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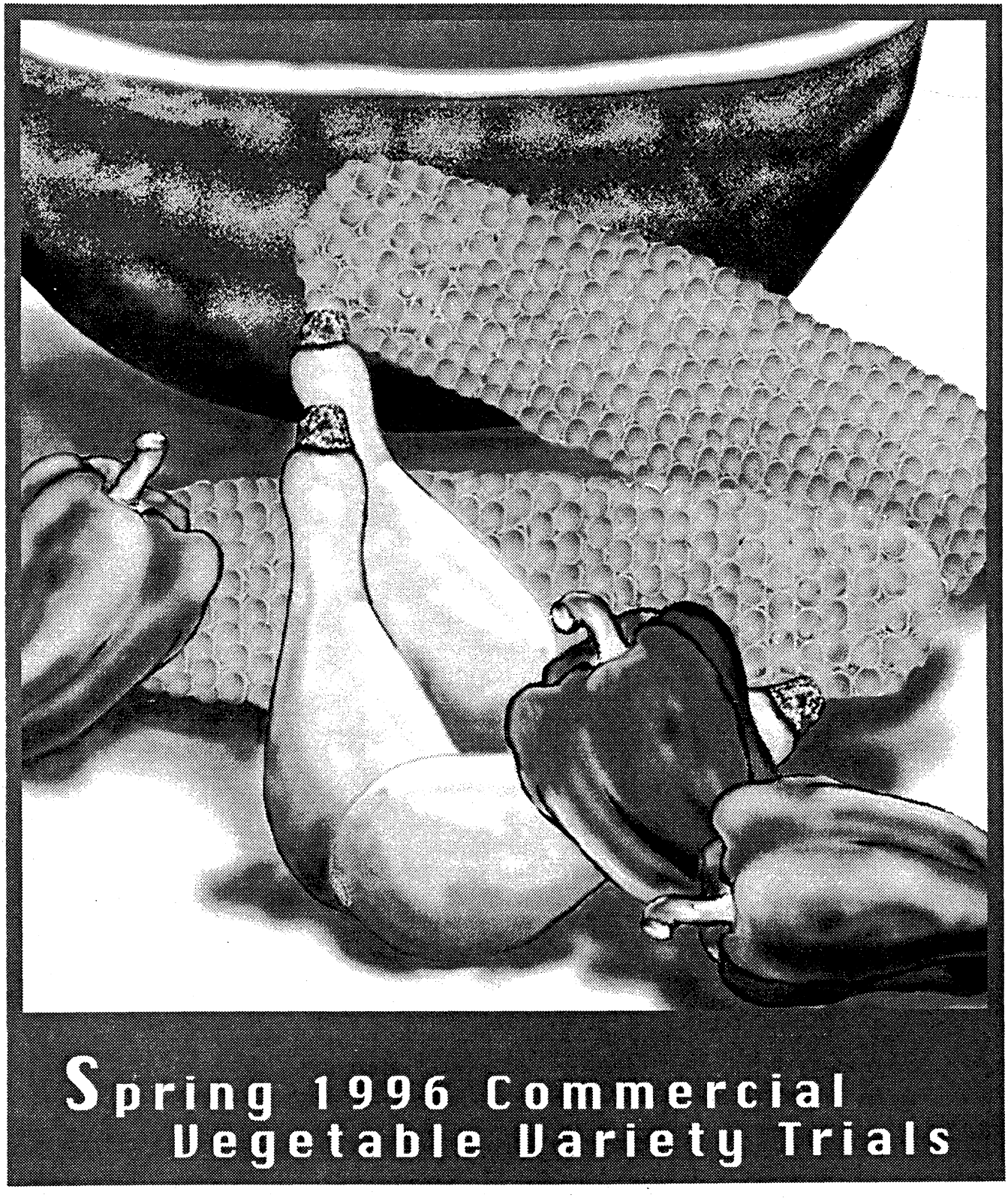

Spring 1996 Commercial Vegetable Variety Trials

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Introduction:

Some Tips to Get the Most Out of Vegetable Variety Trial Results

ERIC SIMONNE

In spring 1996, replicated variety trials were conducted for tomatoes, watermelons, cantaloupes, cucumbers, lettuce, honey dew melons, green and colored bell peppers, sugar-enhanced (se) and supersweet (sh2) sweet corn, and yellow summer and zucchini squash.The following pages present in-depth information on the yield and performance of these crops. However, glancing rapidly at the yield results may not provide all the information necessary for choosing a the best varieties. Here are a few tips for getting the most out of these vegetable variety trial results.

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

Cultural Practices: Trials were fertilized according to the recommendations of the AU 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 Cooperative Extension Service). Production systems included bare-ground planting and plasticulture, combined with overhead or drip irrigation. In some cases, double or triple cropping was used.

Statistical Analyses: The coefficient of determination (R^2), coefficient of variation (CV) and least significant difference (lsd) are reported for each test. These numbers help separate differences due to small plots (sampling error) from true differences among entries. These three statistical parameters help minimize the potential errors due to the use of small plots.

R^2 ranges between 0 and 1. Values close to 1 suggest that the test was conducted under good conditions and most of the variability observed was mainly due to the effect of variety and replication. Random, uncontrolled errors were less important. CV is an expression of yield variability relative to yield mean. Low CVs are desirable (under 20%), but are not always achieved.

Lsd is the minimum yield difference that must be seen between two varieties in order for one to infer that the higher-yielding variety actually performed better than the lower. When the difference in yield between two varieties is less than the lsd value, one cannot conclude that one variety performed better than the other, despite a numerical difference in yield. For example, in the 1996 lettuce trial at the Piedmont Substation, *Sierra* yielded 10,013 pounds per acre, while *Optima* and *Salinas 88 Supreme* yielded 6,304 and 5,791 pounds per acre, respectively. Since there was less than a 3,457 (the lsd value for yield) difference between *Optima* and *Salinas 88 Supreme*, there is no statistical difference between the yields of these two varieties. However, the difference between *Sierra* and *Optima* was 3,709, indicating that there is a real difference between the yields of these two varieties. From a practical point of view, growers should compare varieties in terms of lsd.

Using Variety Trial Information for Selection of a Variety: The performance of a genotype is affected by factors such as 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 the potential for high yields and quality under the conditions described in this report. Also, vegetable varieties come and go, and good-performing varieties may not be available consistently. Therefore, it is better to make variety evaluation a part of vegetable production. On-farm evaluation will test the performance of a variety under more specific conditions. The final choice of a variety may have to be adjusted after this second evaluation.

DESCRIPTION OF RATINGS USED TO EVALUATE SPRING 1996 VARIETY TRIALS

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

Spring Lettuce Shows Promise for Alabama

ERIC SIMONNE, BRIAN GAMBLE, JOHN OWEN, MARVIN RUF, AMY SIMONNE, AND LARRY WELLS

Lettuce variety trials were conducted at the Wiregrass Substation (WS) in Headland, Piedmont Substation (PS) in Camp Hill,and Sand Mountain Substation (SMS) in Crossville (Tables 1 and 2). Lettuce was grown on black-plastic mulch and drip irrigation. Six-week-old lettuce were transplanted in staggered, double rows 12 inches apart at an in-row spacing of 12 inches. Plots were 20 feet long and contained 40 plants. This created a stand of approximately 21,800 plants per acre. Transplanting date was May 8 at WS, May 13 at PS, and May 16 at SMS.

At WS, preplant fertilization consisted (per acre) of 500 pounds of 13-13-13 and two tons of broiler litter applied on April 10. Weekly injections at a rate of six pounds of N per acre were made on May 15, May 22, May 31, June 12, and June 19 with potassium nitrate (KNO_3); and on June 5 with calcium nitrate [$Ca(NO_3)_2$]. Plants were sprayed with Bravo fungicide (at a rate of three pints per acre) on May 31 and June 6, June 10, June 17, and June 24; and Asana insecticide (at a rate of nine ounces per acre) on June 10. This test was not replicated.

At PS, a 13-13-13 fertilizer was preplant applied at a rate of 950 pounds per acre. Plots were fertilized weekly through the drip lines at a rate of five pounds of N, alternatively with 20-10-20 and $Ca(NO_3)_2$. No sprays were used.

TABLE 1. RATINGS OF 1996 LETTUCE VARIETY TRIALS

Location	WS	PS	SMS
Weather	4	4	4
Fertility	5	5	5
Irrigation	5	5	5
Pests	5	5	5
Overall	5	5	5

At SMS, fertilization consisted of preplant applications (per acre) of 250 pounds of a 8-24-24 fertilizer and 175 pounds of ammonium nitrate (NH_4NO_3). A 20-20-20 fertilizer was injected on June 21 and 26 at a rate of six pounds of N per acre. Lettuce were sprayed with Sevin XLR insecticide at a rate of one quart per acre on June 21.

Lettuce were harvested at marketable size and graded according to the *U.S. Standards for Grades of Romaine* (U.S. Dept. of Agriculture Publication 60-6130). Harvest dates were June 10,June 12, and June 14 at WS; June 20 and June 26 at PS; and June 26, June 30, and July 1 at SMS. Yields were expressed in 50-pound boxes of 24 units (Table 3), calculated by dividing the number of marketable heads by 24. Heads were culled because of bolting or insufficient head size. Most lettuce tasted good, and were not bitter.

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

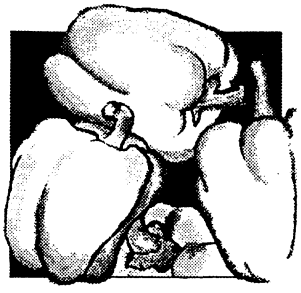
Variety	Seed source	Days to harvest[1]	Head type	Leaf color	Disease claims[2]	Years evaluated
Big Curly	Vilmorin	NA	Maraichere	Green	NA	96
Brunia	Vilmorin	62	Oak Leaf	Green/Red	NA	95,96
Cabernet Red	Asgrow	NA	Looseleaf	Red	NA	96
Epic	Sakata	45	Crisphead	Green	NA	95,96
Greengo	Asgrow	NA	Looseleaf	Green	NA	96
Legacy	Takii	NA	Crisphead	Green	NA	95,96
Nancy	SeedWay	66	Butterhead	Green	NA	96
Nevada	Vilmorin	58	Batavia	Green	DM,LMV,TB	95,96
Optima	Vilmorin	55	Butterhead	Green	DM,LMV	95,96
Ostinata	Stokes	60	Boston	Green	TB	96
Parris Island	Stokes	65	Romaine	Green	TB	95,96
Redprize	Ferry-Morse	46	Looseleaf	Green/Red	TB	96
Red Salad Bowl	Vilmorin	50	Oakleaf	Red	NA	95,96
Salanca GM	Vilmorin	NA	Maraichere	Green	NA	96
Salinas 88 Supreme	Sakata	75	Crisphead	Green	LMV	95,96
Sierra	Vilmorin	NA	Batavia	Green/Red	DM,TB,LMV	95,96
Slobolt M.I.	Harris Seeds	48	Looseleaf 'Frisee'	Green	N	96

[1]From seed catalogues; NA = not available.
[2]Disease claims: LMV = Lettuce Mosaic Virus; TB = Tip Burn; DM = Downy Mildew; NA = not available; N = none.

TABLE 3. YIELD AND NUMBER OF 50-POUND CARTONS (24 HEADS) OF SELECTED LETTUCE VARIETIES[1]

Variety	Marketable weight	Marketable heads	Marketable 50-lb. boxes	Percent stand
	lb./a.	*no./a.*	*no./a.*	*pct.*
		Wiregrass Substation[2]		
Salinas 88 Supreme	12,121	16,568	690	100
Greengo	12,034	18,312	763	100
Epic	11,249	16,132	672	100
Legacy	10,290	14,824	618	100
Slobolt	7,848	14,388	600	100
Nancy	7,150	17,004	709	100
Parris Island	7,150	13,952	581	100
Optima	6,976	13,080	545	100
Cabernet Red	5,930	16,132	672	100
Red Salad Bowl	4,883	13,952	581	100
Redprize	3,401	11,772	491	100
R^2	--			
CV	--			
lsd	--			
		Piedmont Substation		
Sierra	10,013	15,106	629	87
Salanca	9,093	15,106	629	87
Big Curly	8,040	15,106	629	87
Nevada	7,371	15,106	629	87
Red Prize	6,895	12,588	525	72
Optima	6,304	13,218	551	76
Nancy	6,275	15,106	629	87
Salinas 88 Supreme	5,791	15,106	629	87
Greengo	5,713	12,976	541	74
Legacy	5,011	15,106	629	87
Slobolt	4,696	15,106	629	87
Brunia	4,132	9,441	393	54
Ostinata	3,704	11,330	472	65
R^2	0.44			
CV	37			
lsd	3,457			
		Sand Mountain Substation		
Big Curly	14,932	15,687	654	90
Salinas 88 Supreme	11,504	14,525	605	83
Brunia	9,035	11,330	472	65
Redprize	7,553	6,972	291	40
Salanca GM	7,495	11,039	460	63
Legacy	4,096	5,229	218	30
FMX 2155	3,951	5,810	242	33
Epic	3,699	5,616	234	32
Optima	1,859	4,939	206	28
Greengo	1,598	6,391	266	37
R^2	0.62			
CV	86			
lsd	8,342			

[1]Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.
[2]Observational trial.



Bell Pepper Performance Depends on Bacterial Leaf Spot Susceptibility

ERIC SIMONNE, JIM BANNON, ARNOLD CAYLOR, JOE KEMBLE, AND JIMMY WITT

Bell pepper variety trials were conducted at the E.V. Smith Research Center (EVSRC) Horticulture Unit in Shorter and the North Alabama Horticulture Substation (NAHS) in Cullman (Tables 1-3).

Five-week-old peppers were transplanted on May 16 at EVSRC and NAHS on four-foot-wide, drip-irrigated, and plastic-mulched beds. Plastic-mulch color was black at EVSRC and white at NAHS. 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, peppers were planted in single rows at a within-row spacing of one foot, creating a stand of approximately 7,500 plants per acre.

At EVSRC, a 10-10-20 fertilizer was applied preplant on April 9 to supply (per acre) 50 pounds of nitrogen (N) and phosphorus (P_2O_5), and 100 pounds of potassium (K_2O). Beds were fumigated with methyl bromide at a rate of 400 pounds per acre on April 10. Starting immediately after transplanting and for 13 weeks, 10 pounds of N per acre were injected weekly through the trickle-irrigation system, alternatively from a 20-20-20 granular fertilizer and a calcium nitrate [$Ca(NO_3)_2$] solution.

TABLE 1. RATINGS OF 1996 BELL PEPPER VARIETY TRIALS

Location[1]	EVSRC	NAHS
Weather	5	5
Fertility	5	4
Irrigation	5	5
Pests	3	3
Overall	4	4

At both locations, bacterial leaf spot was present

TABLE 2. SEED SOURCE, FRUIT CHARACTERISTICS, AND RELATIVE EARLINESS OF SELECTED BELL PEPPERS

Variety	Type[1]	Seed source	Color[2]	Days to harvest[3]	Disease tolerance/resistance[4]	Years evaluated
Acapulco	F1	Vilmorin	G-R	70	NA	96
Admiral	F1	Sandoz Rogers	G-Y	76	TbMV,BLS(1,2),PVY	95,96
Belle Star	F1	Ferry-Morse	G-R	67	TbMV	94,96
Boyton Bell	F1	Harris Seeds	G-R	75	BLS(1,2,3)	96
Capistrano	OP	Petoseed	G-R	74	TbMV	96
Chocolate Beauty	F1	Petoseed	G-Br-R	85	TbMV	94,96
Enterprise[5]	F1	Asgrow	G-R	77	TbMV,BLS(1,2,3)	95,96
Figaro	F1	Vilmorin	G-R	71	TbMV,PVY	95,96
Goldcoast[6]	F1	Asgrow	G-Y	74	TbMV,BLS(1,2,3)	95,96
King Arthur	F1	Petoseed	G-R	72	TbMV,PVY,BLS(2),TbEV	94,95,96
Orange Grande	F1	Stokes	G-O	76	TbMV	95,96
Purple Beauty	OP	Petoseed	Bk	74	TbMV	96
Redwing	F1	Stokes	G-R	72	TbMV,PVY,PEV	95,96
Red Dawn	F1	Stokes	G-R	69	N	95,96
Robin	F1	Stokes	G-R	72	N	95,96
Superset	F1	Stokes	G-R	64	TbMV	94,96
Tazza	F1	Nunhems	G-Y	NA	NA	95,96
X3R Camelot	F1	Petoseed	G-R	74	TbMV,BLS(1,2,3)	94,95,96
X3R Wizard	F1	Petoseed	G-R	NA	BLS(1,2,3),TbMV	96
Zerto	F1	Nunhems	G-R	NA	TbMV	94,95,96

[1]Type: F1 = hybrid; OP = open pollinated.
[2]Fruit Color: G = green; Y = yellow; Bk = black; Br = brown; W = white; O = orange; R = red; P = purple; Pk = pink.
[3]From seed catalogues; NA = not available.
[4]Disease resistance/tolerance: BLS (Race No.) = Bacterial Leaf Spot; PVY = Potato Virus Y; PEV = Potato Etch Virus; TbMV = Tobacco Mosaic Virus; TbEV = Tobacco Etch Virus; PMV = Pepper Mottle Virus; N = none; NA = not available.
[5]Formerly XPH 12101.
[6]Formerly XPH 12113.

Weed control consisted of applications of Lexone 4L and Treflan (each at a rate of one pint per acre) on April 16. Insect control was provided by applications of Asana (at a rate of eight ounces per acre) on July 5 and 13; Ambush 2EC (at a rate of eight ounces per acre) on June 15; Thiodan 3EC (at a rate of 1.5 pints per acre) on June 5 and 19; and Phaser (at a rate of 1.5 pints per acre) on July 20, July 27, and Aug. 2.

Fungicide applications consisted of Manzate (at a rate of three pounds per acre) on June 1, June 5, and July 5; Dithane DF (at a rate of two pounds per acre) on May 25 and June 19; Ridomil MZ58 (at a rate of three pounds per acre) on June 20; Kocide (at a rate of three pounds per acre) on June 1, June 10, June 15, June 19, June 26, July 5, and Aug. 9; and Manex (at a rate of 1.5 quart per acre) on June 10, June 15, June 26, July 13, and Aug. 9.

At NAHS, beds were fumigated with 98% Methyl Bromide plus 2% Chloropicrin at a rate of 200 pounds per acre on April 27. Fertilization consisted of a preplant application (per acre) of 130 pounds of N.

Insect control consisted of applications of Dimethoate (at a rate of two pints per acre) on June 7; Asana XL (at a rate of 9.6 ounces per acre) on June 3,

TABLE 3. DEFOLIATION RATINGS OF BELL PEPPERS DUE TO BACTERIAL LEAF SPOT[1]

Variety	EVSRC	NAHS
Acapulco	NP	20
Admiral	2	NP
Boyton Bell	2	7
Capistrano	NP	13
Chocolate Beauty	20	NP
Enterprise	10	5
Figaro	NP	23
Goldcoast	5	NP
King Arthur	5	23
Orange Grande	30	NP
Purple Beauty	30	NP
Red Dawn	NP	30
Redwing	NP	6
Robin	NP	25
Superset	NP	10
Tazza	30	NP
X3R Camelot	5	3
X3R Wizard	6	5
Zerto	20	NP

[1]Mean of four ratings on Aug. 21 at EVSRC, and Aug. 13 at NAHS. No defoliation and total defoliation rated as 0 and 100%, respectively. Pepper pods are prone to severe sun burn at defoliation rates above 20%. Differences in defoliation rates across locations for the same variety may be due to differences in the severity of the infection or the race of Bacterial Leaf Spot (1,2,3 or other) present. NP = not planted at that location.

TABLE 4. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED BELL PEPPER VARIETIES[1]

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.
	lb./a.	*lb./a.*	*lb./a.*	*lb./a.*	*no./a.*	*no./a.*	*no./a.*
E.V. Smith Research Center							
Zerto	13,628	2,120	11,508	16,474	3,939	33,698	64,346
King Arthur	13,212	3,188	10,024	13,062	9,441	30,067	50,692
Boyton Bell	10,801	2,452	8,349	15,358	6,391	24,112	53,016
Tazza	9,349	1,237	8,112	12,489	3,486	23,531	48,514
Enterprise (Red)	9,298	1,326	7,972	12,988	3,486	22,465	47,352
Enterprise (Green)	9,043	2,328	7,297	15,722	4,648	21,352	58,826
X3R Wizard	8,166	1,880	6,286	14,299	4,503	14,961	44,592
X3R Camelot	6,660	1,275	5,704	10,433	3,292	14,525	37,475
Admiral	6,021	2,680	4,681	12,355	8,715	14,816	54,033
Orange Grande	4,441	857	4,227	6,504	2,324	11,184	28,033
Chocolate Beauty	3,907	3,543	3,022	16,144	12,782	11,620	73,787
Goldcoast	3,610	755	3,044	12,732	1,743	7,263	45,173
Purple Beauty	2,200	0	2,200	11,572	0	7,553	49,966
R^2	0.49	0.24			0.37		
CV	53	88			82		
lsd	5,917	2,495			6,068		
North Alabama Horticulture Substation							
Red Dawn	10,662	4,640	6,021	3,703	16,204	25,013	15,551
Boyton Bell	9,513	5,668	3,845	2,522	15,878	13,811	10,658
X3R Wizard	8,376	4,347	4,029	2,797	14,355	11,528	7,830
Redwing	8,031	3,826	4,205	2,173	10,440	14,138	9,353
Super Set	7,875	3,210	4,664	3,259	12,506	20,445	17,726
King Arthur	7,248	3,902	3,346	2,137	10,331	10,658	8,809
Figaro	7,135	3,972	3,164	1,652	10,984	11,854	7,504
Acapulco	7,126	4,601	2,525	1,601	11,854	9,353	6,743
Enterprise	5,999	2,669	3,330	1,506	7,721	21,424	6,743
X3R Camelot	4,852	2,798	2,054	1,208	8,809	7,830	4,894
Robin	2,493	1,383	1,109	1,192	4,785	5,438	5,873
Capistrano	2,471	1,277	1,194	781	3,480	4,350	3,589
R^2	0.88	0.94			0.48		
CV	30	35			43		
lsd	3,643	2,667			6,553		

[1]Cumulative productions of the first four harvests (July 19, July 30, Aug. 7, and Aug. 13 at EVSRC; and June 10 and Aug. 28 at NAHS). Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.

June 7, June 21, July 3, July 12, July 19, July 26, and Aug. 2; Thiodan (at a rate of 2.5 pounds per acre) on July 12; and Lannate (at a rate of three pints per acre) on July 19, July 26, and Aug. 2. Fungicides used were Bravo 720 (at a rate of two pints per acre) on June 3 and 7; Dithane F-45 (at a rate of 2.4 quarts per acre) on June 18, June 21, June 28, and July 3; and Kocide 101 (at a rate of three pounds per acre) on June 18, June 21, and July 3.

Plots were harvested five times between July 19 and Aug. 21 at EVSRC, and on June 10 and Aug. 28 at NAHS. At both locations, fruits were harvested at the mature-green color stage, weighed and graded (Tables 4 and 5), using the standards of the *Sweet Pepper Grader's Guide* (Circular ANR-783 of the Alabama Cooperative Extension Service).

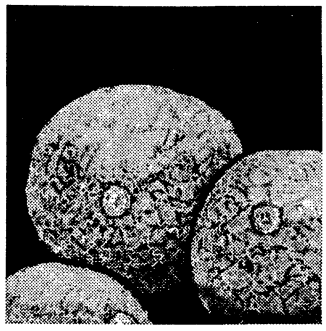
TABLE 5. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED BELL PEPPER VARIETIES[1]

Variety	Total market. wt.[2]	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.[2]
	lb./a.	*lb./a.*	*lb./a.*	*lb./a.*	*lb./a.*	*no./a*	*no./a.*	*no./a.*	*lb.*
E.V. Smith Research Center									
King Arthur	14,261	3,188	11,073	16,582	9,957	9,441	33,553	66,960	0.34
Zerto	14,005	2,120	11,885	17,775	9,193	4,084	34,860	71,608	0.42
Boyton Bell	11,345	2,452	8,892	18,146	11,225	6,391	25,709	66,670	0.41
Enterprise (Red)	10,138	1,326	8,812	15,594	13,957	3,873	24,983	59,698	0.35
Tazza	9,417	1,237	8,179	13,919	13,103	3,486	23,821	56,357	0.35
Enterprise (Green)	9,247	2,328	7,501	17,845	11,540	4,648	21,933	68,268	0.43
X3R Wizard	8,745	1,880	6,865	15,706	11,642	4,503	16,994	51,854	0.41
X3R Camelot	7,530	1,275	6,574	13,110	10,155	3,486	17,721	49,530	0.38
Admiral	6,210	2,680	4,870	14,558	13,113	8,715	15,542	64,491	0.37
Orange Grande	4,521	857	4,307	7,588	16,483	2,324	11,475	33,117	0.37
Chocolate Beauty	4,122	3,543	3,236	17,522	13,976	12,782	12,492	81,195	0.28
Goldcoast	3,722	755	3,156	14,766	9,564	1,743	7,553	54,759	0.43
Purple Beauty	2,200	0	2,200	11,722	14,290	0	7,553	50,983	0.29[3]
R^2	0.51	0.23				0.36			0.36
CV	51	87				81			21
lsd	6,001	2,640				6,106			0.11
North Alabama Horticulture Substation									
Red Dawn	10,662	4,640	6,021	3,703	3,943	16,204	25,013	15,551	0.28
Boyton Bell	9,513	5,668	3,845	2,522	3,608	15,878	13,811	10,658	0.35
X3R Wizard	8,376	4,347	4,029	2,797	3,663	14,355	11,528	7,830	0.32
Redwing	8,031	3,826	4,205	2,173	3,944	10,440	14,138	9,353	0.37
Super Set	7,875	3,210	4,664	3,259	6,113	12,506	20,445	17,726	0.26
King Arthur	7,248	3,902	3,346	2,137	3,628	10,331	10,658	8,809	0.37
Figaro	7,135	3,972	3,164	1,652	2,675	10,984	11,854	7,504	0.36
Acapulco	7,126	4,601	2,525	1,601	3,278	11,854	9,353	6,743	0.39
Enterprise	5,999	2,669	3,330	1,506	3,100	7,721	21,424	6,743	0.34
X3R Camelot	4,852	2,798	2,054	1,208	3,290	8,809	7,830	4,894	0.32
Robin	2,493	1,383	1,109	1,192	2,223	4,785	5,438	5,873	0.28
Capistrano	2,471	1,277	1,194	781	1,893	3,480	4,350	3,589	0.38
R^2	0.88	0.94				0.48			0.49
CV	30	35				43			14
lsd	3,968	2,667				6,553			0.06

[1]Harvest dates were July 19, July 30, Aug. 7, Aug. 13, and Aug. 21 at EVSRC; and June 10 and Aug. 21 at NAHS. Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.

[2]Marketable yield and individual fruit weight were determined as fancy + US#1 grades.

[3]US#1.



Small Melons for Alabama: Cantaloupes and Honey Dews

ERIC SIMONNE, RANDY AKRIDGE, JIM BANNON, BOBBY BOOZER, DAVID DUBOIS, JOE KEMBLE, JIM PITTS, AND JIMMY WITT

Small melon (cantaloupe, honey dew, French Charentais) variety trials were conducted at the Brewton Experiment Field (BEF) in Brewton, E.V. Smith Research Center (EVSRC) Horticulture Unit near Shorter, Piedmont Substation (PS) in Camp Hill, and Chilton Area Horticulture Substation (CAHS) in Clanton (Tables 1 and 2).

Selected varieties of small melons were direct seeded in single rows on three-foot-wide beds, spaced within rows at 3.5 to four feet. At all locations, plastic mulch and drip irrigation were used. At PS, small melons were grown as a third crop following cabbage (fall 1994) and bell pepper (spring 1995). At BEF, EVSRC, and CAHS, the plastic was new. Plastic color was black at BEF and CAHS, and white at EVSRC and PS. Planting dates were April 26 at BEF, May 16 at EVSRC, June 18 at PS, and May 9 at CAHS.

At BEF, beds were fumigated with methyl bromide two weeks before planting. Fertilization consisted of a preplant application of 13-13-13 at a rate of 450 pounds per acre and of weekly injections of seven pounds of nitrogen (N) as calcium nitrate [$Ca(NO_3)_2$] and potassium nitrate (KNO_3) between May 21 and July 11. A total of 56 pounds per acre of N was injected. Bravo 720 fungicide (at a rate of three pints per acre) and Lannate LV insecticide (at a rate of two pints per acre) were applied on June 7, June 13, June 25, and July 10.

At EVSRC, preplant fertilization broadcast applied on April 9 provided (per acre) 50 pounds of N and phosphorus (P_2O_5), and 100 pounds of potassium (K_2O) as 10-10-20. On April 10, beds were fumigated with methyl bromide at a rate of 400 pounds per acre. Between May 16 and Aug. 1, six pounds of N were injected weekly, alternatively from 20-20-20, $Ca(NO_3)_2$ and KNO_3. A total of 72 pounds of N was injected.

Preplant herbicide was Sonalan (at a rate of 4.5 pints per acre) applied on April 16. Insect control was provided by applications of Thiodan 3EC (at a rate of 1.5 pints per acre) on June 5, June 19, and July 5; and Asana XL (at a rate of eight ounces per acre) on June 26. Fungicides used were Dithane DF (at a rate of two pounds per acre) on May 25 and June 19; Kocide (at a rate of three pounds per acre) on June 1, June 5, June 10, June 26, and July 5; Manzate 200 DF (at a rate of three pounds per acre) on June 5 and 26; and Manex (at a rate of 1.5 quarts per acre) on June 10. Plants were also sprayed with Guthion 35W (at a rate of two pounds per acre) on May 25.

TABLE 1. RATINGS OF 1996 SMALL MELON VARIETY TRIALS

Location	BEF	EVSRC	PS	CAHS
Weather	5	5	5	5
Fertility	5	5	4	5
Irrigation	5	5	5	5
Pests	5	5	4	5
Overall	5	5	3	5

At CAHS, fertilization consisted of a preplant application (per acre) of 54 pounds of N and K_2O and weekly injection ranging between seven and 14 pounds of N and K_2O between May 1 and July 10. A total of 160 pounds of N and K_2O were injected during the growing season.

Insect control was provided by applications of Thiodan (at a rate of one pint per acre) on May 22 and 30; and Lannate LV (at a rate of two pints per acre) on June 5, June 12, June 21, June 28, July 3, July 24, and Aug. 3. Fungicides used were Kocide (at a rate of 2.7 pounds per acre) and Maneb 80 (at a rate of 1.5 pounds per acre) on May 22, May 30, June 5, June 12, June 21, June 28, July 3, July 24, and Aug. 3; and Ridomil/Bravo 81W (at a rate of two pounds per acre) on Aug. 8.

At PS, plots were fertilized weekly through the drip lines at a rate of 10 pounds of N from 20-20-20 the first two weeks, and at a rate of five pounds of N, alternatively with 20-10-20 and $Ca(NO_3)_2$ thereafter. No sprays were used.

Harvesting small melons at an over-ripe stage may reduce shelf-life and increase the risk of splitting during transportation. Flavor may also be adversely affected. Selected cantaloupe varieties may be harvested at half-slip. Honey dews do not slip naturally from the vine and are considered vine-ripened when the pubescence on the melon falls and/or when rind color changes from green to yellowish. Honey dews may be harvested at an immature stage; they will continue to ripen and become sweeter during storage. Hence, sugar content at harvest is not a good indicator of sweetness at maturity. French

Charentais melons may be harvested when the distal end becomes soft to the touch, while the melon still shows a green appearance.

Melons were harvested and graded on July 3, July 11, and July 18 at BEF; July 8, July 11, July 15, July 16, July 19, July 22, July 25, July 29, and Aug. 1 at EVSRC; on Aug. 20 at PS; and on July 12, July 16, July 19, July 22, July 24, July 26, July 29, July 31, Aug. 2, and Aug. 6 at CAHS (Table 3). At PS, small melons were harvested before optimum time because of deer pressure. On eight representative melons of each variety at each location, soluble-solid content was determined with a hand-held refractometer. Soluble-solid content is a practical measurement of sweetness.

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

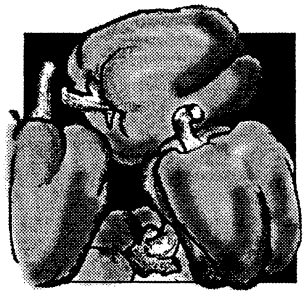
Variety	Type	Seed source	Rind aspect[1]	Flesh color[2]	Days to harvest[3]	Disease claims[4]	Years evaluated
Cantaloupe (Muskmelon)							
AC-82-37-RNL	OP	Auburn U.	N	O	NA	NA	94,95,96
Allstar	F1	Harris Seeds	N	O	NA	NA	96
Athena	F1	Sandoz Rogers	N	O	80	PM,F	94,95,96
AUrora	OP	Auburn U.	N	O	75	NA	95,96
Cordele	F1	Asgrow	N/Su	O	85	PM,F	94,95,96
Durango	F1	Petoseed	N	O	83	PM,F,S	96
Eclipse	F1	SeedWay/Petoseed	N	O	85	PM,F	96
Hi-Mark	F1	Petoseed	N	O	83	PM,S	94,95,96
Laredo	F1	Petoseed	N	O	82	PM,S	96
Mission	F1	Asgrow	N	O	80	PM,S	94,95,96
Pacstart	F1	Asgrow	N	O	85	PM	96
SME 3118	F1	Sakata	N	O	85	F,PM	96
Sparkle[5]	F1	Ferry-Morse	N	O	NA	F,PM,DM	94,95,96
Starship	F1	Harris Seeds	N/Su	O	86	F,PM	95,96
Superstar	F1	Harris Seeds	N/Su	O	86	F	94,96
French Charentais							
Acor	F1	Vilmorin	Su	O	75	F	95,96
Alienor	F1	Vilmorin	Su	O	75	F,TB	95,96
Savor	F1	Vilmorin	Su	O	75	F,PM	95,96
Honey Dew							
Daybreak	F1	Harris Seeds	Sm	Gr	NA	F,PM	96
Earli-Dew	F1	Petoseed	Sm	Gr	80	F	95,96
Honey Brew	F1	Sakata	Sm	Gr	90	F,PM,DM	96
Magic-to-Dew	F1	A&C	Sm	Gr	92	F,PM	96
Morning Dew	F1	Harris Seeds	Sm	Gr	96	F,DM,PM	95,96
Moonshine	F1	Asgrow	Sm	Gr	80	F	96
Morning Ice	F1	Harris Seeds	Sm	Gr	84	F,PM	95,96
Passport[6]	F1	Stokes	Ro	Gr	75	Ant,GSB	96
Other Melons							
Iberix (Spanish)	OP	Vilmorin	Sm	Gr	NA	NA	95,96
Lutina (Canary)	F1	Nunhems	Sm	Y	88	F	95,96

[1]Rind aspect: Sm = smooth; N = netted ; Su = sutured.
[2]Flesh color: O = Orange; Gr = Green; Y = Yellow.
[3]From seed catalogues; NA = not available.
[4]Disease claims: F = Fusarium Wilt; PM = Powdery Mildew; Ant = Anthracnose; DM = Downy Mildew; S = Sulfur; NA = not available.
[5]Formerly FMX 165.
[6]Honey Dew x Galia cross.

TABLE 3. YIELD OF SELECTED SMALL MELON VARIETIES[1]

Variety	Type	Marketable yield	Marketable fruits	Individual fruit wt.	Soluble solids	Cull wt.
		lb./a.	*no./a.*	*lb.*	*°Brix*	*lb./a.*
Brewton Experiment Field						
Morning Ice	Honey Dew	31,798	3,924	8.1	11.0	--
Daybreake	Honey Dew	31,030	3,870	8.0	8.8	--
Eclipse	Cantaloupe	27,953	4,687	6.0	10.5	--
Passport	Honey Dew	26,942	5,777	4.7	10.6	--
Cordele	Cantaloupe	24,912	4,306	5.9	8.8	--
Starship	Cantaloupe	23,767	5,123	4.7	8.8	--
Lutina	Canary	23,291	4,469	5.3	9.5	--
Magic-to-Dew	Honey Dew	22,217	3,107	7.1	8.8	--
Superstar	Cantaloupe	21,320	4,469	4.9	10.3	--
Allstar	Cantaloupe	19,089	5,287	3.7	9.8	--
Earli-Dew	Honey Dew	18,868	4,524	4.3	13.8	--
HMX 2608	Cantaloupe	18,868	4,306	4.4	8.5	--
Moonshine	Honey Dew	14,036	2,180	6.7	9.5	--
Hi-Mark	Cantaloupe	13,396	3,761	3.7	10.5	--
Iberix	Spanish	10,227	1,908	5.3	8.5	--
R^2		0.64	0.62	0.79	0.79	--
CV		25	23	15	11	--
lsd		7,581	1,328	1.2	1.7	--
Piedmont Substation						
Iberix	Spanish Melon	30,513	5,188	5.9	--	--
Eclipse	Cantaloupe	19,547	3,320	5.8	--	--
Earli-Dew	Honey Dew	17,029	3,458	6.0	--	--
Honey Brew	Honey Dew	15,386	2,075	7.7	--	--
Daybreake	Honey Dew	15,347	2,905	5.8	--	--
Passport	Cantaloupe	12,817	3,320	4.0	--	--
Acor	F. Charentais	11,841	3,458	3.3	--	--
Lutina	Canary Melon	9,773	1,660	6.1	--	--
Morning Ice	Honey Dew	9,483	2,075	4.6	--	--
Morning Dew	Honey Dew	8,708	1,383	7.2	--	--
Cordele	Cantaloupe	7,546	1,522	5.2	--	--
Alienor	F. Charentais	4,731	1,868	2.6	--	--
SME 3118	Cantaloupe	3,756	1,038	3.6	--	--
Hi-Mark	Cantaloupe	2,117	623	3.3	--	--
R^2		0.55	0.45	0.68	--	--
CV		66	69	26	--	--
lsd		6,247	1,330	2.0	--	--
E.V. Smith Research Center						
Pacstart	Cantaloupe	52,281	8,575	6.1	7.5	6,581
Athena	Cantaloupe	49,508	10,137	4.9	9.8	5,348
HMX 2608	Cantaloupe	48,546	9,483	5.1	6.8	5,156
Cordele	Cantaloupe	47,665	8,829	5.5	8.7	3,259
Durango	Cantaloupe	47,568	10,846	4.4	9.8	4,988
Starship	Cantaloupe	46,364	8,775	5.3	9.9	9,433
Hi-Mark	Cantaloupe	44,301	11,718	3.8	9.8	2,967
Mission	Cantaloupe	43,466	13,462	3.2	8.8	3,907
SME 3118	Cantaloupe	39,714	8,720	4.7	9.0	5,622
AC-82-37-RNL	Cantaloupe	38,129	14,552	2.6	9.5	1,865
FMX 217	Cantaloupe	37,773	7,412	5.1	12.2	6,201
Laredo	Cantaloupe	35,331	10,900	3.3	9.7	4,561
AUrora	Cantaloupe	34,521	10,028	3.4	7.1	9,883
Superstar	Cantaloupe	34,057	5,232	6.5	7.8	7,581
R^2		0.32	0.63	0.82	0.62	--
CV		23	21	13	14	--
lsd		13,846	2,933	0.9	1.9	--
Chilton Area Horticulture Substation						
Cordele	Cantaloupe	44,801	8,611	5.2	9.4	--
Starship	Cantaloupe	44,221	10,192	4.3	9.7	--
Pacstart	Cantaloupe	42,481	8,012	5.2	8.6	--
FMX 217	Cantaloupe	40,873	8,448	5.0	13.8	--
Allstar	Cantaloupe	40,254	11,990	3.4	10.5	--
FMX 165	Cantaloupe	35,130	8,339	4.2	9.5	--
Laredo	Cantaloupe	34,182	12,154	2.8	9.9	--
HMX 2608	Cantaloupe	32,629	8,339	3.9	9.5	--
Durango	Cantaloupe	31,534	9,102	3.4	9.8	--
Hi-Mark	Cantaloupe	31,507	10,192	3.1	10.1	--
AC-82-37-RNL	Cantaloupe	30,029	11,336	2.6	12.4	--
Mission	Cantaloupe	29,906	9,647	3.1	10.6	--
AUrora	Cantaloupe	29,528	8,012	3.7	9.2	--
SME 3118	Cantaloupe	28,686	8,611	3.3	10.1	--
R^2		0.41	0.43	0.88	0.69	--
CV		22	20	9	10	--
lsd		11,202	2,668	1.1	1.5	--

[1]Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.



Colored Pepper Varieties Respond Differently to Bacterial Leaf Spot Infection

ERIC SIMONNE, BOBBY BOOZER, JOE LITTLE, JIM PITTS, AND MARVIN RUF

Colored pepper variety trials were conducted at the Lower Coastal Plain Substation (LCPS) in Camden, Chilton Area Horticulture Substation (CAHS) in Clanton, and Sand Mountain Substation (SMS) in Crossville (Tables 1-3).

Five-week-old peppers were transplanted on May 27 at LCPS, and on May 15 at CAHS and SMS. Peppers were planted in double rows at CAHS, and in single rows at LCPS and SMS. Peppers were grown on bare ground at LCPS and SMS, while black plastic mulch and drip irrigation were used at CAHS. At all locations, within-row spacing was one foot, creating a stand of approximately 14,600 plants per acre at CAHS, and 7,300 plants per acre at LCPS and SMS.

At LCPS, preplant fertilization consisted (per acre) of 200 pounds of 0-20-20 and 70 pounds of nitrogen (N) as ammonium nitrate (NH_4NO_3). Preplant herbicide was Treflan (at a rate of one pint per acre) applied in early May. Plots were sidedressed with calcium nitrate [$Ca(NO_3)_2$] at a rate of 30 pounds of N per acre weekly between June 11 and Sept. 11. Total sidedress application was 270 pounds of N per acre. Alleys between plots were cultivated as needed to control weeds. No insecticide or fungicide was needed. Water was provided as needed through the drip system.

TABLE 1. RATINGS OF 1996 COLORED BELL PEPPER VARIETY TRIALS

Location	LCPS	CAHS[1]	SMS
Weather	4	5	5
Fertility	5	5	5
Irrigation	5	5	5
Pests	5	3	5
Overall	4	4	5

[1]At CAHS, bacterial leaf spot was present

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

Variety	Type[1]	Seed source	Color[2]	Days to harvest[3]	Disease tolerance/resistance[4]	Years evaluated
Admiral	F1	Sandoz Rogers	G-Y	76	TbMV,BLS(1,2),PVY	95,96
Black Bird	F1	Stokes	G-Bk-R	73	N	94,95,96
Blue Jay	F1	Stokes	P-R	73	N	94,95,96
Canary	F1	Stokes	G-Y	72	TbMV	94,95,96
Capistrano	OP	Petoseed	G-R	74	TbMV	96
Chocolate Beauty	F1	Petoseed	G-Br-R	85	TbMV	94,96
Chocolate Bell	F1	Stokes	G-Br-R	75	N	95,96
Dove	F1	Stokes	W-Pk-O	71	N	94,95,96
Enterprise[5]	F1	Asgrow	G-R	77	TbMV,BLS(1,2,3)	95,96
Goldcoast[6]	F1	Asgrow	G-Y	74	TbMV,BLS(1,2,3)	95,96
Gold Finch	F1	Stokes	W-Y-R	72	N	96
King Arthur	F1	Petoseed	G-R	72	TbMV,PVY,BLS(2),TbEV	94,95,96
Lilac	F1	Sandoz Rogers	P-R	68	TbMV	94,95,96
Orange Grande	F1	Stokes	G-O	76	TbMV	95,96
Purple Beauty	OP	Petoseed	Bk	74	TbMV	96
Tazza	F1	Nunhems	G-Y	NA	NA	95,96
X3R Camelot	F1	Petoseed	G-R	74	TbMV,BLS(1,2,3)	94,95,96
Zerto	F1	Nunhems	G-R	NA	TbMV	94,95,96

[1]Type: F1 = hybrid; OP = open pollinated.
[2]Fruit color: G = green; Y = yellow; Bk = black; Br = brown; W = white; O = orange; R = red; P = purple; and Pk = pink.
[3]From seed catalogues; NA = not available.
[4]Disease resistance/tolerance: BLS (Race #) = Bacterial Leaf Spot; PVY = Potato Virus Y; PEV = Potato Etch Virus; TbMV = Tobacco Mosaic Virus; TbEV = Tobacco Etch Virus; PMV = Pepper Mottle Virus; N = none; and NA = not available.
[5]Formerly XPH 12101.
[6]Formerly XPH 12113.

At CAHS, fertilization consisted of a preplant application (per acre) of 54 pounds of N and potassium (K_2O) and weekly injection ranging between seven and 14 pounds of N and K_2O between May 1 and July 10. A total of 160 pounds of N and K_2O were injected during the growing season.

Insect control was provided by applications of Thiodan (at a rate of one pint per acre) on May 22 and 30; and Lannate LV (at a rate of two pints per acre) on June 5, June 12, June 21, June 28, July 3, and Aug. 3. Fungicides used were Kocide (at a rate of 2.7 pounds per acre) and Maneb 80 (at a rate of 1.5 pounds per acre) on May 22, May 30, June 5, June 12, June 21, June 28, July 3, and Aug. 3; and Ridomil/Bravo 81W (at a rate of two pounds per acre) on Aug. 8.

At SMS, NH_4NO_3 (at a rate of 150 pounds per acre) and a 8-24-24 fertilizer (at a rate of 250 pounds per acre) were applied preplant on May 20. Peppers were weekly sidedressed with $Ca(NO_3)_2$ (at a rate of 200 pounds per acre) on June 6, June 20, July 3, July 17, July 24, Aug. 8, and Aug. 14; NH_4NO_3 (at a rate of 100 pounds per acre) on July 10, and 13-13-13 (at a rate of 200 pounds per acre) on Aug. 14. Plots were overhead irrigated as needed.

Preplant herbicide was Treflan 4EC applied on May 21 at a rate of 1.5 pints per acre. Insect control was provided by applications of Sevin (at a rate of one quart per acre) on June 13, 21, and 23; Asana (at a rate of eight ounces per acre) on July 2, July 4, July 22, Aug. 2, and Aug. 16; and Phaser (at a rate of 1.5 pints per acre) on June 14, July 12, and Aug. 9. Kocide 101 fungicide was applied on June 4 and 2 at a rate of 1.5 pounds per acre. On June 26, Maneb fungicide was applied at a rate of 1.5 pounds per acre.

TABLE 3. DEFOLIATION RATINGS OF COLORED BELL PEPPERS ATTRIBUTED TO BACTERIAL LEAF SPOT[1]

Variety	LCPS	CAHS	SMS
Admiral	NP	40	NP
Black Bird	0	10	0
Blue Jay	0	NP	0
Canary	0	NP	0
Chocolate Beauty	0	20	0
Chocolate Bell	NP	50	NP
Dove	0	NP	0
Enterprise	0	NP	0
Gold Finch	0	NP	0
King Arthur	0	27	0
Orange Grande	0	70	0
Purple Beauty	0	35	0
Tazza	NP	70	NP
Goldcoast	0	10	0
X3R Camelot	NP	0	0

[1]Mean of four ratings taken on Aug. 23 at LCPS, Aug. 21 at EVSRC and CAHS, and Aug. 13 at SMS. No defoliation and total defoliation are rated as 0 and 100%, respectively. Pepper pods are prone to severe sun burn at defoliation rates above 20%. Differences in defoliation rates across locations for the same variety may be due to differences in the severity of the infection or the race of bacterial leaf spot (1,2,3 or other) present. NP = not planted at that location.

At all locations, fruits were harvested at the two-thirds 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 nine times between July 18 and Sept. 10 at LCPS; three times between July 25 and Aug. 20 at CAHS; and six times between June 11 and Aug. 30 at SMS. Early production included the first four harvests (Tables 4 and 5).

TABLE 4. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED COLORED BELL PEPPER VARIETIES[1]

Variety	Early marketable wt.[2]	Early fancy wt.	Early US#1 wt.	Early US#2 wt.	Early fancy no.	Early US#1 no.	Early US#2 no.
	lb./a.	*lb./a.*	*lb./a.*	*lb./a.*	*no./a.*	*no./a.*	*no./a.*
Lower Coastal Plain Substation							
King Arthur (Red)	7,488	2,144	5,344	179	5,329	17,924	969
King Arthur (Green)	4,349	364	3,985	814	1,246	16,874	6,229
Black Bird	3,835	117	3,718	1,222	296	14,484	7,833
Dove	3,607	31	3,576	2,045	115	17,325	15,719
Enterprise (Green)	2,751	123	2,628	646	340	10,532	4,190
Blue Jay	2,436	0	2,436	2,863	0	12,304	17,201
Gold Finch	1,525	0	1,525	1,231	0	7,983	10,071
Canary	1,219	0	1,219	0	0	3,488	0
Purple Beauty	1,069	0	1,069	1,776	0	4,574	14,724
Orange Grande	479	181	298	440	513	1,026	1,026
Goldcoast	0	0	0	71	0	0	459
R^2	0.75	0.59			0.63		
CV	51	134			125		
lsd	1,217	206			531		
Chilton Area Horticulture Substation							
X3R Camelot (Red)	17,653	4,870	12,783	8,870	11,765	39,653	38,201
X3R Camelot (Green)	15,070	1,068	14,002	11,395	2,905	49,966	55,631
King Arthur (Red)	12,696	435	12,260	13,973	1,162	46,044	76,111
Chocolate Beauty	12,191	1,051	11,140	12,649	3,050	39,218	66,670
Black Bird	11,157	836	10,321	15,256	2,179	37,765	81,631
Tazza	9,253	1,057	8,197	9,259	3,196	32,536	55,776
King Arthur (Green)	8,469	145	8,324	12,870	436	32,827	77,709
Goldcoast	6,107	308	5,799	5,718	872	19,609	28,614
Chocolate Bell	2,920	0	2,920	9,694	0	11,330	43,430
Purple Beauty	2,769	104	2,664	12,945	291	11,184	84,390
Admiral	2,566	110	2,456	5,521	291	9,587	32,972
Orange Grande	2,404	0	2,404	9,329	0	12,201	56,648
R^2	0.64	0.62			0.60		
CV	51	139			134		
lsd	6,304	1,653			4,177		
Sand Mountain Substation							
X3R Camelot (Green)	7,377	948	6,430	648	2,121	25,099	4,124
Dove	5,623	0	5,623	1,626	0	26,848	13,654
Enterprise	4,998	487	4,511	1,010	1,090	16,895	6,813
Gold Finch	4,900	108	4,792	933	317	25,843	7,769
Black Bird	4,316	103	4,213	1,628	233	20,928	14,998
Purple Beauty	4,037	0	4,037	3,133	0	19,537	25,277
King Arthur (Green)	4,003	100	3,903	1,211	242	15,623	7,872
Canary	3,701	154	3,547	1,095	317	14,745	8,086
Blue Jay	3,135	0	3,135	2,804	0	17,803	23,859
X3R Camelot (Red)	2,802	251	2,551	918	654	11,009	7,521
Goldcoast	2,613	42	2,570	852	119	11,228	6,331
Orange Grande	1,794	0	1,794	1,717	0	8,607	13,137
Capistrano	1,663	43	1,619	763	115	7,802	5,737
King Arthur (Red)	1,648	574	1,075	1,112	1,246	3,397	6,908
Chocolate Beauty	1,041	291	750	843	698	2,442	6,162
R^2	0.58	0.58			0.54		
CV	48	132			139		
lsd	1,103	348			851		

[1]Cumulative productions of the first four harvests. Harvest dates were July 18, July 23, Aug. 2, Aug. 9, Aug. 14, Aug. 22, Aug. 29, Sept. 4, and Sept. 10 at LCPS; July 25, Aug. 5, and Aug. 20 at CAHS; and June 11, June 23, July 2, July 13, July 23, and July 30 at SMS. Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.

[2]Marketable yield and individual fruit weight were determined as fancy + US#1 grades.

TABLE 5. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED COLORED BELL PEPPER VARIETIES[1]

Variety	Total marketable wt.	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 fruit wt.
	lb./a.	*lb./a.*	*lb./a.*	*lb./a.*	*lb./a.*	*no./a.*	*no./a.*	*no./a.*	*lb.*
Lower Coastal Plain Substation									
King Arthur (Red)	60,798	25,679	35,119	2,942	10,300	58,618	109,000	19,862	0.43
Canary	39,105	822	38,283	5,714	11,980	1,744	112,052	33,572	0.46
Orange Grande	29,381	181	29,200	6,858	23,858	513	96,433	34,880	0.35
Black Bird	23,427	346	23,081	8,415	1,194	887	385,601	57,641	0.39
Goldcoast	22,700	4,529	18,171	783	4,719	10,556	53,697	4,589	0.44
King Arthur (Green)	19,173	1,780	17,393	1,836	1,091	4,983	63,192	13,476	0.36
Blue Jay	16,980	0	16,980	9,068	715	0	52,678	66,296	0.32[2]
Enterprise (Green)	14,500	204	14,296	2,812	737	566	52,546	16,308	0.35
Dove	14,412	71	14,340	6,925	674	459	72,514	55,074	0.21
Purple Beauty	11,157	0	11,157	10,835	346	0	48,174	77,908	0.23[2]
Gold Finch	8,814	47	8,768	6,076	706	123	46,302	47,407	0.38
R^2	0.63	0.90	0.88	0.91		0.64			
CV	29	62	36	61		17			
lsd	4,994	1,203	771	2,821		4,761			
Chilton Area Horticulture Substation									
X3R Camelot (Red)	17,653	4,870	12,783	8,870	3,361	11,765	39,653	38,201	0.45
X3R Camelot (Green)	15,070	1,068	14,002	11,395	2,937	2,905	49,966	55,631	0.39
King Arthur (Red)	12,696	435	12,260	13,973	3,535	1,162	46,044	76,111	0.41
Chocolate Beauty	12,191	1,051	11,140	12,649	3,512	3,050	39,218	66,670	0.39
Black Bird	11,157	836	10,321	15,256	4,400	2,179	37,765	81,631	0.41
Tazza	9,253	1,057	8,197	9,259	2,090	3,196	32,536	55,776	0.37
King Arthur (Green)	8,469	145	8,324	12,870	2,694	436	32,827	77,709	0.37
Goldcoast	6,107	308	5,799	5,718	2,612	872	19,609	28,614	0.39
Chocolate Bell	2,920	0	2,920	9,694	3,884	0	11,330	43,430	0.24[2]
Purple Beauty	2,769	104	2,664	12,945	5,793	291	11,184	84,390	0.40
Admiral	2,566	110	2,456	5,521	3,228	291	9,587	32,972	0.42
Orange Grande	2,404	0	2,404	9,329	1,712	0	12,201	56,648	0.20[2]
R^2	0.63	0.62	0.40	0.60		0.66			
CV	51	139	44	134		6			
lsd	6,304	1,649	2,225	4,177		5,841			
Sand Mountain Substation									
X3R Camelot (Green)	9,345	1,282	8,063	1,801	677	2,946	32,641	13,080	0.43
Enterprise	9,142	487	8,654	2,584	299	1,090	34,608	17,440	0.48
Dove	7,784	0	7,784	4,642	1,670	0	39,240	41,764	0.20[2]
Blue Jay	7,001	0	7,001	8,066	2,074	0	42,389	79,691	0.17[2]
King Arthur (Green)	6,987	396	6,591	2,898	1,167	969	29,067	21,921	0.40
Canary	6,757	578	6,179	1,604	943	1,268	23,465	10,781	0.43
Gold Finch	6,684	353	6,331	1,895	900	951	32,977	16,806	0.36
Black Bird	5,817	103	5,714	3,829	796	233	28,718	43,367	0.44
X3R Camelot (Red)	5,480	1,737	3,742	1,132	1,561	3,815	14,715	8,502	0.45
Chocolate Beauty	5,460	1,338	4,123	1,312	2,455	3,139	14,068	8,836	0.42
Purple Beauty	4,982	0	4,982	5,336	955	0	24,946	55,079	0.20[2]
Orange Grande	4,204	631	3,573	1,799	2,094	1,585	14,496	13,590	0.40
King Arthur (Red)	3,974	2,093	1,881	1,112	2,571	4,303	5,662	6,908	0.49
Goldcoast	3,570	313	3,258	881	2,418	717	13,259	6,570	0.45
Capistrano	3,446	729	2,717	1,299	1,706	1,492	11,244	8,261	0.49
R^2	0.44	0.59	0.65	0.56		0.52			
CV	37	94	38	98		9			
lsd	2,864	878	786	2,016		650			

[1]Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.
[2]From US#1.

'General Lee' Among Top Marketable Yielders in Slicer Cucumber Trial for Third Year

ERIC SIMONNE, EMMETT CARDEN, ARNOLD CAYLOR,
JOE KEMBLE, RONNIE MCDANIEL, AND MALCOMB PEGUES

Slicer cucumber variety trials were conducted at the Gulf Coast Substation (GCS) in Fairhope and North Alabama Horticulture Substation (NAHS) in Cullman (Tables 1 and 2). Selected varieties were direct-seeded on bare ground at a one-inch depth on April 10 at GCS and May 10 at NAHS. At both locations, plots consisted of a single 20-foot row. Within-row spacing was eight inches, which provided a stand of approximately 17,000 plants per acre.

At GCS, fertilization consisted of a preplant application (per acre) of a 10-10-10 fertilizer at a rate of 500 pounds and a sidedress application of ammonium nitrate (NH_4NO_3) at a rate of 255 pounds. Pre-emergence herbicide was Curbit broadcast-applied on April 10 at a rate of four pints per acre. Ridomil/Bravo fungicide was applied at a rate of two pounds per acre on May 27, June 5, and June 12. Bravo 720 fungicide was also applied on June 18 at a rate of three pints per acre.

At NAHS, preplant herbicide was Curbit applied on May 10 at a rate of 4.5 pints per acre. Fertilization consisted of a preplant application of 150 pounds of N as NH_4NO_3 on May 2 and a sidedress application of 15 pounds of N as NH_4NO_3 on June 13. Insecticicides used were Asana (at a rate of 9.6 ounces per acre) on June 3, June 7, June 14, June 21, July 3, and July 12; and Dimethoate (at a rate of two pints per acre) on June 7. Fungicide used was Bravo-720 (at a rate of two pints per acre) on June 3, June 7, June 14, June 21, June 28, July 3, and July 12. Plants were over-head irrigated on June 24.

TABLE 1. RATINGS OF 1996 SLICER CUCUMBER VARIETY TRIALS

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

Cucumbers were harvested 12 times between May 24 and June 19 at GCS and 10 times between June 28 and Aug. 2 at NAHS. 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 CUCUMBER VARIETIES

Variety	Type[1]	Seed source	Days to harvest[2]	Disease tolerance/resistance[3]	Years
Dasher II	F1	Petoseed	58	Sc,CMV,PM,DM,A,ALS	94,95,96
General Lee	F1	Stokes	55	Sc,CMV,PM,DM	94,95,96
HMX 0431	F1	Harris Seeds	66	Sc,CMV,PM,DM,ALS	96
HMX 1433	F1	Harris Seeds	66	Sc,CMV,PM,DM,ALS	96
Indy	F1	Petoseed	NA	Sc, CMV, PM, ALS, A, ZYMV, PRV	96
Jazzer	F1	Stokes	48	Sc,CMV,PM,DM	96
Lightning	F1	Asgrow	57	Sc,CMV,PM,DM,ALS	94,95,96
Meteor	F1	Asgrow	50	Sc,CMV,PM,DM,ALS,A	94,95,96
Prolific	F1	Sakata	50	Sc,PM,DM,ALS	94,96
Raider	F1	Harris Seeds	52	Sc,CMV,ALS	96
Slice King	F1	Sakata	50	Sc,PM,DM,ALS	96
Slice Max	F1	Sakata	50	PM	96
Speedway	F1	Petoseed	56	Sc,CMV,PM,DM,ALS,A	94,95,96
Thunder	F1	Asgrow	56	Sc,CMV,PM,DM,ALS	94,95,96
Turbo	F1	Petoseed	65	S,Sc,CMV,PM,DM,ALS,A	94,96
Ultraslice Early	F1	Stokes	56	Sc,CMV,PM,DM,ALS,A	95,96
Zenith	F1	Ferry-Morse	50	Sc,PM,DM,CMV	95,96

[1]Type: F1 = hybrid; OP = open-pollinated.
[2]NA = not available; from seed catalogues.
[3]Disease: A = Anthracnose; ALS = Angular Leaf Spot; CMV = Cucumber Mosaic Virus; DM = Downy Mildew; PM = Powdery Mildew; Sc = Scab; S = Stemphylium; ZYMV = Zucchini Yellow Mosaic Virus; PRV = Papaya Ringspot Virus.

TABLE 3. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED SLICER CUCUMBER VARIETIES[1]

Variety	Early marketable wt.	Early fancy wt.	Early fancy no.	Early US#1 wt.	Early US#1 no.	Early US#2 wt.
	lb./a.	*lb./a.*	*no./a.*	*lb./a.*	*no./a.*	*lb./a.*
			Gulf Coast Substation			
Jazzer	12,625	7,356	20,396	5,198	18,254	877
FMX 5057	11,233	3,625	9,335	7,608	22,092	825
HMX 0431	10,496	4,635	14,700	5,732	21,186	464
FMX 5056	8,782	2,631	8,453	4,656	16,652	750
Meteor	7,032	2,282	5,860	3,708	12,161	491
Thunder	5,995	3,329	11,188	2,255	8,823	221
Ultraslice Early	5,995	1,549	4,564	1,886	7,606	165
General Lee	5,134	1,645	4,071	1,819	6,057	241
R^2	0.55					
CV	33					
lsd	4,163					
			North Alabama Horticulture Substation			
Speedway	6,491	3,720	13,691	2,771	8,712	1,739
Thunder	5,641	4,012	13,068	1,629	5,912	1,971
Dasher II	5,140	4,221	10,164	919	2,904	1,070
Prolific	3,782	3,998	7,934	1,116	3,734	718
Zenith FM	3,684	1,344	8,401	2,340	4,045	327
HMX 0431	3,306	3,095	9,490	985	2,956	930
Lightning	3,289	2,912	10,735	1,105	3,734	817
HMX 1433	3,201	2,863	15,972	1,292	3,734	753
General Lee	2,740	2,072	12,031	1,359	5,186	753
K94624	1,989	1,085	7,053	904	2,904	573
Slice Max	1,951	3,034	9,957	434	1,711	898
Indy	1,879	1,236	10,579	952	2,956	450
Turbo	943	513	5,601	429	1,452	177
K94630	840	118	5,912	781	2,489	437
Ultraslice Early	803	319	4,978	484	1,400	33
Meteor	546	0	933	546	2,282	429
Slice King	417	193	4,564	369	1,245	308
R^2	0.44					
CV	90					
lsd	3,511					

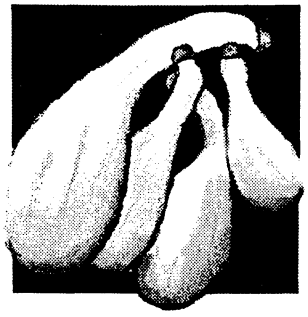
[1]Combined productions of May 24, May 27, May 29, and May 31 at GCS; and June 26, June 28, July 1, July 3, and July 8 at NAHS. Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.

TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED SLICER CUCUMBER VARIETIES[1]

Variety	Total marketable wt.[2]	Total fancy wt	Total fancy no.	Total US#1 wt.	Total US#1 no.	Total US#2 wt.	Total cull	Individual fruit wt.[2]
	lb./a.	*lb./a.*	*no./a.*	*lb./a.*	*no./a.*	*lb./a.*	*lb./a.*	*lb.*
Gulf Coast Substation								
HMX 0431	54,991	23,307	54,437	30,970	95,509	4,919	1,704	0.38
Jazzer	47,878	23,047	50,816	24,523	71,860	4,493	1,760	0.40
FMX 5057	46,579	16,584	37,027	29,995	84,944	7,654	3,096	0.40
FMX 5056	43,398	15,575	35,881	21,285	66,456	5,020	1,370	0.38
Meteor	42,861	15,539	34,227	20,979	61,452	3,257	1,439	0.39
Ultraslice Early	40,823	10,589	24,484	12,905	38,700	2,112	605	0.38
General Lee	40,185	11,837	26,225	14,284	44,811	2,444	952	0.37
Thunder	32,422	13,364	33,984	15,499	50,973	2,423	588	0.35
R^2	0.25							0.22
CV	27							8
lsd	17,349							0.04
North Alabama Horticulture Substation								
Speedway	38,645	28,260	54,451	10,385	29,093	9,912	6,649	0.44
Ultraslice Early	37,327	30,707	51,962	6,620	16,180	4,241	5,195	0.51
General Lee	37,039	28,693	58,963	8,347	25,670	7,790	5,226	0.42
Indy	35,252	26,526	51,495	8,726	22,092	7,412	6,561	0.46
HMX 0431	34,326	25,678	53,829	8,648	23,647	5,719	4,817	0.42
Thunder	34,138	25,549	51,495	8,589	23,336	7,262	3,953	0.44
Slice Max	32,062	23,206	43,561	8,857	19,291	7,754	4,583	0.50
HMX 1433	31,072	22,852	50,095	8,219	21,469	6,109	6,948	0.42
K94624	29,295	21,598	41,227	7,696	20,847	3,900	6,159	0.44
Slice King	28,873	21,991	40,138	6,883	16,180	4,954	6,399	0.48
Zenith FM	27,299	20,139	43,717	7,160	19,602	5,504	3,703	0.42
Prolific	25,245	18,818	37,182	6,427	15,869	4,467	4,316	0.45
Dasher II	24,670	19,055	36,405	5,615	15,713	5,238	2,634	0.44
Turbo	24,595	18,109	36,093	6,486	17,580	4,726	4,935	0.43
K94630	23,783	18,328	41,227	5,454	16,180	4,177	2,299	0.38
Lightning	23,257	16,340	39,049	6,917	18,980	6,505	5,498	0.39
Meteor	18,713	13,814	28,315	4,899	14,313	2,915	2,551	0.42
R^2	0.28							0.43
CV	35							10
lsd	14,935							0.06

[1]Harvest Dates were May 24, May 27, May 29, May 31, June 3, June 5, June 7, June 10, June 12, June 14, June 17, and June 19 at GCS; and June 26, June 28, July 1, July 3, July 10, July 12, July 15, July 18, July 22, July 24, and July 26 at NAHS. Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.

[2]Marketable yield and individual fruit weight were determined as fancy + US#1 grades.



'Picasso' Performs Well During Summer Squash Variety Trial

ERIC SIMONNE, BRIAN GAMBLE, JOE KEMBLE, RANDALL RAWLS, AND LARRY WELLS

Yellow and zucchini squash variety trials were conducted at the Wiregrass Substation (WS) in Headland and Upper Coastal Plain Substation (UCPS) in Winfield (Table 1 and 2). At both locations, squash were direct seeded at a one-inch depth in single-row, five-foot-wide, and 20-foot-long plots. In-row spacing was 18 inches, which provided a stand of approximately 6,000 plants per acre. Yields were corrected for stand. Both trials were drip irrigated, and the beds were covered with black-plastic mulch. Planting date was April 26 at WS and May 23 at UCPS.

At WS, preplant fertilizer consisted of applications of broiler litter at a rate of two tons per acre, a 13-13-13 fertilizer at a rate of 500 pounds per acre on April 10. Gypsum (calcium sulfate) was applied over the row at a rate of 500 pounds per acre on April 11. Soluble fertilizer was injected at a rate of six pounds of N per acre as potassium nitrate (KNO_3) on May 15, May 22, May 31, June 15, and June 19, and calcium nitrate [$Ca(NO_3)_2$] on June 5. Squash plants were sprayed with Bravo fungi-

TABLE 1. RATINGS OF 1996 SUMMER SQUASH VARIETY TRIALS

Location	WS	UCPS
Weather	5	5
Fertility	5	5
Irrigation	5	5
Pests	5	4
Overall	5	4

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

Variety	Type	Seed source	Days to harvest[1]	Disease claims[2]	Years evaluated
		Yellow Crookneck			
CS-4[3]	F1	Sandoz Rogers	NA	NA	95,96
Dixie	F1	Asgrow	41	N	94,95,96
Goldie	F1	Petoseed	43	N	94,95,96
Medallion	F1	A&C	52	N	96
Meigs[4]	F1	Asgrow	NA	NA	96
Pavo	F1	Asgrow	40	N	94,95,96
Prelude II[5]	F1	Asgrow	40	ZYMV, WMV, PM	95,96
Sundance	F1	Petoseed	45	N	94,95,96
Supersett[4]	F1	Harris Seeds	50	N	94,96
		Yellow Semi-Crookneck			
Picasso	F1	Ferry-Morse	40	N	96
		Yellow Straightneck			
Gold Rush	F1	Stokes	52	N	96
Lemondrop L.	F1	Asgrow	41	N	94,95,96
Monet	F1	Ferry-Morse	48	N	96
PSX 391	F1	Petoseed	NA	NA	94,95,96
Sunbar	F1	Petoseed	43	N	94,96
		Zucchini			
Condor	F1	Vilmorin	44	N	95,96
Embassy	F1	Petoseed	49	PM,DM	94,95,96
Magda	F1	Vilmorin	NA	N	96
Senator	F1	Asgrow	41	N	94,95,96
Sensation	F1	Asgrow	40	N	96
Spineless Beauty	F1	Sandoz Rogers	43	N	94,95,96
Super Select	F1	Stokes	48	PM,DM	96
Taylor	F1	Vilmorin	NA	NA	95,96
Tigress[5]	F1	Harris Seeds	47	ZYMV,WMV	95,96
Zucchini Elite	F1	Harris Seeds	48	N	95,96

[1]NA = not available; from seed catalogues.
[2]Disease Claims: PM = Powdery Mildew; DM = Downy Mildew; ZYMV = Zucchini Yellow Mosaic Virus; WMV = Watermelon Mosaic Virus.
[3]To be named 'Gentry.'
[4]Precocious variety.
[5]Transgenic variety.

cide (at a rate of three pints per acre) on May 31, June 6, June 10, June 17, and June 24; and Asana insecticide (at a rate of nine ounces per acre) on June 10.

At UCPS, beds were fumigated with 98% methyl bromide + 2% chloropicrin at a rate of 400 pounds per acre approximately two weeks before planting. Preplant fertilizer provided (per acre) 60 pounds of nitrogen (N) and of phosphorus (P), and 75 pounds of potassium (K_2O). Beginning May 25 and for nine weeks, weekly injections through the drip tubes provided six pounds of N per acre, alternatively from 20-20-20 and $Ca(NO_3)_2$. Alleys between the beds were sprayed with Roundup three weeks after emergence. No other chemical sprays were used.

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 four times between May 24 and June 3 at WS, and 15 times between June 24 and July 29 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 SUMMER SQUASH VARIETIES[1]

Variety	Type[2]	Early marketable wt.[3]	Early US#1 wt.	Early US#2 wt.	Early US#1 no.	Early US#2 no.
		lb./a.	*lb./a.*	*lb./a.*	*no./a.*	*no./a.*
Wiregrass Substation						
CS-4	CN	9,757	9,757	0	31,537	0
Picasso	SCN	9,734	9,734	0	23,341	0
Pavo	CN	9,238	9,238	0	27,854	0
Dixie	CN	9,159	9,159	0	27,961	0
Supersett	CN	8,343	8,343	0	26,467	0
Sundance	CN	6,983	6,983	0	23,796	0
Goldie	CN	6,460	6,460	0	19,650	0
Prelude II	CN	6,325	6,325	0	19,572	0
Super Select	Z	11,421	11,421	0	13,306	0
Zucchini Elite	Z	9,757	9,757	0	13,693	0
Sensation	Z	9,026	9,026	0	11,465	0
Magda	Z	8,407	8,407	0	10,781	0
Tigress	Z	8,380	8,380	0	13,326	0
Spineless Beauty	Z	7,070	7,070	0	8,470	0
Condor	Z	5,764	5,764	0	8,370	0
R^2		0.45	0.45			
CV		27	27			
lsd		2,944	2,944			
Upper Coastal Plain Substation						
Pavo	CN	7,522	3,473	4,049	12,987	11,519
Prelude II	CN	5,143	2,227	2,916	11,350	11,350
Supersett	CN	5,009	1,889	3,120	7,792	11,519
Medalion	CN	4,499	2,180	2,864	10,992	8,131
Goldie	CN	4,349	2,287	2,633	9,166	8,760
Sundance	CN	3,882	2,269	1,613	8,357	9,148
Picasso	SCN	3,004	1,576	1,428	6,431	4,213
Dixie	CN	2,704	1,490	1,214	5,766	5,433
Meigs	CN	1,610	358	1,252	1,694	10,729
PSX 391	SN	5,328	1,991	3,337	4,324	8,649
Lemondrop L.	SN	2,130	917	1,213	2,777	2,182
Sunbar	SN	1,913	928	1,294	3,920	5,082
Monet	Z	6,468	3,372	3,096	11,011	7,623
Taylor	Z	4,249	2,784	1,953	5,100	5,322
Embassy	Z	3,514	2,265	1,815	2,915	2,531
Senator	Z	2,002	0	2,002	0	2,541
Gold Rush	Z	1,394	523	1,045	1,307	1,742
R^2		0.51	0.45			
CV		49	58			
lsd		2,607	1,541			

[1]Combined yields of May 24, May 27, May 31, and June 3 at WS; and June 24, June 26, June 28, and July 1 at UCPS. Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.
[2]CN = yellow crookneck; SCN = semi-crookneck; and Z = zucchini.
[3]Marketable yields were determined as US#1 + US#2 grades.

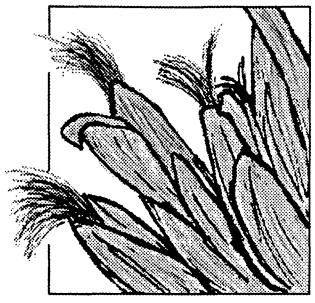
TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED SUMMER SQUASH VARIETIES[1]

Variety	Type[2]	Total marketable wt.[3]	Total US#1 wt.	Total US#2 wt.	Total cull	Total US#1 no.	Total US#2 no.	Individual US#1 fruit wt.
		lb./a.	*lb./a.*	*lb./a.*	*lb./a.*	*no./a.*	*no./a.*	*lb.*
Wiregrass Substation								
CS-4	CN	43,316	40,981	2,335	1,359	128,415	2,439	0.32
Picasso	SCN	37,380	34,247	3,133	1,339	90,185	2,750	0.38
Supersett	CN	37,371	35,224	2,147	878	108,186	2,317	0.32
Prelude II	CN	34,066	30,095	3,971	1,305	100,411	4,680	0.30
Dixie	CN	31,758	28,306	3,452	1,887	84,687	3,682	0.34
Pavo	CN	30,894	28,740	2,154	830	82,523	2,465	0.34
Sundance	CN	29,404	28,041	1,363	1,148	96,737	1,674	0.29
Goldie	CN	26,946	24,936	2,010	1,717	74,875	2,485	0.33
Sensation	Z	51,373	43,689	7,684	805	47,568	3,903	0.92
Super Select	Z	46,747	41,358	5,389	857	43,021	2,439	0.96
Zucchini Elite	Z	44,553	38,662	5,891	921	44,530	2,416	0.88
Magda	Z	42,101	36,612	5,489	523	39,531	1,960	0.93
Tigress	Z	40,475	37,765	3,614	926	50,029	1,958	0.76
Spineless Beauty	Z	37,155	32,547	4,608	271	37,946	2,191	0.86
Condor	Z	33,852	29,428	4,424	1,889	35,634	1,794	0.83
R^2		0.52	0.54					
CV		23	20					
lsd		11,244	8,800					
Upper Coastal Plain Substation								
Pavo	CN	22,052	9,476	12,576	19,822	37,155	41,672	0.25
Picasso	SCN	18,291	6,373	11,917	19,504	27,720	33,264	0.23
Prelude II	CN	17,972	7,198	10,774	21,097	34,431	35,828	0.21
Meigs	CN	17,151	5,788	11,363	14,279	29,701	41,559	0.20
Medalion	CN	16,568	6,717	9,852	16,820	33,315	34,106	0.21
Sundance	CN	16,133	7,195	8,938	19,012	32,073	38,397	0.23
Supersett	CN	15,891	6,373	9,518	20,248	29,476	32,525	0.21
Goldie	CN	14,210	5,082	9,128	23,040	21,732	29,272	0.23
Dixie	CN	14,092	5,886	8,206	17,470	26,279	27,942	0.22
PSX 391	SN	15,923	5,852	10,071	28,638	14,858	23,396	0.39
Lemondrop L.	SN	13,051	3,481	9,570	17,040	12,197	24,840	0.28
Sunbar	SN	11,965	4,352	7,613	13,462	17,860	23,087	0.24
Monet	Z	19,836	9,253	10,583	15,573	38,369	31,635	0.24
Taylor	Z	15,046	5,411	9,635	22,987	10,755	15,967	0.50
Embassy	Z	12,906	4,138	8,768	26,047	5,638	11,161	0.79
Senator	Z	6,422	2,044	4,378	18,915	3,430	6,883	0.61
Gold Rush	Z	5,222	1,220	4,612	12,032	2,831	7,950	0.45
R^2		0.57	0.46					
CV		29	44					
lsd		5,727	3,375					

[1]At WS, plots were harvested on May 24, May 27, May 31, and June 3. At UCPS, harvest dates were June 24, June 26, June 28, July 1, July 3, July 8, July 10, July 12, July 15, July 17, July 19, July 22, July 24, July 26, and July 29. Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.

[2]CN = yellow crookneck; SCN = yellow semi-crookneck; Z = zucchini.

[3]Marketable yields were determined as US#1 + US#2 grades.



Several Sweet Corn Varieties Show Good Yield and Quality

ERIC SIMONNE, BOBBY BOOZER, EMMETT CARDEN, ARNOLD CAYLOR, KAREN DANE, BRIAN GAMBLE, JOE KEMBLE, RONNIE MCDANIEL, MALCOMB PEGUES, JIM PITTS, RANDALL RAWLS, AMY SIMONNE, AND LARRY WELLS

Sugary (*su*), sugar-enhanced (*se*) and supersweet (sh_2) sweet corn varieties were evaluated at the Gulf Coast Substation (GCS) in Fairhope, Wiregrass Substation (WS) in Headland, Chilton Area Horticulture Substation (CAHS) in Clanton, Upper Coastal Plain Substation (UCPS) in Winfield, and North Alabama Horticulture Substation (NAHS) in Cullman (Tables 1 and 2).

At all locations, cultural practices for *su*, *se*, and sh_2 types were similar. However, within each location, sh_2 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, preplant herbicide was Dual 8E applied on April 4 at a rate of one quart per acre. Planting date was April 4. Fertilization consisted of a preplant application of a 10-10-10 fertilizer at a rate of 400 pounds per acre and a sidedress of ammonium nitrate (NH_4NO_3) at a rate of 360 pounds per acre on May 7. Plots were over-head irrigated as needed to provide approximately 1.5 inches water per week.

Insect control was provided by applications of Lannate LV (at a rate of 24 ounces per acre) on May 29, June 3, June 11, and June 14; Ambush (at a rate of 10 ounces per acre) on May 30 and June 5; Asana XL (at a rate of eight ounces per acre) on May 31 and June 12; Lorsban (at a rate of one pint per acre) on May 27, June 4, and June 13; and Larvin (at a rate of 25 ounces per acre) on May 28.

At WS, preplant fertilization consisted of an application (per acre) of a 13-13-13 granular fertilizer broadcast applied at a rate of 250 pounds and of a 16-16-0 liquid fertilizer (11 pounds per gallon) at a rate of 15 gallons. Planting date was April 23. Plots were sidedressed with 60 pounds of NH_4NO_3 per acre on May 23. Lannate LV insecticide was applied at a rate of one quart per acre on May 27. The test was over-head irrigated with 1.25 inches of water on May 13, May 30, May 25, June 5, June 13, June 19, June 28, and July 3.

TABLE 1. RATINGS OF 1996 SWEET CORN VARIETY TRIALS

Location	GCS	WS	CAHS	UCPS	NAHS
Weather	5	5	5	5	5
Fertility	5	5	5	5	5
Irrigation	5	5	5	5	5
Pests	5	5	5	5	5
Overall	5	5	5	5	5

At CAHS, planting date was May 6. Bicep herbicide was applied preplant at a rate of three quarts per acre. Fertilization consisted of a preplant application (per acre) of 75 pounds of nitrogen (N), phosphorus (P_2O_5), and potassium (K_2O) on May 3 and a sidedress application of 60 pounds of N on May 29 and June 10 for the *sh2* test, and May 31 and June 10 for the *su/se* test. No spray was used. Overhead irrigation was used to supplement rainfall and provide a total of approximately one inch per week.

At UCPS, preplant fertilization provided (per acre) 60 pounds of N and of P_2O_5, and 75 pounds of K_2O. Preplant herbicide was Aatrex 4L at a rate of one quart per acre. Planting date was May 15. Approximately three weeks later, plants were sidedressed with 120 pounds of N per acre. The test was irrigated throughout the growing season. No spray was used.

At NAHS, planting date was May 10 for the *su/se* test and May 8 for the *sh2* test. Fertilization consisted of a preplant application (per acre) of 120 pounds of N and a sidedressed application of 50 pounds of N on June 4, both as NH_4NO_3.

Weed control was provided by a preplant application of Aatrex at a rate of two pints per acre on May 14 and 48 ounces per acre on June 14. Insect control was provided by applicationsof Asana at a rate of 9.6 ounces per acre on June 3 and 21; Lannate LV (at a rate of two pints per acre) on June 26, June 28, July 3, July 12 (*sh2* test only), July 19 (*sh2*), July 24 (*sh2*), and Aug. 9 (*sh2*); and Larvin (*sh2* test only, at a rate of 45 ounces per acre) on July 12, July 19, July 24, and Aug. 9. Overhead irrigation was applied on June 17 and 21.

Su/se varieties were harvested on June 13, June 15, and June 20 at GCS; on June 11 and 18 at CAHS; on July 22 at UCPS; and on July 10 and 15 at NAHS. Sh_2 varieties were harvested on June 15 and 20 at GCS; on June 28 and July 1 at WS; on June 18 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 BI-COLOR AND WHITE SWEET CORN VARIETIES

Variety	Seed source	Color	Type	Days to harvest	Disease resistance/tolerance[1]	Years evaluated
A-Maizingly Sweet	Ferry-Morse	Bi-color	sh2	82	CR	96
Dazzle	Asgrow	Bi-color	sh2	83	NCLB,SBW	95,96
Diabolo	Ferry-Morse	Bi-color	sh2	78	SBW	96
Festival	Asgrow	Bi-color	sh2	75	NCLB	94,95,96
Geronimo	Stokes	Bi-color	se	63	N	95,96
Sir Galahad	Stokes	Bi-color	se	85	N	95,96
SS 8102	A&C	Bi-color	sh2	81	NCLB,SCLB,SBW	94,96
Sweet Rhythm	Harris Seeds	Bi-color	sh2	73	CS,SBW	96
Blizzard	Stokes	White	sh2	83	N	96
Fantasia	Asgrow	White	se	82	CR,CS	95,96
Frontier	Asgrow	White	sh2	83	NCLB,CR,SBW	95,96
Pegasus	SeedWay	White	sh2	90	NCLB,SCLB	96
Quick Silver	Harris Seeds	White	su	75	SBW	96
Rising Star	SeedWay	White	se	79	SBW	96
Silver Dollar	Harris Seeds	White	sh2	76	MDMV,SBW,NCLB,CS	96
Silver Queen	SeedWay	White	su	92	NCLB,SCLB,SBW	94,95,96
Silverado	Harris Seeds	White	se	80	CS,SBW	94,95,96
Snow Belle	Asgrow	White	se	85	CR,SCLB	95,96
Snow White	Harris Seeds	White	sh2	81	MDMV	94,95,96
SS 7211	A&C	White	sh2	72	NA	96
SS 8101	A&C	White	sh2	81	NA	96
Starshine	Seneca	White	se	71	NA	95,96
Sweet Ice	Harris Seeds	White	sh2	74	SBW,CS	96
Sweet Magic	Harris Seeds	White	sh2	74	CS,SBW	96
Treasure	Harris Seeds	White	sh2	83	NCLB,SCLB,CR,SBW	95,96
Challenger	Asgrow	Yellow	sh2	78	NCLB,SBW,SCLB,CS	94,95,96
Forever[2]	Asgrow	Yellow	sh2	84	NCLB,SCLB,CR,SBW,A	96
Legend	Harris Seeds	Yellow	se	73	MDMV,NCLB,CS,SBW	95,96
Maxim	Harris Seeds	Yellow	sh2	81	MDMV,SCLB,SBW	95,96
Merit	GroSouth	Yellow	su	78	CS,SBW,SCLB,NCLB,MDMV	96
Merlin	Stokes	Yellow	se	84	SBW,CR,CS,NCLB	95,96
Punchline	Asgrow	Yellow	sh2	74	NCLS,SBW,A,SCLB	94,95,96
Seneca Horizon	Stokes	Yellow	su	64	CR,SBW	96
SS 7210	A&C	Yellow	sh2	72	SCLB	94,96
SS 7620	A&C	Yellow	sh2	76	NCLB,SBW,A	96
SS 7710	A&C	Yellow	sh2	77	NCLB,SBW,A	95,96
Sugar Ace	Harris Seeds	Yellow	se	79	CR,CS,SBW	94,95,96
Sweet Desire	Stokes	Yellow	sh2	69	N	94,96
Sweet Ear	Ferry-Morse	Yellow	sh2	75	NA	96
Victor	Ferry-Morse	Yellow	sh2	80	NCLB,CS	96

[1]Disease: CR = Corn Rust; CS = Corn Smut; MDMV = Maize Dwarf Mosaic Virus; NCLB = Northern Corn Leaf Blight; SBW = Stewart's Bacterial Wilt; SCLB = Southern Corn Leaf Blight; A = Anthracnose; NA = not available; N = none.
[2]Formerly XPH 3024.

TABLE 3. YIELD OF SELECTED SWEET CORN VARIETIES[1]

Variety[2]	Yield	Ear no.	Ear set ht.
	lb./a.	*no./a.*	*in.*
Gulf Coast Substation			
FMX 413 (W, sh2)	16,575	26,417	19
Treasure (W, sh2)	16,458	29,374	24
Silver Queen (W, su)	16,192	26,551	24
Pegasus (W, sh2)	15,662	29,575	28
Blizzard (W, sh2)	15,033	27,724	24
Snow White (W, sh2)	14,450	27,148	23
Fantasia (W, se)	14,440	27,381	17
SS 8101 (W, sh2)	13,937	25,907	20
Silverado (W, se)	13,906	25,489	16
Snow Belle (W, se)	12,826	28,503	16
Starshine (W, se)	12,098	24,760	12
SS 7211 (W, sh2)	11,372	21,398	18
Maxim (Y, sh2)	19,982	35,545	21
Sugar Ace (Y, se)	17,345	30,846	20
Merlin (Y, se)	15,860	29,644	20
SS 7620 (Y, sh2)	14,818	27,165	20
SS 7610 (Y, sh2)	14,693	25,056	20
Sweet Desire (Y, sh2)	13,986	24,442	13
Punchline (Y, sh2)	13,945	25,028	18
Legend (Y, se)	13,704	24,522	9
Seneca Horizon (Y, su)	13,219	26,136	11
Challenger (Y, sh2)	13,177	25,073	17
R^2	0.64	0.67	0.88
CV	11	8	11
lsd	2,256	3,206	3
Wiregrass Substation			
Sir Galahad (B, se)	10,521	18,494	10
SS 8102 (B, sh2)	8,167	15,876	13
Geronimo (B, se)	7,567	18,153	10
Dazzle (B, sh2)	7,497	13,852	13
A-Maizingly Sweet (B, sh2)	7,145	14,611	12
Diabolo (B, sh2)	6,695	13,304	9
Festival (B, sh2)	4,944	10,957	11
Sweet Rithm (B, sh2)	557	1,295	8
Quick Silver (W, su)	9,620	18,664	9
Pegasus (W, sh2)	8,456	16,432	11
Treasure (W, sh2)	8,217	14,408	11
Fantasia (W, se)	7,706	14,266	9
Snow Belle (W, se)	7,300	15,839	11
Blizzard (W, sh2)	7,252	13,505	13
Silverado (W, se)	6,967	14,918	11
Silver Queen (W, su)	6,912	11,657	14
Starshine (W, se)	5,731	11,694	11
Frontier (W, sh2)	5,517	10,625	11
Sweet Ice (W, sh2)	3,804	10,479	11
Merlin (Y, se)	11,565	20,217	11
Maxim (Y, sh2)	10,524	18,714	11
Victor (Y, sh2)	10,360	19,988	12
Merit (Y, su)	7,334	13,900	6
Challenger (Y, sh2)	6,491	13,000	12
Punchline (Y, sh2)	5,850	13,001	14
R^2	0.60	0.59	0.71
CV	29	27	13
lsd	3,063	5,398	2
Chilton Area Horticulture Substation			
Geronimo (B, se)	9,964	22,991	14
Treasure (W, sh2)	18,647	41,115	20
Blizzard (W, sh2)	17,829	36,378	23
Sweet Ice (W, sh2)	15,075	37,265	18
Frontier (W, sh2)	14,902	36,250	23
Snow White (W, sh2)	14,809	34,119	20
SS 8101 (W, sh2)	14,619	36,646	23
Pegasus (W, sh2)	14,616	37,973	29
FMX 413 (W, sh2)	14,065	29,648	20
Rizing Star (W, se)	13,066	31,229	21
Sweet Magic (W, sh2)	12,164	33,554	9
Snow Belle (W, se)	11,786	26,980	19
Fantasia (W, se)	10,996	27,522	21
Quick Silver (W, su)	10,877	30,120	16
Silver Queen (W, su)	10,722	26,496	32
Starshine (W, se)	10,315	24,301	17
Silverado (W, se)	10,304	28,662	17
Forever (Y, sh2)	17,280	38,476	25
Sweet Desire (Y, sh2)	15,580	32,755	16
Sweetear (Y, sh2)	14,713	30,946	17
SS 7620 (Y, sh2)	13,521	35,897	22
Challenger (Y, sh2)	13,448	30,469	19
SS 7710 (Y, sh2)	12,529	35,540	25
Merit (Y, su)	12,388	26,933	29
Punchline (Y, sh2)	12,226	31,631	21
R^2	0.35	0.37	0.74
CV	27	27	16
lsd	5,117	12,654	5
Upper Coastal Plain Substation			
Sweet Rythm (B, sh2)	9,301	25,303	10
SS 8102 (B, sh2)	9,100	23,121	16
Sir Galahad (B, se)	8,900	23,296	19
Festival (B, sh2)	7,757	23,470	13
Geronimo (B, se)	7,285	19,021	10
A-Maizingly Sweet (B, sh2)	6,465	15,705	16
Dazzle (B, sh2)	6,326	19,108	19
Diabolo (B, sh2)	5,008	14,309	12
Quick Silver (W, su)	13,690	35,685	12
Silverado (W, se)	10,917	33,330	15
Frontier (W, sh2)	9,693	27,135	14
SS 7211 (W, sh2)	7,826	20,678	12
Blizzard (W, sh2)	7,783	21,638	19
Fantasia (W, se)	7,224	21,638	17
Silver Queen (W, su)	7,137	15,531	14
Snow Belle (W, se)	6,413	20,853	14
Seneca Horizon (Y, su)	9,650	23,645	8
Victor (Y, sh2)	8,716	22,685	18
SS 7710 (Y, sh2)	7,748	24,517	16
Punchline (Y, sh2)	7,248	19,311	15
Challenger (Y, sh2)	7,242	21,115	14
Sweet Ear (Y, sh2)	6,980	17,188	13
Sweet Desire (Y, sh2)	4,383	12,913	9
Merit (Y, su)	2,524	7,678	13
R^2	0.57	0.59	0.61
CV	28	27	20
lsd	3,043	7,933	4
North Alabama Horticulture Substation			
Snow Belle (W, se)	18,879	39,524	11
Quick Silver (W, su)	18,820	42,055	10
Fantasia (W, se)	18,466	44,847	--
SS 7211 (W, sh2)	15,339	27,222	17
Frontier (W, sh2)	13,262	23,383	18
Silver Dollar (W, sh2)	12,667	19,457	15
Sweet Magic (W, sh2)	12,478	21,813	13
Snow White (W, sh2)	12,390	19,108	23
Silverado (W, se)	12,136	23,121	24
SS 8101 (W, sh2)	10,994	16,839	17
Silver Queen (W, su)	9,939	31,585	16
Blizzard (W, sh2)	7,842	12,651	20
Treasure (W, sh2)	6,478	11,168	20
Pegasus (W, sh2)	3,882	6,718	18
Sugar Ace (Y, se)	20,555	32,457	16
Seneca Horizon (Y, su)	15,749	22,685	--
Merlin (Y, se)	14,482	19,544	7
Forever (Y, sh2)	12,420	17,712	25
Legend (Y, se)	10,672	23,034	--
Punchline (Y, sh2)	8,558	17,712	19
Maxim (Y, sh2)	7,389	13,349	19
Sweetear (Y, sh2)	6,979	8,812	15
Challenger (Y, sh2)	6,593	11,081	16
Sweet Desire (Y, sh2)	5,213	7,940	9
R^2	0.56	0.70	0.48
CV	36	36	32
lsd	6,438	10,845	8

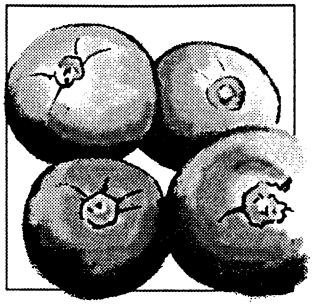
[1]Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.

[2]Note that corn varieties are sorted by color and by yield at each location. W = white, Y = yellow, and B = bi-color. sh2 = supersweet, se = sugar-enhanced, and su = sugary.

TABLE 4. EAR CHARACTERISTICS OF SELECTED SWEET CORN VARIETIES[1]

Variety[2]	Quality rating[3]	Tip cover rating[4]	Ear fill rating[4]	Eye appeal rating[4]	Ear length	Ear diam.	Cob diam.
					in.	*in.*	*in.*
Gulf Coast Substation							
Silverado (W, se)	15.00	5.00	5.00	5.00	7.9	1.6	0.7
Fantasia (W, se)	14.95	5.00	5.00	4.95	7.8	1.6	0.7
Snow Belle (W, se)	14.70	5.00	4.85	4.85	7.3	1.5	0.6
Pegasus (W, sh2)	14.65	5.00	4.80	4.85	7.6	1.8	0.6
SS 7211 (W, sh2)	14.60	5.00	4.80	4.80	7.2	1.7	0.7
SS 8101 (W, sh2)	14.05	4.75	4.65	4.65	7.8	1.8	0.7
Starshine (W, se)	13.95	5.00	4.50	4.45	6.6	1.7	0.8
Silver Queen (W, su)	13.65	4.95	4.35	4.35	7.7	1.7	0.7
FMX 413 (W, sh2)	13.60	4.65	4.35	4.60	7.8	1.8	0.7
Snow White (W, sh2)	13.20	4.30	4.35	4.55	8.1	1.7	0.7
Treasure (W, sh2)	13.20	3.60	4.80	4.80	7.7	1.8	0.6
Blizzard (W, sh2)	12.90	3.95	4.45	4.50	7.5	1.9	0.6
Sugar Ace (Y, se)	15.00	5.00	5.00	5.00	7.3	1.6	0.8
Challenger (Y, sh2)	15.00	5.00	5.00	5.00	7.5	1.7	0.7
Legend (Y, se)	14.75	5.00	5.00	4.75	7.2	1.7	0.8
SS 7620 (Y, sh2)	14.75	5.00	4.85	4.90	7.4	1.7	0.7
Merlin (Y, se)	14.60	4.90	4.80	4.90	8.3	1.7	0.7
SS 7210 (Y, sh2)	14.60	5.00	4.85	4.75	7.6	1.8	0.8
Maxim (Y, sh2)	14.55	4.85	4.85	4.85	6.7	1.8	0.7
Punchline (Y, sh2)	14.55	4.75	4.85	4.95	7.2	1.7	0.7
Sweet Desire (Y, sh2)	13.90	4.60	4.60	4.70	8.1	1.8	0.7
Seneca Horizon (Y, su)	12.85	4.00	4.50	4.35	6.7	1.7	0.8
R^2	0.36	0.63	0.18	0.15	0.57		
CV	7	6	10	10	5		
lsd	0.90	0.20	0.30	0.3	0.6		
Wiregrass Substation							
SS 8102 (B, sh2)	10.85	3.90	3.50	3.45	7.1	1.4	0.7
Geronimo (B, se)	8.75	3.65	2.60	2.50	6.2	1.5	0.8
Diabolo (B, sh2)	8.50	2.80	2.80	2.90	7.0	1.5	0.8
Festival (B, sh2)	8.50	2.55	2.80	3.15	7.3	1.6	0.8
Sir Galahad (B, se)	7.65	2.10	2.80	2.75	7.4	1.7	0.9
Sweet Rythm (B, sh2)	7.38	3.00	3.00	1.38	6.2	1.6	0.9
Dazzle (B, sh2)	7.25	2.45	2.30	2.50	7.3	1.6	1.0
A-Maizingly Sweet (B, sh2)	7.20	2.45	2.35	2.40	7.3	1.5	0.8
Silverado (W, se)	10.40	4.00	3.25	3.15	7.1	1.5	0.8
Silver Queen (W, su)	9.95	4.00	3.05	2.90	7.9	1.2	0.6
Quick Silver (W, su)	9.75	3.70	3.30	2.75	6.1	1.3	0.7
Frontier (W, sh2)	9.45	3.55	3.10	2.80	7.1	1.6	0.7
Pegasus (W, sh2)	9.30	3.15	3.10	3.05	7.3	1.6	0.7
Treasure (W, sh2)	9.30	3.40	3.15	2.75	7.6	1.7	0.8
Blizzard (W, sh2)	9.05	3.10	3.15	2.80	7.2	1.6	0.8
Snow Belle (W, se)	8.70	3.40	2.95	2.35	6.9	1.5	0.8
Fantasia (W, se)	6.55	2.00	2.75	1.80	7.0	1.4	0.8
Sweet Ice (W, sh2)	6.50	1.65	2.40	2.45	6.5	1.5	0.8
Starshine (W, se)	6.15	1.85	2.10	2.20	6.1	1.6	0.9
Maxim (Y, sh2)	10.40	3.45	3.55	3.40	6.8	1.3	0.6
Punchline (Y, sh2)	10.05	3.50	3.30	3.25	5.9	1.4	0.7
Challenger (Y, sh2)	9.65	2.85	3.40	3.40	7.1	1.6	0.8
Victor (Y, sh2)	9.10	2.30	3.50	3.30	7.0	1.5	0.7
Merit (Y, su)	8.12	3.53	2.29	2.29	6.9	1.4	0.8
Merlin (Y, se)	7.45	2.65	2.40	2.40	8.1	1.5	0.7
R^2	0.39	0.53	0.27	0.23	0.47		
CV	26	34	34	37	8		
lsd	1.05	0.4	0.5	0.5	0.4		
Chilton Area Horticulture Substation							
Geronimo (B, se)	10.5	2.00	3.75	5.0	--	--	--
SS 8101 (W, sh2)	14.0	3.75	4.25	5.0	--	--	--
Silver Queen (W, su)	14.0	4.00	5.00	5.0	--	--	--
Blizzard (W, sh2)	13.0	4.00	4.25	5.0	--	--	--
Fantasia (W, se)	12.0	3.75	3.75	4.0	--	--	--
FMX 413 (W, sh2)	12.0	2.75	4.50	5.0	--	--	--
Snow White (W, sh2)	12.0	3.25	3.75	5.0	--	--	--
Treasure (W, sh2)	12.0	3.25	4.00	5.0	--	--	--
Rizing Star (W, se)	11.5	3.75	3.75	4.5	--	--	--
Starshine (W, se)	11.5	3.00	4.50	4.5	--	--	--
Frontier (W, sh2)	11.0	3.00	4.25	3.0	--	--	--
Pegasus (W, sh2)	11.0	3.25	4.50	4.0	--	--	--
Silverado (W, se)	10.5	3.50	3.75	3.5	--	--	--
Snow Belle (W, se)	10.0	2.75	3.25	4.0	--	--	--
Sweet Ice (W, sh2)	10.0	2.00	3.50	4.0	--	--	--
Sweet Magic (W, sh2)	10.0	1.50	3.50	4.0	--	--	--
Quick Silver (W, su)	8.5	2.75	3.75	2.5	--	--	--
SS 7620 (Y, sh2)	14.0	4.25	4.00	5.0	--	--	--
Forever (Y, sh2)	13.0	3.75	3.75	5.0	--	--	--
SS 7710 (Y, sh2)	13.0	4.25	3.75	5.0	--	--	--
Challenger (Y, sh2)	12.0	3.25	4.25	5.0	--	--	--
Punchline (Y, sh2)	11.0	3.25	4.25	4.0	--	--	--
Merit (Y, su)	10.5	3.75	3.25	5.0	--	--	--
Sweet Desire (Y, sh2)	10.0	3.25	3.25	3.0	--	--	--
Sweetear (Y, sh2)	9.0	2.75	3.75	3.0	--	--	--
R^2	0.88	0.63	0.63	0.91			
CV	11	20	15	11			
lsd	3.5	0.88	0.79	1.5			
Upper Coastal Plain Substation							
Sir Galahad (B, se)	11.00	3.25	4.00	3.75	--	--	--
Geronimo (B, se)	10.00	3.75	3.50	2.75	--	--	--
SS 8102 (B, sh2)	8.00	2.50	2.50	3.00	--	--	--
Sweet Rythm (B, sh2)	7.75	2.25	2.75	2.75	--	--	--
Festival (B, sh2)	7.50	2.50	2.50	2.50	--	--	--
A-Maizingly Sweet (B, sh2)	7.00	2.25	2.25	2.50	--	--	--
Dazzle (B, sh2)	7.00	2.25	2.50	2.25	--	--	--
Diabolo (B, sh2)	6.75	2.25	2.00	2.50	--	--	--
Snow Belle (W, se)	10.25	3.75	3.50	3.00	--	--	--
Quick Silver (W, su)	10.00	3.75	3.00	3.25	--	--	--
Fantasia (W, se)	9.75	3.25	3.25	3.25	--	--	--
Silverado (W, se)	9.75	3.50	3.25	3.00	--	--	--
Silver Queen (W, su)	9.25	3.25	3.25	2.75	--	--	--
SS 7211 (W, sh2)	8.00	2.50	2.75	2.75	--	--	--
Blizzard (W, sh2)	7.75	2.50	2.50	2.75	--	--	--
Frontier (W, sh2)	7.00	2.25	2.25	2.50	--	--	--
Seneca Horizon (Y, su)	9.00	3.50	3.25	2.25	--	--	--
Merit (Y, su)	8.67	3.00	2.67	3.00	--	--	--
Challenger (Y, sh2)	8.00	2.75	2.75	2.50	--	--	--
Sweet Ear (Y, sh2)	8.00	2.50	2.75	2.75	--	--	--
Punchline (Y, sh2)	7.67	2.67	2.67	2.33	--	--	--
Sweet Desire (Y, sh2)	7.40	2.40	2.60	2.40	--	--	--
SS 7710 (Y, sh2)	7.00	2.50	2.25	2.25	--	--	--
Victor (Y, sh2)	7.00	2.00	2.50	2.50	--	--	--
R^2	0.42	0.45	0.40	0.27			
CV	20	25	23	24			
lsd	1.28	0.98	0.94	0.93			
North Alabama Horticulture Substation							
Fantasia (W, se)	11.43	3.95	3.60	3.88	--	--	--
SS 8101 (W, sh2)	11.00	3.43	3.70	3.88	--	--	--
SS 7211 (W, sh2)	10.80	3.18	3.65	3.98	--	--	--
Sweet Magic (W, sh2)	10.68	3.10	3.63	3.95	--	--	--
Snow Belle (W, se)	10.25	3.48	3.08	3.70	--	--	--
Peagasus (W, sh2)	9.78	3.03	3.23	3.53	--	--	--
Blizzard (W, sh2)	9.75	2.25	3.55	3.95	--	--	--
Silver Queen (W, su)	9.30	3.23	2.53	3.55	--	--	--
Silverado (W, su)	9.28	2.63	3.05	3.60	--	--	--
Silver Dollar (W, sh2)	9.23	2.05	3.43	3.75	--	--	--
Treasure (W, sh2)	8.98	1.88	3.20	3.90	--	--	--
Quick Silver (W, su)	7.78	2.85	2.48	2.45	--	--	--
Snow White (W, sh2)	7.30	2.30	2.50	2.50	--	--	--
Frontier (W, sh2)	6.18	1.65	2.20	2.33	--	--	--
Maxim (Y, sh2)	11.88	4.00	4.00	3.88	--	--	--
Sugar Ace (Y, se)	11.40	3.78	3.83	3.80	--	--	--
Punchline (Y, sh2)	11.30	3.85	3.45	4.00	--	--	--
Sweetear (Y, sh2)	11.13	3.73	3.70	3.70	--	--	--
Challenger (Y, sh2)	11.10	4.00	3.13	3.98	--	--	--
Legend (Y, se)	10.58	3.78	3.45	3.35	--	--	--
Seneca Horizon (Y, su)	9.95	3.58	3.00	3.38	--	--	--
Sweet Desire (Y, sh2)	9.90	3.43	3.33	3.15	--	--	--
Forever (Y, sh2)	9.78	2.90	3.40	3.48	--	--	--
Merlin (Y, se)	8.48	2.18	2.95	3.35	--	--	--
R^2	0.73	0.67	0.69	0.76			
CV	19	31	20	21			
lsd	0.35	0.81	0.49	0.43			

[1]Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.
[2]Note that corn varieties are sorted by color and by quality rating at each location. W = white, Y = yellow, and B = bi-color. Sh2 = supersweet, SE = sugar-enhanced, and Su = sugary.
[3]Quality rating is the sum of tip cover, ear fill, and eye appeal ratings.
[4]Tip cover, ear fill, and eye appeal ratings: 5 = excellent; 4 = good; 3 = fair; 2 = poor; 1 = very poor.



Yellow-Fleshed 'Mountain Gold' Shows Good Yield Potential and Fruit Characteristics

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Tomato variety trials were conducted at the Wiregrass Substation (WS) in Headland, North Alabama Horticulture Substation (NAHS) in Cullman, and Sand Mountain Substation (SMS) in Crossville (Tables 1 and 2).

Five-week-old tomatoes were transplanted on May 8 at WS, on May 16 at NAHS, and on May 8 at SMS onto three-foot-wide, trickle-irrigated beds covered with plastic. 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. Plants were staked and tied.

At WS, gypsum (calcium sulfate) was applied on April 11 at a rate of 500 pounds per acre. Preplant fertilizers (per acre) were 13-13-13 applied on April 10 at a rate of 500 pounds, along with broiler litter at a rate of two tons. 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

TABLE 1. RATINGS OF 1996 TOMATO VARIETY TRIALS

Location	WS[1]	NAHS	SMS
Weather	5	5	5
Fertility	5	4	5
Irrigation	5	5	5
Pests	3	4	4
Overall	4	4	4

[1]At WS, the Tomato Spotted Wilt virus was detected by ELISA technique on some plants

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

Variety	Type[2]	Seed source	Plant habit[2]	Fruit color	Days to harvest[3]	Disease claims[4]	Years evaluated
Acclaim	F1, FM	Sakata	Det	Red	73	V,F,N,TbMV,ASC,St	95,96
Celebrity	F1, FM	Petoseed	Det	Red	72	V,F,N,TbMV,ASC,St	94,95,96
Colonial	F1, FM	Petoseed	Det	Red	76	V,F,ASC,St	94,96
Daybreak	F1, FM	Petoseed	Det	Red	68	V,F,ASC,St	94,95,96
FMX 174	F1, FM	Ferry-Morse	Det	Red	NA	NA	96
HMX 4700	F1, FM	Harris Seeds	Det	Red	NA	NA	96
Medina	F1, FM	Vilmorin	Det	Red	NA	NA	95,96
Merced	F1, FM	Sandoz Rogers	Det	Red	69	V,F,TbMV	94,95,96
Mt. Belle	F1, CH	SeedWay	Det	Red	65	V,F	96
Mt. Delight	F1, FM	Petoseed	Det	Red	70	V,F,ASC,St	94,95,96
Mt. Fresh	F1, FM	Ferry-Morse	Det	Red	75	V,F	96
Mt. Gold	OP, FM	Stokes	Det	Golden	70	V,F	96
Mt. Pride	F1, FM	Stokes	Det	Red	77	V,F,ASC,St	96
Mt. Spring	F1, FM	Sandoz Rogers	Det	Red	69	V,F	94,95,96
Orange Queen	OP, FM	Stokes	Det	Orange	65	NA	96
Pilgrim	F1, FM	SeedWay	Det	Red	68	V,F,ASC,St	96
PS 804393	F1, FM	Petoseed	Det	Red	NA	NA	96
Spitfire	F1, FM	Ferry-Morse	Det	Red	68	V,F,ASC,St	96
Sunbeam	F1, FM	Asgrow	Det	Red	75	V,F	94,95,96
Sunbelt	F1, FM	Petoseed	Det	Red	72	V,F,N,ASC,St	96
Sunpride	F1, FM	Asgrow	Det	Red	80	V,F,ASC,St	94,95,96
Supersonic	F1, FM	Harris Seeds	Indet	Red	79	V,F	95,96
Ultramagnum	F1, FM	Stokes	Det	Red	68	V,F,TbMV	94,95,96
Ultra Sweet	F1, FM	Stokes	Det	Red	62	V,F,TbMV	95,96
HMX 2867	F1, RO	Harris Seeds	Det	Red	NA	V,F,N	96
Macero II	OP, RO	Harris Seeds	Det	Red	76	V,F	95,96
Sheriff	F1, RO	Ferry-Morse	Det	Red	74	V,F,N	96

[1]Type: F1 = hybrid; OP = open pollinated; FM = fresh market; RO = Roma (elongated fruits); CH = cherry (small, round fruits).
[2]Plant habit: Det = determinate; Indet = indeterminate.
[3]NA = not available; from seed catalogues.
[4]Disease (Resistance/Tolerance): F = Fusarium Wilt; V = Verticillium Wilt; ASC = Alternaria Stem Canker; ST = Stemphylium (gray leaf spot); N = Root-knot Nematodes; TbMV = Tobacco Mosaic Virus; NA = not available.

of nitrogen (N) per acre, from potassium nitrate (KNO_3) on May 15, May 22, May 31, June 12, June 19, and June 26 and from calcium nitrate [$Ca(NO_3)_2$] on June 5. A total of 42 pounds of N per acre was injected throughout the growing season.

Insect control was provided by applications of Asana (at a rate of 9.6 ounces per acre) on June 10 and July 8. Bravo fungicide was applied at a rate of three pints per acre on May 31, June 6, June 17, June 24, July 1, July 8, and July 15.

At NAHS, beds were fumigated with 98% methyl bromide + 2% chloropicrin at a rate of 200 pounds per acre on April 27. Soil test results reported high and very high levels of P and K. Preplant fertilization consisted of an application of 120 pounds of N as NH_4NO_3. Weed control between the beds was provided by an application of Gramoxone (at a rate of three pints per acre) and Sencor DF (at a rate of 12 ounces per acre) on June 25.

Insecticide used was Asana XL (at a rate of 9.6 ounces per acre) on June 3, June 7, June 21, June 28,

TABLE 3. EARLY PRODUCTION AND GRADE DISTRIBUTION OF SELECTED TOMATO VARIETIES[1]

Variety	Early marketable wt.	Early jumbo wt.	Early jumbo no.	Early extra-large wt.	Early extra-large no.	Early large wt.	Early large no.	Early medium wt.	Early med. no.
	lb./a.	*lb./a.*	*no./a.*	*lb./a.*	*no./a.*	*lb./a.*	*no./a.*	*lb./a.*	*no./a.*
Wiregrass Substation									
Sunbeam	8,168	2,142	2,541	3,249	5,990	2,777	5,264	1,234	1,997
Spitfire	8,022	726	908	2,124	4,175	5,173	10,709	4,011	9,983
Pilgrim	6,219	0	0	2,493	2,904	3,727	7,502	5,469	10,648
Ultrasweet	2,886	0	0	2,577	3,993	1,597	2,723	1,761	3,630
Sunbelt	2,577	508	726	835	1,452	1,488	2,541	1,839	3,630
Ultramagnum	2,341	1,924	2,360	1,307	2,178	363	726	454	1,089
Merced	2,232	1,065	1,210	1,089	1,694	1,234	2,178	1,053	2,541
Sunpride	2,051	944	1,089	1,307	2,178	1,234	2,662	1,343	3,267
Daybreak	1,670	1,452	1,452	1,113	1,936	629	1,452	635	1,089
Supersonic	920	1,162	1,452	472	726	327	1,452	774	1,694
Acclaim	690	0	0	726	1,452	327	726	762	1,634
Celebrity	690	581	726	0	0	399	726	1,343	726
Mt. Delight	--	0	0	0	0	0	0	1,035	1,694
R^2	0.68	0.28							
CV	62	95							
lsd	3,120	1,950							
North Alabama Horticulture Substation									
Sunpride	38,483	17,961	29,403	17,419	40,656	3,104	10,346	0	0
Daybreak	33,532	18,070	25,773	12,914	25,955	2,548	8,349	0	0
Mt. Belle	33,164	33,164	--	--	--	--	--	0	0
Celebrity	32,625	14,099	22,506	16,253	35,574	2,272	7,986	0	0
Mt. Pride	32,400	10,304	16,335	17,308	40,112	4,788	15,609	0	0
Mt. Spring	31,715	16,228	25,410	13,832	27,770	1,655	5,445	0	0
Sunbeam	30,200	16,379	25,229	12,411	27,588	1,410	4,901	0	0
Merced	29,189	17,420	25,410	10,433	20,691	1,336	4,175	0	0
Spitfire	28,701	10,469	17,424	15,304	33,033	2,928	10,346	0	0
Mt. Fresh	28,347	15,288	23,777	11,266	28,677	1,793	5,990	0	0
Colonial	28,223	12,925	19,602	13,652	28,677	1,646	5,082	0	0
Mt. Delight	27,209	13,288	20,873	12,386	29,948	1,535	5,082	0	0
Mt. Gold	18,370	10,284	16,154	7,746	17,061	339	1,089	0	0
Ultramagnum	17,580	10,796	16,517	6,100	13,250	684	2,360	0	0
Orange Queen	9,765	842	2,904	3,372	10,527	5,550	19,602	0	0
R^2	0.56	0.73							
CV	20	26							
lsd	8,543	5,953							
Sand Mountain Substation									
HMX 4700	3,073	1,197	1,452	1,622	3,086	254	908	548	0
Merced	2,849	1,794	1,997	981	1,634	74	182	0	0
Ultrasweet	2,784	304	363	1,232	2,178	1,248	3,449	81	726
Medina	2,612	0	0	376	908	2,236	7,079	753	2,178
Ultramagnum	1,469	783	1,089	445	726	242	545	0	0
Sunpride	1,429	287	363	716	1,271	426	1,271	125	182
Celebrity	1,200	436	545	634	1,271	130	363	0	0
Mt. Spring	1,054	600	726	400	726	54	182	0	0
Mt. Delight	475	139	182	287	545	49	182	130	182
XPH 10047	451	0	0	203	363	248	726	0	0
Acclaim	353	140	182	92	182	121	363	100	726
FMX 174	203	0	0	80	182	123	363	443	726
Sunbeam	119	0	0	119	182	0	0	139	545
PS 804393	104	0	0	104	182	0	0	0	0
R^2	0.57	0.41							
CV	82	176							
lsd	950	639							

[1]Combined productions of July 3, July 8, and July 11 at WS; July 29, Aug. 1 and Aug. 5 at NAHS; and July 18, July 25, and Aug. 1 at SMS. Marketable production was calculated by combining the jumbo, extra-large, and large grades. Grades and corresponding fruit diameters (D) for fresh-market tomato were jumbo (D>3.5 inch), extra-large (D>2.9 inch), large (D>2.5 inch), medium (D>2.3 inch), and small (others). Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.

July 3, July 12, July 26, and Aug. 2; Dimethoate (at a rate of two pints per acre) on June 7; Thiodan (at a rate of 2.5 pounds per acre) on July 12; and Lannate LV (at a rate of three pints per acre) on July 19, July 26, and Aug. 2.

Fungicides used were Bravo 720 (at a rate of two pints per acre) on June 3, June 7, July 12, July 19, and July 26; Dithane F-45 (at a rate of 2.4 quarts per acre) on June 18, June 21, June 28, and Aug. 3; and Kocide 101 (at a rate of two pounds per acre) on June 18, June 21, June 28, and Aug. 3.

At SMS, beds were fumigated with methyl bromide at a rate of 300 pounds per acre one week before trans-

TABLE 4. TOTAL PRODUCTION AND GRADE DISTRIBUTION OF SELECTED TOMATO VARIETIES[1]

Variety	Total marketable wt.	Total jumbo wt.	Total jumbo no.	Total extra-large wt.	Total extra-large no.	Total large wt.	Total large no.	Total medium wt.	Total medium no.	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.*
Wiregrass Substation											
Sunbeam	15,700	4,156	5,264	4,193	11,798	7,351	13,794	10,164	16,335	1,597	0.59
Pilgrim	12,076	1,065	1,694	3,049	7,502	7,962	16,456	19,336	27,177	2,517	0.69
Acclaim	10,981	1,461	1,997	3,557	7,986	5,962	10,890	11,353	19,602	2,650	0.66
Spitfire	10,890	853	1,089	2,541	7,260	7,496	15,791	11,144	17,606	3,031	0.74
Merced	9,039	2,178	2,723	2,142	5,808	4,719	9,075	6,316	11,072	3,303	0.66
Supersonic	8,349	3,775	4,901	1,543	4,538	3,031	5,990	4,338	7,079	4,755	0.68
Sunpride	8,022	1,742	2,178	1,561	5.264	4,719	10,164	7,224	12,705	1,906	0.72
Daybreak	7,732	1,888	2,178	2,741	6,353	3,104	6,171	8,930	14,883	2,178	0.57
Celebrity	7,714	557	726	2,251	7,079	5,046	10,164	11,435	22,688	3,194	0.61
Sunbelt	7,532	2,214	3,086	1,906	4,538	3,412	6,353	7,841	13,431	5,554	0.66
Ultramagnum	6,788	2,741	3,449	1,815	4,719	2,232	3,993	4,819	5,990	5,009	0.53
Ultrasweet	4,283	581	726	2,795	2,904	2,741	4,901	17,315	19,784	3,757	0.69
Mt. Delight	3,594	944	1,089	1,779	2,541	2,232	4,175	10,001	7,986	2,009	0.88
R^2	0.58	0.41									0.26
CV	41	77									22
lsd	4,760	2,236									0.34
North Alabama Horticulture Substation											
Mt. Fresh	72,898	32,214	51,728	34,193	79,316	6,490	21,054	0	0	10,168	0.37
Colonial	71,948	24,639	40,112	38,993	87,665	8,316	25,047	0	0	13,718	0.38
Celebrity	68,070	26,710	45,194	35,616	79,679	5,744	19,965	0	0	9,750	0.37
Mt. Gold	67,703	33,009	51,909	33,289	58,443	1,405	5,264	0	0	6,735	0.41
Sunpride	66,057	27,156	44,649	32,577	75,504	6,323	21,054	0	0	9,997	0.37
Daybreak	63,115	31,006	46,646	26,481	58,262	5,628	15,791	0	0	8,235	0.42
Mt. Pride	60,677	15,248	25,410	34,365	83,490	11,064	37,389	0	0	13,896	0.38
Mt. Spring	56,200	27,321	43,379	25,319	55,358	3,559	12,161	0	0	9,917	0.38
Mt. Delight	56,004	25,165	41,201	25,807	59,351	5,031	16,335	0	0	9,109	0.38
Spitfire	55,463	18,161	29,040	30,855	68,426	6,447	22,143	0	0	8,912	0.38
Sunbeam	54,265	25,512	39,930	24,363	56,447	4,390	14,883	0	0	8,808	0.38
Merced	50,001	27,742	41,201	19,626	41,382	2,634	8,712	0	0	7,064	0.40
Mt. Belle	44,823	44,823	--	--	--	--	--	0	0	--	--
Ultramagnum	34,131	17,088	27,044	14,578	32,670	2,465	8,349	0	0	16,711	0.38
Orange Queen	14,475	842	2,904	3,547	11,072	10,086	35,393	0	0	49,976	0.50
R^2	0.49	0.59									0.16
CV	22	25									11
lsd	17,942	10,086									0.06
Sand Mountain Substation											
HMX 4700	48,089	9,209	12,342	22,390	41,382	16,491	43,016	4,905	12,342	10,237	0.55
Mt. Spring	41,505	9,598	12,161	20,717	37,208	11,190	27,770	2,572	10,346	14,478	0.57
Sunpride	41,085	4,800	6,716	19,945	36,119	16,341	40,293	4,020	10,709	4,307	0.56
Ultramagnum	40,542	10,036	12,887	19,835	36,845	10,671	23,051	2,345	7,805	14,018	0.59
XPH 10047	37,945	6,124	7,986	23,206	41,382	8,615	22,325	1,475	4,719	10,902	0.55
PS 804393	37,223	10,012	11,435	20,068	33,578	7,143	18,513	1,564	5,990	12,123	0.61
Sunbeam	36,547	8,241	10,527	18,839	33,215	9,467	23,958	2,494	8,712	12,208	0.58
Celebrity	35,743	4,481	5,808	16,690	30,129	14,572	36,119	4,096	14,883	16,289	0.57
Mt. Delight	34,917	7,950	9,620	18,251	32,126	8,716	22,325	4,374	14,157	13,780	0.58
Acclaim	33,219	9,084	11,979	14,953	26,136	9,182	22,869	4,958	17,969	10,302	0.57
Merced	33,049	15,192	17,606	13,105	23,595	4,752	11,072	1,346	4,901	18,218	0.61
Ultrasweet	29,660	3,910	5,627	11,627	21,780	14,124	40,656	7,239	25,592	16,581	0.53
FMX 174	22,552	2,304	2,904	12,996	23,958	7,252	19,784	3,068	9,438	10,299	0.55
Medina	16,031	119	182	3,660	10,346	12,252	37,571	30,995	100,914	13,153	0.45
R^2	0.35	0.47									0.51
CV	35	64									6
lsd	7,862	2,988									0.05

[1]Harvests dates were July 3, July 8, July 11, July 15, July 19, and July 22 at WS; July 29, Aug. 1, Aug. 5, Aug. 9, and Aug. 14 at NAHS; and July 18, July 25, Aug. 1, Aug. 8, Aug. 15, Aug. 21, and Aug. 28 at SMS. Grades and corresponding fruit diameters (D) were jumbo (D>3.5 inch), extra-large (D>2.9 inch), large (D>2.5 inch), medium (D>2.3 inch), and small (others). Marketable production and individual fruit weight were calculated by combining the jumbo, extra-large, and large grades. Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.

TABLE 5. EARLY AND TOTAL YIELD OF SELECTED ROMA-TYPE TOMATO VARIETIES[1]

Location	Variety	Early market. wt.	Early market. no.	Total market. wt.	Total market. no.	Total misshaped wt.	Total misshaped no.	Total cull
		lb./a.	*no./a.*	*lb./a.*	*no./a.*	*lb./a.*	*no./a.*	*lb./a.*
WS	Sheriff	1,978	3,630	21,720	39,870	--	--	2,904
WS	Macero II	1,924	5,082	16,117	46,283	--	--	3,358
SMS	Sheriff	2,640	12,705	36,837	213,626	5,999	35,937	9,753
SMS	HMX 2867	953	4,175	24,269	117,975	16,540	78,771	12,556
SMS	Macero II	662	3,267	11,775	66,974	19,818	114,890	9,464

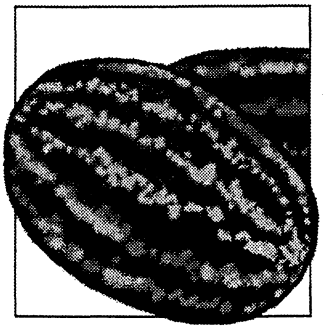
[1]Grades of Roma-type tomatoes were marketable (fruits free of injury and well shaped), misshaped (fruits free of injury, with defects including pointed end, pear-shape, or eight-shape), and cull.

planting. Ammonium nitrate (at a rate of 175 pounds per acre) and a 8-24-24 fertilizer (at a rate of 250 pounds per acre) were preplant applied on May 8. Between May 31 and Aug. 14, fertilization consisted of weekly injections of five pounds of N per acre, alternatively as 20-20-20, KNO_3 (13-0-44) and $Ca(NO_3)_2$. The injections provided a total of 60 pounds of N per acre.

Insect control was provided by applications of Sevin XLR (at a rate of one quart per acre) on June 21; Asana (at a rate of eight ounces per acre) on June 26, July 2, July 4, July 22, July 26, Aug. 2 and Aug. 16; and Phaser (at a rate of 1.5 pints per acre) on July 12 and Aug. 9. Fungicide sprays consisted of applications of Manzate 200 DF (at a rate of two pounds per acre) on July 4 and Aug. 2; Ridomil (at a rate of 1.5 pounds per acre) on June 21, July 4, July 12, July 22, Aug. 8, and Aug. 16; and Bravo 720 (at a rate of two pints per acre) on June 7, June 17, June 28, July10, July 16, July 26, Aug. 8, and Aug. 23.

Plots were harvested six times (on July 3, July 8, July 11, July 15, July 19, and July 22) at WS; five times (July 29, Aug. 1, Aug. 5, Aug. 9, and Aug. 14) at NAHS; and seven times at SMS between July 18 and Aug. 28.

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 Alabama Cooperative Extension Service): Jumbo (D>3.5 inch); Extra-Large (D>2.9 inch); Large (D>2.5 inch); Medium (D>2.3 inch); and Small (others). The grading of Roma-type tomatoes was based on fruit shape more than on fruit size: Marketable (fruits free of injury and well shaped); Misshaped (fruits free of injury, with defects including pointed end ["nippling"], pear-shape, or eight-shape); and Cull. Yields of the first harvests were used to evaluate early production (Table 3). Marketable yield was calculated by combining the Jumbo, Extra-Large, and Large grades (Tables 4 and 5).



Watermelon Seed Supply Almost Back to Normal

ERIC SIMONNE, EMMETT CARDEN, DAVID DUBOIS, BRIAN GAMBLE, GENE HUNTER, JOE KEMBLE, RONNIE MCDANIEL, MALCOMB PEGUES, RANDALL RAWLS, MARVIN RUF, AND LARRY WELLS

Watermelon varieties were tested at the Gulf Coast Substation (GCS) in Fairhope, Wiregrass Substation (WS) in Headland, Upper Coastal Plain Substation (UCPS) in Winfield, North Alabama Horticulture Substation (NAHS) in Cullman, and Sand Mountain Substation (SMS) in Crossville (Tables 1 and 2).

Watermelons were established on bare ground in 60-foot-long, five-foot-wide plots with a hill spacing of approximately 10 feet. Seeds were used at GCS, WS, and UCPS, while transplants were used at NAHS and SMS. Planting dates were April 9 at GCS, April 10 at WS, and May 15 at UCPS. Transplanting dates were May 15 at NAHS and May 13 at SMS.

At GCS, fertilization consisted of a preplant application of a 4-12-12 fertilizer at a rate of 465 pounds per acre on April 9. Plants were trickle irrigated as needed. Weed control consisted of applications of Curbit (at a rate of four pints per acre) on April 10 and Poast + Crop oil concentrate (at a rate of 1.5 pints per acre each) on May 13. Ridomil/Bravo 81W fungicide was applied at a rate of two pounds per acre on May 27, June 6, and June 12. Bravo 720 fungicide was applied at a rate of two pints per acre on June 18 and 24.

At WS, 500 pounds per acre of a 13-13-13 fertilizer and two tons per acre of broiler litter were applied pre-

TABLE 1. RATINGS OF 1996 WATERMELON VARIETY TRIALS

Location	GCS	WS	UCPS	NAHS	SMS
Weather	5	5	5	5	5
Fertility	5	5	5	5	5
Irrigation	5	5	5	5	5
Pests	5	5	5	5	5
Overall	5	5	5	5	5

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

Variety	Type	Seed source	Fruit shape	Flesh color	Days to harvest[1]	Disease claims[2]	Years evaluated
Seeded/Diploid							
AU-Allsweet	OP	Auburn University	Elongated	Red	NA	NA	94,96
AU-Golden Producer	OP	Auburn University	Round	Golden	75	Ant,F,GSB,DM	95,96
AU-SS Sweet Scarlet	OP	Auburn University	Round	Red	NA	NA	96
Baron	F1	American Sunmelon	Elongated	Red	NA	NA	96
Crimson Glory	F1	Petoseed	Round	Red	82	F	96
Huck Finn	F1	Ferry-Morse	Elongated	Red	85	N	94,95,96
Oasis	F1	Harris Seeds	Elongated	Red	74	Ant,F	96
Paradise	F1	Harris Seeds	Elongated	Red	75	Ant,F	94,96
Regency	F1	Petoseed	Elongated	Red	83	Ant,F	94,96
Royal Jubilee	F1	Petoseed	Elongated	Red	95	Ant,F	94,96
Royal Majesty	F1	Petoseed	Elongated	Red	90	Ant,F	94,96
Royal Sweet	F1	Petoseed	Elongated	Red	85	Ant,F	94,96
Sweet Favorite	F1	Sakata	Elongated	Red	83	N	96
Var #510	F1	A&C	Elongated	Red	NA	NA	96
Var #420	F1	A&C	Elongated	Red	NA	NA	96
Yellow Doll	F1	Petoseed	Oblong	Yellow	68	N	96
Seedless/Triploid							
Paladin	F1	Sakata	Oblong	Red	80	Ant, F	96
Tri-X 313	F1	American Sunmelon	Oblong	Red	NA	NA	96
Tri-X Shadow	F1	American Sunmelon	Round	Red	NA	NA	96
Tri-X Sunrise	F1	American Sunmelon	Round	Red	NA	NA	96
Var #2532	F1	A&C	Round	Red	90	Ant	96
Var #5244	F1	A&C	Oblong	Red	90	Ant	94,96
Var #5544	F1	A&C	Oblong	Red	NA	NA	96

[1]NA = not available; N = none; from seed catalogues.
[2]Disease claims: Ant = Anthracnose; F = Fusarium Wilt; GSB = Gummy Stem Blight; DM = Downy Mildew.

TABLE 3. YIELD OF SELECTED WATERMELON VARIETIES[1]

Variety	Market. yield	Market. fruits	Ind. fruit wt.	Soluble solids	Hollow heart
	lb./a.	*no./a.*	*lb.*	*°Brix*	*in.*
Gulf Coast Substation					
Royal Jubilee	53,673	2,281	24	11.3	0
Baron	38,727	2,281	17	10.9	0
Oasis	35,004	1,679	21	12.1	0
Var. #510	34,292	2,008	17	10.9	0
Royal Majesty	33,069	1,953	17	11.8	0
Sweet Favorite	31,372	1,862	17	11.9	0
Yellow Doll	31,025	7,501	4	10.9	1
AU-Golden Producer	30,186	2,154	14	10.7	0
Crimson Glory	29,109	1,606	18	11.6	0
Paradise	26,809	1,570	17	11.3	0
Var. #420	26,663	1,588	17	10.3	0
AU-SS Sweet Scarlet	26,517	1,916	14	10.4	0
AU-Allsweet	23,725	1,405	17	11.3	0
Royal Sweet	18,378	1,588	12	8.6	0
R^2	0.81		0.88	0.62	0.24
CV	14		11	7	748
lsd	6,189		3	1.1	1
Wiregrass Substation					
Royal Jubilee	50,681	2,139	24	10.3	1
Regency	36,486	2,139	17	10.4	1
Oasis	28,750	1,450	19	10.9	2
Baron	25,915	2,139	12	10.5	1
Crimson Glory	25,342	1,559	16	10.3	2
Royal Majesty	24,733	1,813	13	10.7	0
AU-SS Sweet Scarlet	22,674	1,378	16	11.7	0
Paradise	22,200	1,885	13	11.2	1
AU-Allsweet	21,957	1,450	15	10.0	0
Yellow Doll	18,053	4,241	5	11.3	0
Sweet Favorite	16,059	1,559	12	10.8	1
AU-Golden Producer	15,595	1,015	15	10.7	0
Huck Finn	14,957	1,196	13	10.3	1
Royal Sweet	12,883	943	13	9.3	4
R^2	0.60		0.60	0.59	0.18
CV	41		28	15	159
lsd	12,593		6	1.4	2
Upper Coastal Plain Substation					
Royal Jubilee	48,731	2,412	20	10.3	--
Var. #5544	33,443	2,776	12	11.3	--
Royal Majesty	26,345	1,661	16	11.3	--
Huck Finn	26,299	1,570	17	10.9	--
Paradise	24,525	1,547	16	11.2	--
AU-Allsweet	23,114	1,365	17	10.6	--
Yellow Doll	22,250	4,891	5	10.7	--
Paladin	22,659	1,479	15	10.5	--
AU-SS Sweet Scarlet	20,475	1,365	15	10.5	--
Var. #2532	19,429	1,479	15	10.7	--
Crimson Glory	19,110	1,138	18	10.3	--
AU-Golden Producer	15,857	1,047	15	10.4	--
Royal Sweet	15,713	910	17	10.1	--
Sweet Favorite	15,061	1,251	10	11.0	--
R^2	0.58		0.66	0.22	--
CV	35		21	8	--
lsd	14,097		4	1.2	--
North Alabama Horticulture Substation					
Regency	39,239	1,706	23	9.9	0
AU-Allsweet	38,948	2,025	20	10.4	0
Paradise	38,193	1,911	19	11.2	0
AU-SS Sweet Scarlet	37,927	2,093	19	10.5	0
Royal Sweet	34,922	1,502	23	10.2	0
Oasis	31,510	1,342	23	9.9	0
Yellow Doll	28,107	4,209	8	8.8	0
AU-Golden Producer	24,882	1,229	21	9.1	0
Crimson Glory	11,874	614	18	9.3	0
Var. #5244	49,594	2,980	17	11.8	0
Var. #5544	45,791	2,958	16	9.8	0
Tri-X 313	42,764	2,889	15	10.3	0
Tri-X Sunrize	33,386	2,252	15	10.6	0
Tri-X Shadow	32,515	2,662	12	10.1	0
R^2	0.46		0.63	--	--
CV	32		22	--	--
lsd	19,140		6	--	--
Sand Mountain Substation					
Oasis	49,880	2,030	27	11.4	0
AU-Golden Producer	46,835	1,813	26	12.0	0
Regency	46,654	2,211	21	12.1	0
Var. #5244	45,168	3,009	15	11.2	1
Baron	42,848	2,103	21	11.7	0
Royal Sweet	41,398	1,740	24	11.7	1
AU-SS Sweet Scarlet	38,244	1,450	26	12.3	0
AU-Allsweet	37,048	1,595	23	11.4	0
Var. #5544	35,235	2,574	13	11.0	0
Paradise	34,619	1,704	20	11.6	0
Var. #2532	32,625	2,356	14	11.9	0
Tri-X 313	31,755	2,139	15	11.6	1
Tri-X Shadow	31,755	2,211	15	11.8	0
Tri-X Sunrize	30,631	2,030	15	11.1	0
Crimson Glory	30,341	1,595	19	8.4	1
Yellow Doll	26,173	3,371	8	11.7	0
R^2	0.57		0.75	0.26	0.32
CV	18		19	15	200
lsd	9,715		5	2.4	1

[1]Differences in variety performance among locations are due to factors such as weather, soil type, or cultural practices. Results collected at one site should not be compared to results collected at another site.

plant on April 10. On May 20, ammonium nitrate (NH_4NO_3) was sidedressed at a rate of 70 pounds of nitrogen (N) per acre. Plants were overhead-irrigated on June 6, 14, and 18. Watermelons were sprayed with Bravo fungicide (at a rate of three pints per acre) on May 31, June 6, June 10, June 17, and June 24.

At UCPS, 60 pounds of N and of phosphorus (P_2O_5), and 75 pounds of potassium (K_2O) per acre were preplant incorporated. Plants were trickle irrigated as needed throughout the growing season. Preemergence herbicide used was Poast (at a rate of one pint per acre) on June 6 and June 26. Alleys were also hand-weeded as needed. An injection of 30 pounds of N per acre as $Ca(NO_3)_2$ was made at fruit set.

At NAHS, preplant fertilization consisted of an application of NH_4NO_3 at a rate of 60 pounds of N per acre on May 14. Plants were sidedressed at layby with 30 pounds of N. The field was hand-weeded on June 13 to remove emerged weeds. Alanap herbicide was applied on June 14 at a rate of eight quarts per acre. Fungicide used was Bravo-720 (at a rate of two pints per acre) on June 3, June 7, June 14, June 21, July 3, July 12, July 19, and Aug. 2. Insecticides used were Asana XL (at a rate of 9.6 ounces per acre) on June 3, June 7, June 14, June 21, June 28, July 3, July 12, July 19, and Aug. 2; and Dimethoate (at a rate of two pints per acre) on June 7. Plants were over-head irrigated as needed.

At SMS, fertilization consisted of a preplant application (per acre) of 125 pounds of NH_4NO_3, 60 pounds of muriate of potash (KCl) and 250 pounds of a 8-24-24 fertilizer on May 10 and a sidedress application of 40 pounds of NH_4NO_3 and 50 pounds of KCl on May 31. Herbicides were Alanap (at a rate of four quarts per acre) applied preplant on May 22 and Poast + crop oil concentrate (each at a rate of 1.5 pints per acre each) applied June 12.

Watermelons were harvested on July 10 at GCS, July 9 at WS, Aug. 23 at UCPS, Aug. 13 at NAHS, and July 30 and Aug. 13 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 levels, which is often used to evaluate sweetness (Table 3). Watermelons with soluble solid levels of less than 10° Brix do not taste sweet. Rind thickness is used as an indicator of shipping ability, as well as resistance to bruising and splitting during handling. Yellow Doll had a rind thickness of less than 0.25 inch, and was difficult to handle without cracking. For other varieties, rind thickness ranged between 0.5 and 0.75 inch.

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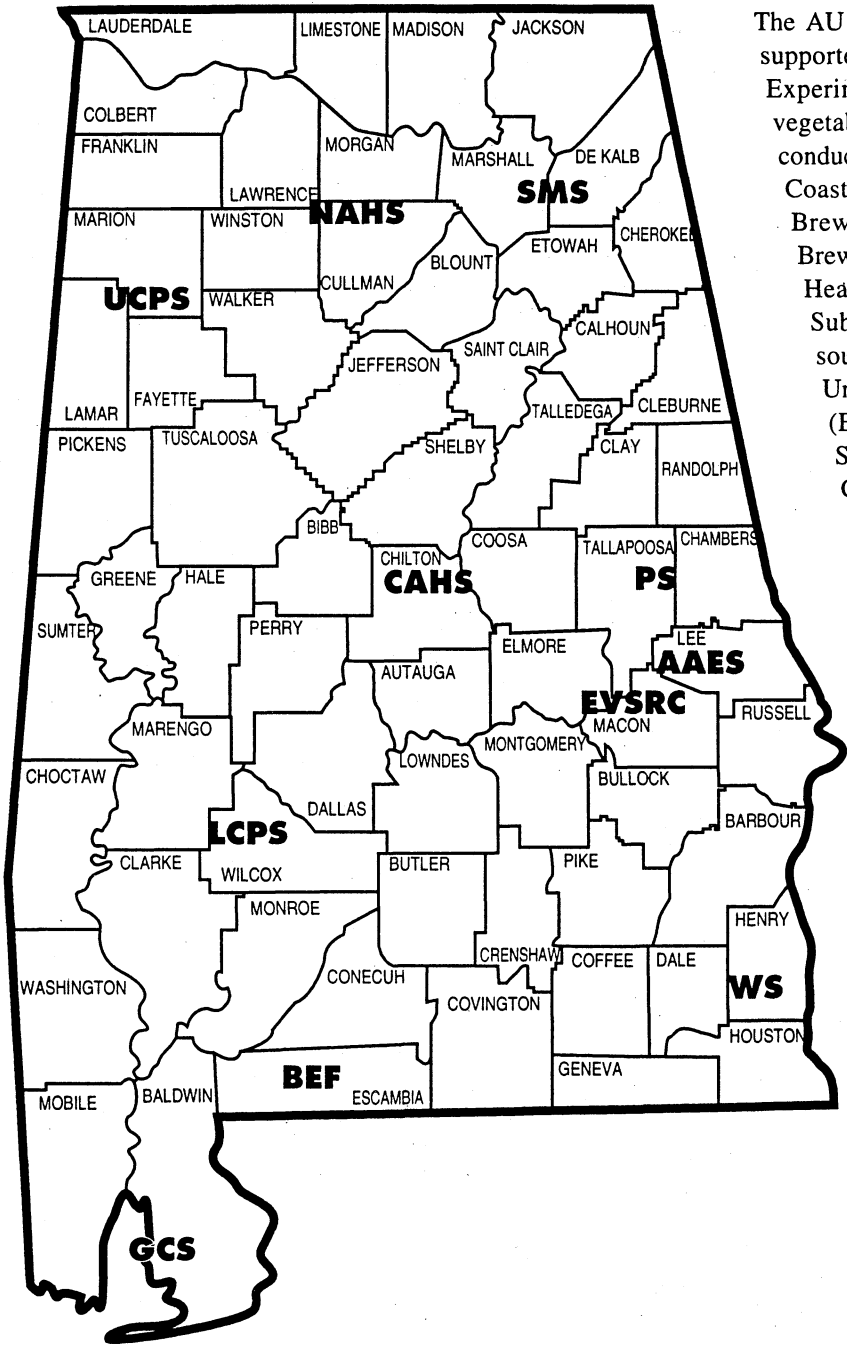

The AU vegetable variety trial program was supported by the Alabama Agricultural Experiment Station (AAES) and the vegetable industry. Variety trials were conducted at nine AAES substations: Gulf Coast Substation (GCS) in Fairhope, Brewton Experiment Field (BEF) in Brewton, Wiregrass Substation (WS) in Headland, and Lower Coastal Plain Substation (LCPS) in Camden, in southern Alabama; the Horticulture Unit of the E.V. Smith Research Center (EVSRC) in Shorter, Piedmont Substation (PS) in Camp Hill, and Chilton Area Horticulture Substation (CAHS) in Clanton, in the central part of the state; and Upper Coastal Plain Substation (UCPS) in Winfield, North Alabama Horticulture Substation (NAHS) in Cullman, and Sand Mountain Substation (SMS) in Crossville in the northern part of the state. Without the commitment of the substation personnel, results presented in this report would not have been presented in a timely manner.