Fall 2004 Commercial Vegetable Variety Trials

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Introduction: Tips for Interpreting Vegetable Varieties Performance Results

Edgar Vinson and Joe Kemble

The fall 2004 variety trial bulletin includes results from research and extension centers in southern, central and northern Alabama. The information provided by this report must be studied carefully in order to make the best selections possible. Although yield is a good indicator of varietal performance, other information must be studied. The following provides a few tips to help producers adequately interpret results in this report.

Open pollinated or hybrid varieties. In general, hybrids (also referred to as F1) are earlier and produce a more uniform crop. They have improved disease, pest, or virus tolerance/resistance. F1 varieties are often more expensive than open pollinated varieties (OP), and seeds cannot be collected from one crop to plant the next. Despite the advantages hybrids offer, OP are still often planted in Alabama. Selecting a hybrid variety is the first step toward earliness and quality.

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

Statistical interpretation. The coefficient of determination (r2), coefficient of variation (CV) and least significant difference (LSD, 5%) are reported for each test. These numbers are helpful in separating the differences due to small plots (sampling error) and true (but unknown) differences among entries.

R2 values range between 0 and 1. Values close to 1 suggest that the test was conducted under good conditions and most of the variability observed was mainly due to the effect of variety and replication. Random, uncontrolled errors were of lesser importance. CV is an expression of yield variability relative to yield mean. Low CVs (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 pumpkin trial conducted at the North Alabama Horticulture Research Center (see "Pumpkin Numbers Down This Year", p. 11), 'Autumn King' yielded 33,578 pounds per acre, while 'Phantom' and 'Rocket' yielded 30,871 and 15,482 pounds per acre, respectively. Since there was less than a 13,865 difference between 'Autumn King' and 'Phantom', there is no statistical difference between these two varieties. However, the yield difference between 'Autumn King' and 'Rocket' was 18,096, indicating that there is a real difference between these two varieties. From a practical point of view, producers should place the most importance on LSD values when interpreting results.

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

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

Where to get seeds. Because seeds are alive, their performance and germination rate depends on how old they are, where and how they were collected, and how they have been handled and stored. It is always preferable to get certified seeds from a reputable source, such as the ones listed in Seed Sources, page 19.

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

Vegetable trials on the Web. For more vegetable variety information be sure to visit our Web page at www.aces.edu/dept/com_veg/veg_trial/cropveg.htm. Our Web site will provide a description of variety types, a ratings system, and information about participating seed companies.

Table 1. Soil Types at the Location of the Trial

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 Research and Extension (Camden)	0.13-0.15	Forkland fine sandy loam
EV Smith Research Center, Horticultural Unit (Shorter)	0.15-0.17	Norfolk-orangeburg loamy sand
Chilton Area Horticultural Substation (Clanton)	0.13-0.15	Luvernue sandy loam
Upper Coastal Plain Research and Extension Center (Winfield)	0.13-0.20	Savannah loam
North Alabama Horticultural Research Center (Cullman)	0.16-0.20	Hartsells-Albertville fine sandy loam
Sand Mountain Research and Extension Center (Crossville)	0.16-0.18	Wynnville fine sandy loam

Table 2. Description of Ratings

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

Letteuce Trial Exhibits Butterhead, Leaf, and Romaine Types in Brewton

Joe Kemble, Edgar Vinson, and Randy Akridge

A lettuce variety trial was conducted at the Brewton Agriculture Research Unit (BARU) in Brewton, Alabama (Tables 1 and 2). Beds were covered with white plastic mulch and drip irrigation was used.

On October 14, five-week-old butterhead, looseleaf, and romaine type lettuce transplants were set in double staggered rows spaced 12 inches apart with a 12-inch spacing within a row. Plots were covered in white plastic mulch and drip irrigation was installed. Plots were 20 feet long on five-foot centers. This created a stand of approximately 8,700 plants per acre. The experimental design was a randomized complete block with four replications.

Fertilization consisted of weekly, alternating injections of calcium nitrate and potassium nitrate at a rate of 30 pounds N per acre on October 25 and November 15. Fertilizers were applied according to the recommendations of the Auburn University Soil Testing Laboratory. Pesticides were applied weekly to control fungal, insect, and weed pests. Consult your county Extension agent for current recommendations for pest and weed control in vegetable production in Alabama.

Table 1. Ratings of the 2004 Lettuce Variety Trial[1]

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

[1] See introduction for description of ratings scales

Lettuce was harvested on December 1 and graded according to the U.S. Standards for Grades (U.S. Dept. Of Agriculture Publication 60-6130) (Table 3). Of the butterhead types 'Louisa' had significantly higher yields than all other lettuce varieties of this type. 'Louisa' has an upright plant habit for a butterhead type with green, red-tinged leaves especially at the region of new growth at the top. 'Harmony' had the second highest marketable yield of the butterhead types. Like 'Louisa', 'Harmony' had an upright plant habit but with light green, glossy leaves.

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

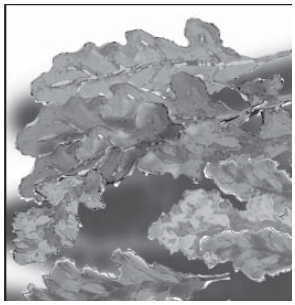
Variety	Head type	Seed source	Days to harvest	Leaf color	Disease claims[1]	Years evaluated
Optima	Butterhead	Vilmorin\Sieger's	55	G	DM,LMV	95-97,02-04
Nancy	Butterhead	Johnny's	66	R	—	96,97,02-04
Esmeralda	Butterhead	Siegers	65	G	DM,LMV	02-04
Tania	Butterhead	Harris	65	G	DM	02-04
Harmony	Butterhead	Shamrock	68	G	B,DM,TB	02-04
Athena	Romaine	Enza Zaden/Siegers	63	G	CRR,DM,LMV,TB	02-04
Louisa	Butterhead	Harris	56	G-R	—	02-04
New Red Fire	Looseleaf	Takii	55	R	—	95,96,02-04
Slobolt	Looseleaf	Siegers	57	G	TB	96,97,02-04
Tango	Looseleaf	Johnny's	45	G	-	98,02-04
Green Towers	Romaine	Harris	74	G	-	02-04
Parris Island	Romaine	Stokes	65	G	TB	96,97,02-04
Red Eye	Romaine	Stokes	•	R	•	02-04

[1]Disease claims: B=Bolting; CRR=Cork Root Rot; DM=Downy Milder; LMV=Lettuce Mosaic Virus; TB = Tip Burn. • = not found,— = none; from seed catalog.

In the looseleaf category, 'Tango' had a marketable yield significantly higher than 'Slobolt' and 'New Red Fire'. 'Tango' has a mound shaped plant habit with bunched and crinkly leaves. 'Athena' and 'Green Tower' produced the highest yields of the four romaine lettuce types in the trial. Both varieties have medium green, glossy leaves.

Table 3. Performance of Selected Romaine, Butterhead, and Looseleaf Lettuce Types

Variety	Type	Marketable Weight lbs/a	Marketable Heads #/a
Louisa	Butterhead	21,822	13,718
Harmony	Butterhead	20,383	13,501
Nancy	Butterhead	18,418	13,065
Optima	Butterhead	17,197	12,194
Tania	Butterhead	17,149	13,646
Esmeralda	Butterhead	16,335	12,847
Tango	Looseleaf	20,143	13,283
Slobolt	Looseleaf	16,911	13,501
New Red Fire	Looseleaf	15,521	13,936
Athena	Romaine	20,167	13,501
Green Tower	Romaine	19,808	13,283
Parris Island	Romaine	16,144	9,799
Red Eye	Romaine	15,785	12,412
r2		***0.42***	***0.25***
CV		***11***	***23***
LSD		***868***	***1,108***



High Yields Found among Top Performing Leafy Green Varieties

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 seeded mechanically with a small planter on September 24 into plots that were 20 feet long and four feet wide. Collard and turnip seeds were spaced six inches apart. The harvest area for each plot was 15 feet long and four feet wide. Experimental design was a randomized complete block with four replications.

Fertilization was applied according to the recommendations of the Auburn University Soil Testing Laboratory. Consult your county Extension agent for current recommendations for pest and weed control in vegetable production in Alabama.

The ground was tilled with a roto tiller and received a preplant application of 60 pounds of N as ammonium nitrate on September 23. Fertilization of consisted of weekly applications of calcium (at a rate of six pounds of N) from September 24 until harvest. Pesticides were applied on October 27.

Table 1. Ratings of the 2004 Leafy Greens Variety Trial[1]

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

[1] See introduction for description of ratings scales

Leafy greens were harvested when they reached marketable size (Table 3). Turnip leaves were harvested on November 15, 2004, and collard plants were harvested on December 6, 2004. Yields were expressed in 30-pound bushels.

Among the collard varieties, ‘Flash’ was almost twice as productive as ‘Hevi-crop’ and the standard varies Vates and Champion produced almost twice the number of bushels per acre. Both Flash and ‘Top Bunch’ produced yields that were significantly higher than the other varieties.

Table 2. Seed Source and Earliness of Selected Leafy Green Varieties

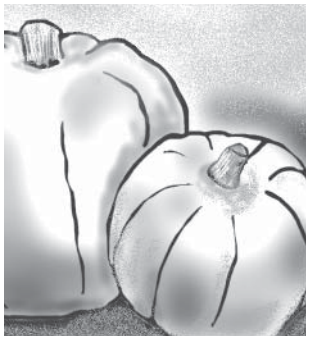
Variety	Type[1]	Crop	Seed source	Days to harvest
Champion	OP	Collard	Harris	75
Flash	F1	Collard	A&C/Stokes	73
Heavi-Crop	F1	Collard	Takii	70
Top Bunch	F1	Collard	Sakata	70
Vates	OP	Collard	Stokes	56
All Top	F1	Turnip	Sakata	50
Purple Top White Globe	OP	Turnip	Seminis/Stokes	60
Seven Top	OP	Turnip	Seminis/Stokes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

[1]Type: OP=open pollinated; F1=hybrid.

In the turnip category, ‘All Top’ and ‘Topper’ performed better than the standard varieties ‘Seven Top’ and ‘Purple Top White Globe’. Yields of ‘All Top’ were two and a half times the yields of ‘Purple Top White Globe’.

Table 3. Performance of Selected Collard and Turnip Varieties

Variety	Type	Heads #/a
Flash	Collard	807
Top Bunch	Collard	713
Hevi-Crop	Collard	454
Vates	Collard	439
Champion	Collard	420
r2		***0.51***
CV		***31***
LSD		***268***
All Top	Turnip	656
Topper	Turnip	557
Seven Top	Turnip	396
White Lady	Turnip	337
Purple Top White Globe	Turnip	258
r2		***0.81***
CV		***19***
LSD		***123***



Pumpkin Numbers Down This Year

Joe Kemble, Edgar Vinson, and Arnold Caylor

A pumpkin variety trial was conducted at the North Alabama Horticulture Research Center (NAHRC) in Cullman, 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. Consult your local county Extension agent for current recommendations for pest and weed control in vegetable production in Alabama.

Pumpkins were direct seeded in hills on rows that were 60 feet long on July 5. There was a 10 foot spacing between rows and a five foot spacing within a row. The experimental design was a randomized complete block with four replications.

Beds were made and weekly applications of five pounds per acre of N as ammonium nitrate were injected through the drip irrigation from July 12 through September 10. Plots received no other fertilization. Pesticides were applied weekly from July 14 through September 15.

Pumpkins were harvested on October 4. Because color development stops after harvest, pumpkins were harvested at the full-color stage and graded as marketable or nonmarketable (Table 3).

Table 1. Ratings of the 2004 Pumpkin Variety Trial[1]

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

[1] See introduction for description of ratings scales

Pumpkin yields were lower this year than in 2003 (Table 3). This was attributed to a low marketable fruit number per acre. The mean individual fruit weight for 2004 (12.26 pounds) and 2003 (12.77 pounds) is virtually the same. All varieties produced individual fruit weights below class size range. With the exception of 'Rocket'(lowest yields), the yields of all varieties were statistically similar. 'Autumn King' had the highest marketable yield. It produced relatively large fruit though few in number.

The handles of the fruit varied in length, diameter, and sturdiness. 'Sorcerer' produced large fruit with a deep orange color and long, sturdy handles and had an

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

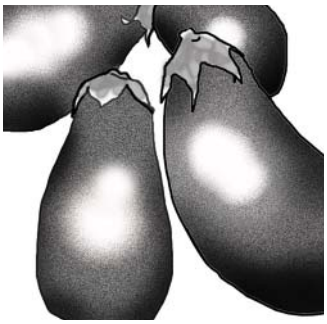
Variety	Type[1]	Seed source	Maturity (days)	Fruit wt. (pounds)
Appalachian	F1	Seminis	90	20-25
Autumn King	F1	Siegers Seeds	105	> 25
Gold Bullion	F1	Rupp Seeds	110	15-25
Gold Medal	OP	Rupp Seeds	108	>25
Howdy Doody	OP	Rupp Seeds	90	15-25
Sorcerer	F1	Harris Moran	105	15-25
Phantom	F1	Seminis	110	20-30
Magic Lantern	F1	Harris Moran	115	15-25
Merlin	F1	Harris Moran	115	15-25
Racer	F1	Johnny's Seeds	98	15-25
Rocket	F1	Johnny's Seeds	85	15-25

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

above average fruit number per acre. The market standard 'Appalachian' had medium to large fruit with short, thick handles. 'Racer' produced the highest number of fruit (statistically similar to all except 'Merlin' and 'Gold Medal') but the mean individual fruit weight was a low 7.2 pounds.

Table 3. Performance of Selected Pumpkin Varieties

Variety	Marketable yield lbs/a	Marketable fuits #/a	Individual fruit weight lb
Autumn King	33,578	2,066	16.50
Phantom	30,871	2,393	13.00
Appalachian	30,214	2,175	13.70
Sorcerer	29,286	2,429	11.98
Magic Lantern	27,942	2,356	11.41
Gold Bullion	27,525	2,066	13.52
Gold Medal	25,382	1,486	16.84
Howdy Doody	24,911	2,284	11.04
Merlin	23,889	1,776	12.95
Racer	20,185	2,719	7.20
Rocket	15,482	2,320	6.76
r2	***0.26***	***0.33***	***0.61***
CV	***37***	***24***	***23***
LSD	***13,865***	***759***	***4.07***



In Eggplant Trial, 'Black Bell' and 'Epic' Perform Well

Joe Kemble, Edgar Vinson, and Jason Burkett

An eggplant variety trial was conducted at the E.V. Smith Research Center (EVSRC) in Shorter, Alabama (Tables 1 and 2).

Soils were fertilized according to the recommendations of the Auburn University Soil Testing Laboratory. Current recommendations for pest and weed control in vegetable production in Alabama may be found in 'IPM Commercial Vegetables: Insect, Disease, Nematode and Weed Control Recommendations' (Publication 2003IPM-2 from the Alabama Cooperative Extension System).

Eggplant transplants were set on plots that were 20 feet long and five feet wide on June 16. Plants were spaced two feet apart within a row. The experimental design was a randomized complete block with four replications.

Pre-plant fertilization consisted of preplant applications of 0-0-60 and ammonium nitrate at rates of 150 and 187 pounds per acre respectively. Beds were formed and fumigated with methyl bromide (67/33 formulation) at a rate of 400 pounds per acre. Prosol fertilizer (20-20-20) was injected twice weekly beginning July 17 through September 3.

Table 1. Ratings of the 2004 Eggplant Variety Trial[1]

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

[1] See introduction for description of ratings scales

Pest control consisted of dual applications of fungicide and insecticide once per week from July 17 through August 26.

Eggplants were harvest 14 times between August 6 and September 8 (Table 3).

In early season production, 'Calliope', a small variegated purple and white eggplant, had yields that were similar to the standard varieties, 'Black Bell', and 'Epic' and 'Dusky'. 'Green Giant' produced large , light green fruit. This variety produced yields that were significantly lower than 'Black Bell' and 'Epic'. Both

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

Variety	Type[1]	Seed source	Color[2]	Shape	Maturity (days)	Disease resistance/ tolerance[3]
Black Bell	F1	Stokes	B	Oval, elongated	65	—
Calliope	F1	Johnny's Select	P,W	Oval, compact	64	—
Dusky	F1	Seminis	B	Teardrop	62	TMV
Epic	F1	Seminis	B	Teardrop	64	TOMV
Ghostbuster	F1	Harris	W	Cylindrical, long	80	—
Green Giant	F1	Johnny's Select	G	Teardrop	62	—
Ichiban	F1	Gurney's	B	Slender, elongated	58	—
Megal	F1	Vilmorin	B	Slender, elongated	60	CMV, TMV
Night Shadow	F1	Stokes	B	Teardrop	75	—
Vernal	F1	Stokes	B	Teardrop	70	CMV ,TMV
Zebra	F1	Johnny's Select	P,W	Teardrip	70	—

[1]Type: F1=hybrid.

[2]Color: B=Black, G=Green, P= Purple, W = White.

[3]Disease resistance/tolerance: CMV = Cucumber Mosaic Virus; TMV = Tobacco Mosaic Virus; TOMV = Tomato Mosaic Virus.
— = not found; from seed catalogues.

'Black Bell' and 'Epic' continued to be the top performers for total production, having significantly higher yields than all other varieties.

Table 3. Performance of Selected Eggplant Varieties

Variety	Early marketable yield lbs/a	Early marketable number no/a	Early non-marketable weight lbs/a	Early non-makretable number no/a
Black Bell	1,213	5,438	194	870
Epic	1,062	5,981	157	979
Dusky	981	5,873	69	435
Calliope	823	4,241	•	•
Green Giant	717	3,915	267	1,305
Megal	643	4,676	70	653
Vernal	546	4,241	•	•
Ghostbusters	316	2,066	117	435
Zebra	268	1,523	•	•
Night Shadow	246	1,305	120	435
Ichiban	230	1,885	182	1,631
r2	***0.70***	***0.60***	***0.20***	***0.24***
CV	***41***	***43***	***105***	***96***
LSD	***426***	***2,619***	***262***	***1,473***

Variety	Total marketable yield lbs/a	Total marketable number no/a	Total non-marketable weight lbs/a	Total non-makretable number no/a
Black Bell	7,579	26,861	1,946	7,286
Epic	6,070	25,230	1,742	7,721
Ghostbusters	4,881	20,119	827	3,371
Vernal	4,664	25,991	884	4,024
Dusky	4,578	19,793	908	3,806
Green Giant	4,379	16,367	3,423	12,724
Calliope	4,361	19,901	581	3,770
Night Shadow	3,992	14,573	883	3,154
Megal	3,671	21,098	1,265	7,939
Ichiban	2,512	18,705	2,064	19,140
Zebra	2,385	9,064	413	1,059
r2	***0.50***	***0.40***	***0.70***	***0.64***
CV	***38***	***38***	***48***	***63***
LSD	***2,407***	***10,949***	***955***	***6,216***

2004 Hot Pepper Trials Continue at Brewton

Joe Kemble, Edgar Vinson, Randy Akridge

Hot pepper varieties trials were conducted at the Brewton Agriculture Research Unit (BARU) in Brewton, Alabama (Tables 1 and 2).

Fertilization 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. Consult your county Extension agent for current recommendations for pest and weed control in vegetable production in Alabama.

Hot pepper transplants were set on 3- by 8-foot row plots with a within-row spacing of 12 inches. Drip irrigation was used. Peppers were transplanted on June 3. Beds were covered in the experimental design was a randomized complete block with four replications.

Hot peppers were harvested on August 8, 16, 23, and 30 and September 7. The weight of 25 pods was also determined (Table 3).

Table 1. Ratings of the 2004 Hot Pepper Variety Trial[1]

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

[1] See introduction for description of ratings scales

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

Variety	Type[1]	Seed source	Days to harvest	Pod shape	Color	RSR[2]	Disease claims[3]
			Ancho				
Tiburon	F1	Siegers	81	Tapered	G-R	1,000-3,000	—
Ancho San Martin	F1	Seminis	75	Tapered	G-R	—	—
Ancho 101	OP	Rupp	78	Tapered	G-R	1,000-1,500	—
			Cayenne				
Andy	F1	Johnny's Select	65	Thin	G-R	—	TMV
Cayar	F1	Seedway	63	Thin	G-R	—	—
Rupp Cayenne LS	OP	Rupp	72	Thin	G-R	30,000-50,000	—
Mesilla	F1	Seminis	87	Thin	G-R	2,000-4,000	PVY,TEV,TbP
TM 888 Thin Hot	F1	Seedway	71	Thin	G-R	—	—
			Jalapeño				
Ixtapa X3R	F1	Seminis	75	Blunt point	G-R	4,000-6,000	BLS(1,2,3)
Grande	F1	Seminis	75	Blunt point	G-R	4,000-6,000	PVY,TEV
Mitla	F1	Seminis	72	Blunt point	G-R	4,000-5,000	—
Tula	F1	Seminis	—	Blunt point	G-R	4,000-6,000	TMV

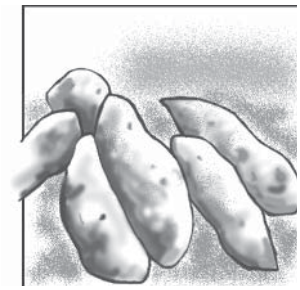
[1]Type: OP=open pollinated; F1=hybrid.
[2]RSR = Relative Scoville Rating; the higher the rating, the hotter the variety.
[3]Disease claims: BLS (1,2,3) = Bacterial Leaf Spot races 1, 2 and 3; G- R = Green fruit turning red; PVY=Potato Virus Y; TEV = Tobacco Etch Virus; TbP = Tobamo Virus; TMV= Tobacco Mosaic Virus.
— = not found; from seed catalogues.

Differences in yield were found among the three categories of hot pepper. The variety ‘Ancho San Martin’ had yields that were significantly higher than ‘Tiburon’ and ‘Anch 101’.

There were no differences in the weight of 25 pods. Among the cayenne types, ‘Andy’, ‘Cayar’ and ‘Mesilla’ were statistically similar. The yields of these varieties were significantly higher than ‘TM 888 Thin Hot’ and ‘Rupp Cayenne LS’. These two varieties also had the lowest weight per 25 pods. In the jalapeño category, the standard variety ‘Mitla’ was similar to ‘Grande’ but significantly higher than ‘Ixtapa’ and ‘Tula’. Weights per 25 pods were statistically similar.

Table 3. Performance of Selected Jalapeño, Ancho, and Cayenne Hot Peppers

Variety	Type	Total marketable weight lbs/a	25- pod weight
Ancho San Martin	Ancho	32,321	1.58
Tiburon	Ancho	25,360	1.24
Ancho 101	Ancho	17,356	1.12
Andy	Cayenne	32,498	0.56
Cayar	Cayenne	28,727	0.50
Mesilla	Cayenne	27,075	1.00
TM 888 Thin	Cayenne	20,800	0.24
Rupp LS Cayenne	Cayenne	15,051	0.21
Grande	Jalapeño	39,386	1.21
Mitla	Jalapeño	35,320	1.04
Ixtapa	Jalapeño	32,257	1.07
Tula	Jalapeño	30,914	1.19
r2		***0.80***	***0.90***
CV		***16***	***17***
LSD		***6,285***	***1.11***



Results of the 2004 National Sweetpotato Collaborators' Trial

Joe Kemble, Edgar Vinson, and Arnold Caylor

National sweetpotato collaborators' trials were conducted at the North Alabama Horticulture Research Center (NAHRC) in Cullman, Alabama (Table 1.).

Sweetpotato seed roots from selected commercial varieties and breeding lines were planted in a heated bed at NAHRC on April 12 for slip production. Sweetpotato slips were planted on June 8. Varieties were replicated four times. Plots contained two rows that were 25 feet long and 3.5 feet wide. Within-row spacing was one foot.

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. Consult your county Extension agent for current recommendations for pest and weed control in vegetable production in Alabama.

Table 1. Ratings of the 2004 Sweetpotato Collaborators' Trial[1]

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

[1] See introduction for description of ratings scales

Fertilization consisted of 80 pounds N per acre, 184 pounds of P_2O_5 per acre, and 156 pounds of K_2O per acre.

Sweetpotatoes were harvested on September 23. Roots were graded as US #1 (roots 2 to 3.5 inches in diameter, three to nine inches in length, well shaped and free of defects), canner (roots one to two inches in diameter, two to seven inches in length), jumbo (roots that

Table 2. Yield and Grade Distribution of Selected Sweetpotato Breeding Lines and Cultivars

Variety	Total marketable	US#1[1]	Canner[2]	Jumbo[3]	Percent US #1[4]	Cull[5]
	50 lb bushels per acre					
Beauregard (B63-G1 LSU)	653	558	63	33	85	28
Beauregard (B94-14-G2)	715	561	117	36	79	19
L-99-35	149	109	31	10	67	14
NC98-608	700	575	109	16	82	23
r2	***0.91***	***0.90***	***0.60***	***0.20***	***0.34***	***0.10***
CV	***14***	***17***	***39***	***105***	***14***	***89***
LSD	***124***	***122***	***40***	***51***	***16***	***6***

Average yields are given on a per acre basis.
[1]US #1: Roots 2" to 3 1/2" diameter, length of 3" to 9", must be well shaped and free of defects.
[2]Canner: Roots 1" to 2" diameter, 2" to 7" in length.
[3]Jumbo: Roots that exceed the diameter, length and weight requirements of the above two grades, but are of marketable quality.
[4]Percent US #1: Calculated by dividing the weight of US #1's by the total marketable weight (Culls not included).
[5]Culls: Roots must be 1" or larger in diameter and so misshapen or unattractive that they could not fit as marketable roots in any of the above three grades.

exceed the diameter, length, and weight requirements of the US #1 grade, but that are of marketable quality), or cull (roots at least one inch in diameter but so misshapen or unattractive that they could not be classified as marketable roots). Marketable yield was calculated by adding the yields of the US #1, canner, and jumbo grades. Percent US #1 was calculated by dividing the yield of the US #1 grade by the marketable yield (Table 2).

Seed Sources

Abbot and Cobb, Inc.
Tech Rep: Russ Beckham
146 Old US Highway 84 West
Boston, GA 31626
Fax: 229-498-2366
rbeckham@rose.net

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

Harris Moran Seed Co.
Tech. Rep: Brad Conrad
Ph: (941) 543-7300
Fax: (941) 543-7003

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

Rogers/Syngenta
7500 Olson Memorial Hwy
Golden Valley, MN 55427
Ph: (763) 593-7333
Fax: (763) 593-7218

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

Sakata Seed America, Inc.
Tech Rep: Atlee Burpee
P.O. Box 880
Morgan Hill, CA 95038
Ph: (610) 316-6063

Seedway
Tech Rep: Michael Everson
1225 Zeager Road
Elizabethtown, PA 17022
To order: (800) 952-7333
Fax: (800) 645-2574
E-mail: info@seedway.com

Seminis Vegetable Seeds, Inc
Tech Rep: Rusty Autry
2221 North Park Ave.
Tifton, GA 31796
Ph: (229) 386-0750
-Tifton Seed Distribution Center
Tech Rep: Van Lindsey
Ph: (912) 382-1815

Shamrock Seed Co., Inc.
To order: (408) 351-4443
3 Harris Place
Salinas, CA 93901-4586
Ph: (800) 351-4443
Fax: (831) 771-1517

Siegers Seed Company
Tech Rep: Darren Deal
13031 Reflections Drive
Holland, MI 49424
Fax: (800) 962-4999

Stokes Seeds Inc.
To order: (800) 396-9238
P.O. Box 548
Buffalo, NY 14240-0548
Fax: (888) 834-3334

Takii Seeds
301 Natividad Rd
Salinas, CA 93906
Ph: (831) 443-4901
Fax: (831) 443-3976

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 publications process for the next regional bulletin (spring 2005).

When: September 23, 2005
Deadline for spring 2005 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 other regional bulletins.
- Include each 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.

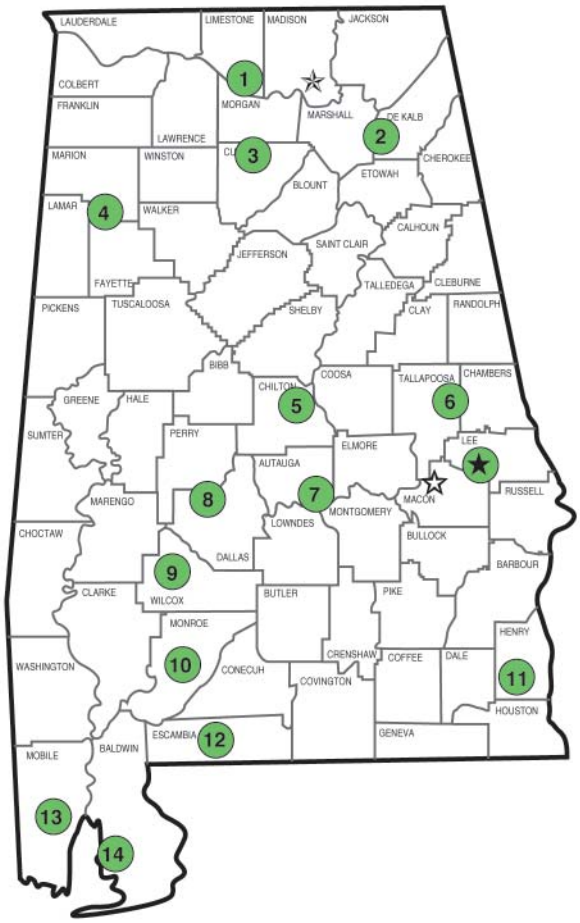
How: Send a disk and hard copy to

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

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

Alabama's Agricultural Experiment Station
AUBURN UNIVERSITY

With an agricultural research unit in every major soil area, Auburn University serves the needs of field crop, livestock, forestry, and horticultural producers in each region in Alabama. Every citizen of the state has a stake in this research program, since any advantage from new and more economical ways of producing and handling farm products directly benefits the consuming public.



Research Unit Identification

★ Main Agricultural Experiment Station, Auburn.
☆ Alabama A&M University.
☆ E. V. Smith Research Center, Shorter.

1. Tennessee Valley Research and Extension Center, Belle Mina.
2. Sand Mountain Research and Extension Center, Crossville.
3. North Alabama Horticulture Research Center, Cullman.
4. Upper Coastal Plain Agricultural Research Center, Winfield.
5. Chilton Research and Extension Center, Clanton.
6. Piedmont Substation, Camp Hill.
7. Prattville Agricultural Research Unit, Prattville.
8. Black Belt Research and Extension Center, Marion Junction.
9. Lower Coastal Plain Substation, Camden.
10. Monroeville Agricultural Research Unit, Monroeville.
11. Wiregrass Research and Extension Center, Headland.
12. Brewton Agricultural Research Unit, Brewton.
13. Ornamental Horticulture Research Center, Spring Hill.
14. Gulf Coast Research and Extension Center, Fairhope.