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Vegetable Variety Trials, 1970

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VEGETABLE VARIETY TRIALS were conducted 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 Main Station at Auburn. All variety trials were conducted in randomized replicated plots. Fertilizer rates and applications were applied to give the best results at each location. Disease and insect control measures were applied on a regular schedule throughout the growing season. Irrigation was applied as needed. Summaries of results from these trials are reported in this publication.

RESULTS

Snapbeans

Seed were planted April 7 and harvested once-over to simulate machine picking. Niagara 773 produced the highest yield of all varieties, Table 1. Sieve size distribution for this variety indicated that harvest was 1 or 2 days late. Blue Lake 274, Tender White, and Corneli 14 each produced good yields. Catskill had the best sieve size distribution of all varieties while Lika Lake, Richgreen, and Provider had the poorer sieve sizes at the time their harvest was made. An earlier harvest of these three varieties would, however, have given a better sieve size distribution.

TABLE 1. SNAPBEAN VARIETY TRIAL, FAIRHOPE, 1970[1]

Variety	Yield per acre	Growing days	Sieve size[2]				
			1	2	3	4	5
	Bu.	*No.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
Niagara 773	458	53	3	12	20	33	32
Blue Lake 274	338	53	1	7	25	42	25
Tender White	321	53	0	1	24	43	32
Corneli 14	300	53	4	13	18	41	24
Picker	246	53	6	28	26	32	8
Catskill	217	53	8	22	23	44	3
Gallatin 50	212	59	18	11	17	37	17
Cascade	206	59	11	17	23	41	9
Provider	206	53	5	7	13	29	47
Astro	201	59	4	17	38	36	5
Lika Lake	200	53	0	11	5	34	50
Richgreen	200	59	4	12	11	24	49

[1] Soil test P = 56 (medium); soil test K = 32 (low); pH = 6.0.

[2] Sieve size was determined from a 100-bean sample taken at random from the four replications. Sieve denotes canning size grade with size 1 having the smaller diameter and 5 having the larger.

Watermelons

Seed were planted April 23 and melons harvested July 23 and 30 at the Chilton Area Substation. At Cullman seed were planted May 5 and melons harvested August 6 and 18. The melons were grown on a 6- by 6-foot row design.

Gummy stem blight disease was very serious in 1970 at Chilton and reduced the yields considerably on all varieties. There appeared to be no resistance in any variety to gummy stem blight disease. Data are presented in Table 2 for the two locations.

Charleston Sweet has a gray skin that resembles Charleston Gray but is smaller in size and weight. It did not exhibit a high fruit set potential. In eating quality it is about equal to Charleston Gray. Big Delicious Sugar was the largest melon in the trial. Petite is a new small green striped icebox type melon. Its performance was good. Verona has a high set potential for Alabama conditions. It is a round dark green melon of excellent eating quality. Super Sweet did poorly at both locations. Fairfax did only fair and has only a poor potential for Alabama. Calhoun Gray is of the Charleston Gray type but does not have the eating qualities of either Charleston Gray or Charleston Sweet.

Summer Squash

Squash trials were conducted at Cullman and Auburn. Soil was fumigated for root knot nematode

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TABLE 2. WATERMELON VARIETY TRIAL, CHILTON AND CULLMAN, 1970

Variety	Yield, number per acre, and weight per melon					
	Chilton			Cullman		
	Yield	Weight/ melon	Melons/ acre	Yield	Weight/ melon	Melons/ acre
	Cwt.	*Lb.*	*No.*	*Cwt.*	*Lb.*	*No.*
Big Delicious Sugar	117	29	435	478	22	2,178
Calhoun Gray	197	21	914	487	20	2,450
Charleston Gray	177	22	827	407	20	2,057
Charleston Sweet	38	16	174	299	16	1,936
Congo	134	19	783	430	21	2,057
Fairfax	57	18	304	263	16	1,664
Petite	188	18	1,044	274	15	1,845
Summerfield	218	21	1,044	323	23	1,422
Super Sweet	160	18	870	42	17	242
Sweet Princess	117	17	696	408	18	2,239
Verona	235	21	1,131	457	20	2,299

control with 20 gallons of Shell DD per acre broadcast 1 month before planting. Seed were planted April 28 at Auburn and May 5 at Cullman. A total of 16 harvests was made at Cullman and 13 at Auburn.

Hybrid Zucchini was the highest yielding of all varieties, Table 3. When harvested before the fruits get too large it is an excellent squash with good eating quality. Dixie was the highest yielding and the most prolific of the crookneck types. Goldbar Hybrid, Seneca Butterbar, and Seneca Prolific are very high yielding straightneck types. These 3 straightneck squash are well adapted to Alabama.

Fresh Market Cucumbers

Soil was fumigated with 20 gallons of Shell DD per acre broadcast 1 month before planting. Varieties were seeded with a Planet Jr. seeder May 5 and thinned to a stand after emergence. A total of 13 harvests was made beginning on June 26 and ending on July 24. Fruit size when harvested was larger than that generally acceptable for slicing cucumbers. Saticoy produced the highest total marketable yield of all varieties, Table 4. Early Marketer, Triumph, and Crackerlee also produced good yields. All varieties produced attractive fruit with good green skin color.

Fresh Market Tomatoes

Soil was fumigated 1 month before planting with 20 gallons of Shell DD broadcast per acre. For weed control, Treflan herbicide was broadcast and incorporated preplant at ¾ pound per acre. Varieties were seeded in flats on March 19 in the greenhouse at Auburn and transplanted May 14. Wet soil prevented proper land preparation for earlier planting. Varieties were grown as ground tomatoes. A total of 11 harvests was made beginning on July 6 and ending on August 11.

Chico Grande is not considered a fresh market tomato variety, but was included in this trial for a yield comparison. Chico Grande produced the highest total yield, Table 5, although the fruits were small when compared to the other varieties. Tropi-Red produced the highest yield of the fresh market varieties with 71 per cent of its marketable fruit in size 5 x 6. Sunburst produced the second highest yield but with a high proportion of the smaller fruit. Bonnie Nematode Resistant produced a good yield with 58 per cent of the fruit in size 5 x 6.

TABLE 3. SUMMER SQUASH TRIALS, CULLMAN AND AUBURN, 1970[1]

Variety	Cullman					Auburn					Color	Type
	Marketable yield			Fruit size		Marketable yield			Fruit size			
	No. 1	No. 2	Total	No. 1	No. 2	No. 1	No. 2	Total	No. 1	No. 2		
	Cwt.	*Cwt.*	*Cwt.*	*Lb.*	*Lb.*	*Cwt.*	*Cwt.*	*Cwt.*	*Lb.*	*Lb.*		
Dixie	239	107	346	.17	.46	70	82	152	.13	.31	Yellow	Crookneck
Early Prolific Straightneck	207	75	282	.19	.49	44	62	106	.16	.40	Yellow	Straightneck
Early Summer Crookneck	91	92	183	.12	.31	50	52	102	.11	.27	Yellow	Crookneck
Goldbar Hybrid	309	80	389	.23	.60	65	84	149	.15	137	Yellow	Straightneck
Golden Summer Crookneck	108	93	201	.13	.28	61	66	127	.12	.29	Yellow	Crookneck
Hybrid Zucchini	379	84	463	.75	1.76	64	185	250	.50	.85	Green/ gray spots	Straightneck
Hyrific	193	86	279	.22	.49	54	48	.02	.14	.27	Yellow	Crookneck
Seneca Butterbar	230	111	341	.27	.65	55	58	113	.17	.29	Yellow	Straightneck
Seneca Prolific	269	91	360	.23	.56	72	96	168	.15	.34	Yellow	Straightneck
Yellow Summer Crookneck	136	106	242	.14	.37						Yellow	Crookneck

[1] Cullman: Soil test P = 145 (high); soil test K = 246 (high); pH = 6.3.
Auburn: Soil test P = 120 (high); soil test K = 90 (low); pH = 5.8.

Walter, Homestead 24, TAMU Monte Grande, Tropi-Gro, Tropic, and Creole produced high percentages of 5 x 6 fruits but total yields were somewhat low. Terrific VFN, Floradel, and Supermarket produced only fair yields with good fruit size distribution.

TABLE 4. FRESH MARKET CUCUMBER TRIAL, CULLMAN, 1970[1]

Variety	Yield per acre	Fruit size
	Cwt.	*Lb.*
Saticoy	640	.49
Early Marketer	562	.55
Triumph	552	.45
Crackerlee	550	.40
Polamar	485	.42
Marketer	480	.44
Early Sure Crop	442	.50
Poinsett	426	.38

[1] Soil test P = 145 (high); soil test K = 246 (high); pH = 5.4; 1 ton of limestone applied per acre.

TABLE 5. FRESH MARKET TOMATO TRIAL, CULLMAN, 1970[1]

Variety	Marketable yield per acre				
	Sizes				Total
	5 x 6	6 x 6	6 x 7	7 x 7	
	Cwt.	*Cwt.*	*Cwt.*	*Cwt.*	*Cwt.*
Chico Grande	9	8	7	325	349
Tropi-Red	192	44	17	16	270
Sunburst	105	54	21	56	236
Bonnie Nematode Resistant	127	40	13	28	218
Terrific VFN	112	35	16	40	203
Floradel	96	35	13	44	188
Supermarket	88	37	16	40	181
Walter	84	53	9	34	181
Homestead 24	108	33	6	18	165
TAMU Monte Grande	104	33	6	15	158
Tropi-Gro	101	22	8	5	136
Tropic	99	19	1	5	124
Creole	79	24	4	6	113
Atkinson	28	4	20	1	53

[1] Soil test P = 140 (high); soil test K = 236 (high); pH = 5.4; 1.5 tons of limestone applied per acre.

Potatoes

Seed pieces were cut to 1½ ounces each and treated with a 7½ per cent Captan dust before planting. Seed pieces were planted 12 inches apart in rows 42 inches wide March 16 and harvested July 10.

Nine varieties had white skin and 3 had red skin, Table 6. Kennebec produced the highest total marketable yield of the white varieties. Penobscot, Norchip, and Shurchip also produced good yields. Penobscot had the highest total solids and also rated highest in chip color. Kennebec, Norchip, Sebago, and Superior also had good chip color ratings. Red La Soda produced the highest total yield of all varieties.

Lima Beans

The soil was fumigated with 20 gallons of Shell DD per acre broadcast 1 month before planting. Treflan herbicide was broadcast preplant incorporated at the rate of ¾ pound per acre. Seed were planted May 5. Each variety was harvested once over to simulate machine harvest. Yields were only fair. Jackson Wonder and Henderson Bush produced the highest yields per acre, both in the pod and shelled, Table 7. Thaxter produced in pod yields comparable to Jackson Wonder but had a very poor per cent shellout. Allgreen and Fordhook — 861 had the highest per cent of green seedcoat color. All 3 of the Fordhook varieties produced low yields.

Pickling Cucumbers

Soil was fumigated with 20 gallons of Shell DD per acre broadcast 1 month before planting. Seed were planted April 17. Alanap at 4 pounds per acre was applied broadcast as a post-plant treatment for weed control. A total of 14 harvests was made beginning June 1 and ending July 6.

TABLE 6. POTATO VARIETY TRIAL, CROSSVILLE, 1970[1]

Variety	Yield per acre			Specific gravity[2]	Total solids[2]	Chip color rating[2]
	No. 1	No. 2	Total			
	Cwt.	*Cwt.*	*Cwt.*			
White skin varieties						
Kennebec	223	29	252	1.0918	22.8	8.2
La Chipper	174	36	210	1.0773	19.7	7.7
Norchip	196	27	223	1.0891	22.0	8.5
Norgold	122	36	158	1.0785	19.9	3.5
Penobscot	210	17	227	1.0999	24.4	9.0
Platte	165	42	207	1.0746	19.1	7.9
Sebago	129	32	161	1.0840	21.1	8.1
Shurchip	194	27	221	1.0802	20.3	6.9
Superior	192	16	208	1.0818	20.6	8.3
Red skin varieties						
Norchief	167	58	225	1.0838	21.0	7.0
Red La Soda	241	31	272	1.0769	19.6	6.0
Sioux	130	22	152	1.0902	22.5	4.0

[1] Soil test P = 160 (high); soil test K = 90 (medium); pH = 5.2.
[2] Specific gravity, total solids, and chip color ratings were determined by Hubert Harris in the Food Processing Laboratory at Auburn.

Yields of total marketable fruits for the 6 varieties tested are presented in Table 8. Ranger and Pixie had very similar yields in grades No. 2 and No. 3; both produced higher yields than the other varieties. Ranger did have a high carpel separation in size No. 4. Chipper and Explorer produced the lowest yields in this test but both varieties are excellent pickle type cucumbers.

Okra

Soil was fumigated with 20 gallons of Shell DD per acre broadcast 1 month before planting. Seed were planted with a Planet Jr. seeder April 30. A total of 42 harvests was made beginning in June and ending in October. Clemson Spineless and Emerald Green Velvet produced the highest yields of all varieties, Table 9. Perfected Perkins Long Pod and Perkins produced good yields. A problem that has shown up in some Alabama okra fields is the lack of seed development in the pod. Approximately 100 pods of each variety were selected at random throughout the growing season and evaluated for seed development. There appeared to be no differences in seed filling among the varieties tested; all varieties had filled pods. There were no indications in this variety trial to indicate the cause of this problem.

TABLE 7. LIMA BEAN VARIETY TRIAL, AUBURN, 1970[1]

Variety	Yield per acre		Shellout	Green seedcoat	Dry pods at harvest	Growing days
	In pod	Shelled				
	Bu.	*Lb.*	*Pct.*	*Pct.*	*Pct.*	*No.*
Jackson Wonder	153	2,249	49	—[2]	10	71
Henderson Bush	151	2,220	49	61	18	71
Thaxter	146	1,664	38	90	12	71
Allgreen	100	1,410	47	97	21	71
Fordhook	80	1,128	47	72	20	76
Fordhook-242	78	1,170	50	66	18	76
Green Fordhook-861	64	960	50	100	6	76

[1] Soil test P = 130 (high); soil test K = 100 (low); pH = 6.3.
[2] This variety is a colored bean and no rating was made.

TABLE 8. PICKLING CUCUMBER TRIAL, AUBURN, 1970[1]

Variety	Marketable yield per acre					Harvest season	Skin color[3]	Fruit shape	Vine vigor	Carpel separation[4]	
	Grades[2]										
	No. 1	No. 2	No. 3	No. 4	Total					No. 3's	No. 4's
	Cwt.	*Cwt.*	*Cwt.*	*Cwt.*	*Cwt.*					*Pct.*	*Pct.*
Ranger	26.24	107.44	155.29	46.39	335.36	Early	G	Good	Good	0	17
Pixie	16.19	104.04	153.48	56.99	330.70	Late	DG	Good	Excellent	8	4
Southern Cross	20.91	116.89	139.90	37.97	315.67	Early	G	Good	Good	4	0
Pioneer	19.82	110.64	124.00	57.14	311.60	Late	G	Good	Excellent	5	16
Chipper	17.93	97.86	120.95	46.46	283.20	Late	DG	Good	Excellent	3	0
Explorer	19.38	100.99	136.92	24.61	281.90	Early	LG	Good	Good	5	10

[1] Soil test P = 116 (high); soil test K = 90 (low); pH = 6.5.
[2] No. 1 grade ranged up to 1 1/16 inch in diameter; No. 2 grade ranged from 1 1/16 to 1½ inches in diameter; No. 3 grade ranged from 1½ to 2 inches in diameter; No. 4 grade ranged from 2 to 2¼ inches in diameter.
[3] G—green, LG—light green, DG—dark green.
[4] Carpel separation was based on the per cent of fruits cut that had open or air spaces in the middle.

TABLE 9. OKRA VARIETY TRIAL, AUBURN, 1970[1]

Variety	Yield per acre
	Tons
Clemson Spineless	9.89
Emerald Green Velvet	9.42
Perfected Perkins Long Pod	8.64
Perkins	7.40
Dwarf Green Long Pod	5.13
Emerald	4.21
Louisiana Green Velvet	4.06

[1] Soil test P = 365 (very high); soil test K = 100 (medium); pH = 6.5.

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