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PEANUT VARIETY AND QUALITY EVALUATION RESULTS 2008

II. Quality Data

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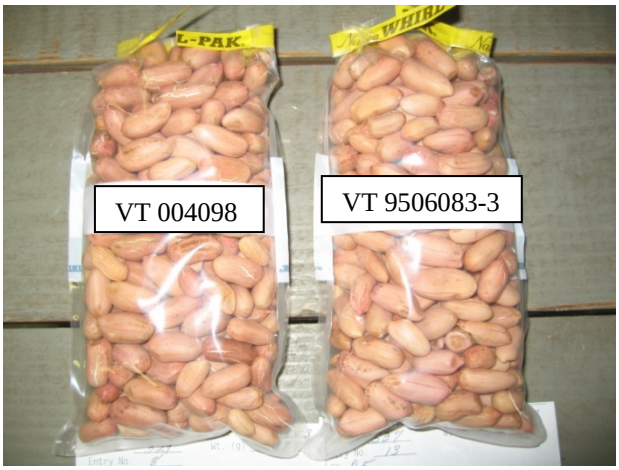

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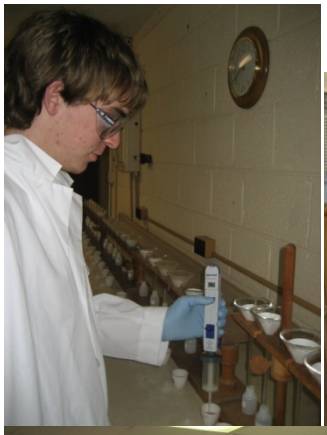
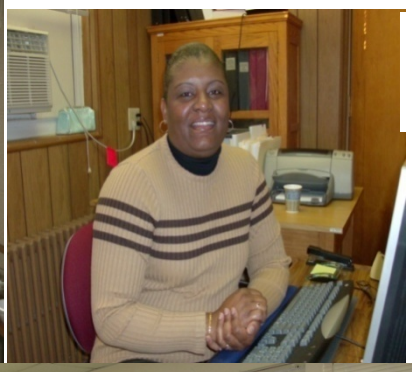
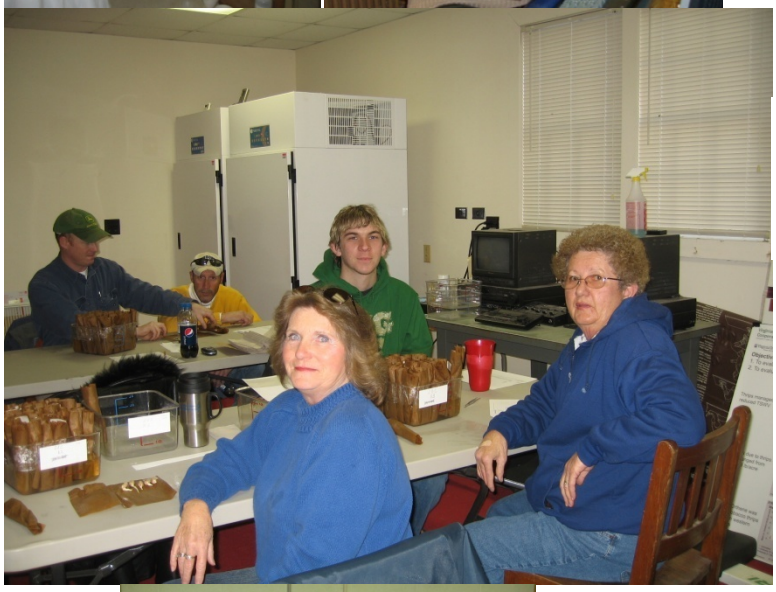


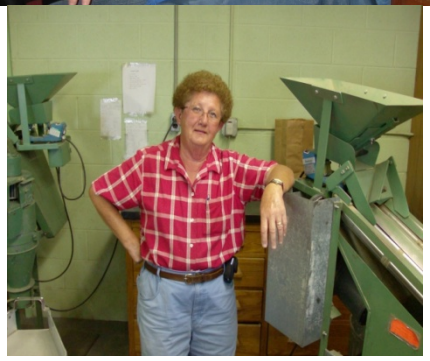


Louis Mehalko, left, and
Pam Copland, right



From the far left to the right: Doug Redd, Frank Bryant, Louis Mehalko, Carolyn Daughtrey, and Brenda Kennedy

Brenda Kennedy, above



Carolyn Daughtrey, at left

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INTRODUCTION

Along with agronomic and grade information, data on kernel and pod quality are essential for release of new peanut cultivars to ensure acceptability by the entire peanut trade. The present report contains the quality data collected on 12 Virginia-type cultivars that currently are on the market and 36 advanced breeding lines tested in the Peanut Variety and Quality Evaluation (PVQE) small and increased plots in 2008. The small PVQE plots with 48 genotypes were tested at five locations in Virginia, North Carolina, and South Carolina. At two locations, two harvests were applied as early- and late-dig treatments. Each genotype was replicated either 2 or 3 times at each location and dig treatment. Their names and pedigree are presented in Table 1. The PVQE increased plots contained only two genotypes: CHAMPS, as a check cultivar, and N03091T, a NCSU lines proposed for release. Increase plots were approximately 0.5 A for each genotype at Tidewater Agricultural Research and Extension Center (AREC), Suffolk, VA, and Martin Co., NC. They were not replicated. Similarly with the small plots, the increase plots were planted on 1 May, dug on 1 Oct., and combined on 5 Oct. A detailed description of the plant material, test locations, weather conditions, and cultural practices is included in the PVQE 2008 Results. I. Agronomic and Grade Data, at http://www.ext.vt.edu/pubs/np/2812-1030.pdf.

2008 SMALL PLOT TESTS

Blanching evaluations were determined by a laboratory sample blancher of two 250 g peanut samples from the early-dig at Martin Co., NC, and the Tidewater AREC. Tables 2 and 3 contain blanching data for the extra large kernels (ELK) from these locations sorted by genotype source: commercial cultivar, VT line, and NCSU line. Means of both locations for ELK blanching are included in Table 4 for 2008, Table 5 for 2007 and 2008, and Table 6 for 2006-2008 combined. Similarly, we included in Tables 7 through 11 blanching results of medium size kernels. Statistical analyses were determined for percentage of splits, whole blanched, not blanched, and partially blanched. In 2008, genotypes with high ELK (Table 4) and medium (Table 9) percent of whole kernels blanched at both locations are all commercial cultivars except Georgia 05E, which has significantly less % whole blanched kernels. Among lines with good blanching characteristics for ELK and medium kernels, non-significantly different from Bailey are lines: VT 003194, VT 024077, VT 004152, N02009, N03005J, N03089T, N04071CT, N05047, N04054FC, N04066CSmT, N05007, N05018, N05031J, N05037J, N06029, N06032F, and N06044F. From these, VT 003194, VT 004152, N05007, N05018, and N06044F distinguished themselves with high crop value and yield stability across all locations in 2008.

Table 1. Names and pedigree of the genotypes (advanced breeding lines and commercial varieties) evaluated in 2008.

Genotype Number	Variety or Line	Pedigree
1	NC-V 11	Florigiant / NC 5 // Florigiant / Valencia
2	Gregory	NC 7 / NC 9
3	NC 12C	NC 7 / NC 9
4	VA 98R	VA 81B / VA 780839P
5	Wilson	VA 781621 / PI 476823
6	Perry	NC 7 / Florigiant // N90021
7	CHAMPS	VA 8911215 / VA-C 92R
8	Phillips	N90014E / N91024
9	Brantley	X96156 (BC3F1-01: F01) / NC 7
10	VT 003069	N91004E / VA 93B
11	N02009	Gregory / N91040
12	VT 003194	N93008 / VA 901082
13	VT 024051	VA 98R // X98011 (F1), Perry / N96076L
14	N03005J	NC 12C*2 / N96076L
15	N03081T (Bailey)	NC 12C*2 / N96076L
16	N03088T	NC 12C*2 / N96076L
17	N03089T	NC 12C*2 / N96076L
18	N03090T	NC 12C*2 / N96076L
19	N03091T	Gregory // X98006 (F1)
20	VT 024060	VA 98R // X98011 (F1), Perry / N96076L
21	VT 024077	Wilson*2 / N95003C
22	VT 023002	Wilson*2 / N95003C
23	N04042FSmT	N97141C / N97135C
24	VT 003185	N91054E / Wilson
25	VT 9506083-3	VA 8911215 x Shosh
26	N04071CT	N96029 / N97069
27	N04074FCT	N97070 / N96029
28	N05006	NC-V 11 // Ga. Green / NC-V 11
29	N05008	Ga. Green // NC-V 11 / Ga. Green
30	N05024J	N98002 / N97140C
31	N05042F	N97135C / N96076L
32	N05047	N97140C / N96076L
33	N05049J	N98002 / N99121CSm
34	N05056	N98023 / N96076L
35	VT004152	N91054E / VA 901082
36	VT024024	NC 12C / Wilson
37	N04054FC	N96001C / N98002
38	N04066CSmT	N96029 / N97069
39	N05007	Ga. Green // NC-V 11 / Ga. Green
40	N05018	N97137C / N98002
41	N05031J	N96047 / N96009C
42	N05037J	N97070 / N96029
43	N06027	N96029 / N97069
44	N06029	N96029 / N97069
45	N06032F	N96029 / N96076L
46	N06044F	N98023 / N96076L
47	Florida Fancy	F87 x 8-2-1 / F 85410 / 93Q10
48	Georgia 05E	Georgia-01R / GA 942010

Fatty acid content and composition of the sound mature kernels (SMK) was determined by gas chromatography and expressed as % from total seed oil content. Iodine value, oleic/linoleic (O/L) ratio, % total saturated, polyunsaturated/saturated (P/S) ratio, and % total long chain-saturated acids were also calculated using the following formulas:

Iodine Value = (% oleic) (0.8601) + (% linoleic) (1.7321) + (% eicosenoic) (0.7854)

Oleic/Linoleic (O/L) ratio = % oleic / % linoleic

% Total Saturated = % palmitic + % stearic + % arachidic + % benehic + % lingnoceric

Polyunsaturated/Saturated (P/S) ratio = % polyunsaturated (linoleic)/% total saturated

% Total Long Chain Saturated = % arachidic + % behenic + % lignoceric

The definition of a high oleic peanut is a peanut line and seed that has an oleic acid content of from about 74% to about 84% and a linoleic acid content of from about 2% to about 8%, each based upon the total fatty acid content of the seed, and a ratio of the amount of oleic acid to linoleic acid in the seed of from about 9:1 to about 42:1.

Fatty acid composition is reported from early-dig plots of the 2008 PVQE locations in Table 12 through 18. Table 17 shows the content of the fatty acids averaged across all locations in 2008. Two- and three-year averages from Tidewater AREC and Martin Co., NC are included in Tables 18 and 19, respectively. In 2008, location and genotype had a significant effect on the fatty acid content. However, the genotype × location interaction was significant only for the palmitic and stearic acid. Their content was highest at Martin Co., the driest location. This may be an indication that these two fatty acids could be involved in genotypes' adaptation to their growing conditions such as drought and heat.

Calcium content (ppm) of seeds of each genotype was determined and presented in Table 20 for each location and as average of all locations. Calcium levels were only determined for the early-dig dates. At Florence, Ca content in the peanut kernels was the smallest and only 48% of that in kernels from Southampton. This is consistent with 2007 results, suggesting that application of a ton or less than a ton of gypsum per A may not be enough at this location. However, some genotypes, including commercial cultivars, VT lines and NCSU lines accumulated over 420 ppm Ca at Florence. Among these, CHAMPS, VT 024024, VT 004152, and N05007 had a Ca content over 500 ppm (Table 20), indicating high efficiency in calcium uptake.

Table 2. Laboratory sample blanching of Extra Large Kernels (ELK) from Tidewater AREC (Suffolk) VA, 2008[1].

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Gregory	6.10	5.05	1.0	3.3 g-j[2]	91.8 a-d	0.3 b	2.4 f-h
CHAMPS	6.35	5.00	1.4	4.6 d-j	90.0 a-e	0.0 b	3.1 f-h
NC-V 11	6.20	4.95	1.3	6.6 b-j	89.9 a-e	0.0 b	0.8 h
Brantley	6.65	5.20	1.5	4.9 c-j	89.4 a-f	0.3 b	2.8 f-h
NC 12C	5.95	5.00	0.9	7.7 b-i	87.6 a-g	0.0 b	1.8 f-h
N03081T (Bailey)	6.35	5.10	1.3	8.3 b-h	87.5 a-g	0.0 b	1.7 gh
Florida Fancy	6.00	5.00	1.0	7.5 b-i	87.1 a-h	0.0 b	2.5 f-h
Phillips	6.25	5.10	1.1	7.6 b-i	86.9 a-h	0.0 b	1.8 f-h
VA 98R	6.10	4.95	1.1	6.1 b-j	85.3 a-i	0.0 b	6.0 d-h
Perry	6.05	4.95	1.1	11.1 ab	84.9 a-i	0.0 b	1.5 gh
Wilson	6.35	5.00	1.4	11.4 ab	81.7 f-i	0.0 b	4.5 e-h
Georgia 05E	6.05	5.05	1.0	14.6 a	59.9 k	0.0 b	22.2 a
VT 003069	6.20	5.00	1.2	3.0 g-j	91.9 a-c	0.0 b	2.9 f-h
VT 003194	6.10	5.20	0.9	3.8 g-j	91.4 a-e	0.0 b	2.4 f-h
VT 024077	6.45	5.15	1.3	5.3 c-j	88.4 a-g	0.0 b	3.5 e-h
VT 024060	6.25	5.25	1.0	2.7 ij	88.3 a-g	4.5 a	6.6 d-h
VT 024051	6.05	5.05	1.0	4.4 d-j	84.8 a-i	0.0 b	8.1 c-h
VT 004152	6.20	5.00	1.2	4.1 f-j	84.4 c-i	0.0 b	8.8 c-h
VT 9506083-3	6.50	5.05	1.5	7.3 b-i	84.1 c-i	0.0 b	5.3 e-h
VT 003185	6.25	5.05	1.2	9.7 a-e	83.6 d-i	0.0 b	4.0 e-h
VT 023002	6.15	5.15	1.0	4.7 d-j	79.1 h-j	0.0 b	13.5 b-d
VT024024	6.20	5.15	1.0	7.7 b-i	78.4 ij	0.0 b	11.3 c-e
N04054FC	6.55	5.30	1.3	3.8 g-j	92.9 a	0.0 b	1.0 h
N06027	6.20	5.10	1.1	2.4 ij	92.8 ab	0.0 b	2.0 f-h
N05047	7.00	5.05	2.0	1.8 j	91.9 a-c	0.0 b	3.4 e-h
N04066CSmT	6.25	4.95	1.3	3.2 g-j	91.6 a-e	0.0 b	2.7 f-h
N06029	6.75	4.95	1.8	3.0 g-j	90.2 a-e	0.0 b	4.4 e-h
N04071CT	6.45	5.00	1.5	2.3 ij	89.9 a-e	0.0 b	4.8 e-h
N03090T	6.30	5.10	1.3	6.3 b-j	88.5 a-g	0.0 b	3.0 f-h
N03005J	6.20	5.25	0.9	7.0 b-j	88.0 a-g	0.0 b	3.0 f-h
N05049J	6.25	5.05	1.2	6.1 b-j	87.8 a-g	0.0 b	4.0 e-h
N05006	6.40	5.15	1.3	2.7 ij	87.6 a-g	0.0 b	6.7 d-h
N02009	6.35	4.90	1.5	6.8 b-j	87.4 a-g	0.0 b	2.9 f-h
N06044F	6.00	5.05	0.9	6.6 b-j	86.8 a-h	0.0 b	4.0 e-h
N04042FSmT	6.05	5.05	1.3	9.6 a-f	86.6 a-h	0.0 b	0.9 h
N05037J	6.15	5.05	1.1	4.7 c-j	86.3 a-i	0.0 b	6.3 d-h
N05024J	6.20	5.15	1.0	10.0 a-d	85.9 a-i	0.0 b	1.0 h
N04074FCT	6.40	5.05	1.4	2.8 h-j	85.8 a-i	1.2 b	7.3 d-h
N03091T	6.20	4.90	1.3	6.7 b-j	85.1 a-i	0.0 b	5.4 e-h
N03089T	6.00	4.85	1.1	8.5 b-g	84.9 a-i	0.0 b	4.0 e-h
N05018	6.00	5.10	0.9	10.2 a-c	84.7 b-i	0.0 b	2.3 f-h
N03088T	6.45	5.05	1.4	5.9 b-j	84.4 c-i	0.0 b	6.8 d-h
N05007	6.15	4.90	1.3	4.3 e-j	83.9 c-i	0.0 b	9.4 c-g
N05056	6.20	5.10	1.1	5.3 c-j	83.8 c-i	0.0 b	8.0 c-h
N05031J	6.35	4.90	1.5	8.3 b-h	83.4 e-i	0.0 b	5.7 d-h
N06032F	6.10	5.05	1.0	4.1 f-j	80.4 g-j	0.0 b	9.8 c-f
N05008	6.20	5.00	1.2	2.4 ij	79.2 h-j	0.0 b	15.6 a-c
N05042F	6.45	5.35	1.1	3.2 g-j	74.0 j	0.0 b	19.9 ab
Mean	**6.26**	**5.06**	**1.2**	**5.9**	**85.8**	**0.1**	**5.4**

[1] This analyses were performed on only Dig I.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

Table 3. Laboratory sample blanching of Extra Large Kernels (ELK) from Martin County, NC, 2008[1].

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Brantley	6.25	5.10	1.1	4.7 e-j[2]	89.9 a	0.0 b	2.1 l-n
NC 12C	6.05	4.90	1.1	7.9 c-j	88.3 ab	0.0 b	0.8 n
CHAMPS	6.30	5.00	1.3	4.2 f-j	88.3 ab	0.0 b	5.2 g-n
Phillips	6.00	5.00	1.0	4.8 d-j	87.3 a-d	0.0 b	4.7 h-n
N03081T (Bailey)	6.30	5.00	1.3	7.9 c-j	87.1 a-e	0.0 b	2.6 k-n
Gregory	6.45	4.95	1.5	5.0 d-j	85.9 a-g	0.0 b	5.9 f-n
Wilson	5.90	4.80	1.1	6.4 d-j	85.9 a-g	0.0 b	4.3 h-n
Perry	6.15	5.15	1.0	8.1 c-j	84.3 a-j	0.0 b	4.8 g-n
Florida Fancy	6.00	5.10	0.9	10.3 b-g	84.1 a-j	0.0 b	2.9 j-n
VA 98R	5.95	4.80	1.1	6.2 d-j	83.1 a-j	0.0 b	8.1 d-n
NC-V 11	6.10	4.85	1.3	11.4 b-d	78.1 h-m	0.0 b	7.7 d-n
Georgia 05E	6.20	5.00	1.2	32.6 a	48.9 n	0.0 b	15.6 a-c
VT 003194	6.10	5.30	0.8	8.6 c-j	86.5 a-f	0.0 b	1.6 mn
VT 003069	6.05	5.05	1.0	6.1 d-j	85.7 a-h	0.0 b	5.4 g-n
VT 024060	6.00	5.15	0.9	3.7 g-j	83.5 a-j	0.0 b	10.4 c-j
VT 024051	6.05	4.80	0.6	4.2 f-j	82.5 a-k	0.0 b	10.4 c-j
VT 023002	6.35	5.15	1.2	3.7 g-j	82.3 a-k	0.0 b	10.5 c-i
VT 004152	6.15	4.95	1.2	6.7 c-j	81.6 b-l	0.0 b	8.9 c-m
VT 9506083-3	6.15	5.05	1.1	8.1 c-j	80.4 c-l	0.0 b	8.4 c-m
VT 024077	5.95	5.05	0.9	5.0 d-j	79.2 f-m	0.0 b	13.1 b-f
VT 003185	6.20	5.05	1.1	11.4 b-e	74.6 lm	0.0 b	11.3 c-h
VT024024	5.95	4.90	0.6	7.4 c-j	72.2 m	0.0 b	19.0 ab
N06029	6.00	4.95	1.0	2.0 j	89.8 a	0.0 b	5.8 f-n
N04054FC	6.65	5.05	1.6	4.3 f-j	88.3 ab	0.2 a	4.9 g-n
N02009	6.05	4.90	1.1	4.9 d-j	87.8 a-c	0.0 b	4.4 h-n
N05031J	6.25	5.05	1.2	5.3 d-j	87.7 a-d	0.0 b	4.0 h-n
N05047	6.10	5.15	0.9	3.2 h-j	87.6 a-d	0.0 b	6.7 e-n
N03005J	6.15	4.95	1.2	4.9 d-j	87.4 a-d	0.0 b	4.3 h-n
N04066CSmT	6.10	4.85	1.3	7.2 c-j	86.9 a-f	0.0 b	3.3 i-n
N05049J	5.90	5.00	0.9	5.2 d-j	86.3 a-f	0.0 b	5.8 f-n
N05037J	6.00	5.05	0.9	4.3 f-j	86.3 a-f	0.0 b	6.5 e-n
N06027	6.40	4.95	1.4	2.8 h-j	85.5 a-i	0.0 b	8.7 c-m
N05007	5.95	5.00	0.9	5.3 d-j	84.5 a-j	0.0 b	7.4 d-n
N03089T	6.20	5.00	1.2	6.2 d-j	84.0 a-j	0.0 b	6.8 e-n
N04071CT	6.10	4.95	1.1	6.5 d-j	83.9 a-j	0.0 b	6.3 e-n
N03091T	5.90	5.00	0.9	7.9 c-j	83.6 a-j	0.0 b	5.8 f-n
N03088T	6.25	5.15	1.1	7.3 c-j	81.6 b-l	0.0 b	8.0 d-n
N05006	6.25	5.15	1.1	5.4 d-j	81.6 b-l	0.0 b	10.0 c-k
N03090T	6.15	4.95	1.2	8.1 c-j	81.3 b-l	0.0 b	7.7 d-n
N05024J	6.00	5.00	1.0	8.8 c-i	81.1 b-l	0.0 b	7.7 d-n
N05018	6.05	4.95	1.1	13.3 bc	80.4 c-l	0.0 b	3.8 h-n
N05008	6.05	5.00	1.0	5.2 d-j	79.9 d-l	0.0 b	12.3 b-g
N06044F	6.15	4.90	1.3	10.9 b-f	79.4 e-m	0.0 b	7.1 e-n
N05056	6.15	5.10	1.0	9.4 b-h	78.4 g-m	0.0 b	9.5 c-l
N06032F	6.15	5.05	1.1	5.9 d-j	77.8 i-m	0.0 b	13.8 a-e
N04042FSmT	5.95	5.10	0.9	15.6 b	77.6 j-m	0.0 b	3.8 h-n
N05042F	6.30	5.15	1.1	7.0 c-j	74.9 k-m	0.0 b	14.8 a-d
N04074FCT	6.25	5.05	1.2	2.3 ij	74.3 lm	0.0 b	20.4 a
Mean	**6.13**	**5.01**	**1.1**	**7.2**	**82.4**	**0**	**7.6**

[1] This analyses were performed on only Dig I.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

Table 4. Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk) VA and Martin County, NC, 2008[1].

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Brantley	6.45	5.15	1.3	4.8 g-m[2]	89.7 a-c	0.1 b	2.4 j-l
CHAMPS	6.32	5.00	1.3	4.3 k-m	89.1 a-e	0.0 b	4.1 f-l
Gregory	6.28	5.00	1.3	4.1 k-m	88.8 a-e	0.1 b	4.2 f-l
NC 12C	6.00	4.95	1.0	7.8 c-k	87.9 a-f	0.0 b	1.3 l
N03081T (Bailey)	6.32	5.05	1.3	8.1 c-k	87.3 a-g	0.0 b	2.2 j-l
Phillips	6.13	5.05	1.1	6.2 e-m	87.1 a-g	0.0 b	3.2 h-l
Florida Fancy	6.00	5.05	0.9	8.9 b-h	85.6 a-j	0.0 b	2.7 j-l
Perry	6.10	5.05	1.0	9.6 b-e	84.6 b-l	0.0 b	3.2 i-l
VA 98R	6.03	4.88	1.1	6.1 e-m	84.2 c-l	0.0 b	7.0 e-k
NC-V 11	6.15	4.90	1.3	9.0 b-g	84.0 d-l	0.0 b	4.2 f-l
Wilson	6.13	4.90	1.2	8.9 b-i	83.8 d-l	0.0 b	4.4 f-l
Georgia 05E	6.13	5.03	1.1	23.6 a	54.4 o	0.0 b	18.9 a
VT 003194	6.10	5.25	0.9	6.2 e-m	89.0 a-e	0.0 b	2.0 kl
VT 003069	6.13	5.03	1.1	4.6 h-m	88.8 a-e	0.0 b	4.2 f-l
VT 024060	6.13	5.20	0.9	3.2 lm	85.9 a-i	2.3 a	8.5 e-i
VT 024077	6.20	5.10	1.1	5.2 f-m	83.8 d-l	0.0 b	8.3 e-i
VT 024051	6.05	4.93	0.8	4.3 k-m	83.7 d-l	0.0 b	9.2 d-f
VT 004152	6.18	4.97	1.2	5.4 e-m	83.0 f-l	0.0 b	8.9 d-g
VT 9506083-3	6.32	5.05	1.3	7.7 c-k	82.3 f-l	0.0 b	6.8 e-l
VT 023002	6.25	5.15	1.1	4.2 k-m	80.6 i-l	0.0 b	12.0 c-e
VT 003185	6.22	5.05	1.2	10.5 b-d	79.1 l-n	0.0 b	7.6 e-j
VT024024	6.07	5.03	0.8	7.6 d-l	75.3 mn	0.0 b	15.2 a-c
N04054FC	6.60	5.18	1.4	4.0 k-m	90.6 a	0.1 b	3.0 i-l
N06029	6.38	4.95	1.4	2.5 m	90.0 ab	0.0 b	5.1 f-l
N05047	6.55	5.10	1.5	2.5 m	89.8 a-c	0.0 b	5.0 f-l
N06027	6.30	5.03	1.2	2.6 m	89.2 a-e	0.0 b	5.3 f-l
N04066CSmT	6.18	4.90	1.3	5.2 f-m	89.2 a-d	0.0 b	3.0 i-l
N03005J	6.18	5.10	1.1	6.0 e-m	87.7 a-f	0.0 b	3.7 g-l
N02009	6.20	4.90	1.3	5.9 e-m	87.6 a-g	0.0 b	3.7 g-l
N05049J	6.07	5.03	1.0	5.6 e-m	87.0 a-g	0.0 b	4.9 f-l
N04071CT	6.28	4.97	1.3	4.4 j-m	86.9 a-g	0.0 b	5.6 f-l
N05037J	6.07	5.05	1.0	4.5 i-m	86.3 a-h	0.0 b	6.4 f-l
N05031J	6.30	4.97	1.3	6.8 d-m	85.6 a-j	0.0 b	4.8 f-l
N03090T	6.22	5.03	1.2	7.2 d-l	84.9 b-k	0.0 b	5.3 f-l
N05006	6.32	5.15	1.2	4.1 k-m	84.6 b-l	0.0 b	8.4 e-i
N03089T	6.10	4.93	1.2	7.3 d-l	84.5 b-l	0.0 b	5.4 f-l
N03091T	6.05	4.95	1.1	7.3 d-l	84.4 b-l	0.0 b	5.6 f-l
N05007	6.05	4.95	1.1	4.8 g-m	84.2 c-l	0.0 b	8.4 e-i
N05024J	6.10	5.07	1.0	9.4 b-f	83.5 e-l	0.0 b	4.3 f-l
N06044F	6.07	4.97	1.1	8.7 b-j	83.1 f-l	0.0 b	5.5 f-l
N03088T	6.35	5.10	1.3	6.6 d-m	83.0 f-l	0.0 b	7.4 e-k
N05018	6.03	5.03	1.0	11.8 bc	82.5 f-l	0.0 b	3.0 i-l
N04042FSmT	6.00	5.07	1.1	12.6 b	82.1 g-l	0.0 b	2.4 j-l
N05056	6.18	5.10	1.1	7.4 d-l	81.1 h-l	0.0 b	8.8 e-h
N04074FCT	6.32	5.05	1.3	2.6 m	80.0 j-m	0.6 b	13.8 b-d
N05008	6.13	5.00	1.1	3.8 k-m	79.6 k-m	0.0 b	13.9 b-d
N06032F	6.13	5.05	1.1	5.0 f-m	79.1 l-n	0.0 b	11.8 c-e
N05042F	6.38	5.25	1.1	5.1 f-m	74.4 n	0.0 b	17.4 ab
Mean	**6.19**	**5.03**	**1.1**	**6.5**	**84.1**	**0.1**	**6.5**

[1] This analyses were performed on only Dig I.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

Table 5. Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk) VA, and Martin County, NC. Two-year averages (2007- 2008)[1].

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Gregory	5.85	4.89	1.0	5.5 ef[2]	88.4 a	0.1 b	3.4 d-h
NC 12C	5.74	4.81	0.9	8.9 b-e	85.6 a-c	0.1 b	2.6 gh
Phillips	5.82	4.93	0.9	8.5 b-e	85.1 a-d	0.1 b	2.9 f-h
Brantley	5.95	5.01	0.9	8.7 b-e	85.0 a-d	0.1 b	3.2 f-h
N03081T (Bailey)	5.94	4.89	1.0	9.5 b-d	84.5 a-d	0.1 b	3.5 d-h
NC-V 11	5.76	4.76	1.0	9.8 bc	84.1 a-d	0.0 b	3.2 e-h
Wilson	5.76	4.75	1.0	9.5 b-d	83.5 a-d	0.0 b	4.1 d-h
Perry	5.76	4.90	0.9	10.2 b	82.5 b-e	0.1 b	4.3 d-h
CHAMPS	5.94	4.91	1.0	7.9 b-f	82.0 b-e	0.1 b	7.2 c-g
VA 98R	5.68	4.81	0.9	8.9 b-e	80.3 c-f	0.1 b	8.0 b-f
VT 024060	5.79	5.01	0.8	5.5 ef	85.7 a-c	1.2 a	6.1 c-h
VT 024077	5.80	5.00	0.8	6.2 c-f	85.5 a-c	0.1 b	5.5 d-h
VT 003194	5.70	5.04	0.7	8.9 b-e	85.0 a-d	0.1 b	3.0 f-h
VT 003069	5.81	4.88	0.9	7.4 b-f	84.8 a-d	0.1 b	5.2 d-h
VT 9506083-3	5.89	4.94	1.0	9.1 b-e	83.0 a-e	0.1 b	5.1 d-h
VT 024051	5.78	4.86	1.8	7.0 b-f	82.6 a-e	0.1 b	7.8 b-g
VT 023002	5.82	4.94	0.9	8.0 b-f	80.4 c-f	0.1 b	8.6 b-d
VT 003185	5.86	4.90	1.0	14.2 a	76.1 f	0.1 b	6.9 c-h
N03005J	5.85	4.95	0.9	7.7 b-f	87.1 ab	0.1 b	2.9 f-h
N03090T	5.84	4.89	1.0	7.8 b-f	85.8 a-c	0.1 b	3.7 d-h
N05049J	5.74	4.85	0.9	7.7 b-f	85.8 a-c	0.1 b	4.3 d-h
N05047	5.99	4.91	1.1	6.2 c-f	85.2 a-c	0.1 b	6.1 c-h
N02009	5.85	4.79	1.1	6.9 b-f	85.1 a-d	0.1 b	5.3 d-h
N03091T	5.74	4.82	0.9	8.3 b-e	84.7 a-d	0.1 b	4.4 d-h
N04071CT	5.86	4.90	1.0	6.7 b-f	84.7 a-d	0.1 b	5.7 c-h
N03088T	5.94	4.93	1.0	7.7 b-f	84.3 a-d	0.1 b	5.2 d-h
N03089T	5.78	4.86	0.9	9.1 b-e	83.7 a-d	0.1 b	4.4 d-h
N05024J	5.76	4.93	0.8	8.1 b-e	83.6 a-d	0.1 b	5.6 c-h
N05006	5.89	4.96	0.9	5.9 d-f	83.0 a-e	0.1 b	8.5 b-e
N04042FSmT	5.72	4.89	0.9	13.4 a	81.8 b-e	0.1 b	1.8 h
N04074FCT	5.88	4.90	1.0	4.3 f	80.1 c-f	0.3 b	12.4 ab
N05056	5.80	4.91	0.9	10.1 b	80.0 c-f	0.1 b	7.3 c-g
N05008	5.74	4.84	0.9	7.4 b-f	79.3 d-f	0.1 b	10.6 a-c
N05042F	5.90	5.01	0.8	6.2 c-f	77.4 ef	0.1 b	13.4 a
Mean	**5.82**	**4.90**	**1.0**	**8.1**	**83.4**	**0.1**	**5.7**

[1] This analyses were performed on only Dig I.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

Table 6. Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk) VA, and Martin County, NC. Three-year averages (2006- 2008)[1].

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Gregory	5.90	4.52	1.7	4.9 fg[2]	87.4 a	0.5 ab	4.4 b-d
N03081T (Bailey)	5.69	4.42	1.7	8.3 b-e	85.8 a-d	0.0 ab	3.1 cd
NC 12C	5.71	4.52	1.6	8.6 b-e	85.4 a-e	0.0 ab	3.1 cd
Phillips	5.75	4.60	1.7	7.6 b-f	83.7 a-f	0.2 ab	5.2 a-d
Brantley	5.85	4.73	1.5	8.3 b-e	83.6 a-f	0.7 ab	4.6 b-d
Perry	5.72	4.50	1.3	9.3 bc	83.4 a-f	0.1 ab	4.5 b-d
NC-V 11	5.74	4.55	1.6	8.4 b-e	83.2 b-f	0.0 b	5.6 a-d
CHAMPS	5.87	4.58	1.5	7.0 c-f	83.0 b-f	0.1 ab	7.2 ab
VA 98R	5.79	4.35	1.4	8.5 b-e	81.7 d-f	0.0 ab	7.2 ab
Wilson	5.76	4.47	1.7	10.1 b	81.1 ef	0.5 ab	5.3 a-d
VT 024060	5.70	4.63	1.4	3.7 g	86.2 ab	0.8 a	7.6 ab
VT 024077	5.61	4.45	1.5	5.8 e-g	85.1 a-e	0.0 ab	6.1 a-d
VT 003194	5.57	4.51	1.5	9.1 bc	84.9 a-e	0.1 ab	3.0 cd
VT 003069	5.82	4.59	1.4	7.2 c-f	84.3 a-e	0.0 ab	5.9 a-d
VT 024051	5.57	4.33	1.5	7.5 b-f	82.2 b-f	0.4 ab	7.0 ab
VT 023002	5.74	4.48	1.6	6.7 c-f	81.9 b-f	0.0 ab	8.7 a
N03005J	5.63	4.43	1.6	8.7 b-e	86.0 a-c	0.0 ab	2.5 d
N02009	5.73	4.49	1.5	6.1 d-g	85.4 a-e	0.1 ab	5.8 a-d
N03089T	5.66	4.37	1.5	7.8 b-e	84.1 a-e	0.0 ab	5.4 a-d
N03088T	5.69	4.41	1.4	8.7 b-d	82.8 b-f	0.0 ab	5.7 a-d
N03090T	5.67	4.43	1.6	8.2 b-e	82.8 b-f	0.0 ab	6.4 a-c
N03091T	5.63	4.52	1.5	6.7 c-f	81.8 c-f	0.4 ab	8.8 a
N04042FSmT	5.51	4.38	1.6	13.4 a	79.6 f	0.0 ab	4.0 b-d
Mean	**5.71**	**4.49**	**1.5**	**7.8**	**83.7**	**0.2**	**5.5**

[1] This analyses were performed on only Dig I.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

Table 7. Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk) VA, 2008[1].

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
N03081T (Bailey)	6.05	5.10	0.9	9.0 c-j[2]	80.8 ab	0.0 b	7.2 kl
CHAMPS	5.90	4.95	0.9	11.2 c-j	76.0 a-d	0.0 b	10.0 g-l
Brantley	6.00	5.05	0.9	9.5 c-j	75.8 a-d	0.4 ab	10.9 e-l
Florida Fancy	5.65	4.85	0.8	17.5 a-c	75.4 a-e	0.0 b	4.0 l
Wilson	6.00	5.05	0.9	9.6 c-j	73.5 a-e	0.3 ab	14.1 c-l
Perry	6.15	5.10	1.0	10.8 c-j	72.7 a-e	0.0 b	13.4 c-l
Gregory	6.05	4.95	1.1	9.0 c-j	70.3 a-e	0.3 ab	17.9 b-j
NC-V 11	6.20	5.15	1.0	10.9 c-j	70.1 a-e	0.0 b	16.1 c-k
VA 98R	6.05	5.00	1.0	7.8 d-j	69.9 a-e	0.3 ab	19.2 b-h
NC 12C	6.20	5.10	1.1	14.3 a-f	69.8 a-e	0.5 ab	12.5 d-l
Phillips	6.10	5.20	0.9	12.4 b-i	67.6 c-e	0.2 ab	16.5 b-k
Georgia 05E	5.65	5.00	0.6	20.0 ab	44.2 f	0.0 b	31.8 a
VT 024077	5.85	4.95	0.9	5.5 f-j	76.2 a-d	0.0 b	15.4 c-k
VT 003194	5.95	5.00	0.9	11.9 b-j	74.7 a-e	0.0 b	10.3 f-l
VT024024	5.75	4.95	0.8	8.8 c-j	74.1 a-e	0.0 b	14.1 c-l
VT 003069	6.00	5.05	0.9	10.5 c-j	72.8 a-e	0.0 b	14.1 c-l
VT 004152	5.75	5.10	0.6	5.9 f-j	72.8 a-e	0.3 ab	17.9 b-j
VT 003185	5.75	4.90	0.9	13.8 b-f	68.7 b-e	0.5 ab	14.5 c-k
VT 9506083-3	5.90	5.00	0.9	12.6 b-h	68.0 c-e	0.3 ab	16.0 c-k
VT 024060	6.00	5.10	0.9	6.2 f-j	67.9 c-e	0.5 ab	22.6 a-d
VT 024051	6.00	4.95	1.0	3.3 j	67.2 c-e	0.0 b	26.9 ab
VT 023002	6.00	4.95	1.0	12.1 b-j	63.8 de	0.2 ab	19.6 b-g
N06029	5.65	4.85	0.8	4.8 g-j	82.3 a	0.7 ab	9.1 h-l
N05047	6.05	5.00	1.0	6.6 e-j	77.4 a-c	0.4 ab	12.4 d-l
N04066CSmT	5.90	5.10	0.8	4.8 g-j	76.6 a-c	0.3 ab	15.4 c-k
N06044F	5.80	5.00	0.8	13.3 b-g	76.3 a-d	0.0 b	7.2 kl
N03090T	5.95	4.85	1.1	13.0 b-h	76.2 a-d	0.0 b	8.1 i-l
N06032F	5.75	4.90	0.9	7.9 d-j	75.4 a-e	0.0 b	13.6 c-l
N06027	5.70	4.95	0.8	6.7 e-j	75.3 a-e	0.5 ab	13.9 c-l
N05042F	5.95	5.10	0.9	3.5 ij	75.1 a-e	0.0 b	18.5 b-i
N03005J	6.15	5.05	1.1	15.4 a-e	74.8 a-e	0.0 b	7.1 kl
N02009	6.00	5.15	0.9	12.3 b-i	74.7 a-e	0.0 b	9.4 g-l
N05024J	5.85	5.10	0.8	10.2 c-j	74.3 a-e	0.0 b	12.1 e-l
N05006	6.15	5.00	1.1	4.6 g-j	73.3 a-e	0.0 b	19.3 b-h
N05037J	5.85	5.05	0.8	10.1 c-j	73.1 a-e	0.5 ab	13.1 d-l
N05018	5.85	5.05	0.8	15.3 a-e	72.9 a-e	0.3 ab	8.3 i-l
N04071CT	5.95	5.05	0.9	7.4 e-j	72.8 a-e	0.1 ab	17.0 b-k
N04054FC	5.90	5.05	0.9	8.1 d-j	72.5 a-e	0.0 b	16.9 b-k
N03089T	5.80	4.90	0.9	9.0 c-j	72.2 a-e	0.5 ab	15.9 c-k
N03091T	5.75	5.05	0.7	6.2 f-j	72.2 a-e	0.9 a	17.7 b-j
N03088T	6.25	5.20	1.0	7.6 e-j	70.4 a-e	0.0 b	19.4 b-h
N04074FCT	6.05	5.10	0.9	6.6 e-j	69.3 b-e	0.0 b	20.6 b-f
N05007	5.75	4.85	0.9	4.2 h-j	68.9 b-e	0.0 b	23.8 a-c
N05031J	5.85	4.90	0.9	15.1 a-e	68.4 b-e	0.6 ab	12.8 d-l
N04042FSmT	6.05	4.90	1.1	22.4 a	67.1 c-e	0.0 b	7.7 j-l
N05049J	5.95	4.85	1.1	16.5 a-d	66.8 c-e	0.3 ab	13.3 c-l
N05056	6.15	5.15	1.0	10.7 c-j	65.2 c-e	0.0 b	20.9 b-e
N05008	6.05	5.05	1.0	6.9 e-j	62.9 e	0.0 b	26.8 ab
Mean	**5.94**	**5.01**	**0.9**	**10**	**71.6**	**0.2**	**15.1**

[1] This analyses were performed on only Dig I.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

Table 8. Laboratory sample blanching of Medium Kernels from Martin County, NC, 2008[1].

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
N03081T (Bailey)	5.95	5.05	0.9	9.3 g-i[2]	72.9 a	0.0 d	15.4 c-h
Perry	5.95	4.90	1.0	17.1 a-h	72.3 ab	0.9 b-d	9.2 h
CHAMPS	6.15	5.00	1.1	15.8 b-h	71.3 a-c	0.3 d	12.4 f-h
Gregory	5.85	4.90	0.4	14.7 b-h	69.7 a-d	1.8 a-d	13.3 f-h
NC 12C	5.80	5.05	0.8	15.3 b-h	67.2 a-e	0.3 d	15.9 c-h
Wilson	5.75	4.95	0.8	19.9 a-f	67.2 a-e	1.1 b-d	11.1 gh
NC-V 11	5.85	4.95	0.9	18.7 a-g	66.7 a-e	1.3 b-d	13.3 f-h
VA 98R	6.05	5.00	1.0	14.5 b-h	64.9 a-f	0.9 b-d	19.4 a-h
Phillips	5.85	5.00	0.9	20.0 a-f	64.9 a-f	0.2 d	14.1 e-h
Florida Fancy	5.70	4.95	0.8	21.0 a-c	62.2 a-g	2.0 a-d	14.6 d-h
Brantley	5.85	5.00	0.9	20.3 a-e	60.4 a-g	2.3 a-d	16.4 b-h
Georgia 05E	5.70	4.90	0.8	26.0 a	38.2 h	3.0 a-d	32.3 ab
VT 004152	5.85	4.90	0.9	8.4 hi	72.2 ab	0.9 b-d	19.0 a-h
VT 003194	5.80	4.90	0.9	15.7 b-h	69.8 a-d	0.0 d	13.3 f-h
VT 024051	5.80	4.90	0.9	13.0 c-i	65.9 a-e	0.0 d	20.4 a-h
VT 024077	5.75	4.75	1.0	17.1 a-h	61.1 a-g	0.4 cd	20.0 a-h
VT 023002	5.70	4.80	0.9	12.0 c-i	57.9 a-g	1.0 b-d	28.1 a-f
VT 003069	6.10	5.05	1.0	14.3 c-h	55.5 d-g	0.9 b-d	27.1 a-g
VT 024060	5.90	4.95	0.9	10.5 f-i	50.1 f-h	5.6 a	34.2 a
VT024024	5.85	4.90	0.9	15.6 b-h	49.3 gh	2.7 a-d	33.4 a
VT 003185	5.85	5.00	0.9	17.1 a-h	48.8 gh	3.0 a-d	30.0 a-e
VT 9506083-3	6.00	5.00	1.0	14.6 b-h	48.7 gh	4.8 ab	30.8 a-d
N04071CT	5.80	4.80	1.0	11.4 d-i	72.4 ab	2.2 a-d	14.8 d-h
N05007	5.85	5.00	0.9	12.0 c-i	70.1 a-d	0.6 cd	16.6 b-h
N06029	5.65	4.80	0.9	12.4 c-i	70.1 a-d	1.6 b-d	15.1 d-h
N05031J	5.70	4.85	0.9	14.9 b-h	66.4 a-e	2.1 a-d	15.9 c-h
N06044F	5.70	4.85	0.9	16.4 b-h	65.7 a-f	1.0 b-d	16.8 b-h
N05018	5.85	4.85	1.0	24.0 ab	65.4 a-f	0.0 d	9.4 h
N02009	5.90	5.00	0.9	11.3 e-i	65.1 a-f	2.4 a-d	20.7 a-h
N05037J	5.75	4.85	0.9	14.1 c-h	65.1 a-f	3.3 a-d	17.0 b-h
N04066CSmT	5.85	4.90	0.9	12.4 c-i	63.8 a-g	1.7 a-d	20.5 a-h
N03089T	5.80	5.00	0.8	13.8 c-h	63.2 a-g	1.4 b-d	21.0 a-h
N04054FC	5.85	5.00	0.9	8.5 hi	62.8 a-g	2.0 a-d	27.3 a-g
N03088T	5.95	5.05	0.9	14.2 c-h	61.3 a-g	3.2 a-d	20.6 a-h
N05047	5.80	4.95	0.9	10.7 e-i	60.3 a-g	2.6 a-d	26.6 a-g
N03005J	5.90	6.60	0.8	16.0 b-h	60.0 a-g	1.7 a-d	21.5 a-h
N03091T	5.85	4.75	1.1	18.0 a-h	59.0 a-g	1.2 b-d	20.1 a-h
N05056	5.90	4.95	0.9	13.9 c-h	59.0 a-g	0.6 cd	25.0 a-h
N04042FSmT	5.60	4.95	0.6	21.4 a-c	58.8 a-g	0.0 d	18.2 a-h
N05006	6.00	4.95	1.0	8.6 hi	58.8 a-g	1.0 b-d	30.5 a-d
N06032F	5.80	4.75	1.0	12.7 c-i	58.7 a-g	0.0 d	27.8 a-f
N05008	5.90	4.45	1.0	12.9 c-i	58.3 a-g	2.0 a-d	28.2 a-f
N04074FCT	5.95	5.00	0.9	4.1 i	57.4 a-g	1.5 b-d	33.7 a
N03090T	6.05	4.95	1.1	17.0 a-h	57.3 b-g	1.7 a-d	22.7 a-h
N05042F	5.85	5.00	0.9	9.3 g-i	57.3 b-g	1.4 b-d	31.7 a-c
N06027	5.65	4.85	0.8	8.9 hi	56.3 c-g	3.5 a-d	30.8 a-d
N05049J	6.00	5.05	0.9	11.1 e-i	54.8 d-g	4.3 a-c	28.5 a-f
N05024J	5.80	4.85	0.9	21.0 a-d	53.4 e-g	0.6 cd	23.5 a-h
Mean	**5.85**	**4.95**	**0.9**	**14.6**	**61.6**	**1.6**	**21.4**

[1] This analyses were performed on only Dig I.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

Table 9. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk) VA and Martin County, NC, 2008[1].

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
N03081T (Bailey)	6.00	5.07	0.9	9.1 f-m[2]	76.9 a	0.0 d	11.3 k-n
CHAMPS	6.03	4.97	1.0	13.5 c-k	73.7 a-c	0.1 d	11.2 l-n
Perry	6.05	5.00	1.0	13.9 c-j	72.4 a-d	0.5 cd	11.3 k-n
Wilson	5.88	5.00	0.9	14.8 c-i	70.3 a-f	0.7 b-d	12.6 j-n
Gregory	5.95	4.93	0.8	11.9 d-m	70.0 a-f	1.0 b-d	15.6 e-n
Florida Fancy	5.68	4.90	0.8	19.3 a-c	68.8 a-g	1.0 b-d	9.3 mn
NC 12C	6.00	5.07	0.9	14.8 c-i	68.5 a-g	0.4 cd	14.2 g-n
NC-V 11	6.03	5.05	1.0	14.8 c-i	68.4 a-g	0.6 b-d	14.7 g-n
Brantley	5.93	5.03	0.9	14.9 c-h	68.1 a-h	1.4 a-d	13.6 h-n
VA 98R	6.05	5.00	1.0	11.1 d-m	67.4 a-h	0.6 b-d	19.3 b-l
Phillips	5.97	5.10	0.9	16.1 b-d	66.3 b-h	0.2 d	15.3 f-n
Georgia 05E	5.68	4.95	0.7	23.0 a	41.2 i	1.5 a-d	32.0 a
VT 004152	5.80	5.00	0.8	7.2 k-m	72.5 a-d	0.6 b-d	18.5 c-n
VT 003194	5.88	4.95	0.9	13.8 c-j	72.2 a-d	0.0 d	11.8 k-n
VT 024077	5.80	4.85	0.9	11.3 d-m	68.6 a-g	0.2 d	17.7 d-n
VT 024051	5.90	4.93	1.0	8.2 j-m	66.6 b-h	0.0 d	23.6 a-g
VT 003069	6.05	5.05	1.0	12.4 d-l	64.2 c-h	0.4 cd	20.6 b-l
VT024024	5.80	4.93	0.9	12.1 d-l	61.7 e-h	1.3 a-d	23.8 a-g
VT 023002	5.85	4.88	1.0	12.0 d-l	60.8 f-h	0.6 b-d	23.9 a-g
VT 024060	5.95	5.03	0.9	8.4 h-m	59.0 gh	3.0 a	28.4 ab
VT 003185	5.80	4.95	0.9	15.4 c-f	58.8 gh	1.7 a-d	22.3 b-i
VT 9506083-3	5.95	5.00	0.9	13.6 c-k	58.3 h	2.5 ab	23.4 a-g
N06029	5.65	4.82	0.8	8.6 g-m	76.2 ab	1.1 a-d	12.1 k-n
N04071CT	5.88	4.93	0.9	9.4 e-m	72.6 a-d	1.1 a-d	15.9 e-n
N06044F	5.75	4.93	0.8	14.8 c-i	70.9 a-e	0.5 b-d	12.0 k-n
N04066CSmT	5.88	5.00	0.9	8.6 g-m	70.2 a-f	1.0 b-d	17.9 c-n
N02009	5.95	5.07	0.9	11.8 d-m	69.9 a-f	1.2 a-d	15.1 g-n
N05007	5.80	4.93	0.9	8.1 j-m	69.5 a-f	0.3 cd	20.2 b-l
N05018	5.85	4.95	0.9	19.6 a-c	69.2 a-f	0.2 d	8.8 n
N05037J	5.80	4.95	0.9	12.1 d-l	69.1 a-f	1.9 a-d	15.1 g-n
N05047	5.93	4.97	0.9	8.6 g-m	68.8 a-g	1.5 a-d	19.5 b-l
N03089T	5.80	4.95	0.9	11.4 d-m	67.7 a-h	0.9 b-d	18.5 c-n
N04054FC	5.88	5.03	0.9	8.3 i-m	67.7 a-h	1.0 b-d	22.1 b-j
N03005J	6.03	5.82	0.9	15.8 c-e	67.4 a-h	0.9 b-d	14.3 g-n
N05031J	5.78	4.88	0.9	15.0 c-g	67.4 a-h	1.4 a-d	14.3 g-n
N06032F	5.78	4.82	0.9	10.3 d-m	67.1 a-h	0.0 d	20.7 b-l
N03090T	6.00	4.90	1.1	15.0 c-g	66.7 b-h	0.9 b-d	15.4 f-n
N05042F	5.90	5.05	0.9	6.4 lm	66.2 b-h	0.7 b-d	25.1 a-e
N05006	6.07	4.97	1.1	6.6 lm	66.1 c-h	0.5 b-d	24.9 a-f
N03088T	6.10	5.13	1.0	10.9 d-m	65.9 c-h	1.6 a-d	20.0 b-l
N06027	5.68	4.90	0.8	7.8 j-m	65.8 c-h	2.0 a-d	22.4 b-i
N03091T	5.80	4.90	0.9	12.1 d-l	65.6 c-h	1.0 a-d	18.9 b-m
N05024J	5.82	4.97	0.9	15.6 c-f	63.8 c-h	0.3 cd	17.8 d-n
N04074FCT	6.00	5.05	0.9	5.3 m	63.3 d-h	0.8 b-d	27.1 a-d
N04042FSmT	5.82	4.93	0.9	21.9 ab	63.0 d-h	0.0 d	12.9 i-n
N05056	6.03	5.05	1.0	12.3 d-l	62.1 e-h	0.3 cd	22.9 a-h
N05049J	5.97	4.95	1.0	13.9 c-j	60.8 f-h	2.3 a-c	20.9 b-k
N05008	5.97	4.75	1.0	9.9 d-m	60.6 f-h	1.0 b-d	27.5 a-c
Mean	**5.89**	**4.98**	**0.9**	**12.3**	**66.6**	**0.9**	**18.3**

[1] This analyses were performed on only Dig I.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

Table 10. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk) VA, and Martin County, NC. Two-year averages (2007- 2008)[1].

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
N03081T (Bailey)	5.84	4.97	0.9	11.2 d-i[2]	76.9 a	0.4 d	8.9 m
Gregory	5.79	4.91	0.8	12.3 b-h	71.5 a-d	0.9 b-d	13.3 f-m
CHAMPS	5.79	4.89	0.9	12.3 b-h	70.8 a-e	0.2 d	14.5 e-m
Perry	5.79	4.86	0.9	16.8 a-c	70.6 a-e	0.3 d	9.9 lm
Wilson	5.76	4.91	0.9	14.4 b-f	70.4 a-f	0.8 b-d	11.9 h-m
Brantley	5.78	4.91	0.9	15.0 b-e	68.8 b-g	1.7 b-d	11.7 i-m
Phillips	5.79	5.04	0.8	12.3 b-h	68.1 b-h	0.9 b-d	16.2 d-l
VA 98R	5.81	4.94	0.9	11.6 d-i	67.6 b-i	0.8 b-d	17.6 b-j
NC-V 11	5.81	4.95	0.9	15.6 a-d	67.1 b-j	0.6 b-d	14.6 e-m
NC 12C	5.80	4.96	0.8	17.3 ab	65.6 c-j	0.8 b-d	13.5 f-m
VT 003194	5.69	4.93	0.8	13.7 b-g	72.6 a-c	0.6 b-d	10.4 j-m
VT 024077	5.68	4.85	0.8	9.6 f-j	67.7 b-i	1.1 b-d	19.2 a-h
VT 003069	5.84	5.00	0.8	11.9 c-i	66.4 b-j	0.8 b-d	18.4 a-i
VT 003185	5.66	4.91	0.8	17.0 ab	63.8 e-j	1.1 b-d	15.6 d-m
VT 024060	5.75	5.00	0.8	7.0 ij	63.0 f-j	3.7 a	24.3 a-c
VT 024051	5.71	4.90	0.8	9.8 f-j	62.1 g-j	1.0 b-d	24.7 ab
VT 023002	5.69	4.84	0.9	13.6 b-g	61.1 h-j	1.3 b-d	21.1 a-e
VT 9506083-3	5.75	5.00	0.8	14.4 b-f	60.3 j	2.4 ab	20.2 a-f
N05047	5.78	4.86	0.9	10.3 e-j	73.6 ab	1.0 b-d	12.8 g-m
N02009	5.76	4.94	0.8	10.0 e-j	72.5 a-c	1.3 b-d	13.5 f-m
N04071CT	5.75	4.95	0.8	9.1 g-j	70.4 a-e	1.4 b-d	17.3 c-k
N03090T	5.75	4.89	0.9	12.5 b-h	70.2 a-f	1.2 b-d	13.6 f-m
N03005J	5.82	5.34	0.9	16.1 a-d	69.9 a-f	1.0 b-d	10.5 j-m
N03089T	5.66	4.90	0.8	10.2 e-j	69.0 b-g	0.9 b-d	17.5 b-j
N05006	5.91	4.94	1.0	7.8 h-j	68.8 b-g	0.6 b-d	20.5 a-f
N03088T	5.82	5.01	0.8	9.8 f-j	68.7 b-g	1.4 b-d	18.1 a-i
N05042F	5.76	5.00	0.8	9.1 g-j	67.9 b-i	0.5 cd	20.4 a-f
N04042FSmT	5.66	4.88	0.8	20.4 a	66.7 b-j	0.3 d	10.1 k-m
N03091T	5.65	4.90	0.7	9.9 e-j	65.8 c-j	2.3 a-c	19.4 a-g
N04074FCT	5.85	5.01	0.8	6.1 j	64.7 d-j	1.1 b-d	25.0 a
N05008	5.79	4.84	0.8	10.5 e-j	63.5 e-j	1.5 b-d	22.7 a-d
N05049J	5.75	4.90	0.9	15.7 a-d	63.5 e-j	1.7 b-d	16.4 d-l
N05056	5.81	4.97	0.8	13.3 b-g	63.0 f-j	0.6 b-d	20.4 a-f
N05024J	5.70	4.91	0.8	16.8 a-c	60.7 ij	1.1 b-d	18.9 a-i
Mean	**5.76**	**4.94**	**0.8**	**12.5**	**67.4**	**1.1**	**16.6**

[1] This analyses were performed on only Dig I.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

Table 11. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk), VA and Martin County, NC. Three-year averages (2006- 2008)[1].

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
N03081T (Bailey)	5.80	4.50	1.4	11.3 b-f[2]	73.6 a	3.1 cd	9.3 g
CHAMPS	5.83	4.58	1.5	10.4 c-f	69.5 a-d	2.3 d	16.2 b-f
Gregory	5.80	4.48	1.5	10.6 b-f	68.7 a-e	4.0 a-d	14.4 c-g
Wilson	5.79	4.46	1.6	12.4 b-d	68.5 a-e	2.7 cd	13.8 c-g
Perry	5.76	4.48	1.5	13.3 bc	68.4 a-e	3.9 a-d	11.9 e-g
NC-V 11	5.80	4.46	1.6	12.9 bc	68.2 a-e	2.6 cd	13.9 c-g
Phillips	5.81	4.53	1.4	10.3 c-f	67.5 b-f	2.6 cd	17.1 b-e
VA 98R	5.87	4.51	1.6	10.2 c-f	66.1 c-f	3.0 cd	18.1 bc
Brantley	5.82	4.52	1.4	12.2 b-e	65.3 d-f	5.1 a-c	14.7 c-g
NC 12C	5.86	4.59	1.6	13.9 b	63.3 ef	5.7 ab	14.2 c-g
VT 003194	5.65	4.57	1.0	11.8 b-f	72.5 ab	2.8 cd	10.6 fg
VT 024077	5.63	4.36	1.4	8.9 e-g	67.8 a-e	3.1 cd	17.8 b-d
VT 003069	5.77	4.54	1.2	10.3 c-f	66.2 c-f	2.8 cd	18.3 bc
VT 024060	5.70	4.46	1.0	6.3 g	64.0 d-f	6.2 a	21.6 ab
VT 023002	5.66	4.35	1.3	12.5 b-d	62.6 ef	2.8 cd	19.4 a-c
VT 024051	5.74	4.46	1.3	9.3 d-g	61.6 f	3.0 cd	23.8 a
N02009	5.72	4.41	1.3	9.2 d-g	71.7 a-c	2.9 cd	13.7 c-g
N03005J	5.79	4.81	1.4	13.6 bc	70.1 a-d	2.4 d	11.6 e-g
N03090T	5.70	4.38	1.4	11.6 b-f	69.9 a-d	2.4 d	13.6 c-g
N03091T	5.68	4.47	1.1	8.7 fg	67.7 a-e	3.6 b-d	17.7 b-d
N03088T	5.73	4.49	1.5	9.1 d-g	66.6 b-f	4.1 a-d	17.8 b-d
N03089T	5.63	4.43	1.5	8.8 e-g	66.5 b-f	3.6 b-d	18.6 bc
N04042FSmT	5.59	4.41	1.3	17.2 a	65.6 d-f	2.6 cd	12.1 d-g
Mean	**5.75**	**4.49**	**1.4**	**11.1**	**67.5**	**3.4**	**15.6**

[1] This analyses were performed on only Dig I.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

Table 12. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Tidewater AREC (Suffolk), VA Dig I, 2008[1].

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Georgia 05E	5.97m[2]	3.09 b-f	77.79 a	4.51 u	1.58 a	1.90 a
Florida Fancy	6.28 lm	2.54 j-s	78.31 a	5.76 u	1.29 i-p	1.69 b
Brantley	7.63 jk	3.61 a	66.57 b	15.85 t	1.52 ab	1.23 d-i
Wilson	8.94 hi	3.02 b-g	53.80 c-f	27.83 o-s	1.41 c-e	1.15 g-n
Gregory	9.27 g-i	2.93 c-j	53.18 d-h	28.31 n-r	1.37 e-h	1.15 g-n
NC 12C	9.76 b-h	3.36 ab	51.15 h-m	29.60 i-p	1.48 bc	0.97 p
CHAMPS	9.75 c-h	2.63 g-s	51.22 g-m	29.83 h-p	1.30 g-n	1.25 c-g
N03081T (Bailey)	9.66 c-h	2.40 l-s	49.62 k-p	31.83 d-i	1.25 k-s	1.25 c-g
Perry	9.88 b-h	2.76 e-n	48.97 m-p	31.95 d-h	1.34 f-j	1.13 h-n
Phillips	9.85 b-h	2.51 k-s	49.01 m-p	32.18 c-g	1.24 l-t	1.23 d-i
VA 98R	10.51 a-e	2.43 l-s	47.92 o-q	33.26 a-d	1.15 v	1.15 g-n
NC-V 11	10.42 a-f	2.30 rs	47.72 pq	33.24 a-d	1.16 t-v	1.22 d-i
VT 9506083-3	8.45 ij	3.27 a-c	55.89 c	25.99 s	1.45 b-d	1.21 d-j
VT 003194	8.94 hi	3.16 b-d	55.10 cd	26.38 rs	1.50 b	1.10 k-o
VT 023002	6.95 kl	2.37 n-s	52.51 e-j	31.24 d-l	1.38 e-h	1.13 h-n
VT 003185	9.68 c-h	2.80 d-l	50.92 h-n	30.42 f-n	1.32 g-k	1.13 i-n
VT 024051	10.13 a-g	3.14 b-e	50.29 i-o	30.39 f-n	1.38 e-h	1.00 op
VT024024	9.75 c-h	2.69 g-q	50.01 k-p	31.22 d-l	1.32 g-k	1.16 f-m
VT 004152	9.82 b-h	3.10 b-f	49.57 k-p	31.01 d-m	1.47 bc	1.05 n-p
VT 024077	9.88 b-h	2.66 g-r	48.99 m-p	32.32 c-f	1.29 i-p	1.08 l-o
VT 024060	10.22 a-g	2.55 j-s	48.72 n-p	32.31 c-f	1.26 j-r	1.14 g-n
VT 003069	10.63 a-d	2.61 h-s	47.95 o-q	33.04 a-e	1.22 p-v	1.07 m-p
N06044F	9.64 d-h	2.86 d-k	54.54 c-e	26.92 q-s	1.38 e-h	1.08 l-o
N05056	9.97 a-h	2.99 b-h	53.51 d-g	27.70 p-s	1.38 e-g	1.00 op
N04071CT	9.80 b-h	2.47 k-s	52.67 e-i	28.32 n-r	1.27 i-q	1.33 c
N05047	10.08 a-g	2.53 k-s	52.44 e-j	28.84 m-q	1.23 o-v	1.18 e-l
N02009	9.52 d-h	2.74 f-o	52.55 e-j	29.07 l-p	1.32 g-l	1.15 g-n
N06027	10.30 a-g	2.60 h-s	51.76 f-k	29.39 k-p	1.23 o-v	1.12 i-n
N06029	9.89 b-h	2.39 m-s	51.76 f-k	29.54 j-p	1.23 n-v	1.26 c-f
N04066CSmT	10.05 a-h	2.77 e-m	50.80 i-n	29.98 g-o	1.30 g-n	1.18 e-l
N05018	9.31 f-i	2.58 j-s	51.42 g-l	30.36 f-n	1.26 j-r	1.21 d-i
N05042F	9.74 c-h	2.36 o-s	50.68 i-n	30.89 e-m	1.22 p-v	1.23 d-i
N03089T	9.48 e-h	2.27 rs	50.88 h-n	31.26 d-l	1.17 s-v	1.24 c-h
N04042FSmT	9.63 d-h	2.63 g-s	50.43 i-n	31.02 d-m	1.30 h-o	1.15 g-n
N05049J	10.04 a-h	2.60 i-s	50.24 j-o	30.77 e-m	1.28 i-q	1.19 e-k
N03005J	9.63 d-h	2.57 j-s	50.06 k-p	31.30 d-l	1.31 g-m	1.18 e-l
N03090T	9.62 d-h	2.27 s	50.47 i-n	31.55 d-k	1.19 r-v	1.17 f-l
N03091T	9.65 d-h	2.30 q-s	50.40 i-n	31.50 d-k	1.21 q-v	1.17 f-l
N05031J	9.99 a-h	2.98 b-i	49.58 k-p	31.17 d-l	1.40 d-f	1.10 j-o
N05037J	9.58 d-h	2.63 g-s	49.72 k-p	31.24 d-l	1.31 g-m	1.29 cd
N06032F	10.17 a-g	2.34 p-s	49.60 k-p	31.67 d-j	1.16 uv	1.21 d-i
N04074FCT	9.63 d-h	2.53 k-s	49.38 k-p	31.84 d-i	1.24 m-u	1.29 c-e
N05024J	10.19 a-g	2.72 f-p	49.13 l-p	31.72 d-j	1.30 g-n	1.13 i-n
N03088T	9.59 d-h	2.30 q-s	49.47 k-p	32.51 b-f	1.18 r-v	1.21 d-i
N04054FC	9.85 b-h	2.77 e-n	48.56 n-p	32.21 c-g	1.34 f-i	1.18 e-l
N05007	10.77 a-c	2.60 h-s	46.33 qr	34.18 a-c	1.25 k-s	1.08 l-o
N05008	10.88 ab	2.63 g-s	45.90 qr	34.57 ab	1.25 k-s	1.09 k-o
N05006	11.02 a	2.37 n-s	45.39 r	35.04 a	1.15 v	1.22 d-i
MEAN	**9.59**	**2.68**	**51.93**	**29.44**	**1.3**	**1.19**
CV (%)	**4.7**	**6.1**	**1.9**	**3.1**	**2.4**	**3.6**

Table 12. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Tidewater AREC (Suffolk), VA Dig I, 2008 (cont.).

Variety or Line	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	% Total Saturated	P/S Ratio	% Total Long Chain Saturated
Georgia 05E	3.72 a	1.46 ab	76.21 r	17.86 a	15.80 gh	0.28 l	6.76 a
Florida Fancy	2.70 b-g	1.43 a-d	78.65 q	13.81 b	14.24 i	0.40 l	5.43 c-e
Brantley	2.46 h-m	1.14 o-q	85.66 p	4.39 c	16.36 fg	0.96 k	5.12 d-l
Wilson	2.59 c-k	1.25 e-o	95.39 l-o	1.93 d	17.22 a-f	1.62 e-j	5.26 c-j
Gregory	2.49 e-l	1.29 e-n	95.68 k-o	1.88 d	17.35 a-f	1.63 d-j	5.15 d-l
NC 12C	2.52 d-k	1.14 o-q	96.04 i-o	1.73 d	18.27 a-c	1.62 e-j	5.14 d-l
CHAMPS	2.64 c-i	1.37 b-i	96.72 f-n	1.72 d	17.68 a-f	1.69 b-j	5.32 c-h
N03081T (Bailey)	2.64 c-i	1.37 b-j	98.77 a-g	1.56 d	17.31 a-f	1.84 b-f	5.25 c-k
Perry	2.63 c-j	1.34 b-k	98.36 a-j	1.53 d	17.94 a-e	1.78 b-i	5.30 c-i
Phillips	2.63 c-j	1.35 b-k	98.86 a-g	1.52 d	17.58 a-f	1.83 b-f	5.22 c-k
VA 98R	2.28 lm	1.29 d-n	99.74 a-d	1.44 d	17.66 a-f	1.88 b-d	4.72 mn
NC-V 11	2.51 e-l	1.44 a-c	99.57 a-e	1.43 d	17.83 a-e	1.87 b-f	5.11 d-l
VT 9506083-3	2.48 f-m	1.25 e-o	94.04 o	2.16 d	16.91 d-g	1.53 ij	5.19 c-l
VT 003194	2.65 c-h	1.17 n-q	93.93 o	2.09 d	17.43 a-f	1.51 j	5.33 c-g
VT 023002	2.89 b	1.54 a	100.15 ab	1.68 d	15.13 hi	2.14 a	5.80 b
VT 003185	2.53 c-k	1.21 k-p	97.37 d-l	1.67 d	17.53 a-f	1.74 b-j	5.07 e-n
VT 024051	2.41 i-m	1.26 e-o	96.68 f-n	1.65 d	18.32 ab	1.66 c-j	5.05 e-n
VT024024	2.53 c-k	1.31 c-n	98.00 b-k	1.61 d	17.61 a-f	1.77 b-j	5.16 c-l
VT 004152	2.74 b-d	1.23 i-o	97.17 e-m	1.60 d	18.37 a	1.68 b-j	5.45 cd
VT 024077	2.49 e-l	1.29 e-n	98.96 a-f	1.51 d	17.61 a-f	1.84 b-f	5.07 d-n
VT 024060	2.47 h-m	1.34 b-k	98.76 a-h	1.50 d	17.83 a-e	1.81 b-g	5.07 d-n
VT 003069	2.26 m	1.22 k-p	99.32 a-e	1.45 d	17.93 a-e	1.84 b-f	4.70 n
N06044F	2.48 f-m	1.09 pq	94.40 no	2.03 d	17.45 a-f	1.54 h-j	4.95 g-n
N05056	2.38 k-m	1.06 q	94.79 m-o	1.93 d	17.78 a-e	1.55 g-j	4.82 l-n
N04071CT	2.76 bc	1.38 b-g	95.40 l-o	1.86 d	17.68 a-f	1.61 f-j	5.41 c-e
N05047	2.41 i-m	1.28 e-o	96.00 j-o	1.82 d	17.52 a-f	1.64 d-j	4.91 j-n
N02009	2.47 h-m	1.19 l-q	96.45 g-n	1.81 d	17.24 a-f	1.68 b-j	4.97 f-n
N06027	2.38 k-m	1.23 j-p	96.30 h-o	1.76 d	17.73 a-e	1.65 c-j	4.82 l-n
N06029	2.61 c-k	1.32 b-m	96.68 f-n	1.75 d	17.43 a-f	1.70 b-j	5.16 d-l
N04066CSmT	2.61 c-j	1.30 c-n	96.56 f-n	1.70 d	18.04 a-d	1.66 c-j	5.22 c-k
N05018	2.48 f-m	1.38 b-h	97.77 b-l	1.70 d	17.00 b-g	1.78 b-i	5.11 d-l
N05042F	2.54 c-k	1.33 b-l	98.06 b-k	1.64 d	17.20 a-f	1.80 b-h	5.10 d-m
N03089T	2.47 g-m	1.22 k-p	98.88 a-g	1.63 d	16.62 e-g	1.88 b-e	4.88 k-n
N04042FSmT	2.52 d-k	1.32 b-m	98.01 b-k	1.63 d	17.40 a-f	1.78 b-i	5.14 d-l
N05049J	2.62 c-j	1.26 e-o	97.44 c-l	1.63 d	17.80 a-e	1.73 b-j	5.16 c-l
N03005J	2.62 c-j	1.33 b-m	98.20 b-j	1.60 d	17.45 a-f	1.79 b-i	5.26 c-j
N03090T	2.49 e-l	1.24 h-o	98.99 a-f	1.60 d	16.80 d-g	1.88 b-e	4.91 j-n
N03091T	2.53 c-k	1.23 j-p	98.85 a-g	1.60 d	16.92 c-g	1.87 b-f	4.97 f-n
N05031J	2.59 c-k	1.18 m-q	97.50 c-l	1.59 d	18.15 a-d	1.72 b-j	5.18 c-l
N05037J	2.89 b	1.34 b-k	97.89 b-k	1.59 d	17.74 a-e	1.76 b-j	5.53 bc
N06032F	2.47 g-m	1.38 b-g	98.46 a-j	1.57 d	17.52 a-f	1.81 b-g	5.02 f-n
N04074FCT	2.72 b-e	1.38 b-f	98.64 a-h	1.55 d	17.49 a-f	1.82 b-f	5.34 c-f
N05024J	2.58 c-k	1.25 f-o	98.07 b-k	1.55 d	18.04 a-d	1.75 b-j	5.13 d-l
N03088T	2.51 e-l	1.24 g-o	99.81 a-d	1.52 d	16.82 d-g	1.93 ab	4.93 i-n
N04054FC	2.71 b-f	1.38 b-g	98.49 a-i	1.51 d	18.05 a-d	1.78 b-i	5.43 c-e
N05007	2.40 j-m	1.39 b-e	99.90 a-c	1.36 d	18.41 a	1.86 b-f	5.05 e-n
N05008	2.39 j-m	1.31 c-n	100.21 ab	1.33 d	18.45 a	1.88 b-e	4.94 h-n
N05006	2.47 g-m	1.34 b-k	100.68 a	1.29 d	18.35 ab	1.91 bc	4.97 f-n
MEAN	**2.57**	**1.29**	**96.59**	**2.3**	**17.44**	**1.68**	**5.17**
CV (%)	**3.7**	**4.5**	**1**	**36.3**	**3.2**	**6.4**	**3**

[1] Refer to page 3 for an explanation of the computations of these characters.

[2] Means followed by the same letter(s) are not significantly different at the 5% probability level as determined by Duncan's New Multiple Range Test.

[3] Lower iodine value indicates longer shelf life.

[4] Higher O/L ratio indicates longer shelf life

Table 13. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Southampton County, VA, 2008.[1]

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Georgia 05E	6.70	3.14	70.97	10.97	1.55	1.78
Florida Fancy	7.02 l[2]	2.80 c-f	72.80 a	10.42 h	1.33 a-f	1.59 a
Brantley	7.47 l	3.39 a	67.83 b	15.34 g	1.40 ab	1.21 b-f
Wilson	8.82 k	2.81 c-f	53.16 c-e	29.22 d-f	1.25 a-h	1.12 d-g
CHAMPS	9.62	2.67	51.29	30.21	1.22	1.22
Gregory	9.38 f-k	2.58 e-h	51.40 c-h	30.55 a-f	1.21 d-i	1.25 b-f
NC 12C	10.07 a-e	2.86 c-e	49.98 e-i	30.82 a-f	1.36 a-e	1.08 fg
Phillips	9.88 b-i	2.49 f-k	49.60 e-i	31.88 a-e	1.18 f-i	1.20 b-f
Bailey(N03081T)	9.82 b-i	2.35 g-m	49.26 e-i	32.08 a-e	1.21 d-i	1.28 bd
Perry	9.70 c-j	2.63 d-g	48.98 e-i	32.32 a-d	1.26 a-h	1.19 b-g
VA 98R	10.20 a-d	2.48 f-k	48.44 g-i	32.81 a-d	1.15 g-i	1.21 b-f
NC-V 11	10.43 ab	2.34 g-m	47.79 hi	33.62 ab	1.11 hi	1.14 c-g
VT 003194	9.13 jk	3.02 bc	54.59 c	27.15 f	1.37 a-d	1.11 e-g
VT 024051	9.81 b-i	3.20 ab	50.51 c-i	29.89 b-f	1.41 a	1.14 c-g
VT 023002	9.30 h-k	2.92 b-d	51.17 c-h	30.20 b-f	1.34 a-f	1.17 b-g
VT 003185	9.53 d-j	2.59 e-h	50.91 c-h	30.56 a-f	1.26 a-h	1.22 b-f
VT VT024024	9.81 b-i	2.45 g-k	49.71 e-i	32.09 a-e	1.15 g-i	1.14 c-g
VT 024060	10.14 a-e	2.38 g-l	49.24 e-i	31.91 a-e	1.20 d-i	1.24 b-f
VT 004152	9.98 b-g	3.05 bc	48.92 f-i	31.78 a-e	1.40 ab	1.04 g
VT 024077	9.87 b-i	2.56 e-i	49.06 e-i	32.24 a-d	1.24 b-h	1.17 b-g
VT 003069	10.43	2.66	48.17	32.95	1.21	1.09
N04071CT	9.33 g-k	2.45 g-k	54.27 cd	27.60 f	1.19 e-i	1.29 b-d
N03091T	9.22 i-k	2.46 g-k	52.74 c-f	29.39 c-f	1.22 c-i	1.22 b-f
N05056	9.94 b-h	3.02 bc	52.86 c-f	28.21 ef	1.38 a-c	1.04 g
N06044F	9.94	2.80	52.99	28.48	1.29	1.07
N04066CSmT	9.85 b-i	2.43 g-k	51.68 c-h	29.77 b-f	1.17 f-i	1.23 b-f
N03090T	9.59 d-j	2.18 j-m	52.05 c-g	30.41 a-f	1.09 hi	1.17 b-g
N05047	9.99 b-g	2.53 f-j	51.45 c-h	29.96 b-f	1.15 g-i	1.20 b-g
N06027	10.16 a-e	2.51 f-j	51.28 c-h	29.96 b-f	1.19 e-i	1.18 b-g
N02009	9.68 c-j	2.49 f-k	51.42 c-h	30.27 b-f	1.23 b-i	1.20 b-g
N06029	9.86 b-i	2.39 g-l	51.02 c-h	30.18 b-f	1.21 d-i	1.31 b
N06032F	9.84 b-i	2.23 i-m	50.80 c-h	30.83 a-f	1.10 hi	1.30 bc
N05042F	9.81 b-i	2.30 g-m	50.18 d-i	31.52 a-e	1.17 f-i	1.24 b-f
N05018	9.50 e-j	2.42 g-l	50.02 e-i	31.85 a-e	1.19 e-i	1.24 b-f
N05049J	9.84	2.56	49.23	31.85	1.26	1.29
N05037J	9.62 d-j	2.27 h-m	49.52 e-i	32.14 a-d	1.14 g-i	1.24 b-f
N04074FCT	9.61 d-j	2.48 f-k	48.97 e-i	32.28 a-d	1.23 b-i	1.33 b
N05024J	10.33 a-c	2.52 f-j	48.80 f-i	32.20 a-d	1.21 d-i	1.17 b-g
N03088T	9.54 d-j	2.03 m	49.61 e-i	32.86 a-d	1.07 i	1.27 b-e
N05031J	9.66 c-j	2.09 lm	49.04 e-i	32.90 a-d	1.06 i	1.27 b-e
N03089T	9.68 c-j	2.15 k-m	48.94 f-i	33.01 a-d	1.13 g-i	1.27 b-e
N03005J	10.10 a-e	2.46 g-k	48.28 g-i	32.92 a-d	1.22 c-i	1.18 b-g
N04042FSmT	9.85 b-i	2.46 g-k	48.28 g-i	33.18 a-c	1.20 d-i	1.22 b-f
N04054FC	10.02 a-f	2.58 e-h	47.93 g-i	32.80 a-d	1.29 a-g	1.25 b-f
N05006	10.64 a	2.35 g-m	46.47 i	34.34 a	1.14 g-i	1.24 b-f
N05008	10.75	2.49	46.34	34.28	1.19	1.15
N05007	10.75	2.48	46.01	34.83	1.16	1.11
Mean	**9.65**	**2.54**	**51.22**	**30.34**	**1.22**	**1.21**
CV (%)	**3.5**	**6.7**	**4.1**	**6.4**	**7.1**	**6.8**

Table 13. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Southampton County, VA, 2008 (cont.).

Variety or Line	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	% Total Saturated	P/S Ratio	% Total Long Chain Saturated
Georgia 05E	3.54	1.37	81.43	8.88	16.29	0.67	6.45
Florida Fancy	2.68 ab	1.36 a-d	81.91 i	8.50 a	15.19 k	0.68 h	5.37 ab
Brantley	2.31 de	1.06 h	85.87 h	5.44 b	15.62 jk	0.98 g	4.76 b-d
Wilson	2.46 a-e	1.16 e-h	97.22 a-g	1.82 c	16.49 hi	1.78 a-f	4.86 a-d
CHAMPS	2.51	1.27	97.39	1.70	17.29	1.75	5.01
Gregory	2.44 a-e	1.19 c-h	98.10 a-g	1.68 c	16.80 f-i	1.82 a-f	4.84 a-d
NC 12C	2.61 a-c	1.20 b-h	97.22 b-g	1.62 c	18.11 a-c	1.70 c-f	5.18 a-d
Phillips	2.50 a-e	1.25 a-g	98.83 a-e	1.56 c	17.31 c-h	1.84 a-e	4.94 a-d
Bailey(N03081T)	2.62 a-c	1.38 a-c	98.94 a-d	1.54 c	17.38 b-h	1.84 a-e	5.21 a-d
Perry	2.60 a-d	1.32 a-f	99.04 a-d	1.51 c	17.51 b-g	1.85 a-e	5.18 a-d
VA 98R	2.35 c-e	1.37 a-d	99.44 a-d	1.48 c	17.55 b-g	1.87 a-e	4.87 a-d
NC-V 11	2.30 e	1.28 a-g	100.23 a-c	1.42 c	17.46 b-g	1.93 a-c	4.69 cd
VT 003194	2.53 a-e	1.10 gh	94.84 g	2.02 c	17.16 d-i	1.58 f	5.01 a-d
VT 024051	2.63 a-c	1.40 a	96.11 d-g	1.69 c	18.46 a	1.62 ef	5.45 a
VT 023002	2.57 a-e	1.33 a-f	97.25 a-g	1.69 c	17.45 b-g	1.73 b-f	5.24 a-c
VT 003185	2.64 a-c	1.29 a-g	97.68 a-g	1.67 c	17.31 c-h	1.77 b-f	5.18 a-d
VT VT024024	2.42 b-e	1.23 a-h	99.24 a-d	1.55 c	17.06 e-i	1.89 a-d	4.80 b-d
VT 024060	2.54 a-e	1.36 a-d	98.60 a-e	1.54 c	17.61 a-f	1.81 a-f	5.10 a-d
VT 004152	2.66 ab	1.18 d-h	97.94 a-g	1.54 c	18.27 ab	1.74 b-f	5.24 a-c
VT 024077	2.52 a-e	1.32 a-f	98.97 a-d	1.52 c	17.52 b-g	1.84 a-e	5.09 a-d
VT 003069	2.29	1.21	99.37	1.47	17.79	1.86	4.70
N04071CT	2.61 a-c	1.26 a-g	95.50 e-g	2.01 c	16.84 f-i	1.64 d-f	5.06 a-d
N03091T	2.51 a-e	1.25 a-h	97.22 b-g	1.87 c	16.66 g-i	1.76 b-f	4.98 a-d
N05056	2.42 b-e	1.14 f-h	95.13 fg	1.87 c	17.90 a-e	1.57 f	4.94 a-d
N06044F	2.42	1.05	95.74	1.86	17.47	1.63	4.74
N04066CSmT	2.61 a-d	1.26 a-g	96.99 c-g	1.75 c	17.31 c-h	1.72 b-f	5.03 a-d
N03090T	2.36 c-e	1.15 f-h	98.36 a-f	1.73 c	16.38 ij	1.86 a-e	4.60 d
N05047	2.45 a-e	1.28 a-g	97.09 b-g	1.72 c	17.39 b-h	1.72 b-f	4.87 a-d
N06027	2.45 a-e	1.25 a-g	96.93 c-g	1.71 c	17.57 a-g	1.71 c-f	4.90 a-d
N02009	2.49 a-e	1.23 a-h	97.59 a-g	1.70 c	17.12 d-i	1.77 b-f	4.95 a-d
N06029	2.67 ab	1.35 a-e	97.19 b-g	1.69 c	17.48 b-g	1.73 b-f	5.23 a-c
N06032F	2.55 a-e	1.36 a-d	98.11 a-g	1.68 c	17.08 e-i	1.80 a-f	5.01 a-d
N05042F	2.48 a-e	1.31 a-f	98.72 a-e	1.59 c	17.07 e-i	1.85 a-e	4.96 a-d
N05018	2.46 a-e	1.32 a-f	99.16 a-d	1.57 c	16.89 f-i	1.89 a-d	4.97 a-d
N05049J	2.68	1.30	98.53	1.55	17.63	1.81	5.22
N05037J	2.70 ab	1.37 a-d	99.24 a-d	1.54 c	17.09 d-i	1.88 a-d	5.20 a-d
N04074FCT	2.73 a	1.38 a-c	99.07 a-d	1.52 c	17.43 b-h	1.85 a-e	5.34 ab
N05024J	2.54 a-e	1.24 a-h	98.66 a-e	1.52 c	17.84 a-e	1.81 a-f	4.99 a-d
N03088T	2.42 b-e	1.20 c-h	100.59 a	1.51 c	16.26 ij	2.02 a	4.68 cd
N05031J	2.70 ab	1.27 a-g	100.15 a-c	1.49 c	16.79 f-i	1.97 ab	5.04 a-d
N03089T	2.53 a-e	1.28 a-g	100.28 a-c	1.48 c	16.77 f-i	1.97 ab	4.94 a-d
N03005J	2.56 a-e	1.27 a-g	99.48 a-c	1.47 c	17.62 a-f	1.87 a-e	5.05 a-d
N04042FSmT	2.53 a-e	1.28 a-g	99.96 a-c	1.46 c	17.32 c-h	1.92 a-c	5.01 a-d
N04054FC	2.74 a	1.40 ab	99.01 a-d	1.46 c	18.03 a-d	1.82 a-f	5.42 a
N05006	2.46 a-e	1.35 a-e	100.42 ab	1.35 c	17.95 a-e	1.91 a-c	4.95 a-d
N05008	2.47	1.35	100.13	1.35	18.25	1.88	5.01
N05007	2.38	1.31	100.77	1.33	18.06	1.93	4.84
Mean	**2.53**	**1.27**	**97.56**	**1.89**	**17.23**	**1.76**	**5.03**
CV (%)	**5.8**	**7.5**	**1.7**	**55.2**	**2.7**	**7.1**	**6.1**

[1] Refer to page 3 for an explanation of the computations of these characters.

[2] Means followed by the same letter(s) are not significantly different at the 5% probability level as determined by Duncan's New Multiple Range Test.

[3] Lower iodine value indicates longer shelf life.

[4] Higher O/L ratio indicates longer shelf life

Table 14. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Martin County, NC Dig I, 2008[1].

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Georgia 05E	6.13 r[2]	3.79 a	78.01 a	3.77 u	1.75 a	1.62 a
Florida Fancy	6.55 q	2.85 l-r	78.86 a	4.86 u	1.36 i-n	1.57 a
Brantley	7.59 p	3.64 a-c	70.50 b	12.49 t	1.46 d-f	1.09 e-l
Wilson	9.07 o	3.31 d-g	54.88 c	26.56 rs	1.47 c-e	1.04 g-m
Gregory	9.58 mn	3.03 g-o	53.42 d	27.85 p-r	1.38 g-l	1.10 d-k
NC 12C	10.14 f-h	3.91 a	51.37 f-l	28.78 l-q	1.51 b-d	0.88 p
CHAMPS	10.15 f-h	2.89 j-r	51.67 e-i	29.10 j-p	1.35 i-o	1.11 c-j
Perry	9.93 h-m	2.98 h-o	49.94 k-p	30.73 c-i	1.39 g-k	1.10 d-k
N03081T (Bailey)	10.08 g-j	2.74 o-v	49.37 m-p	31.69 c-f	1.29 n-s	1.12 c-i
Phillips	10.30 e-g	2.89 j-r	48.78 op	31.75 c-e	1.33 k-r	1.12 c-i
NC-V 11	10.82 bc	2.77 n-v	48.63 p	31.95 b-d	1.22 t-v	1.04 g-m
VA 98R	10.72 cd	2.67 p-v	48.60 p	32.15 a-c	1.20 uv	1.10 d-k
VT 003194	9.09 o	3.40 c-e	55.35 c	25.77 s	1.55 b	1.04 g-m
VT 9506083-3	9.09 o	3.37 d-f	55.36 c	25.89 s	1.46 de	1.12 c-i
VT 003185	9.65 l-n	3.18 e-j	52.77 d-f	28.12 o-q	1.43 e-g	1.08 e-m
VT 004152	10.02 g-k	3.68 ab	52.12 d-h	28.26 n-q	1.53 bc	0.88 p
VT 024051	10.32 e-g	3.49 b-d	51.67 e-i	28.80 l-q	1.39 f-j	0.90 op
VT 023002	9.57 n	3.20 e-i	51.92 d-i	29.11 j-p	1.42 e-h	1.08 e-m
VT 024024	10.08 g-j	3.03 g-o	51.59 f-j	29.38 h-o	1.36 i-n	1.03 g-m
VT 024077	10.10 g-i	3.16 e-k	50.33 i-o	30.40 e-k	1.38 g-l	1.02 h-n
VT 024060	10.56 c-e	2.84 m-s	49.94 k-p	30.80 c-h	1.29 m-s	1.03 g-m
VT 003069	10.85 bc	2.98 h-o	48.60 p	31.67 c-f	1.33 k-r	1.02 h-n
N05056	9.93 h-m	3.42 b-e	55.31 c	25.63 s	1.48 c-e	0.92 n-p
N06044F	10.02 g-k	3.26 d-h	54.94 c	25.92 s	1.45 e-g	1.00 j-o
N04071CT	9.90 h-n	2.84 m-s	53.28 d	27.50 qr	1.35 i-o	1.21 b-d
N02009	9.85 h-n	3.07 g-n	53.19 de	28.07 o-q	1.36 h-m	1.03 g-m
N06027	10.69 cd	3.02 g-o	52.69 d-g	28.03 o-q	1.26 q-t	0.98 l-p
N06029	10.15 f-h	2.82 m-u	51.91 d-i	28.60 m-q	1.34 j-p	1.21 bc
N03090T	9.86 h-n	2.66 q-v	52.33 d-h	29.27 i-p	1.26 r-t	1.06 f-m
N04066CSmT	10.60 c-e	3.08 f-m	51.46 f-k	29.03 k-p	1.31 m-s	1.01 i-n
N05037J	9.75 i-n	3.15 e-k	51.27 f-l	29.36 h-o	1.41 e-i	1.13 c-g
N05042F	10.17 f-h	2.55 s-v	51.40 f-l	29.67 g-n	1.25 s-u	1.16 c-f
N05047	10.72 cd	2.87 k-r	51.03 h-l	29.38 h-o	1.28 o-t	1.07 e-m
N05049J	10.15 f-h	2.93 i-q	51.01 h-l	29.67 g-n	1.36 h-m	1.11 c-i
N06032F	10.31 e-g	2.59 r-v	51.01 h-l	29.79 g-m	1.25 s-v	1.17 c-f
N05018	9.71 k-n	2.96 h-p	51.08 g-l	30.20 f-l	1.33 j-q	1.09 e-m
N03091T	10.02 g-k	2.65 q-v	50.74 h-m	30.60 d-i	1.27 p-t	1.09 e-m
N05031J	9.89 h-n	2.93 i-q	50.34 i-o	30.33 e-k	1.34 j-p	1.18 b-e
N03005J	10.04 g-k	2.91 i-q	49.99 j-p	30.53 d-j	1.38 g-l	1.14 c-g
N03088T	9.73 j-n	2.51 v	50.81 h-m	31.06 c-g	1.22 t-v	1.11 c-i
N05024J	10.59 c-e	3.07 g-n	49.90 k-p	30.69 c-i	1.33 j-q	0.98 m-p
N03089T	9.74 j-n	2.52 uv	50.42 i-n	31.13 c-g	1.25 s-u	1.17 b-e
N04042FSmT	10.01 g-l	2.82 m-t	49.99 j-p	31.10 c-g	1.32 l-r	1.08 e-m
N04074FCT	9.84 h-n	2.66 p-v	49.79 l-p	30.91 c-g	1.28 o-t	1.27 b
N04054FC	10.47 d-f	3.14 e-l	49.10 n-p	31.45 c-f	1.34 j-p	0.98 l-p
N05007	11.13 ab	3.01 h-o	46.85 q	33.13 ab	1.33 k-r	0.98 m-p
N05008	11.13 ab	3.04 g-o	46.67 q	33.25 ab	1.33 k-r	0.99 k-p
N05006	11.28 a	2.53 t-v	46.65 q	33.48 a	1.18 v	1.13 c-h
Mean	**9.92**	**3.02**	**52.64**	**28.29**	**1.36**	**1.09**
CV (%)	**1.5**	**4.1**	**1.3**	**2.2**	**2.1**	**4.2**

Table 14. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Martin County, NC Dig I, 2008 (cont.).

Variety or Line	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	% Total Saturated	P/S Ratio	% Total Long Chain Saturated
Georgia 05E	3.57 a	1.38 a-c	74.90 x	20.77 a	16.59 r	0.22 v	6.68 a
Florida Fancy	2.61 b-f	1.34 b-f	77.49 w	16.51 b	14.71 t	0.33 u	5.30 b-f
Brantley	2.23 l-n	1.00 o	83.13 v	5.70 c	15.92 s	0.79 t	4.68 lm
Wilson	2.46 c-m	1.20 h-l	94.02 r-t	2.07 d	17.52 n-p	1.51 p-r	5.14 c-i
Gregory	2.41 e-n	1.25 e-i	95.04 n-r	1.91 d	17.64 m-p	1.58 k-p	5.03 d-k
NC 12C	2.34 h-n	1.07 m-o	94.73 o-r	1.78 d	18.97 ab	1.51 p-r	4.91 g-m
CHAMPS	2.46 c-m	1.28 c-h	95.72 k-p	1.77 d	18.12 f-l	1.61 i-o	5.09 c-k
Perry	2.58 b-g	1.36 b-d	97.03 d-j	1.63 d	18.24 e-j	1.68 d-i	5.32 b-e
(N03081T (Bailey)	2.42 e-m	1.29 c-h	98.24 a-d	1.55 d	17.83 j-n	1.78 a-c	5.01 e-l
Phillips	2.51 c-i	1.33 b-f	97.82 a-e	1.53 d	18.35 c-h	1.73b-f	5.16 c-h
NC-V 11	2.23 mn	1.33 b-g	98.00 a-e	1.52 d	18.37 c-h	1.74 b-e	4.78 k-m
VA 98R	2.26 k-n	1.32 b-g	98.33 a-c	1.51 d	18.17 f-k	1.76 a-d	4.78 k-m
VT 003194	2.61 b-f	1.18 h-l	93.07 tu	2.14 d	17.83 j-n	1.45 rs	5.34 b-d
VT 9506083-3	2.48 c-k	1.25 e-i	93.32 s-u	2.14 d	17.64 m-p	1.47 q-s	5.19 c-g
VT 003185	2.50 c-j	1.26 d-h	94.95 n-r	1.88 d	18.03 h-m	1.56 m-p	5.20 c-g
VT 004152	2.38 f-n	1.12 l-n	94.48 qr	1.85 d	18.74 a-c	1.51 p-r	5.03 d-k
VT 024051	2.25 l-n	1.18 h-l	95.02 n-r	1.79 d	18.64 b-e	1.54 n-q	4.83 h-m
VT 023002	2.43 d-m	1.28 c-h	95.92 i-o	1.78 d	17.90 i-n	1.63 g-m	5.14 c-i
VT 024024	2.34 h-n	1.21 h-l	96.06 i-n	1.75 d	18.00 h-m	1.63 g-m	4.91 g-m
VT 024077	2.35 g-n	1.25 d-i	96.75 e-k	1.65 d	18.25 e-j	1.66 e-k	4.98 f-l
VT 024060	2.30 i-n	1.24 f-j	97.12 c-i	1.62 d	18.23 e-j	1.68 d-i	4.83 h-m
VT 003069	2.30 i-n	1.25 d-i	97.47 b-g	1.53 d	18.70 a-d	1.69 d-i	4.88 g-m
N05056	2.28 j-n	1.03 no	92.68 u	2.16 d	18.15 f-k	1.41 s	4.78 k-m
N06044F	2.35 g-n	1.07 m-o	92.94 tu	2.13 d	18.14 f-l	1.43 s	4.86 g-m
N04071CT	2.62 b-f	1.33 b-f	94.40 q-s	1.94 d	18.01 h-m	1.52 p-r	5.28 b-f
N02009	2.30 h-n	1.14 j-m	95.17 m-r	1.89 d	17.72 l-o	1.59 j-p	4.80 i-m
N06027	2.18 n	1.13 k-m	94.65 p-r	1.88 d	18.29 d-i	1.53 o-q	4.59 m
N06029	2.63 b-e	1.36 b-d	95.14 n-r	1.82 d	18.28 e-i	1.57 m-p	5.32 b-e
N03090T	2.33 h-n	1.23 f-k	96.54 f-l	1.78 d	17.34 o-q	1.69 d-i	4.82 i-m
N04066CSmT	2.31 h-n	1.20 h-l	95.35 l-q	1.77 d	18.50 c-f	1.57 l-p	4.81 i-m
N05037J	2.66 b-d	1.26 d-h	95.85 j-p	1.75 d	18.24 e-j	1.61 i-o	5.33 b-e
N05042F	2.46 c-l	1.33 b-g	96.52 f-l	1.74 d	17.76 k-n	1.67 e-j	5.03 d-k
N05047	2.36 g-n	1.28 c-h	95.62 k-q	1.74 d	18.52 c-f	1.59 j-p	4.93 g-l
N05049J	2.53 c-h	1.25 e-i	96.12 h-n	1.72 d	18.22 e-j	1.63 h-n	5.13 c-j
N06032F	2.49 c-j	1.40 ab	96.38 g-m	1.71 d	18.04 g-m	1.65 f-l	5.14 c-i
N05018	2.34 h-n	1.29 c-h	97.12 c-i	1.70 d	17.62 m-p	1.72 c-g	4.95 g-l
N03091T	2.42 e-m	1.20 h-l	97.51 b-g	1.66 d	17.56 n-p	1.74 b-e	4.89 g-m
N05031J	2.67 bc	1.32 b-g	96.75 e-k	1.66 d	18.16 f-k	1.67 e-j	5.33 b-e
N03005J	2.66 b-d	1.35 b-e	96.76 e-k	1.64 d	18.34 c-h	1.66 e-k	5.39 bc
N03088T	2.37 g-n	1.21 h-l	98.36 a-c	1.63 d	17.03 q	1.83 a	4.80 j-m
N05024J	2.29 i-n	1.15 i-m	96.86 e-k	1.63 d	18.42 c-h	1.66 e-k	4.78 k-m
N03089T	2.52 c-i	1.26 d-h	98.20 a-d	1.62 d	17.28 pq	1.80 ab	5.02 d-k
N04042FSmT	2.41 e-n	1.26 d-h	97.71 b-f	1.61 d	17.83 j-n	1.75 a-e	5.00 e-l
N04074FCT	2.79 b	1.46 a	97.36 b-h	1.61 d	18.03 h-m	1.71 c-h	5.53 b
N04054FC	2.31 h-n	1.22 g-l	97.48 b-g	1.57 d	18.47 c-g	1.70 c-h	4.86 g-m
N05007	2.32 h-n	1.28 c-h	98.44 ab	1.41 d	19.05 a	1.74 b-e	4.93 g-l
N05008	2.32 h-n	1.28 c-h	98.51 ab	1.40 d	19.09 a	1.74 b-e	4.93 g-l
N05006	2.39 f-n	1.35 b-e	99.00 a	1.39 d	18.74 a-c	1.78 a-c	4.93 g-l
Mean	**2.44**	**1.25**	**95.13**	**2.52**	**17.98**	**1.56**	**5.05**
CV (%)	**3.8**	**3.4**	**0.5**	**22.2**	**1**	**2.3**	**2.7**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Means followed by the same letter(s) are not significantly different at the 5% probability level as determined by Duncan's New Multiple Range Test.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life

Table 15. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Bladen County, NC, 2008[1].

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Georgia 05E	6.08 t[2]	2.97 c-f	75.91 a	6.79 o	1.50 a	1.70 a
Florida Fancy	6.82 s	2.79 e-j	75.67 a	7.90 o	1.35 d-i	1.48 b
Brantley	7.42 r	3.53 a	68.44 b	14.35 n	1.49 ab	1.23 c-e
Wilson	8.98 q	2.97 c-f	54.36 c-e	27.43 lm	1.38 c-h	1.14 e-m
Gregory	9.63 i-p	2.81 e-i	52.70 d-f	29.00 kl	1.29 f-m	1.08 j-p
NC 12C	9.84 f-o	3.27 b	51.51 f-l	29.41 i-k	1.45 a-d	0.97 qr
CHAMPS	9.95 f-m	2.57 j-q	51.27 f-m	29.90 g-k	1.27 h-o	1.20 d-h
Perry	9.86 f-n	2.77 f-k	50.08 h-o	31.07 d-j	1.33 e-j	1.10 h-o
N03081T (Bailey)	9.92 f-n	2.68 h-o	50.29 g-o	31.18 d-j	1.26 i-p	1.10 h-o
Phillips	10.05 e-h	2.57 j-p	48.78 n-q	32.20 b-e	1.25 i-q	1.20 d-i
VA 98R	10.66 bc	2.48 n-s	47.85 p-r	33.37 a-c	1.12 st	1.09 h-o
NC-V 11	10.68 bc	2.34 q-t	47.45 q-s	33.78 ab	1.11 t	1.10 h-o
VT 003194	9.24 pq	3.29 b	54.67 cd	26.74 m	1.48 a-c	1.01 n-r
VT 9506083-3	8.98 q	3.00 c-e	54.45 c-e	27.38 lm	1.38 c-g	1.15 e-m
VT 023002	9.26 pq	2.89 e-h	51.85 f-k	29.35 i-k	1.39 b-f	1.19 e-j
VT 003185	9.60 j-p	2.76 f-k	52.09 f-j	29.74 h-k	1.26 i-p	1.04 m-r
VT 024051	10.38 c-e	2.91 d-g	50.33 g-o	30.61 d-k	1.27 g-n	0.98 p-r
VT 004152	10.01 e-j	3.11 b-d	50.34 g-o	30.63 d-k	1.38 c-g	0.94 r
VT 024060	10.22 d-f	2.46 o-s	50.33 g-o	31.10 d-j	1.17 n-t	1.12 e-n
VT 024024	9.89 f-n	2.52 l-r	50.04 i-p	31.57 c-h	1.24 i-r	1.10 g-o
VT 024077	9.97 f-l	2.86 e-i	49.65 k-p	31.38 d-i	1.31 f-l	1.08 j-p
VT 003069	10.46 cd	2.72 g-m	49.10 m-q	31.96 b-f	1.24 i-q	1.05 l-q
N05056	9.52 n-p	3.14 bc	55.67 c	25.86 m	1.42 a-e	0.99 o-r
N06044F	9.63 i-p	2.75 g-l	54.51 c-e	27.50 lm	1.28 g-n	0.99 o-r
N04071CT	9.97 f-l	2.52 l-r	52.42 e-h	28.77 kl	1.24 i-q	1.22 c-g
N02009	9.57 l-p	2.66 i-o	52.42 e-g	29.22 j-l	1.29 f-m	1.14 e-m
N05042F	9.68 h-o	2.46 o-s	52.36 e-i	29.49 i-k	1.23 j-t	1.15 e-l
N05031J	9.43 op	2.51 m-r	51.94 f-k	29.47 i-k	1.24 i-q	1.31 cd
N06027	10.15 d-g	2.53 l-q	51.49 f-l	29.92 f-k	1.20 k-t	1.12 e-n
N03090T	9.55 m-p	2.30 r-t	51.89 f-k	30.48 d-k	1.16 o-t	1.14 e-m
N05049J	9.90 f-n	2.71 g-n	50.99 f-n	30.36 e-k	1.29 f-m	1.12 f-n
N06029	10.14 d-g	2.45 o-s	50.79 f-n	30.31 e-k	1.21 k-t	1.23 c-e
N04066CSmT	10.19 d-f	2.57 j-p	50.95 f-n	30.44 d-k	1.19 l-t	1.10 h-o
N06032F	10.02 e-i	2.41 p-t	50.79 f-n	30.73 d-k	1.19 m-t	1.15 e-m
N05037J	9.60 j-p	2.51 m-r	50.43 f-o	30.64 d-k	1.26 i-q	1.31 c
N04042FSmT	10.00 e-k	2.58 j-p	50.33 g-o	31.12 d-j	1.24 i-s	1.12 e-n
N05047	10.72 bc	2.52 l-r	49.98 j-p	30.78 d-k	1.19 l-t	1.13 e-m
N03091T	9.74 g-o	2.45 o-s	50.45 f-o	31.35 d-i	1.23 j-s	1.13 e-m
N05018	9.68 h-o	2.56 k-q	50.32 g-o	31.33 d-i	1.25 i-q	1.16 e-l
N05024J	10.17 d-f	2.54 k-q	50.23 g-o	31.36 d-i	1.19 m-t	1.05 l-r
N03088T	9.58 k-p	2.27 st	50.35 g-o	31.98 b-e	1.15 p-t	1.15 e-m
N03089T	9.58 l-p	2.20 t	50.14 g-o	32.25 b-e	1.13 r-t	1.16 e-l
N04074FCT	9.75 g-o	2.56 j-q	49.48 l-q	31.81 c-g	1.22 j-t	1.23 c-f
N04054FC	9.96 f-m	2.76 f-k	49.49 l-q	31.73 c-h	1.28 g-n	1.08 k-p
N03005J	10.20 d-f	2.70 g-n	48.38 o-q	32.48 b-d	1.32 e-k	1.11 g-n
N05008	10.95 ab	2.50 m-r	45.94 r-t	34.56 a	1.21 k-t	1.09 h-o
N05007	10.97 ab	2.56 j-q	45.50 st	34.89 a	1.23 i-s	1.09 i-p
N05006	11.19 a	2.37 p-t	45.31 t	35.03 a	1.14 q-t	1.17 e-k
Mean	**9.75**	**2.67**	**52.08**	**29.39**	**1.27**	**1.14**
CV (%)	**2.1**	**4.3**	**2.2**	**3.5**	**4.5**	**5.1**

Table 15. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Bladen County, NC, 2008 (cont.).

Variety or Line	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	% Total Saturated	P/S Ratio	% Total Long Chain Saturated
Georgia 05E	3.66 a	1.39 ab	78.39 q	11.51 a	15.60 m	0.43 q	6.55 a
Florida Fancy	2.65 c-e	1.33 a-d	79.94 p	10.63 a	14.94 n	0.52 q	5.33 b-e
Brantley	2.42 f-m	1.12 h-k	84.70 o	5.02 b	15.97 lm	0.89 p	5.03 c-k
Wilson	2.51 d-k	1.23 c-i	95.16 lm	1.98 c	17.08 h-k	1.61 mn	5.12 b-g
Gregory	2.30 j-m	1.18 e-i	96.41 j-l	1.82 c	17.21 f-i	1.69 j-m	4.77 f-l
NC 12C	2.43 e-l	1.13 g-k	96.00 kl	1.75 c	18.11 a-d	1.62 l-n	5.00 d-l
CHAMPS	2.52 d-j	1.32 a-e	96.83 g-l	1.71 c	17.63 d-i	1.69 i-m	5.11 b-i
Perry	2.52 d-j	1.26 a-g	97.76 f-j	1.61 c	17.75 c-h	1.75 f-l	5.11 b-h
N03081T (Bailey)	2.34 h-m	1.22 c-i	98.14 d-j	1.61 c	17.42 d-i	1.79 c-k	4.82 f-l
Phillips	2.59 c-g	1.35 a-c	98.67 b-f	1.52 c	17.82 b-g	1.81 b-j	5.19 b-f
VA 98R	2.19 m	1.23 c-i	99.81 a-d	1.43 c	17.69 d-i	1.89 a-e	4.54 l
NC-V 11	2.25 lm	1.28 a-f	100.19 ab	1.41 c	17.66 d-i	1.91 a-c	4.64 j-l
VT 003194	2.48 d-l	1.09 i-k	94.13 mn	2.05 c	17.58 d-i	1.52 no	5.05 b-k
VT 9506083-3	2.41 f-m	1.24 b-h	95.16 lm	2.00 c	17.02 i-k	1.61 mn	5.03 c-k
VT 023002	2.67 cd	1.39 a	96.38 j-l	1.77 c	17.61 d-i	1.67 k-m	5.46 bc
VT 003185	2.38 f-m	1.13 g-k	97.12 f-k	1.75 c	17.14 g-j	1.74 g-m	4.77 f-l
VT 024051	2.31 i-m	1.20 d-i	97.08 f-k	1.65 c	18.08 a-d	1.69 j-m	4.79 f-l
VT 004152	2.47 d-l	1.11 h-k	97.09 f-k	1.64 c	18.09 a-d	1.70 i-m	4.97 d-l
VT 024060	2.39 f-m	1.22 c-i	98.03 e-j	1.63 c	17.45 d-i	1.78 c-k	4.77 f-l
VT 024024	2.41 f-m	1.23 c-i	98.58 b-g	1.59 c	17.29 f-i	1.83 b-i	4.88 e-l
VT 024077	2.47 d-l	1.27 a-g	97.91 e-j	1.58 c	17.89 a-f	1.76 e-l	5.06 b-k
VT 003069	2.28 k-m	1.18 e-j	98.41 c-h	1.53 c	17.89 a-f	1.79 c-k	4.70 g-l
N05056	2.36 g-m	1.04 jk	93.45 n	2.15 c	17.48 d-i	1.48 o	4.82 f-l
N06044F	2.32 i-m	1.01 k	95.30 lm	1.98 c	17.00 i-k	1.62 l-n	4.62 kl
N04071CT	2.57 c-h	1.28 a-f	95.88 kl	1.82 c	17.59 d-i	1.63 l-n	5.10 b-j
N02009	2.48 d-l	1.22 c-i	96.60 i-l	1.79 c	17.21 f-i	1.70 i-m	4.98 d-l
N05042F	2.37 g-m	1.26 a-h	97.03 f-k	1.77 c	16.99 i-k	1.74 g-m	4.85 f-l
N05031J	2.77 bc	1.32 a-e	96.74 h-l	1.77 c	17.29 f-i	1.70 h-m	5.34 b-d
N06027	2.39 f-m	1.20 d-i	96.99 f-k	1.72 c	17.47 d-i	1.71 h-m	4.79 f-l
N03090T	2.36 g-m	1.13 g-k	98.31 c-i	1.70 c	16.50 j-l	1.85 a-g	4.65 h-l
N05049J	2.46 d-l	1.17 f-j	97.32 f-k	1.68 c	17.53 d-i	1.73 g-m	4.93 d-l
N06029	2.57 c-h	1.29 a-f	97.16 f-k	1.68 c	17.66 d-i	1.72 g-m	5.07 b-k
N04066CSmT	2.37 g-m	1.20 d-i	97.40 f-k	1.67 c	17.52 d-i	1.74 g-m	4.76 f-l
N06032F	2.39 f-m	1.32 a-e	97.82 f-j	1.66 c	17.33 e-i	1.77 d-k	4.90 d-l
N05037J	2.89 b	1.35 a-c	97.48 f-k	1.65 c	17.61 d-i	1.74 g-m	5.50 b
N04042FSmT	2.39 f-m	1.23 c-i	98.08 e-j	1.62 c	17.43 d-i	1.79 c-k	4.85 f-l
N05047	2.38 f-m	1.29 a-f	97.20 f-k	1.62 c	18.11 a-d	1.70 i-m	4.87 f-l
N03091T	2.46 d-l	1.19 d-i	98.58 b-g	1.61 c	17.07 h-k	1.84 a-h	4.88 d-l
N05018	2.41 f-m	1.30 a-f	98.44 c-h	1.61 c	17.20 f-i	1.82 b-j	4.95 d-l
N05024J	2.33 i-m	1.13 g-k	98.34 c-i	1.60 c	17.37 e-i	1.81 b-j	4.65 i-l
N03088T	2.36 g-m	1.16 f-j	99.60 a-e	1.58 c	16.52 j-l	1.94 ab	4.68 g-l
N03089T	2.39 f-m	1.16 f-j	99.90 a-c	1.56 c	16.45 kl	1.96 a	4.68 g-l
N04074FCT	2.62 c-f	1.33 a-d	98.62 b-f	1.56 c	17.48 d-i	1.82 b-j	5.17 b-f
N04054FC	2.45 d-l	1.25 b-h	98.38 c-h	1.56 c	17.69 d-i	1.79 c-k	4.97 d-l
N03005J	2.54 d-i	1.26 a-g	98.75 b-f	1.49 c	18.02 a-e	1.80 c-k	5.13 b-g
N05008	2.43 e-l	1.34 a-d	100.23 ab	1.33 c	18.42 a-c	1.88 a-f	4.97 d-l
N05007	2.41 f-m	1.35 a-c	100.41 a	1.31 c	18.53 a	1.88 a-f	5.00 d-l
N05006	2.43 e-l	1.36 a-c	100.57 a	1.29 c	18.49 ab	1.89 a-d	4.93 d-l
Mean	**2.47**	**1.23**	**96.59**	**2.12**	**17.39**	**1.68**	**4.97**
CV (%)	**4.7**	**5.8**	**0.9**	**33.9**	**2**	**4**	**4.6**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Means followed by the same letter(s) are not significantly different at the 5% probability level as determined by Duncan's New Multiple Range Test.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life

Table 16. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Florence, SC, 2008[1].

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Florida Fancy	6.45 t[2]	2.74 g-l	79.15 a	5.42 v	1.25 e-n	1.46 b
Georgia 05E	6.11 u	3.62 a	76.59 b	5.19 v	1.76 a	1.63 a
Brantley	6.98 s	3.47 ab	72.33 c	11.62 u	1.38 b-d	1.11 e-l
Wilson	8.24 r	2.95 e-g	59.32 d	23.69 st	1.30 c-l	1.09 f-m
Gregory	8.94 p	2.87 f-i	56.81 e-g	25.45 p-r	1.30 c-k	1.13 e-k
CHAMPS	9.45 i-o	2.89 f-i	55.04 g-l	26.45 l-p	1.33 c-j	1.18 c-h
NC 12C	9.70 f-k	3.01 d-f	54.47 h-o	27.03 j-p	1.34 b-g	0.99 m-o
Perry	9.36 k-o	2.66 i-o	53.97 i-q	28.20 e-k	1.25 e-n	1.07 g-m
Phillips	9.58 h-n	2.52 l-q	53.20 l-r	28.95 c-h	1.18 k-o	1.11 e-l
VA 98R	10.00 c-f	2.55 k-p	52.81 n-r	28.97 c-g	1.16 m-p	1.10 e-l
N03081T (Bailey)	9.55 h-o	2.51 l-q	52.94 m-r	29.10 c-g	1.21 i-o	1.15 d-i
NC-V 11	10.13 c-e	2.60 j-p	52.43 p-r	29.13 c-g	1.19 k-o	1.08 f-m
VT 003194	8.59 q	3.18 cd	59.40 d	22.74 t	1.45 b	1.08 g-m
VT 9506083-3	8.43 qr	3.32 bc	57.61 e	24.20 r-t	1.45 b	1.21 c-e
VT 023002	8.59 q	3.01 d-f	56.14 e-h	26.21 m-q	1.33 c-i	1.07 g-m
VT 024051	9.42 i-o	3.12 c-e	55.43 f-k	25.97 n-q	1.36 b-e	1.02 k-n
VT 003185	9.31 l-o	2.80 f-j	55.55 f-j	26.42 l-p	1.29 c-l	1.11 e-l
VT 024077	9.22 n-p	2.92 e-h	54.52 h-o	27.27 h-o	1.35 b-f	1.09 f-m
VT 004152	9.62 g-m	3.30 bc	53.46 k-q	27.99 f-l	1.40 bc	0.90 o
VT024024	9.66 f-l	2.80 f-j	53.26 l-r	28.41 d-j	1.30 c-k	1.09 f-m
VT 024060	10.19 cd	2.51 l-q	51.49 r	29.98 cd	1.21 j-o	1.10 e-l
VT 003069	10.17 cd	2.78 f-k	51.36 r	30.24 bc	1.21 j-o	1.02 k-n
N06044F	9.47 i-o	3.00 d-f	57.09 ef	24.85 q-s	1.34 b-h	1.00 l-n
N04071CT	9.75 f-j	2.45 o-s	55.68 f-i	25.82 o-q	1.22 h-o	1.27 c
N02009	9.49 i-o	2.58 j-p	55.55 f-j	26.62 k-p	1.22 h-o	1.12 e-k
N05056	9.43 i-o	2.72 g-m	55.32 f-k	26.93 j-p	1.24 e-o	1.04 i-n
N04066CSmT	9.97 c-g	2.66 i-o	54.94 g-l	26.62 k-p	1.22 h-o	1.11 e-l
N05018	9.17 op	2.63 j-p	55.43 f-k	27.01 j-p	1.23 f-o	1.12 e-k
N05042F	9.46 i-o	2.53 l-q	55.17 f-l	26.94 j-p	1.23 g-o	1.14 d-i
N06027	10.29 bc	2.44 o-s	54.93 g-m	26.80 j-p	1.12 op	1.08 f-m
N03090T	9.40 j-o	2.45 o-s	55.26 f-k	27.20 i-o	1.20 k-o	1.11 e-l
N05047	10.25 b-d	2.46 n-s	54.27 h-p	26.90 j-p	1.19 k-o	1.21 c-e
N03091T	9.41 j-o	2.48 m-r	54.78 h-n	27.56 g-n	1.21 j-o	1.12 e-k
N06029	9.90 d-h	2.45 o-s	54.52 h-o	27.46 g-o	1.15 m-p	1.14 d-j
N05049J	9.50 i-o	2.68 i-o	54.31 h-p	27.68 g-m	1.24 f-o	1.10 e-l
N05037J	9.35 k-o	2.55 k-p	54.00 i-q	27.83 f-m	1.24 e-o	1.24 cd
N05031J	9.33 k-o	2.54 l-p	54.02 i-q	28.07 e-l	1.20 k-o	1.19 c-f
N04042FSmT	9.46 i-o	2.52 l-q	53.73 i-q	28.39 d-j	1.24 f-o	1.12 e-k
N03089T	9.28 l-o	2.29 q-s	53.89 i-q	28.77 c-i	1.15 m-p	1.15 d-h
N06032F	9.79 e-i	2.25 rs	53.91 i-q	28.82 c-i	1.05 p	1.03 j-n
N04074FCT	9.27 m-p	2.39 p-s	53.59 j-q	28.85 c-i	1.14 n-p	1.18 c-g
N03005J	9.70 f-k	2.66 i-o	52.84 n-r	28.92 c-h	1.27 d-m	1.09 f-m
N04054FC	9.77 f-j	2.68 i-o	52.17 qr	29.50 c-f	1.25 e-n	1.07 h-m
N03088T	9.31 l-o	2.23 s	52.62 o-r	30.08 c	1.14 m-p	1.15 d-i
N05024J	10.19 cd	2.70 h-n	51.46 r	29.69 c-e	1.25 e-n	1.08 f-m
N05008	10.63 a	2.81 f-j	49.56 s	31.56 ab	1.22 h-o	0.96 no
N05006	10.79 a	2.40 p-s	48.56 s	32.38 a	1.15 m-p	1.14 d-i
N05007	10.54 ab	2.62 j-p	48.42 s	33.00 a	1.18 l-o	0.96 no
MEAN	**9.39**	**2.72**	**55.49**	**26.52**	**1.26**	**1.12**
CV (%)	**2**	**4.5**	**1.8**	**3.2**	**4.9**	**4.9**

Table 16. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Florence, SC, 2008 (cont.).

Variety or Line	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	% Total Saturated	P/S Ratio	% Total Long Chain Saturated
Florida Fancy	2.33 c-j	1.18 b-h	78.62 w	17.01 a	13.96 q	0.38 t	4.77 b-f
Georgia 05E	3.74 a	1.36 a	76.15 x	14.91 a	16.58 g-o	0.31 t	6.85 a
Brantley	2.13 h-k	0.97 k	83.20 v	6.34 b	14.94 p	0.77 s	4.49 e-g
Wilson	2.31 c-j	1.10 f-j	92.92 st	2.51 c	15.90 o	1.49 n-q	4.71 c-f
Gregory	2.32 c-j	1.18 b-i	93.82 p-t	2.23 c	16.62 f-o	1.53 l-q	4.80 b-f
CHAMPS	2.44 b-f	1.23 a-e	94.07 o-s	2.08 c	17.34 a-h	1.53 m-q	5.00 b-d
NC 12C	2.36 b-i	1.09 g-j	94.45 m-r	2.01 c	17.51 a-d	1.54 k-q	4.80 b-f
Perry	2.33 c-j	1.15 c-i	96.11 e-k	1.92 c	16.76 d-n	1.68 c-j	4.74 c-f
Phillips	2.30 d-j	1.17 b-i	96.77 d-h	1.84 c	16.74 d-n	1.73 b-f	4.65 c-g
VA 98R	2.16 g-k	1.23 a-e	96.48 e-j	1.82 c	17.11 b-k	1.69 b-i	4.55 d-g
N03081T (Bailey)	2.33 c-j	1.21 b-h	96.84 c-h	1.82 c	16.81 d-n	1.73 b-f	4.76 c-f
NC-V 11	2.20 f-k	1.24 a-e	96.41 e-j	1.80 c	17.36 a-g	1.68 c-j	4.63 c-g
VT 003194	2.43 b-f	1.12 d-j	91.34 u	2.61 c	16.78 d-n	1.36 r	5.00 b-d
VT 9506083-3	2.53 b-d	1.25 a-d	92.42 tu	2.38 c	16.98 c-l	1.43 qr	5.22 b
VT 023002	2.39 b-g	1.24 a-e	94.53 l-r	2.14 c	16.58 h-o	1.58 h-o	4.98 b-d
VT 024051	2.44 b-f	1.25 a-e	93.45 r-t	2.13 c	17.59 a-c	1.48 o-q	5.04 bc
VT 003185	2.37 b-h	1.14 c-i	94.43 m-r	2.11 c	16.91 c-n	1.57 i-p	4.79 b-f
VT 024077	2.40 b-g	1.23 a-f	94.98 j-q	2.00 c	17.12 b-k	1.59 g-o	4.98 b-d
VT 004152	2.28 d-k	1.04 i-k	95.17 i-p	1.91 c	17.65 a-c	1.58 h-o	4.73 c-f
VT024024	2.30 d-j	1.19 b-h	95.86 e-m	1.87 c	17.24 a-i	1.65 d-m	4.79 b-f
VT 024060	2.30 d-j	1.21 b-h	97.08 c-f	1.72 c	17.42 a-e	1.72 b-g	4.72 c-f
VT 003069	2.10 jk	1.11 e-j	97.35 c-e	1.70 c	17.38 a-f	1.74 b-e	4.43 fg
N06044F	2.24 e-k	1.01 jk	92.93 st	2.30 c	17.06 b-k	1.46 p-r	4.59 c-g
N04071CT	2.55 bc	1.27 a-c	93.60 q-t	2.16 c	17.24 a-i	1.50 n-q	5.04 bc
N02009	2.28 d-k	1.13 c-j	94.77 k-r	2.09 c	16.70 e-n	1.59 g-o	4.64 c-g
N05056	2.24 f-k	1.08 h-k	95.05 i-q	2.06 c	16.71 e-n	1.62 e-n	4.55 d-g
N04066CSmT	2.31 c-j	1.19 b-h	94.23 n-s	2.06 c	17.33 a-h	1.54 l-q	4.71 c-f
N05018	2.22 f-k	1.19 b-h	95.34 h-p	2.06 c	16.44 j-o	1.64 d-m	4.64 c-g
N05042F	2.33 c-j	1.20 b-h	95.01 i-q	2.05 c	16.75 d-n	1.61 f-n	4.76 b-f
N06027	2.22 f-k	1.13 d-j	94.52 l-r	2.05 c	17.19 a-j	1.56 j-p	4.46 e-g
N03090T	2.26 e-k	1.12 d-j	95.51 g-o	2.03 c	16.43 j-o	1.66 c-l	4.58 c-g
N05047	2.42 b-f	1.31 ab	94.22 n-s	2.02 c	17.63 a-c	1.53 m-q	4.91 b-e
N03091T	2.32 c-j	1.12 d-j	95.73 f-n	1.99 c	16.55 i-o	1.67 c-k	4.65 c-g
N06029	2.25 e-k	1.14 c-i	95.35 h-p	1.99 c	16.88 c-n	1.63 e-m	4.54 d-g
N05049J	2.34 c-j	1.15 c-i	95.51 g-o	1.96 c	16.91 c-n	1.64 d-m	4.73 c-f
N05037J	2.60 b	1.20 b-h	95.62 f-n	1.94 c	16.94 c-m	1.64 d-m	5.04 bc
N05031J	2.49 b-e	1.16 c-i	96.02 e-l	1.92 c	16.72 e-n	1.68 c-j	4.85 b-f
N04042FSmT	2.34 c-j	1.21 b-h	96.25 e-k	1.90 c	16.77 d-n	1.69 b-i	4.78 b-f
N03089T	2.30 d-j	1.16 c-i	97.08 c-f	1.87 c	16.19 m-o	1.78 a-c	4.62 c-g
N06032F	2.05 k	1.11 e-j	97.09 c-f	1.87 c	16.25 l-o	1.78 a-c	4.20 g
N04074FCT	2.37 b-h	1.22 b-g	97.00 c-g	1.86 c	16.37 k-o	1.76 a-d	4.72 c-f
N03005J	2.35 c-j	1.17 b-i	96.40 e-j	1.83 c	17.15 b-k	1.68 c-j	4.79 b-f
N04054FC	2.35 c-j	1.21 b-h	96.81 c-h	1.77 c	17.26 a-i	1.71 b-h	4.81 b-f
N03088T	2.31 c-j	1.15 c-i	98.27 a-c	1.75 c	16.15 no	1.86 a	4.61 c-g
N05024J	2.42 b-f	1.20 b-h	96.54 e-i	1.74 c	17.76 ab	1.67 c-j	4.88 b-f
N05008	2.13 h-k	1.14 c-i	98.04 b-d	1.57 c	17.93 a	1.76 a-d	4.48 e-g
N05006	2.31 c-j	1.26 a-c	98.75 ab	1.50 c	17.91 a	1.81 ab	4.71 c-f
N05007	2.12 i-k	1.17 c-i	99.55 a	1.47 c	17.62 a-c	1.88 a	4.47 e-g
MEAN	**2.35**	**1.17**	**94.53**	**2.64**	**16.88**	**1.56**	**4.77**
CV (%)	**5.3**	**5.7**	**0.8**	**51.2**	**2.3**	**4.1**	**4.9**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Means followed by the same letter(s) are not significantly different at the 5% probability level as determined by Duncan's New Multiple Range Test.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life

Table 17. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated averaged across all locations, 2008.[1]

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Georgia 05E	6.18	3.32	75.92	6.20	1.63	1.72
Florida Fancy	6.66	2.75	76.71	7.11	1.31	1.55
Brantley	7.39	3.51	69.23	13.89	1.44	1.18
Wilson	8.78	2.99	55.22	26.91	1.35	1.11
Gregory	9.35	2.82	53.53	28.26	1.30	1.14
CHAMPS	9.77	2.73	52.27	28.94	1.30	1.19
NC 12C	9.89	3.23	51.77	29.12	1.42	0.99
Perry	9.72	2.74	50.53	30.78	1.31	1.12
Bailey	9.80	2.53	50.42	31.09	1.24	1.18
Phillips	9.91	2.58	50.03	31.31	1.23	1.17
VA 98R	10.39	2.52	49.26	32.02	1.15	1.13
NC-V 11	10.48	2.46	48.90	32.31	1.15	1.11
VT 003194	9.00	3.20	55.91	25.71	1.46	1.07
VT 9506083-3	8.73	3.23	55.87	25.85	1.43	1.17
VT 023002	8.81	2.89	52.79	29.08	1.37	1.13
VT 003185	9.54	2.80	52.54	29.02	1.30	1.12
VT 024051	9.98	3.15	51.75	29.06	1.36	1.02
VT004152	9.89	3.23	50.89	29.98	1.43	0.96
VT 024077	9.78	2.82	50.64	30.63	1.31	1.09
VT024024	9.83	2.67	50.94	30.57	1.26	1.11
VT 024060	10.25	2.52	50.04	31.17	1.22	1.13
VT 003069	10.48	2.75	49.23	31.83	1.24	1.05
N06044F	9.71	2.92	54.98	26.64	1.34	1.02
N05056	9.73	3.04	54.55	26.90	1.37	1.00
N04071CT	9.73	2.53	53.77	27.55	1.24	1.26
N02009	9.61	2.68	53.05	28.66	1.28	1.13
N06027	10.29	2.59	52.46	28.84	1.19	1.10
N04066CSmT	10.10	2.67	52.09	29.12	1.23	1.13
N06029	9.98	2.48	52.03	29.24	1.22	1.23
N03090T	9.58	2.36	52.55	29.68	1.17	1.13
N05047	10.35	2.56	51.85	29.18	1.20	1.16
N05042F	9.74	2.44	52.10	29.61	1.22	1.18
N03091T	9.57	2.47	52.02	29.93	1.23	1.15
N05049J	9.86	2.70	51.41	29.89	1.28	1.15
N05018	9.47	2.61	51.72	30.13	1.25	1.16
N06032F	10.00	2.35	51.36	30.31	1.14	1.17
N05031J	9.62	2.56	51.14	30.33	1.23	1.22
N05037J	9.57	2.58	51.06	30.23	1.26	1.25
N04042FSmT	9.78	2.58	50.60	30.95	1.25	1.14
N03089T	9.54	2.27	50.88	31.30	1.16	1.20
N04074FCT	9.60	2.51	50.34	31.10	1.22	1.26
N05024J	10.28	2.68	49.96	31.12	1.25	1.08
N03005J	9.95	2.65	49.89	31.28	1.29	1.14
N03088T	9.53	2.25	50.64	31.69	1.15	1.18
N04054FC	9.99	2.76	49.54	31.49	1.29	1.12
N05008	10.85	2.69	47.03	33.55	1.23	1.05
N05007	10.82	2.64	46.68	33.99	1.23	1.04
N05006	10.96	2.40	46.55	34.02	1.15	1.18
Mean	**9.64**	**2.72**	**52.81**	**28.70**	**1.28**	**1.15**
LSD $_{0.05}$	**0.23**	**0.12**	**1.09**	**0.99**	**0.05**	**0.05**
P Location (L)	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
P Genotype (G)	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
P for L x G	0.004	0.0001	NS	NS	NS	NS

Table 17. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated averaged across all locations, 2008. (cont.)

Variety or Line	Behenic C22:0	Lignoceric C24:0	Iodine[2] Value	O/L[3] Ratio	% Total Saturated	P/S Ratio	% Total Long Chain Saturated
Georgia 05E	3.65	1.39	77.39	14.53	16.16	0.38	6.67
Florida Fancy	2.58	1.32	79.51	13.01	14.63	0.48	5.22
Brantley	2.31	1.06	84.53	5.43	15.70	0.88	4.80
Wilson	2.46	1.18	94.98	2.07	16.76	1.61	4.99
Gregory	2.39	1.21	95.88	1.91	17.07	1.66	4.89
CHAMPS	2.51	1.29	96.03	1.81	17.59	1.65	5.10
NC 12C	2.45	1.13	95.73	1.78	18.13	1.61	5.00
Perry	2.52	1.28	97.65	1.65	17.57	1.75	5.10
Bailey	2.46	1.29	98.14	1.63	17.32	1.79	4.99
Phillips	2.49	1.28	98.17	1.60	17.50	1.79	5.01
VA 98R	2.24	1.29	98.72	1.55	17.59	1.82	4.68
NC-V 11	2.29	1.30	98.89	1.52	17.68	1.83	4.74
VT 003194	2.53	1.13	93.46	2.19	17.31	1.48	5.12
VT 9506083-3	2.48	1.25	93.75	2.17	17.11	1.51	5.15
VT 023002	2.58	1.35	96.66	1.83	17.00	1.73	5.30
VT 003185	2.48	1.20	96.33	1.82	17.32	1.68	4.98
VT 024051	2.42	1.27	95.64	1.79	18.18	1.60	5.05
VT004152	2.50	1.13	96.45	1.70	18.17	1.65	5.06
VT 024077	2.45	1.27	97.46	1.67	17.64	1.74	5.04
VT024024	2.39	1.23	97.63	1.67	17.39	1.76	4.89
VT 024060	2.40	1.27	97.92	1.61	17.66	1.76	4.89
VT 003069	2.24	1.19	98.30	1.55	17.89	1.78	4.66
N06044F	2.35	1.04	94.24	2.07	17.36	1.54	4.73
N05056	2.33	1.08	94.29	2.04	17.55	1.53	4.78
N04071CT	2.61	1.30	94.96	1.97	17.42	1.58	5.15
N02009	2.41	1.18	96.16	1.86	17.16	1.67	4.87
N06027	2.33	1.19	95.94	1.83	17.59	1.64	4.71
N04066CSmT	2.44	1.23	96.13	1.80	17.66	1.65	4.89
N06029	2.53	1.28	96.36	1.79	17.50	1.67	5.04
N03090T	2.35	1.16	97.51	1.78	16.63	1.79	4.69
N05047	2.41	1.29	96.06	1.78	17.80	1.64	4.89
N05042F	2.43	1.28	97.03	1.77	17.11	1.73	4.92
N03091T	2.44	1.19	97.48	1.76	16.91	1.77	4.86
N05049J	2.51	1.21	96.89	1.73	17.55	1.70	5.00
N05018	2.38	1.29	97.59	1.73	16.99	1.77	4.91
N06032F	2.38	1.30	97.59	1.71	17.16	1.77	4.82
N05031J	2.65	1.25	97.48	1.70	17.31	1.76	5.13
N05037J	2.74	1.30	97.27	1.70	17.45	1.73	5.30
N04042FSmT	2.43	1.26	98.02	1.65	17.31	1.79	4.94
N03089T	2.43	1.21	98.92	1.63	16.62	1.88	4.81
N04074FCT	2.63	1.34	98.16	1.63	17.30	1.80	5.19
N05024J	2.43	1.19	97.73	1.61	17.83	1.75	4.87
N03005J	2.53	1.27	97.99	1.60	17.69	1.77	5.09
N03088T	2.39	1.19	99.36	1.60	16.50	1.92	4.72
N04054FC	2.51	1.29	98.04	1.58	17.84	1.76	5.09
N05008	2.34	1.28	99.37	1.41	18.38	1.83	4.84
N05007	2.32	1.29	99.84	1.38	18.29	1.86	4.84
N05006	2.41	1.33	99.89	1.37	18.25	1.86	4.89
Mean	**2.47**	**1.24**	**96.03**	**2.31**	**17.34**	**1.65**	**4.99**
LSD $_{0.05}$	**0.11**	**0.06**	**0.88**	**0.82**	**0.35**	**0.07**	**0.20**
P[4] Location (L)	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
P Genotype (G)	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
P for L x G	NS	NS	NS	0.0001	NS	NS	NS

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Lower iodine value indicates longer shelf life.
[3] Higher O/L ratio indicates longer shelf life.
[4] Probability from the factorial ANOVA for the effect of location, genotype, and their interaction.

Table 18. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Two-year averages across Tidewater AREC (Suffolk), VA and Martin County, NC, (2007 – 2008)[1].

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.53 b-d[2]	2.64 n-q	49.07 m	31.59 b	1.23 mn	1.12 h-j
Gregory	9.34 l	3.01 f-h	53.66 c	27.46 i	1.42 d	1.18 b-g
NC 12C	9.92 g-k	3.47 b	52.09 d-g	28.36 hi	1.49 b	0.97 l
VA 98R	10.50 b-d	2.68 m-p	49.27 lm	31.45 bc	1.23 mn	1.14 f-i
Wilson	8.84 mn	3.26 cd	55.25 b	26.07 j	1.49 b	1.14 f-i
Perry	9.82 g-k	2.93 g-j	50.20 h-m	30.43 b-g	1.40 de	1.13 g-i
CHAMPS	9.80 h-k	2.88 h-l	52.55 c-e	28.16 i	1.39 d-f	1.20 bc
Phillips	10.01 f-i	2.73 l-o	49.79 k-m	30.89 b-f	1.32 g-j	1.19 b-e
Brantley	7.43 o	3.78 a	68.74 a	13.58 k	1.58 a	1.21 b
Bailey(N03081T)	9.84 g-k	2.60 o-q	50.12 i-m	30.97 b-f	1.30 h-k	1.19 b-e
VT 003069	10.58 bc	2.92 g-k	49.34 lm	31.09 b-e	1.33 g-j	1.07 k
VT 003194	8.92 m	3.33 bc	55.58 b	25.45 j	1.58 a	1.11 h-j
VT 024051	10.06 e-h	3.45 b	52.03 d-g	28.26 hi	1.45 c	0.97 l
VT 024060	10.39 c-e	2.74 l-o	50.42 h-l	30.29 c-g	1.30 i-k	1.10 i-k
VT 024077	9.79 h-k	3.02 f-h	50.88 g-k	29.92 e-g	1.40 de	1.08 jk
VT 023002	8.57 n	3.15 d-f	53.13 cd	28.23 hi	1.51 b	1.15 e-h
VT 003185	9.54 kl	3.05 e-g	52.91 cd	27.95 i	1.42 de	1.14 f-i
VT 9506083-3	8.76 mn	3.44 b	55.78 b	25.31 j	1.52 b	1.19 b-f
N02009	9.69 h-l	2.86 h-l	53.21 cd	27.99 i	1.35 fg	1.13 g-i
N03005J	9.86 g-k	2.76 k-o	50.50 h-l	30.40 b-g	1.36 fg	1.15 d-h
N03088T	9.59 j-l	2.38 s	50.47 h-l	31.27 b-d	1.23 mn	1.20 b-d
N03089T	9.66 i-l	2.41 rs	50.87 g-k	30.76 b-f	1.23 mn	1.21 b
N03090T	9.74 h-k	2.43 rs	51.55 e-h	30.09 d-g	1.24 l-n	1.16 c-h
N03091T	9.81 g-k	2.53 p-s	51.16 f-j	30.26 c-g	1.27 kl	1.15 e-h
N04042FSmT	9.77 h-k	2.83 i-m	50.55 h-l	30.46 b-g	1.35 fg	1.13 g-i
N04071CT	9.80 h-k	2.66 n-p	53.18 cd	27.51 i	1.33 gh	1.30 a
N04074FCT	9.68 h-l	2.63 n-q	49.81 j-m	31.00 b-f	1.29 jk	1.29 a
N05006	10.98 a	2.56 p-r	47.18 n	32.99 a	1.22 n	1.17 b-g
N05008	10.84 ab	2.91 g-k	47.25 n	32.77 a	1.33 g-i	1.06 k
N05024J	10.35 c-f	2.94 g-i	50.42 h-l	30.19 d-g	1.34 gh	1.06 k
N05042F	9.93 g-j	2.50 q-s	51.34 e-i	29.82 fg	1.27 k-m	1.20 b-e
N05047	10.19 d-g	2.77 j-n	52.23 d-f	28.37 hi	1.31 h-j	1.18 b-f
N05049J	9.95 g-j	2.85 h-l	51.17 f-j	29.38 gh	1.38 ef	1.18 b-f
N05056	9.88 g-k	3.17 de	54.90 b	26.00 j	1.45 c	1.01 l
MEAN	**9.77**	**2.89**	**51.96**	**28.96**	**1.36**	**1.14**
CV (%)	**3.2**	**4.9**	**2.1**	**3.6**	**2.4**	**3.5**

Table 18. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Two-year averages across Tidewater AREC (Suffolk), VA and Martin County, NC, (2007 – 2008). (cont.)

Variety or Line	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	% Total Saturated	P/S Ratio	% Total Long Chain Saturated
NC-V 11	2.40 m-o	1.42 a-c	97.80 a-e	1.56 e-g	18.22 c-f	1.73 b-f	5.06 l-n
Gregory	2.59 d-k	1.35 c-h	94.64 k	1.96 b-e	17.71 g-l	1.55 i-k	5.35 e-i
NC 12C	2.52 g-l	1.17 l	94.69 k	1.84 b-g	18.58 a-c	1.53 i-k	5.19 i-m
VA 98R	2.36 o	1.38 b-e	97.74 a-e	1.57 e-g	18.15 d-g	1.73 b-f	4.97 n
Wilson	2.64 d-h	1.31 f-k	93.56 lm	2.14 b-d	17.55 j-m	1.49 kl	5.45 b-g
Perry	2.67 c-f	1.40 b-d	96.79 e-h	1.66 d-g	18.23 c-f	1.67 d-h	5.48 b-e
CHAMPS	2.64 d-g	1.38 b-e	94.91 jk	1.87 b-g	18.09 d-h	1.56 i-k	5.42 c-g
Phillips	2.68 c-e	1.39 b-e	97.27 c-g	1.62 e-g	18.13 d-g	1.71 b-g	5.39 d-h
Brantley	2.51 i-m	1.16 l	83.60 n	5.51 a	16.47 o	0.82 m	5.26 g-k
Bailey(N03081T)	2.60 d-j	1.38 b-e	97.69 a-e	1.62 e-g	17.72 g-l	1.75 a-e	5.28 f-j
VT 003069	2.38 no	1.29 h-k	97.13 c-g	1.59 e-g	18.50 b-d	1.68 c-g	5.01 mn
VT 003194	2.77 a-c	1.26 jk	92.76 m	2.19 bc	17.86 f-k	1.43 l	5.61 b
VT 024051	2.46 l-o	1.31 f-k	94.47 kl	1.85 b-g	18.73 ab	1.51 j-l	5.22 h-l
VT 024060	2.45 l-o	1.32 e-j	96.69 e-h	1.67 d-g	18.19 c-f	1.66 d-h	5.07 k-n
VT 024077	2.56 e-l	1.36 b-h	96.44 g-i	1.71 c-g	18.12 d-g	1.65 f-h	5.32 e-i
VT 023002	2.79 ab	1.47 a	95.50 i-k	1.90 b-g	17.49 k-m	1.65 e-h	5.77 a
VT 003185	2.63 d-i	1.36 b-h	94.83 jk	1.91 b-g	17.99 e-i	1.56 i-k	5.40 d-h
VT 9506083-3	2.62 d-i	1.32 e-j	92.76 m	2.21 b	17.65 i-l	1.43 l	5.46 b-f
N02009	2.51 i-m	1.25 k	95.14 jk	1.91 b-g	17.67 h-l	1.59 h-j	5.11 j-n
N03005J	2.63 d-i	1.35 d-h	96.99 d-g	1.67 d-g	17.95 e-j	1.69 c-g	5.34 e-i
N03088T	2.56 e-l	1.30 g-k	98.51 ab	1.62 e-g	17.06 n	1.83 a	5.09 j-n
N03089T	2.56 f-l	1.30 g-k	97.98 a-d	1.66 d-g	17.16 mn	1.79 ab	5.09 j-n
N03090T	2.52 h-m	1.27 i-k	97.36 c-g	1.72 c-g	17.21 mn	1.75 a-d	5.04 l-n
N03091T	2.55 g-l	1.26 i-k	97.33 c-g	1.69 d-g	17.42 l-n	1.74 b-f	5.09 k-n
N04042FSmT	2.55 g-l	1.35 d-h	97.12 c-g	1.66 d-g	17.86 f-k	1.71 b-g	5.25 g-k
N04071CT	2.80 ab	1.42 ab	94.42 kl	1.94 b-f	18.01 e-i	1.53 i-k	5.55 b-d
N04074FCT	2.83 a	1.47 a	97.55 b-f	1.61 e-g	17.90 e-k	1.73 b-f	5.59 bc
N05006	2.51 i-m	1.40 b-d	98.65 a	1.44 g	18.66 ab	1.77 a-c	5.12 j-n
N05008	2.48 j-n	1.37 b-g	98.23 a-c	1.45 fg	18.93 a	1.73 b-f	5.18 i-m
N05024J	2.46 k-o	1.24 k	96.49 f-i	1.68 d-g	18.33 b-e	1.65 f-h	5.04 l-n
N05042F	2.57 e-l	1.37 b-f	96.75 e-h	1.72 c-g	17.64 i-l	1.69 c-g	5.21 h-l
N05047	2.55 f-l	1.39 b-e	94.98 jk	1.85 b-g	18.22 c-f	1.56 i-k	5.26 g-k
N05049J	2.69 b-d	1.33 d-i	95.82 h-j	1.75 b-g	18.20 c-f	1.61 g-i	5.40 d-h
N05056	2.46 l-o	1.13 l	93.03 m	2.12 b-d	18.10 d-h	1.44 l	5.05 l-n
MEAN	**2.57**	**1.33**	**95.75**	**1.88**	**17.93**	**1.62**	**5.27**
CV (%)	**4.0**	**4.4**	**1.0**	**21.5**	**2.1**	**4.9**	**3.1**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Means followed by the same letter(s) are not significantly different at the 5% probability level as determined by Duncan's New Multiple Range Test.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life

Table 19. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Three-year averages across Tidewater AREC (Suffolk), VA and Martin County, NC, (2006 – 2008)[1].

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.44 a[2]	2.60 ij	48.93 j	31.79 a	1.23 o	1.14 g-j
Gregory	9.27 e	2.97 de	53.37 c	27.73 d	1.42 f	1.21 a-d
NC 12C	9.86 bc	3.42 b	52.13 de	28.41 d	1.50 d	0.98 l
VA 98R	10.37 a	2.68 hi	49.50 ij	31.23 ab	1.24 no	1.15 f-i
Wilson	8.76 f	3.31 bc	55.01 b	26.18 e	1.52 cd	1.17 d-h
Perry	9.78 b-d	2.88 e-g	50.07 g-j	30.62 bc	1.39 fg	1.16 e-i
CHAMPS	9.63 b-d	2.96 de	52.73 cd	27.93 d	1.41 fg	1.23 ab
Phillips	9.89 bc	2.70 hi	49.74 h-j	30.95 a-c	1.33 ij	1.23 ab
Brantley	7.24 g	3.86 a	69.46 a	12.81 f	1.62 a	1.23 a
Bailey(N03081T)	9.73 b-d	2.60 ij	50.25 g-i	30.83 a-c	1.31 jk	1.22 a-c
VT 003069	10.38 a	2.93 d-f	49.43 ij	31.01 ab	1.35 i	1.10 jk
VT 003194	8.91 f	3.32 bc	55.39 b	25.61 e	1.58 b	1.12 i-k
VT 024051	9.92 b	3.42 b	52.16 de	28.17 d	1.46 e	1.00 l
VT 024060	10.25 a	2.71 hi	50.45 f-i	30.31 bc	1.30 kl	1.13 h-k
VT 024077	9.68 b-d	3.03 d	50.92 f-h	29.88 c	1.41 f	1.10 k
VT 023002	8.71 f	3.20 c	52.81 cd	28.20 d	1.53 c	1.19 a-f
N02009	9.64 b-d	2.81 f-h	52.78 cd	28.37 d	1.36 hi	1.17 d-h
N03005J	9.76 b-d	2.78 gh	50.27 g-i	30.50 bc	1.38 gh	1.18 b-g
N03088T	9.50 de	2.41 k	50.44 f-i	31.22 ab	1.25 m-o	1.22 a-c
N03089T	9.55 d	2.51 jk	51.13 e-g	30.47 bc	1.27 l-n	1.20 a-e
N03090T	9.61 cd	2.43 k	51.49 ef	30.16 bc	1.26 m-o	1.18 c-h
N03091T	9.74 b-d	2.52 jk	51.03 e-g	30.40 bc	1.28 lm	1.16 d-i
N04042FSmT	9.72 b-d	2.79 f-h	50.27 g-i	30.79 a-c	1.35 i	1.15 f-i
MEAN	**9.58**	**2.91**	**52.16**	**28.85**	**1.38**	**1.16**
CV (%)	**3.3**	**5.5**	**2.4**	**4.0**	**2.7**	**4.1**

Table 19. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Three-year averages across Tidewater AREC (Suffolk), VA and Martin County, NC, (2006 – 2008). (cont.)

Variety or Line	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	% Total Saturated	P/S Ratio	% Total Long Chain Saturated
NC-V 11	2.42 i	1.45 b	98.04 ab	1.54 d	18.14 bc	1.75 a-d	5.10 i
Gregory	2.63 c-f	1.41 b-e	94.88 ef	1.93 b-d	17.69 de	1.57 gh	5.45 c-e
NC 12C	2.51 g-i	1.19 k	94.81 ef	1.84 b-d	18.48 a	1.54 g-i	5.20 g-i
VA 98R	2.44 i	1.41 b-d	97.56 a-c	1.59 d	18.13 bc	1.72 b-e	5.09 i
Wilson	2.70 b-d	1.35 e-h	93.58 g	2.12 bc	17.64 de	1.49 ij	5.57 bc
Perry	2.67 c-f	1.43 bc	97.01 cd	1.64 d	18.15 bc	1.69 c-e	5.49 cd
CHAMPS	2.69 b-e	1.43 bc	94.70 ef	1.89 b-d	18.11 c	1.55 g-i	5.53 b-d
Phillips	2.73 bc	1.43 b	97.35 bc	1.61 d	18.08 c	1.71 b-e	5.50 b-d
Brantley	2.58 e-h	1.19 k	82.91 h	6.02 a	16.49 g	0.78 k	5.39 d-f
Bailey(N03081T)	2.64 c-f	1.42 b-d	97.58 a-c	1.63 d	17.70 de	1.74 b-d	5.37 d-f
VT 003069	2.45 i	1.35 f-h	97.09 b-d	1.60 d	18.46 ab	1.68 c-f	5.15 hi
VT 003194	2.78 ab	1.28 j	92.88 g	2.17 b	17.88 cd	1.43 j	5.65 b
VT 024051	2.51 g-i	1.35 f-h	94.45 f	1.86 b-d	18.67 a	1.51 hi	5.33 e-g
VT 024060	2.47 hi	1.37 d-g	96.78 cd	1.67 d	18.10 c	1.67 d-f	5.14 hi
VT 024077	2.60 d-g	1.38 d-f	96.41 d	1.71 cd	18.10 c	1.65 ef	5.39 d-f
VT 023002	2.84 a	1.52 a	95.20 ef	1.89 b-d	17.80 cd	1.61 fg	5.89 a
N02009	2.58 e-g	1.30 ij	95.46 e	1.87 b-d	17.68 de	1.61 fg	5.24 f-i
N03005J	2.73 bc	1.40 b-e	96.99 cd	1.65 d	18.05 c	1.69 c-e	5.51 b-d
N03088T	2.62 d-g	1.34 f-i	98.41 a	1.62 d	17.12 f	1.82 a	5.21 g-i
N03089T	2.56 f-h	1.32 g-j	97.69 a-c	1.69 d	17.20 f	1.77 ab	5.15 hi
N03090T	2.57 f-h	1.31 h-j	97.45 bc	1.71 cd	17.17 f	1.76 a-c	5.13 hi
N03091T	2.57 f-h	1.29 j	97.46 bc	1.68 d	17.40 ef	1.75 b-d	5.15 hi
N04042FSmT	2.57 f-h	1.38 c-f	97.46 bc	1.64 d	17.80 cd	1.73 b-e	5.29 f-h
MEAN	**2.6**	**1.36**	**95.75**	**1.94**	**17.83**	**1.62**	**5.34**
CV (%)	**4.4**	**4.1**	**1.1**	**22.9**	**2.1**	**5.2**	**3.2**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Means followed by the same letter(s) are not significantly different at the 5% probability level as determined by Duncan's New Multiple Range Test.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life

Table 20. Calcium content (ppm)[1] in kernels from PVQE small plots in 2008.

Variety or Line	Tidewater AREC, VA	Southampton Co., VA	Martin Co., NC	Bladen Co., NC	Florence, SC	Average across locations
Georgia 05E	1100 a[2]	521 a-c	685 a-g	899 ab	486 a-e	774
CHAMPS	859 b	585 a-c	750 a-c	864 a-e	551 ab	768
Wilson	747 b-d	890 a	803 a	912 a	471 a-f	763
NC-V 11	701 b-d	805 ab	693 a-g	828 a-e	436 b-h	692
Perry	754 b-d	783 a-c	756 ab	759 a-e	442 a-h	690
VA 98R	717 b-d	766 a-c	724 a-f	802 a-e	401 d-i	676
N03081T (Bailey)	702 b-d	740 a-c	712 a-f	748 a-f	482 a-f	672
Brantley	625 b-d	728 a-c	662 a-g	873 a-c	430 b-i	667
Florida Fancy	749 b-d	688 a-c	766 ab	762 a-e	406 d-i	661
Phillips	640 b-d	739 a-c	694 a-g	734 a-f	423 c-i	643
Gregory	617 b-d	727 a-c	669 a-g	632 ef	340 g-i	590
NC 12C	557 cd	680 a-c	519 fg	707 a-f	384 e-i	574
VT 024024	744 b-d	868 a	616 a-g	854 a-e	565 a	737
VT 004152	772 bc	849 a	624 a-g	793 a-e	533 a-c	716
VT 003185	653 b-d	847 a	699 a-g	841 a-e	478 a-f	708
VT 023002	731 b-d	832 a	651 a-g	805 a-e	472 a-f	699
VT 024077	657 b-d	809 ab	652 a-g	782 a-e	469 a-f	677
VT 003069	698 b-d	557 a-c	572 b-g	807 a-e	479 a-f	672
VT 003194	652 b-d	700 a-c	734 a-d	767 a-e	466 a-f	659
VT 024051	644 b-d	752 a-c	723 a-f	706 a-f	377 e-i	634
VT 024060	608 cd	762 a-c	569 b-g	698 a-f	401 d-i	611
VT 9506083-3	599 cd		600 a-g	720 a-f	422 c-i	582
N03005J	762 bc	779 a-c	734 a-e	867 a-d	491 a-e	723
N04042FSmT	712 b-d	800 ab	799 a	793 a-e	450 a-g	704
N06029	744 b-d	834 a	629 a-g	692 a-f	462 a-g	670
N05007	590 cd	556 a-c	548 c-g	766 a-e	522 a-d	651
N02009	652 b-d	764 a-c	596 a-g	826 a-e	384 e-i	648
N05018	635 b-d	739 a-c	666 a-g	742 a-f	461 a-g	648
N05008	715 b-d	403 bc	636 a-g	856 a-e	378 e-i	634
N05042F	588 cd	742 a-c	527 e-g	848 a-e	416 c-i	634
N03091T	629 b-d	727 a-c	647 a-g	781 a-e	378 e-i	631
N05031J	734 b-d	756 a-c	635 a-g	636 d-f	424 c-i	630
N05049J	622 b-d	377 c	601 a-g	855 a-e	466 a-f	629
N04054FC	735 b-d	711 a-c	571 b-g	709 a-f	413 c-i	624
N05037J	683 b-d	732 a-c	545 c-g	728 a-f	428 b-i	624
N03090T	664 b-d	700 a-c	544 c-g	746 a-f	442 a-h	621
N05056	588 cd	797 ab	521 fg	659 c-f	466 a-f	614
N06032F	562 cd	678 a-c	582 b-g	782 a-e	433 b-i	613
N05047	725 b-d	774 a-c	533 d-g	669 b-f	358 f-i	609
N04066CSmT	513 d	724 a-c	567 b-g	730 a-f	465 a-f	609
N06044F	574 cd	512 a-c	521 fg	733 a-f	431 b-i	601
N04071CT	619 b-d	835 a	654 a-g	516 f	386 e-i	597
N05006	585 cd	684 a-c	522 fg	732 a-f	429 b-i	596
N04074FCT	629 b-d	630 a-c	563 b-g	745 a-f	384 e-i	589
N03088T	617 b-d	629 a-c	655 a-g	634 d-f	421 c-i	584
N03089T	533 cd	709 a-c	613 a-g	659 c-f	389 e-i	582
N05024J	556 cd	618 a-c	574 b-g	701 a-f	312 i	550
N06027	531 cd	616 a-c	502 g	714 a-f	324 hi	540
Mean	**668**	**749**	**633**	**759**	**434**	**646**
LSD $_{0.05}$[3]	**203**	**209**	**169**	**204**	**110**	**87**
P[4] Location (L)						0.0001
P Genotype (G)						0.0001
P G × L						NS

[1] Calcium is measured by dry-ashing and analyzed by atomic spectrophotometry. Calcium content greater than 420 ppm is needed for germination.

[2] Means followed by the same letter are not significantly different at 5% probability level as determined by Duncan's New Multiple Range Test.

[3] Least significant difference at 5% probability level.

[4] Probability from the factorial ANOVA for the effect of location, genotype, and their interaction.

2008 INCREASE PLOT TESTS

Advanced breeding lines that have exhibited good yield potential in previous tests or have other desirable characteristics are entered in the Increase plot tests for additional testing and quality evaluations, comparatively with a commercial cultivar. In 2008, the check cultivar was CHAMPS and the advanced breeding line was N03091T. The N03091T was developed by Dr. Tom Isleib with the Department of Crop Sciences at North Carolina State University.

Farmers' stock peanut from increase plots of both genotypes were shelled in a pilot shelling plant for mill outturn and sized into shelled grades. Pod yield, support price, crop value, and grade characteristics for straight shelling (Table 21) and with jumbo and fancy pods screened off (Tables 22 and 23) were further analyzed. Seed size distributions based on shelling of farmers' stock peanut is presented in Table 24. Characteristics of the jumbo and fancy in-shell grades are shown in Tables 25 and 26. Because the increase plots were not replicated, comparisons between CHAMPS and N03091T are irrelevant.

Testing evaluations are unavailable this year for the increase plots. However, sensory analyzes performed in replicated trials at the Peanut Belt Research Station, the Upper Coastal Plain Research Station, and the Border Belt Tobacco Research Station in NC document that N03091T has better tasting than Georgia Green.

Table 21. Increase plot data from farmers' stock peanuts, 2008.

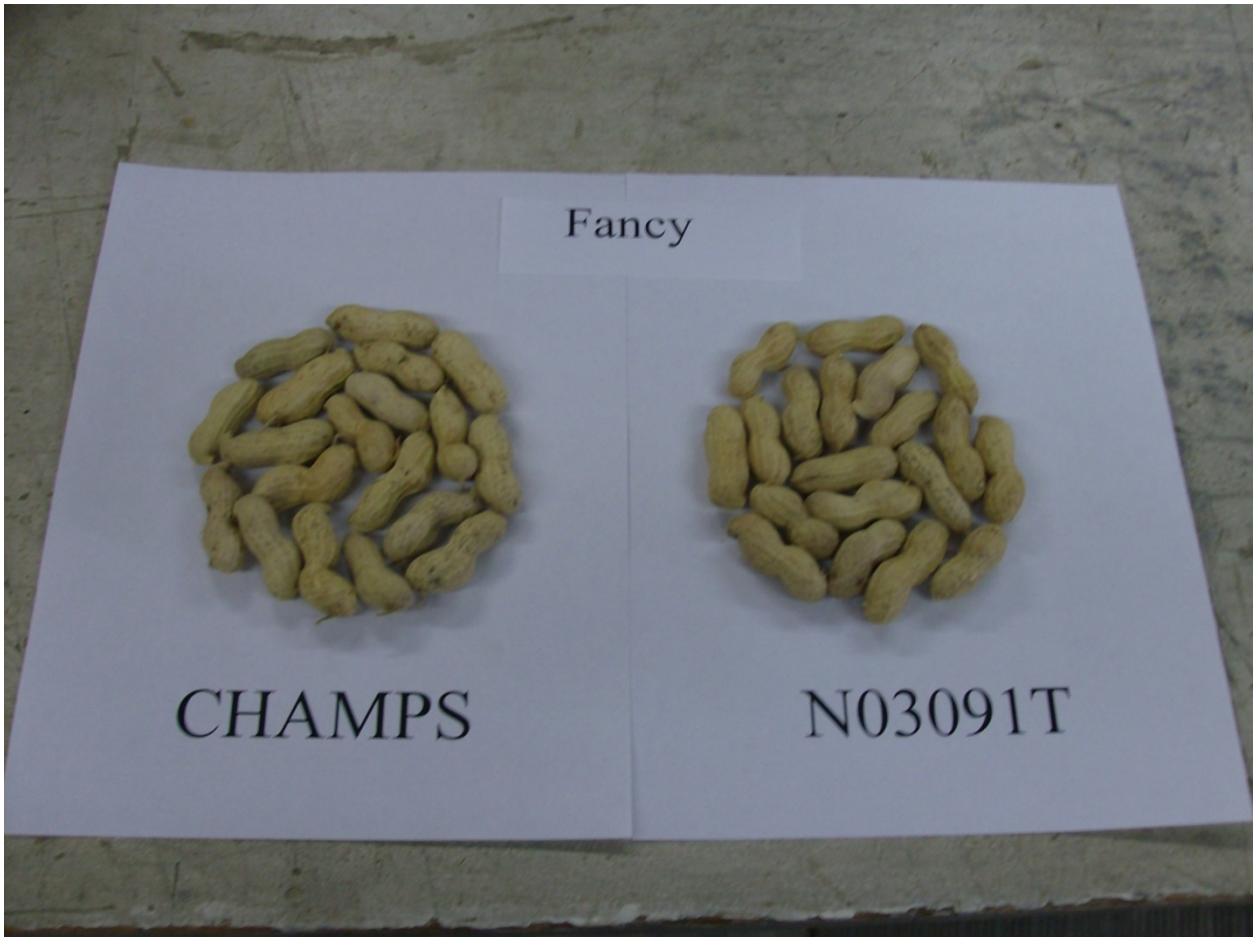
Variety or Line	% LSK	% FM	% Fancy	% Mois-ture	% ELK	% SS	% OK	% DK	% SMK	% Total Kernels	Support Price ¢/lb	Yield lb/A	Value $/A
						Tidewater AREC (Suffolk), VA							
CHAMPS	0.6	0.5	89.7	7.00	45.0	1.1	1.5	1.7	70.9	75.2	$18.56	5244	$970
N03091T	0.3	0.3	88.7	7.70	50.0	1.4	1.3	1.8	71.1	75.6	18.78	5143	964
						Martin County, North Carolina							
CHAMPS	2.3	0.7	81.7	7.30	42.0	1.5	2.4	3.7	65.8	73.4	17.35	3707	634
N03091T	1.4	0.5	83.3	6.90	48.0	2.8	2.5	3.2	65.5	74.0	17.71	3568	626
						Average Across Locations							
CHAMPS	1.5	0.6	85.7	7.15	43.5	1.3	1.9	2.7	68.3	74.3	17.96	4475	802
N03091T	0.9	0.4	86.0	7.30	49.0	2.1	1.9	2.5	68.3	74.8	18.24	4355	795

Picture 1. Kernels of CHAMPS (left) and N03091T (right) at grading.

Table 22. Mill Outturn from Increase Plots with Jumbo and Fancy Pods Screened Off[1], 2008.

Variety or Line	% Jumbo	% Fancy	% ELK	% Med.	% No. 1	% No. 2	% Oil-Stock	% Pick-outs	% LSK	% Total Mill Outturn	% FM	% Hulls
					Tidewater AREC (Suffolk), VA							
CHAMPS	4.63	49.65	14.87	9.10	2.24	2.00	0.65	1.44	0.05	85.00	0.38	14.62
N03091T	3.00	51.08	15.58	9.23	2.25	2.57	0.65	1.28	0.06	86.36	0.66	12.98
					Martin County, North Carolina							
CHAMPS	6.52	38.00	16.30	16.00	5.60	3.40	1.50	2.00	0.00	89.32	0.70	9.98
N03091T	3.35	39.60	18.00	7.40	5.00	5.00	1.35	1.60	0.00	81.84	0.54	17.63
					Average Across Locations							
CHAMPS	5.58	43.83	15.59	12.55	3.92	2.70	1.08	1.72	0.02	87.16	0.54	12.30
N03091T	3.18	45.34	16.79	8.32	3.63	3.79	1.00	1.44	0.03	84.10	0.60	15.30

[1] Based on gross weight of farmers' stock peanuts with all jumbos and fancies screened off before shelling.



Picture 2. Fancy pods of CHAMPS and N03091T from farmer's stock of Increase plots in 2008.

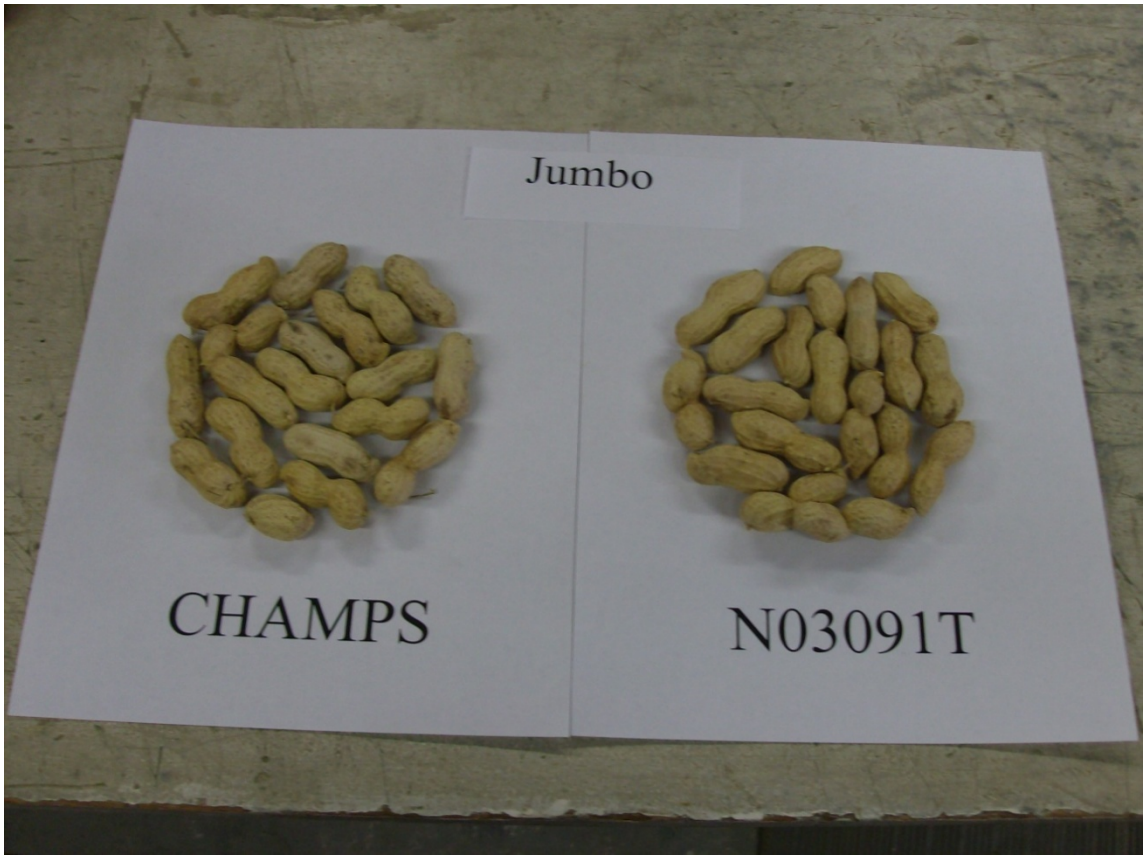
Table 23. Grade Characteristics of ELK, Med., No. 1 and No. 2's from Shelling Increase Plots with Jumbo and Fancy Screened Off – 2008.

Variety or Line	Grade	Count /lb	% Splits	% Damaged	% Moisture	% Passing through Screen[1]
			Tidewater AREC (Suffolk), VA			
CHAMPS	ELK	416	0.9	0.0	5.9	0.2
	Med.	573	0.6	0.0	6.1	7.3
	No. 1	965	5.3	0.0	6.1	18.9
	No. 2	1227	79.0	0.6	5.8	3.4
N03091T	ELK	436	0.5	0.6	6.0	0.8
	Med.	603	0.0	0.4	6.2	4.4
	No. 1	888	6.1	0.7	6.2	12.2
	No. 2	1310	65.3	0.7	6.1	3.0
			Martin County, NC			
CHAMPS	ELK	422	0.0	1.4	6.2	1.0
	Med.	623	0.3	0.6	6.0	9.4
	No. 1	1040	4.7	1.3	6.0	15.1
	No. 2	1410	69.8	2.3	5.8	8.8
N03091T	ELK	430	0.2	0.6	5.9	3.5
	Med.	672	0.2	2.1	5.9	12.8
	No. 1	969	2.9	2.3	6.1	9.0
	No. 2	1366	73.6	1.0	5.9	4.7
			Average Across Locations			
CHAMPS	ELK	419	0.5	0.7	6.1	0.6
	Med.	598	0.5	0.3	6.1	8.4
	No. 1	1003	5.0	0.7	6.1	17.0
	No. 2	1319	74.4	1.5	5.8	6.1
N03091T	ELK	433	0.4	0.6	6.0	2.2
	Med.	638	0.1	1.3	6.1	8.6
	No. 1	929	4.5	1.5	6.2	10.6
	No. 2	1338	69.5	0.9	6.0	3.9

[1] Screen used to get % fall through were: ELK-20/64 x 1" slot; Medium-18/64 x 1" slot; No. 1-15/64 x 1" slot; and No. 2-17/64 round hole.

Table 24. Seed size distribution based on farmers' stock peanuts from Tidewater AREC (Suffolk), VA and Martin County, NC, 2008.

Screen Size	Tidewater AREC (Suffolk), VA		Martin County, NC		Average Across Locations	
	CHAMPS	N03091T	CHAMPS	N03091T	CHAMPS	N03091T
<18R	0.94	0.56	1.74	1.40	1.34	0.98
18R	0.74	1.66	1.00	1.44	0.87	1.55
14	1.36	0.82	1.80	2.36	1.58	1.59
15	0.82	0.80	1.96	1.86	1.39	1.33
16	0.40	0.86	1.50	2.18	0.95	1.52
17	2.60	3.00	4.70	3.02	3.65	3.01
18	1.90	2.84	3.96	6.20	2.93	4.52
19	7.90	4.88	4.22	4.02	6.06	4.45
20	9.40	7.20	7.06	4.70	8.23	5.95
21	24.60	18.06	22.12	9.46	23.36	13.76
22	34.00	32.56	28.24	26.50	31.12	29.53
23	8.80	15.44	15.78	25.48	12.29	20.46
24	0.70	3.98	3.42	5.94	2.06	4.96
25	4.60	6.38	2.12	3.84	3.36	5.11
26	1.50	0.78	0.26	1.48	0.88	1.13
27	0.00	0.00	0.00	0.00	0.00	0.00
28>	0.00	0.22	0.00	0.00	0.00	0.11
	0.94	0.56	1.74	1.40	1.34	0.98



Picture 3. Jumbo pods of CHAMPS and N03091T from farmer's stock of Increase plots in 2008.

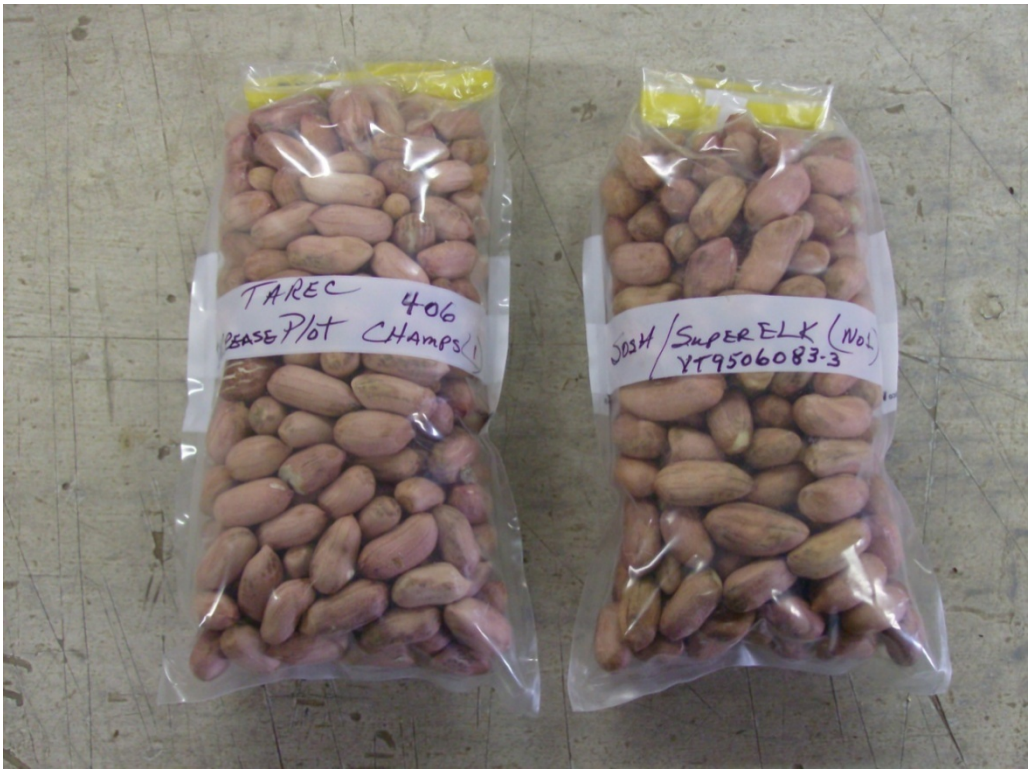
Table 25. Grade percentages and characteristics of Jumbo, 2008.

Variety or Line	Grade Characteristics									
	Count /lb	% Total Kernels	% Passing Through Screen	% Cracked or Broken Shells	% Discolored Shells	% Other Shell Defects	% Foreign Material	% Total External Defects	% Damaged Kernels	% Moisture
				Tidewater AREC (Suffolk), VA						
CHAMPS	144	74.22	1.45	0.45	0.00	0.00	0.00	0.45	0.04	5.60
N03091T	140	73.69	2.90	3.74	0.00	0.00	0.00	3.74	0.09	5.80
				Martin County, NC						
CHAMPS	144	74.39	4.41	2.79	0.00	0.00	0.00	2.79	0.17	5.70
N03091T	141	72.45	3.69	3.27	0.00	0.00	0.00	3.27	0.09	5.40
				Average Across Locations						
CHAMPS	144	74.31	2.93	1.62	0.00	0.00	0.00	1.62	0.11	5.65
N03091T	141	73.07	3.30	3.51	0.00	0.00	0.00	3.51	0.09	5.60

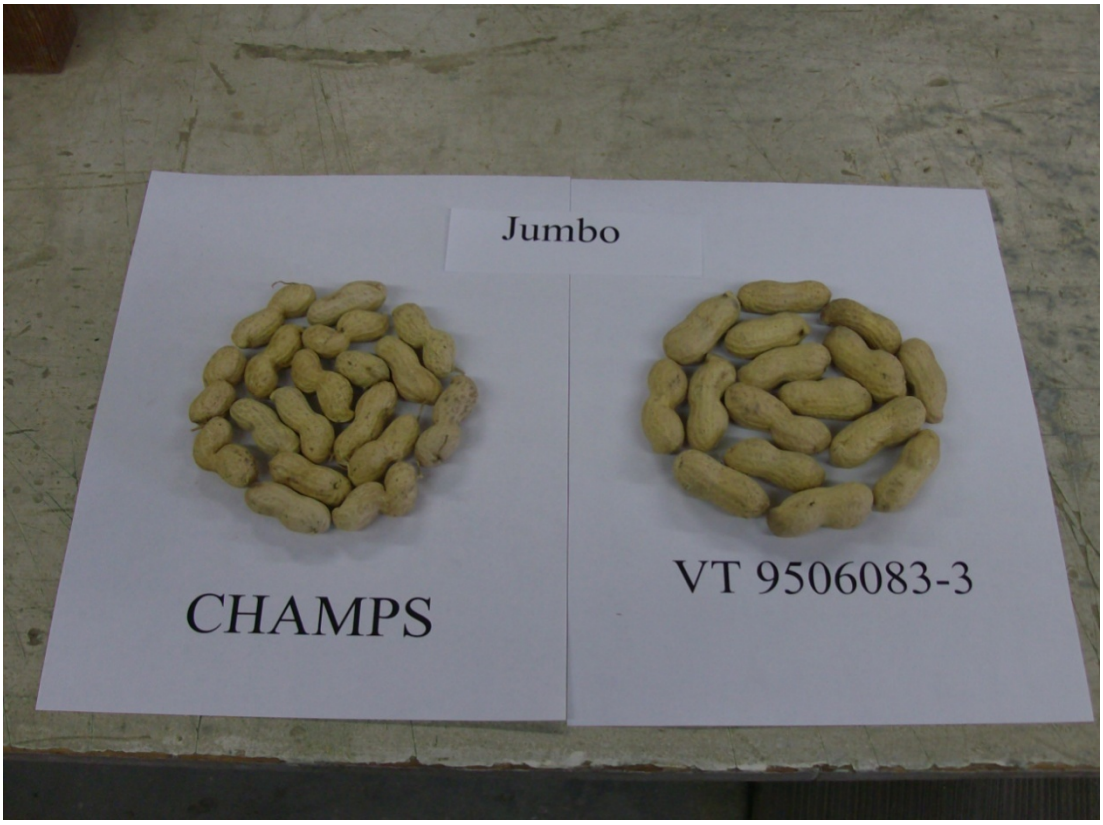
Table 26. Grade percentages and characteristics of Fancy, 2008.

Variety or Line	Grade Characteristics									
	Count /lb	% Total Kernels	% Passing Through Screen	% Cracked or Broken Shells	% Discolored Shells	% Other Shell Defects	% Foreign Material	% Total External Defects	% Damaged Kernels	% Moisture
				Tidewater AREC (Suffolk), VA						
CHAMPS	182	75.64	1.80	2.83	0.00	0.15	0.00	2.98	0.08	5.70
N03091T	184	76.84	1.66	4.96	0.00	0.19	0.02	5.17	0.21	5.80
				Martin County, NC						
CHAMPS	168	75.52	2.21	6.38	0.00	0.14	0.02	6.54	0.08	5.40
N03091T	174	76.02	0.78	4.72	0.00	0.11	0.00	4.83	0.10	5.50
				Average Across Locations						
CHAMPS	175	75.58	2.01	4.61	0.00	0.15	0.01	4.76	0.08	5.55
N03091T	179	76.43	1.22	4.84	0.00	0.15	0.01	5.00	0.16	5.65

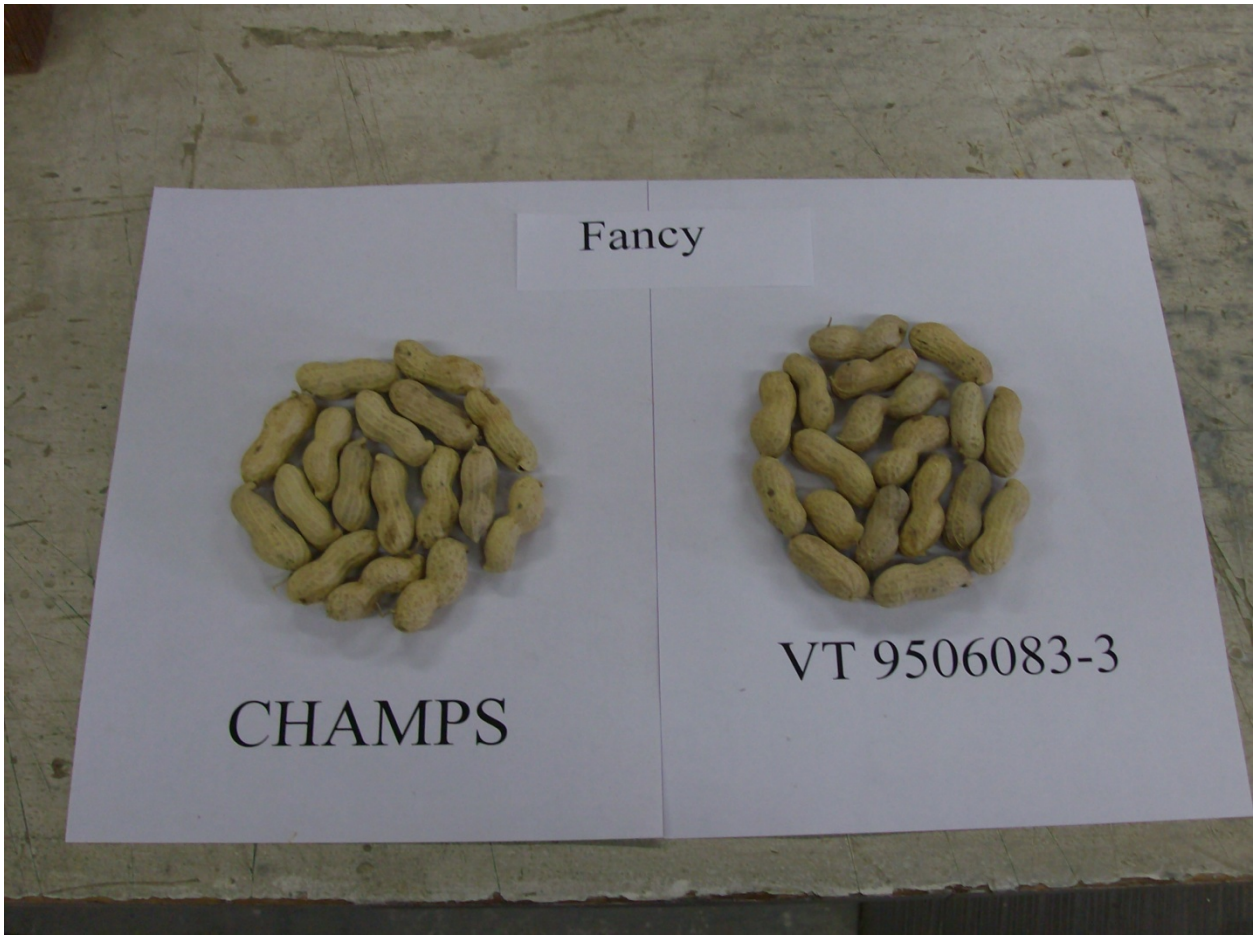
APPENDIX



Kernels of CHAMPS (left) and VT 9506083-3 (right).



Jumbo pods of CHAMPS and VT 9506083-3.



Fancy pods of CHAMPS and VT 9506083-3.