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Mississippi Sweetpotato Cultivar Evaluations for 1994, 1995, and 1996

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Sweetpotato cultivars and advanced breeding lines from several breeding programs were evaluated for yield and quality. Yield evaluations were made at the Mississippi Agricultural and Forestry Experiment Station Pontotoc Branch, Pontotoc, Mississippi. This site was selected for its close proximity to the state's principle sweetpotato growing area. Canning and baking quality evaluations for 1994, 1995 and 1996 were made at the food processing laboratory at Mississippi State University.

Procedures

Yields of sweetpotato cultivars and breeding lines were evaluated over a 3-year period, from 1994 to 1996. Inclusion of these cultivars and lines in the evaluations was determined by the national sweetpotato collaborators' group and the sweetpotato breeding program at Mississippi State University. Therefore, not all entries evaluated for yield were entered in the quality evaluations. Only the entries in the national sweetpotato collaborators' group and those breeding lines of interest to the breeding program for the current year were evaluated. All yield trials consisted of entries in a randomized complete block design with four replications.

The trials were grown, harvested, and graded in the same manner each of the 3 years. Each replication consisted of a single row plot 25 feet long. Row spacing was 40 inches and plants were spaced 12 inches apart within the row. The soil type was Faulkner silt loam and fertilizer was applied at rates recommended by the Mississippi Cooperative Extension Service according to soil test results. Irrigation was used in 1995 just before harvest to prevent injury because of dry conditions at

harvest. Roots were cured at 90°F and 85% RH for 7 to 10 days after each harvest. Roots were then graded according to USDA standards for U.S. No. 1, canner, jumbo, and cull.

In 1994 the growing period was 117 days, with 'slips' transplanted to the field May 27 and roots harvested September 21. In 1995 the growing period was 92 days, with 'slips' transplanted to the field June 15 and roots harvested September 15. High early yield is a desirable trait; therefore, the 1995 crop was harvested early to evaluate entries for this trait. In 1996 the growing period was 112 days, with 'slips' transplanted to the field May 10 and roots harvested September 10.

Results

1994 Yields

The highest-yielding sweetpotatoes, L87-58, Beauregard, NC-C75, NC-C59, and NC-C58, yielded significantly more U.S. No.1 and total marketable roots than Jewel (Table 1). Yields of Regal, Centennial, L89-72, Hernandez, L89-110, Darby, W294, NC 92-08, and W285 were intermediate between the highest-yielding entries and Jewel. Centennial yielded significantly more jumbo grade roots than all but four other entries. The highest yielding white-fleshed sweetpotato was White Delight, which yielded significantly more U.S. No. 1 and total marketable roots than Nancy Hall or White Regal. Yields of Sumor and NC White were not statistically different from White Delight.

1995 Yields

U.S. No. 1 and jumbo yields were much lower in 1995 (Table 2) than either 1994 or 1996 (Tables 1 and 3) because of the early harvest at 92 days and possibly the dry conditions near harvest. NC-C59 produced the highest U.S. No. 1 yield, but its yield was not significantly different from the other high-yielding entries: NC-C58, L89-110, MS-D45, L89-72, or Jewel (Table 2). Beauregard was only significantly greater in U.S. No. 1 yield than Regal. Only NC-C59 was significantly higher than Beauregard for total marketable yield. O'Henry and NC White produced yields equal to the highest-yielding orange-fleshed entries for total marketable. O'Henry had the highest U.S. No. 1 yield of the white-fleshed entries and its yield was significantly higher than Nancy Hall or White Regal. NC White, Sumor, and White Delight were not statistically different from O'Henry.

1996 Yields

The highest-yielding sweetpotatoes, Beauregard, L89-72, L89-110, NC-C59, and NC-C58 yielded significantly more U.S. No. 1 roots than Centennial, MS-B9, 92-510, and W323 (Table 3). O'Henry was not significantly different from Nancy Hall, NC93-17, or W308 for yield of U.S. No. 1 roots. W308, a white- fleshed entry, had the highest yield of jumbo, 126 bushels per acre, which was significantly greater than 11 other entries. Beauregard also yielded the most total marketable roots, but its yield in this category was not statistically greater than NC-C59, L89-72, L89-110, NC-C58, MS-D45, or NC91-14. O'Henry was significantly greater than Nancy Hall in total marketable yield, but was not significantly different from NC93-17 or W308.

Mean yields over years (Tables 4 and 5) were provided to show the general trend in each entry's mean yield over a multi-year period. They should not be used to compare entries with each other because of a genotype by year interaction.

Canning and Baking Quality

Canning and baking quality scores are for entries in the national sweetpotato collaborators group and those breeding lines of potential interest to the breeding program in each year. No statistical analysis was performed on the canning or baking quality scores in any year due to the lack of replication. Mean quality scores are presented (Tables 8, 10, 11, 14, 16, and 17) over 2- and 3-year periods for those entries that were included in 2 or all 3 years.

Canning quality scores represent the sum of scores for color (chroma, uniformity, and attractiveness), wholeness, smoothness, firmness, moistness, lack of fiber, mouth feel, and flavor. Each category is rated on a scale of 1 to 10, with 1 being poor and 10 being excellent. The five highest scoring orange fleshed entries for total canning quality in 1994 were Regal, Centennial, NC-C75, Jewel, and L87-58 (Table 6). The entries with the lowest canning quality scores were Excel, L89-110, L89-72, W285, and W294. Most orange-fleshed entries were higher than the white-fleshed entries for total canning quality score. White delight was higher than the orange-fleshed entries Darby, W294, W285, L89-72, and L89-110. Canning quality of

white- fleshed entries was highest for White Delight and lowest for Nancy Hall.

In 1995 L87-58 had the highest canning quality score of the entries evaluted, while L89-72 had the lowest score (Table 7). L89-72, NC-C75, and Jewel exhibited large changes in color quality attributes from 1994 to 1995. Jewel dropped three points in 1995 compared to 1994 in each caterogy of chroma, uniformity, and attractiveness. There were no white-fleshed entries in the 1995 canner quality evaluation.

In 1996 the entries with the highest canning scores were Jewel, Hernandez, and Beauregard (Table 8). Most orange-fleshed entries ranked higher than the white-fleshed entries for total quality score; exceptions were Centennial and W323, which were intermediate to Nancy Hall and W308.

Mean canner quality over 1994-95 ranged from a high of 82.4 for L87-58 to a low of 70.5 for L89-72 (Table 9). Mean canner quality over 1995-96 ranged from a high of 84.0 for Beauregard to a low of 75.5 for L89-110 (Table 10). Mean canner quality over the 3-year period 1994-96 ranged from 81.3 for Jewel to 74.4 for L89-110 (Table 11).

Baking quality scores represented the sum of scores for eye appeal, color (intensity, uniformity, freedom from discoloration), smoothness, moistness, lack of fiber, and flavor. Each category is rated on a scale of 1 to 10 as described above. The five highest-scoring orange-fleshed entries for total baking quality scores in 1994 were Centennial, Hernandez, Beauregard, MS-D45, and NC-C58 (Table 12). The five lowest baking quality scores were for MS-B9, W285, L89-110, MS-D22, and MS-B13. The white-fleshed entries ranked low in baking scores. White Delight ranked highest of the white-fleshed entries with a score of 58.1, while White Regal scored lowest with a score of 50.9.

The five orange-fleshed entries in 1995 with the highest total baking quality scores were NC-C59, Hernandez, L91-189, NC-C58, and L89-110 (Table 13). The five orange fleshed entries with the lowest baking quality scores were L91-150, MS-D22, NC-C75, Darby, and Jewel. The only white-fleshed entry, O'Henry, ranked twelveth overall, with a total score of 59.9.

The five orange-fleshed entries with the highest baking quality scores in 1996 were Hernandez, L89-110, MS-D45, NC91-14, and NC-C59 (Table 14). The five entries with the lowest baking quality scores were Centennial, Beauregard, W323, NC-C75, and Jewel. The white-fleshed entries again ranked low in baking quality scores. W308 ranked highest of the white-fleshed entries, with a score of 56.6, while NC93-17 scored lowest with a total score of 39.6.

Mean total baking quality scores over 1994-95 ranged from a high of 66.2 for Hernandez to a low of 56.8 for MS-D22 (Table 14). Mean baking quality for 1995-96 ranged from 70.4 for Hernandez to a low of 58.0 for Beauregard (Table 16). Mean total baking quality score for the 3-year period 1994-96 was highest for Hernandez, 68.9, and lowest for NC-C75, 60.8 (Table 17).

Summary

Over the 3-year period,1994 to 1996, Beauregard had the highest mean yield of U.S. No. 1 followed by NC-C59. Yields of U.S. No. 1 were variable from year to year, but Beauregard either produced the highest yield or was among the highest yielding entries in all years. Mean total marketable yield over the 3-year period was highest for NC-C59, followed by Beauregard.

Over the 1994-96 period, Hernandez had the highest mean baking quality score, followed by Beauregard. Quality varied from year to year, but Beauregard was among the highest each year. NC-C59 was one of the highest yielding entries over the 3-year period, and the NC-C59 baking score was only 1.5 points lower than that of Beauregard.

Table 1.Mean yields[1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1994.

Entry	U.S. No. 1	Canner	Jumbo	Total Marketable
		Orange-Fleshed		
L87-58	530	14	90	634
Beauregard	470	152	32	654
NC-C75	441	179	26	646

NC-C59	418	176	41	635
NC-C58	411	165	62	637
Regal	360	162	14	536
CentennialL89-72	347335	161132	11254	620521
Hernandez	327	178	0	505
L89-110	296	133	81	509
Darby	267	67	58	392
W294	255	146	0	401
NC92-08	247	158	19	424
W285	228	122	18	367
Jewel	153	116	5	274
MS-B13	82	155	0	237
MS-B9	53	33	0	86
	White-Fleshed			
White Delight	349	241	12	602
Sumor	248	177	0	425
NC White	199	218	0	416
Nancy Hall	58	92	0	150
White Regal	54	67	0	121
LSD (0.05)	227	97	60	298

[1]Mean yield measured in 50-pound bushels per acre.

Table 2. Mean yields[1] of sweetpotato cultivars and advanced lines at the Pontotoc Experiment Station in 1995.

Entry	U.S. No. 1	Canner	Jumbo	Total Marketable
	Orange-Fleshed			
NC-C59	257	188	10	455
NC-C58	220	165	8	393
L89-110	205	184	4	393
MS-D45	159	192	5	357
L89-72	154	128	7	289
Jewel	151	255	0	406
Beauregard	131	124	17	272
Hernandez	98	147	0	245
Darby	85	129	0	214
MS B-9	83	75	6	164
L87-58	80	141	0	221
Excel	77	81	9	166
Centennial	64	82	0	146
NC-C75	62	66	0	128
MS-D22	50	167	0	217
L91-189	38	81	0	118
L91-150	27	75	0	101

Regal	9	125	0	135
		White-Fleshed		
O'Henry	157	190	6	353
NC White	74	229	0	303
Sumor	55	156	0	211
White Delight	46	125	0	171
Nancy Hall	6	65	0	70
White Regal	0	6	0	6
LSD 0.05	117	105	17	166

[1]Mean yield measured in 50-pound bushels per acre.

Table 3. Mean yields[1] of sweetpotato cultivars and advanced lines at the Pontotoc Branch Experiment Station in 1996.

Entry	U.S. No. 1	Canner	Jumbo	Total Marketable
		Orange-Fleshed		
Beauregard	516	199	43	758
L89-72	487	135	71	693
L89-110	419	112	114	645
NC-C59	398	258	51	707
NC-C58	376	156	105	638
MS-D45	343	143	72	558
Hernandez	316	138	11	465
Jewel	289	131	20	441
NC 91-09	232	133	0	383
NC 91-14	230	376	0	606
Centennial	179	170	7	356
MS B-9	165	80	112	357
92-510	145	64	7	215
W323	143	164	0	307
		White-Fleshed		
O'Henry	247	160	38	445
NC 93-17	191	37	0	228
W308	176	72	126	374
Nancy Hall	112	98	0	210
LSD 0.05	164	95	82	232

[1]Mean yield measured in 50-pound bushels per acre.

Table 4. Two- and three-year mean yields[1] of U.S. No. 1 and jumbo roots at the Pontotoc Branch Experiment Station from 1994-1996.

	U.S. No. 1	Jumbo

Entry	1994-95	1995-96	1994-1996	1994-95	1995-96	1994-1996
			Orange-Fleshed			
NC-C59	337	327	358	26	31	34
NC-C58	315	298	336	35	57	59
L87-58	308	---[2]	---	45	---	---
Beauregard	301	324	373	24	30	31
NC-C75	252	---	---	13	---	---
L89-110	250	312	306	42	59	66
L89-72	244	320	325	30	39	44
Hernandez	212	207	247	0	5	3
Centennial	206	121	197	56	4	40
Excel	199	---	---	8	---	---
Regal	185	---	---	7	---	---
Darby	176	---	---	29	---	---
Jewel	152	220	198	2	10	8
MS-B9	68	124	100	3	59	8
MS-D45	---	251	---	---	38	---
			White-Fleshed			
W. Delight	212	---	---	6	---	---
Sumor	151	---	---	0	---	---
NC White	136	---	---	0	---	---
Nancy Hall	32	117	58	0	0	0
W. Regal	27	---	---	0	---	---

[1] Mean yields measured in 50-pound bushels per acre.
[2] Entry not evaluated in all years.

Table 5. Two- and three-year mean yields[1] of canner and total marketable roots at the Pontotoc Branch Experiment Station from 1994-1996.

	Canner			Total Marketable		
Entry	1994-95	1995-96	1994-1996	1994-95	1995-96	1994-1996
			Orange-Fleshed			
Jewel	186	193	168	340	423	374
NC-C59	182	223	207	551	581	599
NC-C58	165	160	162	515	515	556
Hernandez	162	142	154	375	355	405
L89-110	159	148	143	451	519	516
Regal	144	---[2]	---	335	---	---
Beauregard	138	162	158	327	515	562
L89-72	130	131	132	405	491	501
NC-C75	122	---	---	463	---	---
Centennial	121	126	137	383	251	374

Darby	98	---	---	303	---	---
Excel	81	---	---	288	---	---
L87-58	78	---	---	491	---	---
MS-B9	54	78	63	125	261	203
MS-D45	---	168	---	---	458	---
			White-Fleshed			
NC White	223	---	---	358	---	---
W. Delight	183	---	---	386	---	---
Sumor	169	---	---	318	---	---
Nancy Hall	78	81	85	110	140	143
W. Regal	36	---	---	173	---	---
O'Henry	---	175	---	---	399	---

[1]Mean yield measured in 50-pound bushels per acre.
[2]Entry not evaluated in all years.

Table 6. Canning quality scores[1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1994.

	Color										
Entry	Chroma	Uniformity	Attractiveness	Wholeness	Smoothness	Firmness	Moistness	Lack of Fiber	Mouth Feel	Flavor	Total
					Orange-Fleshed						
Regal	7.8	8.4	8.2	8.3	8.0	8.3	8.6	8.1	8.3	8.2	82.2
Centennial	9.0	8.0	9.0	7.8	7.0	9.0	8.0	9.0	8.0	8.0	82.0
NC-C75	8.7	7.9	8.4	8.1	8.2	8.0	7.6	8.3	8.0	7.7	80.9
Jewel	7.0	7.0	7.0	7.1	7.8	9.0	9.0	9.0	9.0	8.0	79.9
L87-58	7.4	7.6	7.4	7.9	7.4	8.1	8.5	8.4	8.2	7.9	78.8
Hernandez	8.5	7.5	7.9	7.6	6.8	8.7	7.9	7.8	7.7	7.5	77.9
NC 92-08	8.3	7.5	7.8	7.6	7.3	7.6	7.6	7.3	7.4	7.5	75.9
NC-C59	7.8	6.6	7.3	7.5	6.6	8.0	8.1	7.4	7.7	7.8	74.8
NC-C58	7.6	7.5	7.3	7.0	7.0	7.7	8.1	7.5	7.5	7.5	74.7
MS-B13	6.6	7.1	6.4	7.4	7.3	8.1	8.8	7.9	7.8	7.3	74.7
Beauregard	7.0	8.0	7.0	7.9	6.2	10.0	7.0	7.0	7.0	7.0	74.1
Darby	7.0	7.0	6.9	7.4	7.1	8.0	7.8	7.0	7.4	7.4	73.0
W-294	7.3	6.9	7.1	7.2	6.6	7.7	7.1	7.7	7.8	7.3	72.7
W-285	7.4	7.2	7.1	7.7	7.1	7.4	7.3	6.5	7.3	7.0	72.0
L89-72	6.7	7.0	6.9	7.3	6.8	8.0	7.9	7.0	7.0	7.2	71.8
L89-110	6.7	7.2	7.0	7.1	6.6	7.8	7.4	7.5	7.2	7.1	71.6
Excel	7.0	6.8	7.3	7.1	6.6	7.5	6.5	7.8	7.2	6.9	70.7
					White-Fleshed						
W. Delight	7.2	7.0	7.3	7.9	7.5	7.6	7.0	7.5	7.0	7.2	73.2
W. Regal	6.4	7.0	6.3	7.8	7.7	7.8	7.5	7.3	7.0	6.5	71.3
NC White	6.4	6.6	6.3	7.1	6.9	7.6	7.6	7.7	7.5	7.1	70.8
Sumor	7.4	7.7	7.3	7.6	7.3	7.0	6.6	6.6	6.6	6.5	70.6

N. Hall	6.5	6.7	6.6	6.5	7.2	7.4	6.8	7.5	7.1	7.0	69.3

[1] Scores based on a 1 to 10 scale; 1 being poor, 10 being excellent.

Table 7. Canning quality scores[1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1995.

	Color										
Entry	Chroma	Uniformity	Attractiveness	Wholeness	Smoothness	Firmness	Moistness	Lack of Fiber	Mouth Feel	Flavor	Total
L87-58	7.3	7.9	8.0	9.9	9.4	9.6	8.4	9.1	8.4	7.8	85.9
MS-D22	7.9	8.0	8.2	9.6	9.0	9.7	7.6	9.8	7.8	7.6	85.0
Beauregard	8.0	7.0	8.0	10.0	9.0	10.0	7.0	10.0	8.0	7.0	84.0
Hernandez	8.4	6.7	6.8	9.7	9.1	9.3	8.7	9.7	8.3	5.0	81.7
MS-D45	6.1	7.2	6.9	9.4	9.4	9.4	7.7	9.7	7.7	7.3	80.9
Darby	5.3	6.9	6.2	9.3	9.4	9.9	8.2	9.7	8.2	7.7	80.9
Jewel	4.0	4.0	4.0	10.0	10.0	10.0	9.0	10.0	9.0	9.0	79.0
L89-110	5.3	5.0	5.1	8.9	9.4	9.8	7.4	9.8	7.9	7.7	76.3
NC-C75	4.2	4.6	4.1	9.8	9.1	10.0	7.4	9.6	7.9	7.4	74.3
L89-72	3.3	5.8	3.8	9.8	9.3	9.1	7.7	9.7	7.4	3.4	69.1

[1]Scores based on a 1 to 10 scale; 1 being poor, 10 being excellent.

Table 8. Canning quality scores[1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1996.

	Color										
Entry	Chroma	Uniformity	Attractive-ness	Whole-ness	Smooth-ness	Firm-ness	Moist-ness	Lack of Fiber	Mouth Feel	Flavor	Total
Orange-Fleshed											
Jewel	7.0	7.0	8.0	8.0	9.0	9.0	9.0	10	10	9.0	86
Hernandez	10	9.4	9.8	7.4	8.0	8.2	7.4	8.8	7.6	8.2	84.8
Beauregard	9.0	8.0	9.0	6.0	9.0	10	7.0	10	8.0	8.0	84.0
NC-C75	8.6	8.6	7.4	6.8	7.8	7.6	9.0	9.8	7.8	7.6	81.0
NC-C59	6.3	8.2	6.2	6.8	7.8	8.8	8.2	9.4	8.4	7.4	77.5
NC91-09	8.0	8.2	8.0	6.4	8.0	6.2	9.0	8.4	7.4	7.8	77.4
MS-D45	6.6	7.6	7.4	6.8	8.4	7.8	7.2	9.6	7.8	8.0	77.2
L89-110	6.8	7.6	6.2	5.6	7.8	7.8	8.2	9.6	8.2	8.0	75.8
Cenntenial	5.0	9.0	4.0	8.0	7.0	7.0	10	10	7.0	7.0	74.0
W323	6.2	5.4	5.6	9.0	8.0	8.8	6.2	8.8	6.0	7.2	71.2
White-Fleshed											

Nancy Hall	7.6	7.8	6.2	7.2	7.2	8.0	6.8	8.2	7.8	8.8	75.6
NC93-17	5.2	6.6	5.0	7.6	8.6	9.4	6.0	8.8	6.4	7.6	71.2
W308	7.2	7.8	6.6	5.6	8.2	7.8	6.4	7.0	6.8	7.2	70.6

[1]Scores based on a 1 to 10 scale; 1 being poor, 10 being excellent.

Table 9. Mean canning quality scores[1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1994 and 1995.

	Color							Lack of	Mouth		
Entry	Chroma	Uniformity	Attractive-ness	Whole-ness	Smooth-ness	Firm-ness	Moist-ness	Fiber	Feel	Flavor	Total
L87-58	7.3	7.8	7.7	8.9	8.4	8.9	8.5	8.8	8.3	7.9	82.4
Hernandez	8.5	7.1	7.4	8.7	8.0	9.0	8.3	8.8	8.0	6.3	79.8
Jewel	5.5	5.5	5.5	8.5	9.6	9.5	9.0	8.9	9.0	8.5	79.5
Beauregard	7.5	7.5	7.5	8.9	7.6	10.0	7.0	8.5	7.5	7.0	79.1
NC-C75	6.5	6.3	6.3	9.0	8.7	9.0	7.5	9.0	8.0	7.6	77.6
Darby	6.2	7.0	6.6	8.4	8.3	8.7	8.0	8.4	7.8	7.6	77.0
L89-110	6.0	6.1	6.1	8.0	8.0	8.8	7.1	8.7	7.6	7.4	74.0
L89-72	5.0	6.4	5.3	8.6	8.1	8.6	7.8	8.8	7.2	5.3	70.5

[1]Scores based on a 1 to 10; scale 1 being poor, 10 being excellent.

Table 10. Mean canning quality scores[1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1995 and 1996.

	Color							Lack of	Mouth		
Entry	Chroma	Uni-formity	Attractive-ness	Whole-ness	Smooth-ness	Firm-ness	Moist-ness	Fiber	Feel	Flavor	Total
Beauregard	8.5	7.5	8.5	8.0	9.0	10.0	7.0	10.0	8.0	7.5	84.0
Hernandez	9.2	8.1	8.3	8.6	8.5	8.7	8.0	9.2	7.9	6.6	83.1
Jewel	5.5	5.5	6.0	9.0	9.5	9.5	9.0	10.0	9.5	9.0	82.5
MS-D45	6.3	7.4	7.1	8.1	8.9	8.6	7.4	9.6	7.7	7.5	78.6
NC-C75	6.4	6.6	5.7	8.3	8.4	8.8	8.2	9.7	7.8	7.5	77.4
L89-110	6.0	6.3	5.6	7.2	8.3	8.8	8.2	9.7	8	7.8	75.5

[1]Scores based on a 1 to 10 scale; 1 being poor, 10 being excellent.

Table 11. Mean canning quality scores[1] of sweetpotato cultivars and advanced breeding lines at the

Pontotoc Branch Experiment Station in 1994 -1996.

Entry	Color							Lack of	Mouth		
	Chroma	Uniformity	Attractive-ness	Whole-ness	Smooth-ness	Firm-ness	Moist-ness	Fiber	Feel	Flavor	Total
Jewel	6.0	6.0	6.3	8.3	8.9	9.3	9.0	9.6	9.3	8.6	81.3
Hernandez	8.9	7.8	8.2	8.2	7.9	8.7	8.0	8.7	7.8	6.9	81.1
Beauregard	8.0	7.6	8.0	7.9	8.0	10.0	7.0	9.0	7.6	7.3	80.4
NC-C75	7.1	7.0	6.6	8.2	8.6	8.5	8.0	9.2	7.9	7.6	78.7
L89-110	6.3	6.6	6.1	7.2	7.9	8.5	7.6	8.9	7.7	7.6	74.4

[1] Scores based on a 1 to 10; scale 1 being poor, 10 being excellent.

Table 12. Baking quality scores [1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1994.

Entry	Eye Appeal	Color					Lack of Fiber	Flavor	Total
		Intensity	Uniformity	Freedom from Discoloration	Smooth-ness	Moist-ness			
Orange-Fleshed									
Centennial	8.0	9.0	7.0	8.0	8.0	8.8	9.0	9.0	66.8
Hernandez	8.2	9.0	7.2	7.9	8.3	8.6	8.6	8.3	66.1
Beauregard	9.0	8.0	8.0	7.0	9.0	9.0	9.0	7.0	66.0
MS-D45	8.0	8.4	7.6	7.1	8.4	8.3	8.2	8.0	64.1
NC-C58	7.8	8.6	7.6	7.4	8.6	8.4	8.1	7.3	63.8
Darby	7.8	7.7	7.6	7.4	8.3	8.0	8.1	7.6	62.4
NC-C75	7.3	7.5	7.3	7.5	8.3	8.2	8.0	8.1	62.1
Excel	8.4	7.7	8.2	8.4	7.3	7.3	7.5	7.3	62.1
Jewel	7.0	7.0	8.0	9.0	7.1	7.0	9.0	7.0	61.1
Regal	7.4	7.0	7.3	7.1	7.3	8.2	8.2	8.0	60.7
NC-C59	7.3	8.0	7.2	7.0	7.6	7.6	8.0	7.8	60.4
L87-58	7.4	7.6	7.1	7.2	7.7	7.9	7.7	7.7	60.2
W-294	7.3	7.4	7.6	7.1	7.1	6.9	7.8	6.9	58.3
MS-B13	6.8	6.4	7.0	7.3	7.6	7.9	7.7	6.9	57.6
MS-D22	7.5	8.0	7.0	7.0	6.4	7.0	7.6	6.7	57.3
L89-110	7.2	7.0	6.6	6.7	7.4	7.4	7.7	7.1	57.1
W-285	6.1	6.6	6.0	6.2	5.8	6.4	7.3	6.6	51.0
MS-B9	7.2	7.3	7.9	8.2	7.4	7.2	7.7	6.9	50.0
White-Fleshed									
W. Delight	7.1	7.1	6.8	7.3	7.4	7.4	8.0	6.9	58.1
O'Henry	6.4	6.8	6.4	6.2	8.1				

NC White	6.7	6.8	6.2	6.6	7.4	6.8	7.6	7.2	55.2
Nancy Hall	6.9	7.1	6.7	6.7	6.9	6.9	7.2	7.2	55.1
W. Regal	7.6	7.3	7.3	7.4	8.0	7.1	8.2	7.9	50.9

[1] Scores based on a 1 to 10 scale; 1 being poor, 10 being excellent.

Table 13. Baking quality scores[1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Experiment Station in 1995.

		Color							
Entry	Eye Appeal	Intensity	Uniformity	Freedom from Discoloration	Smooth-ness	Moist-ness	Lack of Fiber	Flavor	Total
				Orange-Fleshed					
NC-C59	7.9	8.2	7.5	8.3	9.3	8.6	9.1	7.4	66.3
Hernandez	7.3	8.8	7.2	8.0	8.8	8.6	9.3	8.3	66.3
L91-189	8.3	8.5	8.2	8.2	8.2	8.0	8.1	7.4	64.9
NC-C58	8.2	8.0	7.5	7.9	8.8	8.2	8.9	7.0	64.5
L89-110	7.8	7.6	7.1	8.8	9.1	8.1	8.5	6.9	63.9
L89-72	7.7	7.5	7.5	7.6	9.0	7.8	9.1	7.3	63.5
MS-G28	7.9	7.2	6.6	8.2	8.8	8.3	8.3	7.8	63.1
Beauregard	8.0	7.0	6.0	7.0	10.0	8.0	10.0	7.0	63.0
MS-D45	7.0	6.6	6.4	7.6	9.1	8.6	9.5	7.6	62.4
Jewel	6.0	5.0	5.0	8.0	10.0	9.0	8.0	9.0	60.0
Darby	7.1	6.2	6.8	7.1	8.3	8.0	9.2	7.2	59.9
NC-C75	5.3	6.2	6.3	7.7	9.2	8.2	7.5	6.7	59.1
MS-D22	6.6	6.4	6.5	7.7	7.7	7.0	7.7	6.6	56.2
L91-150	5.2	6.3	5.2	6.3	8.0	7.7	6.9	5.3	50.9
				White-Fleshed					
O'Henry	6.7	6.7	6.9	7.2	8.9	7.7	9.1	6.7	59.9

[1] Scores based on a 1 to 10 scale; 1 being poor, 10 being excellent.

Table 14. Baking quality scores of sweetpotato[1] cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1996.

		Color							
Entry	Eye Appeal	Intensity	Uniformity	Freedom from Discoloration	Smooth-ness	Moist-ness	Lack of Fiber	Flavor	Total

Orange-Fleshed									
Hernandez	9.8	9.8	10.0	10.0	9.2	8.6	9.6	7.8	74.8
L89-110	9.6	9.6	9.2	8.8	8.6	7.8	9.4	8.2	71.2
MS-D45	9.4	8.6	9.0	9.0	9.2	8.6	9.8	7.2	70.8
NC91-14	9.0	9.4	8.4	9.0	8.6	8.6	9.6	8.0	70.6
NC-C59	8.0	9.2	8.4	9.2	8.2	8.4	10.0	7.6	69.0
NC91-09	8.6	8.0	8.4	9.0	9.4	7.4	10.0	6.6	67.4
Jewel	9.0	8.0	8.0	8.0	6.0	9.0	10.0	8.0	66.0
NC-C75	7.4	7.0	8.0	8.8	6.8	9.0	9.4	6.8	63.2
W323	6.5	6.5	6.0	7.2	7.5	5.8	9.0	6.2	54.8
Beauregard	6.0	6.0	6.0	5.0	9.0	6.0	10.0	5.0	53.0
Centennial	5.0	7.0	4.0	4.0	8.0	4.0	10.0	5.0	47.0
White-Fleshed									
W308	7.0	6.2	7.2	7.0	8.8	6.2	9.2	5.0	56.6
Nancy Hall	5.8	6.0	4.6	5.4	7.4	7.0	8.6	7.2	52.0
NC93-17	2.8	4.6	3.6	4.4	6.0	4.4	9.0	4.8	39.6

[1] Scores based on a 1 to 10 scale; 1 being poor, 10 being excellent.

Table 15. Mean baking quality scores[1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1994 and 1995.

		Color							
Entry	Eye Appeal	Intensity	Uniformity	Freedom from Discoloration	Smooth-ness	Moist-ness	Lack of Fiber	Flavor	Total
Orange-Fleshed									
Hernandez	7.8	8.9	7.2	8.0	8.6	8.6	9.0	8.3	66.2
Beauregard	8.5	7.5	7.0	7.0	9.5	8.5	9.5	7.0	64.5
NC-C58	8.0	8.3	7.5	7.6	8.7	8.3	8.5	7.2	63.7
NC-C59	7.6	8.1	7.3	7.7	8.5	8.1	8.6	7.6	63.4
MS-D45	7.5	7.5	7.0	7.4	8.8	8.4	8.9	7.8	63.3
Darby	7.5	7.0	7.2	7.3	8.3	8.0	8.7	7.4	61.2
Jewel	6.5	6.0	6.5	8.5	8.6	8.0	8.5	8.0	60.6
L89-110	7.6	7.3	6.9	7.8	8.3	7.8	8.1	7.0	60.5
NC-C75	6.3	6.8	6.8	7.6	8.8	8.2	7.8	7.4	59.7
L89-72	7.2	7.2	6.9	7.0	8.1	7.3	8.1	7.0	58.6
MS-D22	7.0	7.2	6.8	7.5	7.1	7.0	7.6	6.6	56.8
White-Fleshed									
O'Henry	6.6	6.7	6.7	6.7	8.5	7.6	8.5	6.7	57.9

[1] Scores based on a 1 to 10 scale; 1 being poor, 10 being excellent.

Table 16. Mean baking quality scores[1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1995 and 1996.

Entry	Eye Appeal	Color		Freedom from Discoloration	Smoothness	Moistness	Lack of Fiber	Flavor	Total
		Intensity	Uniformity						
Hernandez	8.4	9.2	8.1	8.6	8.7	8.6	9.2	8.1	68.9
NC-C59	7.9	8.7	7.9	8.7	8.7	8.5	9.5	7.5	67.4
L89-110	8.2	8.0	7.6	8.2	8.4	8.3	8.6	7.4	64.7
MS-D45	8.2	7.6	7.7	8.3	9.1	8.6	9.6	7.4	66.5
Jewel	7.3	6.6	7.0	8.3	7.7	8.3	9.0	8.0	62.2
NC-C75	6.7	6.9	7.2	8.0	8.1	8.4	8.3	7.2	60.8
Beauregard	7.6	7.0	6.7	6.3	9.3	8.7	9.7	6.3	61.6

[1] Scores based on a 1 to 10 scale; 1 being poor, 10 being excellent.

Table 17. Mean baking quality scores[1] of sweetpotato cultivars and advanced breeding lines at the Pontotoc Branch Experiment Station in 1994 -1996.

Entry	Eye Appeal	Color		Freedom from Discoloration	Smooth-ness	Moist-ness	Lack of Fiber	Flavor	Total
		Intensity	Uniformity						
Hernandez	8.4	9.2	8.1	8.6	8.7	8.6	9.2	8.1	68.9
L89-110	8.2	8.0	7.6	8.2	8.4	8.3	8.6	7.4	64.7
Jewel	7.3	6.6	7.0	8.3	7.7	8.3	9.0	8.0	62.2
Beauregard	7.6	7.0	6.7	6.3	9.3	8.7	9.7	6.3	61.6
NC-C75	6.7	6.9	7.2	8.0	8.1	8.4	8.3	7.2	60.8

[1] Scores based on a 1 to 10 scale; 1 being poor 10 being excellent.