VEGETABLE VARIETY TRIALS 1978

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VEGETABLE VARIETY[2] and breeding line[3] trials were conducted during 1978 at the Gulf Coast Substation, Fairhope, the Chilton Area Horticulture Substation, Clanton, the North Alabama Horticulture Substation, Cullman, the Sand Mountain Substation, Crossville, and the E. V. Smith Research Center, Milstead. All trials were conducted in randomized replicated plots. Recommended fertilizer rates and applications were used for each crop and location. Non-replicated observational plantings were also made of selected varieties and lines of sweetpotato and tomato. Insect and disease control measures were applied on a regular schedule throughout the growing season with irrigation applied, where available, when needed.

RESULTS

Cabbage

Cullman: Seed were planted February 13 and plants transplanted April 4. Plants were set by hand and spaced 15 inches in the drill in 44-inch rows. Weather conditions were favorable for good growth and heading. King Cole produced the highest marketable yield, 416 cwt./acre, table 1. King Cole also produced the highest variability of head size. Savoy King, Flat Dutch, and Rio Verde produced heads with poor uniformity. Stonehead produced the lowest marketable yield but the most uniform heads of the green varieties and Red Danish and Red Meteor produced the most uniform heads of the red varieties. Jet Pak and Stonehead are excellent early types and King Cole, Rio Verda, Flat Dutch, Roundup, and Greenback are good late maturing green varieties. None of the red varieties produced good uniform heads of marketable quality. Head diameter was greatest for Savory King, head length was greatest for King Cole, core length was greatest for NCX 903 and core width was greatest for Market Victor.

Pickling Cucumbers

Milstead: Entries in the Southern Cooperative trial were evaluated for their commercial potential in Alabama. Seed were planted April 26 and spaced 6 inches in the drill in 40-inch rows. Six harvests were made beginning June 13 and ending June 26. NCSU-G30 produced the highest yield of marketable

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[2]Data presented in this publication are a true evaluation of each entry. Variety, company, and chemical names are used for identification and do not imply endorsement of one over the other.
[3]Seed of breeding lines are not available for planting until named and released.

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pickles, table 2. This entry is early, has a good L/D ratio throughout the growing season and has good fruit color. However, the shape of NCSU-G-30 was only fair. Explorer and Calypso also produced good yields. AUH-4 was outstanding for fruit shape and color and has promise for a pickle variety. AUH-1 did not produce good marketable yields. It does have excellent pickle characteristics, however. Explorer increases from No. 1 size into the larger sizes faster than NCSU-30 or Calypso. Calypso and Explorer are good commercial type pickling cucumber varieties. Carpel separation in FX-4103 was highest. This disorder is very undesirable for making brine stock pickles.

Popcorn

Crossville: Seed were obtained from Word Popcorn Company, Scottsboro, Alabama and planted May 15 and harvested September 20. P410 produced the highest yield, table 3. Kernel size was variable for the different varieties. Varieties 2336, A3399, and A222 had the highest expansion ratio. All entries had a high percentage of kernels to pop.

Potatoes

Fairhope: Seed potatoes were obtained from Campbell Soup Company, Frito-Lay Company, Baldwin County, Alabama, Michigan, North Dakota, Starks Farm, USDA and the University of Wisconsin for the 1978 trials. The Fairhope planting was a loss due to excessive rains during the growing season, especially during May. A total of 55 inches of rainfall was recorded from February through May. Wisconsin lines 718 and 726 had a good tolerance to wet soil conditions as did other lines. They did not rot as badly in the ground before harvest. Red LaSoda, La Chipper, and Norchip rotted badly before harvest.

Crossville: At Crossville, yields were approximately one-half those of the previous year. Very hot, dry weather occurred during May and June and adversely affected marketable yields. Wisconsin lines 718 and 726, Red LaSoda, and Atlantic were the highest yielding varieties, table 4. Campbell Soup entries were intermediate to low for marketable yield. Atlantic, Norchip, B8812-3, B8687-2, B8692-3, and B7809-5 produced the highest specific gravity. Characteristics of potato varieties are shown in table 5. Red LaSoda remains the best red potato for Alabama. It has a round shape with a light to medium red color. Wisconsin 774-R has a long shape and dark red skin. Atlantic has a semi-russett type skin that is very attractive. The high solids of Atlantic make it very desirable for chip processing.

Sweet Potatoes

Varieties and breeding lines not maintained in our storage were obtained from breeders in February and stored at 55°F along with varieties already on hand.

Fairhope: At Fairhope, the trial was a loss due to excessive rain. Roots rotted in the soil before harvest. A noticeable reduction was seen in plant vigor in the early part of the season. The damage was believed but not proven to be from Mocap and Vernam injury. These chemicals had never been observed under high rainfall conditions.

Milstead: Plants were planted May 3 by hand and spaced 12 inches in the drill in 44-inch rows. L4-62 produced the highest yield of all the entries and in the replicated trial LO-323 produced the highest yield of marketable roots, table 6. Red Jewel, Porto Rico and NC345 produced the highest percentage of U. S. No. 1 roots. LO-323 produced the highest yield of No. 1 roots, Ti-1892 produced the highest yield of canners and L4-62 produced the highest yield of Jumbo roots. L4-62 and L0-323 could be harvested early and reduce oversize roots.

Clanton: Plants were set by hand May 25 at Clanton and spaced 12 inches in the drill in 44-inch rows. Jewel produced the highest percentage of No. 1 roots. Red Jewel has not performed well at Clanton in the heavier sandy soils. Some question remains concerning the adaptability of Red Jewel in the Clanton area. Its red skin is not generally preferred by the growers.

Cullman: Plants were set by hand June 1 and spaced 12 inches in the drill in 44-inch rows. Carver produced the highest yield of total marketable roots, Red Jewel produced the highest yield of U.S. No. 1 roots and Jewel produced the highest yield of jumbo roots. Red Jewel produced the highest percentage of U.S. No. 1 roots. NC-172, also known around the Cullman area as "red nugget" and perhaps some other names, produced 291 cwt. of marketable roots. This selection has very poor eating quality.

Tomatoes

Fairhope: Seed were planted in the greenhouse February 20 and transplanted April 6. Plants were set by hand 15 inches in the drill in 5-foot rows. Thirteen harvests were made beginning June 2 and ending July 25. Excessive rain occurred during the harvesting season and reduced marketable yields. All varieties were staked and pruned to a two leader system. Super Red Hybrid produced the highest yield of total marketable 5 X 6 fruits, table 7. Monte Carlo VFN, XP802, Better Boy VFN, AU76-FMN

Table 1. CABBAGE VARIETY TRIAL, CULLMAN, SPRING 1978[1]

Variety and seed source	Marketable yield/acre	Mean head weight	Uniformity of heads[2]	Growing days	Harvest season[3]	Color[4]	Harvest	Head diameter	Head length	Core length	Core width	Firmness[5]	Shape[6]
	Cwt.	*Lb.*	*Lb.*	*No.*			*No.*	*In.*	*In.*	*In.*	*In.*		
King Cole (Harris)	416.76	4.30	∓1.66	69	L	LG	1	6.56	6.95	3.88	1.43	C	R-O
Hercules (NK)	359.28	3.70	∓ .86	69	L	LG	1	6.82	5.81	3.11	1.14	L	O
Savory King (Twilley)	357.17	4.22	∓1.56	73	L	LG	1	7.49	6.20	3.48	1.42	L	F
Little Rock (Twilley)	355.16	3.45	∓ .98	69	L	LG	1	5.56	6.39	2.93	1.27	C	O
Rio Verde (NK)	333.99	7.06	∓1.27	69	L	LG	1	5.98	5.87	3.25	1.26	C	O
NCx907 (Niagara)	332.28	3.70	∓1.39	69	L	LG	1	5.97	6.08	3.66	1.29	C	R-O
Green Boy (NK)	303.23	3.21	∓1.05	64	M	LG	1	5.71	6.37	2.85	1.26	C	O
Early Glory 215 (Asgrow)	298.20	3.33	∓ .96	64	M	LG	1	6.15	6.66	1.67	1.41	C	O
Blue Chip (Ferry-Morse)	294.22	3.11	∓ .97	64	M	G	1	5.50	6.19	2.69	1.38	C	O
Headmaster (Ferry-Morse)	294.14	3.20	∓ .82	69	L	LG	1	5.98	6.22	3.62	1.43	L-C	O
Flat Dutch (local)	292.18	3.17	∓1.43	73	L	LG	1	7.18	5.10	3.04	1.41	L	F
Wisconsin All Season (local)	290.26	3.15	∓1.32	73	L	LG	1	6.72	5.84	3.63	1.45	L	F
Roundup (Twilley)	289.29	2.98	∓1.07	69	L	D-DG	1	5.59	6.38	3.80	1.40	C	O
Sanibel (NK)	279.90	3.21	∓ .97	64	M	LG	1	5.82	6.20	2.50	1.27	C	R
Market Topper (Harris)	278.88	3.11	∓ .65	64	M	LG	1	5.82	5.92	3.57	1.26	C	R
NCx903 (Niagara)	277.96	3.02	∓ .74	64	M	LG	1	5.58	5.68	4.09	1.29	C	R
Golden Acre (NK)	269.42	2.70	∓ .75	56	E	LG	1	5.42	5.81	3.16	1.30	C	O
Market Prize (Harris)	254.84	2.69	∓ .71	64	M	LG	1	5.64	5.76	3.54	1.17	C	R
Jet Pack (NK)	254.49	2.62	∓ .72	56	E	G	1	5.53	6.08	3.53	1.35	C	O
Copenhagen Market (NK)	254.07	2.55	∓ .74	59	E	LG	1	5.50	5.95	2.83	1.15	L-C	O
Taatio (NK)	248.69	2.63	∓ .51	56	E	G	1	5.47	6.12	2.80	1.44	C	O
Greenback (Asgrow)	241.17	2.55	∓ .91	64	L	DG-LG	1	5.24	5.84	2.88	1.32	C	F
Early Harvest (Twilley)	237.19	2.51	∓ .84	64	M	G	1	5.22	6.03	3.30	1.46	C	O
Emerald Cross (Twilley)	235.62	2.37	∓ .50	56	E	LG	1	5.64	5.78	3.38	1.26	L	O
Headstart (Asgrow)	227.58	3.75	∓ .51	56	E	G	1	5.57	5.94	3.31	1.48	L	O
Prime Pack (Ferry-Morse)	224.79	2.66	∓ .70	64	M	LG	1	5.38	6.06	3.04	1.35	C	O
Ferry Round Dutch (Ferry-Morse)	223.99	2.25	∓ .65	64	M	G	1	5.06	5.77	2.95	1.18	L	O
Market Victor (Harris)	218.72	2.31	∓ .65	56	E	G	1	5.58	6.12	2.78	1.49	L	O
Express (Asgrow)	217.75	2.25	∓ .63	59	E	G	1	4.97	5.50	3.23	13.3	C	O
Jackpot (Niagara)	217.10	2.42	∓ .62	59	E	G	1	5.45	5.53	3.47	1.41	L	O
Hybrid Red (Abbott & Cobb)	211.78	2.34	∓1.04	69	L	R	1	5.31	5.48	3.29	1.22	C	R
224-C-C Cross (Twilley)	204.68	2.16	∓ .63	56	E	G-DG	1	5.28	6.18	2.95	1.32	C	O
Red Acre (Stokes)	195.35	2.24	∓ .84	69	L	R	1	4.94	6.12	3.36	1.22	C	O
Enterprise (Asgrow)	193.90	2.00	∓ .54	59	E	G	1	5.11	5.35	2.84	1.28	C	O
XP1058 (Asgrow)	185.54	2.33	∓ .46	59	E	LG-G	1	4.88	5.35	2.84	1.20	C	O
Red Meteor (Asgrow)	180.19	2.34	∓ .81	64	M	R	1	4.92	6.02	3.35	.99	C	O
Jersey Wakefield (local)	180.04	1.90	∓ .51	59	E	LG	1	4.61	6.92	3.28	1.21	L	P
Ruby Ball (Ball)	162.89	2.62	∓ .92	69	L	R	1	5.17	5.54	2.85	1.12	C	O
Red Danish (Stokes)	149.59	1.71	∓ .81	73	L	R	1	4.67	5.04	3.03	1.39	C	O
Stonehead (NK)	143.29	1.60	∓ .31	56	E	G	1	4.45	5.14	2.38	1.35	L	O

[1]Soil test: P=270(VH); K=140(H); pH=6.2
[2]Standard deviation.
[3]E=early; M=medium; L=late.
[4]G=green; LG=light green; R=red.
[5]L=loose; C=compact.
[6]R=round; F=flat; O=oval; P=pointed.

and Traveler 76 also produced good yields. AU76-FMN has performed better in the Fairhope trial than at Clanton or Cullman. This variety is well adapted to the coastal area of Alabama. Flora-Dade is a jointless variety that was released by the University of Florida as a fresh market machine harvest tomato. The fruit of Flora-Dade is very smooth and firm. Auburn University lines AUF_6 – Tropic SL and F –F_6Wi77–$6P_4$ are larger fruited than AU76FMN. Auburn line F-F678-4 produces fruit approximately the size of AU76FMN.

Clanton: Seed were planted February 20 in the greenhouse and transplanted April 14 and spaced 15 inches in the drill in 8-foot rows. Six harvests were made beginning June 27 and ending August 6. Super Red Hybrid was the highest yielding again this year, table 8. Traveler and Pink Delight are pink fruited varieties and both produced good yields. Traveler produced the lowest yield of culls and Tropic produced the highest yield of culls and the highest percentage of catfaced fruits. Super Red Hybrid and Big Girl Hybrid produced the highest percent blossom-end rot (BER) of all the entries. Under conditions conducive to BER these two varieties could have a higher incidence of BER. AU76FMN produced a high yield of 6 X 7 size fruits. Saturn is the only variety in the test with resistance to Southern Bacterial Wilt. Saturn is a small fruited variety and is relatively low yielding.

Table 2. Picking Cucumber Variety Trial, Milstead, Spring, 1978[1]

Variety and seed source	Marketable yield/acre, by sizes[2] No.1	No. 2	No. 3	No. 4	Total	Harvest season[3]	L/D ratio[4] Early	Late	Color[5]	Fruit shape	Spine color[6]	Vine vigor	Carpel separation[7] No. 3's	No. 4's
	Cwt.	*Cwt.*	*Cwt.*	*Cwt.*	*Cwt.*								*Pct.*	*Pct.*
NCSU-G30 (NCSU)	13.82	73.47	162.34	25.42	275.32	E	3.11	3.00	G	Fair	Wh	Good	0	0
Explorer (Asgrow)	6.91	54.35	136.14	66.84	264.24	E	2.88	2.53	LG	Fair	Wh	Good	0	4
Calypso (NK)	15.00	58.58	132.12	53.12	258.82	E	3.17	2.75	DG	Good	Wh	Good	0	0
C5DM (Harris)	10.81	44.10	143.10	57.11	255.12	E	2.75	3.13	LG	Fair	Wh	Good	2	13
Bounty (Asgrow)	11.61	28.13	125.65	72.98	238.37	E	2.81	2.92	LG	Fair	Blk	Excellent	2	6
C589 (Harris)	10.45	47.89	127.61	50.54	236.59	E	2.50	2.66	G	Excellent	Wh	Excellent	0	0
Castle 2004 (Castle)	12.32	46.46	118.89	37.70	215.37	E	2.72	3.07	DG	Fair	Wh	Excellent	0	4
NCSU-G48 (NCSU)	11.76	53.84	108.92	33.58	208.10	E	2.52	2.84	G	Good	Wh	Excellent	0	7
TX-78-2 (TAMU)	11.63	48.29	94.09	50.51	204.52	E	2.76	3.07	G	Fair	Wh	Excellent	0	6
Sampson (Petoseed)	8.92	49.89	101.64	39.24	199.69	M	2.79	3.04	G	Good	Wh	Good	0	5
NCSU-G51 (NCSU)	10.10	35.45	112.29	40.09	197.93	E	2.77	2.93	G	Good	Wh	Good	0	4
XP810 (NK)	13.59	50.44	112.97	17.05	194.05	E	2.67	2.78	LG	Uns.	Wh	Excellent	0	6
AUH-4 (AU)	14.93	51.98	100.79	24.24	191.94	M	2.78	2.83	G	Good	Wh	Excellent	0	0
Carolina (Asgrow)	10.00	42.11	98.21	37.41	187.73	M	2.77	3.00	LG	Good	Wh	Good	0	3
XP1193 (Asgrow)	7.94	45.93	92.49	37.73	184.09	M	2.88	2.75	Uns.	Fair	Wh	Excellent	0	12
XP811 (NK)	10.10	31.67	104.57	36.17	183.51	E	2.73	2.77	G	Fair	Wh	Excellent	2	14
AR-77-101-4B (UAR)	11.92	47.83	83.37	37.80	180.92	M	3.09	2.59	DG	Good	Wh	Good	2	17
Score (Asgrow)	6.73	33.68	85.89	53.28	179.68	M	2.80	2.85	LG	Fair	Wh	Excellent	2	6
FX-4103 (FH)	13.20	54.10	94.94	16.14	178.38	M	2.77	2.85	LG	Good	Wh	Good	0	44
NCX-5013 (FMC)	15.81	38.94	80.07	39.04	173.86	M	2.57	2.88	G	Fair	Wh	Excellent	0	3
FX-3981 (FM)	10.59	34.56	89.03	38.88	173.06	M	2.78	3.07	LG	Fair	Wh	Good	0	8
Addis (NCSU)	9.93	41.98	89.68	28.91	170.50	M	3.04	3.03	DG	Good	Wh	Excellent	0	0
Panaroma (FM)	11.76	37.57	82.36	33.39	165.08	M	2.83	3.08	G	Good	Wh	Good	0	0
AR-75-26-28B (UAR)	8.59	43.35	81.90	26.14	159.98	L	2.84	2.53	LG	Good	Wh	Excellent	0	0
AR-77-13-22B (UAR)	5.98	48.91	72.23	30.38	157.50	L	2.65	3.15	G	Fair	Wh	Good	0	0
AUH-1 (AU)	8.04	39.73	58.35	22.44	128.56	M	3.23	3.11	DG	Excellent	Wh	Excellent	5	0

[1]Soil test: P=122(H); K=160(VH); pH=6.2.
[2]No. 1 size ranged up to 1 1/16 inches in diameter; No. 2 size ranged from 1 1/16 to 1½ inches in diameter; No. 3 size ranged from 1½ to 2 inches in diameter; No. 4 size ranged from 2 to 2¼ inches in diameter.
[3]E=early; M=Mid-season; L=late.
[4]Early=taken June 13; Late=taken June 26.
[5]G=green; LG=light green; DG=dark green; Uns=Unsatisfactory.
[6]Wh=white; Blk=black
[7]Carpel separation was based on the percent of fruits cut that had open air spaces in the middle.

Cullman: Seed were planted March 31 in the greenhouse and transplanted May 9. Plants were spaced 15 inches in the drill in 5-foot rows. Nine harvests were made beginning July 14 and ending August 14. Big Girl was significantly higher yielding than the other varieties and also produced the highest yield of 5 X 6 fruits, table 9. Super Red Hybrid, Monte Carol VFN, Hybrid 980 and Tropic produced good yields of marketable fruits. AU76FMN and Traveler have a very good tolerance to cracking. Culls were primarily fruits too small for market size.

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Table 3. Popcorn Variety Trial Crossville, 1978[1]

Variety[2]	Yield/acre[3]	Wt. 1,000 kernels	Vol. 1,000 kernels	Vol. of popped corn[4]	Expansion[5]	Percent popped[6]
	Lb.	*G.*	*Cm³*	*Cm₃*		
P410	4,555	116.8	130	2,230	17	96
Robust 41-10	3,944	97.6	164	1,810	17	90
Robust 46-41	3,944	118.6	135	2,750	20	97
Robust 44-02	3,762	136.4	160	3,100	19	97
AP 5187	3,547	119.4	140	2,510	18	97
83270A	3,218	104.9	135	2,050	15	96
2336	3,102	110.8	130	3,200	25	97
P606	2,904	119.4	135	2,600	19	98
A3399	2,871	113.6	130	3,280	25	96
A3332	2,855	115.7	140	2,200	16	95
63457	2,640	116.0	134	2,410	18	96
A222	2,492	103.3	120	3,010	25	96

[1]Soil test: P=80(M); K=80(M); pH=6.2.
[2]Varieties were supplied by Word Popcorn Company, Scottsboro, Ala.
[3]Total yield includes weight of cob.
[4]Each variety was cooked in 65 ml of cooking oil for four minutes after the first kernel had popped.
[5]Figures in this column were obtained by dividing the volume of popped corn by the volume of 1,000 kernels.
[6]Kernels that expanded more than 1 time their original size were considered popped. This was done by observation.

Table 4. Potato Variety Trial, Crossville, 1978[1]

Variety	Source	Marketable yield/acre			Size A of total	Specific[3] gravity	Stand at harvest
		Total	Size A[2]	Size B			
		Cwt.	*Cwt.*	*Cwt.*	*Pct.*		*Pct.*
Wisconsin 718	U. Wisconsin	128	100	28	78	1.064	100
Wisconsin 726	U. Wisconsin	123	86	37	70	.071	100
Red La Soda	Collete Bros. N.D.	119	79	40	66	.061	95
Atlantic	Starks	115	82	33	71	.076	90
FL 657	Frito-Lay	114	88	26	77	.070	90
Red La Soda	Miller & Rudnik, N.D.	112	81	31	72	.059	95
Atlantic	USDA	110	82	28	75	.077	100
La Chipper	USDA	108	68	40	63	.068	90
Wisconsin 774-R	U. Wisconsin	106	65	41	62	.060	90
B 7802-2	USDA	105	73	32	70	.064	90
La Chipper	Starks	101	62	39	64	.066	100
B 8713-24	USDA	100	54	46	54	.072	90
B 7583-6	USDA	100	73	27	72	.069	100
Norchip	USDA	99	50	49	50	.079	95
FL 630	Frito-Lay	98	64	34	65	.062	100
Superior	USDA	98	68	30	69	.073	95
Kennebec	USDA	98	74	24	76	.063	90
B 7592-1	USDA	97	55	42	57	.070	95
B 7828-13	USDA	97	69	28	71	.063	100
Red La Soda	Starks	95	63	32	66	.066	90
Campbell 12	Campbell Soup	94	59	35	63	.067	95
Wisconsin 738	U. Wisconsin	94	53	41	56	.069	85
FL 96	Frito-Lay	91	55	36	60	.065	90
Red La Soda	Penner & Uriah	90	58	32	64	.057	100
B 6987-29	USDA	89	58	31	65	.074	95
B 8392-5	USDA	88	62	26	70	.061	95
Norchip	USDA	88	57	31	65	.076	90
B 8812-3	USDA	86	55	31	64	.075	90
FL 795	Frito-Lay	85	46	39	54	.070	95
La Chipper	Burbidge Farms, N.D.	85	54	31	64	.069	95
FL 162	Frito-Lay	84	46	38	55	.066	95
Red LaRouge	Cardo, N.D.	83	55	28	66	.062	90
B 8692-3	USDA	81	50	31	62	.076	100
B 7859-2	USDA	78	42	36	53	.065	85
B 7809-5	USDA	77	40	37	52	.080	85
Superior	Starks	77	43	34	55	.073	100
Campbell 13	Campbell Soup	75	55	31	59	.068	90
Sebago	Michigan	75	44	31	59	.065	95
B 8823-9	USDA	75	50	25	67	.063	90
B 6969-2	USDA	73	47	26	64	.070	90
B 7516-9	USDA	73	44	29	60	.062	90
B 7151-4	USDA	67	44	23	66	.069	95
B 7516-7	USDA	67	48	19	72	.070	95
B 7618-6	USDA	67	39	28	58	.058	100
Campbell 11	Campbell Soup	65	39	26	60	.070	90
B 8687-2	USDA	63	41	22	65	.075	95
B 7694-1	USDA	58	29	29	50	.068	90
B 8685-5	USDA	56	25	31	44	.070	90
B 7767-2	USDA	55	23	32	42	-------	90
B 8822-29	USDA	40	18	22	45	-------	90
B 7147-8	USDA	34	13	21	38	.063	85

[1]Soil test p=145 (VH); K=128(H); pH=5.6.
[2]Size A=potatoes with 1 7/8 inches diameter and larger; Size B=potatoes with 1 1/2 - 1 7/8 inches diameter.
[3]Specific gravity was greater than 1.0 for each variety.

Table 5. Characteristics of Potato Varieties, Crossville, 1978

Variety and seed source	Eye depth[1]	Eye size[2]	Skin color[3]	Shape[4]	Eye appeal[5]	Harvest season[6]
Wisconsin 718—U. Wisconsin	S	S	Wh-SR	R	3.0	E
Wisconsin 726—U. Wisconsin	S	S	Wh	R	4.5	L
Red La Soda—Collete Bros. N.D.	D	L	Red	R	4.5	M
Atlantic—Starks	M	M	Wh-SR	R	4.5	M-L
FI, 657—Frito-Lay	D	L	Wh	R-F	4.5	E
Red La Soda—Miller & Rudnik, N.D.	D	L	Red	R	4.5	M
Atlantic—USDA	M	M	Wh-SR	R	4.5	M-L
La Chipper—USDA	S	S	Wh	R-F	3.5	M
Wisconsin 774-R—U. Wisconsin	D	L	Red	L	3.5	L
B 7802-2—USDA	S	M	Wh	R-F	3.5	M
La Chipper—Starks	S	S	Wh	R-F	3.5	M
B 8713-24—USDA	—	—	Wh-SR	R	4.0	E
B 7583-6—USDA	—	—	Russett	L	4.5	M-L
Norchip—Starks	M	S	Wh	R	4.0	L
FL 630—Frito-Lay	—	—	Wh	R	4.0	M-L
Superior—USDA	M	M	Wh-SR	R	4.0	E
Kennebec—USDA	S	S	Wh	R-L	4.0	L
B 7592-1—USDA	—	—	Wh	L	2.5	L
B 7828-13—USDA	—	—	Wh	R-F	4.0	M
Red La Soda—Starks	D	L	Red	R	4.5	M
Campbell-12—Campbell Soup	—	—	Wh-SR	R-F	4.0	M
Wisconsin 738—U. Wisconsin	—	—	Wh-SR	R-F	4.0	M
FL 96—Frito-Lay	—	—	Wh	R	4.5	E
Red La Soda—Penner & Uriah	D	L	Red	R	4.5	M
B 6978-29—USDA	S	S	Wh	R	4.5	L
B 8392-5—USDA	—	—	Russett	R	4.0	L
Norchip—USDA	M	S	Wh	R	4.0	L
B 8812-3—USDA	—	—	Wh-SR	L	4.5	L
FL 795—Frito-Lay	S	S	Wh	R-F	4.0	L
La Chipper—Burbidge Farms, N.D.	S	S	Wh	R-F	3.5	M
FL 162—Frito-Lay	S	S	Wh	R	4.5	M-L
Red La Rough—Cardo, N.D.	D	L	Red	R	4.0	M
B 8692-3—USDA	—	—	Wh-SR	R	4.5	M
B 7859-2—USDA	—	—	Wh	R	3.0	L
B 7809-5—USDA	—	—	Wh-SR	L	2.5	L
Superior—Starks	M	M	Wh-SR	R	4.0	E
Campbell-13—Campbell Soup	—	—	Wh-SR	R	4.5	M
Sebago—Michigan	S	S	Wh	R-F	4.0	L
B 8823-9—USDA	—	—	Wh	R	4.0	M
B 6969-2—USDA	—	—	Wh	R-F	4.0	M
B 7516-9—USDA	—	—	Wh	R	3.0	M
B 7151-4—USDA	—	—	Wh-SR	R	4.0	E
B 7516-7—USDA	—	—	Wh-SR	R	3.5	E
B 7618-6—USDA	—	—	Wh	R	3.5	M
Campbell-11—Campbell Soup	—	—	Wh-SR	R-F	4.0	M
B 8687-2—USDA	—	—	Wh-SR	R-F	4.0	M
B 7694-1—USDA	—	—	Wh-SR	L	3.0	L
B 8685-5—USDA	—	—	Wh	R-L	3.5	L
B 7767-2—USDA	—	—	Russett	L	2.5	L
B 8822-29—USDA	—	—	Russett	L	4.5	L
B 7147-8—USDA	—	—	Russett	L	4.0	L

[1]S=shallow; M=medium; D=deep.
[2]S=small; M=medium; L=large.
[3]Wh=white; SR=some russett.
[4]R=round; F=flat; L=long.
[5]5=excellent; 4=good; 3=fair; 2=poor; 1=very poor.
[6]E=90; M=95; L=100 days from planting to harvest.

Table 6. Sweet Potato Variety Trials, Milstead, Clanton, and Cullman, 1978[1]

Variety and seed source	Marketable Yield/Acre				U.S. No. 1	Skin color
	U.S. No. 1[2]	Canners[3]	Jumbo[4]	Total		
	Bu[5]	*Bu.*	*Bu.*	*Bu.*	*Pct.*	
Milstead—replicated						
LO-323 (LSU Chase)	389	45	311	745	52	Rose to copper
Centennial (Auburn)	332	95	100	527	63	Copper
L3-151 (LSU Chase)	277	69	111	457	61	Copper to rose
Jewel (Auburn)	278	72	67	417	67	Copper
Jasper (Auburn)	225	76	77	376	67	Rose to copper
Ti-1892 (Tuskegee Inst.)	231	129	9	369	62	Purple
Red Jewel (Ga., Tifton)	258	64	45	367	70	Red
Carver (Tuskegee Inst.)	207	113	35	355	58	Rose
L4-112 (LSU Chase)	233	100	17	350	67	Copper to rose
Ti-1895 (Tuskegee Inst.)	165	84	94	343	48	Rose
Porto Rico (LSU Chase)	209	50	36	295	71	Light tan
NC-345 (NCSU)	157	27	30	214	73	Yellow
Milstead—observational						
L4-62 (LSU Chase)	348	18	462	828	42	Rose
Ti-1894 (Tuskegee Inst.)	255	115	38	408	63	Light tan to white
Rojo Blanco (Tuskegee Inst.)	152	33	220	405	30	Dark red
M4-838 (Mafes)	250	64	73	387	65	Light red
Clanton—replicated						
Jewel (Auburn)	176	111	68	355	50	Copper
Porto Rico (LSU Chase)	158	91	97	346	46	Light tan
Centennial (Auburn)	174	84	54	312	55	Copper
Carver (Tuskegee Inst.)	46	127	23	196	23	Rose
Red Jewel (Ga., Tifton)	63	43	66	172	37	Red
Cullman—replicated						
Carver (Tuskegee Inst.)	244	127	41	412	59	Rose
Jewel (Auburn)	165	75	165	405	41	Copper
Red Jewel (Ga., Tifton)	256	79	70	405	63	Red
Centennial (Auburn)	193	75	118	386	50	Copper
NC-172 (Auburn)	174	75	42	291	60	Red
Porto Rico (LSU Chase)	129	68	25	222	58	Light tan

[1]Clanton: soil test P=226(VH); K=187(M); pH=5.6; Cullman: soil test P=180(H); K=100(M); pH=6.1; Milstead: soil test P=122(H); K=160(H); pH=6.2.
[2]U.S. No. 1 roots were 2 to 3¼ inches in diameter, 3 to 9 inches in length, well shaped and free of defects.
[3]Canners were 1 to 2 inches in diameter and 2 to 7 inches in length.
[4]Jumbo roots exceeded the diameter, length, and weight requirements for the No. 1 grade but were of marketable quality.
[5]Bushel=55 pounds.

Table 7. Staked Fresh Market Tomato Trial, Fairhope, 1978[1]

Variety and seed source	Marketable yield/acre[2]				Culls					Harvest[6] season
	5X6[3]	6X6	6X7	Total[4]	Total	Pct. of total	Cracks	Cat-face	Others[5]	
	Cwt.	*Cwt.*	*Cwt.*	*Cwt.*	*Cwt.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	
Replicated										
Super Red Hybrid (Agway)	360.04	28.81	7.56	396.43	37.30	9	23	46	31	E
Monte Carlo VFN (Petoseed)	337.03	44.01	10.40	391.44	16.41	4	50	25	25	M-L
XP 802 (Agway)	207.62	76.89	41.13	325.65	22.98	7	21	52	27	L
Better Boy VFN (Petoseed)	310.94	16.81	3.86	325.49	15.31	4	41	29	30	L
AU 76 FMN (Greenleaf)	212.85	69.99	39.01	321.85	13.81	4	56	19	25	E-M
Traveler 76 (Twilley)	218.06	47.23	26.06	306.12	2.03	1	13	87	0	L
Floradel (Asgrow)	213.77	48.68	23.27	285.73	5.48	2	37	34	29	L
Big Girl VF Hybrid (Burpee)	265.31	12.17	6.49	283.99	20.14	7	41	29	30	M
Traveler (Petoseed)	196.26	65.02	22.05	283.34	8.22	3	51	24	25	M
AUF6-TropicxSL (Greenleaf)	225.10	36.72	15.75	273.64	13.17	5	77	13	10	M
Manapal (Keystone)	210.67	40.38	13.25	264.32	28.31	11	59	19	22	E
Tropic (Petoseed)	230.64	23.88	6.42	260.95	19.30	7	20	77	3	M
Hybrid 980 (Agway)	182.81	47.23	19.11	249.16	24.32	9	30	42	28	E
Bonnie Nematode Resistant (Bonnie Farms)	165.47	45.84	27.96	239.28	15.97	6	41	29	30	M
Homestead 24 (Niagara)	144.65	44.65	34.30	223.61	17.58	7	38	31	31	E
Saturn (Twilley)	131.23	55.42	18.10	204.76	3.50	2	0	67	33	L
Flora-Dade (U. Florida)	131.23	20.52	14.54	166.31	5.48	3	11	11	78	M
Walter PF (U. Florida)	101.25	26.13	11.02	138.41	6.89	5	17	58	25	M
Observational										
Market King VFN (Twilley)	327.37	21.53	5.52	354.43	22.18	6	41	41	18	M
F_5-F_6 Wi77-6 P_4 (Greenleaf)	266.36	43.57	9.75	319.69	14.72	4	25	54	21	M
Bigboy Giant Hybrid (Burpee)	267.40	33.17	4.18	303.71	41.52	12	56	29	15	L
Bonus VFN (Petoseed)	209.40	36.72	21.83	267.83	22.26	8	61	20	19	E
F-F678-4 (Greenleaf)	49.83	106.39	71.26	227.48	1.81	1	0	33	67	E
Amex VFN (Asgrow)	48.59	5.38	2.23	54.86	39.30	42	95	0	5	L

[1]Soil test P=180(H); K=140(H); pH=6.0.
[2]Size yields reported here are in accordance with the size standards established by the USDA for the Los Angeles type lug arrangements.
5X6 arrangement: minimum diameter 2 11/16 inches; maximum diameter 3 3/16 inches.
6X6 arrangement: minimum diameter 2 8/16 inches; maximum diameter 2 14/16 inches.
6X7 arrangement: minimum diameter 2 4/16 inches; maximum diameter 2 10/16 inches.
[3]Some fruits in this size arrangement were larger than standard sizes.
[4]While fruits were graded as carefully as possible under field conditions, no rigid effort was made to grade for a strict U.S. No. 1 grade. Fruits were separated for cull conditions as reported above.
[5]Others were mostly tomatoes too small to be marketed in the above sizes. Some were from rots, insect damage, mechanical damage, and misshapen fruits.
[6]E=early; M=mid-season; L=late.

Table 8. Staked Fresh Market Tomato Trial, Clanton, 1978[1]

Variety and seed source	Marketable yield/acre[2]				Culls						
	5X6[3]	6X6	6X7	Total[4]	Total	Pct. of total	Cracks	Cat-face	Others[5]	BER[6]	Harvest season[6]
	Cwt.	*Cwt.*	*Cwt.*	*Cwt.*	*Cwt.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	
Super-Red Hybrid (Agway)	391.82	68.28	43.66	503.77	154.09	23	4	37	47	12	E
Traveler (Petoseed)	161.71	122.73	120.66	405.10	108.79	21	9	25	65	1	M-L
Pink Delight (Twilley)	239.58	92.12	72.63	404.34	165.63	29	5	50	40	5	E
Hybrid 980 (Agway)	251.01	88.75	53.25	393.02	184.25	32	12	43	43	2	E
Big Girl Hybrid VF (Burpee)	278.67	65.12	46.82	390.62	165.31	29	15	41	31	12	M-L
Floradel (Asgrow)	236.63	83.74	61.41	381.80	213.98	36	18	32	49	1	M-L
Tropic (Petoseed)	283.35	55.97	33.10	372.43	258.52	41	23	53	22	2	L
Terrific VFN (Petoseed)	225.96	76.77	60.76	363.50	169.12	32	13	26	53	8	E
Flora-Dade (U. Florida)	193.29	97.02	71.00	361.33	180.12	33	10	45	44	1	E-M
Better Boy VFN (Petoseed)	247.31	41.16	46.60	335.08	188.50	36	28	34	32	6	E-M
AU F_6 Tropic x SL (Greenleaf)	154.52	78.40	85.70	318.64	200.04	39	7	41	51	1	L
Homestead 24 (Niagara)	154.63	77.64	72.85	305.13	152.56	33	11	29	60	0	E
Bonnie Nematode Resistant (Bonnie Farms)	150.06	77.53	66.64	294.24	213.11	42	9	47	43	1	E
AU 76 FMN (Greenleaf)	80.91	81.78	127.63	290.32	173.91	37	3	18	78	1	L
Saturn (Twilley)	70.67	98.33	117.72	286.73	166.50	37	12	22	65	1	L
Walter-PF (U. Florida)	162.47	61.85	46.82	271.16	209.08	44	10	42	48	0	E

[1]Soil test P=208(H); K=242(H); pH=5.8 1 ton limestone applied per acre.
[2]Size yields reported here are in accordance with the size standards established by the USDA for the Los Angeles type lug arrangements.
5X6 arrangement: minimum diameter 2 11/16 inches; maximum diameter 3 3/16 inches.
6X6 arrangement: minimum diameter 2 8/16 inches; maximum diameter 2 14/16 inches.
6X7 arrangement: minimum diameter 2 4/16 inches; maximum diameter 2 10/16 inches.
[3]Some fruits in this size arrangement were larger than standard sizes.
[4]While fruits were graded as carefully as possible under field conditions, no rigid effort was made to grade for a strict U.S. No. 1 grade. Fruits were separated for cull conditions as reported here.
[5]Others were mostly tomatoes too small to be marketed in the above sizes. Some were from rots, insect damage, mechanical damage, and misshapen fruits.
[6]Blossom-end rot.
[7]E=early; M=mid-season; L=late.

Table 9. Staked Fresh Market Tomato Trial, Cullman, 1978[1]

Variety and seed source	Marketable yield/acre[2]				Culls					
	5X6[3]	6X6	6X7	Total[4]	Total	Pct. of Total	Cracks	Cat-face	Others[5]	Harvest season[6]
Replicated	*Cwt.*	*Cwt.*	*Cwt.*	*Cwt.*	*Cwt.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	
Big Girl VF Hybrid (Burpee)	206.42	288.00	13.68	508.10	70.01	12	10	24	66	M
Super Red Hybrid (Agway)	156.83	223.39	33.72	413.94	90.95	18	7	14	79	E
Monte Carlo VFN (Petoseed)	56.75	292.29	50.34	399.38	118.22	23	6	9	85	E
Hybrid 980 (Agway)	74.03	282.13	42.83	398.99	128.94	24	9	3	88	E
Tropic (Asgrow)	122.58	238.76	37.01	398.35	95.75	19	20	15	65	M-L
Pink Delight (Twilley)	41.18	297.64	53.60	392.42	132.53	25	5	5	90	E
Flora-Dade (U. Florida)	39.24	291.57	51.26	382.07	184.56	33	6	2	92	E-M
Floradel (Asgrow)	55.62	283.91	31.10	370.63	237.68	39	3	3	94	L
Bonnie Nematode Resistant (Bonnie)	34.29	248.87	79.73	362.89	186.99	34 32	00 5	00 2	00 93	M E
Terrific VFN (Petoseed)	34.95	268.32	51.38	354.67	166.68	31	6	7	87	E
Auburn 76 FMN (Greenleaf)	11.57	253.03	64.64	329.24	145.87	26	1	8	91	L
Traveler (Petoseed)	4.72	272.74	34.90	312.36	107.05	28	1	2	97	M
Better Boy VFN (Petoseed)	55.37	207.69	22.42	285.49	108.67	42	17	8	75	E
Supermarket (Asgrow)	16.54	207.01	54.87	278.42	201.13	40	7	2	91	E
Homestead 24 (Niagara)	11.57	191.68	47.79	251.04	167.18	35	4	3	93	E
F_6 (Tropic x SL AU76) (Greenleaf)	10.44	186.12	36.94	233.50	125.68	53	4	4	92	L
Walter PF (U. Florida)	12.28	156.30	50.37	219.96	243.85	44	4	2	94	E-M
Saturn (Twilley)	1.91	112.11	50.86	164.88	131.69		4	3	94	L
Observational										
XP 160 Hybrid (Asgrow)	43.56	263.49	38.12	345.15	103.18	23	67	0	33	E
Royal Flush (Ferry-Morse)	103.01	200.52	29.34	332.87	134.16	29	18	0	82	M
Castle 1020 (A. L. Castle)	33.28	239.27	59.35	331.89	192.67	37	7	0	93	M
XP 802 (Agway)	3.73	269.03	56.17	328.93	187.24	36	25	0	75	M-L
Big Boy Hybrid (Burpee)	67.99	240.00	16.69	324.68	72.62	18	100	0	0	L
Market King Hybrid (Twilley)	44.15	183.72	26.10	253.97	118.52	32	0	0	100	M-L
Castle 1025 (A. L. Castle)	2.02	94.72	49.41	146.15	152.39	51	100	0	0	E
Amex VFN (Asgrow)	12.75	62.06	11.99	86.81	48.16	36	23	0	77	M

[1]Soil test P=130(H); K=170(H); pH =6.4.

[2]Size yields reported here are in accordance with the size standards established by the USDA for the Los Angeles type lug arrangements.
5X6 arrangement: minimum diameter 2 11/16 inches; maximum diameter 3 3/16 inches.
6X6 arrangement: minimum diameter 2 8/16 inches; maximum diameter 2 14/16 inches.
6X7 arrangement: minimum diameter 2 4/16 inches; maximum diameter 2 10/16 inches.

[3]Some fruits in this size arrangement were larger than standard sizes.

[4]While fruits were graded as carefully as possible under field conditions, no rigid effort was made to grade for a strict U.S. No. 1 grade. Fruits were separated for cull conditions as reported here.

[5]Others were mostly tomatoes too small to be marketed in the above sizes. Some were from rots, insect damage, mechanical damage, and misshapen fruits.

[6]E=early; M=mid-season; L=late.