied at 150 pounds per acre of 0-0-60 and 30 pounds per acre of 15.5-0-0. A preplant application of herbicide was made on August 27. Insecticides were applied weekly between August 27 and September 27.

Southernpeas were harvested at the dry stage as needed between August 12 and 26 at BARU and on November 20 at EVSRC. Both replicated and observational data were recorded at BARU. Due to deer feeding at EVSRC, the observational trial was destroyed. Dry and imbibed yields were determined (Table 2 and 3). To estimate yield and to compensate for different percentages of dry and mature green pods, all peas shelled from each plot were placed into containers with water to allow the dry ones to soak up water (imbibe) overnight. Comparisons are then more realistic since all peas are at the same moisture level.

Imbibed weights are estimates of mature green, shelled weight yield (Table 2.). Bushels of fresh, in-pod yield per acre may be estimated by multiplying the imbibed weight by 2 (assuming an average shellout of 50 percent) and dividing it by 25 (the average weight of a bushel of fresh, unshelled southernpeas).

Table 1. Ratings of the 2001 Southernpea Cooperative Trial[1]

Location	BARU	EVSRC
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. Yield of Selected Entries in the 2002 Replicated and Observational Southernpea Cooperator's Trial

Variety	Yield *lbs/ac*	Shelled weight *lbs/ac*	Imbibed weight *lbs/ac*	Shellout *%*
Brewton Agricultural Research Unit				
Coronet	3,970	2,755	3,067	69
US-1070	3,126	2,211	3,834	71
US-1033	2,912	2,085	3,978	72
ARK96-91	2,831	1,744	3,341	61
LA92-86	2,716	2,066	2,861	75
US-1069	2,583	1,907	3,627	74
Early Acre	2,205	1,627	2,275	73
TX-139-CRM	2,177	1,796	3,466	82
TX-159BE	2,009	1,257	1,386	63
LA-95-62	1,996	1,629	2,207	81
Ark Blackeye	1,848	1,361	2,020	73
TX-148-PE	1,767	1,259	1,781	72
LA-92-180	1,625	1,174	1,454	72
US-1031	1,489	1,150	2,077	77
ARK-96-10	1,357	964	1,277	70
LA-96-21	1,243	993	1,627	80
r^2	*0.90*	*0.80*	*0.77*	
CV	*13*	*19*	*19*	
lsd	*819*	*941*	*871*	

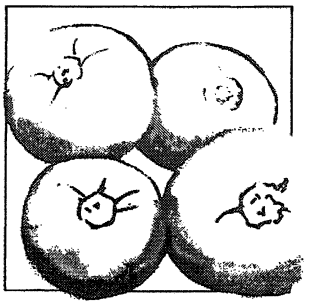
continued

TABLE 2, CONTINUED. YIELD OF SELECTED ENTRIES IN THE 2002 REPLICATED AND OBSERVATIONAL SOUTHERNPEA COOPERATOR'S TRIAL

Variety	Yield *lbs/ac*	Shelled weight *lbs/ac*	Imbibed weight *lbs/ac*	Shellout *%*
E.V. Smith Research and Extension Center				
TX-139-C	1,347	612	1,288	51
LA-92-18	1,198	532	1,571	44
Coronet	1,065	676	1,379	66
TX-128-B	1,017	602	1,336	61
TX-164-P	1,017	756	1,650	75
TX-148-P	974	671	1,539	69
US-1070	932	548	1,315	59
ARK-96-1	894	583	1,278	64
Early Acre	825	463	985	54
US-1033	804	309	772	43
US-1031	751	405	980	56
US-1069	697	564	1,054	71
LA-92-86	687	431	1,070	64
ARK-96-9	655	341	804	53
TX-123-B	655	346	788	54
TX-159-B	628	394	900	63
Ark Blackeye	607	405	921	64
LA-95-62	596	378	852	70
r^2	***0.34***	***0.33***	***0.41***	
CV	***43***	***46***	***37***	
lsd	***628***	***391***	***721***	

TABLE 3. YIELD OF SELECTED ENTRIES IN THE 2002 OBSERVATIONAL SOUTHERNPEA COOPERATOR'S TRIAL

Variety	Total weight *lbs/ac*	Shelled weight *lbs/ac*	Imbibed weight *lbs/ac*	Shellout *%*
Brewton Agricultural Research Unit				
TX-160-BE	3,101	1,501	1,551	48
US-1074	3,023	1,900	3,282	63
ARK-95-356	2,866	1,949	2,408	68
LA-96-4	2,705	1,830	1,989	68
US-1067	2,583	1,845	3,198	71
LA-94-55	2,544	1,749	1,948	69
US-1076	2,461	1,548	1,628	63
YX-162 PE	2,248	1,307	1,359	58
YX-158 PE	2,217	1,386	1,552	63
Ark Blackeye	2,100	1,323	1,467	63
Early Acre	2,039	1,127	1,180	55
ARK 98-348	1,956	1,397	2,794	71
LA-94-1	1,721	1,126	1,439	65
LA-96-18	1,437	1,045	1,372	73



2002 Tomato Cultivar Evaluation

W.B. Evans, P. Hudson, and K. Paridon

Several new acres of fresh-market tomatoes were planted in 2002 across Mississippi, complementing existing acreage in all regions. The Mississippi fresh-market tomato industry serves wholesale, shipping, and local roadside/retail markets. Most growers are producing modern, large-fruited red tomatoes for local and regional consumption. In this region, most tomato production is in early summer, with only a few produced for late summer or fall harvest. The objective of this trial was to evaluate the yield and fruit quality of red tomatoes for early summer production in central Mississippi.

The trial included twenty-seven red-fruited tomato cultivars, grown in 10 plant plots, with four replications in a randomized complete block design at the Mississippi State University Truck Crops Branch Experiment Station in Crystal Springs, MS (Table 1). Seeds of each cultivar were sown in the greenhouse, in 72 cell flats of MetroMix 366 on March 25, 2002. Transplants were set by hand on April 25, 2002 on 24-inch centers on beds 9 feet apart. The wide spacing between rows accommodates equipment and actually mimics the spacing used by many local growers. Plants were grown on raised beds, with black polyethylene mulch and trickle irrigation, using the stake and weave system. Suckers were removed up to but excluding the sucker just below the first flower cluster.

Harvest began July 2 and ended with the tenth harvest on August 6. Harvested fruit was graded into marketable (U.S.D.A. Nos. 1 and 2, combined) and cull fruit. The fruit were counted and weighed. Common defects in cull fruit were noted. Fruit were culled often for cracking, both radial and concentric, as well as for green shoulders. Many high yielding varieties produced significant culls in this trial because of our culling of green-shouldered fruit. In addition to the major defects, there were some fruit culled for insect damage, blossom end rot, shape, or small size.

Table 1. Ratings of 2002 Tomato Cultivar Trials[1]

Location	Crystal Springs, MS
Weather	4
Fertility	5
Irrigation	3
Pests	4
Overall	4

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

Temperature and precipitation patterns were good for the trial, with the exception of an early wet period that may have influenced some entries. Some late disease pressure from tomato spotted wilt virus was also seen.

Yields were good, averaging more than 10 pounds of marketable fruit per plant for the best entries. The earliest cultivars included 'Johnny's 361', 3057 TY, and the high lycopene cultivar 'Health Kick' (Table 2). The highest total marketable yields were produced by 'Health Kick', 'Estiva', 'Voyager', and Florida 47 (Table 2). After those four, the following also produced high marketable yields: 'Bush Celebrity', 'Paragon', HA 3657, 3057 TY, Florida 91, 'Sun Leaper', 'Sunpride', and 'Mountain Spring' (Table 2). The largest fruit was produced by 'Merced', RFT 0894, 'Big Beef', Florida 91, 'Voyager', 'Red Sun', Florida 47, EX 1405037, and RFT 0252 (Table 2). Among some locally important cultivars, 'Bush Celebrity' produced good to excellent yields with moderate earliness and modest fruit size. 'Big Beef' produced fruit with excellent size, excellent total yield, but tended to produce a high percentage of cull fruit in this trial. 'Merced' produced large fruit with good earliness, but had a high cull percentage in this trial.

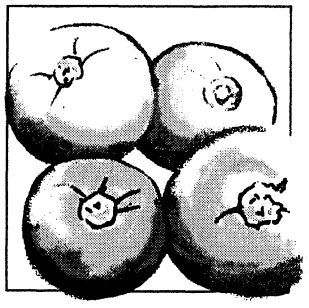
Some notes on a few other cultivars are also important. 'Health Kick' is a high-lycopene (a possible anti-

cancer compound) cultivar marketed mainly to home gardeners. Market gardeners looking for a roma-type tomato may wish to consider this cultivar as yields were outstanding. It is not appropriate for the large-fruited red market. 'Estiva' produced very high marketable yields also, but growers need to be aware of its relatively high cull percentage and relatively small average fruit size (just under 8 ounces). Most other varieties in the trial produced fruit in the 10- to 14-ounce range. Some other varieties produced quite high total yields but had a large cull percentage. These included HA 3060, BHN 444, 'Sunpride', and 3057 TY. The 3057 TY entry also had a smaller average fruit size (just over 8 ounces) than some in the trial.

TABLE 2. YIELD AND FRUIT QUALITY IN THE 2002 RED TOMATO TRIAL, CRYSTAL SPRINGS, MISSISSIPPI

Entry	Source	Total yield[1] *lbs/plot*	Marketable yield[2] *lbs/plot*	Early total yield[3] *lbs/plot*	Mean marketable fruit wt. *oz/fruit*
Health Kick	Asgrow	152.5	128.3	45.0	3.8
Estiva	Johnny's	184.5	107.6	15.9	7.7
Voyager	Seminis	154.4	102.9	8.0	12.6
Florida 47	Seminis	155.4	101.3	8.5	12.6
Bush Celebrity	Willhite	161.9	97.0	23.7	10.2
Paragon	Johnny's	153.3	95.9	20.7	10.4
HA 3657	Hazera	142.3	94.6	25.9	10.7
3057 TY	Hazera	159.9	94.4	37.8	8.6
Florida 91	Seminis	147.7	93.5	9.0	12.6
Sun Leaper	Chesmore	152.7	92.0	14.1	10.7
Sunpride	Chesmore	169.0	89.6	9.7	10.4
Mountain Spring	Chesmore	148.3	86.7	23.9	10.9
Red Sun	Johnny's	151.9	78.6	19.4	12.6
Mountain Pride	Willhite	133.1	75.8	18.9	7.8
BHN 444	Johnny's	170.1	73.8	12.6	9.4
RFT 0895	Sygenta	141.7	71.2	21.5	10.7
HA 3060	Hazera	162.6	70.8	20.7	9.6
Big Beef	Johnny's	165.8	63.6	15.5	13.4
Big Beef	Seminis	165.8	60.9	18.0	11.4
HA 3636	Hazera	127.5	56.6	9.8	11.8
EX 1405037	Seminis	124.5	54.3	2.7	14.2
Merced	Chesmore	172.8	54.1	19.7	13.8
RFT 0247	Syngenta	124.2	50.7	5.6	11.8
Johnny's 361	Johnny's	135.1	34.1	40.1	9.3
RFT 0849	Syngenta	145.2	33.7	7.4	13.6
RFT 0252	Syngenta	110.8	26.8	9.0	12.3
LSD, 0.05		***25.40***	***23.18***	***8.92***	***2.08***

[1]All numbers are means of four plots, 10 plants per plot.
[2]Includes USDA grade 1 and grade 2 fruit.
[3]Includes fruit from the first three of 10 harvests.



Evaluating Tomato Cultivars for High Tunnel Production in the Central Great Plains

Lewis W. Jett and Andrew Read

There is expanding interest in the use of high tunnels for extended season tomato production in the central Midwest. High tunnels (hoophouses) are passive solar greenhouses or cold frames that are used to extend the traditional growing season for many horticulture crops. However, there is very little information on tomato cultivar performance within high tunnels. Growing conditions within a high tunnel can be significantly different from growing conditions typically encountered in field production. High tunnels increase the average 24 hour temperature by as much as 15°F. High tunnels also protect a crop from variable weather and pests and offer the opportunity to control the growing environment. The objective of this research was to evaluate the yield performance of several tomato cultivars within a high tunnel and in the field.

Four high tunnels were constructed in July 2001 at the University of Missouri Bradford Research and Education Center located near Columbia, Missouri. The soil, a fine Mexico silt loam, was tilled, graded, and leveled prior to construction. Soil samples were taken before planting and analyzed by the University of Missouri soil-testing laboratory.

Soil pH was 6.0, with approximately 2% organic matter. Each high tunnel was 20 feet wide by 9 feet tall by 36 feet long providing approximately 700 square feet of total planting space per house. Hoops were spaced 6 feet apart with one top purlin. For ventilation, a 39 inch high roll-up sidewall was used which extended the length of both sides of each high tunnel and was rolled up manually. Tunnels were built with the long axis oriented east west in order to intercept the area's prevailing south by southwest wind. Each tunnel was covered with a single layer of clear 6 mil plastic. Field-grown control plots were adjacent to the high tunnels. Tomato seeds from seven cultivars were seeded in late January 2002 (for high tunnel evaluation) and late February (for field evaluations) into standard germination trays filled with Promix BX media and subsequently transplanted into Compack 606 trays at the 2 to 3 true leaf stage. Transplants were grown in the greenhouse for approximately six weeks and then prepared for transplanting into the high tunnel on March 24, 2002. One week prior to transplanting, the tomatoes were hardened off by exposing them to ambient temperatures for three to four hours each day.

High Tunnel Evaluations

The soil within the high tunnel was tilled, fertilized, and ridged (4 inches in height) prior to application of a 1 mil, embossed plastic mulch. Tomato plants in all treatments were spaced 24 inches within row with 3 feet between rows resulting in 6 square feet per plant. Plots were irrigated with at least 1 inch of water weekly through 8mil t-tape with 12 inch dripper spacing and a flow rate of 0.450 gallons per minute. A granular 13-13-13 fertilizer was applied preplant to all plots at the rate of 50 pounds per acre. Calcium nitrate ($CaNO_3)_2$ was applied weekly through the drip irrigation at a rate of 10 pounds per acre commencing two weeks after transplanting with a Dosatron fertilizer injector (40 gallons per minute) and continuing through harvest. Tomatoes were supported using the string-weave method, with two tomato plants between each stake.

Tomato cultivars evaluated were 'Florida 47', 'Florida 91', 'Floralina', 'Merced', 'Carolina Gold', 'Brandywine', BHN 543, and 'Mt. Fresh'. 'Florida 47' is a vigorous determinate that ripens mid-season with very large fruit. 'Florida 91' is a medium determinate, heat tolerant, early to mid-season cultivar with large fruit. 'Floralina' is a medium tall determinate with large fruit that ripens early to mid-season. 'Merced' is an early ripening determinate cultivar with large fruit. 'Carolina Gold' is a tall determi-

nate that ripens mid-season with large, yellow-colored fruit. 'Brandywine' is an heirloom cultivar with an indeterminate growth habit and large fruits that ripen late in the season. BHN 543 is a medium tall determinate cultivar with large fruit ripening early to mid-season. 'Mt. Fresh' is a tall determinate cultivar with large fruit that ripens mid-season.

There were four replications for each treatment type arranged in a completely randomized block design. Plants were transplanted into rows of 16 plants, with four plots per row. Each plot contained four plants. Plants were covered with row cover continuously until the first flowers appeared. During flowering, row covers were removed in the morning and replaced in the afternoon when the vents were closed. When the weather began warming, row covers were only used on evenings when the temperature dropped below 50°F. Sidewall vents were opened if the prevailing outside temperature was $\geq$ 60°F.

Total early (i.e., before July 4) marketable yields from BHN 543, and 'Merced' were significantly greater than all other cultivars evaluated (Table 1). Early yield of US No. 1 fruit from BHN 543, 'Merced', and 'Florida 91' was significantly greater relative to the other cultivars evaluated. 'Brandywine', an indeterminate beefsteak cultivar, produced significantly less marketable fruit and had the highest percentage of unmarketable fruit. Culls from 'Brandywine' were mostly the result of radial fruit cracking and surface blemishes. 'Brandywine also had internal white tissue from heat stress.

Table 1. Early[1] Marketable Yield of Tomato Cultivars within a High Tunnel

Cultivar	US No. 1[2] *lbs/plant*	US No. 2 *lbs/plant*	Total *lbs/plant*
BHN 543	3.3 a	1.2 ab	4.5 a
Brandywine	1.8 cd	1.4 a	3.2 b
Carolina Gold	2.3 bcd	0.8 b	3.1 b
Floralina	1.5 d	1.4 a	2.9 b
Florida 47	1.9 cd	1.1 ab	3.0 b
Florida 91	2.6 abc	0.6 b	3.2 b
Merced	3.1 ab	1.6 a	4.7 a
Mt. Fresh	1.9 cd	0.6 b	2.5 b

[1] Early yield was from June 14 to July 4.
[2] Means with the same letter are not significantly different LSD P$\leq$0.05.

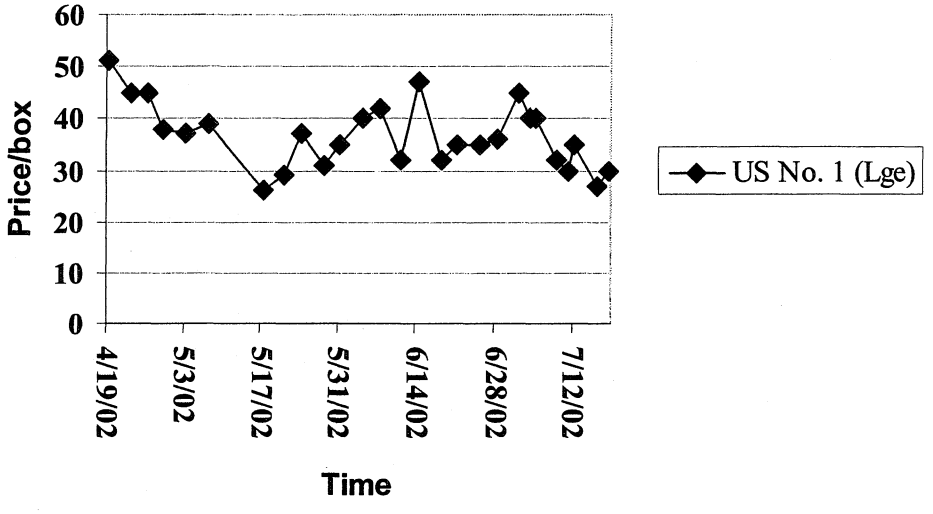
Field Evaluations

Tomato cultivars were transplanted into field plots in late April 2002. Cultural practices were similar to high tunnel treatments with the spacing being 2 feet between plants and 5 feet between rows providing 10 square feet per plant.

In the central Midwest, there is a strong price premium for early tomatoes marketed before the first week in July. To document the level of this premium, we recorded wholesale tomato prices at the Central Missouri Produce Auction during 2002. The Central Missouri Produce Auction is a local wholesale outlet for many commercial vegetable growers in central Missouri. Supplies of greenhouse (ground culture or hydroponic) tomatoes become available starting in late April in Missouri. Wholesale prices remained relatively high through June, and then began to decline in July as field supplies increased (Figure 1).

Tomatoes in field plots were harvested starting on July 25, 2002, and separated into marketable grade classes (Table 2). 'Merced', 'Floralina', BHN 543, 'Florida 91' and 'Carolina Gold' had significantly higher marketable yields when grown within a high tunnel relative to the field. In addition, high tunnel tomatoes were more than 30 days earlier than field tomatoes. On an area basis,

Figure 1. Wholesale tomato prices (US No. 1 Large: 2.5-2.75" diameter) per box (25 lb.). Source: Central Missouri Produce Auction, Versailles, MO. Prices and supply to the left of the line represent "early" prices.



high tunnel tomatoes significantly outyielded field tomatoes (Figure 2).

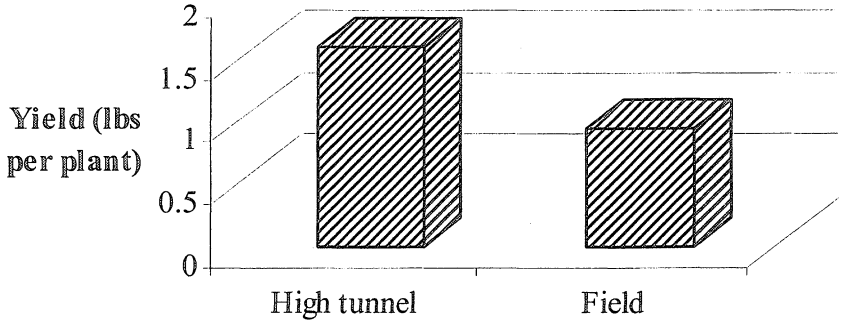
For growers interested in early tomato production, high tunnels seem to be an excellent technology to achieve this goal. Our research has documented significant yield enhancement from high tunnel production. Almost every cultivar that performs well in the field environment will excel in a high tunnel. Disease infestation and physiological ripening disorders such as yellow shoulder and sun scorch were negated by the high tunnel. Based on the results of this research, it is possible for a grower to have vine-ripe tomatoes from mid-June until October in the central Midwest by using high tunnels as a complement to field production. For additional information on high tunnels for the central Great Plains, please view the high tunnel website: ***www.hightunnels.org.***

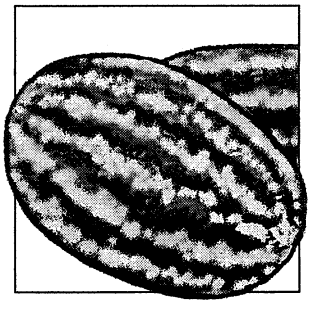
Table 2. Field Performance of Tomato Cultivars

Cultivar	US No. 1[1] *lbs/plant*	US No. 2 *lbs/plant*	Total *lbs/plant*
BHN 543	6 ab	1 NS	7 NS
Brandywine	4 b	3 NS	7 NS
Carolina Gold	7 ab	2 NS	9 NS
Floralina	8 a	2 NS	10 NS
Florida 91	7 ab	2 NS	9 NS
Merced	4 b	5 NS	9 NS
Mt. Spring	8 a	5 NS	13 NS
Mt. Fresh	9 a	3 NS	12 NS

[1] Means with the same letter are not significantly different LSD $P \leq 0.05$. NS= not significant

Figure 2. Comparison of yield per ft^2 of all tomato cultivars evaluated.





Triploid Watermelon Cultivar Evaluation, Summer 2002

Richard G. Snyder and Peter Hudson

Eight varieties of triploid (seedless) watermelon *(Citrullus lanatus)* were included in a variety trial at the Truck Crops Branch Station in Crystal Springs, Mississippi, in the summer of 2002. Similar evaluations were conducted at the Horticulture Research and Education Unit at Verona, Mississippi, and at the South Mississippi Branch unit at Beaumont, Mississippi.

Seed of eight varieties of triploid watermelon were seeded in the greenhouse on March 26 2002. All test varieties were red fleshed, elongated, and in the 18 to 22 pound size class according to seed company descriptions. Seed sources are shown in Table 1.

To insure good pollination, 'Verona' was selected as a pollinizer variety. This variety has a different appearance than the triploids being tested, which avoided confusion during harvest. 'Verona' is a 'Black Diamond' type, averaging 30 pounds.

Triploids were transplanted on April 25. Plants were arranged in a randomized complete block design with four replications. Plants were spaced 4 feet apart within the row, and 6 feet apart between rows (24 square feet per plant), with 10 plants per plot. This is equivalent to a plant population of 1,815 plants per acre.

The pollinizer variety was planted in every other plot in each block using a checkerboard pattern to be certain that pollen was well distributed among test varieties. Also, two honey bee hives were placed adjacent to the field to be sure that bee population was adequate.

The soil at the Truck Crops Station is a Providence Silt Loam. The rows were established on raised beds and were covered with black plastic mulch with trickle irrigation tubing beneath (rated at 0.5 gallon per 100 feet at 10 pounds per square inch). Plants were hand planted through holes cut in the mulch. Preplant and sidedressing fertilizer were applied according to the results of a soil test performed at the Mississippi State University Soil Testing Lab, with sidedressings via drip tape. This included applying 385 pounds of 13-13-13 and 167 pounds of 0-0-60 per acre preplant, then sidedressing with 23 pounds $CaNO_2$ per acre when vines began to run.

Harvest began on July 1 and concluded on July 24. Each melon was weighed individually. Data collected included total and marketable numbers and weights of fruit. Fruit smaller than 10 pounds were considered unmarketable. Early yield was calculated from marketable weights and numbers of fruit harvested on the first two of six harvest dates. In addition, fruit Brix (soluble solids) was recorded on two dates. On each date, one mature fruit per plot was cut and two samples were drawn from near the center. The two readings from each fruit were averaged. Brix was read with a hand held refractometer.

There were no significant differences in marketable numbers or weights of fruit, early yield, fruit size, colored seeds, hollowheart, or rind necrosis. However, there were differences in soluble solids content (% brix).

There was a very low incidence of hollowheart (less than 1% for all varieties) and no rind necrosis at the Crystal Springs location. Also, the number of colored seeds was very low, averaging around one quarter of one percent of fruit with colored seeds.

Marketable fruit of all varieties averaged 15.3 to 17.5 pounds in size. Fruit smaller than 10 pounds was considered as cull.

Soluble solids, an indication of sweetness, was the only variable which showed significant differences ($p=0.0075$). SR-8026 (13% brix) had higher soluble solids than 'Freedom', SXW-4016, SXW-4930, 'Vertigo', and 'Seedless Sangria'. 'Banner' and 'Revolution' also had high soluble solids. 'Seedless Sangria' was lowest, with 11.5% brix. All of the watermelon varieties tested would be considered sweet, with the full range from 11.5 to 13.0%.

There was a very low incidence of hollowheart in all varieties, and it was not significant. Therefore, the means of hollowheart measurements, which varied from 0.3 to 2.4 inches wide, are not shown in the table.

Any of the varieties tested would be considered of suitable yield and quality for triploids watermelons in this size class.

Yield and earliness data are presented in Table 1, and fruit size and quality information are shown in Table 2. Table 3 shows the size distribution of the fruit in five size classes.

TABLE 1. FRUIT YIELD AND EARLINESS OF TRIPLOID WATERMELON CULTIVARS, SUMMER 2002

Entry	Seed source	Marketable yield[1] *lbs/ac*	Marketable yield[1] *no/ac*	Early harvest[2] *lbs/ac*	Early harvest[2] *no/ac*
Banner	Sunseeds	41,237	2,496	15,981	908
Freedom	Sunseeds	35,293	2,223	17,038	908
Revolution	Sunseeds	38,403	2,405	14,522	862
SR-8026	Sunseeds	37,271	2,133	19,057	953
SXW-4016	Sunseeds	41,232	2,450	19,252	1044
SXW-4930	Southwestern	34,635	2,269	13,131	817
Vertigo	Hazera	34,712	2,269	9,388	590
Seedless Sangria	Rogers	43,878	2,586	15,427	908
significance		***NS[3]***	***NS***	***NS***	***NS***
p-value		***0.26***	***0.82***	***0.14***	***0.58***
lsd[3]		–	–	–	–

[1] Marketable yield and size of melons based on melons greater than 10 lbs. Yield based on plant population of 1,815 plants per acre (24 ft² per plant). Rows spaced 6 ft apart with plants 4 ft apart in the row. Fruit size is based on marketable melon weights over 10 lbs.

[2] Early yield indicates portion of the weights or numbers of melons from the first two of six harvests.

[3]Least Significant Difference (LSD) at $p \leq 0.05$. Treatments not significantly different (NS); significant at $p \leq 0.01$. (**).

TABLE 2. FRUIT SIZE AND QUALITY OF TRIPLOID WATERMELON CULTIVARS, SUMMER 2002

Entry	Size[1] *lbs*	Colored seed *no*	Colored seed[2] *%*	Hollow-heart[2] *%*	Soluble solids[2] *%*
Banner	16.5	0.3	0.25	0.67	12.8 ab
Freedom	15.9	0.2	0.17	0.17	12.3 bc
Revolution	16.0	0.0	0.00	0.25	12.6 abc
SR-8026	17.5	0.7	0.29	0.25	13.0 a
SXW-4016	16.9	0.1	0.06	0.06	12.0 cd
SXW-4930	15.3	0.0	0.00	0.42	11.9 cd
Vertigo	15.5	0.4	0.25	0.17	12.2 bcd
Seedless Sangria	17.1	0.3	0.25	0.17	11.5 d
significance	***NS[3]***	***NS***	***NS***	***NS***	*****
p-value	***0.33***	***0.16***	***0.25***	***0.07***	***0.0075***
lsd[3]	–	–	–	–	***0.76***

[1]Yield and size of melons based on melons greater than 10 lbs. Yield based on plant population of 1,815 plants per acre (24 ft² per plant). Rows spaced 6 ft apart with plants 4 ft apart in the row. Fruit size is based on marketable melon weights over 10 lbs.; least square means reported.

[2] Average of two samples from each of four replications; least square means reported.

[3] Least Significant Difference (LSD) at $p \leq 0.05$. Treatments not significantly different (NS); significant at $p \leq 0.01$. (**).

TABLE 3. FRUIT SIZE DISTRIBUTION OF TRIPLOID WATERMELON CULTIVARS, SUMMER 2002

Entry	<10 lb %	10-14 lb %	14-18 lb %	18-22 lb %	>22 lb %
Banner	11	24	31	24	10
Freedom	18	30	25	22	5
Revolution	10	22	47	20	0
SR-8026	15	18	29	25	13
SXW-4016	13	24	27	24	11
SXW-4930	19	27	35	15	3
Vertigo	18	33	33	10	7
Seedless Sangria	2	19	41	31	7

Seed Sources for Alabama Trials

Abbot and Cobb, Inc.
To order: (800) 345-SEED
In TX: (800) 277-8177
Tech. Rep: Russ Becham
146 Old US Highway 84
West Boston, GA 31626
Office/fax: (229) 498-2366
E-mail: rbeckham@rose.net

Enza Zaden North America, Inc.
1352 Burton Ave.
Salinas, CA. 93901
Ph: (831) 751-0937
Fax: (831) 751-6103
E-mail:seed@enzasalinas.com

Harris Seeds
To order: (800) 544-7938
355 Paul Rd.
P.O. Box 24966
Rochester, NY 14624-0966
Fax: (877) 892-9197

Harris Moran Seed Co.
P.O. Box 4938
Modesto, CA 95352
Ph: (209) 579-7333
Fax: (209) 527-8684

Johnny's Select Seeds
To order: (207) 437-4395
Tech. Rep: Steve Woodward
1 Foss Hill Road 2580
RR 1 Box 2580
Albion, ME 04910-9731
Fax: (800) 437-4290

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

Sakata
Tech. Rep: Brent Sapp
816 N. Park Ave.
Tifton, GA 31794
Ph: (229) 392-2325
E-mail: bsapp@sakata.com

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

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

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

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

ShamRock Seed Co., Inc
To order: (408) 771-1500
3 Harris Place
Salinas, CA 93901
Fax: (408) 771-1517
E-mail: shamrock@shamrockseed.com

Sieger Seeds
13031 Reflections Dr.
Holland, MI
Ph: (800) 962-4999

Stokes Seeds
To order: (800) 396-9238
P.O. Box 548
Buffalo, NY 14240-0548
E-mail: stokes@stokeseeds.com

Sunseeds
Richard Wojciak
12214 Lacewood Lane
Wellington, Florida 33414_4983
Ph: (561) 791-9061
Fax: (561) 798-4915
Mobile: (561) 371-2023
richard.wojciak@sunseeds.com

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301 Natividad Rd
Salinas, CA 93906
Ph: (408) 443-4901

Vilmorin
16 Gregg Street
Trumansburg, NY 14886
Ph: (607) 387-3959
Fax: (607) 387-3357

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To order: (800) 828-1840
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 or May 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 (spring 2003).

When: September 25, 2003
Deadline for spring 2003 variety trial report submissions.

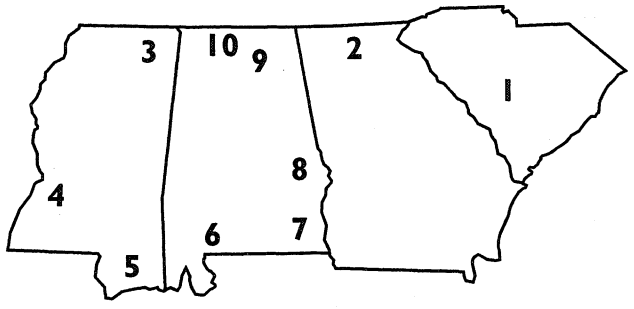
What: Results pertaining to variety evaluation in a broad sense. This includes field performance, quality evaluation, and disease resistance. Here are a few tips:

- Follow the format used in the first eight 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:
vinsoed@auburn.edu, or
kembljm@auburn.edu



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

UNIVERSITY OF GEORGIA
2. Georgia Mountain Branch Experiment Station, Blairsville, GA

MISSISSIPPI STATE UNIVERSITY
3. North Mississippi Research and Extension Center, Verona, MS
4. Truck Crops Branch Experiment Station, Crystal Springs, MS
5. Coastal Research and Extension Center, Beaumont, MS

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

UNIVERSITY OF MISSOURI
Not shown: Bradford Research and Education Center, Columbia, MO