

**FALL**

**1998**

**VEGETABLE**

**VARIETY**

**TRIALS**

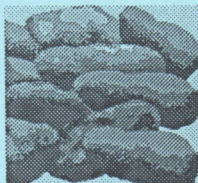
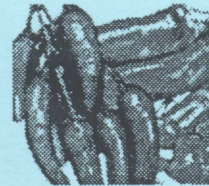
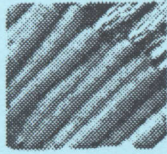
*fall 1998 vegetable variety trials*

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**Regional Bulletin 02**

**Auburn University**

**The University of  
Georgia**

**Clemson University**

**Mississippi State  
University**

**May 1999**

**Alabama**

**Agricultural**

**Experiment**

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# Introduction: Interpreting Results from Regional Vegetable Variety Trials

Eric Simonne and Edgar Vinson

The fall 1998 variety trial regional bulletin includes results from Mississippi (Mississippi State University), Alabama (Auburn University), Georgia (University of Georgia), and South Carolina (Clemson University). By including results from throughout the Southeast and data on disease reaction, this bulletin provides even more useful information than earlier bulletins to a broader audience.

The crops included in this bulletin may be placed into several groups: those crops traditionally considered summer/fall crops, such as sweetpotato, Southern pea, and leafy greens; relatively new crops, such as carrot and pumpkin; and finally some spring crops, including hot pepper and cantaloupe.

The timeliness of variety trial information is critical, even at the regional level. Vegetable growers, seed company representatives, extension specialists and agents, as well as consultants need the latest variety information before they make decisions for the next growing season. Timeliness is largely credited to the researchers and their support people who are dedicated to excellence in vegetable variety evaluation.

The importance of variety selection cannot be over emphasized: effective marketing begins with variety selection. The main purpose of vegetable variety evaluation is to collect information that is useful in selecting a good variety. Here are a few tips on how to get the most out of the vegetable variety trials results.

**Open pollinated or hybrid varieties.** In general, hybrids (also referred to as F1) mature earlier and produce a more uniform crop. They have improved disease and pest or virus tolerance/resistance. F1 varieties are often more expensive than open pollinated (OP) varieties, 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 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 are thus 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. However, the relative differences 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 the differences due to small plots (sampling error) and true (but unknown) differences among entries.

$R^2$  ranges between 0 and 1. Values close to 1 suggest that the test was conducted under good conditions and most of the variability observed was mainly due to the effect of variety and replication. Random, uncontrolled errors were of lesser importance. CV is an expression of yield variability relative to yield mean. Low CVs (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 1998 pumpkin trial at the E.V. Smith Research Center, 'Fairytale' yielded 23,360 pounds per acre, while 'Buckskin' and 'Rex 38040' yielded 17,228 and 15,936 pounds per acre, respectively. Since there was less than a 6,646 difference (the Lsd for this test) between 'Fairytale' and 'Buckskin', there is no statistical difference between these two varieties' performance. However, the yield difference between 'Fairytale' and 'Rex 38040' was 7,424, 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. Varieties with performance within one Lsd difference from the top variety are separated from the others by a line across the table.

**Testing condition.** 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 from the trials may not apply. Information on soil type (Table 1), planting dates, fertilizer rates, and detailed spray schedule is provided to help producers compare their own practices to the standard 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.

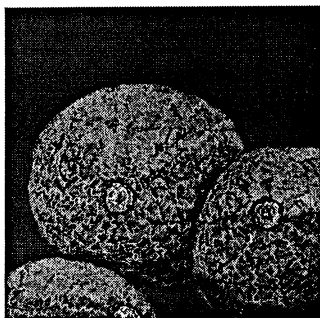
**Where to get seeds.** Because seeds are alive, their performance and germination rate depend on how old they are, where and how they were collected, and how they have been handled and stored. It is always preferable to get certified seeds from a reputable source, such as the ones listed in this publication.

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

Location	Water-holding capacity (in./in.)	Soil type
Gulf Coast Research and Extension Center (Fairhope)	0.09-0.19	Malbis fine sandy loam
Brewton Experiment Field (Brewton)	0.12-0.14	Benndale fine sandy loam
Horticultural Unit, EV Smith Research Center (Shorter)	0.15-0.17	Norfolk-orangeburg loamy sand
Chilton Area Horticultural Station (Clanton)	0.13-0.15	Luvernue sandy loam
Upper Coastal Plain Research Center (Winfield)	0.13-0.20	Savannah loam
North Alabama Horticultural Station (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



## Cantaloupe Cultivar Observation in Northern Mississippi

Kent Cushman and Thomas Morgan

Twenty-four cultivars and advanced breeding lines of western- and eastern-type cantaloupe were grown for this trial (Table 1). This study was located on the upland soils (Quitman silt loam) of the North Mississippi Research and Extension Center in Verona. Each entry was randomly assigned to each of two replications.

Plant beds were formed six inches high and 30 inches across the top with a press-pan-type bed shaper. Beds were spaced 11 feet apart, center to center, with a drive

row 20-feet wide located every fourth row. Preplant fertilizer was banded on both sides of the plant bed during formation at the rate of 235 pounds N, 188 pounds P<sub>2</sub>O<sub>5</sub>, and 333 pounds K<sub>2</sub>O per acre. Drip tape, rated at 0.5 gallon per 100 feet at 10 psi, was placed on top of the plant bed and covered with white-on-black plastic mulch—white side up. Seed were planted through the plastic June 22 and June 24 by hand and thinned to one plant per hole ten days after planting. Plants were spaced 18

TABLE 1. CANTALOUPE CULTIVAR OBSERVATIONS

Entry	Source	Fruit type	Netting	Sutures	Expected weight lbs. <sup>1</sup>	Days to harvest <sup>2</sup>	Melon yield lbs./a <sup>3</sup>	Melon yield no./a <sup>3</sup>	Sol. solids content % <sup>4</sup>
Colima	Petoseed	Western	Moderate to coarse	None	--	64-69	59,100	9,220	7.5
ACaptain (ACX6220)	Abbott & Cobb	Western	Coarse	None	5-7	64-74	58,800	11,380	9.0
ACX 6222	Abbott & Cobb	Western	Coarse	None	4-5	64-66	58,200	11,950	9.5
Primo	Novartis/Rogers	Western	Coarse	Slight	5-7	64-66	53,400	8,210	9.0
AChaparral (ACX7200)	Abbott & Cobb	Western	Coarse	None	5-7	66-74	49,400	10,660	8.5
ACX 6205	Abbott & Cobb	Western	Coarse	None	3-4	64-69	48,500	10,220	10.0
Sparkle	Harris Moran	Western	Moderate	None	3-5	64-74	48,200	8,500	8.5
Super 45	Willhite	Western	Coarse	None	3	64-74	46,600	10,660	10.0
Magnum 45	Petoseed	Western	Coarse	Slight	2.5-3	64-74	46,100	10,940	10.0
ACX 6211	Abbott & Cobb	Western	Coarse	None	3-4	66-74	42,200	8,930	10.5
Laredo	Petoseed	Western	Coarse	None	3-3.5	64-66	40,600	8,930	11.0
Acclaim	Novartis/Rogers	Western	Coarse	None	3-5	66-74	34,100	8,350	10.0
Star Fire	Harris Seeds	Eastern	Moderate to coarse	Large	5-7	64-69	64,800	9,360	9.0
Cordele	Asgrow	Eastern	Very light	Large	7-8	64-69	64,400	9,070	7.5
Eclipse	Petoseed	Eastern	Very light	None	5-7	64-69	63,700	9,650	9.5
Vienna (EXH 6332)	Asgrow	Eastern	Light	Slight	6-8	64-66	61,500	7,200	8.0
Pulsar	Petoseed	Eastern	Coarse	Large	5-6	55-64	60,100	6,770	--
Star Sweet	Harris Seeds	Eastern	Coarse	Large	4-6	64-69	58,500	7,920	8.0
Sugar Queen	Willhite	Eastern	Light,	None	6	66-74	58,400	8,930	10.5
Superstar	Harris Seeds	Eastern	Coarse	Large	6-8	64	55,700	6,620	7.5
Apollo	Novartis/Rogers	Eastern	Moderate smooth	Large	7-9	69	48,800	4,900	10.5
Dallas	Willhite	Eastern	Moderate	Large	4-5	69-80	47,600	7,490	8.5
Sugar Bowl	Harris Moran	Eastern	Moderate to coarse	Large	3-4	64-74	46,500	7,920	9.5
Athena	Novartis/Rogers	Eastern	Moderate	Slight	5-7	64-66	44,400	6,770	8.5

<sup>1</sup>From seed company sources or as listed in seed catalogs. <sup>2</sup>From this trial. <sup>3</sup>Estimated pounds and number of melons per acre reported here is low due to our very wide (11 feet) row spacing. <sup>4</sup>Average of six samples. Some averages are based on fewer samples.

inches apart in single-row plots 27.5 feet long, making a total of 17 plants in each plot.

Asana XL, Thiodan EC, or Bravo WS was sprayed on an as-needed basis for insect and disease control. Water or fertilizer solution was applied through the drip tape on an as-needed basis. Sidedress fertilizer was applied by injecting a concentrated fertilizer solution at a 1:200 ratio to achieve a final N concentration of 100 ppm in the irrigation water.

Harvest began August 17 and ended September 8. Melons from each plot were separated into marketable and cull categories and then counted and weighed. Only data from marketable melons are presented in this report. At least six melons of each entry were tested for soluble solids content using a hand-held refractometer. Each melon was sampled several times to obtain a consistent, reproducible value.

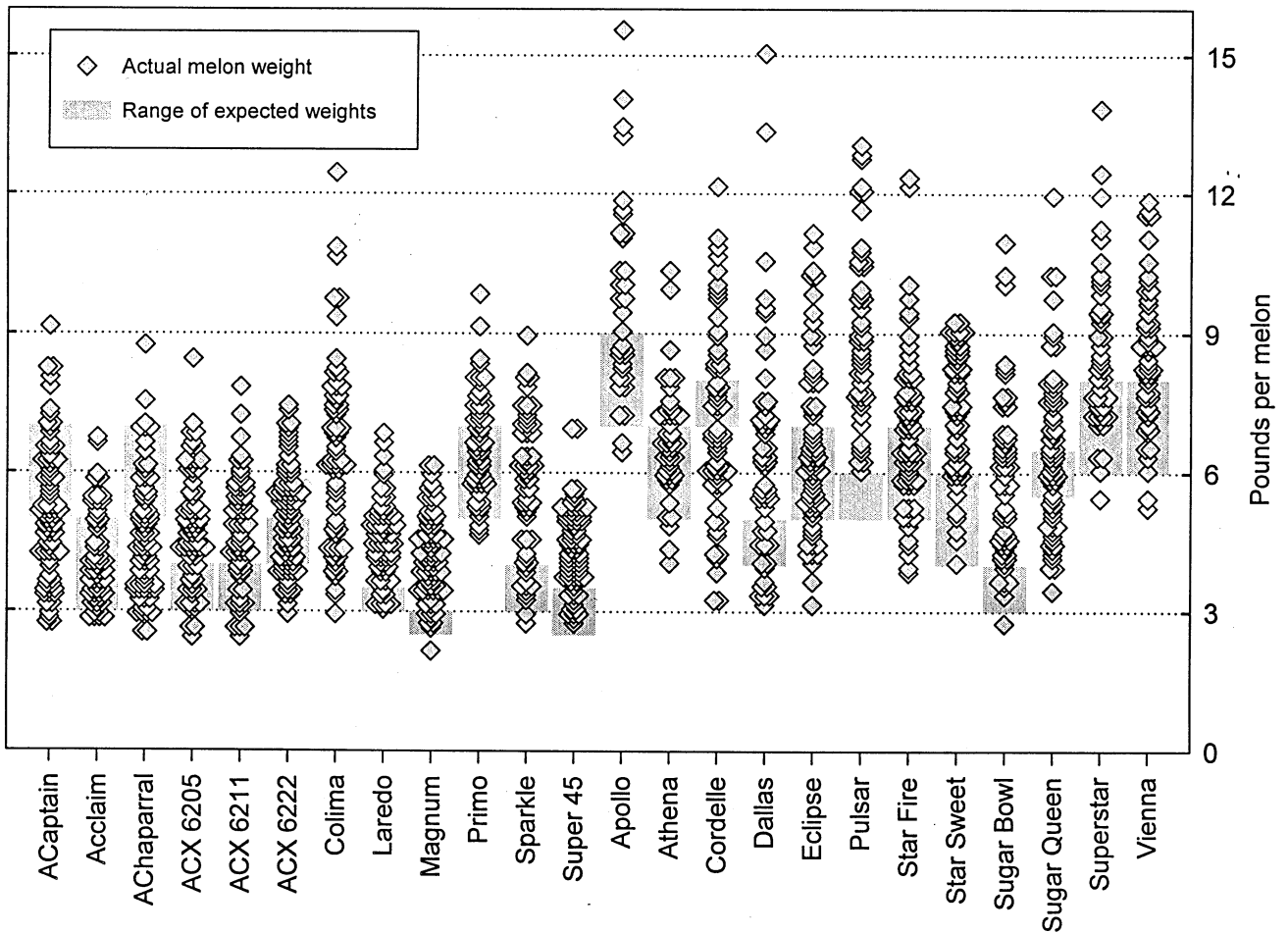
Melon weights mostly exceeded those expected under commercial growing conditions, and the eastern-type melons tended to crack at the stem end and some cracked

severely along the sutures as well. Western-type melons were generally of excellent quality and appearance (Table 1).

Soluble solids content (a measure of sugar content) ranged from a low of 7.5 percent to a high of 11.0 percent. As an estimate, we tasted each sample as we measured soluble solids contents. In our opinion, a value of up to about 9 percent was sweet, but not sweet enough; from 10 to 11 percent was excellent and sweet; and 12 percent or more was almost too sweet!

Graph 1 shows the wide range of weights we obtained in our trial. Each diamond-shaped data point on the graph represents an individual melon weight. Most weights are equal to or greater than the expected range, shown by the gray bar; for that particular cultivar or breeding line. Our trial suffered through six weeks of hot and dry weather while the melons were expanding in size. We were fortunate that dry weather extended into the harvest period so that relatively few melons rotted while still on the vine.

**GRAPH 1. WEIGHT DISTRIBUTION OF CANTALOUPE VARIETIES**







## Pumpkin Varieties Yield Well in Georgia Mountains

William Terry Kelley

Twenty-six commercially available pumpkin varieties and six experimental lines were compared in a test at the Georgia Mountain Branch Experiment Station (1,900 feet of elevation) in Blairsville. Pumpkins were field-seeded on June 9 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 six hills per plot, semi-bush (or semi-vining) types with eight hills, and bush types with 10 hills. Plots were 16 feet in length with eight feet between rows. The planting was arranged in a Randomized Complete Block Design with three replications.

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 sidedress applications of 10-10-10 (300 pounds per acre each). Ethafluralin (0.75 pounds a.i. per acre) was applied pre-emergence for weed control. Fungicide and insecticide applications were made according to current recommendations listed in the *Georgia Pest Control Handbook*.

Pumpkins were harvested at maturity on September 28 and October 15. Data were collected on yield, fruit number and weight, rind color, rind texture, rind thickness, fruit shape, and internal flesh color (Table 1).

Conditions at the location were generally hotter and drier through the growing period than is average for the area. Irrigation was applied as needed. A late infection of powdery mildew was treated with recommended fungicides and did not have an appreciable effect on the crop.

Pumpkins generally produced weights in accordance with the expected fruit sizes described by the sponsoring company. 'Prizewinner' produced the greatest yield and largest fruit size among all varieties, although not significantly greater than any of those producing over 64,000 pounds per acre. Among miniature varieties 'Munchkin', 'Jack-Be-Little', and 'Sweetie Pie' all pro-

duced similar numbers of fruits with weights in the half-pound range.

Marketability was generally high for all varieties, although 'HMX 5680', 'Jack-of-all-Trades', and one experimental were significantly lower than the most marketable varieties. There was little variability among varieties for rind color and rind texture. Fruit shape was generally indicative of the type of pumpkin, with the smaller pumpkins having a flatter shape. Rind thickness was also well correlated with the size of the pumpkin. There was some variability in flesh color among varieties tested with some varieties such as 'Prizewinner' exhibiting a distinctively deeper orange flesh as compared to varieties such as 'Spirit' and 'Lumina' which exhibited a more yellow-colored flesh. 'Lumina' was the only pumpkin variety with a white rind in the test.

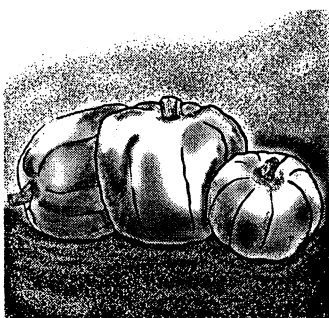
Several pumpkins produced exceptional yields and numbers and many were well within the range for acceptability. The most notable lower performers were 'Early Autumn', 'Small Sugar', 'Wee-Be-Little', and 'Spooktacular' which did not produce a sufficient number of fruits per acre to be competitive with other similarly sized pumpkins.

This evaluation was the most extensive evaluation of pumpkins ever reported in the mountain area of Georgia, where most Georgia pumpkin production occurs. Many thanks are expressed to the seed companies who participated in and supported this trial.

TABLE 1. YIELD, NUMBER, MARKETABILITY, AND HORTICULTURAL CHARACTERISTICS OF 32 PUMPKIN VARIETIES GROWN AT BLAIRSVILLE, GEORGIA, IN 1998

Variety	Source	Vine type <sup>1</sup>	Total fruits no./a	Total yield lbs./a <sup>2</sup>	Individual fruit weight lbs.	Market-able %	Rind color <sup>3</sup>	Fruit shape <sup>4</sup>	Rind texture <sup>5</sup>	Rind thickness cm	Flesh color <sup>6</sup>
Prizewinner	PetoSeed	2.67	1,248	108,528	116.31	100.0	1.67	2.00	3.00	5.40	1.67
Atlantic Giant	Willhite	3.00	907	79,263	95.67	100.0	1.50	2.00	2.50	6.99	3.00
Big Max	Willhite	3.00	1,702	78,939	46.39	100.0	1.40	2.00	2.20	5.08	5.00
HMX 5683	Harris Moran	2.00	4,084	74,611	17.02	100.0	1.67	2.47	3.00	4.13	4.00
SVR 4622847	Asgrow	2.00	5,331	65,257	12.06	89.1	1.40	1.93	2.73	3.60	3.33
Aspen	Hollar	2.00	3,630	65,131	17.15	90.4	1.67	2.67	2.33	3.71	4.00
Frosty	Twilley	1.00	5,558	64,706	11.16	92.2	1.60	2.33	2.67	3.60	3.33
XPH 1854	Asgrow	2.33	9,642	64,055	6.66	99.4	2.73	3.07	3.67	3.39	3.00
Spirit	PetoSeed	2.00	3,970	59,253	14.86	97.3	2.00	2.47	3.00	3.81	4.33
Big Autumn	Novartis	2.00	4,310	56,852	12.92	98.6	2.13	2.20	3.00	2.54	3.33
Funny Face	Twilley	2.33	3,290	50,223	15.19	99.3	2.13	2.47	2.93	3.28	3.67
XPH 1853	Asgrow	2.00	4,991	49,449	9.83	92.6	1.27	1.93	3.00	3.49	3.67
Howden Biggie	Harris Moran	3.00	2,382	45,771	19.25	100.0	1.29	3.44	2.73	4.13	2.67
SVR 4622837	Asgrow	2.00	2,836	45,346	17.64	98.1	1.28	2.73	1.98	3.70	4.00
HMX 5680	Harris Moran	3.00	3,857	45,346	12.90	87.4	1.20	2.33	2.67	4.34	3.33
SVR 4622827	Asgrow	2.00	1,928	39,419	19.34	89.8	1.67	2.27	3.00	4.23	3.67
Jack-Of-All-Trades	Hollar	2.00	3,403	37,719	11.47	83.2	1.53	3.13	3.00	4.02	4.00
Wizard	Willhite	2.00	3,573	37,332	10.45	97.8	1.53	1.67	2.40	3.81	2.67
Mystic	Harris Moran	3.00	7,260	36,292	5.03	99.3	1.27	2.00	2.87	2.86	3.33
SVT 4612297	Asgrow	2.00	8,167	34,217	4.41	96.7	1.67	1.13	3.00	2.96	3.67
Autumn Gold	Novartis	3.00	4,878	34,142	6.70	92.9	2.00	2.00	2.87	2.96	2.67
Peek-a-Boo	Novartis	2.00	7,827	33,417	4.26	90.2	1.73	2.07	2.67	2.65	3.00
Lumina	Hollar	3.00	3,290	31,741	10.30	100.0	5.00	1.33	2.67	3.07	4.33
HMX 4695	Harris Moran	1.00	20,531	30,016	1.50	99.6	1.87	2.13	3.00	2.01	2.67
Conn. Field	Willhite	3.00	1,361	26,288	22.36	100.0	1.20	2.20	3.00	3.81	3.00
Spooktacular	Midwest	3.00	6,579	15,633	2.43	98.6	2.00	2.00	3.00	2.37	2.50
Small Sugar	Willhite	3.00	4,084	15,532	3.90	90.2	1.87	1.40	3.00	3.18	2.67
Wee-Be-Little	Novartis	1.00	9,415	10,405	1.17	100.0	2.27	2.60	2.67	2.22	4.00
Sweetie Pie	Stokes	3.00	18,603	8,855	0.51	100.0	1.87	1.60	2.73	2.12	2.33
Munchkin	Willhite	3.00	1,8603	7,953	0.42	98.5	2.00	1.00	3.00	1.91	3.00
Early Autumn	Novartis	3.00	907	7,654	8.56	100.0	1.83	2.00	3.00	4.23	3.33
Jack-Be-Little	Hollar	3.00	1,7015	7,279	0.46	100.0	1.87	1.00	3.00	2.12	3.00
<i>Mean</i>		<i>2.39</i>	<i>6,210</i>	<i>42,415</i>	<i>16.74</i>	<i>96.3</i>	<i>1.82</i>	<i>2.11</i>	<i>2.82</i>	<i>3.49</i>	<i>3.32</i>
<i>Isd (0.05)</i>		<i>0.29</i>	<i>5,148</i>	<i>43,721</i>	<i>31.58</i>	<i>12.2</i>	<i>0.80</i>	<i>1.02</i>	<i>0.66</i>	<i>1.77</i>	<i>1.18</i>
<i>CV(%)</i>		<i>7.49</i>	<i>50.8</i>	<i>63.2</i>	<i>115.7</i>	<i>7.78</i>	<i>27.0</i>	<i>29.6</i>	<i>14.2</i>	<i>31.0</i>	<i>21.8</i>

Planting Date: June 9, 1998. Harvest Dates: September 28, 1998, October 15, 1998. Randomized Complete Block Design, 3 replications, one-row plot, 16 ft. long x 8 ft. wide. Hills/plot: Vine-6, Semi-bush-8, Bush-10. <sup>1</sup>Based on scale: 1=bush; 2=semibush; 3=vining. <sup>2</sup>Marketable weight. <sup>3</sup>Based on scale: 1=deep orange; 2=medium orange; 3=light orange; 4=yellow; 5=white. <sup>4</sup>Based on scale: 1=flat; 2=round; 3=oval; 4=oblong. <sup>5</sup>Based on scale: 1=coarse; 2=medium; 3=smooth. <sup>6</sup>Based on same scale as rind color.



# Latest Pumpkin Varieties Show Tolerance to Powdery Mildew

Anthony Keinath

Downy mildew (DM) is one of the main fungal diseases that affect pumpkin production in South Carolina and the Southeast. Because limited information on variety resistance to the disease is available, DM ratings were made in 1996 and 1997 on most of the commercial pumpkin cultivars.

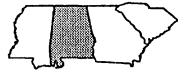
Data are means of the 1996 and 1997 trials. Cultivar mean comparison was done within maturity group. Cultivars in bold were significantly more resistant (according to the Waller-Duncan k-ratio test at  $k=500$  and  $p=0.01$ ) than the other varieties within the same maturity group (Table 1).

**TABLE 1. POWDERY MILDEW SEVERITY ON 32 PUMPKIN CULTIVARS IN 1996 AND 1997**

Cultivar	Days to maturity	Powdery mildew severity(%) <sup>1</sup>	Cultivar	Days to maturity	Powdery mildew severity(%) <sup>1</sup>
Early Season Varieties			Late Season Varieties		
Pro Gold 500	95	40	Wizard	115	57
Pro Gold 510	95	34	Happy Jack	110	55
Autumn Gold	90	32	Spookie	110	53
Rocket	95	31	Howden	115	45
Spirit	95	28	Appalachian	110	43
Big Autumn	90	25	Ghost Rider	115	42
Jack of All Trades	95	22	Tom Fox	110	38
Jackpot	90	22	Connecticut Field	110	37
Trickster	90	22	Tallman	110	37
Spooktacular	85	18	Howden Biggie	115	31
<b>Lumina<sup>2</sup></b>	<b>85</b>	<b>3</b>	Pankow's Field	120	25
Main Season Varieties			Mammoth Gold	120	23
Funny Face	100	46	Big Max	120	21
Small Sugar	100	37	<b>Rouge Vif d' Etampes</b>	<b>115</b>	<b>8</b>
Oz	100	35	<b>Magic Lantern</b>	<b>115</b>	<b>4</b>
Little Lantern	105	18	<b>HMX 6686</b>	<b>115</b>	<b>2</b>
<b>HMX 6688</b>	<b>100</b>	<b>5</b>			

<sup>1</sup>Average percent of upper and lower leaf surface covered with powdery mildew on 19 Aug. 1996 and 5 Sept. 1997.

<sup>2</sup>Resistant cultivars are shown in bold type.



## Summer Heat Affects Pumpkin Variety Performance in Central Alabama

**Eric Simonne, Edgar Vinson, Jim Bannon, Booby Boozer, Jason Burkett, Arnold Caylor, Tony Dawkins, Ron McDaniel, Malcomb Pegues, Jim Pitts, Randall Rawls, and Marvin Ruf**

Pumpkin variety trials were conducted at the Gulf Coast Research and Extension Center (GCRC) in Fairhope, the Horticulture Unit of the E.V. Smith Research Center (EVSRC) in Shorter, the Chilton Area Horticulture Station (CAHS) in Clanton, the Upper Coastal Plain Research Station (UCPRS) in Winfield, the North Alabama Horticulture Station (NAHS) in Cullman, and the Sand Mountain Research and Extension Center (SMREC) in Crossville (Tables 1 and 2). However, pumpkin tests at GCRC and UCPRS were destroyed by a summer storm and insect pests, respectively.

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 98IPM-2 from the Alabama Cooperative Extension System).

At all locations, hills containing two plants each were spaced five feet apart. Between-row spacing was 10 feet. Planting dates were July 7 at EVSRC, June 8 at CAHS, July 2 at NAHS, and July 21 at SMREC. At CAHS and SMREC, two 100-foot long replications were planted. At EVSRC and NAHS, four 50-foot long replications were used.

At EVSRC, fertilization consisted of a preplant application of ammonium nitrate (34-0-0) at a rate of 177 pounds per acre on July 3 and a sidedress application of calcium nitrate (15.5-0-0) at a rate of 387 pounds per acre on August 11. Pest control was provided by applications of Ridomil (fungicide, at a rate of two pounds per acre) on August 13, Bravo (fungicide, at a rate of three pints per acre) on August 13, and Asana (insecticide, at a rate of 9.6 ounces per acre) on August 13. Terranil 6L (fungicide, at a rate of 1.3 pints per acre) and Asana (at a rate of 9.6 ounces per acre) were also applied weekly beginning August 21 and October 2.

**TABLE 1. RATINGS OF 1998 PUMPKIN VARIETY TRIALS<sup>1</sup>**

Location	GCRC	EVSRC	CAHS	NAHS	SMREC	UCPRS
Weather	1	5	4	5	5	3
Fertility	5	5	5	5	5	5
Irrigation	5	5	5	5	5	5
Pests	4	5	5	5	5	1
Overall	1	4	4	5	4	1

<sup>1</sup>See introduction for a description of rating scales.

At CAHS, fertilization consisted of a pre-plant application of 1,000 pounds per acre of 5-10-15 on June 1. Weed control consisted of an application of Command (at a rate of one quart per acre) on June 9. Fungicides used were Manzate (at a rate of two pounds per acre) on July 9, July 24, and July 29; Kocide 101 (at a rate of two pounds per acre) on July 9 and July 29; and Bayleton (at a rate of 0.5 pound per acre) on July 24. Insect control consisted of an application of Imidan (at a rate of one pound per acre) on July 1.

At NAHS, fertilization consisted of an application of 34-0-0 at a rate of 250 pounds per acre on July 2. Herbicide used was Command 3ME (at a rate of two pints per acre) on July 9. Gramoxone herbicide (at a rate of three pints per acre) was also applied on August 5 in the alleys. Fungicides used were Bravo 720/Ridomil at a rate of three pounds per acre. They were applied once a week in combination with either Bayleton or Benlate (at rates of three and 0.5 pounds per acre, respectively) beginning July 24 and ending September 25. Insect control consisted of applications of Asana XL (at a rate of 9.6 ounces per acre) on July 17, August 1, August 13, August 22, and September 5.

At SMREC, fertilization consisted of pre-plant applications on July 20 of lime (at a rate of one ton per acre) and 0-19-44 (at a rate of 250 pounds per acre) and a sidedress application of 34-0-0 (at a rate of 90 pounds per acre) on August 19. Pest control consisted of concurrent applications of Asana (insecticide, at a rate of eight ounces per acre) and Benlate 50 (fungicide, at a rate of

0.5 pound per acre) on August 27, September 2, September 11, September 18, and September 25; Bravo 720 (fungicide, at a rate of 1.5 to two pints per acre) and Lannate (insecticide, at a rate of one pint per acre) on August 19; Seven XLR (insecticide, at a rate of one pint per acre) on August 10; and, Asana (at a rate of eight ounces per acre) on October 1.

Harvest dates were October 1, 1997, at EVSRC, August 27 at CAHS, and October 5 at NAHS and SMREC. Because color development stops after harvest, pumpkins were harvested at the full-color stage and graded as marketable or non-marketable.

At EVSRC, 'Fairytale', 'Cinderella', and 'Buckskin' were sized well and had the highest yields (Table 3). 'Jarradale', a new specialty pumpkin, was white with shades of blue-grey and had deep sutures. At CAHS, despite the irrigation, high night temperature resulted in fruits reaching maturity approximately 65 days after germination. Early pumpkin varieties usually are ready to harvest 75 to 80 days after germination. As a result, fruits were generally smaller than expected.

At NAHS, 'Jumpin' Jack', 'Appalachian', and 'Mother Lode' had significantly higher yields than the other entries (Table 4). 'Appalachian' has been performing well in trials over the last four years and it is becoming a standard large jack-o-lantern variety in North Alabama. Although 'Prizewinner' yielded among the top varieties, fruits were small due to the close spacing used in the trial.

At SMREC, a carry-over from a dessicant used on the previous Irish potato crop killed the plants in one entire replication. Hence, this test was observational. 'Jack-be-Quick' and 'Early Autumn' had the highest yields among the medium and small jack-o-lantern varieties. 'Early Autumn' carries the yellow precocious gene (ypg) which prevent the expression of virus marks. This variety is also known for the production of fruits uniform in size, shape, and color.

A detailed list of recommended pumpkin varieties can be found in the Alabama Cooperative Extension System Circular ANR 1099, "Pumpkin and winter squash varieties for Alabama."

**TABLE 2. SEED SOURCE, RELATIVE EARLINESS, AND FRUIT SIZE OF SELECTED PUMPKIN VARIETIES**

Variety	Type <sup>1</sup>	Seed Source	Maturity days	Fruit weight lbs.
Appalachian	F1	Rupp Seeds	90	20-25
Aspen	F1	Rupp Seeds, Hollar	90	15-25
Autumn Gold	F1	Sandoz Rogers	90	8-10
Baby Bear	OP	Rupp Seeds	105	1-2
Baby Boo	OP	Burpee	105	1-10
Big Autumn	F1	Sandoz Rogers	90	15-20
Big Max	F1	Asgrow	120	35-50
Buckskin	F1	Rupp Seeds	100	15
Carnival (Specialty)	F1	Harris Moran	85	0.25
Cinderella**	OP	Vilmorin	95	20-30
Connecticut Field	OP	Rupp Seeds, Asgrow	115	15-25
Dill's Atlantic Giant	OP	Stokes	120	40+
Early Autumn	OP	Rupp Seeds	100	10-14
Fairytale	OP	Rupp Seeds	100	20-40
First Prize	F1	Rupp Seeds	100	20-40
Funny Face	OP	Rupp Seeds	100	10-12
Golden Delicious	F1	Rupp Seeds	103	10
Gold Rush	OP	Rupp Seeds	120	30-40
Gold Strike	F1	Rupp Seeds	110	25-40
Howden	OP	Stokes, Harris, Rupp	100	15-20
Jack-Be-Quick	OP	Rupp Seeds	95	0.25
Jack-of-all-Trades	F1	Rupp Seeds	90	10-12
Jackpot	F1	Harris Seeds	100	10-12
Jarradale* (Specialty)	OP	Rupp Seed	95	25-30
Jumpin' Jack	OP	Rupp Seeds	120	30-50
Lil' Goblin	F1	Harris Moran	100	2
Little Lantern	OP	Stokes	100	1-2
Lumina*	OP	Rupp Seeds, Stokes	90	10-15
Mother Lode	F1	Rupp Seeds	100	20-30
Mystic	F1	Harris Moran	-	5-10
New England Pie	OP	Johnny's Select	100	3-6
Oz	F1	Harris Seeds	105	3-5
Peek-A-Boo	F1	Rupp Seeds	90	3-4

\* white-skinned variety; \*\* also sold as 'Rouge Vif d'Etampes' F1=hybrid; OP=open pollinated; - = Not found; from seed catalogues.



**TABLE 2, CONTINUED. SEED SOURCE, RELATIVE EARLINESS, AND FRUIT SIZE  
OF SELECTED PUMPKIN VARIETIES**

Variety	Type <sup>1</sup>	Seed Source	Maturity days	Fruit weight lbs.
Prizewinner	OP	Rupp Seeds	120	40+
REX 38039	F1	Rupp Seeds	-	10-15
REX 38040	F1	Rupp Seeds	-	10-15
RWS 6260	F1	Sandoz Rogers	-	10-15
Small Sugar	F1	Stokes, Asgrow	100	7
Spookie	OP	Harris Seeds	105	5-6
Spooktacular	F1	Petoseed	85	3-5
Sugar Treat	F1	Rupp Seeds	90	3-5
Sweet Dumpling (Specialty)	F1	Rupp Seeds	100	0.25
Sweetie Pie	OP	Stokes	110	0.25
Tallman	OP	Stokes	110	15-25
Trick-or-Treat	F1	Petoseed	98	10-12
Trickster	F1	Rupp Seeds	90	3-4
Wee-Be-Little	F1	Sandoz Rogers	110	1
Wizard	F1	Harris Seeds	115	10-15

\* white-skinned variety; \*\* also sold as 'Rouge Vif d'Etampes';

<sup>1</sup>F1=hybrid; OP=open pollinated; - = Not found; from seed catalogues.

**TABLE 3. FIELD PERFORMANCE OF SELECTED PUMPKIN VARIETIES IN CENTRAL ALABAMA**

Variety	Marketable yield lbs./a	Marketable fruits no./a	Culled yield lbs./a	Total yield lbs./a	Individual fruit wt. lbs.
E.V. Smith Research Center					
Fairytale	23,360	1,152	1,433	24,793	29
Cinderella	20,837	2,072	3,474	24,311	15
Buckskin	17,228	1,484	968	18,196	16
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Rex 38040	15,936	1,371	1,390	17,326	13
Trick-or-Treat	15,649	937	675	16,324	20
Jarradalle	13,150	1,195	1,353	14,502	23
Lumina	10,575	1,066	686	11,261	10
Funny Face	10,434	1,294	1,507	11,941	12
Wizard	9,702	1,193	1,428	11,130	10
Rex 38039	9,541	774	364	9,905	14
RWS 6220	9,151	985	397	9,548	11
Autumn Gold	8,284	1,511	2,048	10,332	6
Mystic	6,804	638	0	6,804	11
Early Autumn	6,708	698	435	7,143	11
Oz	5,730	688	462	6,192	8
Bushkin	2,244	1,035	1,991	4,235	3
<i>R<sup>2</sup></i>	<i>0.64</i>	<i>0.28</i>	<i>0.36</i>	<i>0.68</i>	<i>0.29</i>
<i>CV</i>	<i>40</i>	<i>59</i>	<i>112</i>	<i>36</i>	<i>84</i>
<i>Isd</i>	<i>6,646</i>	<i>1,044</i>	<i>1,828</i>	<i>7,024</i>	<i>16</i>
Chilton Area Horticulture Station					
Mother Lode	11,761	2,759	.	11,761	5
Big Autumn	9,438	2,614	.	9,438	4
Aspen	8,954	2,372	.	8,954	4
Jackpot	7,357	1,307	.	7,357	6
Connecticut Field	6,389	1,549	.	6,389	4
First Prize	4,646	871	.	4,646	5
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Jumpin' Jack	4,453	1,016	.	4,453	4
Fairytale	4,356	871	.	4,356	6
Tallman	3,485	968	.	3,485	3
Howden	3,194	920	.	3,194	4
Gold Strike	3,098	678	.	3,098	5

**TABLE 3, CONTINUED. FIELD PERFORMANCE OF SELECTED PUMPKIN VARIETIES IN CENTRAL ALABAMA**

Variety	Marketable yield lbs./a	Marketable fruits no./a	Culled yield lbs./a	Total yield lbs./a	Individual fruit wt. lbs.
Chilton Area Horticulture Station					
Big Max	2,517	436	.	2,517	7
Gold Rush	2,468	581	.	2,468	8
<i>R</i> <sup>2</sup>	0.48	0.55		0.48	0.66
<i>CV</i>	77	74		77	21
<i>lsd</i>	7,172	949		7,172	4

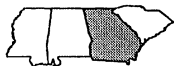
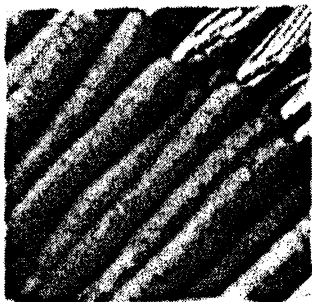
**TABLE 4. FIELD PERFORMANCE OF SELECTED PUMPKIN VARIETIES IN NORTH ALABAMA**

Variety	Marketable yield lbs./a	Marketable fruits no./a	Culled Yield lbs./a	Total yield lbs./a	Individual fruit wt. lbs.
North Alabama Horticulture Station					
Jumpin' Jack	25,660	2,219	999	26,659	11
Prizewinner	24,365	2,132	998	25,364	11
Appalachian	22,400	1,740	1,134	23,534	13
Mother Lode	21,611	1,588	1,194	22,805	14
Gold Strike	18,327	1,523	1,054	19,381	12
Dill's Atlantic Giant	17,241	1,610	965	18,207	11
Fairytale	16,597	740	1,979	18,577	23
Big Max	16,320	1,283	1,116	17,436	13
Big Autumn	13,436	1,479	802	14,238	9
Gold Rush	13,389	827	1,362	14,751	16
RWS 6260	12,346	6,329	165	12,511	2
Howden	11,783	805	1,303	13,085	15
Tallman	8,978	848	897	9,875	10
<i>R</i> <sup>2</sup>	0.45	0.83		0.45	0.72
<i>CV</i>	36	42		37	26
<i>lsd</i>	4,620	536		4,664	5

Sand Mountain Research and Extension Center<sup>1</sup>

Funny Face	7,038	946	266	7,304	7
Var #500	6,571	660	249	6,820	10
Baby Bear	2,113	1,612	.	2,113	1
Baby Boo	3,528	12,981	.	3,528	1
Early Autumn	9,574	1,220	2,178	11,752	8
Jack-Be-Quick	10,629	4,095	.	10,629	3
Jack-of-all-Trades	5,824	4,443	.	5,824	1
Lil' Goblin	5,266	4,356	.	5,266	1
Little Lantern	2,675	1,482	.	2,675	2
New England Pie	2,152	1,002	.	2,152	2
Oz	5,197	2,396	.	5,197	2
Peek-A-Boo	2,200	871	.	2,200	3
Small Sugar	1,694	653	.	1,694	3
Spookie	3,668	1,089	.	3,668	3
Spooktacular	1,472	784	.	1,472	2
Sugar Treat	2,004	741	.	2,004	3
Sweet Dumpling	3,389	2,919	.	3,389	1
Sweetie Pie	1,089	2,090	.	1,089	1
Trickster	2,352	871	.	2,352	3
Wee-Be-Little	1,381	1,742	.	1,381	1
Carnival	2,944	2,919	.	3,389	1
<i>R</i> <sup>2</sup>	.	.	.	.	.
<i>CV</i>	.	.	.	.	.
<i>lsd</i>	.	.	.	.	.

<sup>1</sup> Observational test. Plants in one entire replication were killed by Irish Potato dessianc carry-over.



## Georgia Carrot Yields Vary Between Hand-Harvested Plots and Mechanically Harvested Strips

William Terry Kelley and James Reid

Nine commercially available carrot varieties and six experimental lines were evaluated in an on-farm trial in Jeff Davis County, Georgia. Carrots were direct-seeded on September 9. The plots consisted of three twin rows of carrots each 335 feet long on a single bed. Beds were 92 inches wide and each set of twin rows was 24 inches apart on the bed. Approximately 20 seeds per foot were planted.

Normal cultural practices for carrot production in Georgia were used. Base fertility consisted of 30 pounds of nitrogen per acre. All phosphorous and potassium were applied according to soil test recommendations. Additional nitrogen was provided as sidedress applications every two to three weeks, totaling 140 pounds per acre. Irrigation was applied for germination and as needed throughout the season. Linuron (one pound a.i. per acre) was applied post-emergence for weed control. Fungicide and insecticide applications were made according to current recommendations listed in the *Georgia Pest Control Handbook*.

Carrots were harvested using two methods. On February 17, three-foot samples were hand-harvested from three different sections in each large plot. Data were collected on yield, stand, and root characteristics on these carrots, and were analyzed statistically. A summary of these data can be found in Table 1.

A larger, mechanical harvest was made on February 26. In this harvest the center row from each bed was harvested mechanically into bin boxes. These boxes were transferred to a local carrot packing shed. Each box was weighed and the carrots were introduced into the packing line one at a time. Carrots were separated into one-pound, five-pound, and jumbo bag categories and culls were discarded. Weights, soluble solid content, and root characteristics of each category were taken. These data were summarized and means calculated. A summary of these data can be found in Table 2.

Yield data from the two methods varied considerably. Much of this can be attributed to the methods of harvest. With the mechanical carrot harvester, some carrots were left in the field because only those with sufficient tops could be harvested. Also, not all carrots that would fall into the one-pound category were collected on the carrot line. In the hand-harvested samples, all carrots were harvested from the area chosen.

'Apache' was the leading yielder in both tests, although not significantly greater than several other varieties. 'First Class' and 'RCR 1851A' were the second and third leading yielders in the hand-harvested, small plots; however, they were ninth and tenth in the mechanically harvested, strip plots. Both of these varieties had some of the lower top densities and therefore may not have been picked up as thoroughly by the mechanical harvester, which could explain some of the difference. Percent packout was low in the mechanically harvested test due to some of the one-pound carrots not getting packed.

There was considerable difference among varieties in plant population. Because there were some differences in seed size and the same settings were used on the vacuum planter, this difference could be expected. There were some differences in root length, shoulder diameter, and top length as well as in root shape. There were only minor differences in root color. Several of the varieties had a shorter, more blunt-shaped root and thus would be more suited for processing than fresh market.

**TABLE 1. YIELD, STAND, MARKETABILITY, ROOT, AND TOP CHARACTERISTICS OF 12 CARROT VARIETIES GROWN IN JEFF DAVIS COUNTY, GEORGIA, IN 1999**

Variety	Source	Total yield no./a	Market yield no./a	Population plants/a	Percent packout	Root length cm	Top length cm	Top density <sup>1</sup>	Shoulder diameter cm	Root color <sup>2</sup>	Root shape <sup>3</sup>	Root smooth <sup>4</sup>
Apache	SunSeeds	36,045	33,732	297,342	93.7	22.8	24.5	4.0	2.83	3.3	1.7	3.7
RCR 1851A	Novartis	35,573	33,060	348,478	93.1	17.9	21.1	2.7	3.05	3.0	2.3	4.3
First Class	Asgrow	33,085	33,056	299,236	99.9	19.9	22.8	3.3	3.85	3.3	1.0	3.0
XPH 97W99	Crookham	31,156	30,935	285,979	99.2	16.9	20.3	2.7	2.81	3.7	2.3	3.0
XPH 3918	Asgrow	31,060	30,730	318,175	98.9	20.9	24.0	3.7	3.09	3.3	1.0	3.7
Navajo	SunSeeds	30,939	29,611	301,130	96.1	22.1	23.1	4.0	3.08	3.3	1.0	3.3
Choctaw	SunSeeds	30,534	27,807	263,252	91.1	21.4	24.0	3.3	3.00	3.3	1.0	4.3
Narbonne	Bejo	32,901	26,542	331,433	81.5	15.4	19.1	2.3	3.10	3.3	3.7	4.0
Cheyenne	SunSeeds	31,377	25,644	276,509	82.2	23.0	25.3	3.0	2.57	3.7	1.0	3.3
XPH 97W96	Crookham	30,183	24,592	365,523	80.7	18.8	21.9	3.0	2.57	3.3	2.0	3.3
Pacific Gold	Sakata	26,655	23,878	268,934	89.4	20.4	22.0	3.3	2.71	3.7	1.0	4.0
Nevis	Bejo	28,003	22,935	365,523	82.3	15.2	18.0	2.0	2.65	3.7	2.7	3.0
<b>Mean</b>		<b>31,459</b>	<b>28,543</b>	<b>310,126</b>	<b>90.7</b>	<b>19.6</b>	<b>22.2</b>	<b>3.1</b>	<b>2.94</b>	<b>3.4</b>	<b>1.7</b>	<b>3.6</b>
<b>Isd (0.05)</b>		<b>5,335</b>	<b>6,543</b>	<b>53,153</b>	<b>16.3</b>	<b>3.8</b>	<b>2.8</b>	<b>7.2</b>	<b>0.49</b>	<b>1.0</b>	<b>1.1</b>	<b>1.3</b>
<b>CV(%)</b>		<b>10.01</b>	<b>13.54</b>	<b>10.12</b>	<b>10.61</b>	<b>11.58</b>	<b>7.53</b>	<b>22.32</b>	<b>9.82</b>	<b>17.83</b>	<b>36.33</b>	<b>20.61</b>

Planting Date: September 9, 1998. Total Plot Size: 335 feet long on 92" bed with three twin rows each 24 inches apart. Seeding Rate: Approx. 20 seed/foot. Samples taken from three-foot section of row replicated three times for each variety. Harvested February 17, 1999.

<sup>1</sup>Top density - based on scale: 1=sparse to 5=very dense.

<sup>2</sup>Root color - based on scale: 1=white; 2=yellow; 3=lt orange; 4=med orange; 5=deep orange; 6=red; 7=purple.

<sup>3</sup>Root shape - based on scale of: 1=conical elongated; 2=cylindrical elongated; 3=conical short; 4=cylindrical short; 5=round.

<sup>4</sup>Root smoothness - based on scale of 1=rough to 5=very smooth.

**TABLE 2. YIELD, MARKETABILITY, ROOT CHARACTERISTICS, AND SOLUABLE SOLIDS CONTENT OF 12 CARROT VARIETIES GROWN IN A LARGE STRIP TRIAL IN JEFF DAVIS COUNTY, GEORGIA, IN 1999**

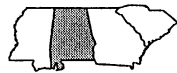
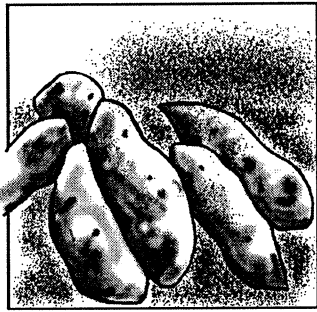
Variety	Source	Total weight lbs.	Marketable weight lbs.	One-lb masters 48 lbs.	Five-lb masters 50 lbs.	Jumbo masters 50 lbs.	Total masters 50 lbs.	Percent packout	Soluable solids % Brix	Root length cm	Shoulder diameter cm	Root color <sup>1</sup>	Root shape <sup>2</sup>
Apache	SunSeeds	57,216	24,127	264.9	40.7	24.8	330.4	37.1	8.0	21.9	4.4	4.0	1.0
XPH 97W96	Crookham	49,028	20,522	238.4	35.6	3.6	277.6	41.9	6.5	17.9	3.7	4.0	1.0
Choctaw	SunSeeds	42,772	19,520	203.4	33.5	26.2	263.1	45.6	7.0	19.3	4.5	4.0	1.0
Cheyenne	SunSeeds	40,636	16,224	172.7	30.5	6.1	209.3	39.9	8.0	21.0	3.8	4.0	1.0
Navajo	SunSeeds	43,688	16,041	187.5	26.4	8.5	222.4	36.7	8.0	20.5	4.0	4.0	1.0
XPH 3918	Asgrow	44,298	15,441	165.3	27.5	12.8	205.6	34.9	7.0	17.6	4.4	3.0	1.0
XPH 97W99	Crookham	42,518	14,998	218.3	16.3	8.0	242.6	35.3	8.0	17.6	4.5	4.0	1.0
Pacific Gold	Sakata	37,788	13,940	176.9	21.4	2.1	200.4	36.9	7.5	18.0	3.0	4.0	3.0
First Class	Asgrow	48,163	13,574	169.5	21.4	1.9	192.8	28.2	7.0	15.0	4.1	4.0	1.0
RCR 1851A	Novartis	38,449	11,052	183.3	8.1	4.4	195.8	28.7	7.0	14.8	5.9	3.0	3.0
Narbonne	Bejo	39,721	10,787	170.6	9.2	6.2	186.0	27.2	7.0	14.7	2.3	4.0	3.0
Nevis	Bejo	34,330	9,846	181.2	4.1	2.6	187.9	28.7	7.5	18.5	4.3	4.0	3.0
<b>Mean</b>		<b>43,217</b>	<b>15,506</b>	<b>194.3</b>	<b>22.9</b>	<b>8.9</b>	<b>226.1</b>	<b>35.9</b>	<b>7.4</b>	<b>18.1</b>	<b>4.1</b>	<b>3.8</b>	<b>1.7</b>

Planting Date: September 9, 1998. Total Plot Size: 335 feet long on 92" bed with three twin rows each 24 inches apart. Seeding Rate: Approx. 20 seed/foot. Harvested February 26, 1999.

<sup>1</sup>Root color - based on scale: 1=white; 2=yellow; 3=lt orange; 4=med orange; 5=deep orange; 6=red; 7=purple.

<sup>2</sup>Root shape - based on scale of: 1=conical elongated; 2=cylindrical elongated; 3=conical short; 4=cylindrical short; 5=round.





## Despite Potential, 'L-89-110' Sweetpotato Unlikely to be Named

Eric Simonne, Edgar Vinson, and Arnold Caylor

National sweetpotato collaborator's trial were conducted at the North Alabama Horticulture Station (NAHS) in Cullman. Slip availability limited 1998 Auburn University trials to only one location (Table 1). As recommended by the collaborator's group, 'Beauregard' was used as the only check since 'Jewel' was dropped in 1997. Although released in 1996, 'Carolina Rose' and 'Carolina Ruby' were included in 1998 trials to familiarize Alabama growers with these varieties. 'L-89-110' has been kept in trials since 1996 because it might have been released. However, beginning in 1999, sweetpotato foundation seed will be produced from virus-indexed material. It is unlikely that 'L-89-110' will become part of the virus-indexed list of varieties.

Sweetpotato seed roots from selected commercial varieties and breeding lines were planted in a heated bed at NAHS on March 26 for slip production. Slips were first cut on May 26. When slip numbers allowed, plots contained two rows that were 30 feet long and 3.5 feet wide. Within-row spacing was one foot.

Ammonium nitrate (NH<sub>4</sub>NO<sub>3</sub>) was broadcast applied at a rate of 80 pounds of nitrogen per acre on April 14. Slips were transplanted on May 28. Weed control was provide by an application of Command (at a rate of three pints per acre) on May 29. Overhead irrigation was used on August 4 and August 26.

Sweetpotatoes were harvested on September 28. Roots were graded as US #1 (roots two 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 exceed the diameter, length, and weight requirements of the US #1 grade, but that are of marketable quality) or

TABLE 1. RATINGS OF 1998 SWEETPOTATO VARIETY TRIALS<sup>1</sup>

Location	NAHS
Weather	5
Fertility	5
Irrigation	5
Pests	5
Overall	5

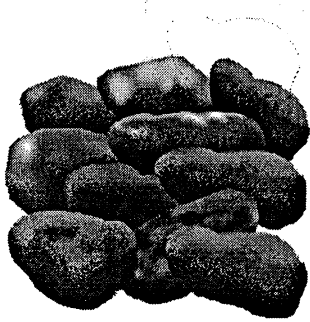
<sup>1</sup>See introduction for a description of rating scales.

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).

Using these results (Table 2) along with those from other locations, the breeders decided to maintain 'L-94-96', 'NC-93-13', and 'W-337' in 1999 trials. 'W-287' and 'W-317' were dropped due to poor shape and low yield. 'L-95-95' and 'L-94-95' were promising, but were dropped due to low baking quality and lack of disease resistance, respectively. 'W-334' and 'W-352' are two new entries for 1999.

TABLE 2. YIELD AND GRADE DISTRIBUTION OF 1998 SWEETPOTATO SELECTIONS (40-POUND BUSHELS)

Selection	US #1 bu./a	Canner bu./a	Jumbo bu./a	Cull bu./a	Total market bu./a	Percent US #1
L89-110	664	207	62	45	934	71
L94-75	602	248	60	50	910	66
Beauregard	593	174	69	36	836	71
L95-95	584	184	43	29	811	73
Carolina Ruby	578	263	77	59	918	63
Carolina Rose	531	134	77	95	742	73
L94-96	508	168	34	36	710	72
NC93-17	297	207	8	171	513	55
W-337	284	200	30	26	514	48
W-317	245	111	39	110	395	62
W-287	184	96	6	90	286	59
<i>R</i> <sup>2</sup>	<i>0.65</i>	<i>0.26</i>	<i>0.37</i>	<i>0.53</i>	<i>0.60</i>	<i>0.29</i>
<i>CV</i>	<i>30</i>	<i>54</i>	<i>78</i>	<i>67</i>	<i>29</i>	<i>22</i>
<i>lsd</i>	<i>198</i>	<i>140</i>	<i>52</i>	<i>66</i>	<i>303</i>	<i>21</i>



## Irish Potatoes 'LaRouge' and 'NDO 2686-6R' Perform Well

Joe Kemble, Arnold Caylor, and Tony Dawkins

The Irish potato industry struggled a great deal in 1998. Early in the season, excessive rain prevented many growers from planting on time. By the time the spring floods ended at the start of May, the heat returned. High soil temperatures inhibited tuberization throughout much of the potato acreage. Yields were down and quality was an issue. Many growers complained of poor Irish potato storage life as well as low prices offered to them by brokers. Irrigation would have benefited some growers, but irrigation was not the answer to all of their production problems.

Almost 13,000 acre of Irish potatoes were planted in 1998 between Baldwin, Cullman, Dekalb, and Jackson Counties. However, only about 12,000 acres were harvested. The poor growing conditions described above were the primary causes for this reduction in harvested acreage.

Last year, we reported on the appearance and performance of several selected red-skinned Irish potato cultivars grown at the North Alabama Horticulture Station (NAHS) in Cullman and Sand Mountain Research and Extension Center (SMREC) in Crossville. Yields last year were greater at SMREC than at NAHS. At SMREC, marketable yields of 'COO 86107-1' (204.9 CWT per acre), 'ND 2225' (171.3 CWT per acre), 'NDO 2686-6R' (123.6 CWT per acre), and 'LaRouge' (160.8 CWT per acre) were greater than the other cultivars tested. At NAHS, the marketable yields of 'ND 2225' (160.6 CWT per acre), 'Red LaSoda' (152.9 CWT per acre), 'Ida Rose' (150.2 CWT per acre), and 'LaRouge' (133.0 CWT per acre) were greatest.

At NAHS and SMREC, seed pieces of each of ten Irish potato cultivars were sown into plots 40 feet long

and 3.5 feet wide. Seed potatoes were provided by Irish potato breeding programs in North Dakota, Oregon, and Idaho. Seed pieces were spaced 12 inches apart within the row at the end of March at SMREC and in the beginning of April at NAHS. Potatoes were harvested at the start of July at NAHS and at the beginning of August at SMREC.

Yields at SMREC were low due to the conditions described above. Yields did not differ among grades (A=48.0 CWT per acre; B=26.3 CWT per acre; C=5.8 CWT per acre) or for total marketable potatoes (avg.=80.1 CWT per acre) among the cultivars tested. However, yields and separations between the different cultivars tested were apparent at NAHS (Table 1).

As in 1997, 'LaRouge' and 'NDO 2686-6R' performed well. Approximately 50 percent of their total marketable yields graded as A's. Additionally, 'NDO 4588-5', 'NDO 4592-3', and 'Ida Rose' all produced more than 100 CWT per acre with most of their potatoes graded as A's.

Skin color was also measured to determine just how red each cultivar was as compared to the others. This was measured with an instrument that quantified the redness of the skin. Ratings below reflect how close the skin color of each potato was to true red (i.e., how intense the redness of each potato was). The following list is organized from the most red to the least red: 'Ida Rose', 'COO 86107-1R', 'LaRouge', 'NorDonna', 'NDO 4592-3', 'ND 2225-1R', 'NDO 2686-1R', 'ND 5084-3R', 'NDO 4300-1R', and 'NDO 4588-5'.

**TABLE 1. YIELD AND GRADE DISTRIBUTION (CWT/ACRE<sup>1</sup>) OF SELECTED IRISH POTATO CULTIVARS GROWN AT THE NORTH ALABAMA HORTICULTURAL STATION**

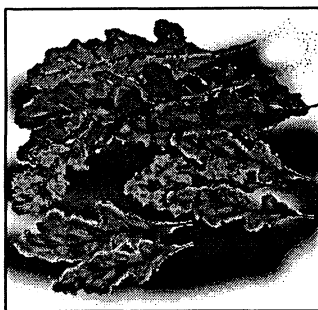
Entry	Total marketable <sup>2</sup>	Total yield <sup>3</sup>	A	B	C	Cull
LaRouge	189.1	203.6	109.8	58.3	21.1	14.5
NDO 2686-6R	170.1	186.2	93.8	53.1	23.1	16.1
NDO 4588-5	146.8	160.5	46.2	76.9	23.8	13.7
NDO 4592-3	122.4	135.0	67.5	32.3	22.6	12.5
Ida Rose	110.0	114.4	68.6	31.9	9.4	4.4
NDO 4300-1R	99.3	100.7	27.0	38.6	33.7	1.5
COO 86107-1R	84.2	96.2	43.3	32.6	8.4	12.0
ND 2225-1R	80.0	84.0	29.0	30.4	20.6	4.0
NorDonna	79.5	83.2	23.3	29.3	26.9	3.7
ND 5084-3R	42.0	43.8	14.3	16.4	11.3	1.8
<i>lsd</i> <sup>4</sup>	77.2	76.9	48.3	33.4	26.3	

<sup>1</sup> 1 CWT/acre = 100 lb/acre

<sup>2</sup> Total marketable yield is calculated from the sum of weights for A, B, and C grade potatoes.

<sup>3</sup> Total yield is calculated as the sum of weights for total marketable yield and cull.

<sup>4</sup> *lsd* = least significant difference (p=0.05).



## 'Red Giant' Mustard Gives Color to Leafy Greens Trial

Eric Simonne, Edgar Vinson, and Randy Akridge

Leafy green variety trials were conducted at the Brewton Experiment Field (BEF) in Brewton and included collard, kale, mustard, and turnip green varieties (Tables 1 and 2). Leafy greens were direct seeded on October 14 onto 20-foot long and five-foot wide plots. Each plot consisted of seven closely spaced rows, which created a plant population of approximately 500,000 plants per acre.

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 98IPM-2 from the Alabama Cooperative Extension System).

Fertilization consisted of a preplant application of 400 pounds per acre of 14-4-14. Turnip, mustard, and kale varieties were sidedressed with 175 pounds per acre

TABLE 1. RATINGS OF 1998 LEAFY GREENS VARIETY TRIAL<sup>1</sup>

Location	BEF
Weather	5
Fertility	5
Irrigation	5
Pests	5
Overall	5

<sup>1</sup>See introduction for a description of rating scales.

of ammonium nitrate (NH<sub>4</sub>NO<sub>3</sub>) in November. Because of their longer grower season, collards received an additional 175 pounds per acre of 34-0-0 on December 3.

Leafy greens were harvested when they reached marketable size (Table 3). Harvest dates were December 2, 1998 for kale, mustard, and turnip varieties, and January 25, 1999 for collard varieties. All leaf yields were expressed in 30-pound bushels per acre.

As in 1997, collard varieties were harvested later than the other greens. 'Flash Hybrid' and 'Top Bunch' were the highest yielders both years. Both varieties had

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

Variety	Type	Crop	Seed source	Days to harvest
White Egg	OP	Turnip	Rupp Seeds	50
Tokyo Cross	F1	Turnip	Takii	35
Purple top White Globe	OP	Turnip	Asgrow,Stokes	60
Seven Top	OP	Turnip	Asgrow,Stokes	45
Red Giant	OP	Mustard	Harris Seeds	40
Green Wave	-	Mustard	Stokes	45
Florida Broad Leaf	OP	Mustard	Asgrow,Stokes	50
Southern Giant Curled	OP	Mustard	Petoseed	45
Flash Hybrid	F1	Collard	A&C,Stokes	73
Georgia	OP	Collard	Stokes	80
Top Bunch	F1	Collard	Sakata	70
Vates	OP	Collard	Stokes	56
Champion	OP	Collard	Harris Seeds	75
Morris Heading	OP	Collard	Asgrow	80
Dwarf Siberian	-	Kale	Kelly Seed	-

F1 = hybrid; OP = open pollinated. - = not found; from seed catalogues.



leaf yields significantly higher than those of the standard 'Vates' in 1997 and 1998

All mustard varieties had green leaves except 'Red Giant' which had red leaves. 'Florida Broad Leaf', 'Southern Giant Curled', and 'Red Giant' had significantly higher leaf yields than 'Green Wave'.

Among the turnip varieties, 'Seven Top' and 'White Egg' showed no sign of black rot infection, while 'Tokyo Cross' and 'Purple Top' did slightly. 'White Egg' was not deeply rooted, and was difficult to cut without pulling the root.

Overall, the most attractive leafy green varieties in this test were 'Flash Hybrid' and 'Top Bunch' collard, 'Florida Broad Leaf' mustard, and 'Seven Top' turnip.

Two other entries were planted, but were not included in the results. One was 'Garland Chrysanthemum', an edible chrysanthemum sold as chinese green. It may be of interest for home-garden production, but its prostrate growing habit does not allow its mechanical harvest. The other one was 'Joi Choi' also sold as chinese greens. In fact, 'Joi Choi' was a bok-choy type oriental cabbage. It is worth mentioning that under the very high seeding rate used in this test, we produced a very high number of uniform baby bok choi. This type of oriental greens is in high demand by oriental restaurants.

**TABLE 3. LEAF YIELD OF SELECTED LEAFY GREEN VARIETIES (30-POUND BUSHEL) AT THE BREWTON EXPERIMENT FIELD**

Variety	Crop	Leaf yield bu./a
Flash Hybrid	Collard	870
Top Bunch	Collard	833
-----		
Champion	Collard	655
Vates	Collard	636
Morris Headig	Collard	594
Georgia	Collard	581
Dwarf Siberian	Kale	401
Florida Broad Leaf	Mustard	718
Southern Giant Curled	Mustard	627
Red Giant	Mustard	611
-----		
Green Wave	Mustard	576
Seven Top	Turnip	654
White Egg	Turnip	567
Purple Top	Turnip	547
-----		
Tokyo Cross	Turnip	485
<i>R</i> <sup>2</sup>		0.71
<i>CV</i>		15
<i>lsd</i>		120



## Hot Peppers Return to Trials

Eric Simonne, Edgar Vinson, Bobby Boozer, Arnold Caylor, and Jim Pitts

Hot pepper varieties trials were conducted at the Chilton Area Horticulture Station (CAHS) in Clanton and North Alabama Horticultural Station (NAHS) in Cullman (Tables 1 and 2). At both locations, hot peppers were planted in four-foot-long, double row plots with a within-row spacing of 12 inches. Plants were grown on black plastic and drip irrigation was used. Beds were fumigated with methyl bromide at a rate of 200 pounds per acre on April 24 at CAHS and April 27 at NAHS. Peppers were transplanted on May 1 at CAHS and May 16 at NAHS.

At CAHS, fertilization consisted of a pre-plant application of 13-13-13. After planting, Calcium nitrate [ $\text{Ca}(\text{NO}_3)_2$ ] and 20-20-20 were injected alternatively once a week beginning May 13 and ending August 7. Fungicides used were Kocide (at a rate of two pounds per acre) on May 14, May 26, June 8, June 23, July 15, July 24, and July 29; Manex (at a rate of 1.5 quarts per acre) on May 14, May 26, June 8, June 23, and July 15; Manzate (at a rate of three pounds per acre on July 29; and Dithane (at a rate of 2.5 pounds per acre) on July 24. Insect control was provided by applications of Thiodan (rates of 1.5 to 3.2 pounds per acre) on May 14, May 26, and June 23; Lannate (at a rate of one quart per acre) on July 15; Imidan (at a rate of 1.5 pounds per acre) on July 24 and July 29; and, Monitor (at a rate of one quart per acre) on June 8.

At NAHS, preplant fertilization consisted of a pre-plant application of 80 pounds per acre of N as ammonium nitrate. Beginning after transplanting and through final harvest, hot peppers were fertilized with weekly injections alternatively of calcium nitrate and ammonium nitrate at a rate of five pounds of N per acre for each injection. This provided a total of 140 pounds of N per acre.

Fungicides used were Bravo 720 (at a rate of two pints per acre) on June 3 and June 7; Dithane F-45 (at a

TABLE 1. RATINGS OF 1997 HOT PEPPERS VARIETY TRIALS<sup>1</sup>

Location	CAHS	NAHS
Weather	5	5
Fertility	5	5
Irrigation	5	5
Pests	5	5
Overall	5	5

<sup>1</sup>See introduction for a description of rating scales.

rate of 2.4 quarts per acre) on June 18, June 21, June 28, and July 3; and Kocide 101 (at a rate of three pounds per acre) on June 18, June 21, and July 3. Insect control consisted of applications of Dimethoate (at a rate of two pints per acre) on June 7; Asana XL (at a rate of 9.6 ounces per acre) on June 3, June 7, June 21, July 3, July 12, July 19, July 26, and August 2; Thiodan (at a rate of 2.5 pounds per acre) on July 12; and, Lannate (at a rate of three pints per acre) on July 19, July 26, and August 2.

Peppers were harvested four times beginning July 13 at CAHS, and June 4, June 28, August 5, and August 17 at NAHS. Early yield, total yield, and the weight of 25 pods were determined (Table 3).

The main differences in hot pepper varieties were pod type and pungency. Complete variety recommendations can be found in the Alabama Cooperative Extension System circular ANR 1041 "Pepper varieties for Alabama." In the cayenne type, 'Messilla' had the highest yields. Yields of 'Thai Dragon' were lower because of small fruits. No significant differences were found among the yields of jalapeno varieties at CAHS. 'Mitla' is presently the standard variety in that group. Top jalapeno varieties were 'Picante' at CAHS and 'Peco' at NAHS. No bacterial leaf spot was present in either test.

**TABLE 2. SEED SOURCE, FRUIT CHARACTERISTICS, AND RELATIVE EARLINESS  
OF SELECTED HOT PEPPER VARIETIES**

Variety	Type	Classification	Seed source	Days to harvest	Shape	Color	RSR*	Disease claims
Mesilla	F1	Cayenne	Petoseed	87	2-celled; Wrinkled, long	G-R	2,000-4,000	TbP, PVY TEV
Mulato Isleno	OP	Poblano	Petoseed	89	Tapered end	G-Br	500-1,000	-
Ole	OP	Jumbo Jalapeno	Ferry-Morse	80	Tapered end	G-R	-	-
Papri King	OP	Paprika	Petoseed	100	Flat-tapered	G-R	500-1,000	-
Passilla Bajio	OP	Cayenne	Petoseed	77	Long: 2-celled	G-Br	100-250	TbMV
Super Chili	F1	Pimento	Petoseed	75	Tapered end	G-R	30,000-40,000	-
Thai Dragon	F1	Pimento	Burpee	70	Tapered end	G-R	-	-
Vulcano	F1	Hungarian Wax	Ferry-Morse	63	Tapered	Y-R	-	TbMV
Picante	F1	Jalapeno	Harris Seeds	80	Cylindrical; Blunt end	G-R	-	TbMV
Mitla	F1	Jalapeno	Petoseed	74	Bullet-Shaped	G-R	4,000-5,000	-
Cherry Bomb	F1	Hot Cherry	Petoseed	78	Oblate or Globe-shaped	G-R	2,500-5,000	TbMV
Ancho San Luis	OP	Ancho	Petoseed	78	Heart-shaped; Blunt point	G-R	1,500-4,000	-
Santa Fe Grande	OP	Jalapeno	Petoseed	77	Large, Conical Tapering	Y-O-Y	5,000-8,000	TbMV
Firenza	F1	Jalapeno	Novartis	-	Cylindrical Blunt end	G-R	-	-
Pecos	F1	Jalapeno	Novartis	-	Cylindrical Blunt end	G-R	-	-

OP=open pollinated; F1=hybrid

- = not found; from seed catalogs

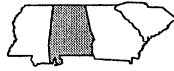
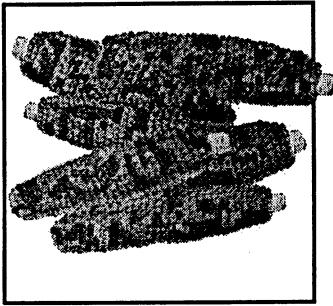
G= green; R= Red; Br=brown

TbMV= Tobacco Mosaic Virus; TEV= Tobacco Etch Virus; PVY=Potato Virus Y; TbP=Tobamo P

\* RSR = Relative Scoville Rating; the higher the rating, the hotter the variety

**TABLE 3. TOTAL YIELD, EARLY YIELD, AND INDIVIDUAL POD SIZE OF SELECTED HOT PEPPER VARIETIES AT THE CHILTON AREA HORTICULTURE STATION AND THE NORTH ALABAMA HORTICULTURE STATION**

Variety	Type	Total marketable weight lbs./a	Early marketable weight lbs./a	Pod weight lbs./100 pod
Chilton Area Horticulture Station				
Mesilla	-	50,483	3,144	4.4
Papri King	Paprika	47,664	2,569	3.7
Vulcano	Wax	38,020	7,171	5.9
Picante	Jalapeno	36,985	5,388	3.4
Mitla	Jalapeno	33,457	5,809	3.3
Ole	Jalapeno	32,441	2,914	3.7
Santa Fe Grande	Jalapeno	27,561	1,543	2.7
Cherry Bomb	Cherry	26,833	3,633	4.0
Passilla Bajio	Cayenne	20,362	1,726	2.5
Ancho San Luis	Ancho	19,576	1,802	4.4
Super Chili	Chili	18,694	1,112	0.7
Mulato Isleno	Poblano	14,054	2,052	3.3
Thai Dragon	Cayenne	11,350	882	0.8
<i>R</i> <sup>2</sup>		<i>0.59</i>	<i>0.53</i>	<i>0.81</i>
<i>CV</i>		<i>38</i>	<i>65</i>	<i>22</i>
<i>lsd</i>		<i>15,856</i>	<i>3,124</i>	<i>1.1</i>
North Alabama Horticulture Station				
Peco	Jalapeno	33,741	22,168	.
Firenza	Jalapeno	23,170	18,282	.
<i>R</i> <sup>2</sup>		<i>0.38</i>	<i>0.48</i>	.
<i>CV</i>		<i>26</i>	<i>38</i>	.
<i>lsd</i>		<i>10,144</i>	<i>7,540</i>	.



## A Broader Selection of Ornamental Corn Varieties Showcased this Year

Eric Simonne, Edgar Vinson, and Tony Dawkins

Ornamental corn is a potential companion crop for Halloween pumpkin. Thus, it is often produced at a time of the year when insect populations of European corn borer, corn ear worm, and Fall army worm are close to their peak.

Because many types of ornamental corn exist, a series of variety trials was planted at the Gulf Coast Research and Extension Center (GCREC) in Fairhope, the Horticulture Unit at the E.V. Smith Research Center (EVSRC) near Shorter, and the Sand Mountain Research and Extension Center (SMREC) in Crossville (Tables 1 and 2). However, tests at GCREC and EVSRC were lost to a summer storm and insect damage, respectively.

To avoid cross-pollination that affects ear size and kernel color, ornamental corn varieties were planted in isolation on four blocks at SMREC. Each block was approximately 200 feet away from any other corn planting. Varieties in each block were planted every two weeks. A total of 17 varieties was planted. Corn was direct seeded on bare ground in six-row plots, each 20 feet long on June 10, June 19, June 30, July 10, and July 20. Within-row spacing was six to eight inches and rows were 2.5 feet apart, which created a stand of approximately 26,000 plants per acre.

At each block, 13-13-13 was applied preplant at the rate of 300 pounds per acre. Corn plants were sidedressed with ammonium nitrate at a rate of 180 pounds per acre on July 2 and July 16 for planting date one; July 8 and July 28 for planting date two; July 15 and August 3 for planting date three; July 28 and August 11 for planting

TABLE 1. RATINGS OF 1998 ORNAMENTAL CORN VARIETY TRIALS<sup>1</sup>

Location	GCREC	EVSRC	SMREC
Weather	4	4	4
Fertility	5	5	5
Irrigation	5	5	5
Pests	1	2	3
Overall	1	2	3

<sup>1</sup>See introduction for a description of rating scales.

date four; and August 3 and August 17 for planting date five.

Aatrex and Dual herbicides was applied tank mixed (at rates of 1.5 quarts per acre and 0.75 quart per acre) on June 10, June 22, July 6, July 14, and July 21, 1998.

Insecticides used were Asana (at a rate of 3.5-8 ounces per acre) on July 20, August 26, September 2, and September 18; Lannate (at a rate of one pint per acre) on July 29 and August 19; and Sevin XLR (at a rate of one pint per acre) on August 10.

Block and successive plantings introduce confounding effects. However, these practices were selected because they allowed the production of true-to-type ears and kernels. For each block, the two outside rows were used as guard rows. Each of the inside four rows was considered a replication. Ears were allowed to dry on the plant and were harvested beginning August 4, and then as needed. Yield and ear characteristics (Table 3) were determined.

TABLE 2. SEED SOURCE AND FRUIT TYPE OF SELECTED ORNAMENTAL CORN VARIETIES

Variety	Type	Seed source	Days to harvest	Ear length in.
Chinook	Ornamental	Rupp Seeds	90	5-7
Wampum	Ornamental	Rupp Seeds	95	4-6
Calico Indian	Ornamental	Stokes	100	9
Indian Art 101	Ornamental	Rupp Seeds	107	-
Indian Art 102	Ornamental	Rupp Seeds	-	-
Indian Art 103	Ornamental	Rupp Seeds	100	-
Indian Art 104	Ornamental	Rupp Seeds	107	-
Indian Art 105	Ornamental	Rupp Seeds	-	-
Seneca Red Stalker*	Ornamental	Rupp Seeds	110	—
Hopi Blue	Ornamental	Rupp Seeds	110	8-10
Broom Corn MC	Popcorn	Rupp Seeds	120	—
Little Bell	Ornamental	Rupp Seeds	103	7-8
Fiesta	Ornamental	Rupp Seeds	100	8
Indian Ornamental (Flint)	Ornamental	Rupp Seeds	110	8-10
Little Bow Peep	Popcorn	Rupp Seeds	100	2-4
Indian Fingers	Popcorn	Rupp Seeds	100	2.5-4.5
Strawberry	Popcorn	Rupp Seeds	100	2

- = Not found from seed catalog; — = Not applicable

\*Red Stalker is appreciated for its colorful stalk.

TABLE 3. YIELD AND PLANT CHARACTERISTICS OF SELECTED ORNAMENTAL CORN VARIETIES AT THE SAND MOUNTAIN RESEARCH AND EXTENSION CENTER

Variety	Yield lbs./a	Ear number no./a	Stand <sup>1</sup> %	Plant height in.	Ear set height in.
Indian Art 105	4,483	21,775	93	76	31
Little Bell	3,756	31,356	91	77	29
Indian Art 101	2,486	13,355	89	60	0
Indian Art	2,070	10,670	55	63	16
Flint	1,431	8,420	99	86	0
Indian Fingers	766	16,114	103	49	27
Wampum	716	13,718	76	51	17
Red Stalker	491	6,968	73	55	21
Red Strawberry	303	10,452	81	40	18
Chinook	264	6,097	75	61	13
Calico Indian	168	2,613	23	51	17
<i>R</i> <sup>2</sup>	<i>0.86</i>	<i>0.81</i>	<i>0.74</i>	<i>0.91</i>	<i>0.96</i>
<i>CV</i>	<i>45</i>	<i>35</i>	<i>20</i>	<i>8</i>	<i>13</i>
<i>lsd</i>	<i>1,090</i>	<i>6,567</i>	<i>22</i>	<i>7</i>	<i>3.8</i>

<sup>1</sup> 100% stand corresponds to 35,000 plants per acre.



## Results of 1998 Southern Pea Cooperative Trials

Eric Simonne, Edgar Vinson, Jim Bannon, and Jason Burkett

Observational and replicated Southern pea cooperative trials were conducted at the Horticulture Unit at the E.V. Smith Research Center near Shorter (Table 1). These breeders' trials aim at evaluating the potential of cultigens not yet released. Results of these trials are of interest primarily to the breeders. However, new varieties of Southern pea are likely to come out of this selection of cultigens.

Southern peas were planted on July 6 onto two-row, 20-foot long plots at a one-foot within-row spacing. Rows were 2.5 feet apart. One ton of lime per acre was used to raise the pH to 6.5. Preplant fertilizer was 0-0-60 at a rate of 150 pounds per acre. Plants were injected with 83% anhydrous ammonium at a rate of 40 pounds N per acre. The test was drip irrigated.

Weed control consisted of roto-cultivation and a preplant application of Treflan (at a rate of 1.5 pints per acre) on June 18. Plots were also hand weeded on July 27. Thiodan (at a rate of 1.3 quarts per acre) was applied for insect control on August 13, August 21, and August 25.

Southern peas were harvested as needed between September 2 and September 8 when 80 percent of the

TABLE 1. RATINGS OF 1998 SOUTHERN PEA VARIETY TRIAL<sup>1</sup>

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

<sup>1</sup>See introduction for a description of rating scales.

pods were dry. To estimate yield and to compensate for different percentages of dry and mature green pods among the plots, all peas shelled from each plot's harvest 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. Imbided 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 imbided weight by two (assuming an average shell-out of 50 percent) and dividing it by 25 (the average weight of a bushel of fresh, unshelled Southern peas).

**TABLE 2. YIELD OF SELECTED ENTRIES IN THE 1998 REPLICATED AND OBSERVATIONAL SOUTHERN PEA SOUTHERN COOPERATORS' TRIAL**

Entry		Days to harvest	Number of harvests	Hand shellout %	In-pod yield lbs./a	Imbibed shelled yield lbs./a
Replicated Test						
R-1	TX-49	60	1	35	1,320	912
R-2	TX-38	60	1	40	1,055	864
R-3	TX-60	60	1	46	839	838
R-4	TX-74	57	1	35	3,863	1,043
R-5	US-865	60	1	46	1,593	1,178
R-6	US-867	57	1	39	2,662	1,445
R-7	US-880	60	1	48	1,624	1,244
R-8	US-881	57	1	41	1,923	1,156
R-9	AR-92-551	57	1	38	2,940	1,286
R-10	AR-92-552	57	1	36	3,005	1,331
R-11	AR-92-574	57	1	24	2,395	685
R-12	AR-87-435-68	57	1	29	3,713	883
R-13	Coronet	57	1	54	2,720	1,797
R-14	Arkansas #1	57	1	33	4,479	1,058
R-15	Early Ace	60	1	40	1,228	852
<i>R</i> <sup>2</sup>					0.58	0.51
<i>CV</i>					43	44
<i>lsd</i>					1,458	500
Observational Test						
O-1	TX-49	60	1	28	2,417	915
O-2	TX-76	54	1	16	4,423	987
O-3	LA-92-180	60	1	27	1,604	787
O-4	US-910	60	1	31	2,220	945
O-5	US-905	54	1	29	7,414	1,070
O-6	US-909	60	1	24	2,374	775
O-7	AR-95-104	60	1	33	2,245	1,141
O-8	AR-95-105	54	1	32	5,681	891
O-9	AR-96-918	60	1	31	1,724	933
O-10	AR-95-195	60	1	48	1,116	1,087
O-11	AR-95-368	54	1	37	2,749	845
O-12	Coronet	57	1	54	2,720	1,797
O-13	Early Ace	60	1	40	1,228	852
<i>R</i> <sup>2</sup>				.	.	.
<i>CV</i>				.	.	.
<i>lsd</i>				.	.	.



# Seed Sources for Alabama Trials

## **Asgrow Seed Co.**

South Alabama  
Rusty Autry  
Venice, FL  
(941 ) 497-4227

North Alabama  
Ken Baker  
Hendersonville, TN  
(615 ) 824-0383

## **Harris Seeds**

Greg Tyler  
60 Saginaw Dr.  
Rochester, NY 14692-2960  
(800) 544 7938  
(209) 579-7333  
Fax (716) 442-9386

## **Abbott and Cobb (A&C)**

Pete Suddarth  
4517 Tillman Bluff Rd.  
Valdosta, GA 31602  
(912) 249-8135

## **Stokes Seeds Inc.**

Joe Butwin  
PO Box 548  
Buffalo, NY 14240-0548  
(800) 263-7233  
Fax (905) 684-8499

## **Takii Seed**

Haki Yamasaki  
301 Natividad Rd  
Salinas, CA 93906  
(408) 443-4901

## **Ferry-Morse Seed Co.**

Glenn McKay  
PO Box 392  
Sun Prairie, WI 53590  
(608) 837-6574

## **Petoseed**

Cameron Sutherland  
6604 Tomy Lee  
Tallahassee, FL 32308-1643  
(850) 894-8026  
Fax (850) 894-8036  
Email Cameron.Sutherland  
@SVSeeds.com

## **Vilmorin**

Tom Gordon  
16 Gregg Street  
Trumansburg, NY 14886  
(607) 387-3959  
Fax (607) 387-3357  
Email Vilseed@fltg.net

## **Rupp Seeds**

Roger Rupp  
17919 County Road B  
Wansiom, OH 43567  
(419) 337-1841

## **Johnny's Select Seeds**

Robbert L. Johnston, Jr.  
1 Foss Hill Road  
RR1 Box 2580  
Albion, ME 04910-9731  
Fax (800) 437-4290

## **Hollar Seeds**

John Kolmer  
P.O. Box 106  
Rocky Ford, CO 81067-0106  
(719) 254-7411  
Fax (719) 254-3539  
Internet [www.hollarseeds.com](http://www.hollarseeds.com)

## **Harris Moran Seed Company**

Dottie Robustelli  
PO Box 4938  
Modesto, CA 95352-4938  
(209) 579-7333  
Fax (209) 527-5312

## **Novartis (Rogers Brand)**

Curt Pollard  
2101 Melrose Drive  
Valdosta, GA 31602  
(912) 560-1863  
(912) 244-2922  
Email [curt.pollard@seed.novartis.com](mailto:curt.pollard@seed.novartis.com)

## **Sakata Seeds Company**

Howard Adams  
PO Box 1103  
Lehigh, FL 33970-1103  
(813) 369-0032

## **Kelly Seed Company**

Jack Stuckey  
100 Shilo Rd  
PO Box 370  
Hartford, AL 36344  
Fax (334) 588-6144



