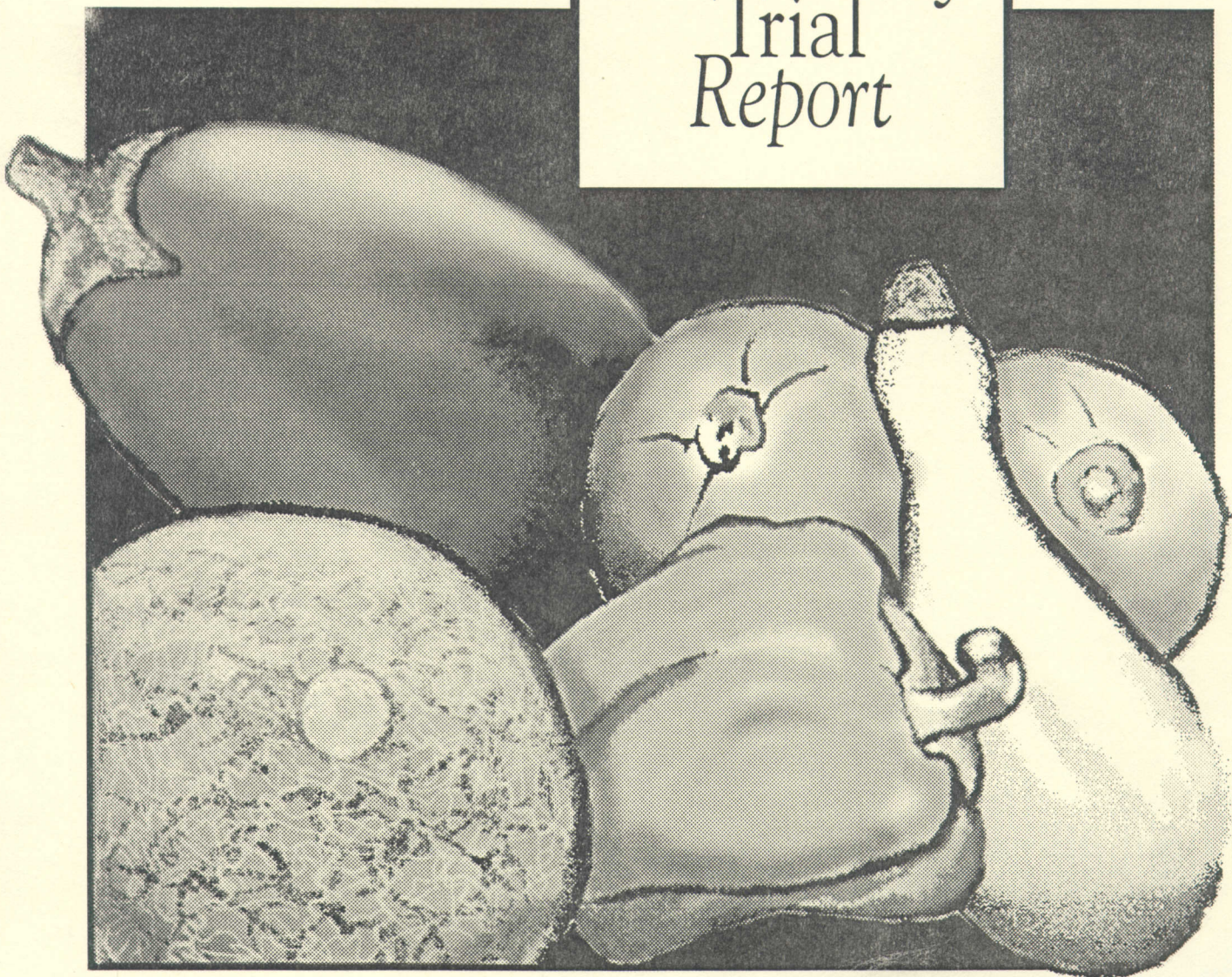


Progress Report No. 127    October 1995

Alabama Agricultural Experiment Station System    Lowell T. Frobish, Director    Auburn University, Alabama

**S**pring  
1995  
Vegetable  
*Variety*  
Trial  
*Report*



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October 1995

# Authors

## AUBURN UNIVERSITY

*Department of Horticulture: (334) 844-4862*

Eric Simonne, Postdoctoral Fellow, Horticulture

Joseph Kemble, Assistant Professor, Horticulture

Ellen Bauske, Extension Associate, Horticulture

Vanessa Drouot, Visiting Scholar, Horticulture

Karl Harker, Agricultural Meteorologist, SE Agricultural Weather Service

## E. V. SMITH RESEARCH CENTER

*(334) 727-7403*

Jim Bannon, Director

James Witt, Horticulture Unit Superintendent

## CHILTON AREA HORTICULTURE SUBSTATION

*(205) 646-3610*

Jim Pitts, Superintendent

Kenneth Short, Associate Superintendent

Robert Boozer, Area Horticulturist

## GULF COAST SUBSTATION

*(334) 928-2740*

Emmett Carden, Superintendent

Ronnie McDaniel, Associate Superintendent

Malcomb Pegues, Assistant Superintendent

## LOWER COASTAL PLAIN SUBSTATION

*(334) 682-4662*

Joe Little, Superintendent

Paul Rose, Assistant Superintendent

## NORTH ALABAMA HORTICULTURE SUBSTATION

*(205) 734-5820*

Marlin Hollingsworth, Superintendent (retired)

Arnold Caylor, Interim Superintendent

## PIEDMONT SUBSTATION

*(334) 896-4422*

John Owen, Superintendent

## SAND MOUNTAIN SUBSTATION

*(205) 528-7133*

John Eason, Superintendent (retired)

Marvin Ruf, Interim Superintendent

## UPPER COASTAL PLAIN SUBSTATION

*(205) 487-2150*

Randall Rawls, Superintendent

## WIREGRASS SUBSTATION

*(334) 693-2363*

Henry Ivey, Superintendent (retired)

Larry Wells, Interim Superintendent

Brian Gamble, Assistant Superintendent



# Introduction: Spring 1995 Vegetable Variety Trial Report

Eric Simonne

AN INCREASING NUMBER OF HOME owners and commercial growers is involved in vegetable production in Alabama. Variety evaluation aims at selecting the cultivar best adapted to specific growing conditions, market window, or home use. Variety evaluation also provides an opportunity to observe various types and colors within a crop type. It cannot be over-stated: the choice of a variety is critical since a poorly adapted variety may affect earliness, yield, postharvest quality, and subsequently, income.

In the spring of 1995, replicated variety trials for bell pepper, sugar-enhanced (*se*) and supersweet (*sh<sub>2</sub>*) sweet corn, cantaloupe, cucumber, yellow summer squash, tomato, and watermelon were conducted. Vegetables with a potential in Alabama, such as zucchini squash, colored pepper, small melons, and eggplant, were also evaluated. Production systems included bare-ground planting and plasticulture, combined with overhead or drip irrigation.

Each test was rated on a 1-5 scale, based on weather conditions, fertilizer, irrigation, pest pressure, and overall performance (Table 1). Results from trials with ratings of 2 and under are not reported.

Variety trials were fertilized according to recommendations by the Auburn University Soil Testing Laboratory. The actual fertilizers and chemicals used are described only to provide detailed information about the cultural practices employed. Mention of fertilizers or chemical names represent neither a recommendation nor an endorsement of these products. A list of chemicals recommended 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 95IPM-2 from the Alabama Coop-

erative Extension Service).

Like last year, Auburn University vegetable variety trials received strong support from the Alabama Agricultural Experiment Station System (AAESS) and the vegetable industry. Variety trials were conducted at nine AAESS substations. In southern Alabama, participating units included the Gulf Coast Substation in Fairhope, Wiregrass Substation in Headland, and Lower Coastal Plain Substation in Camden. In the central part of the state were the Horticulture Unit of the E.V. Smith Research Center in Shorter and Piedmont Substation in Camp Hill. In northern Alabama were the Chilton Area Horticulture Substation in Clanton, Upper Coastal Plain Substation in Winfield, North Alabama Horticulture Substation in Cullman, and Sand Mountain Substation in Crossville. Without the commitment of AAESS personnel the results presented in this report could not have been available in a timely manner.

Variety trial plots are open to the public; contact local substation superintendents for more information. Additional copies of the *Spring 1995 Vegetable Variety Trial Report* may be requested by calling the AAESS Office of Research Information at (334) 844-4877.

Members of the vegetable industry provided analytical services, donated transplants and seeds, and actively supported this program (see the appendix). Such support was much appreciated and essential to daily operations.

Many factors affect the performance of a vegetable variety: soil type, growing environment, and weather conditions. Therefore, the information in this report should be used as a primary source of information to pre-select the varieties that have shown to have potential for good yields and quality under the conditions described in this report. On-farm evaluation will test the perfor-

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

mance of a variety under more specific conditions. The final choice of a variety may have to be adjusted after this second evaluation.

In previous AAESS variety trial reports (Progress Reports 125 and 126), detailed information on fertilization was included. In the spring of 1995, leaf samples were taken regularly and were used to quantify the effect of such fertilization and cultural practices on leaf nutrient content.

For fast growing crops such as vegetables, a continuous monitoring of nutrient and water applications is essential to achieve highest yield and quality. Soil testing and leaf analysis are the only means available to assess nutrient levels in the soil and the plant. While soil testing has become part of standard cultural practices, leaf analysis is still under-used as a real-time nutrient monitoring tool.

In Alabama, soil testing and plant analysis services are available primarily through the AU Soil Testing Laboratory. Some growers also rely on out-of-state private laboratories for their soil and plant analyses.

Soil testing is not a substitute for plant analysis, and leaf analysis cannot replace soil testing. They are most useful together. Soil testing determines the amount of available nutrients in the growing zone at the time of sampling, while tissue analysis provides information on the amount of nutrients that have been taken up by the crop. Because ratios between essential nutrients can then be calculated, foliar analysis is useful in detecting "hidden hunger" and nutrient imbalances.

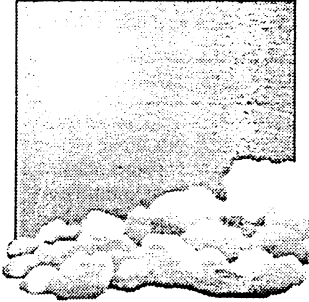
In general, the nutritional status of a crop is evaluated by comparing the foliar nutrient content to published sufficiency ranges. Each of the essential elements is rated as "low," "sufficient," or "high." Sufficiency ranges for most vegetable crops can be found in the *Commercial Production Series* on cucumber, squash, tomato, and wa-

termelon (Alabama Cooperative Extension Service, Timely Information). Additional sufficiency ranges may be obtained from the AU Soil Testing Laboratory at (334)844-3958.

Users may find some differences in analytical services provided by state-supported or private laboratories. Differences are not in the quality or range of analytical services offered by either. State and private laboratories have access to similar equipment, both have quality assurance/quality control programs, and both have qualified and trained personnel. The main advantages of state-supported laboratories are the cost of analysis, the recommendations included with the results, and the connection between the state laboratory and the Extension Service. Private laboratories are usually more expensive and may be reluctant to make recommendations. However, private laboratories often offer a much quicker turn-around time (two to four days) and often offer customized services.

A common criticism made to plant analysis is that it is of limited practical use because of the broadness of the sufficiency ranges. Published sufficiency ranges were developed under a wide variety of cultural practices and growing conditions. Because of their broadness, sufficiency ranges are almost universal.

Some leading sectors of the horticulture industry make extensive use of leaf analysis to monitor nutrient applications. These growers have developed and use their own sufficiency ranges. Because they have collected leaf samples at regular intervals on plants showing problems and on healthy plants, it becomes possible to narrow published sufficiency ranges around a target value developed under their specific growing conditions. For these growers, leaf analysis is not only a way to confirm visual symptoms of problems, it has become a real-time managerial tool.



## Hot and Dry Conditions Prevail in Spring and Summer 1995

Ellen Bauske and Karl Harker

VEGETABLE VARIETY TRIALS WERE conducted from April to August at the Gulf Coast Substation (GCS) at Fairhope, Wiregrass Substation (WS) at Headland, E. V. Smith Research Center (EVSRC) at Shorter, Piedmont Substation (PS) at Camp Hill, Chilton Area Horticulture Substation (CAHS) at Clanton, North Alabama Horticultural Substation (NAHS) at Cullman, and Sand Mountain Substation (SMS) at Crossville. With a few exceptions noted below, the period from April to August was characterized by hot and dry weather conditions. Rainfall deficits were the most severe (8-10 inches) from Central through East Central Alabama.

Adequate to sometimes excessive rains highlighted the spring and summer weather at the GCS (Figure 1). June was the only month when rainfall averaged less than normal. More than 8.5 inches of rain fell in July, and more than 9.5 inches fell in August. Hurricane Erin moved inland across Pensacola, Fla., on the morning of Thursday, Aug. 3, and proceeded northwest passing just north of the station. More than five inches of rain were associated with Erin. Maximum wind gusts of 50 miles per hour occurred during the early afternoon hours of Aug. 3. Spring and summer temperatures averaged within a degree of normal, except May and August when temperatures averaged two degrees above normal.

April weather conditions were typical at the WS with both rainfall and temperatures averaging near normal (Figure 2). Less than normal rain fell during May and June with deficits for each month near 1.5 inches. May averaged a couple of degrees warmer than normal, while June averaged slightly cooler than normal. July and August both

averaged a degree or two hotter than normal. Frequent periods of excessive heat occurred with maximum temperatures of 95° or above on 11 days in July and eight days in August. Scattered showers and thunderstorms produced the normal amount of rain during July and August.

Persistent drier-than-normal conditions prevailed from April through August at EVSRC (Figure 3). Monthly rain deficits of one to three inches were common with a total deficit during the period of just under 10 inches. Less than two inches of rain fell during May and June, with only 2.5 inches reported during July and August. Temperatures during April and June averaged about normal. However May, July, and August averaged between 4° and 5° hotter than normal. July and August were extremely hot with maximum temperatures of 100° or hotter occurring on five days in July and six days in August. Days with temperatures of 95° or above occurred on 19 days in July and 13 days in August. Hottest temperature during the summer was 104° on Wednesday afternoon, Aug. 16.

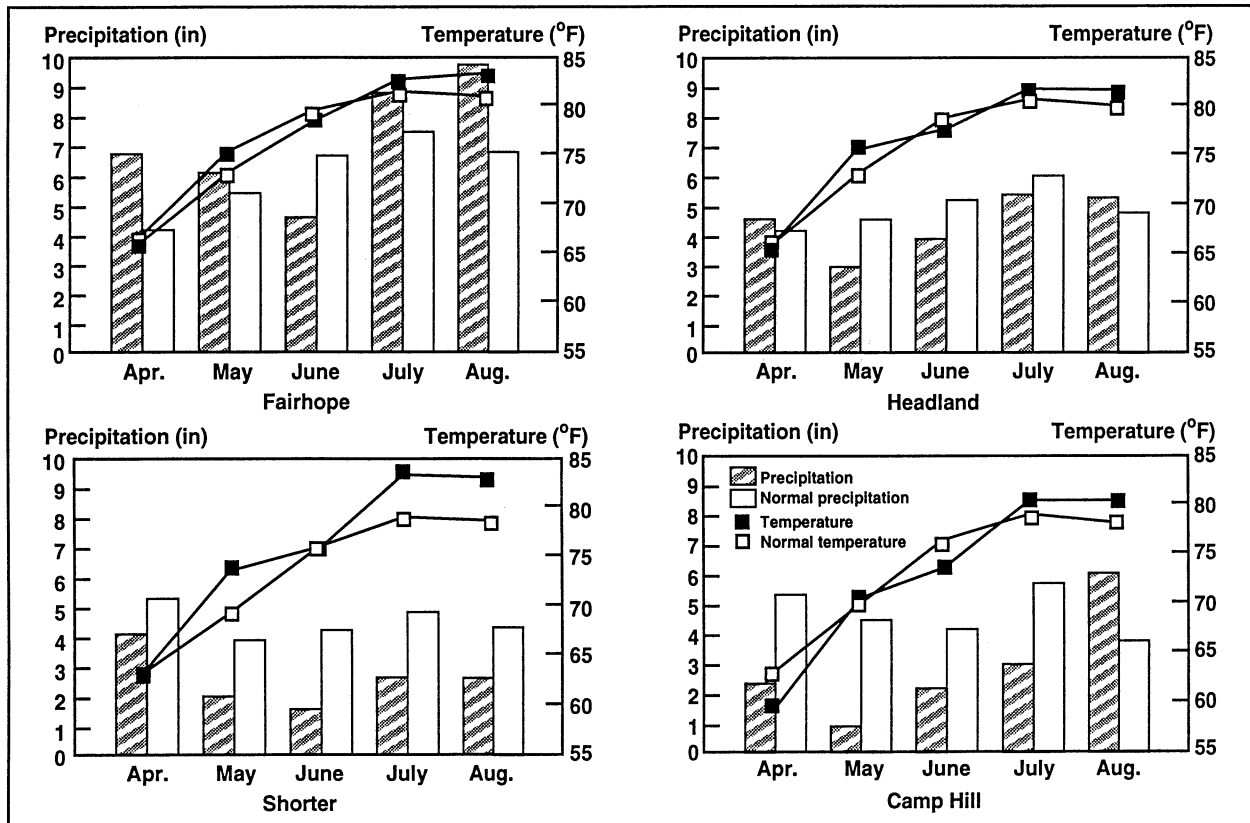
Rainfall deficits began at the PS in the spring and continued through much of the summer (Figure 4). Monthly rainfall deficits of two to four inches were common from April through July, with a total deficit of 11.35 inches for the period. May was particularly dry with less than one inch of rain reported. Much-needed rains finally fell in August with a total near six inches. Frequent periods of hot weather in July and August added to the drought conditions. Maximum temperatures of 95° or above occurred on 18 days in July and 10 days in August, with 100° or above occurring on two days in July and six days in August.

April weather conditions at CAHS were typical with rainfall and temperatures showing little deviation from normal (Figure 5). Weather conditions the remainder of the spring and summer were drought-like with monthly rain totals averaging one to three inches below normal. A rain deficit of 8.5 inches accumulated from May through August. Extreme heat added to crop stress problems, particularly in July and August. August was particularly hot; maximum temperatures were 100° or above on five days of the month, with the average temperature 4.7 degrees above normal.

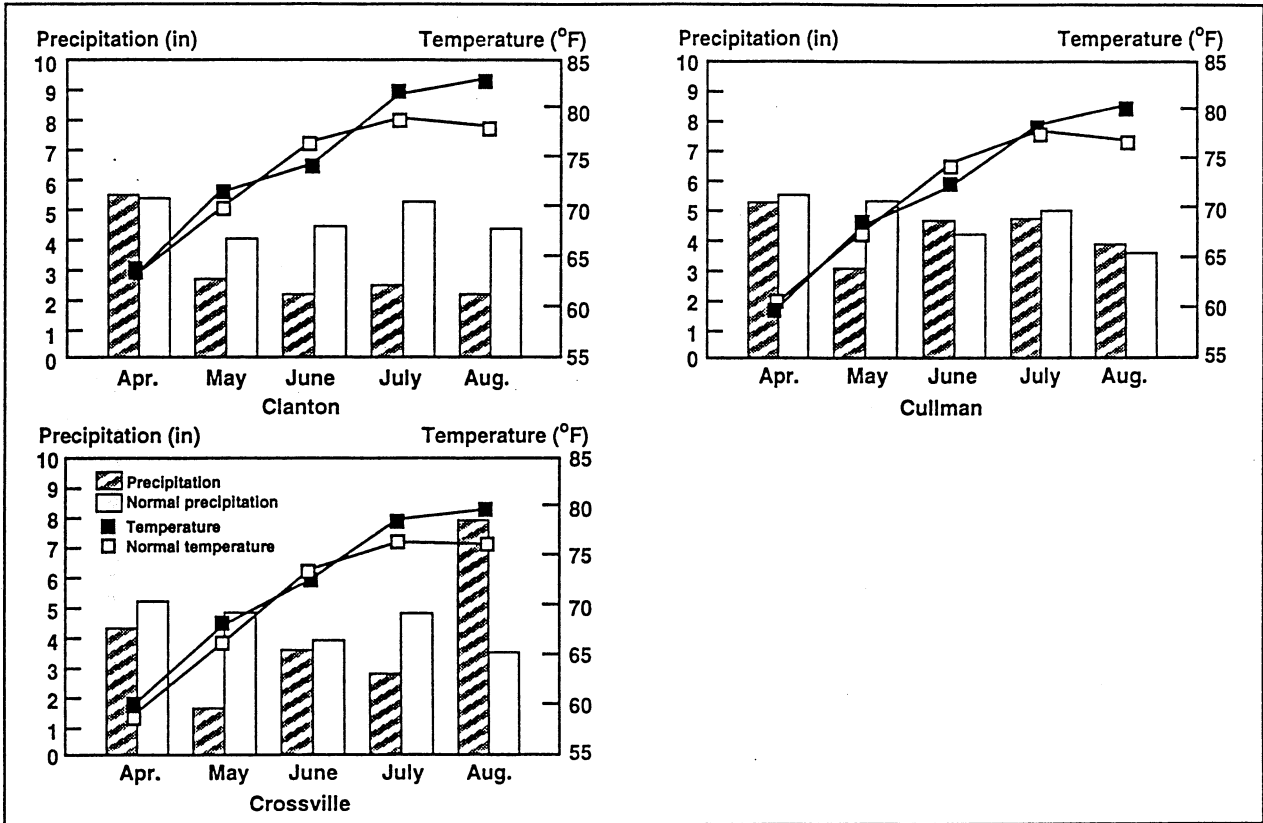
Rainfall and temperatures averaged near normal in April at NAHS (Figure 6). May was slightly hotter than normal with rainfall more than two inches below normal. June and July rainfall averaged near seasonal values. June was more than two degrees cooler than normal, and July was

only slightly warmer than normal. August was hot, although rainfall again averaged about usual for the month. Maximum temperatures of 95° or above occurred on 11 days in August.

Rainfall at SMS averaged below normal for each month from April through July (Figure 7). A total rain deficit of 6.6 inches accumulated during the period. May was particularly dry with only 1.5 inches reported. July was the next driest month with 2.6 inches. The weather pattern changed in August as showers and thunderstorms became more frequent, producing a monthly rain total of 7.8 inches. April, May, and July averaged one or two degrees above normal, while June averaged a degree cooler than normal. August was a hot month with temperatures averaging almost four degrees above normal. Maximum temperatures of 95° or above occurred on three days of the month.



Total monthly precipitation, average temperatures, and normal precipitation and temperatures (30-year averages) for Gulf Coast Substation at Fairhope, Wiregrass Substation at Headland, E.V. Smith Research Center at Shorter, and Piedmont Substation at Camp Hill.



Total monthly precipitation, average temperatures, and normal precipitation and temperatures (30-year averages) for Chilton Area Horticulture Substation at Clanton, North Alabama Horticulture Substation at Cullman, and Sand Mountain Substation at Crossville.





## Sweet Corn Varieties Differ in Yield and Quality

Eric Simonne, Robert Boozer, Emmett Carden, Marlin Hollingsworth, Joseph Kemble, Ronald McDaniel, Malcomb Pegues, Jim Pitts, and Kenneth Short

SWEET CORN IS A POPULAR CROP among home owners and commercial growers. In 1993, approximately 5,500 acres were planted for commercial production in Alabama (Alabama Vegetable Production Statistics, Alabama Cooperative Extension Service).

Sugary (*su*), sugar-enhanced (*se*), and supersweet (*sh<sub>2</sub>*) sweet corn varieties were evaluated at the Gulf Coast Substation (GCS) in Fairhope, the Wiregrass Substation (WS) in Headland, the Chilton Area Horticulture Substation (CAHS) in Clanton, and the North Alabama Horticulture Substation (NAHS) in Cullman (Tables 1 and 2).

At all locations, cultural practices for *su*, *se* and *sh<sub>2</sub>* types were similar. However, within each location, *sh<sub>2</sub>* varieties were separated by 300 feet from other field and sweet corn plantings because cross pollination alters grain characteristics, including sweetness. At all locations, two-row plots 20 feet long and five feet wide were established. Within-row spacing was eight to 10 inches, creating a stand of approximately 26,000 plants per acre. Yields were corrected for stand.

At GCS, a 13-13-13 fertilizer was broadcast-applied preplant on April 5 at a rate of 300 pounds per acre. Planting date was April 6. Ammonium nitrate (NH<sub>4</sub>NO<sub>3</sub>) was sidedressed on May 1 (*se* test) and May 8 (*sh<sub>2</sub>* test) at a rate of 180 pounds per acre (60 pounds of nitrogen [N] per acre). Plants were trickle irrigated as needed. The pre-emergence herbicide was Dual 8E broadcast on April 6 at a rate of one quart per acre. Insect control consisted of applications of Lannate LV (at a rate of 1.5 pints per acre) on May 31, and June 8 and 16; Asana XL (at a rate of 9.5 ounces per acre) on June 5 and 14; and Lorsban 4EC (at a rate of

TABLE 1. RATINGS OF 1995 SWEET CORN VARIETY TRIALS<sup>1</sup>

	GCS	CAHS	NAHS
Weather .....	5	5	5
Fertility .....	5	5	5
Irrigation .....	5	5	5
Pests .....	5	4	4
Overall .....	5	5	5

<sup>1</sup>See the introduction on page 3 for a description of the rating scales.

one pint per acre) on June 6.

At NAHS, planting date was May 10. Fertilization consisted of a preplant application of 900 pounds per acre of 13-13-13. Preplant herbicides were Aatrex and Princep (at rates of two and one quarts per acre, respectively). Insect control was provided by applications of Asana at a rate of 9.6 ounces per acre on June 30, and July 3, 5, 7, and 10. Due to rainfall pattern, no irrigation was needed.

At CAHS, planting date was April 22. Fertilizer consisted of 100 pounds of N per acre, 40 pounds of phosphorus (P), and 70 pounds of potassium (K) banded four inches to the side and two to three inches below the seeds. No sprays were used.

*Su/se* varieties were harvested on June 13, 15, and 20 at GCS; on June 16, 26, and 30, and July 5 at CAHS; and on July 19 at NAHS. *Sh<sub>2</sub>* varieties were harvested on June 15 and 20 at GCS; on June 24 and 30, and July 4 and 10 at CAHS; and on July 18 at NAHS. After harvest, ears were graded following the *Sweet Corn Grader's Guide* (Circular ANR-679 of the Alabama Cooperative Extension Service). Yield (Table 3) and ear characteristics (Table 4) were determined.

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

Variety	Seed source	Color	Type	Earliness <sup>1</sup>
Dazzle .....	Asgrow	Bi-color	<i>sh</i> <sub>2</sub>	+10
Festival .....	Asgrow	Bi-color	<i>sh</i> <sub>2</sub>	+6
SS 7801 .....	A&C	White	<i>sh</i> <sub>2</sub>	78
Frontier .....	Asgrow	White	<i>sh</i> <sub>2</sub>	+10
Even Sweeter .....	Asgrow	White	<i>sh</i> <sub>2</sub>	+14
Snow White .....	Harris Seeds	White	<i>sh</i> <sub>2</sub>	81
Treasure .....	Harris Seeds	White	<i>sh</i> <sub>2</sub>	83
Challenger .....	Asgrow	Yellow	<i>sh</i> <sub>2</sub>	+8
Maxim .....	Harris Seeds	Yellow	<i>sh</i> <sub>2</sub>	81
Punchline .....	Asgrow	Yellow	<i>sh</i> <sub>2</sub>	--
RXY 7703ss .....	Seneca	Yellow	<i>sh</i> <sub>2</sub>	77
SS 7710 .....	A&C	Yellow	<i>sh</i> <sub>2</sub>	83
SS 7630 .....	A&C	Yellow	<i>sh</i> <sub>2</sub>	84
Sweet Belle .....	Asgrow	Yellow	<i>sh</i> <sub>2</sub>	+12
Geronimo .....	Stokes	Bi-color	<i>se</i>	63
Sir Galahad .....	Stokes	Bi-color	<i>se</i>	85
Fantasia .....	Asgrow	White	<i>se</i>	--
Silverado .....	Harris Seeds	White	<i>se</i>	80
Snow Belle .....	Asgrow	White	<i>se</i>	+8
Spring Snow .....	Harris Seeds	White	<i>se</i>	66
Starshine .....	Seneca	White	<i>se</i>	71
Arrow .....	Seneca	Yellow	<i>se</i>	72
Flavor King .....	Stokes	Yellow	<i>se</i>	85
King Arthur .....	Stokes	Yellow	<i>se</i>	66
Legend .....	Harris Seeds	Yellow	<i>se</i>	73
Merlin .....	Stokes	Yellow	<i>se</i>	84
RXY 6603 .....	Seneca	Yellow	<i>se</i>	66
Sugar Ace .....	Harris Seeds	Yellow	<i>se</i>	79
Sweet Dawn .....	Harris Seeds	Yellow	<i>se</i>	64
Kandi Korn .....	TWilley	Yellow	<i>su</i>	89
Silver Queen .....	Rogers	White	<i>su</i>	94

<sup>1</sup>Earliness of Asgrow sweet corn varieties are reported relative to the variety 'Champ.' For example, the Asgrow variety 'Dazzle' matures ten days later (+10) than 'Champ.' All other reports of days to harvest are from respective seed catalogues.

TABLE 3. YIELD OF SELECTED SWEET COR VARIETIES

Type	Variety	Kernel color	Yield	Ear no.	Ear set ht.
			<i>lb./a.</i>	<i>no./a.</i>	<i>in.</i>
<b>Gulf Coast Substation</b>					
<i>su</i> .....	Kandi Korn	Yellow	5,890	18,803	9
<i>sh</i> <sub>2</sub> .....	Treasure	White	14,331	27,171	14
<i>sh</i> <sub>2</sub> .....	Snow White	White	11,167	25,279	16
<i>sh</i> <sub>2</sub> .....	Even Sweeter	White	10,416	24,349	19
<i>sh</i> <sub>2</sub> .....	Frontier	White	10,278	24,096	10
<i>sh</i> <sub>2</sub> .....	SS 7801	White	8,135	25,010	5
<i>sh</i> <sub>2</sub> .....	Maxim	Yellow	12,558	25,225	15
<i>sh</i> <sub>2</sub> .....	Sweet Belle	Yellow	11,975	23,691	16
<i>sh</i> <sub>2</sub> .....	Challenger	Yellow	10,114	23,336	9
<i>sh</i> <sub>2</sub> .....	SS 7630	Yellow	9,467	19,366	15
<i>sh</i> <sub>2</sub> .....	RXY 7703ss	Yellow	8,983	22,544	11
<i>se</i> .....	Sir Galahad	Bi-color	9,690	21,399	13
<i>se</i> .....	Geronimo	Bi-color	4,594	21,980	5
<i>se</i> .....	Silverado	White	6,346	18,188	7
<i>se</i> .....	Starshine	White	6,314	24,810	7
<i>se</i> .....	Spring Snow	White	3,525	22,255	4
<i>se</i> .....	Sugar Ace	Yellow	9,632	23,668	11
<i>se</i> .....	Legend	Yellow	7,938	24,762	6
<i>se</i> .....	Flavor King	Yellow	7,514	18,175	15
<i>se</i> .....	RXY 6603	Yellow	6,876	22,811	7
<i>se</i> .....	Arrow	Yellow	6,646	23,608	7
<i>se</i> .....	Merlin	Yellow	6,236	18,451	10
<i>se</i> .....	King Arthur	Yellow	5,800	23,674	8
<i>se</i> .....	Sweet Dawn	Yellow	4,174	22,495	3

**TABLE 3 (CONTINUED). YIELD OF SELECTED SWEET CORN VARIETIES**

Type	Variety	Kernel color	Yield	Ear no.	Ear set ht.
			<i>lb./a.</i>	<i>no./a.</i>	<i>in.</i>
<b>Chilton Area Horticulture Substation</b>					
<i>su</i> .....	Kandi Korn	Yellow	11,037	28,325	17
<i>su</i> .....	Silver Queen	White	16,685	40,809	28
<i>sh<sub>2</sub></i> .....	Dazzle	Bi-color	16,465	36,377	19
<i>sh<sub>2</sub></i> .....	Festival	Bi-color	11,722	36,252	16
<i>sh<sub>2</sub></i> .....	Treasure	White	15,630	38,253	19
<i>sh<sub>2</sub></i> .....	Snow White	White	13,754	35,035	16
<i>sh<sub>2</sub></i> .....	Even Sweetener	White	13,148	32,976	19
<i>sh<sub>2</sub></i> .....	RXY 7703ss	Yellow	13,079	31,537	18
<i>sh<sub>2</sub></i> .....	Punchline	Yellow	12,991	39,409	15
<i>sh<sub>2</sub></i> .....	SS 7630	Yellow	11,390	29,767	17
<i>sh<sub>2</sub></i> .....	Sweet Belle	Yellow	11,259	25,682	18
<i>sh<sub>2</sub></i> .....	Challenger	Yellow	9,922	31,275	20
<i>sh<sub>2</sub></i> .....	Maxim	Yellow	9,880	27,332	15
<i>se</i> .....	Sir Galahad	Bi-color	9,354	22,820	18
<i>se</i> .....	Geronimo	Bi-color	8,107	24,614	8
<i>se</i> .....	Fantasia	White	14,023	37,470	21
<i>se</i> .....	Snow Belle	White	13,737	41,306	19
<i>se</i> .....	Starshine	White	12,897	35,096	14
<i>se</i> .....	Silverado	White	9,654	27,787	11
<i>se</i> .....	Spring Snow	White	4,325	21,671	6
<i>se</i> .....	Flavor King	Yellow	14,437	36,890	23
<i>se</i> .....	Sugar Ace	Yellow	11,890	32,979	19
<i>se</i> .....	RXY 6603	Yellow	11,176	26,527	14
<i>se</i> .....	Merlin	Yellow	11,121	27,242	19
<i>se</i> .....	Legend	Yellow	10,418	26,577	15
<i>se</i> .....	King Arthur	Yellow	9,901	26,136	14
<i>se</i> .....	Arrow	Yellow	9,269	27,194	13
<i>se</i> .....	Sweet Dawn	Yellow	7,558	29,933	8
<b>North Alabama Horticulture Substation</b>					
<i>su</i> .....	Kandi Korn	Yellow	7,919	15,501	26
<i>sh<sub>2</sub></i> .....	Snow White	White	20,302	27,208	23
<i>sh<sub>2</sub></i> .....	Frontier	White	12,507	22,259	23
<i>sh<sub>2</sub></i> .....	Treasure	White	11,562	18,751	26
<i>sh<sub>2</sub></i> .....	Punchline	Yellow	15,560	25,329	26
<i>sh<sub>2</sub></i> .....	Maxim	Yellow	15,528	23,399	28
<i>sh<sub>2</sub></i> .....	Sweet Belle	Yellow	15,382	23,398	26
<i>sh<sub>2</sub></i> .....	Challenger	Yellow	13,901	21,257	25
<i>sh<sub>2</sub></i> .....	SS 7630	Yellow	13,361	21,620	28
<i>sh<sub>2</sub></i> .....	RXY 7703ss	Yellow	10,895	18,803	26
<i>se</i> .....	Sir Galahad	Bi-color	20,275	28,328	17
<i>se</i> .....	Geronimo	Bi-color	11,349	21,501	14
<i>se</i> .....	Snow Belle	White	17,241	30,563	18
<i>se</i> .....	Fantasia	White	17,153	25,646	20
<i>se</i> .....	Starshine	White	12,677	25,254	12
<i>se</i> .....	Silverado	White	11,509	19,850	17
<i>se</i> .....	Spring Snow	White	7,486	19,400	10
<i>se</i> .....	Legend	Yellow	14,848	21,079	10
<i>se</i> .....	Merlin	Yellow	13,849	25,158	14
<i>se</i> .....	Sugar Ace	Yellow	13,825	19,768	18
<i>se</i> .....	Arrow	Yellow	12,738	21,924	17
<i>se</i> .....	Sweet Dawn	Yellow	12,246	22,874	9
<i>se</i> .....	Flavor King	Yellow	11,988	20,779	23
<i>se</i> .....	RXY 6603	Yellow	10,590	18,906	17
<i>se</i> .....	King Arthur	Yellow	8,540	18,547	15

TABLE 4. EAR CHARACTERISTICS OF SELECTED SWEET CORN VARIETIES

Type	Variety	Kernel color	Quality rating <sup>1</sup>	Tip cover <sup>2</sup>	Ear Fill <sup>2</sup>	Eye Appeal <sup>2</sup>	Ear Length	Ear Diameter	Cob Diameter
							<i>in.</i>	<i>in.</i>	<i>in.</i>
<b>Gulf Coast Substation</b>									
<i>su</i> .....	Kandi Korn	Yellow	12.33	4.47	4.00	3.87	7.7	1.2	0.6
<i>sh</i> <sub>2</sub> .....	Treasure	Bi-color	12.15	4.40	3.95	3.80	6.9	1.2	0.6
<i>sh</i> <sub>2</sub> .....	Even Sweeter	White	13.20	4.40	4.50	4.30	7.4	1.3	0.6
<i>sh</i> <sub>2</sub> .....	Snow White	White	13.10	4.45	4.60	4.05	7.7	1.3	0.6
<i>sh</i> <sub>2</sub> .....	SS 7801	White	10.40	4.05	3.20	3.15	6.1	1.2	0.6
<i>sh</i> <sub>2</sub> .....	Frontier	White	10.35	3.70	3.30	3.35	7.3	1.4	0.6
<i>sh</i> <sub>2</sub> .....	Sweet Belle	Yellow	14.60	5.00	4.80	4.80	7.9	1.4	0.6
<i>sh</i> <sub>2</sub> .....	Maxim	Yellow	14.25	4.50	4.85	4.90	6.8	1.3	0.6
<i>sh</i> <sub>2</sub> .....	SS 7630	Yellow	13.85	4.65	4.60	4.60	7.5	1.3	0.6
<i>sh</i> <sub>2</sub> .....	RXY 7703ss	Yellow	13.40	4.35	4.35	4.70	7.9	1.2	0.6
<i>sh</i> <sub>2</sub> .....	Challenger	Yellow	12.60	4.30	4.20	4.10	7.3	1.5	0.6
<i>se</i> .....	Sir Galahad	Bi-color	13.25	4.40	4.45	4.40	7.9	1.3	0.6
<i>se</i> .....	Geronimo	Bi-color	7.25	3.95	1.95	1.35	5.0	1.1	0.6
<i>se</i> .....	Silverado	White	14.45	4.75	4.75	4.95	7.0	1.2	0.6
<i>se</i> .....	Starshine	White	10.95	4.90	3.20	2.85	6.2	1.2	0.6
<i>se</i> .....	Spring Snow	White	7.50	4.00	1.75	1.75	5.1	1.2	0.5
<i>se</i> .....	Arrow	Yellow	13.20	5.00	4.30	3.90	6.7	1.2	0.6
<i>se</i> .....	Flavor King	Yellow	13.15	4.45	4.30	4.40	7.2	1.2	0.6
<i>se</i> .....	Segar Ace	Yellow	12.65	4.55	4.15	3.95	7.2	1.1	0.5
<i>se</i> .....	Merlin	Yellow	11.65	3.50	4.30	3.85	7.7	1.3	0.6
<i>se</i> .....	Legend	Yellow	10.90	4.00	3.70	3.20	6.7	1.2	0.6
<i>se</i> .....	King Arthur	Yellow	9.85	3.95	3.35	2.55	5.7	1.2	0.6
<i>se</i> .....	RXY 6603	Yellow	9.55	3.70	3.25	2.60	6.2	1.3	0.6
<i>se</i> .....	Sweet Dawn	Yellow	8.24	4.00	2.29	1.94	4.9	1.1	0.5
<b>Chilton Area Horticulture Substation</b>									
<i>su</i> .....	Silver Queen	White	9.40	2.20	3.20	4.00	6.8	2.8	1.2
<i>su</i> .....	Kandi Korn	Yellow	8.15	0.90	3.70	3.55	6.9	1.4	--
<i>sh</i> <sub>2</sub> .....	Festival	Bi-color	9.25	2.00	3.65	3.60	6.4	2.6	1.0
<i>sh</i> <sub>2</sub> .....	Dazzle	Bi-color	8.60	2.95	3.25	2.40	5.5	2.3	0.7
<i>sh</i> <sub>2</sub> .....	Even Sweeter	White	11.15	2.60	3.85	4.70	6.5	2.8	0.7
<i>sh</i> <sub>2</sub> .....	Treasure	White	9.60	2.13	3.67	3.80	6.5	2.8	0.9
<i>sh</i> <sub>2</sub> .....	Snow White	White	9.15	2.20	3.60	3.35	6.5	2.7	1.0
<i>sh</i> <sub>2</sub> .....	SS 7630	Yellow	11.40	3.50	3.65	4.25	6.6	2.7	0.6
<i>sh</i> <sub>2</sub> .....	Maxim	Yellow	10.95	2.95	3.80	4.20	5.8	2.5	0.8
<i>sh</i> <sub>2</sub> .....	Sweet Belle	Yellow	10.85	3.15	3.85	3.85	6.5	2.9	0.7
<i>sh</i> <sub>2</sub> .....	RXY 7703ss	Yellow	10.73	4.07	2.80	3.87	7.5	3.0	0.7
<i>sh</i> <sub>2</sub> .....	Challenger	Yellow	10.40	2.75	3.50	4.15	6.4	2.7	0.9
<i>sh</i> <sub>2</sub> .....	Punchline	Yellow	9.33	2.27	3.47	3.60	5.9	2.5	0.9
<i>se</i> .....	Sir Galahad	Bi-color	10.15	2.00	4.05	4.10	6.8	1.5	--
<i>se</i> .....	Geronimo	Bi-color	9.75	3.40	2.95	3.40	5.3	1.5	--
<i>se</i> .....	Starshine	White	11.25	3.00	4.60	3.65	5.9	1.4	--
<i>se</i> .....	Fantasia	White	10.90	3.35	4.00	3.55	6.2	1.4	--
<i>se</i> .....	Spring Snow	White	10.60	3.20	3.75	3.65	4.5	1.0	--
<i>se</i> .....	Silverado	White	10.55	2.70	4.10	3.75	6.1	1.3	--
<i>se</i> .....	Snow Belle	White	10.05	2.20	4.05	3.80	6.1	1.3	--
<i>se</i> .....	Sugar Ace	Yellow	12.05	3.75	4.50	3.80	6.3	1.4	--
<i>se</i> .....	Sweet Dawn	Yellow	10.75	2.95	3.85	3.95	5.8	1.1	--
<i>se</i> .....	Legend	Yellow	10.65	2.95	4.45	3.25	5.9	1.5	--
<i>se</i> .....	Arrow	Yellow	10.35	2.70	4.00	3.65	5.8	1.4	--
<i>se</i> .....	Flavor King	Yellow	10.25	3.10	3.60	3.55	6.8	1.4	--
<i>se</i> .....	Merlin	Yellow	10.10	1.90	4.15	4.05	6.7	1.5	--
<i>se</i> .....	King Arthur	Yellow	9.20	2.10	3.75	3.35	6.0	1.5	--
<i>se</i> .....	RXY 6603	Yellow	8.65	2.20	3.20	3.25	5.8	1.6	--

<sup>1</sup>Quality rating is the sum of tip cover, ear fill, and eye appeal ratings.

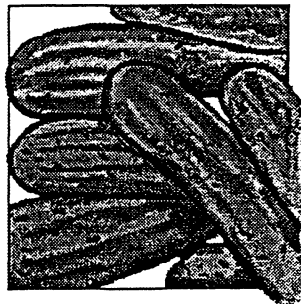
<sup>2</sup>Tip cover, ear fill, and eye appeal ratings: 5 = excellent; 4 = good; 3 = fair; 2 = poor; 1 = very poor.

**TABLE 4 (CONTINUED). EAR CHARACTERISTICS OF SELECTED SWEET CORN VARIETIES**

Type	Variety	Kernel color	Quality rating <sup>1</sup>	Tip cover <sup>2</sup>	Ear fill <sup>2</sup>	Eye appeal <sup>2</sup>	Ear length	Ear diameter	Cob diameter
							<i>in.</i>	<i>in.</i>	<i>in.</i>
<b>North Alabama Horticulture Substation</b>									
<i>su</i> .....	Kandi Korn	Yellow	11.90	4.90	3.55	3.45	7.8	1.4	0.5
<i>sh<sub>2</sub></i> .....	Snow White	White	14.30	4.70	4.70	4.90	8.0	2.1	0.8
<i>sh<sub>2</sub></i> .....	Frontier	White	13.85	4.55	4.60	4.70	7.6	1.7	0.9
<i>sh<sub>2</sub></i> .....	Treasure	White	12.10	4.20	3.75	4.15	7.3	1.6	0.9
<i>sh<sub>2</sub></i> .....	Punchline	Yellow	14.75	4.95	4.85	4.95	9.9	1.7	0.8
<i>sh<sub>2</sub></i> .....	Challenger	Yellow	14.35	4.90	4.75	4.70	7.7	1.8	0.9
<i>sh<sub>2</sub></i> .....	Maxim	Yellow	13.95	4.45	4.80	4.70	7.2	1.7	0.9
<i>sh<sub>2</sub></i> .....	RXY 7703ss	Yellow	13.80	4.95	4.25	4.60	8.4	1.6	0.8
<i>sh<sub>2</sub></i> .....	Sweet Belle	Yellow	13.20	4.85	4.45	3.90	7.9	1.7	0.8
<i>sh<sub>2</sub></i> .....	SS 7630	Yellow	13.10	4.90	4.25	3.95	8.0	1.5	0.8
<i>se</i> .....	Geronimo	Bi-color	13.20	5.00	4.20	4.00	6.5	1.5	0.5
<i>se</i> .....	Sir Galahad	Bi-color	12.90	4.85	4.05	4.00	8.1	1.3	0.6
<i>se</i> .....	Fantasia	White	13.45	4.80	4.35	4.30	7.6	1.6	0.6
<i>se</i> .....	Silverado	White	13.40	4.85	4.40	4.15	7.7	1.5	0.6
<i>se</i> .....	Starshine	White	12.65	4.70	4.10	3.85	6.2	1.5	0.5
<i>se</i> .....	Snow Belle	White	12.50	4.75	4.15	3.60	7.5	1.5	0.7
<i>se</i> .....	Spring Snow	White	11.45	4.75	3.35	3.35	6.0	0.5	0.3
<i>se</i> .....	Sugar Ace	Yellow	14.50	5.00	4.85	4.65	7.7	1.5	0.8
<i>se</i> .....	Legend	Yellow	14.15	4.95	4.65	4.55	7.2	1.5	0.8
<i>se</i> .....	Merlin	Yellow	13.65	4.45	4.75	4.45	8.1	1.5	0.5
<i>se</i> .....	Sweet Dawn	Yellow	13.55	4.85	4.35	4.35	7.1	1.4	0.6
<i>se</i> .....	Arrow	Yellow	13.45	5.00	4.25	4.20	7.3	1.5	0.6
<i>se</i> .....	King Arthur	Yellow	12.10	4.80	3.85	3.45	7.8	1.5	0.7
<i>se</i> .....	RXY 6603	Yellow	12.00	4.65	4.05	3.30	6.7	1.5	0.8
<i>se</i> .....	Flavor King	Yellow	11.05	4.50	3.30	3.25	7.4	1.5	0.5

<sup>1</sup>Quality rating is the sum of tip cover, ear fill, and eye appeal ratings.

<sup>2</sup>Tip cover, ear fill, and eye appeal ratings: 5 = excellent; 4 = good; 3 = fair; 2 = poor; 1 = very poor.



## 'General Lee' Top Marketable Yields in Slicer Cucumber Trial

Eric Simonne, Arnold Caylor, Marlin Hollingsworth, and Joseph Kemble

ON MAY 10, SELECTED VARIETIES OF slicer cucumbers were direct seeded on bare-ground at a one-inch depth at the North Alabama Horticultural Substation in Cullman (Tables 1 and 2). Plots consisted of a single 42-inch-wide, 20-foot-long row with in-row spacing of eight inches, which provided a stand of approximately 17,000 plants per acre.

Fertilization consisted of a preplant application four days before planting of a 13-13-13 fertilizer at a rate of 900 pounds per acre. Rainfall provided adequate moisture throughout the growing season.

Curbit herbicide was applied on May 11 at a rate of 2.5 pints per acre. Insect control consisted of applications of Sevin (at a rate of one quart per acre) on May 26; Dimethoate (at a rate of 0.5 pint per acre) on May 26, June 2 and 9, and July 7; and Asana (at a rate of 9.6 ounces per acre) on

Location	NAHS
Weather .....	5
Fertility .....	5
Irrigation .....	5
Pests .....	4
Overall .....	5

<sup>1</sup>See the introduction on page 3 for a description of the rating scales.

June 16, 23 and 30, and July 7. Plants were sprayed with Ridomil/Bravo 81W fungicide (at a rate of two pounds per acre) on May 26, June 2, 9, 16, 23 and 30, and July 7.

Cucumbers were harvested eight times between June 26 and July 14. After each harvest, fruits were weighed and graded according to the *Cucumber Grader's Guide* (Circular ANR-771 from the Alabama Cooperative Extension Service). Early (Table 3) and total (Table 4) yields were determined. Earliness was evaluated by adding the marketable yields of the first four harvests.

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

Variety	Seed Source	Days to Harvest <sup>1</sup>
Alamir .....	Nunhems	32
Dasher II .....	Petoseed	58
Encore .....	Harris Seeds	55
General Lee .....	Stokes	66
Lightning <sup>2</sup> .....	Asgrow	--
Longbow .....	Seneca	62
Medalist .....	Harris Seeds	55
Meteor <sup>3</sup> .....	Asgrow	--
Petra .....	Nunhems	34
Seray .....	Nunhems	36
Speedway .....	Petoseed	56
Thunder .....	Asgrow	56
Trailblazer .....	Seneca	62
Ultraslice Early .....	Stokes	56
Zenith .....	Ferry Morse	--

<sup>1</sup>From respective seed catalogues.

<sup>2</sup>Formerly XPH 1701.

<sup>3</sup>Formerly XPH 1653.

**TABLE 3. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED SLICER CUCUMBER VARIETIES<sup>1</sup>**

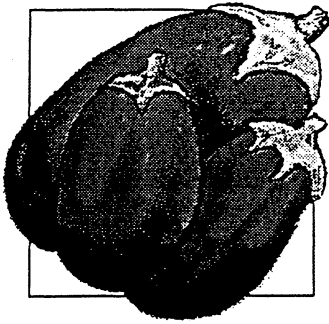
Variety	Early market. wt.	Early fancy wt.	Early fancy no.	Early US#1 wt.	Early US#1 no.	Early US#2 wt.
	<i>lb./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>lb./a.</i>
Seray .....	25,689	16,165	28,626	9,523	22,610	5,522
Alamir .....	24,435	13,905	28,937	10,529	28,781	4,336
Thunder .....	21,326	15,497	29,093	5,829	15,246	4,955
General Lee .....	21,038	16,678	23,492	4,361	11,201	3,244
Ultraslice Early .....	19,066	13,786	29,093	5,280	14,157	2,937
Dasher II .....	18,327	14,682	29,248	3,645	10,268	1,825
Meteor .....	18,251	12,426	24,892	5,825	14,780	3,130
Speedway .....	17,501	13,762	25,825	3,738	10,735	2,976
Petra .....	16,268	8,175	16,491	8,093	20,536	5,131
Lightning .....	16,012	10,739	21,469	5,272	13,379	3,211
Encore .....	12,583	7,373	16,180	5,210	14,002	2,942
Zenith .....	12,546	8,410	18,047	4,135	12,913	3,158
Longbow .....	10,929	6,775	16,958	4,154	11,668	2,548
Trailb.laizer .....	8,569	5,445	12,135	3,124	8,557	1,791
Medalist .....	8,216	6,077	16,647	2,139	7,156	1,400

<sup>1</sup>Productions of June 26, 28 and 30, and July 5 combined.

**TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED SLICER CUCUMBER VARIETIES<sup>1</sup>**

Variety	Total marketable wt. <sup>2</sup>	Total fancy wt.	Total fancy no.	Total US#1 wt.	Total US#1 no.	Total US#2 wt.	Total cull	Individual fruit wt. <sup>2</sup>
	<i>lb./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb.</i>
General Lee .....	29,177	21,983	34,071	7,194	19,602	6,081	1,195	0.48
Ultraslice Early .....	28,341	20,343	42,939	7,998	22,403	6,305	1,761	0.41
Thunder .....	27,649	18,946	36,249	8,703	23,647	8,894	1,974	0.45
Seray .....	27,460	16,472	29,248	10,988	26,137	7,729	3,960	0.49
Dasher II .....	26,606	19,837	41,072	6,769	20,380	4,131	1,087	0.41
Meteor .....	25,846	16,657	33,604	9,188	24,736	7,006	2,114	0.42
Alamir .....	25,769	13,905	28,937	11,864	32,048	5,747	3,673	0.42
Speedway .....	24,593	18,789	36,716	5,805	16,958	5,398	1,330	0.42
Zenith .....	22,717	14,960	30,337	7,757	23,492	6,298	1,416	0.41
Encore .....	21,931	13,586	27,070	8,345	23,336	7,735	2,693	0.41
Lightning .....	21,900	13,969	28,159	7,931	21,003	6,147	2,614	0.44
Longbow .....	20,147	12,471	27,381	7,676	22,247	5,917	711	0.39
Petra .....	18,019	8,484	17,113	9,535	24,425	6,869	5,876	0.45
Medalist .....	17,421	11,401	27,692	6,021	19,291	4,586	1,371	0.36
Trailblaizer .....	15,926	10,199	20,691	5,727	17,113	6,148	1,212	0.41

<sup>1</sup>Harvest Dates were June 26, 28, 30, July 5, 7, 10, 12, and 14.  
<sup>2</sup>Marketable Yield and Individual Fruit Weight were determined as Fancy plus US#1 grades.



# Eggplant Varieties Differ in Color and Shape

Eric Simonne, Jim Bannon, Arnold Caylor, Marlin Hollingsworth, Joseph Kemble, and James Witt

**M**OST EGGPLANT PRODUCED IN ALABAMA is grown in home gardens. However, because the demand for eggplant in specialty markets is increasing, the performance of selected eggplant varieties was evaluated at the Horticulture Unit of the E.V. Smith Research Center (EVSRC) in Shorter and the North Alabama Horticulture Substation (NAHS) in Cullman (Tables 1 and 2).

Five-week-old eggplants were transplanted on four-foot-wide, drip-irrigated beds covered with plastic mulch on May 10 at EVSRC and on May 8 at NAHS. Plastic mulch color was black at EVSRC and white at NAHS. Within-row spacing was 24 inches, which provided a stand of approximately 4,500 plants per acre.

At EVSRC, calcium nitrate [Ca(NO<sub>3</sub>)<sub>2</sub>] at a rate of 50 pounds of nitrogen (N) per acre and muriate of potash (KCl) at a rate of 50 pounds of potassium (K) per acre were applied preplant on March 14. Beds were fumigated with methyl bromide at a rate of 400 pounds per acre on March 16. Starting immediately after transplanting, 12

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

<sup>1</sup>See the introduction on page 3 for a description of the rating scales.

pounds of nitrogen per acre were injected weekly through the trickle-irrigation system, alternatively from 20-20-20 and potassium nitrate (KNO<sub>3</sub>).

At EVSRC, Weed control consisted of applications of Dacthal (at a rate of eight pounds per acre) on March 27 and Roundup (at a rate of three quarts per acre) on April 5 and May 4. Insect control was provided by applications of Lannate LV (at a rate of two pints per acre) on May 19, June 17, and July 25; Asana (at a rate of eight ounces per acre) on May 27; Ambush 2EC (at a rate of eight ounces per acre) on June 3 and 23, and July

Variety	Seed source	Plant <sup>1</sup>	Fruit color	Fruit shape	Days to harvest <sup>2</sup>
Casper .....	Stokes	Classic	White	Elongated	70
Classic .....	Harris Seeds	Classic	Purple	Typical	76
Ghostbuster .....	Harris Seeds	Classic	White	Round	80
Little Fingers .....	Harris Seeds	Classic	Purple	Miniature	68
Rosita .....	Stokes	Classic	Pink	Typical	68
Tasca .....	Vilmorin	Classic	Purple	Round	68
Vernal .....	Vilmorin	Classic	Purple	Classic	60
Black Bell .....	Petoseed	Oriental	Purple	Oblong	65
Epic .....	Petoseed	Oriental	Purple	Oblong	64
Megal .....	Vilmorin	Oriental	Purple	Elongated	60
NVH 2228 .....	Rogers	Oriental	Purple	Classic	--

<sup>1</sup>The leaves of "Classic" type plants are fully green, while in the "Oriental" type, the vein of the leaves are purple to brown.  
<sup>2</sup>From respective seed catalogues.



**TABLE 3. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED EGGPLANT VARIETIES<sup>1</sup>**

Variety	Early marketable wt.	Early fancy wt.	Early US#1 wt.	Early US#2 wt.	Early fancy no.	Early US#1 no.	Early US#2 no.
	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>no./a.</i>
<b>E.V. Smith Research Center</b>							
Black Belle .....	15,112	7,314	7,798	6,650	5,075	6,939	5,800
Classic .....	13,644	8,316	5,328	4,199	7,187	5,107	4,161
Vernal .....	10,615	5,076	5,539	5,181	5,856	6,609	6,107
Epic .....	10,350	5,506	4,844	6,013	4,792	5,235	5,972
XPH 14007 .....	10,020	2,513	7,507	3,362	5,438	8,234	3,418
Little Fingers .....	5,873	2,933	2,940	1,713	13,268	15,878	12,289
Ghost Buster .....	5,501	1,940	3,561	4,400	2,132	4,904	4,947
Rosita .....	5,377	2,074	3,303	3,954	2,231	4,015	4,462
NVH 2228 .....	5,361	3,506	1,855	1,796	2,526	1,684	1,684
Megal .....	5,158	1,709	3,449	1,963	2,447	5,981	3,353
Tasca .....	4,962	1,898	3,064	2,728	1,243	2,563	2,175
Casper .....	1,704	394	1,310	1,399	580	2,610	3,190
<b>North Alabama Horticulture Substation</b>							
Classic .....	20,139	15,903	4,236	2,745	19,224	8,279	4,911
Black Belle .....	19,699	15,950	3,749	3,371	19,040	5,348	3,209
Epic .....	18,901	13,775	5,127	2,669	24,450	10,125	4,800
Vernal .....	18,334	15,730	2,604	2,000	21,153	9,894	3,838
Megal .....	16,812	14,019	2,793	1,958	16,087	6,402	4,022
NVH 2228 .....	15,565	12,934	2,631	1,821	14,703	4,437	2,349
Rosita .....	14,190	11,525	2,665	1,510	17,400	6,351	3,132
Ghost Buster .....	11,841	9,702	2,139	747	16,856	4,690	1,495
Little Fingers .....	10,820	8,391	2,429	3,403	8,139	3,227	4,069
Casper .....	9,070	5,754	3,315	2,945	13,413	8,193	8,410
Tasca .....	2,946	2,607	339	212	7,447	1,180	442

<sup>1</sup>Combined yields of June 26 and 30, and July 6 and 12 at NAHS; and June 28, and July 7 and 11 at EVSRC.

7; Cygon 4E (at a rate of two pints per acre) on June 7 and 10, and July 25; Thiodan 3EC (at a rate of 1.5 pints per acre) on June 30 and Aug. 5; Kelthane MF (at a rate of 1.5 pints per acre) on June 30, and July 7 and 15; and Sevin 4F (at a rate of one pint per acre) on June 15.

Fungicide applications at EVSRC consisted of Benlate 50 WP (at a rate of two pounds per acre) on June 10; Manzate 200 (at a rate of two pints per acre) on May 19, June 30, and July 15; Dithane DF (at a rate of two pounds per acre) on May 27, July 7, and Aug. 5; and Ridomil/Bravo 81W (at a rate of two pounds per acre) on June 3, 17, and 23, and July 25.

At NAHS, beds were fumigated with 98% methyl bromide plus 2% chloropicrin at a rate of 400 pounds per acre on April 27. A preplant application of 1,000 pounds per acre of a 5-10-15 fertilizer provided 50 pounds of N, 100 pounds of phosphorous (P<sub>2</sub>O<sub>5</sub>), and 150 pounds of potassium (K<sub>2</sub>O). Between May 15 and final harvest,

injections of combinations of ammonium nitrate (NH<sub>4</sub>NO<sub>3</sub>), calcium nitrate, and potassium nitrate were made weekly through the drip tubes. Application rates ranged between 10 and 20 pounds per acre for ammonium nitrate, 10 and 50 pounds per acre for calcium nitrate, and 10 to 90 pounds per acre for potassium nitrate.

Preplant herbicide at NAHS was Treflan 4EC applied on May 3 at a rate of one quart per acre. Weeds between the beds were controlled by applications of Sencor DF (at a rate of one pound per acre) and Command (at a rate of one quart per acre) on May 31; and Poast (at a rate of one pint per acre) and Crop Oil (at a rate of one quart per acre) on June 5, 16, and 27. Insect control consisted of applications of Dimethoate (at a rate of 0.5 pint per acre) on May 18 and 26, June 2 and 9, and July 7; Asana (at a rate of 9.6 ounces per acre) on June 16, 23 and 30, and July 7, 17, and 25; and Sevin XLR on May 18 (two quarts per acre) and on May 26 (one quart per acre).

Plants were also sprayed with the fungicide Ridomil/Bravo 81W (at a rate of two pounds per acre) on May 18 and 26, June 2, 9, 16, 23, and 30, and July 7, 17, and 25. Spider mites were controlled by an application of Kelthane MF (at a rate of one pint per acre) on July 25.

Eggplants were harvested seven times between June 26 and Aug. 1 at NAHS, and seven times between June 28 and Aug. 7 at EVSRC.

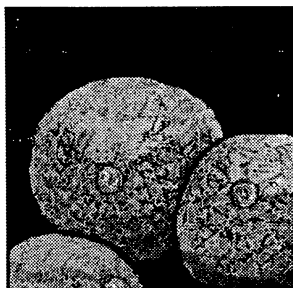
Fruits were graded according to the *Eggplant Grader's Guide* (Circular ANR-780 from the Alabama Cooperative Extension Service). Early production was determined by combining the yields of the first four harvests (Table 3). Total marketable yield was determined by combining the Fancy and US#1 grades (Table 4).

**TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED EGGPLANT VARIETIES<sup>1</sup>**

Variety	Total market. wt. <sup>2</sup>	Total fancy wt.	Total US#1 wt.	Total US#2 wt.	Total cull	Total fancy no.	Total US#1 no.	Total US#2 no.	Individual wt. <sup>2</sup>
	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>lb.</i>
<b>E.V. Smith Research Center</b>									
Black Belle .....	30,510	7,458	10,114	12,937	9,857	5,282	10,979	13,464	1.42
Classic .....	29,578	9,145	11,700	8,733	8,531	8,322	12,577	9,929	1.13
Epic .....	27,361	6,178	8,664	12,519	12,553	5,825	10,396	16,220	1.07
Vernal .....	26,104	5,253	8,512	12,338	14,096	6,107	11,210	17,902	0.85
XPH 14007 .....	22,371	3,221	10,763	8,387	5,162	6,214	12,118	9,943	0.81
Ghost Buster .....	22,012	2,402	9,222	10,388	15,086	2,900	14,116	16,376	0.82
Rosita .....	17,698	2,347	6,601	8,749	8,388	2,788	9,369	13,385	0.96
Tasca .....	17,031	2,126	6,505	8,401	9,138	1,476	5,826	8,079	1.42
NVH 2228 .....	15,727	4,786	5,680	5,261	6,740	3,789	6,034	6,034	1.27
Little Fingers .....	12,662	3,228	5,073	4,361	8,679	14,899	28,493	27,514	0.23
Casper .....	12,388	882	4,482	7,025	9,728	1,353	7,927	15,853	0.57
Megal .....	12,373	2,127	5,721	4,525	6,262	3,444	12,053	10,059	0.61
<b>North Alabama Horticulture Substation</b>									
Black Belle .....	33,310	25,676	7,635	7,170	1,230	36,583	14,334	10,136	0.72
Epic .....	31,514	21,449	10,065	6,452	606	34,950	18,075	9,044	0.64
Megal .....	29,859	22,823	7,036	3,643	565	36,524	17,236	8,680	0.67
NVH 2228 .....	29,521	22,822	6,699	4,407	1,014	30,276	11,310	6,856	0.78
Vernal .....	25,168	20,906	4,261	3,768	1,083	29,768	13,391	6,482	0.72
Casper .....	24,121	12,519	11,603	9,205	626	26,753	51,838	40,614	0.45
Classic .....	20,139	15,903	4,236	2,745	1,295	19,224	8,279	4,911	0.82
Rosita .....	17,101	11,942	5,158	3,786	245	19,227	23,229	16,704	0.61
Ghost Buster .....	11,841	9,702	2,139	747	243	16,856	4,690	1,495	0.58
Little Fingers .....	10,820	8,391	2,429	3,403	351	8,139	3,227	4,069	1.04
Tasca .....	2,946	2,607	339	212	30	7,447	1,180	442	0.38

<sup>1</sup>Harvest dates were June 26 and 30, July 6, 20, and 27, and Aug. 1 at NAHS; and June 28, July 5, 11, 18, 26, and 31, and Aug. 7 at EVSRC.

<sup>2</sup>Marketable yield and individual fruit weight were determined as fancy plus US#1 grades.



# Small Melons: Cantaloupe, Canary Melon, Honey Dew, Spanish Melon, and Galia

Eric Simonne, Jim Bannon, Robert Boozer, Vanessa Drouot, Joseph Kemble, John Owen, Jim Pitts, Kenneth Short, and James Witt

TRADITIONALLY, NETTED, ORANGE-fleshed cantaloupes have been grown in Alabama. Acreage planted to cantaloupe was estimated to be 2,100 acres in 1993. Due to consumer demand and diversity in fruit characteristics, information on yield potential in Alabama of other small melons such as canary melons, honey dews, Spanish melons or galia melons is needed. Small-melon variety trials were conducted at the Horticulture Unit at the E.V. Smith Research Center (EVSRC) near Shorter, the Piedmont Substation (PS) in Camp Hill, the Chilton Area Horticulture Substation (CAHS) in Clanton (Tables 1 and 2).

Selected varieties of small melons were direct seeded in single rows on five-foot-wide beds at a four-foot within-row spacing. At all locations,

Location	EVSRC	PS	CAHS
Weather .....	5	5	5
Fertility .....	5	5	5
Irrigation .....	5	5	5
Pests .....	5	5	5
Overall .....	5	5	5

<sup>1</sup>See the introduction on page 3 for a description of the rating scales.

plastic mulch and drip irrigation were used. At PS, small melons were grown on white plastic as a second crop following broccoli. At EVSRC and CAHS, the plastic was new and black in color. Planting dates were April 12 at EVSRC, May 31

Variety	Seed source	Type	Rind	Flesh	Days to harvest <sup>1</sup>
AC-82-37-RNL .....	Auburn U.	Cantaloupe	Netted	Orange	--
Ambrosia .....	A&C	Cantaloupe	Netted	Orange	88
Athena .....	Rogers	Cantaloupe	Netted	Orange	80
AUrore .....	Auburn U.	Cantaloupe	Netted	Orange	75
Castella .....	Nunhems	Cantaloupe	Sutured	Orange	83
Clipper .....	Nunhems	Cantaloupe	Sutured	Orange	87
Cordele .....	Asgrow	Cantaloupe	Netted	Orange	85
FMX 165 .....	Ferry Morse	Cantaloupe	Netted	Orange	--
Hi-Mark .....	Petoseed	Cantaloupe	Netted	Orange	85
Starship .....	Harris Seeds	Cantaloupe	Sutured	Orange	86
Supporter .....	Nunhems	Cantaloupe	Sutured	Orange	87
Mission .....	Asgrow	Cantaloupe	Netted	Orange	80
Lutina .....	Nunhems	Canary melon	Smooth	Yellow	88
Acor .....	Vilmorin	French charentais	Sutured	Orange	80
Alienor .....	Vilmorin	French charentais	Sutured	Orange	85
Savor .....	Vilmorin	French charentais	Sutured	Orange	78
Solarbel .....	Nunhems	Galia	Netted	Green	91
Earli-Dew .....	Petoseed	Honeydew	Smooth	Green	80
Morning Dew .....	Harris Seeds	Honeydew	Smooth	Green	96
Morning Ice .....	Harris Seeds	Honeydew	Smooth	Green	84
Iberix .....	Vilmorin	Spanish melon	Smooth	Green	82

<sup>1</sup>From respective seed catalogues.

TABLE 3. YIELD AND SOLUBLE SOLIDS OF SELECTED VARIETIES OF SMALL MELONS

Variety	Type	Marketable yield	Marketable fruits	Individual fruit wt.	Soluble solids <sup>1</sup>	Cull wt.
		<i>lb./a.</i>	<i>no./a.</i>	<i>lb.</i>	<i>°Brix</i>	<i>lb./a.</i>
<b>E.V. Smith Research Center</b>						
AUrora .....	Cantaloupe	30,348	10,134	3.0	10.5	5,178
Hy-Mark .....	Cantaloupe	28,636	10,715	2.8	12.5	4,522
Athena .....	Cantaloupe	27,864	6,717	4.3	10.3	7,472
Starship .....	Cantaloupe	25,392	7,843	3.0	9.9	4,212
Mission .....	Cantaloupe	25,238	10,933	2.5	9.4	5,398
Cordele .....	Cantaloupe	22,788	6,431	3.3	8.2	8,214
AC-92-37 RNL .....	Cantaloupe	20,976	9,189	2.1	9.4	8,400
Ambrosia .....	Cantaloupe	18,552	7,298	2.6	11.2	11,473
Clipper .....	Cantaloupe	17,645	7,445	2.3	13.9	5,017
Castella .....	Cantaloupe	15,628	5,014	3.0	11.6	9,480
Supporter .....	Cantaloupe	12,754	4,970	2.6	8.1	8,304
Alienor .....	French charentais	12,528	4,292	2.9	12.3	8,412
Savor .....	French charentais	11,586	4,851	2.5	8.0	9,558
Acor .....	French charentais	9,348	4,197	2.4	12.3	9,576
<b>Chilton Area Horticulture Substation</b>						
Athena .....	Cantaloupe	44,855	9,647	4.7	11.9	728
FMX 165 .....	Cantaloupe	33,324	9,701	3.4	9.4	6,457
Cordele .....	Cantaloupe	29,273	6,976	4.1	9.6	4,110
Ambrosia .....	Cantaloupe	28,549	8,393	3.4	9.7	11,396
Mission .....	Cantaloupe	26,783	9,374	2.8	11.0	6,126
Starship .....	Cantaloupe	25,750	6,322	4.0	9.5	10,238
AUrora .....	Cantaloupe	24,901	8,012	3.1	8.7	13,336
Castella .....	Cantaloupe	18,391	5,341	3.5	10.4	12,950
AC-92-37 RNL .....	Cantaloupe	16,840	6,104	2.8	8.7	14,017
Hy-Mark .....	Cantaloupe	16,255	5,559	2.9	11.0	6,810
Clipper .....	Cantaloupe	14,742	4,469	3.2	11.7	12,629
Supporter .....	Cantaloupe	3,462	1,199	3.0	13.4	10,210
Acor .....	French charentais	8,069	2,889	2.8	9.6	18,374
Savor .....	French charentais	3,182	1,472	2.1	10.7	12,538
Alienor .....	French charentais	3,155	1,308	2.7	8.6	16,535
<b>Piedmont Substation</b>						
Castella .....	Cantaloupe	54,975	14,802	3.7	7.8	--
Cordele .....	Cantaloupe	32,777	16,517	2.3	9.7	--
Hy-Mark .....	Cantaloupe	28,988	14,802	1.9	9.4	--
AUrora .....	Cantaloupe	28,571	15,217	2.0	8.6	--
AC-82-37-RNL .....	Cantaloupe	19,447	10,652	2.0	10.2	--
Mission .....	Cantaloupe	14,645	8,992	1.8	8.6	--
Lutina .....	Canary melon	24,103	7,525	2.8	10.5	--
Acor .....	French charentais	52,857	11,758	4.5	9.9	--
Alienor .....	French charentais	36,934	10,513	3.6	8.3	--
Savor .....	French charentais	20,579	9,545	2.3	11.6	--
Solarbel .....	Galia	68,049	16,738	4.0	7.5	--
Morning Ice .....	Honeydew	69,297	11,343	6.2	12.6	--
Earli-Dew .....	Honeydew	63,393	15,078	4.2	9.6	--
Morning Dew .....	Honeydew	56,058	10,928	5.4	11.8	--
Iberix .....	Spanish melon	32,929	8,715	3.7	9.3	--

<sup>1</sup>Soluble solids is a practical measure of fruit sweetness. Melons less than 10° Brix do not taste very sweet.

at PS, and May 16 at CAHS.

At EVSRC, preplant fertilization provided 50 pounds of nitrogen (N) and 100 pounds of potassium (K) per acre as 15.5-0-0 and 0-0-60. On March 16, beds were fumigated with methyl bromide at a rate of 400 pounds per acre. Between April 19 and July 26, six pounds of N were injected weekly, alternatively from potassium ni-

trate (KNO<sub>3</sub>) and 20-20-20.

Preplant herbicide at EVSRC was Curbit 3EC applied on March 27 at a rate of four pints per acre. Insect control was provided by applications of Lannate LV (at a rate of 1.5 pints per acre) on April 26 and May 19; Diazinon AG 500 (at a rate of two quarts per acre) on May 5; Asana XL (at a rate of eight ounces per acre) on May 27 and June

19; Ambush (at a rate of eight ounces per acre) on June 3 and 14, and July 7; Sevin 80WP (at a rate of one pint per acre) on June 24 and July 15; Thiodan 3EC (at a rate of 1.5 pints per acre) on June 30; and Kelthane (at a rate of 1.5 pints per acre) on June 30 and July 15. Fungicide applications consisted of Manex (at a rate of 1.5 quart per acre) on April 26; Dithane DF (at a rate of two pounds per acre) on May 5 and 27, and July 7; Manzate 200 DF (at a rate of two pounds per acre) on May 19, June 30, and July 15; and Ridomil/Bravo 81W (at a rate of two pounds per acre) on June 3 and 14. Kocide 101 was also applied on April 26 at a rate of two pounds per acre.

At CAHS, banded preplant fertilizer provided 50 pounds of N per acre, all the recommended phosphorus (P), and 75% of the recommended K, based on soil test results. Between emergence and last harvest, soluble fertilizer was injected weekly through the drip-irrigation system at a rate of six pounds of N per acre, alternately from 20-20-20 and potassium nitrate. Thiodan insecticide and Kocide fungicide (each at a rate of two pounds per acre) were applied on June 2. No other chemicals were used.

At PS, a soil sample was taken following the fall broccoli crop. Soil test results recommended (per acre) no liming, 80 pounds of N, 90 pounds of phosphorous ( $P_2O_5$ ) and no potassium ( $K_2O$ ). Before planting, beds were irrigated and 100 pounds per acre of a 20-10-20 fertilizer were injected. Starting June 5, six pounds of N per acre were injected weekly, alternatively from calcium nitrate [ $Ca(NO_3)_2$ ] and 20-10-20.

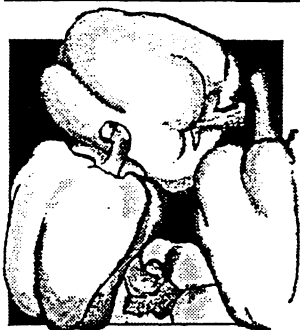
Weed control at PS was provided by two pre-

plant applications of Gramoxone, each at a rate of one pint per acre. Bravo fungicide (at a rate of three pints per acre) and Ambush insecticide (at a rate of three pints per acre) were applied on July 21.

Harvesting small melons at an over-ripe stage will reduce shelf life and increase the risk of splitting during transportation. Flavor may also be adversely affected. Most cantaloupe varieties may be harvested when they slip from the vine. However, 'Castella' and 'Clipper' are extended-shelf life cantaloupes that are ready for harvest when concentric stripes appear around the stem end. Melons of these varieties will continue to ripen for approximately two weeks after harvest. The blossom end will split-open before these varieties actually slip from the vine. Similarly, French charentais, honeydew, canary, and Spanish melons are often over-ripe if harvested when they slip.

In order to maximize marketable yields, French charentais melons may be harvested when the distal end becomes soft to the touch, while the melon still shows a green appearance. Similarly, honeydew melons may be harvested when fruit pubescence has disappeared and the rind shows a yellow taint.

Small melons were harvested and graded on June 26, 28, and 30, and July 5, 7, 10, 13, 17, 19, and 24 at EVSRC; on Aug. 10, 17, and 25 at PS; and on July 20, 24 and 28, and Aug. 1 at CAHS (Table 3). On eight representative melons of each variety at each location, soluble-solid content was determined with a hand-held refractometer to provide a practical measurement of sweetness.



## Heat Wave Affects Bell Pepper Size in Variety Trials

Eric Simonne, Jim Bannon, Robert Boozer, Arnold Caylor, John Eason, Marlin Hollingsworth, Joseph Kemble, Jim Pitts, Marvin Ruf, Kenneth Short, and James Witt

IN 1993, GREEN BELL PEPPERS WERE grown in Alabama on 300 acres, down from over 800 acres in 1992 (Alabama Vegetable Production Statistics, Alabama Cooperative Extension Service). Since then, bell pepper production has been constantly increasing. For commercial production, peppers are planted in double rows on plastic-mulched beds, and fertigated. However, peppers are more traditionally produced in single-rows on bare-ground with overhead or drip irrigation.

Bell pepper variety trials were conducted at the Horticulture Unit of the E.V. Smith Research

**TABLE 1. RATINGS OF 1995 BELL PEPPER VARIETY TRIALS<sup>1</sup>**

Location	EVSRC	NAHS	SMS
Weather .....	3	3	3
Fertility .....	5	5	5
Irrigation .....	5	5	5
Pests .....	5	5	5
Overall .....	4	4	4

<sup>1</sup>See the introduction on page 3 for a description of the rating scales.

Center (EVSRC) in Shorter, the North Alabama Horticulture Substation (NAHS) in Cullman, and the Sand Mountain Substation (SMS) in Crossville (Tables 1 and 2).

Five-week-old peppers were transplanted on May 11 at EVSRC, May 8 at NAHS, and May 8 at SMS on four-foot wide, drip-irrigated, and plastic-mulched beds. Plastic mulch color was black at EVSRC, white at NAHS, and silver at SMS. At EVSRC, peppers were planted in double staggered rows one foot apart, at a within-row spacing of one foot, which created a stand of approximately 15,000 plants per acre. At NAHS and SMS, peppers were planted in single row at a within-row spacing of one foot, creating a stand of approximately 7,300 plants per acre.

At EVSRC, calcium nitrate [Ca(NO<sub>3</sub>)<sub>2</sub>] (at a rate of 50 pounds of nitrogen [N] per acre) and muriate of potash (KCl) (at a rate of 50 pounds of potassium [K] per acre) were applied preplant on March 14. Beds were fumigated with methyl bromide at a rate

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

Variety	Seed source	Type <sup>1</sup>	Days to harvest <sup>2</sup>
Sugar Banana .....	Stokes	Banana	60
Admiral .....	Rogers	Bell	76
Bellguard .....	Harris Seeds	Bell	74
Bell King .....	Harris Seeds	Bell	74
Figaro .....	Vilmorin	Bell	71
Foulki .....	Vilmorin	Bell	76
Guardian .....	Rogers	Bell	74
King Arthur .....	Petoseed	Bell	67
NUN 1393 .....	Nunhems	Bell	--
NVH 3085 .....	Rogers	Bell	--
NVH 3093 .....	Rogers	Bell	--
Redwing .....	Stokes	Bell	72
Red Dawn .....	Stokes	Bell	69
Robin .....	Stokes	Bell	72
Tenno .....	Nunhems	Bell	--
XR3 Camelot .....	Petoseed	Bell	74
XPH 12101 <sup>3</sup> .....	Asgrow	Bell	--
XPH 12113 .....	Asgrow	Bell	--
Zerto .....	Nunhems	Bell	--
Aruba .....	Rogers	Cubanelle	--
Biscayne .....	Petoseed	Cubanelle	67
Key Largo .....	Harris Seeds	Cubanelle	66

<sup>1</sup>Type: Banana = Elongated with pointed end; Cubanelle = Elongated with lobes merging at the tip.

<sup>2</sup>From respective seed catalogues.

<sup>3</sup>Named 'Enterprise.'

of 400 pounds per acre on March 16. Starting immediately after transplanting, 12 pounds of N per acre were injected weekly through the trickle-irrigation system, alternatively from 20-20-20 and potassium nitrate (KNO<sub>3</sub>).

Weed control at EVSRC consisted of applications of Dacthal (at a rate of eight pounds per

acre) on March 27 and Roundup (at a rate of three quarts per acre) on April 5 and May 4. Insect control was provided by applications of Lannate LV (at a rate of two pints per acre) on May 19, June 17, and July 25; Asana (at a rate of eight ounces per acre) on May 27; Ambush 2EC (at a rate of eight ounces per acre) on June 3 and 23, and July

**TABLE 3. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED PEPPER VARIETIES**

Variety	Type	Early marketable wt.	Early fancy wt.	Early US#1 wt.	Early US#2 wt.	Early fancy no.	Early US#1 no.	Early US#2 no.
		<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>no./a.</i>
<b>E.V. Smith Research Center</b>								
Zerto	Bell	12,625	7,040	5,585	7,567	15,493	18,640	30,115
Tenno	Bell	9,379	4,882	4,498	5,686	7,989	17,188	29,292
NVH 3085	Bell	9,223	4,439	4,784	5,197	9,046	15,886	23,608
King Arthur	Bell	8,868	3,416	5,452	8,924	5,904	11,526	31,486
Bell King	Bell	7,910	1,771	6,139	3,914	4,731	21,165	21,912
Redwing	Bell	7,207	4,241	4,026	6,011	10,104	15,157	30,818
Admiral	Bell	6,893	2,080	4,812	9,740	3,150	10,290	32,130
King Arthur	Bell	6,446	2,609	3,837	4,016	2,324	5,810	9,296
X3R Camelot	Bell	5,910	1,796	4,114	4,205	4,115	12,830	18,156
Guardian	Bell	5,495	1,007	4,488	7,352	2,490	12,761	28,635
Bellguard	Bell	4,923	3,547	2,558	6,168	5,262	5,700	22,363
XPH 12101	Bell	4,881	1,317	3,893	5,832	3,409	12,782	24,634
NVH 3093	Bell	4,800	1,846	3,416	5,733	3,645	10,595	24,607
Figaro	Bell	3,782	1,257	3,153	6,541	2,940	11,340	29,820
Robin	Bell	2,046	0	2,046	4,708	0	7,747	19,643
Aruba	Cubanelle	13,482	4,994	8,488	6,139	18,222	35,124	43,311
<b>North Alabama Horticulture Substation</b>								
Foulki	Bell	41,238	29,737	11,501	9,192	164,952	79,170	66,294
Admiral	Bell	38,497	30,682	7,816	4,630	75,400	25,617	10,633
King Arthur	Bell	37,932	28,352	9,580	5,178	79,638	37,477	23,590
Zerto	Bell	30,845	22,607	8,238	5,199	59,793	29,264	25,151
Figaro	Bell	29,627	21,775	7,852	4,866	65,746	31,606	20,484
Robin	Bell	28,728	19,795	8,934	4,208	60,442	32,968	21,521
X3R Camelot	Bell	27,645	21,279	6,365	3,036	51,667	24,147	10,852
Bellguard	Bell	27,013	19,915	7,098	4,189	62,324	22,248	24,835
Guardian	Bell	26,902	20,667	6,235	3,321	52,086	20,720	10,989
NVH 3093	Bell	24,442	18,134	6,308	1,924	34,544	14,273	7,421
NVH 3085	Bell	17,257	11,687	5,570	3,917	37,700	19,631	18,738
Biscayne	Cubanelle	36,140	24,611	11,528	10,483	144,444	60,777	88,311
Key Largo	Cubanelle	29,358	19,325	10,033	8,382	108,750	55,353	65,468
<b>Sand Mountain Substation</b>								
Sugar Banana	Banana	15,589	15,589	0	0	85,407	0	0
Admiral	Bell	12,566	3,646	8,920	174	7,844	27,598	872
Redwing	Bell	11,404	11,404	0	0	35,005	0	0
Robin	Bell	11,245	2,542	8,702	1,162	6,391	30,067	3,777
NUN 1393	Bell	10,213	6,247	3,966	116	14,089	12,201	726
Guardian	Bell	8,702	3,632	5,070	29	7,263	13,508	145
XPH 12101	Bell	8,310	2,020	6,291	0	4,358	14,670	0
X3R Camelot	Bell	5,724	2,775	2,949	436	5,810	9,441	1,307
XPH 12113	Bell	3,661	959	2,702	189	2,179	8,279	726
Red Dawn	Bell	2,324	174	2,150	465	2,034	8,279	2,179
Bell King	Bell	1,075	204	872	218	436	2,760	1,162
Bellguard	Bell	0	0	0	0	0	0	0
Biscayne	Cubanelle	14,790	14,035	756	0	64,201	2,034	0
Aruba	Cubanelle	10,547	10,547	0	0	47,061	0	0
Key Largo	Cubanelle	7,831	7,831	0	0	24,983	0	0

<sup>1</sup>Cumulative productions of the first four harvests -- July 7, 14, and 24, and Aug. 1 at NAHS; July 13 and 27, and Aug. 4 at EVSRC; and June 26 and 30, and July 8 and 11 at SMS.

7; Cygon 4E (at a rate of two pints per acre) on June 7 and 10, and July 25; Thiodan 3EC (at a rate of 1.5 pints per acre) on June 30 and Aug. 5; Kelthane MF (at a rate of 1.5 pints per acre) on June 30, and July 7 and 15; and Sevin 4F (at a rate of one pint per acre) on June 15.

Fungicide applications at EVSRC consisted of Benlate 50 WP (at a rate of twopounds per acre) on June 10; Manzate 200 (at a rate of two pints per acre) on May 19, June 30, and July 15; Dithane DF (at a rate of two pounds per acre) on May 27, July 7, and Aug. 5; and Ridomil/Bravo 81W (at a

**TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED VARIETIES OF PEPPER<sup>1</sup>**

Variety	Type	Total marketable wt. <sup>2</sup>	Total fancy wt.	Total US#1 wt.	Total US#2 wt.	Total cull	Total fancy no.	Total US#1 no.	Total US#2 no.	Ind. fancy fruit wt. <sup>2</sup>
		<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>lb.</i>
<b>E.V. Smith Research Center</b>										
Zerto .....	Bell	14,634	7,040	7,594	11,586	5,521	15,493	27,113	117,988	0.43
Tenno .....	Bell	10,776	4,882	5,894	9,134	7,072	7,989	23,966	108,715	0.51
NVH 3085 .....	Bell	9,277	4,439	4,838	6,465	6,601	9,046	16,106	66,055	0.56
Bell King .....	Bell	8,962	1,771	7,192	6,649	7,652	4,731	25,647	86,058	0.42
King Arthur .....	Bell	8,955	3,416	5,539	11,796	11,437	5,904	11,807	99,638	0.59
Redwing .....	Bell	8,241	4,241	5,060	9,036	5,172	10,104	19,956	110,105	0.65
Admiral .....	Bell	6,893	2,080	4,812	10,143	7,170	3,150	10,290	74,429	0.62
King Arhtur .....	Bell	6,446	2,609	3,837	5,679	12,406	2,324	5,810	38,370	1.12
X3R Camelot .....	Bell	5,910	1,796	4,114	5,217	4,306	4,115	12,830	51,160	0.42
Guardian .....	Bell	5,495	1,007	4,488	8,626	10,106	2,490	12,761	76,055	0.41
Bellguard .....	Bell	4,923	3,547	2,558	6,385	8,774	5,262	5,700	51,401	0.62
XPH 12101 .....	Bell	4,881	1,317	3,893	6,666	9,352	3,409	12,782	61,392	0.40
NVH 3093 .....	Bell	4,800	1,846	3,416	6,688	8,930	3,645	10,595	63,950	0.51
Figaro .....	Bell	3,892	1,257	3,264	8,178	9,731	2,940	11,760	84,137	0.43
Robin .....	Bell	2,046	0	2,046	5,902	11,042	0	7,747	57,860	--
Aruba .....	Cubanelle	13,895	4,994	8,901	7,982	5,203	18,222	38,029	139,527	0.28
<b>North Alabama Horticulture Substation</b>										
Foulki .....	Bell	41,238	29,737	11,501	9,192	593	164,952	79,170	66,294	0.18
Admiral .....	Bell	38,497	30,682	7,816	4,630	411	75,400	25,617	10,633	0.41
King Arthur .....	Bell	37,932	28,352	9,580	5,178	1,218	79,638	37,477	23,590	0.35
Zerto .....	Bell	30,845	22,607	8,238	5,199	1,571	59,793	29,264	25,151	0.39
Figaro .....	Bell	29,627	21,775	7,852	4,866	696	65,746	31,606	20,484	0.33
Robin .....	Bell	28,728	19,795	8,934	4,208	1,529	60,442	32,968	21,521	0.33
X3R Camelot .....	Bell	27,645	21,279	6,365	3,036	1,456	51,667	24,147	10,852	0.38
Bellguard .....	Bell	27,013	19,915	7,098	4,189	1,335	62,324	22,248	24,835	0.33
Guardian .....	Bell	26,902	20,667	6,235	3,321	1,208	52,086	20,720	10,989	0.40
NVH 3093 .....	Bell	24,442	18,134	6,308	1,924	555	34,544	14,273	7,421	0.52
NVH 3085 .....	Bell	17,257	11,687	5,570	3,917	1,747	37,700	19,631	18,738	0.30
Biscayne .....	Cubanelle	36,140	24,611	11,528	10,483	1,739	144,444	60,777	88,311	0.17
Key Largo .....	Cubanelle	29,358	19,325	10,033	8,382	1,304	108,750	55,353	65,468	0.18
<b>Sand Mountain Substation</b>										
Sugar Banana ....	Banana	34,246	34,246	0	0	1,613	220,199	0	0	0.15
Admiral .....	Bell	27,989	5,825	22,165	3,617	6,122	12,782	77,418	19,899	0.46
Redwing .....	Bell	26,977	26,977	0	0	2,996	104,144	0	0	0.26
Robin .....	Bell	25,830	3,762	22,068	4,250	5,507	9,877	80,904	20,626	0.38
Guardian .....	Bell	25,132	5,303	19,829	3,773	7,566	11,184	65,217	17,721	0.47
Red Dawn .....	Bell	24,578	14,555	10,024	1,579	3,082	68,994	44,156	10,168	0.20
XPH 12101 .....	Bell	23,972	3,485	20,487	5,159	2,471	8,134	67,251	24,983	0.43
NUN 1393 .....	Bell	22,743	7,883	14,860	2,132	3,204	18,447	53,016	11,330	0.43
X3R Camelot .....	Bell	20,723	4,804	15,918	2,955	10,792	10,603	57,519	13,654	0.46
XPH 12113 .....	Bell	18,128	2,654	15,474	3,511	3,097	6,972	58,536	17,575	0.38
Bellguard .....	Bell	16,628	949	15,679	5,169	4,669	2,324	61,005	28,614	0.40
Bell King .....	Bell	16,164	4,783	11,381	4,824	5,027	14,961	45,463	27,888	0.35
Biscayne .....	Cubanelle	41,082	40,327	756	0	3,521	218,311	2,034	0	0.18
Aruba .....	Cubanelle	33,484	33,484	0	0	4,559	182,144	0	0	0.18
Key Largo .....	Cubanelle	31,096	31,096	0	0	3,456	183,887	0	0	0.17

<sup>1</sup>Harvest dates were July 7, 14, and 24, Aug. 1, and Sept. 8 at NAHS; July 13 and 27, and Aug. 4, 11, and 18 at EVSRC; and June 26 and 30, July 8, 11, 17, 20 and 25, and Aug. 1, 9, and 17 at SMS.

<sup>2</sup>Marketable yield and individual fruit weight were determined as fancy plus US#1 grades.



rate of two pounds per acre) on June 3, 17, and 23, and July 25.

At NAHS, beds were fumigated with 98% methyl bromide plus 2% chloropicrin at a rate of 400 pounds per acre on April 27. A preplant application of 1,000 pounds per acre of a 5-10-15 fertilizer provided 50 pounds of N, 100 pounds of phosphorous ( $P_2O_5$ ), and 150 pounds of potassium ( $K_2O$ ). Between May 15 and final harvest, injections of combinations of ammonium nitrate ( $NH_4NO_3$ ), calcium nitrate, and potassium nitrate were made weekly through the drip tubes. Application rates ranged between 10 and 20 pounds per acre for ammonium nitration, 10 and 50 pounds per acre for calcium nitrate, and 10 to 90 pounds per acre for potassium nitrate.

Preplant herbicide at NAHS was Treflan 4EC applied on May 3 at a rate of one quart per acre. Weeds between the beds were controlled by applications of Sencor DF (at a rate of one pound per acre) on May 31; Command (at a rate of one quart per acre) on May 31; and Poast (at a rate of one pint per acre) with Crop Oil (at a rate of one quart per acre) on June 5, 16, and 27. Insect control consisted of applications of Dimethoate (at a rate of 0.5 pint per acre) on May 18 and 26, June 2 and 9, and July and 7; Asana (at a rate of 9.6 ounces per acre) on June 16, 23, and 30, and July 7, 17, and 25; and Sevin XLR on May 18 (at a rate of two quarts per acre) and on May 26 (one quart per acre). Plants were also sprayed with Ridomil/Bravo 81W fungicide (at a rate of two

pounds per acre) on May 18 and 26, June 2, 9, 16, 23 and 30, and July 7, 17, and 25.

At SMS, lime was incorporated at a rate of one ton per acre on April 27. Beds were fumigated with methyl bromide at a rate of 300 pounds per acre one week before transplanting. Ammonium nitrate (at a rate of 225 pounds per acre), concentrated superphosphate (at a rate of 100 pounds per acre) and muriate of potash (at a rate of 50 pounds per acre) were preplant applied on April 28. Between May 24 and Aug. 9, fertilization consisted of weekly injections of 10 pounds of N per acre, alternatively from 20-20-20 and potassium nitrate (13-0-44). Injections provided a total of 90 pounds of N per acre.

Insect control at SMS was provided by applications of Sevin (at a rate of one quart per acre) on June 20 and 29, and July 12 and 24; Phaser (at a rate of 1.3 pints per acre) on June 24; and Asana (at a rate of seven ounces per acre) on July 1. Maneb 80 fungicide was applied on June 20 at a rate of one pound per acre. Kocide fungicide was applied on June 20 and July 12 at a rate of two pounds per acre.

Plots were harvested five times between July 24 and Sept. 8 at NAHS, fivetimes between July 13 and Aug. 18 at EVSRC, and 10 times between June 26 and Aug. 17 at SMS. At all locations, fruits were harvested at the mature-green color stage, weighed and graded (Tables 3 and 4) using the standards of the *Sweet Pepper Grader's Guide* (Circular ANR-783 of the Alabama Cooperative Extension Service).



## Colored Pepper Varieties Evaluated on Bare Ground and Plastic Mulch

Eric Simonne, Robert Boozer, John Eason, Joe Little, John Owen,  
Jim Pitts, Marvin Ruf, and Kenneth Short

**M**OST BELL PEPPERS ARE COMMERCIALY harvested at the mature-green stage. However, several blocky-type bell pepper varieties with unusual colors are commercially available. Colored pepper variety trials were conducted at the Lower Coastal Plain Substation (LCPS) in Camden, the Piedmont Substation (PS) in Camp Hill, the Chilton Area Horticulture Substation (CAHS) in Clanton, and the *Sand Mountain Substation* (SMS) in Crossville (Tables 1 and 2).

Five-week-old peppers were transplanted on May 10 at LCPS, on May 8 at PS, May 10 at SMS, and May 12 at CAHS. Pepper were planted in double rows at LCPS, PS and CAHS, and in single rows at SMS. At all locations, within-row spacing was one foot, creating a stand of approxi-

**TABLE 1. RATINGS OF 1995  
COLORED BELL PEPPER VARIETY TRIALS<sup>1</sup>**

Location	LCPS	CAHS	PS	SMS
Weather .....	3	3	3	3
Fertility .....	3	5	5	5
Irrigation .....	4	5	4	4
Pests .....	4	5	5	4
Overall .....	4	4	4	4

<sup>1</sup>At all locations, excessively hot weather reduced blooming rate and resulted in small fruits. At LCPS and SMS, approximately 20% of the stand was lost to viral infection. See the introduction on page 3 for a description of the rating scales.

mately 14,600 plants per acre at LCPS, PS and CAHS, and 7,300 plants per acre at SMS.

Peppers were grown on bare ground at LCPS and SMS, while plastic mulch and drip irrigation were used at PS and CAHS. At PS, peppers were grown as a second crop following cabbage.

At LCPS, lime (at a rate of one ton per acre) and 70 pounds of nitrogen (N) were preplant incorporated following soil-test recommendations. Plots were sidedressed with calcium nitrate [Ca(NO<sub>3</sub>)<sub>2</sub>] at a rate of six pounds of N per acre on May 30 and with ammonium nitrate (NH<sub>4</sub>NO<sub>3</sub>) at a rate of 43 pounds of N per acre on June 14. Between July 5 and Aug. 9, peppers were sidedressed every other week with calcium nitrate at a rate of 30

**TABLE 2. SEED SOURCE, TYPICAL FRUIT COLOR, AND RELATIVE EARLINESS OF SELECTED COLORED PEPPER VARIETIES**

Variety	Seed source	Color	Days to harvest <sup>1</sup>
Black Bird .....	Stokes	black	73
Chocolate Beauty .....	Ball	brown	85
Chocolate Bell .....	Stokes	brown	75
Orange Grande .....	Stokes	orange	76
Oriole .....	Stokes	orange	74
Valencia .....	Rogers	orange	70
Blue Jay .....	Stokes	purple	73
Lilac .....	Rogers	purple	68
Cardinal .....	Stokes	red	70
King Arthur .....	Petoseed	red	72
X3R Camelot .....	Petoseed	red	74
Zerto .....	Nunhems	red	--
Dove .....	Stokes	white	71
Ivory .....	Rogers	white	68
Canary .....	Stokes	yellow	72
Golden Bell .....	Harris Seeds	yellow	68
Klondike Bell .....	Stokes	yellow	72
Orobelle .....	Rogers	yellow	72
Tazza .....	Nunhems	yellow	--
XPH 12113 .....	Asgrow	yellow	--

<sup>1</sup>From respective seed catalogues.

pounds of N per acre. Total sidedress application was 150 pounds of N per acre. The soil was cultivated as needed to control the weeds between the plots. No insecticides or fungicides were needed. Water was provided as needed through drip irri-

gation.

At SMS, lime was incorporated at a rate of one ton per acre on April 27. Ammonium nitrate (at a rate of 210 pounds per acre) was applied preplant on May 3. Peppers were weekly

**TABLE 3. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED COLORED PEPPERS VARIETIES<sup>1</sup>**

Variety	Early marketable wt.	Early fancy wt.	Early US#1 wt.	Early US#2 wt.	Early fancy no.	Early US#1 no.	Early US#2 no.
	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>no./a.</i>
<b>Lower Coastal Plain Substation</b>							
Dove .....	7,376	925	6,451	4,820	4,648	30,018	77,273
Black Bird .....	3,139	425	2,926	7,498	1,162	9,877	45,318
Lilac .....	3,136	519	2,877	5,028	1,700	11,478	41,662
Blue Jay .....	3,097	416	2,889	10,395	2,141	11,696	73,389
King Arthur .....	2,270	289	2,197	6,031	820	7,177	25,154
Cardinal .....	2,087	450	1,974	4,648	1,585	6,932	23,570
Tazza .....	2,028	1,001	1,528	2,167	2,520	4,830	9,660
Zerto .....	1,702	524	1,352	3,474	1,137	4,547	12,125
Valencia .....	1,143	573	999	2,233	1,721	2,797	11,190
Orobelle .....	888	254	761	2,322	801	2,805	11,019
XPH 12113 .....	672	318	513	691	850	1,700	3,118
Golden Bell .....	620	0	620	4,697	0	2,742	28,397
Orange Grande .....	605	0	605	2,578	0	2,089	13,121
Canary .....	518	0	518	2,505	0	1,585	12,676
Klondike Bell .....	515	0	515	1,674	0	1,585	7,923
Oriole .....	238	0	238	1,437	0	917	8,256
<b>Piedmont Substation</b>							
King Arthur (Green) .....	31,336	4,120	27,216	1,316	17,941	21,154	5,445
Tazza (Green) .....	16,335	8,403	7,932	2,632	25,955	31,400	11,435
Dove .....	15,210	7,079	9,901	4,646	23,474	38,297	22,869
Ivory Banana .....	11,589	5,418	6,171	3,893	32,670	44,286	53,543
Ivory .....	10,309	3,149	7,160	5,926	9,983	28,677	21,599
Blue Jay .....	6,970	3,530	3,439	2,783	10,890	13,431	14,520
King Arthur .....	6,498	4,165	2,332	971	9,075	6,897	4,356
Black Bird .....	4,835	3,521	2,488	771	9,075	7,986	3,812
Lilac .....	4,202	1,924	3,240	6,107	5,808	12,524	31,581
Golden Bell .....	2,641	1,851	1,252	617	5,324	4,901	2,904
Valencia .....	1,271	254	2,033	1,960	726	6,534	7,986
Orobelle .....	799	0	799	0	0	2,178	0
Tazza .....	787	563	617	472	1,089	1,815	1,452
Cardinal .....	254	0	254	0	0	726	0
<b>Chilton Area Horticulture Substation</b>							
Black Bird .....	10,763	5,879	4,884	4,838	15,323	23,751	23,559
Blue Jay .....	10,563	1,972	8,590	9,562	5,871	32,658	51,006
Ivory .....	9,737	3,597	6,141	9,041	9,662	21,030	44,712
Valencia .....	6,779	75	6,704	3,131	187	21,928	14,056
Dove .....	5,776	4,031	1,745	423	16,059	9,009	3,133
X3R Camelot .....	5,477	1,826	3,651	3,363	4,207	5,610	13,223
Canary .....	3,638	395	3,243	2,910	968	5,616	11,039
Orobelle .....	3,000	712	2,288	2,945	1,585	2,179	11,092
Lilac .....	2,543	341	2,201	11,055	872	7,495	43,582
<b>Sand Mountain Substation</b>							
Ivory .....	8,416	1,676	6,739	2,089	4,235	22,672	9,343
King Arthur (Green) .....	7,700	585	7,115	1,593	1,433	22,935	7,406
Dove .....	5,126	280	4,847	2,973	678	17,246	14,243
Lilac .....	3,296	375	2,921	2,115	1,061	10,488	10,723
Golden Bell .....	1,291	367	924	0	1,171	3,124	0

<sup>1</sup>Cumulative productions of the first four harvests (July 10, 28, Aug. 1 and 7 at LCPS; July 11, 17, 31 and Aug. 8 at CAHS; July 10, 14, 17 and 20 at PS; and, June 30, July 8, 14 and 18 at SMS)

sidedressed with 30 pounds of N per acre from calcium nitrate on June 7 and 22, and July 6 and 20; potassium nitrate (KNO<sub>3</sub>) on Aug. 3; and ammonium nitrate on Aug. 16 and 31. Plots were overhead irrigated as needed. Preplant herbicide

was Treflan 4EC applied on May 4 at a rate of 1.5 pints per acre. Insect control was provided by applications of Diazinon (at a rate of 0.5 pint per acre) on May 26; Sevin (at a rate of one quart per acre) on May 25, June 20 and 29, and July 7, 12,

**TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED COLORED PEPPER VARIETIES<sup>1</sup>**

Variety	Total market wt. <sup>2</sup>	Total fancy wt.	Total US#1 wt.	Total US#2 wt.	Total cull	Total fancy no.	Total US#1 no.	Total US#2 no.	Individual fancy wt. <sup>2</sup>
	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>lb.</i>
<b>Lower Coastal Plain Substation</b>									
Zerto .....	14,217	4,797	9,420	6,909	4,409	12,125	32,018	32,587	0.39
Tazza .....	9,723	1,381	8,342	5,372	5,952	3,570	29,820	29,190	0.39
Dove .....	9,665	925	8,740	13,081	2,786	4,648	42,413	161,712	0.21
King Arthur .....	7,230	289	7,158	6,870	5,234	820	27,478	35,680	0.35
Cardinal .....	7,012	389	6,818	8,918	5,387	1,188	28,522	51,696	0.35
Black Bird .....	6,971	1,014	6,464	14,292	3,017	2,324	23,821	99,932	0.44
Valencia .....	4,666	529	4,401	8,104	8,791	1,291	17,000	46,910	0.45
Blue Jay .....	3,648	416	3,440	16,082	2,504	2,141	14,678	141,733	0.30
Lilac .....	3,601	519	3,341	9,117	3,477	1,700	13,391	95,015	0.32
XPH 12113 .....	3,480	825	2,655	1,323	9,290	2,126	9,353	7,015	0.38
Klondike Bell .....	3,234	0	3,234	3,805	10,648	0	12,280	21,391	--
Canary .....	2,897	0	2,897	5,286	10,536	0	111,116	28,126	--
Golden Bell .....	2,326	0	2,326	8,996	5,604	0	10,771	65,216	--
Oriole .....	2,290	0	2,290	3,579	8,855	0	10,091	23,852	--
Orobelle .....	1,740	254	1,676	6,495	9,681	801	6,611	37,464	0.32
Orange Grande .....	1,202	0	1,202	4,334	13,383	0	5,092	25,460	--
<b>Piedmont Substation</b>									
K. Arthur (Green) .....	50,353	8,712	41,641	16,580	11,262	41,173	81,884	91,113	0.23
Tazza (Green) .....	44,313	16,562	27,751	12,458	13,041	60,803	109,445	63,162	0.27
Tazza .....	28,850	13,041	15,809	8,385	14,553	49,187	63,888	43,016	0.26
Cardinal .....	28,260	10,218	18,041	12,551	14,611	42,471	66,248	68,789	0.24
Valencia .....	28,105	10,999	17,106	11,126	25,830	48,996	62,981	65,522	0.22
King Arthur .....	27,788	13,504	14,284	12,297	21,426	58,262	54,632	72,237	0.23
Dove .....	26,163	5,681	20,482	35,084	14,747	20,691	92,021	298,912	0.25
Ivory Banana .....	25,592	6,098	19,493	30,492	8,177	38,660	204,914	570,455	0.16
Black Bird .....	23,900	8,978	17,166	24,049	17,841	54,450	72,056	191,120	0.16
Ivory .....	21,090	3,412	17,678	32,670	11,108	13,068	90,750	276,606	0.23
Blue Jay .....	20,836	3,957	16,880	31,354	25,310	14,702	75,549	281,144	0.27
Orobelle .....	20,052	7,873	12,179	12,278	23,168	31,944	50,094	74,052	0.24
Lilac .....	17,415	2,154	15,800	37,389	14,239	13,310	69,696	319,440	0.19
Golden Bell .....	16,553	3,312	13,240	19,911	15,429	12,705	59,714	108,356	0.27
Klondike Bell .....	16,517	5,808	10,709	5,572	14,556	24,684	39,930	27,951	0.24
Chocolate Beauty .....	12,294	2,311	9,983	7,720	6,607	13,794	89,879	44,528	0.21
Oriole .....	12,135	2,597	9,538	9,192	26,826	12,805	35,774	38,986	0.22
<b>Chilton Area Horticulture Substation</b>									
Dove .....	24,044	12,320	7,843	3,882	4,172	54,836	46,415	34,664	0.26
Black Bird .....	22,337	6,928	6,866	8,543	4,134	18,005	30,455	36,584	0.43
Blue Jay .....	21,657	1,972	8,656	11,028	5,983	5,871	32,842	58,345	0.37
Ivory .....	19,853	3,597	6,141	10,116	4,725	9,662	21,030	50,017	0.40
Valencia .....	15,580	75	7,333	8,172	11,647	187	24,177	37,484	0.44
Lilac .....	14,691	341	2,201	12,149	6,179	872	7,495	48,985	0.43
Klondike Bell .....	14,372	0	0	14,372	9,092	0	0	86,967	--
Canary .....	14,033	913	5,046	8,073	15,968	2,324	10,845	34,085	0.43
X3R Camelot .....	13,436	1,826	3,811	7,799	9,929	4,207	6,010	30,653	0.46
Orobelle .....	11,470	918	2,494	8,058	6,103	2,179	2,773	32,483	0.47

<sup>1</sup>Harvest dates were July 10 and 28, Aug. 1, 7, 11, 16, 21, 25 and 31, and Sept. 7 and 13 at LCPS; July 11, 17, 24, and 31, and Aug. 8 at CAHS; July 10, 14, 17, 20, 25, 26, 28 and 31, Aug. 3, 7, 11, 16, 22, 25 and 31, and Sept. 7, 12, and 20 at PS; and June 30, July 8, 14, 18, 24 and 27, and Aug. 1, 7, 15, 21, and 28, and Sept. 6 at SMS.

<sup>2</sup>Marketable yield and individual fruit weight were determined as Fancy plus US#1 grades.

**TABLE 4 (CONTINUED). TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED COLORED PEPPER VARIETIES<sup>1</sup>**

Variety	Total market. wt. <sup>2</sup>	Total fancy wt.	Total US#1 wt.	Total US#2 wt.	Total cull	Total fancy no.	Total US#1 no.	Total US#2 no.	Individual fancy wt. <sup>2</sup>
	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>no./a.</i>	<i>lb.</i>
<b>Sand Mountain Substation</b>									
King Arthur .....	16,555	6,251	10,304	1,166	3,540	10,723	25,335	5,538	0.58
K. Arthur (Green) .....	15,132	1,815	13,317	5,339	1,490	4,061	45,870	26,041	0.44
Cardinal .....	15,003	6,122	8,881	1,791	2,485	13,140	27,713	7,048	0.46
XPH 12113 .....	14,091	7,947	6,144	1,104	5,241	16,522	18,664	3,825	0.48
Ivory .....	13,467	1,737	11,730	7,445	2,099	4,360	44,846	43,725	0.41
Orobelle .....	12,818	4,697	8,121	827	1,419	9,638	22,029	3,366	0.49
Oriole .....	11,414	1,900	9,514	1,207	3,514	3,685	27,388	5,772	0.51
Valencia .....	10,941	3,397	7,544	984	2,405	6,976	20,928	4,069	0.49
Orange Grande .....	10,560	4,216	6,344	776	4,751	7,860	17,686	3,685	0.53
Lilac .....	8,956	650	8,306	9,582	2,188	1,768	32,405	97,923	0.38
Golden Bell .....	8,508	537	7,971	3,176	3,780	1,562	29,023	18,091	0.35
Dove .....	8,236	349	7,888	6,151	1,794	872	30,229	35,752	0.41
Tazza .....	7,950	3,696	4,254	451	2,772	8,199	12,624	1,562	0.44
Chocolate Beauty .....	7,037	2,270	4,767	1,205	1,746	5,571	17,561	5,934	0.42

<sup>1</sup>Harvest dates were July 10 and 28, Aug. 1, 7, 11, 16, 21, 25 and 31, and Sept. 7 and 13 at LCPS; July 11, 17, 24, and 31, and Aug. 8 at CAHS; July 10, 14, 17, 20, 25, 26, 28 and 31, Aug. 3, 7, 11, 16, 22, 25 and 31, and Sept. 7, 12, and 20 at PS; and June 30, July 8, 14, 18, 24 and, 27, and Aug. 1, 7, 15, 21, and 28, and Sept. 6 at SMS.

<sup>2</sup>Marketable yield and individual fruit weight were determined as Fancy plus US#1 grades.

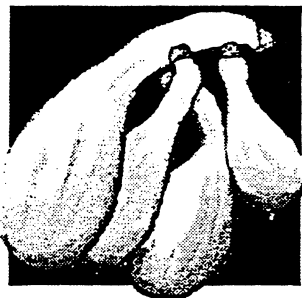
and 19; Asana (at a rate of nine ounces per acre) on June 2, and 9, and July 1; and Phaser (at a rate of 1.3 pints per acre) on June 24. Kocide 101 (fungicide) was applied on June 24 at a rate of two pounds per acre.

At PS, a soil sample was taken following the fall cabbage crop. Soil test results recommended (per acre) no liming, 100 pounds of N, 140 pounds of phosphorous (P<sub>2</sub>O<sub>5</sub>), and 120 pounds of potassium (K<sub>2</sub>O). Before transplanting, the beds were irrigated, and 100 pounds per acre of a 20-10-20 fertilizer were injected. Starting May 15, six pounds of N per acre were injected weekly, alternately from calcium nitrate and 20-10-20. Weed control was provided by two preplant applications of Gramoxone. Bravo fungicide (at a rate of three pints per acre) and Ambush insecticide (at a rate of three pints per acre) were applied on July 21.

At CAHS, peppers were grown on new beds covered with black plastic mulch. Preplant fertilizer provided 30 pounds of N per acre, all the recommended phosphorous (P), and 75% of the recommended potassium (K), as based on soil test results. Between emergence and last harvest, soluble fertilizer was injected weekly at a rate of

six pounds of N per acre alternately from 20-20-20 and potassium nitrate. Insect control was provided by applications of Thiodan (at a rate of two pounds per acre) on May 19 and 29, and June 16 and 23; Lannate (at a rate of two pounds per acre) on May 29; and Ambush (at a rate of four pints per acre) on June 30. Fungicide applications consisted of sprays of Ultra Bravo (at a rate of two pints per acre) on June 16 and 30; and Dithane (at a rate of two pounds per acre) on May 19. Kocide fungicide was applied on May 19 and 29, and June 16 and 30 at a rate of two pounds per acre.

At all locations, fruits were harvested at the 3/4 colored stage, weighed and graded using the standards of the *Sweet Pepper Grader's Guide* (Circular ANR-783 of the Alabama Cooperative Extension Service). Plots were harvested 11 times between July 10 and Sept. 13 at LCPS; six times between July 11 and Aug. 8 at CAHS; 18 times between July 10 and Sept. 20 at PS; and, 12 times between June 30 and Sept. 6 at SMS. Early production included the first four harvests (Tables 3 and 4).



# Some Summer Squash Varieties May Mask Virus Effects

Eric Simonne, Robert Boozer, Arnold Caylor, Brian Gamble, Marlin Hollingsworth, Henry Ivey, Joseph Kemble, Jim Pitts, Randall Rawls, Kenneth Short, and Larry Wells

**YELLOW SUMMER SQUASH** (straightneck or crookneck) have traditionally been grown in Alabama. In 1993, squash acreage in Alabama was 1,500 acres for yellow squash (straightnecks and crooknecks combined) and 100 acres for zucchini (Alabama Vegetable Production Statistics, Alabama Cooperative Extension Service).

Yellow and zucchini squash variety trials were conducted at the Wiregrass Substation (WS) in Headland, the Chilton Area Horticulture Substation (CAHS) in Clanton, the North Alabama Horticulture Substation (NAHS) in Cullman, and the Upper Coastal Plain Substation (UCPS) in Winfield (Table 1 and 2).

At all locations, squash were direct seeded at a one-inch depth in single-row plots five feet wide

Location	WS	CAHS	UCPS	NAHS
Weather .....	5	5	5	5
Fertility .....	4	5	4	5
Irrigation .....	5	5	5	5
Pests .....	5	5	5	5
Overall .....	5	5	5	5

<sup>1</sup>At WS and UCPS, the early incidence of blossom-end rot was corrected by injecting calcium nitrate in place of potassium nitrate. See the introduction on page 1 for a description of the rating scales.

and 20 feet long. In-row spacing was 18 inches, which provided a stand of 6,000 plants per acre, approximately. Yields were corrected for stand. At WS, CAHS, and UCPS, the trials were drip irrigated, and the beds were covered with black-

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

Variety	Seed source	Days to harvest <sup>1</sup>	Variety	Seed source	Days to harvest <sup>1</sup>
<b>Yellow Crookneck</b>			<b>Green Zucchini</b>		
CS-4 .....	Rogers	--	Botna .....	Nunhems	50
Dixie .....	Asgrow	41	Condor .....	Vilmorin	48
Freedom II .....	Asgrow	--	Elira .....	Nunhems	56
Goldie .....	Petoseed	43	Embassy .....	Petoseed	49
Pavo .....	Asgrow	40	Essor .....	Vilmorin	--
Prelude II .....	Asgrow	--	Giada .....	Nunhems	53
Sundance .....	Petoseed	45	President .....	Petoseed	49
<b>Yellow Semi-Crookneck</b>			Senator .....	Asgrow	41
PSX 41587 .....	Petoseed	--	Spineless Beauty .....	Rogers	43
RXPG 843 .....	Seneca	44	S-2003 .....	Pionner	45
Sunbrite .....	Rogers NK	43	Taylor .....	Vilmorin	--
<b>Yellow Straightneck</b>			Tigress .....	Harris Seeds	47
Lemondrop L. ....	Asgrow	41	XPH 1712 .....	Asgrow	--
Prolific .....	Seneca	45	Zucchini .....	Seneca	42
PSX 391 .....	Petoseed	--	Zucchini Elite .....	Harris Seeds	48
RXP 845 .....	Seneca	45	Zucchini Select .....	Stokes	47

<sup>1</sup>From respective seed catalogues.

plastic mulch. At NAHS, the trial was conducted on bare ground.

At WS, lime was incorporated on March 17 at a rate of 500 pounds per acre. On April 17, 500 pounds per acre of a 13-13-13 fertilizer were applied preplant. Beds were fumigated with methyl bromide at a rate of 300 pounds per acre on April 3. Squash were direct seeded on April 17. Between May 12 and June 23, six pounds per acre of nitrogen (N) were injected weekly through the drip system. Potassium nitrate ( $KNO_3$ ) was used during the first three weeks, but was then replaced by calcium nitrate [ $Ca(NO_3)_2$ ] to reduce the incidence of blossom-end rot. Sonalan, a pre-emergence herbicide was applied at a one quart per acre rate.

Insect control at WS was provided by applications of Asana at a rate of 10 ounces per acre on May 19 and June 2, and at a rate of five ounces per acre on May 26. Bravo fungicide was applied at a rate of one quart per acre on May 19 and 26, and June 2.

At CAHS, planting date was May 15. Preplant fertilizer was banded and provided 30 pounds of N per acre, all the recommended phosphorus (P), and 75% of the recommended potassium (K). Between emergence and last harvest, soluble fertilizer was injected weekly at a rate of six pounds of N per acre alternately from 20-20-20 and potassium nitrate.

Insect control at CAHS was provided by applications of Thiodan (at a rate of two pounds per acre) on June 2, 16 and 23; and Ambush (at a rate of four pints per acre) on June 30. Fungicide applications consisted of sprays of Ultra Bravo (at a rate of two pints per acre) on June 16 and 30; and Kocide (at a rate of two pounds per acre) on June 2, 16, 23, and 30.

At NAHS, fertilization consisted of a preplant

application four days before planting of 13-13-13 at a rate of 900 pounds per acre. Rainfall provided sufficient moisture. Curbit herbicide was applied on May 11 at a rate of 2.5 pints per acre. Insect control consisted of applications of Sevin (at a rate of one quart per acre) on May 26; Dimethoate (at a rate of 0.5 pint per acre) on June 2 and 9, and July 7; and Asana (at a rate of 9.6 ounces per acre) on June 16, 23, and 30, and July 7. Plants were sprayed with Ridomil/Bravo 81W fungicide (at a rate of two pounds per acre) on June 2, 9, 16, 23, and 30, and July 7.

At UCPS, beds were fumigated with 98% methyl bromide plus 2% chloropicrin at a rate of 400 pounds per acre approximately two weeks before planting. Preplant fertilizer provided 40 pounds of N per acre and 50 pounds of P per acre, as recommended by soil-test results. Planting date was May 15. Beginning May 25 and for nine weeks, weekly injections through the drip tubes provided six pounds of N per acre, alternatively from potassium nitrate, 20-20-20, and calcium nitrate. No chemical sprays were necessary.

Frequent harvests are needed for summer squash to remain "fairly young and fairly tender," which are necessary characteristics for squash to be graded as US#1. Hence, fruits were harvested 17 times between May 19 and July 5 at WS; 12 times at CAHS between June 19 and July 17; 10 times at NAHS between June 23 and July 14; and 20 times between June 15 and Aug. 2 at UCPS.

At harvest, fruits were graded as US#1, US#2, or cull according to the *United States Standards for Grades of Summer Squash* (U.S. Dept. Agr. G.P.O. 1987-180-916:40730 AMS). Marketable yield was calculated by adding the US#1 and US#2 yields. Earliness (Table 3) was evaluated by combining the yields of the first four harvests. Total production (Table 4) was also determined.

TABLE 3. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED SQUASH VARIETIES<sup>1</sup>

Variety	Type	Early market. wt. <sup>2</sup>	Early US#1 wt.	Early US#2 wt.	Early US#1no.	Early US#2 no.
		lb./a.	lb./a.	lb./a.	no./a.	no./a.
<b>Wiregrass Substation</b>						
CS-4	Yellow crookneck	18,399	18,399	0	42,040	0
Pavo	Yellow crookneck	17,424	17,399	25	30,368	124
Goldie	Yellow crookneck	17,243	17,123	120	35,753	598
Dixie	Yellow crookneck	15,881	15,627	254	32,652	1,779
Sundance	Yellow crookneck	14,712	14,662	51	36,972	254
Botna	Green zucchini	24,622	24,622	0	20,963	0
S-2003	Green zucchini	23,975	23,975	0	20,567	0
Elite	Green zucchini	23,948	23,666	281	22,283	117
Condor	Green zucchini	23,713	23,221	493	18,178	352
Essor	Green zucchini	23,397	23,397	0	22,517	0
Embassy	Green zucchini	22,916	22,916	0	18,882	0
Spineless Beauty	Green zucchini	22,381	22,381	0	16,710	0
Select	Green zucchini	21,192	20,910	281	19,937	1,055
President	Green zucchini	18,928	18,659	270	15,832	586
Tigress	Green zucchini	15,832	15,692	141	13,839	117
Elira	Green zucchini	14,319	14,319	0	12,563	0
<b>Chilton Area Horticulture Substation</b>						
Dixie	Yellow crookneck	17,163	8,771	8,392	29,120	14,026
Pavo	Yellow crookneck	16,136	7,744	8,392	27,127	14,931
CS-4	Yellow crookneck	15,458	8,686	6,772	32,931	14,514
Goldie	Yellow crookneck	14,278	6,280	7,998	20,631	15,181
Freedom II	Yellow crookneck	14,079	7,787	6,292	29,296	13,632
Sundance	Yellow crookneck	12,850	7,462	5,388	27,809	10,611
Prelude II	Yellow crookneck	11,915	5,129	6,786	17,152	12,070
Elite	Green zucchini	18,544	8,425	10,120	17,424	11,201
S-2003	Green zucchini	16,064	7,560	8,504	12,819	8,712
Spineless Beauty	Green zucchini	15,515	5,722	9,794	10,762	8,729
Senator	Green zucchini	15,327	6,629	8,699	11,823	8,712
Tigress	Green zucchini	14,613	6,357	8,256	11,587	8,172
President	Green zucchini	14,206	5,619	8,586	11,024	9,148
Select	Green zucchini	13,596	5,632	7,964	9,757	8,294
Elira	Green zucchini	13,342	6,417	6,926	13,038	6,519
Condor	Green zucchini	12,803	4,622	8,181	8,177	8,732
XPH 1712	Green zucchini	12,669	5,456	7,213	10,164	7,653
Embassy	Green zucchini	11,841	4,645	7,196	9,148	7,562
Essor	Green zucchini	11,156	5,958	5,198	11,838	5,620
<b>North Alabama Horticulture Substation</b>						
Dixie	Yellow crookneck	9,261	7,401	1,860	34,106	4,969
Sunbrite	Yellow semi-crookneck	7,979	6,019	1,959	25,523	4,856
PSX 41587	Yellow semi-crookneck	5,022	4,044	978	14,979	2,461
RXPG 843	Yellow semi-crookneck	3,807	3,184	623	11,971	2,146
RXP 845	Yellow straightneck	14,294	6,454	7,839	27,276	1,774
Lemondrop L.	Yellow straightneck	7,235	6,549	686	18,634	2,823
Prolific	Yellow straightneck	5,609	5,065	545	19,557	1,367
PSX 391	Yellow straightneck	2,625	2,331	294	8,870	887
Zucchini	Green zucchini	11,595	10,198	1,396	15,573	1,960
Taylor	Green zucchini	8,716	7,601	1,115	13,084	2,218
Giada	Green zucchini	7,538	7,076	462	10,752	481
Embassy	Green zucchini	6,832	5,506	1,326	8,168	2,178
Senator	Green zucchini	4,968	4,691	277	7,594	460
XPH 1712	Green zucchini	2,517	2,255	262	3,870	352
<b>Upper Coastal Plain Substation</b>						
Dixie	Yellow crookneck	22,243	13,434	8,809	--	--
Sundance	Yellow crookneck	20,565	14,927	5,638	--	--
Sunbrite	Yellow semi-crookneck	16,422	9,658	6,764	--	--
PSX 41587	Yellow semi-crookneck	10,989	7,868	3,121	--	--
Lemondrop L.	Yellow straightneck	19,285	10,042	9,243	--	--
PSX 391	Yellow straightneck	17,780	9,642	8,138	--	--
Supreme	Yellow straightneck	16,591	9,682	6,909	--	--
Taylor	Green zucchini	34,552	15,946	18,605	--	--
Zucchini	Green zucchini	31,833	12,874	18,959	--	--
RXPG 843	Green zucchini	24,583	9,823	14,760	--	--
Embassy	Green zucchini	24,505	14,224	10,281	--	--
Senator	Green zucchini	23,603	12,942	10,660	--	--
Giada	Green zucchini	10,980	10,670	310	--	--

<sup>1</sup>Combined yields of May 19, 22, 25, and 29 at WS; June 19, 21, 23, and 26 at CAHS; June 23, 26, 28, and 30 at NAHS; and June 15, 19, 22, and 23 at UCPS.<sup>2</sup>Marketable Yields were determined as US#1 plus US#2 grades.

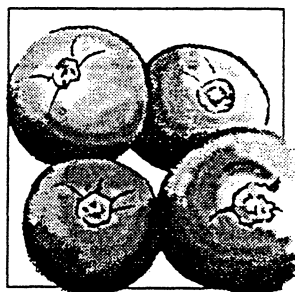


**TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED SQUASH VARIETIES<sup>1</sup>**

Variety	Type	Total	Total	Total	Total	Total	Total	Ind. US#1 fruit wt.
		market wt. <sup>2</sup>	US#1 wt.	US#2 wt.	cull	US#1 no.	US#2 no.	
		lb./a.	lb./a.	lb./a.	lb./a.	no./a.	no./a.	lb.
<b>Wiregrass Substation</b>								
CS-4	Yellow crookneck	60,154	60,154	0	17,536	122,357	0	0.49
Goldie	Yellow crookneck	49,660	49,541	120	29,631	101,640	598	0.49
Pavo	Yellow crookneck	44,450	44,425	25	30,940	77,661	124	0.58
Sundance	Yellow crookneck	40,929	40,878	51	22,793	94,525	254	0.44
Dixie	Yellow crookneck	40,370	40,116	254	26,096	76,103	1,779	0.53
Botna	Green zucchini	55,673	55,673	0	32,823	49,550	0	1.11
S-2003	Green zucchini	49,289	49,289	0	23,694	48,548	0	1.03
Condor	Green zucchini	47,427	46,934	493	24,024	40,930	352	1.16
Elite	Green zucchini	45,867	45,586	281	43,516	42,220	117	1.08
Spineless Beauty	Green zucchini	45,787	45,787	0	36,462	38,542	0	1.20
Essor	Green zucchini	44,765	44,765	0	28,070	41,751	0	1.07
Embassy	Green zucchini	43,140	43,140	0	32,884	37,880	0	1.13
Select	Green zucchini	42,489	42,208	281	31,958	42,220	1,055	1.00
President	Green zucchini	40,554	40,285	270	29,102	38,467	586	1.05
Tigress	Green zucchini	40,361	40,220	141	20,975	35,183	117	1.14
Elira	Green zucchini	31,559	31,559	0	18,429	29,516	0	1.09
<b>Chilton Area Horticulture Substation</b>								
Pavo	Yellow crookneck	26,879	12,695	14,184	46,267	46,895	29,651	0.27
Dixie	Yellow crookneck	26,058	13,198	12,859	40,054	50,769	26,376	0.26
CS-4	Yellow crookneck	26,057	12,732	13,325	34,678	52,690	30,736	0.25
Prelude II	Yellow crookneck	25,561	12,044	13,517	27,162	44,849	26,299	0.27
Freedom II	Yellow crookneck	24,160	12,401	11,759	30,221	50,342	26,307	0.25
Goldie	Yellow crookneck	23,715	10,448	13,268	29,653	39,575	25,821	0.26
Sundance	Yellow crookneck	20,548	10,781	9,767	30,146	44,762	22,930	0.24
Tigress	Green zucchini	42,941	16,466	26,476	40,275	32,565	27,077	0.51
Elite	Green zucchini	42,064	17,942	24,122	36,769	38,955	24,394	0.46
S-2003	Green zucchini	32,322	13,731	18,591	50,984	27,007	20,535	0.51
Essor	Green zucchini	31,707	13,082	18,625	37,565	27,024	18,893	0.48
Embassy	Green zucchini	31,262	12,378	18,885	52,270	26,223	18,417	0.47
Senator	Green zucchini	30,526	13,175	17,351	46,338	27,505	18,046	0.48
Spineless Beauty	Green zucchini	30,489	12,593	17,896	54,009	25,470	18,415	0.49
XPH 1712	Green zucchini	30,331	12,485	17,846	44,776	26,785	18,415	0.47
President	Green zucchini	28,644	13,096	15,547	37,503	27,795	17,709	0.47
Elira	Green zucchini	27,054	13,726	13,328	49,561	29,230	14,510	0.48
Select	Green zucchini	26,073	11,465	14,608	45,218	23,784	16,100	0.48
Condor	Green zucchini	25,415	10,373	15,041	58,263	20,651	15,523	0.51
<b>North Alabama Horticulture Substation</b>								
Dixie	Yellow crookneck	22,726	13,227	9,499	233	52,966	14,230	0.25
Sunbrite	Yellow semi-crookneck	17,798	11,535	6,263	1,123	45,399	10,277	0.26
RXPG 843	Yellow semi-crookneck	14,819	9,372	5,447	471	24,055	6,889	0.38
PSX 41587	Yellow semi-crookneck	12,059	7,580	4,479	514	31,348	7,168	0.24
Lemondrop L.	Yellow straightneck	19,854	13,803	6,051	11	31,395	7,002	0.46
RXP 845	Yellow straightneck	15,560	11,048	4,512	170	49,009	7,983	0.23
PSX 391	Yellow straightneck	14,839	9,204	5,635	98	32,488	6,653	0.28
Prolific	Yellow straightneck	12,713	8,970	3,743	407	33,436	5,257	0.27
Giada	Green zucchini	28,332	20,186	8,146	594	25,838	4,815	0.82
Taylor	Green zucchini	25,625	17,711	7,915	625	27,055	5,877	0.66
Embassy	Green zucchini	24,970	14,951	10,019	897	17,206	5,990	1.09
Zucchini	Green zucchini	22,535	17,737	4,798	81	30,710	5,336	0.57
Senator	Green zucchini	20,613	13,724	6,889	291	19,791	4,948	0.70
XPH 1712	Green zucchini	8,931	6,241	2,689	36	10,320	2,111	0.68
<b>Upper Coastal Plain Substation</b>								
Dixie	Yellow crookneck	86,312	58,863	27,449	56,570	--	--	--
Sundance	Yellow crookneck	78,638	55,442	23,196	57,819	--	--	--
Sunbrite	Yellow semi-crookneck	83,142	59,433	23,710	69,527	--	--	--
PSX 41587	Yellow semi-crookneck	71,713	52,161	19,552	71,945	--	--	--
PSX 391	Yellow straightneck	88,034	50,742	37,293	72,911	--	--	--
Supreme	Yellow straightneck	84,881	64,537	20,344	59,984	--	--	--
Lemondrop L.	Yellow straightneck	80,547	52,888	27,660	68,154	--	--	--
Giada	Green zucchini	116,381	89,205	27,176	106,086	--	--	--
Embassy	Green zucchini	115,718	78,717	37,001	126,850	--	--	--
Taylor	Green zucchini	110,817	69,271	41,546	84,826	--	--	--
Zucchini	Green zucchini	107,389	66,640	40,750	42,943	--	--	--
Senator	Green zucchini	94,157	62,443	31,714	61,072	--	--	--
RXPG 843	Green zucchini	79,034	52,408	26,625	39,454	--	--	--

<sup>1</sup>At WS, plots were harvested on May 19, 22, 25, 29 and 31, June 2, 6, 9, 12, 14, 16, 19, 21, 23, 26 and 28, and July 5; at CAHS, June 19, 21, 23, 26, 28 and 30, July 3, 5, 7, 10, 13, and 17; at NAHS, June 23, 26, 28, and 30, and July 3, 5, 7, 10, 12, and 14; at UCPS, June 15, 19, 22, 23, 26, 28, and 30, July 5, 7, 10, 12, 14, 17, 19, 21, 24, 26, 28, and 31, and Aug. 2.

<sup>2</sup>Marketable Yields were determined as US#1 plus US#2 grades.



## Fresh-Market and Roma-Type Tomatoes Included in Trials

Eric Simonne, Arnold Caylor, John Eason, Brian Gamble, Marlin Hollingsworth, Henry Ivey, Joseph Kemble, Marvin Ruf, and Larry Wells

**TOMATO VARIETY TRIALS** WERE conducted at the Wiregrass Substation (WS) in Headland, the North Alabama Horticulture Substation (NAHS) in Cullman, and the Sand Mountain Substation (SMS) in Crossville (Tables 1 and 2).

Five-week-old tomatoes were transplanted on May 2 at WS, on May 8 at NAHS, and on May 8 at SMS onto three-foot-wide, trickle-irrigated beds covered with plastic. The plastic color was black at WS, white at NAHS, and silver at SMS. At all locations, plots were 12 feet long and four feet wide. Within-row spacing was 18 inches, which created an approximate stand of 5,800 plants per acre.

At WS, lime was applied on March 28 at a rate of 500 pounds per acre. Preplant fertilizer was 13-13-13 applied at a rate of 500 pounds per acre on March 27. Beds were fumigated on April 3 with 250 pounds per acre of methyl bromide. Fertilizer was injected weekly through the drip lines at a rate of six pounds of nitrogen (N) per acre, from potassium nitrate (KNO<sub>3</sub>) between May 12 and May 25, and from calcium nitrate between [Ca(NO<sub>3</sub>)<sub>2</sub>] June 12 and July 19. A total of 62 pounds of N per acre was injected throughout the growing season.

Insect control at WS was provided by applications of Asana at a rate of 10 ounces per acre on May 19 and June 2, and at a rate of five ounces per acre on May 26 and July 7. Bravo fungicide was applied at a rate of one pound per acre on May 19 and 26, and June 2, and at a rate of 1.5 pound per acre on June 19 and 30, and July 7, 14, and 21.

**TABLE 1. RATINGS OF 1995 TOMATO VARIETY TRIALS<sup>1</sup>**

Location	WS	NAHS	SMS
Weather .....	4	5	5
Fertility .....	5	5	5
Irrigation .....	5	5	5
Pests .....	4	4	4
Overall .....	5	5	5

<sup>1</sup>At WS, late planting suffered from high temperature in the latter part of the production period. See the introduction on page 3 for a description of the rating scales.

**TABLE 2. SEED SOURCE, FRUIT CHARACTERISTICS, AND RELATIVE EARLINESS OF TOMATOES**

Variety	Seed source	Type <sup>1</sup>	Days to harvest <sup>2</sup>
Acclaim .....	Sakata	FM	--
Celebrity .....	Petoseed	FM	72
Daybreak .....	Petoseed	FM	--
Granola .....	Nunhems	FM	85
Joker .....	Vilmorin	FM	82
Liberty (#670) .....	Twilley	FM	80
Medina .....	Vilmorin	FM	62
Merced .....	Rogers	FM	69
Mt. Delight .....	Petoseed	FM	70
Mt. Spring .....	Rogers	FM	69
Muril .....	Nunhems	FM	80
Olympic .....	Petoseed	FM	76
Redstone <sup>3</sup> .....	Stokes	FM	66
Scarlet Express VF <sup>4</sup> .....	Stokes	FM	64
Supersonic .....	Harris Seeds	FM	79
Sunbeam .....	Asgrow	FM	75
Sunpride .....	Asgrow	FM	--
Ultra Sweet VFT .....	Stokes	FM	62
Ultramagnum VFT .....	Stokes	FM	68
Capri VF (p) .....	Stokes	Roma	70
Macero II (p) .....	Harris Seeds	Roma	76
Olinda (p) .....	Nunhems	Roma	80
STM 3806 (p) .....	Sakata	Roma	--
Marinda (p) <sup>5</sup> .....	Nunhems	Marmande	83

<sup>1</sup>Type: FM = Fresh Market; Roma = Elongated Fruits; Marmande = Round, Sutured Fruits; (p) = processing.

<sup>2</sup>From respective seed catalogues.

<sup>3</sup>Formerly MTH 9115.

<sup>4</sup>Formerly MTH 923.

<sup>5</sup>Marinda is an underterminate variety; others are determinate.

At NAHS, beds were fumigated with 98% methyl bromide plus 2% chloropicrin at a rate of 400 pounds per acre on April 27. A preplant application of 1,000 pounds per acre of a 5-10-15 fertilizer provided 50 pounds of N, 100 pounds of phosphorous (P<sub>2</sub>O<sub>5</sub>), and 150 pounds of potassium (K<sub>2</sub>O). Between May 15 and final harvest, injections of combinations of ammonium nitrate (NH<sub>4</sub>NO<sub>3</sub>), calcium nitrate, and potassium nitrate were made weekly through the drip tubes. Application rates ranged between 10 and 20 pounds per acre for ammonium nitrate, 10 and 50 pounds per acre for calcium nitrate, and 10 to 90 pounds per

acre for potassium nitrate.

Preplant herbicide at NAHS was Treflan 4EC applied on May 3 at a rate of one quart per acre. Weeds between the beds were controlled by applications of Sencor DF (at a rate of one pound per acre) and Command (at a rate of one quart per acre) on May 31; and Poast (at a rate of one pint per acre) and Crop Oil (at a rate of one quart per acre) on June 16. Insect control consisted of applications of Dimethoate (at a rate of 0.5 pint per acre) on May 18 and 26, June 2 and 9, and July 7; Asana (at a rate of 9.6 ounces per acre) on June 16, 23, and 30, and July 7, 17, and 25; and

**TABLE 3. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED FRESH-MARKET TOMATO VARIETIES<sup>1</sup>**

Variety	Early market. wt. <sup>2</sup>	Early jumbo wt.	Early jumbo no.	Early x-large wt.	Early x-large no.	Early large wt.	Early large no.	Early med. wt.	Early med. no.
	lb./a.	lb./a.	no./a.	lb./a.	no./a.	lb./a.	no./a.	lb./a.	no./a.
<b>Wiregrass Substation</b>									
Sunbeam .....	1,089	726	1,089	726	1,452	0	0	0	0
Muril .....	1,072	536	894	536	894	0	0	0	0
Medina .....	920	0	0	290	726	1,089	2,904	3,436	363
Merced .....	871	0	0	0	0	871	1,452	1,016	0
Ultra Sweet VFT .....	726	0	0	726	1,452	0	0	0	0
Marinda .....	649	1,199	1,499	375	749	0	0	0	0
Liberty .....	536	0	0	0	0	536	894	1,251	0
Daybreak .....	436	436	726	0	0	0	0	0	0
<b>North Alabama Horticulture Substation<sup>3</sup></b>									
Scarlet Express .....	31,102	2,192	3,675	14,503	35,393	14,407	30,492	0	0
Redstone .....	24,158	2,051	3,812	15,908	37,389	6,198	19,602	0	0
Granola .....	19,347	8,383	13,749	11,496	25,592	3,124	9,983	0	0
Daybreak .....	19,131	10,360	17,288	10,097	22,506	1,597	5,627	0	0
Red Hunter .....	13,662	0	0	12,518	278	1,143	3,812	0	0
Mt. Spring .....	13,069	8,630	12,524	3,930	8,848	509	1,906	0	0
Mt. Delight .....	11,874	5,740	8,984	5,264	11,571	870	2,995	0	0
Olympia .....	10,727	0	0	9,186	19,058	1,541	5,445	0	0
Supersonic .....	9,819	5,875	9,257	3,144	6,806	799	2,723	0	0
Joker .....	7,551	5,250	8,576	1,937	4,764	363	1,361	0	0
<b>Sand Mountain Substation</b>									
Medina .....	11,341	510	908	2,382	5,627	8,577	25,955	3,349	8,712
Ultra Sweet VFT .....	7,420	562	1,210	3,135	6,353	3,863	10,890	531	2,420
Scarlet Express .....	6,757	388	726	2,181	4,719	4,479	13,613	1,734	5,324
Redstone .....	5,481	775	1,089	2,414	4,211	2,680	7,805	1,163	3,630
Liberty .....	5,315	0	0	2,459	5,324	3,472	10,346	1,064	3,267
Merced .....	5,114	1,172	1,694	2,763	5,082	1,472	3,812	187	726
Celebrity .....	4,021	863	1,210	2,605	5,082	1,024	2,662	163	726
Acclaim .....	3,359	675	968	1,987	3,920	968	2,759	219	968
Sunpride .....	3,023	525	726	2,216	4,175	900	2,420	0	0
Granola .....	2,464	0	0	1,688	3,630	775	2,178	123	726
Mt. Spring .....	1,448	546	726	1,127	2,178	246	726	143	726
Mt. Delight .....	1,424	652	726	916	1,815	461	1,452	0	0
Joker .....	421	0	0	504	1,089	256	726	0	0

<sup>1</sup>Combined productions of June 28, and July 5 and 7 at WS; July 19 at NAHS; and July 7, 13, and 14 at SMS. Grades and corresponding fruit diameters (D) for fresh-market tomato were Jumbo (D>3.5 inches), Extra-large (D>2.9 inches), Large (D>2.5 inches), Medium (D>2.3 inches), and Small (others).

<sup>2</sup>Marketable production calculated by combining the Jumbo, Extra-Large and Large grades

<sup>3</sup>Yield of first harvest only.

TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED TOMATO VARIETIES<sup>1</sup>

Variety	Total market. <sup>2</sup>	Total wt. jumbo	Total no. jumbo	Total wt. x-large	Total no. x-large	Total wt. large	Total no. large	Total wt. medium	Total no. medium	Total cull	Ind. fruit wt.
	lb./a.	lb./a.	no./a.	lb./a.	no./a.	lb./a.	no./a.	lb./a.	no./a.	lb./a.	lb.
<b>Wiregrass Substation</b>											
Ultramagnum VFT ....	40,669	14,441	21,384	14,230	22,176	11,999	23,443	25,687	1,505	19,272	0.62
Ultra Sweet VFT .....	36,745	6,670	10,346	14,048	23,414	16,026	33,033	40,843	5,899	11,389	0.62
Daybreak .....	28,078	8,149	12,161	11,879	20,147	8,050	15,246	27,860	4,138	20,156	0.55
Celebrity .....	26,744	8,422	13,613	10,309	17,424	8,013	18,150	16,371	1,770	21,063	0.56
Sunbeam .....	23,395	7,587	15,972	9,111	14,883	6,697	12,342	15,455	2,759	21,335	0.52
Supersonic .....	22,107	6,843	12,342	8,077	14,339	7,187	14,883	10,581	3,276	27,969	0.54
Merced .....	21,844	5,917	12,887	10,454	17,061	5,472	11,072	10,727	2,450	21,798	0.49
Acclaim .....	20,063	5,949	8,906	7,628	12,003	6,486	13,358	18,344	3,233	22,351	0.60
Marinda .....	19,522	3,597	6,183	7,241	15,925	8,684	20,796	25,162	824	36,319	0.53
Muril .....	16,095	5,034	8,489	7,361	13,850	4,959	10,722	13,973	4,233	36,278	0.48
Liberty .....	15,481	1,508	3,127	5,428	10,499	8,544	18,541	28,504	3,909	33,385	0.67
Medina .....	6,579	0	0	626	1,271	5,953	16,698	68,925	13,393	19,450	--
<b>North Alabama Horticulture Substation</b>											
Granola .....	73,755	20,743	36,209	36,295	104,408	16,718	48,188	0	0	11,562	0.37
Redstone .....	64,728	7,761	15,428	40,068	101,459	16,899	59,895	0	0	26,526	0.35
Daybreak .....	63,309	33,025	52,817	25,650	61,256	4,634	16,471	0	0	11,807	0.37
Mt. Spring .....	62,910	35,693	52,817	22,783	51,591	4,434	15,518	0	0	17,120	0.40
Supersonic .....	59,278	24,149	39,204	28,480	66,429	6,650	22,597	0	0	16,423	0.38
Mt. Delight .....	58,677	27,782	46,827	25,107	63,434	5,788	22,325	0	0	8,604	0.36
Scarlet Express .....	56,697	10,663	16,607	26,229	65,340	19,806	50,094	0	0	24,959	0.43
Joker .....	52,781	31,296	51,591	18,642	45,733	2,842	10,209	0	0	6,608	0.35
Olympia .....	19,713	10,462	19,965	8,273	17,969	1,467	4,901	0	0	8,191	0.35
<b>Sand Mountain Substation</b>											
Merced .....	58,997	3,162	3,993	33,417	47,553	22,418	64,251	8,317	31,763	6,630	0.60
Liberty .....	57,021	751	1,210	18,407	40,656	38,051	119,427	14,681	45,557	4,014	0.46
Mt. Delight .....	56,862	3,041	11,616	28,666	60,803	25,156	72,419	6,562	23,414	3,041	0.44
Mt. Spring .....	55,230	7,324	9,438	23,621	43,742	24,285	68,426	8,376	29,766	3,809	0.55
Redstone .....	55,132	3,328	4,646	20,616	42,689	31,187	96,994	16,168	55,321	4,605	0.50
Granola .....	54,857	10,557	13,068	22,439	45,012	21,860	67,155	4,364	15,972	7,476	0.55
Celebrity .....	54,121	4,725	7,623	26,583	53,180	22,814	70,241	6,796	27,225	4,344	0.49
Acclaim .....	53,531	3,893	5,518	27,003	52,417	22,636	68,244	8,985	31,508	5,816	0.51
Sunpride .....	53,227	4,471	6,171	26,512	53,361	22,244	64,796	7,131	24,503	3,436	0.52
Ultra Sweet VFT .....	48,413	2,064	3,449	16,723	33,215	29,625	85,668	17,021	55,902	4,419	0.48
Joker .....	45,868	3,161	4,719	19,865	40,656	22,843	50,820	4,466	15,065	9,781	0.54
Medina .....	33,146	666	1,089	3,371	7,805	29,276	95,832	34,072	107,630	5,551	0.48
Scarlet Express .....	25,643	129	242	5,362	11,435	20,184	68,607	22,725	71,511	2,496	0.43

<sup>1</sup>Harvests dates were June 28, July 5, 7, 10, 12, 14, 17, 18, 21, 24, 26, 28, and 31 at WS; July 25 and 31, and Aug. 3, 7, and 14 at NAHS; and July 7, 13, 14, 18, 21, 25, and 31, and Aug. 3, 7, and 14 at SMS. Grades and corresponding fruit diameters (D) were Jumbo (D>3.5 inches), Extra-large (D>2.9 inches), Large (D>2.5 inches), Medium (D>2.3 inches) and Small (others).

<sup>2</sup>Marketable production and individual fruit weight calculated by combining the Jumbo, Extra-Large and Large grades.

Sevin XLR on May 18 (two quarts per acre) and on May 26 (one quart per acre). Plants were also sprayed with the fungicide Ridomil/Bravo 81W (at a rate of two pounds per acre) on May 18 and 26, June 2, 9, 16, 23, and 30, and July 7, 17, and 25.

At SMS, lime was incorporated at a rate of one ton per acre on April 27. Beds were fumigated with methyl bromide at a rate of 300 pounds per acre one week before transplanting. Ammonium nitrate (at a rate of 225 pounds per acre), concentrated superphosphate (at a rate of 100

pounds per acre) and muriate of potash (at a rate of 50 pounds per acre) were preplant applied on April 28. Between May 24 and Aug. 9, fertilization consisted of weekly injections of five pounds of N per acre, alternatively as 20-20-20 and potassium nitrate (13-0-44). The injections provided a total of 45 pounds of N per acre.

Insect control at SMS was provided by applications of Sevin XLR (at a rate of one quart per acre) on June 16, 20, and 29, and July 7 and 12; and Asana (at a rate of six ounces per acre) on June 24 and July 1. Fungicide sprays consisted of

applications of Manzate 200 (at a rate of 1.5 pound per acre) on June 14, 24, and July 7; Ridomil (at a rate of 1.5 pounds per acre) on June 14; and Bravo 720 (at a rate of two pints per acre) on June 27, and July 1, 14, 21, and 31.

Plots were harvested 13 times between June 28 and July 31 at WS and five times between July 25 and Aug. 14 at NAHS. At SMS, 10 harvests were done between July 7 and Aug. 14.

At all locations, fruits were harvested at the breaker stage, weighed and graded. Grades and corresponding fruit diameters (D) of fresh-market tomato were adapted from the *Tomato Grader's Guide* (Circular ANR 643 from the Ala-

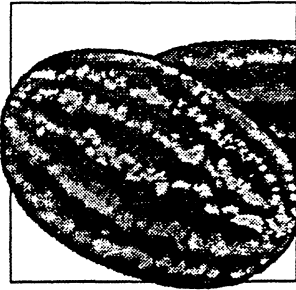
bama Cooperative Extension Service). Grades are Jumbo (D>3.5 inches), Extra-Large (D>2.9 inches), Large (D>2.5 inches), Medium (D>2.3 inches), and Small (others). The grading of Roma-type tomatoes was based on fruit shape more than on fruit size. These grades are Marketable (fruits free of injury and well shaped), Misshaped (fruits free of injury, with defects including pointed end, "pear-shaped" or "eight-shaped"), and Cull.

Early production was determined by adding the yields of the first three harvests (Table 3). Marketable yield was calculated by combining the Jumbo, Extra-Large, and Large grades (Tables 4 and 5).

**TABLE 5. EARLY AND TOTAL PRODUCTION, AND GRADE DISTRIBUTION OF SELECTED PROCESSING TOMATO VARIETIES<sup>1</sup>**

Variety	Early market. wt.	Early market. no.	Total market. wt.	Total market. no.	Total misshaped wt.	Total misshaped no.	Total cull
	<i>lb./a.</i>	<i>no./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>lb./a.</i>	<i>no./a.</i>	<i>lb./a.</i>
<b>Wiregrass Substation</b>							
Capri VF .....	2,130	726	14,085	73,145	109,272	22,860	16,725
STM 3806 .....	643	194	15,561	76,714	105,621	8,301	19,856
<b>North Alabama Horticulture Substation</b>							
STM 3806 .....	33,572	102,185	40,135	127,232	14,254	74,960	24,100
Olinda .....	22,027	92,021	31,465	129,591	15,331	83,672	25,631
Red Hunter .....	15,035	43,653	32,314	117,523	19,419	79,134	21,491
<b>Sand Mountain Substation</b>							
Capri VF .....	7,265	31,400	24,513	170,610	30,321	196,202	4,495
Olinda .....	3,983	17,424	15,226	92,565	33,221	192,572	3,374
Macero II .....	7,112	34,848	9,258	49,368	51,938	288,585	4,343

<sup>1</sup>See Tables 3 and 4 for actual harvest dates. Grades of Roma-type tomatoes were Marketable (fruits free of injury and well shaped), Misshaped (fruits free of injury, with defects including pointed end, "pear-shaped" or "eight-shaped"), and Cull.



# Shortage of Seeds Reveals Alternate Watermelon Varieties

Eric Simonne, Emmett Carden, Arnold Caylor, Vanessa Drouot, John Eason, Brian Gamble, Marlin Hollingsworth, Henry Ivey, Joseph Kemble, Ronald McDaniel, Malcomb Pegues, Marvin Ruf, and Larry Wells

**W**ATERMELON ACREAGE IN ALABAMA has increased regularly in recent years to an estimated 13,000 acres in 1993 (Alabama Vegetable Production Statistics, Alabama Cooperative Extension Service). However, due to the legal issues related to the outbreak of watermelon fruit blotch in 1994, the availability of seeds for production and trial was limited. Available watermelon varieties were tested at the Gulf Coast Substation (GCS) in Fairhope, the Wiregrass Substation (WS) in Headland, the North Alabama Horticulture Substation (NAHS) in Cullman, and the Sand Mountain Substation (SMS) in Crossville (Tables 1 and 2).

Watermelons were direct-seeded on bare ground in plots 60 feet long and five feet wide with a hill spacing of approximately 10 feet. Planting dates were April 6 at GCS and WS, and May 12 at NAHS and SMS.

Location	GCS	WS	NAHS	SMS
Weather .....	5	5	5	5
Fertility .....	4	5	5	5
Irrigation .....	5	5	5	5
Pests .....	5	5	5	5
Overall .....	5	5	5	5

<sup>1</sup>See the introduction on page 3 for a description of the rating scales.

At GCS, fertilization consisted of a preplant broadcast application of a 13-13-13 fertilizer at a rate of 460 pounds per acre on April 5, followed by one sidedress application on May 17 of 15-0-14 at a rate of 200 pounds per acre. Stand was thinned to two plants per hill on May 17. Plants were trickle irrigated as needed. Weed control consisted of applications of Poast (at a rate of 1.5

Variety	Seed source	Type <sup>1</sup>	Flesh color	Days to harvest <sup>2</sup>
Dumara .....	Nunhems	Jubilee	Red	82
Red Honey .....	Nunhems	Icebox	Red	74
Samos .....	Nunhems	Jubilee <sup>3</sup>	Red	82
Crisbi .....	Nunhems	CS	Red	76
AU-Golden Producer .....	Auburn U.	CS	Yellow	75
AU-Sweet Scarlet .....	Auburn U.	CS	Red	88
AU-Producer .....	Auburn U.	CS	Red	77
AU-Jubilant .....	Auburn U.	Jubilee	Red	85
W-1003 (triploid) .....	Pioneer	CS <sup>4</sup>	Red	110
W-1025 (triploid) .....	Pioneer	CS	Red	120
Huck Finn .....	Ferry Morse	Jubilee	Red	85
Triten (triploid) .....	Clemson U.	CS	Red	--

<sup>1</sup>Fruit shape.  
<sup>2</sup>From respective seed catalogues.  
<sup>3</sup>Unlike typical Jubilee-type watermelons, the rind color of Samos was solid dark green.  
<sup>4</sup>Rind pattern like Jubilee.

pints per acre) and Penetrator 3 (at a rate of two quarts per acre) on May 16. Insect control was provided with applications of Thiodan 3EC (at a rate of 2.7 pints per acre) on May 15 and Sevin 80WP (at a rate of 1.25 pound per acre) on May 16 and 31. Bravo 720 fungicide was sprayed at a rate of three pints per acre on May 31, and June 5, 13, 19, and 26.

At WS, 500 pounds per acre of a 13-13-13 fertilizer were applied preplant on April 4. Lime

was incorporated on April 5 at a rate of 500 pounds per acre. On May 20, sidedress fertilizer consisted of 60 pounds of nitrogen (N), 40 pounds of potassium (K), and 20 pounds of sulfur (S) per acre. Sonalan, a pre-emergence herbicide, was applied at a one-pint-per-acre rate on April 4. Plants were overhead-irrigated on April 10, and June 15 and 22. Insect control was provided by applications of Asana at a rate of five ounces per acre on May 26. Bravo fungicide was applied at a

**TABLE 3. YIELD OF SELECTED WATERMELON VARIETIES**

Variety	Type	Market. yield	Market. fruits	Ind. fruit wt.	Soluble solids	Hollow heart
		<i>lb./a.</i>	<i>no./a.</i>	<i>lb.</i>	<i>°Brix</i>	<i>in.</i>
<b>Gulf Coast Substation</b>						
W-1003 .....	CS	19,213	1,668	12	10.8	0
Crisbi .....	CS	17,726	1,414	12	9.7	0
W-1025 .....	CS	13,195	1,305	10	9.9	0
AU-Producer .....	CS	11,818	979	12	9.8	0
AU-Sweet Scarlet .....	CS	10,440	943	11	9.0	0
AU-Golden Producer .....	CS	2,538	326	8	10.0	0
Red Honey .....	Icebox	11,165	1,341	9	9.6	0
Samos .....	Jubilee	14,536	1,269	11	9.4	0
Dumara .....	Jubilee	11,890	979	12	10.2	0
Huck Finn .....	Jubilee	3,190	399	8	8.9	0
<b>Wiregrass Substation</b>						
AU-Golden Producer .....	CS	48,343	2,175	25	10.3	0
Crisbi .....	CS	40,064	2,284	17	8.9	0
AU-Sweet Scarlet .....	CS	37,127	1,994	18	10.8	0
AU-Producer .....	CS	35,163	1,885	18	9.2	0
W-1025 .....	CS	29,268	2,139	13	9.6	0
W-1003 .....	CS	12,104	1,160	11	10.4	0
Red Honey .....	Icebox	39,360	3,118	13	9.4	0
Samos .....	Jubilee	43,957	2,030	22	10.3	0
Dumara .....	Jubilee	35,076	1,740	19	10.4	0
<b>North Alabama Horticulture Substation</b>						
W-1025 .....	CS	45,563	--	--	11.0	6
AU-Golden Producer .....	CS	44,933	--	--	10.9	1
Crisbi .....	CS	43,020	--	--	10.8	4
AU-Sweet Scarlet .....	CS	36,225	--	--	11.0	2
AU-Producer .....	CS	30,870	--	--	11.6	3
Triten .....	CS	25,965	--	--	9.1	7
W-1003 .....	CS	16,718	--	--	10.9	3
Red Honey .....	Icebox	28,688	--	--	10.2	0
Dumara .....	Jubilee	42,975	--	--	11.8	2
Samos .....	Jubilee	40,748	--	--	10.3	0
Huck Finn .....	Jubilee	33,660	--	--	11.4	1
<b>Sand Mountain Substation</b>						
AU-Producer .....	CS	42,920	--	--	9.3	1
Crisbi .....	CS	41,144	--	--	11.0	12
W-1025 .....	CS	39,368	--	--	11.4	1
AU-Sweet Scarlet .....	CS	36,939	--	--	10.6	1
AU-Golden Producer .....	CS	36,431	--	--	12.3	2
W-1003 .....	CS	31,973	--	--	11.3	4
Triten .....	CS	21,279	--	--	10.9	2
Red Honey .....	Icebox	27,840	--	--	9.3	0
Huck Finn .....	Jubilee	50,533	--	--	12.5	7
Dumara .....	Jubilee	44,878	--	--	12.2	1
Samos .....	Jubilee	42,050	--	--	11.8	3

rate of one quart per acre on May 26. Ultrex Bravo fungicide was applied at a rate of 1.4 pound per acre on June 19.

At NAHS, a 13-13-13 fertilizer was preplant incorporated at a rate of 1,000 pounds per acre on May 12. Preplant herbicide was Curbit applied on May 12 at a rate of three pints per acre. Alanap L herbicide was applied at a rate of one gallon per acre on June 22. Pest control consisted of applications of the fungicide Ridomil-Bravo 81W at a rate of two pounds per acre on June 23 and 28, and July 7 and 17; and the insecticide Asana at a rate of 10 ounces per acre on June 16, 23, and 28, and July 7, 17, and 25. Other insecticides included Dimethoate on July 7 at a rate of one pint per acre and Sevin XLR on June 9 at a rate of one quart per acre. The herbicides Post (at a rate of one pint in 50 gallons per acre) and Crop Oil (at a rate of one quart in 50 gallons per acre) were applied on July 1. The fungicides Benlate DF (at a rate of one pound per acre) and Manzate 200 (at a rate of two pounds per acre) were applied on June 9 and 16.

At SMS, a combination of ammonium nitrate, concentrated superphosphate, muriate of potash, and potassium nitrate provided (per acre) 90 pounds of nitrogen (N), 60 pounds of phosphorous ( $P_2O_5$ ), and 70 pounds of potassium ( $K_2O$ ). Preplant herbicide were Prefar 4E and Alanap applied at a rate of four quarts per acre each on

May 12. Insect control was provided by applications of Diazinon (at a rate of one-half pint per acre) on May 27, Asana (at a rate of six ounces per acre) on June 24, and Sevin XLR (at a rate of two pints per acre) on July 7 and 14. Fungicide sprays consisted of applications of Manzate 200 (at a rate of 1.5 pounds per acre) on June 14, 20, and 24, and July 7, 14, 20, and 31; and Bravo 720 (at a rate of two pints per acre) on June 27.

Watermelons were harvested on July 6 and 13 at GCS, July 14 at WS, Aug. 2 at NAHS, and Aug. 16 at SMS.

Important characteristics for watermelons are marketable yield, sweetness, and rind thickness. Fruits were graded as described in the *Watermelon Grader's Guide* (Circular ANR 681 from the Alabama Cooperative Extension Service), and marketable yield was determined. Two representative melons were selected from each plot for the measure of soluble solids, which is often used to evaluate sweetness (Table 3). Watermelons with soluble solid levels of less than 10° Brix do not taste very sweet. Rind thickness is used as an indicator of shipping ability and resistance to bruising and splitting during handling. AU-Sweet Scarlet had a rind thickness of less than a quarter of an inch, and AU-Jubilant had a rind thickness of one inch. For other varieties, rind thickness ranged between one-half and three-quarters of an inch.



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- ★ Main Agricultural Experiment Station, Auburn.
  - ☆ E. V. Smith Research Center, Shorter.
1. Sand Mountain Substation, Crossville.
  2. North Alabama Horticulture Substation, Cullman.
  3. Upper Coastal Plain Substation, Winfield.
  4. Chilton Area Horticulture Substation, Clanton.
  5. Piedmont Substation, Camp Hill.
  6. Lower Coastal Plain Substation, Camden.
  7. Wiregrass Substation, Headland.
  8. Gulf Coast Substation, Fairhope.