PEANUT VARIETY AND QUALITY EVALUATION RESULTS

Quality Data

Tidewater Agricultural Research and Extension Center

Virginia Agricultural Experiment Station

2011

Virginia Cooperative Extension

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PEANUT VARIETY AND QUALITY EVALUATION RESULTS 2011

II. Quality Data

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Information Series No. 498
March 2012

ACKNOWLEDGEMENTS
FINANCIAL SUPPORT

The authors gratefully acknowledge financial support from the following institutions and organizations:

Virginia Tech

VCPA

SC PEANUT GROWERS

NC STATE UNIVERSITY

CLEMSON UNIVERSITY

TECHNICAL SUPPORT

The following agricultural specialists, technicians, and lab assistants are gratefully acknowledged for their professionalism, and dedication to achieve tasks on time and in a collegial manner: F. Bryant, D. Redd, C. Daughtrey, B. Kennedy, P. Copland, and T. Balotte. Appreciation is extended to Dr. Allen Harper for his support with implementing collegiality in the PVQE group, and Dr. Pat Phipps for his technical advice and mentoring role of a new faculty member, Dr. Maria Balota. All of the following cooperators are also acknowledged for their various support provided to the PVQE program in 2011.

Pam Copeland, below

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

Brenda Kennedy, left

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Agencies

Mr. J. Gillespie, Federal-State Inspection Service

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Introduction

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 9 Virginia-type cultivars that currently are on the market and 19 advanced breeding lines tested in the Peanut Variety and Quality Evaluation (PVQE) small plots in 2011. The small PVQE plots with 28 varieties were tested at five locations in Virginia, North Carolina, and South Carolina: Suffolk, VA, Martin Co., NC, Rocky Mount, NC, Bladen, NC, and Blackville, SC. At Suffolk and Martin Co., NC, two digging dates with two replications for each cultivar were achieved. For the other locations, only one digging date was done. Each genotype was replicated 3 times at these locations. Varieties' names and pedigree are presented in Table 1. Since none of the advanced breeding lines were proposed for release, PVQE seed increase plots were not planted in 2011. A detailed description of the plant material, test locations, weather conditions, and cultural practices is included in the PVQE 2011 Results. I. Agronomic and Grade Data, at http://pubs.ext.vt.edu/AREC/AREC-5/AREC-5.html.

2011 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 through 19 contain blanching data for the extra large kernels (ELK) and medium size kernels. Statistical analysis were determined for percentage of splits, whole blanched, not blanched, and partially blanched.

Small Plot Tests

PLANT MATERIAL AND TEST LOCATIONS

Table 1. Names and pedigree of the genotypes (advanced breeding lines and commercial varieties) evaluated in 2011.

Genotype Number	Variety or Line	Pedigree
1	NC-V 11	Florigiant / NC 5 // Florigiant / Valencia
2	Gregory	NC 7 / NC 9
3	VA 98R	VA 81B x VA 780839P
4	Perry	NC 7 / Florigiant // N90021
5	CHAMPS	VA 8911215 / VA-C 92R
6	Phillips	N90014E / N91024
7	Bailey	NC 12C*2 / N96076L
8	Sugg	Gregory // X98006 (F1)
9	Florida Fancy	F87 x 8-2-1 / F 85410 / 93Q10
10	N07018JCSm	N99133CSm / N00035J
11	N07019JCSm	N99133CSm / N00035J
12	N08070olJC	N03079FT*2 / N02059ol (Per)
13	N08074olC	N03079FT*2 / N02059ol (Per)
14	N08075olCT	N03079FT*2 / N02059ol (Per)
15	N08081olJC	Bailey*2 / Brantley
16	N08082olJCT	Bailey*2 / Brantley
17	N08085olJCT	Bailey*2 / Brantley
18	N08087olJCT	Bailey*2 / Brantley
19	N09019olJ	N00091ol (7) / N99067J
20	N09024olJ	N00052 / N00098ol (Gre)
21	N09026olJ	N00052 / N00098ol (Gre)
22	N09031ol	N02009*2 / N00088ol (92R)
23	N09032ol	N02009*2 / N00088ol (92R)
24	N09037ol	N03079FT*2 / N00090ol (7)
25	N09049olC	N03075FT / N00098ol (Gre)
26	N09053olCSm	N03075FT / N00098ol (Gre)
27	N09056olC	N03075FT / N00098ol (Gre)
28	N09068olCSm	N04052FCSmT / N02051ol (9)

Small Plot Tests

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 all 2011 PVQE locations and digging dates in Tables 20 through 30. Table 28 shows the content of the fatty acids averaged across all locations in 2011. Two- and three-year averages are included in Tables 29 and 30. Calcium content (ppm) of seeds of each genotype was determined and presented in Tables 31 to 33 for each location and digging dates.

Blanching Results

Table 2. Laboratory sample blanching of Extra Large Kernels (ELK) from Tidewater AREC (Suffolk) VA, Dig 1, 2011 (3 October).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.90	4.85	1.45	1.60 e-g	94.80 a-e	0.00 b	2.15 d-f
Gregory	5.95	4.80	1.35	1.60 e-g	94.90 a-e	0.00 b	2.15 d-f
VA 98R	6.00	4.80	1.85	3.15 b-f	92.80 b-g	0.00 b	2.20 d-f
Perry	5.95	4.90	1.50	1.30 e-g	95.40 ab	0.00 b	1.80 ef
CHAMPS	6.05	4.95	1.60	3.70 b-d	92.75 b-g	0.00 b	1.95 ef
Phillips	5.95	4.90	1.85	1.75 c-g	95.25 a-c	0.00 b	1.15 f
Bailey	6.00	4.85	1.35	1.90 c-g	95.95 ab	0.00 b	0.80 f
Sugg	6.00	4.85	1.85	1.40 e-g	95.00 a-d	0.00 b	1.75 ef
Florida Fancy	6.00	4.85	1.60	4.00 b	91.35 e-g	0.00 b	2.70 d-f
N07018JCSm	6.00	4.90	1.80	3.75 bc	84.45 j	0.50 a	9.50 a
N07019JCSm	6.00	4.85	1.15	2.30 b-g	89.30 g-i	0.00 b	7.25 a-c
N08070olJC	6.00	4.85	1.55	2.95 b-f	91.70 c-g	0.10 b	3.70 d-f
N08074olC	6.05	4.95	0.70	2.40 b-g	94.60 a-e	0.50 a	1.80 ef
N08075olCT	6.05	4.90	1.40	2.20 b-g	95.10 a-d	0.00 b	3.95 c-f
N08081olJC	6.00	4.80	1.65	1.70 c-g	94.80 a-e	0.00 b	1.85 ef
N08082olJCT	5.95	4.90	1.80	1.10 fg	91.65 d-g	0.00 b	5.45 b-d
N08085olJCT	6.00	4.95	1.25	1.80 c-g	95.60 ab	0.00 b	1.30 f
N08087olJCT	5.95	4.85	1.70	2.95 b-f	94.35 a-e	0.00 b	1.00 f
N09019olJ	6.00	4.90	1.65	2.75 b-f	86.95 h-j	0.05 b	8.60 ab
N09024olJ	6.05	4.85	1.95	6.70 a	86.50 ij	0.00 b	4.85 c-e
N09026olJ	5.95	4.85	1.20	2.95 b-f	90.20 f-h	0.00 b	5.20 b-e
N09031ol	5.95	4.90	1.10	1.10 fg	94.30 a-e	0.00 b	3.50 d-f
N09032ol	5.95	4.80	1.95	1.65 d-g	94.50 a-e	0.00 b	1.90 ef
N09037ol	6.05	4.95	0.95	0.60 g	96.20 ab	0.00 b	2.25.d-f
N09049olC	5.95	4.90	1.70	2.10 b-g	95.55 ab	0.00 b	0.65 f
N09053olCSm	6.00	4.90	1.55	0.65 g	96.55 a	0.00 b	1.25 f
N09056olC	6.00	4.95	1.25	2.8o b-f	93.55 a-f	0.00 b	2.40 d-f
N09068olCSm	5.95	4.95	1.75	3.35 b-e	93.60 a-f	0.00 b	1.30 f
Mean	**5.99**	**4.88**	**1.52**	**2.36**	**93.13**	**0.04**	**3.01**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 3. Laboratory sample blanching of Extra Large Kernels (ELK) from Tidewater AREC (Suffolk) VA, Dig 2, 2011 (11 October).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	6.00	4.90	1.70	2.20 a-c	93.85 a-e	0.00 a	2.25 e-i
Gregory	6.00	4.80	1.45	1.30 bc	96.40 a	0.00 a	0.85 hi
VA 98R	6.05	4.95	1.35	2.85 ab	91.50 c-h	0.00 a	4.30 d-i
Perry	5.95	4.95	1.45	2.30 a-c	93.40 a-f	0.00 a	2.85 e-i
CHAMPS	6.00	5.40	1.60	1.75 a-c	93.75 a-e	0.00 a	2.90 e-i
Phillips	6.00	4.90	1.55	2.45 a-c	92.65 b-g	0.00 a	3.35 e-i
Bailey	6.00	4.85	1.65	1.85 a-c	94.40 a-d	0.00 a	2.10 e-i
Sugg	6.00	4.85	1.40	1.65 bc	94.05 a-e	0.00 a	2.90 e-i
Florida Fancy	6.00	4.85	1.50	2.25 a-c	94.95 a-c	0.00 a	1.30 g-i
N07018JCSm	6.05	4.85	1.45	1.35 bc	83.60 k	0.00 a	13.60 a
N07019JCSm	6.00	4.95	1.45	1.50 bc	84.60 jk	0.00 a	12.45 ab
N08070olJC	5.95	4.85	1.60	1.85 a-c	88.75 hi	0.00 a	7.80 cd
N08074olC	5.90	4.85	1.50	1.35 bc	96.45 a	0.00 a	0.70 i
N08075olCT	6.05	4.90	1.90	2.25 a-c	91.50 c-h	0.00 a	4.35 d-h
N08081olJC	6.00	4.80	1.50	0.90 c	94.70 a-d	0.00 a	2.90 e-i
N08082olJCT	6.00	4.95	1.30	1.95 a-c	89.35 g-i	0.00 a	7.40 cd
N08085olJCT	6.00	4.95	1.30	2.25 a-c	93.95 a-e	0.00 a	2.50 e-i
N08087olJCT	6.00	4.90	1.55	0.95 c	90.00 f-i	0.00 a	7.50 cd
N09019olJ	6.00	4.90	1.60	1.80 a-c	91.20 d-h	0.00 a	5.40 d-f
N09024olJ	6.00	4.95	1.45	1.70 a-c	87.30 ij	0.00 a	9.55 bc
N09026olJ	6.00	4.90	1.45	3.55 a	90.40 e-i	0.00 a	4.60 d-g
N09031ol	6.05	4.90	1.60	1.40 bc	93.75 a-e	0.00 a	3.25 e-i
N09032ol	6.00	4.95	1.40	1.10 bc	96.65 a	0.00 a	0.85 hi
N09037ol	6.00	4.85	1.50	1.15 bc	95.40 ab	0.00 a	1.95 f-i
N09049olC	6.00	4.90	1.45	1.30 bc	95.45 ab	0.00 a	1.80 f-i
N09053olCSm	6.05	4.90	1.45	1.70 a-c	95.60 ab	0.00 a	1.25 g-i
N09056olC	6.00	4.80	1.55	1.65 bc	91.20 d-h	0.00 a	5.60 de
N09068olCSm	6.00	4.85	1.85	2.75 a-c	91.65 c-h	0.00 a	3.75 e-i
Mean	**6.00**	**4.91**	**1.52**	**1.82**	**92.37**	**0.00**	**4.29**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 4. Laboratory sample blanching of Extra Large Kernels (ELK). Averages of both digging dates from Tidewater AREC (Suffolk), VA, 2011.

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.95	4.88	1.58	1.90 b-g	94.33 a-d	0.00 b	2.20 g-j
Gregory	5.98	4.80	1.40	1.45 e-g	95.65 ab	0.00 b	1.50 h-j
VA 98R	6.03	4.88	1.60	3.00 a-d	92.15 d-f	0.00 b	3.25 e-j
Perry	5.95	4.93	1.48	1.80 b-g	94.40 a-d	0.00 b	2.33 f-j
CHAMPS	6.03	5.18	1.60	2.73 a-e	93.25 b-d	0.00 b	2.43 f-j
Phillips	5.98	4.90	1.70	2.10 b-g	93.95 a-d	0.00 b	2.25 f-j
Bailey	6.00	4.85	1.50	1.88 b-g	95.18 a-c	0.00 b	1.45 ij
Sugg	6.00	4.85	1.63	1.53 d-g	94.53 a-d	0.00 b	2.33 f-j
Florida Fancy	6.00	4.85	1.55	3.13 a-c	93.15 b-e	0.00 b	2.00 g-j
N07018JCSm	6.03	4.88	1.63	2.55 b-f	84.03 i	0.25 a	11.55 a
N07019JCSm	6.00	4.90	1.30	1.90 b-g	86.95 h	0.00 b	9.85 ab
N08070olJC	5.98	4.85	1.58	2.40 b-g	90.23 fg	0.05 b	5.75 c-e
N08074olC	5.98	4.90	1.10	1.88 b-g	95.53 ab	0.25 a	1.25 j
N08075olCT	6.05	4.90	1.65	2.23 b-g	93.30 b-d	0.00 b	4.15 d-h
N08081olJC	6.00	4.80	1.58	1.30 e-g	94.75 a-d	0.00 b	2.38 f-j
N08082olJCT	6.00	4.93	1.55	1.53 d-g	90.50 e-g	0.00 b	6.43 cd
N08085olJCT	6.00	4.95	1.28	2.03 b-g	94.78 a-d	0.00 b	1.90 g-j
N08087olJCT	5.98	4.88	1.63	1.95 b-g	92.18 d-f	0.00 b	4.25 d-g
N09019olJ	6.00	4.90	1.63	2.28 b-g	89.08 gh	0.03 b	7.00 c
N09024olJ	6.03	4.90	1.70	4.20 a	86.90 h	0.00 b	7.20 bc
N09026olJ	5.98	4.88	1.33	3.25 ab	90.30 fg	0.00 b	4.90 c-f
N09031ol	6.00	4.90	1.35	1.25 e-g	94.03 a-d	0.00 b	3.38 e-j
N09032ol	5.98	4.88	1.68	1.38 e-g	95.58 ab	0.00 b	1.38 ij
N09037ol	6.03	4.90	1.23	0.88 g	95.80 ab	0.00 b	2.10 g-j
N09049olC	5.98	4.90	1.58	1.70 c-g	95.50 ab	0.00 b	1.23 j
N09053olCSm	6.03	4.90	1.50	1.18 fg	96.08 a	0.00 b	1.25 j
N09056olC	6.00	4.88	1.40	2.23 b-g	92.38 d-f	0.00 b	4.00 d-i
N09068olCSm	5.98	4.90	1.80	3.05 a-d	92.63 d-f	0.00 b	2.53 f-j
Mean	**6.00**	**4.89**	**1.52**	**2.09**	**92.75**	**0.02**	**3.65**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 5. Laboratory sample blanching of Extra Large Kernels (ELK) from Martin County, NC, Dig 1, 2011 (6 October).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	6.00	4.95	1.50	2.50 a-e	94.00 a-c	0.00 b	2.00 d-g
Gregory	6.10	4.90	1.40	1.20 c-e	95.80 a	0.00 b	1.60 fg
VA 98R	6.35	4.95	1.50	2.00 a-e	92.15 a-c	0.00 b	4.35 c-g
Perry	5.90	4.90	1.70	3.30 a	92.15 a-c	0.00 b	2.85 c-g
CHAMPS	6.00	4.90	1.65	0.95 de	95.45 a	0.00 b	1.95 d-g
Phillips	6.00	4.95	1.65	3.35 a	92.80 a-c	0.00 b	2.20 d-g
Bailey	5.95	5.00	1.50	1.75 a-e	94.75 ab	0.00 b	2.00 d-g
Sugg	5.95	4.90	1.65	1.70 a-e	95.15 a	0.00 b	1.50 fg
Florida Fancy	5.90	4.90	1.40	3.15 ab	93.50 a-c	0.00 b	1.95 d-g
N07018JCSm	5.95	5.00	1.10	0.90 e	83.55 e	0.30 a	14.15 a
N07019JCSm	5.95	4.80	1.50	1.80 a-e	89.90 de	0.00 b	9.80 b
N08070olJC	5.95	4.90	1.50	2.85 a-c	90.60 b-d	0.00 b	5.05 c-f
N08074olC	5.95	4.95	1.60	2.30 a-e	92.65 a-c	0.00 b	3.45 c-g
N08075olCT	6.10	4.90	1.45	2.90 a-c	93.60 a-c	0.00 b	2.05 d-g
N08081olJC	6.05	4.90	1.45	1.30 c-e	95.05 a	0.00 b	2.20 d-g
N08082olJCT	5.95	4.95	1.30	1.75 a-e	93.45 a-c	0.00 b	3.50 c-g
N08085olJCT	6.00	4.95	1.80	1.50 b-e	95.45 a	0.00 b	1.25 g
N08087olJCT	5.95	4.90	1.65	2.50 a-e	93.00 a-c	0.00 b	2.85 c-g
N09019olJ	5.95	4.85	1.50	2.25 a-e	90.20 cd	0.00 b	6.05 bc
N09024olJ	5.95	4.95	1.55	2.95 a-c	90.00 cd	0.00 b	5.50 c-e
N09026olJ	5.95	4.85	1.35	2.40 a-e	90.55 cd	0.00 b	5.70 cd
N09031ol	5.90	4.90	1.45	2.30 a-e	93.75 a-c	0.00 b	2.50 c-g
N09032ol	5.90	4.85	1.55	2.70 a-d	92.60 a-c	0.00 b	3.15 c-g
N09037ol	6.00	4.95	1.45	2.40 a-e	92.05 a-c	0.00 b	4.10 c-g
N09049olC	6.00	4.95	1.25	2.50 a-e	95.20 a	0.00 b	1.05 g
N09053olCSm	5.95	4.90	1.55	1.85 a-e	94.75 ab	0.00 b	1.85 e-g
N09056olC	6.00	5.00	1.65	2.35 a-e	93.95 a-c	0.00 b	2.05 d-g
N09068olCSm	5.80	4.80	1.50	2.90 a-c	93.30 a-c	0.00 b	2.30 c-g
Mean	**5.98**	**4.91**	**1.50**	**2.23**	**92.73**	**0.01**	**3.53**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 6. Laboratory sample blanching of Extra Large Kernels (ELK) from Martin County, NC, Dig 2, 2011 (17 October).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	6.00	4.95	1.55	2.05 a-d	92.30 a-e	0.00 b	4.10 d-g
Gregory	6.00	4.85	0.80	2.50 a-d	93.35 a-c	0.00 b	3.35 e-g
VA 98R	6.00	4.85	1.60	1.55 b-d	94.60 a-c	0.00 b	2.25 e-g
Perry	6.00	4.90	1.50	2.00 a-d	92.05 a-e	0.00 b	4.45 c-g
CHAMPS	6.05	5.00	1.65	2.25 a-d	91.15 b-e	0.00 b	4.95 b-g
Phillips	6.00	4.90	2.15	2.55 a-d	91.30 b-e	0.00 b	4.00 d-g
Bailey	6.00	4.90	1.50	1.85 a-d	93.90 a-c	0.00 b	2.75 e-g
Sugg	5.95	4.85	1.50	1.80 a-d	92.75 a-d	0.00 b	3.95 d-g
Florida Fancy	5.95	4.85	1.85	3.30 ab	92.70 a-d	0.00 b	2.15 e-g
N07018JCSm	6.05	4.90	1.40	2.85 a-d	83.30 g	0.50 a	11.95 a
N07019JCSm	6.00	4.85	1.70	1.30 d	88.45 d-f	0.00 b	8.55 a-c
N08070olJC	5.95	4.85	1.65	1.40 cd	92.15 a-e	0.00 b	4.80 b-g
N08074olC	6.05	4.90	1.65	1.80 a-d	93.80 a-c	0.00 b	2.75 e-g
N08075olCT	5.95	4.90	1.05	2.45 a-d	87.85 e-g	0.50 a	8.15 a-d
N08081olJC	6.00	4.95	1.45	1.55 b-d	92.90 a-d	0.00 b	4.10 d-g
N08082olJCT	6.00	4.95	1.60	1.70 a-d	90.55 c-f	0.00 b	6.15 b-e
N08085olJCT	6.00	5.00	1.60	2.75 a-d	93.40 a-c	0.00 b	2.25 e-g
N08087olJCT	5.90	4.90	1.60	1.40 cd	91.40 b-e	0.00 b	5.60 b-f
N09019olJ	6.00	4.95	1.45	3.40 a	86.00 fg	0.00 b	9.15 ab
N09024olJ	6.00	5.00	1.40	2.40 a-d	92.30 a-e	0.00 b	3.90 d-g
N09026olJ	6.00	5.00	1.55	1.95 a-d	92.00 a-e	0.00 b	4.50 c-g
N09031ol	5.90	4.85	1.65	2.20 a-d	91.95 a-e	0.00 b	4.20 c-g
N09032ol	6.00	4.95	1.60	2.40 a-d	92.20 a-e	0.00 b	3.80 d-g
N09037ol	5.95	4.90	1.10	3.15 a-c	91.50 b-e	0.00 b	4.25 c-g
N09049olC	5.95	4.90	1.45	1.30 d	96.30 a	0.00 b	0.95 g
N09053olCSm	6.05	4.85	1.60	1.95 a-d	93.55 a-c	0.00 b	2.90 e-g
N09056olC	6.00	4.95	1.40	1.60 b-d	95.40 ab	0.00 b	1.60 fg
N09068olCSm	6.00	4.90	1.70	2.30 a-d	88.20 d-f	0.00 b	7.80 a-d
Mean	**5.99**	**4.91**	**1.53**	**2.13**	**91.69**	**0.04**	**4.62**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 7. Laboratory sample blanching of Extra Large Kernels (ELK). Averages of both digging dates from Martin County, NC, 2011.

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	6.00	4.95	1.53	2.28 a-f	93.15 a-f	0.00 b	3.05 d-g
Gregory	6.05	4.88	1.10	1.85 b-f	94.58 ab	0.00 b	2.48 d-g
VA 98R	6.18	4.90	1.55	1.78 b-f	93.38 a-f	0.00 b	3.30 d-g
Perry	5.95	4.90	1.60	2.65 a-e	92.10 b-f	0.00 b	3.65 d-g
CHAMPS	6.03	4.95	1.65	1.60 d-f	93.30 a-f	0.00 b	3.45 d-g
Phillips	6.00	4.93	1.90	2.95 ab	92.05 b-f	0.00 b	3.10 d-g
Bailey	5.98	4.95	1.50	1.80 b-f	94.33 a-d	0.00 b	2.38 d-g
Sugg	5.95	4.88	1.58	1.75 b-f	93.95 a-e	0.00 b	2.73 d-g
Florida Fancy	5.93	4.88	1.63	3.23 a	93.10 a-f	0.00 b	2.05 e-g
N07018JCSm	6.00	4.95	1.25	1.88 b-f	83.43 i	0.40 a	13.05 a
N07019JCSm	5.98	4.83	1.60	1.55 ef	87.68 h	0.00 b	9.18 b
N08070olJC	5.95	4.88	1.58	2.13 a-f	91.38 c-f	0.00 b	4.93 cd
N08074olC	6.00	4.93	1.63	2.05 a-f	93.23 a-f	0.00 b	3.10 d-g
N08075olCT	6.03	4.90	1.25	2.68 a-e	90.73 f-h	0.25 a	5.10 cd
N08081olJC	6.03	4.93	1.45	1.43 f	93.98 a-e	0.00 b	3.15 d-g
N08082olJCT	5.98	4.95	1.45	1.73 c-f	92.00 b-f	0.00 b	4.83 c-e
N08085olJCT	6.00	4.98	1.70	2.13 a-f	94.43 a-c	0.00 b	1.75 fg
N08087olJCT	5.93	4.90	1.63	1.95 b-f	92.20 b-f	0.00 b	4.23 d-f
N09019olJ	5.98	4.90	1.48	2.83 a-c	88.10 gh	0.00 b	7.60 bc
N09024olJ	5.98	4.98	1.48	2.68 a-e	91.15 e-g	0.00 b	4.70 de
N09026olJ	5.98	4.93	1.45	2.18 a-f	91.28 d-f	0.00 b	5.10 cd
N09031ol	5.90	4.88	1.55	2.25 a-f	92.85 a-f	0.00 b	3.35 d-g
N09032ol	5.95	4.90	1.58	2.55 a-f	92.40 b-f	0.00 b	3.48 d-g
N09037ol	5.98	4.93	1.28	2.78 a-d	91.78 b-f	0.00 b	4.18 d-f
N09049olC	5.98	4.93	1.35	1.90 b-f	95.75 a	0.00 b	1.00 g
N09053olCSm	6.00	4.88	1.58	1.90 b-f	94.15 a-e	0.00 b	2.38 d-g
N09056olC	6.00	4.98	1.53	1.98 b-f	94.68 ab	0.00 b	1.83 fg
N09068olCSm	5.90	4.85	1.60	2.60 a-f	90.75 fg	0.00 b	5.05 cd
Mean	**5.98**	**4.91**	**1.51**	**2.18**	**92.21**	**0.02**	**4.08**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 8. Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk) VA and Martin County, NC, 2011.

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.98	4.91	1.55	2.09 c-g	93.74 a-f	0.00 b	2.63 h-k
Gregory	6.01	4.84	1.25	1.65 e-g	95.11 ab	0.00 b	1.99 i-k
VA 98R	6.10	4.89	1.58	2.39 b-f	92.76 c-h	0.00 b	3.28 f-j
Perry	5.95	4.91	1.54	2.23 b-g	93.25 b-g	0.00 b	2.99 g-k
CHAMPS	6.03	5.06	1.63	2.16 c-g	93.28 b-g	0.00 b	2.94 g-k
Phillips	5.99	4.91	1.80	2.53 a-e	93.00 c-g	0.00 b	2.68 h-k
Bailey	5.99	4.90	1.50	1.84 d-g	94.75 a-c	0.00 b	1.91 i-k
Sugg	5.98	4.86	1.60	1.64 e-g	94.24 a-d	0.00 b	2.53 h-k
Florida Fancy	5.96	4.86	1.59	3.18 ab	93.13 b-g	0.00 b	2.03 i-k
N07018JCSm	6.01	4.91	1.44	2.21 b-g	83.73 k	0.33 a	12.30 a
N07019JCSm	5.99	4.86	1.45	1.73 e-g	87.31 j	0.00 b	9.51 b
N08070olJC	5.96	4.86	1.58	2.26 b-g	90.80 hi	0.03 b	5.34 de
N08074olC	5.99	4.91	1.36	1.96 c-g	94.38 a-c	0.13 b	2.18 i-k
N08075olCT	6.04	4.90	1.45	2.45 b-f	92.01 e-h	0.13 b	4.63 d-g
N08081olJC	6.01	4.86	1.51	1.36 g	94.36 a-c	0.00 b	2.76 g-k
N08082olJCT	5.99	4.94	1.50	1.63 e-g	91.25 gh	0.00 b	5.63 c-e
N08085olJCT	6.00	4.96	1.49	2.08 c-g	94.60 a-c	0.00 b	1.83 jk
N08087olJCT	5.95	4.89	1.63	1.95 c-g	92.19 d-h	0.00 b	4.24 d-h
N09019olJ	5.99	4.90	1.55	2.55 a-e	88.59 j	0.01 b	7.30 c
N09024olJ	6.00	4.94	1.59	3.44 a	89.03 ij	0.00 b	5.95 cd
N09026olJ	5.98	4.90	1.39	2.71 a-d	90.79 hi	0.00 b	5.00 d-f
N09031ol	5.95	4.89	1.45	1.75 d-g	93.44 b-f	0.00 b	3.36 g-j
N09032ol	5.96	4.89	1.63	1.96 c-g	93.99 a-e	0.00 b	2.43 h-k
N09037ol	6.00	4.91	1.25	1.83 d-g	93.79 a-f	0.00 b	3.14 f-j
N09049olC	5.98	4.91	1.46	1.80 d-g	95.63 a	0.00 b	1.11 k
N09053olCSm	6.01	4.89	1.54	1.54 fg	95.11 ab	0.00 b	1.81 jk
N09056olC	6.00	4.93	1.46	2.10 c-g	93.53 a-f	0.00 b	2.91 g-k
N09068olCSm	5.94	4.88	1.70	2.83 a-c	91.69 f-h	0.00 b	3.79 e-i
Mean	**5.99**	**4.90**	**1.52**	**2.14**	**92.48**	**0.02**	**3.86**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 9. Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk) VA, and Martin County, NC. Two-year averages (2010- 2011).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.66	4.83	1.00	2.30 c	91.20 ab	0.00 b	4.81 d-g
Gregory	5.65	4.79	0.89	2.35 c	88.50 a-c	0.00 b	4.27 fg
VA 98R	5.67	4.79	1.00	2.85 bc	87.93 bc	0.00 b	7.51 bc
Perry	5.60	4.84	0.93	2.82 bc	91.70 a	0.00 b	3.79 g
CHAMPS	5.63	4.84	1.03	2.25 c	91.15 ab	0.00 b	4.87 d-g
Phillips	5.61	4.85	1.14	2.76 bc	90.84 ab	0.00 b	4.63 e-g
Bailey	5.63	4.79	0.98	2.96 bc	90.90 ab	0.00 b	4.50 fg
Sugg	5.61	4.80	0.98	2.57 c	88.99 a-c	0.00 b	6.80 b-e
Florida Fancy	5.66	4.78	1.05	3.87 a	90.85 ab	0.00 b	3.59 g
N08070olJC	5.61	4.77	1.07	3.53 ab	84.19 d	0.01 ab	10.73 a
N08074olC	5.62	4.83	0.89	2.93 bc	90.73 ab	0.04 a	4.85 d-g
N08075olCT	5.66	4.82	0.95	3.12 a-c	89.32 a-c	0.04 a	6.20 c-f
N08081olJC	5.64	4.79	0.97	2.75 bc	88.73 a-c	0.00 b	7.00 b-d
N08082olJCT	5.63	4.81	0.99	2.88 bc	88.65 a-c	0.00 b	6.96 b-d
N08085olJCT	5.61	4.82	0.95	3.04 a-c	86.66 cd	0.00 b	8.72 ab
N08087olJCT	5.59	4.77	0.97	2.98 a-c	88.65 a-c	0.00 b	6.91 b-d
Mean	**5.63**	**4.81**	**0.99**	**2.87**	**89.31**	**0.01**	**6.01**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 10. Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk) VA, and Martin County, NC. Three-year averages (2009- 2011).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.75 a	4.85 ab	1.02 a	5.32 b	87.32 a	0.00 a	5.65 ab
Gregory	5.73 a	4.83 ab	0.92 a	3.90 b	87.63 a	0.00 a	4.35 b-d
VA 98R	5.77 a	4.83 ab	1.01 a	5.62 b	85.65 a	0.00 a	6.92 a
Perry	5.71 a	4.86 ab	0.98 a	6.30 b	88.25 a	0.00 a	3.71 cd
CHAMPS	5.74 a	4.88 ab	1.02 a	4.41 b	88.18 a	0.00 a	5.71 ab
Phillips	5.72 a	4.90 a	1.08 a	6.50 b	87.37 a	0.00 a	4.25 b-d
Bailey	5.75 a	4.85 ab	0.99 a	4.82 b	88.51 a	0.00 a	4.94 bc
Sugg	5.71 a	4.82 b	1.00 a	4.74 b	86.78 a	0.00 a	6.51 a
Florida Fancy	5.73 a	4.82 b	1.03 a	9.45 a	85.15 a	0.00 a	3.27 d
Mean	**5.73**	**4.85**	**1.01**	**5.67**	**87.24**	**0.00**	**5.04**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 11. Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk) VA, Dig 1, 2011 (3 October).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.80	4.80	2.75	5.35 e-g	87.95 a	0.15 e	3.80 gh
Gregory	5.75	4.90	2.75	8.45 a-e	83.85 a-g	0.30 e	4.65 f-h
VA 98R	5.80	4.85	3.30	9.70 a-d	81.45 c-i	0.00 e	5.55 f-h
Perry	5.65	4.90	2.90	12.10 a	82.90 a-h	0.10 e	2.00 h
CHAMPS	5.80	4.80	2.80	9.25 a-e	83.50 a-g	0.30 e	4.15 f-h
Phillips	5.85	4.95	3.05	8.40 a-e	82.30 a-h	0.30 e	5.95 fg
Bailey	5.90	4.90	2.75	6.85 b-g	83.75 a-g	1.35 c-e	5.30 f-h
Sugg	5.80	4.90	2.85	7.10 b-g	85.15 a-f	0.40 e	4.50 f-h
Florida Fancy	5.80	4.90	2.95	5.45 e-g	85.15 a-f	0.15 e	6.30 e-g
N07018JCSm	5.85	4.90	3.00	6.75 b-g	68.25 lm	6.70 b	15.30 b
N07019JCSm	5.85	5.05	2.75	7.00 b-g	69.70 kl	6.15 b	14.40 b
N08070olJC	5.80	4.85	2.80	7.10 b-g	74.05 j-l	0.00 e	16.05 ab
N08074olC	5.80	4.95	2.80	3.10 g	86.25 a-e	0.10 e	7.75 d-f
N08075olCT	5.80	4.95	2.80	5.05 e-g	87.70 a-c	0.30 e	4.15 f-h
N08081olJC	5.80	4.95	2.75	3.20 g	76.75 h-j	2.25 cd	15.05 b
N08082olJCT	5.90	5.00	2.95	5.45 e-g	80.70 d-i	0.40 e	10.50 cd
N08085olJCT	5.95	5.05	2.60	6.45 b-g	85.55 a-f	0.75 de	4.65 f-h
N08087olJCT	5.80	4.90	2.55	7.45 b-f	79.40 f-j	0.70 de	9.90 c-e
N09019olJ	5.85	4.90	2.40	5.50 d-g	62.65 m	9.80 a	19.65 a
N09024olJ	5.75	5.00	3.05	10.60 ab	79.25 f-j	1.40 c-e	5.70 f-h
N09026olJ	5.70	4.90	2.85	9.80 a-c	80.30 e-j	0.25 e	6.80 d-g
N09031ol	5.85	4.85	2.95	5.20 e-g	78.50 g-j	0.85 de	12.50 bc
N09032ol	5.80	4.90	3.10	4.00 fg	81.35 c-i	1.40 c-e	10.15 c-e
N09037ol	5.85	4.95	2.65	5.35 e-g	75.80 i-k	2.90 c	13.30 bc
N09049olC	5.80	4.95	2.95	4.10 fg	88.70 a	0.00 e	4.25 f-h
N09053olCSm	5.85	4.95	2.55	3.75 fg	87.80 ab	0.00 e	5.90 fg
N09056olC	5.80	5.05	3.05	6.10 c-g	86.75 a-d	0.15 e	3.95 f-h
N09068olCSm	5.75	5.00	3.50	7.70 b-f	81.50 b-i	1.00 de	6.30 e-g
Mean	**5.81**	**4.93**	**2.86**	**6.65**	**80.96**	**1.36**	**8.16**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 12. Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk) VA, Dig 2, 2011 (11 October).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	6.10	5.00	2.05	5.15 a-d	83.90 a-d	0.25 c	8.65 c-e
Gregory	6.00	4.95	2.45	6.05 a-d	77.65 b-e	1.10 bc	12.75 b-e
VA 98R	6.00	4.95	1.95	4.35 a-d	83.05 a-e	0.80 c	9.85 c-e
Perry	5.95	4.95	2.00	8.50 a	83.00 a-e	0.75 c	5.75 e
CHAMPS	5.95	5.05	1.80	4.55 a-d	81.15 a-e	2.00 bc	10.50 c-e
Phillips	5.95	5.00	2.30	8.05 ab	77.70 b-e	1.00 bc	10.95 c-e
Bailey	5.85	5.00	2.55	3.55 b-d	85.05 a-c	0.80 c	8.05 de
Sugg	6.00	5.00	2.30	2.70 d	77.90 b-e	2.05 bc	15.05 b-d
Florida Fancy	5.95	5.00	2.10	4.10 a-d	83.10 a-d	0.85 c	9.85 c-e
N07018JCSm	5.95	5.00	2.40	5.10 a-d	57.55 g	11.05 a	23.90 a
N07019JCSm	5.95	4.95	2.25	3.15 cd	66.90 fg	10.40 a	17.30 a-c
N08070olJC	6.10	5.00	1.90	3.05 cd	72.55 ef	2.00 bc	20.50 ab
N08074olC	6.10	4.95	2.05	3.45 b-d	84.40 a-c	0.90 c	9.20 c-e
N08075olCT	6.05	5.00	2.20	2.65 d	85.60 a-c	0.20 c	9.35 c-e
N08081olJC	6.10	4.95	1.95	2.30 d	82.80 a-e	0.10 c	12.85 b-e
N08082olJCT	6.00	5.00	2.30	2.95 cd	79.45 a-e	0.55 c	14.75 b-d
N08085olJCT	6.05	5.10	1.75	4.25 a-d	83.00 a-e	0.25 c	10.75 c-e
N08087olJCT	6.10	5.00	2.15	3.45 b-d	80.25 a-e	1.40 bc	12.75 b-e
N09019olJ	6.10	5.05	1.95	4.70 a-d	73.65 d-f	2.35 bc	17.35 a-c
N09024olJ	6.10	4.95	2.15	5.70 a-d	81.25 a-e	0.75 c	10.15 c-e
N09026olJ	5.90	5.00	2.25	7.75 a-c	75.20 c-f	2.50 bc	12.30 b-e
N09031ol	6.00	4.95	2.15	3.60 b-d	79.90 a-e	1.20 bc	13.15 b-e
N09032ol	6.10	5.05	2.60	2.25 d	75.50 c-f	3.70 b	15.95 a-d
N09037ol	6.10	4.95	2.05	2.50 d	82.45 a-e	1.90 bc	11.10 c-e
N09049olC	6.10	5.10	2.10	3.20 cd	86.65 ab	0.65 c	7.40 de
N09053olCSm	6.00	5.00	2.00	3.20 cd	82.90 a-e	0.00 c	11.90 b-e
N09056olC	6.00	5.10	2.25	1.70 d	89.30 a	1.20 bc	5.55 e
N09068olCSm	6.00	4.90	2.60	2.85 d	81.05 a-e	1.25 bc	12.25 b-e
Mean	**6.02**	**5.00**	**2.16**	**4.10**	**79.74**	**1.86**	**12.14**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 13. Laboratory sample blanching of Medium Kernels. Averages from both digging dates from Tidewater AREC (Suffolk) VA, 2011.

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.95	4.90	2.40	5.25 e-h	85.93 a-c	0.20 e	6.23 j-l
Gregory	5.88	4.93	2.60	7.25 b-e	80.75 b-f	0.70 c-e	8.70 e-k
VA 98R	5.90	4.90	2.63	7.03 b-f	82.25 a-f	0.40 de	7.70 h-l
Perry	5.80	4.93	2.45	10.30 a	82.95 a-f	0.43 de	3.88 l
CHAMPS	5.88	4.93	2.30	6.90 b-f	82.33 a-f	1.15 c-e	7.33 j-l
Phillips	5.90	4.98	2.68	8.23 a-c	80.00 c-f	0.65 c-e	8.45 f-k
Bailey	5.88	4.95	2.65	5.20 f-h	84.40 a-e	1.08 c-e	6.68 j-l
Sugg	5.90	4.95	2.58	4.90 e-h	81.53 b-f	1.23 c-e	9.78 d-j
Florida Fancy	5.88	4.95	2.53	4.78 e-h	84.13 a-e	0.50 c-e	8.08 g-l
N07018JCSm	5.90	4.95	2.70	5.93 b-g	62.90 i	8.88 a	19.60 a
N07019JCSm	5.90	5.00	2.50	5.08 e-h	68.30 hi	8.28 a	15.85 a-c
N08070olJC	5.95	4.93	2.35	5.08 e-h	73.30 gh	1.00 c-e	18.28 ab
N08074olC	5.95	4.95	2.43	3.28 gh	85.33 a-d	0.50 c-e	8.48 g-k
N08075olCT	5.93	4.98	2.50	3.85 gh	86.65 ab	0.25 e	6.75 j-l
N08081olJC	5.95	4.95	2.35	2.75 h	79.78 d-f	1.18 c-e	13.95 b-d
N08082olJCT	5.95	5.00	2.63	4.20 f-h	80.08 c-f	0.48 c-e	12.63 c-g
N08085olJCT	6.00	5.08	2.18	5.35 c-h	84.28 a-e	0.50 c-e	7.70 h-l
N08087olJCT	5.95	4.95	2.35	5.45 c-h	79.83 d-f	1.05 c-e	11.33 c-i
N09019olJ	5.98	4.98	2.18	5.10 e-h	68.15 hi	6.08 b	18.50 ab
N09024olJ	5.93	4.98	2.60	8.15 a-d	80.25 c-f	1.08 c-e	7.93 h-l
N09026olJ	5.80	4.95	2.55	8.78 ab	77.75 fg	1.38 c-e	9.55 d-j
N09031ol	5.93	4.90	2.55	4.40 e-h	79.20 e-g	1.03 c-e	12.83 c-f
N09032ol	5.95	4.98	2.85	3.13 gh	78.43 e-g	2.55 c	13.05 c-e
N09037ol	5.98	4.95	2.35	3.93 gh	79.13 e-g	2.40 cd	12.20 c-h
N09049olC	5.95	5.03	2.53	3.65 gh	87.68 a	0.33 de	5.83 j-l
N09053olCSm	5.93	4.98	2.28	3.48 gh	85.35 a-d	0.00 e	8.90 e-k
N09056olC	5.90	5.08	2.65	3.90 gh	88.03 a	0.68 c-e	4.75 kl
N09068olCSm	5.88	4.95	3.05	5.28 d-h	81.28 b-f	1.13 c-e	9.28 e-k
Mean	**5.92**	**4.96**	**2.51**	**5.38**	**80.35**	**1.61**	**10.15**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 14. Laboratory sample blanching of Medium Kernels from Martin County, NC, Dig 1, 2011 (6 October).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.90	4.80	2.00	3.70 b-f	90.00 a	0.30 h	4.00 j
Gregory	5.95	4.80	1.45	4.10 a-d	83.10 c-e	1.10 f-h	10.25 g-i
VA 98R	6.00	4.95	1.45	3.25 b-i	82.00 c-f	1.30 e-h	12.00 f-h
Perry	5.90	4.95	1.70	3.80 b-e	86.25 a-c	1.50 e-h	6.75 h-j
CHAMPS	5.90	4.85	1.65	3.35 b-g	83.20 c-e	0.85 f-h	10.95 f-i
Phillips	5.85	4.90	2.00	4.40 ab	85.20 a-d	0.80 f-h	7.60 h-j
Bailey	6.00	4.95	1.35	1.55 g-k	88.95 ab	1.60 e-h	6.55 ij
Sugg	6.00	5.00	1.60	1.00 k	75.45 g-i	3.45 c-h	18.50 b-d
Florida Fancy	5.90	4.90	1.30	4.10 a-d	78.90 e-h	5.55 cd	10.15 g-i
N07018JCSm	5.95	4.95	1.35	3.90 b-e	63.10 j	13.25 a	18.40 b-e
N07019JCSm	5.90	4.90	1.35	2.40 c-k	64.10 j	7.05 bc	25.10 a
N08070olJC	5.90	4.95	1.85	2.25 d-k	73.60 hi	1.35 e-h	20.95 ab
N08074olC	5.85	4.90	1.35	2.80 b-k	83.20 c-e	0.90 f-h	11.75 f-i
N08075olCT	5.90	4.95	1.40	2.20 e-k	82.70 c-f	0.30 h	13.40 d-g
N08081olJC	5.95	4.95	1.30	1.40 i-k	85.25 a-d	1.20 e-h	10.85 f-i
N08082olJCT	5.95	4.90	1.35	1.20 jk	83.45 b-e	0.95 f-h	13.05 e-g
N08085olJCT	6.00	4.95	1.15	2.40 c-k	88.85 ab	0.95 f-h	6.65 h-j
N08087olJCT	6.00	4.85	1.75	1.90 f-k	82.55 c-f	2.10 d-h	11.70 f-i
N09019olJ	5.85	4.90	1.25	3.10 b-i	66.30 j	10.80 ab	18.55 b-d
N09024olJ	5.90	5.00	1.35	4.15 a-c	76.40 g-i	3.00 d-h	15.10 c-g
N09026olJ	5.90	4.95	1.65	5.85 a	77.20 f-i	4.50 c-g	10.80 f-i
N09031ol	5.90	4.90	1.45	2.55 b-k	73.30 i	5.00 c-e	17.70 b-e
N09032ol	5.95	4.90	1.50	1.45 h-k	76.35 g-i	4.55 c-f	16.15 b-f
N09037ol	5.90	4.95	1.45	1.50 g-k	72.85 i	4.05 c-h	20.15 a-c
N09049olC	5.90	4.85	1.50	3.30 b-h	87.20 a-c	0.65 gh	7.35 h-j
N09053olCSm	5.85	4.95	1.70	1.90 f-k	84.90 a-d	1.20 e-h	10.30 g-i
N09056olC	5.95	4.95	1.45	3.05 b-j	79.90 d-g	2.55 d-h	13.05 e-g
N09068olCSm	5.90	4.90	1.80	3.20 b-i	77.35 f-i	4.35 c-g	13.30 d-g
Mean	**5.92**	**4.92**	**1.52**	**2.85**	**79.70**	**3.04**	**12.89**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.
[2] Missing values are due to the lack of available sample to run blanching anlyses.

Blanching Results

Table 15. Laboratory sample blanching of Medium Kernels from Martin County, NC, Dig 2, 2011 (17 October).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.85	4.85	1.45	1.75 c-f	84.70 a-c	2.10 fg	10.00 fg
Gregory	5.80	4.75	1.60	3.75 ab	79.60 a-f	2.65 e-g	12.40 e-g
VA 98R	5.85	4.90	1.45	2.35 b-f	85.55 ab	0.00 g	10.65 e-g
Perry	5.80	4.90	1.55	2.45 b-f	82.25 a-d	1.50 fg	12.25 e-g
CHAMPS	5.80	4.80	1.50	2.50 b-f	80.50 a-e	1.00 fg	14.50 e-g
Phillips	5.85	4.90	1.30	3.35 a-d	76.70 c-g	6.45 c-e	12.20 e-g
Bailey	5.80	4.85	1.55	3.45 a-d	87.75 a	0.00 g	7.25 g
Sugg	5.80	4.85	1.55	1.95 c-f	73.30 e-h	4.25 d-f	18.95 b-e
Florida Fancy	5.95	4.90	1.70	3.80 ab	78.25 b-f	6.50 c-e	9.75 fg
N07018JCSm	5.85	4.85	1.65	1.45 ef	56.65 i	11.05 ab	29.20 a
N07019JCSm	5.90	4.95	1.55	2.25 b-f	58.40 i	12.35 a	25.45 a-c
N08070olJC	5.80	4.80	1.55	1.70 d-f	71.25 f-h	1.25 fg	24.25 a-d
N08074olC	5.90	4.90	1.70	2.20 b-f	83.80 a-c	0.95 fg	11.35 e-g
N08075olCT	5.90	4.95	1.50	2.20 b-f	67.55 h	1.25 fg	27.50 ab
N08081olJC	5.85	4.85	1.50	1.90 c-f	84.05 a-c	0.50 fg	12.05 e-g
N08082olJCT	5.85	5.05	1.45	3.20 a-e	68.50 gh	9.85 a-c	17.00 c-f
N08085olJCT	5.80	4.90	1.50	2.25 b-f	81.30 a-e	1.75 fg	13.20 e-g
N08087olJCT	5.90	4.85	1.60	1.25 f	83.60 a-c	0.00 g	13.55 e-g
N09019olJ	5.80	5.05	1.75	2.80 a-f	69.25 gh	9.75 a-c	16.45 d-f
N09024olJ	5.90	4.90	1.55	4.40 a	74.60 d-h	3.55 e-g	15.90 d-g
N09026olJ	5.85	4.85	1.45	3.50 a-c	80.45 a-e	2.05 fg	12.55 e-g
N09031ol	5.85	4.90	1.45	1.30 f	76.40 c-g	7.75 b-d	13.10 e-g
N09032ol	5.80	4.85	1.45	2.85 a-f	74.50 d-h	7.70 b-d	13.50 e-g
N09037ol	5.80	4.85	1.65	1.85 c-f	83.75 a-c	2.05 fg	10.70 e-g
N09049olC	5.85	4.95	1.45	2.90 a-f	83.00 a-d	1.30 fg	11.35 e-g
N09053olCSm	5.80	4.85	1.45	2.55 b-f	84.70 a-c	0.55 fg	10.75 e-g
N09056olC	6.00	4.95	1.35	2.40 b-f	80.50 a-e	0.15 g	15.35 e-g
N09068olCSm	5.85	4.90	1.40	2.70 a-f	82.80 a-d	2.30 fg	10.80 e-g
Mean	**5.85**	**4.89**	**1.52**	**2.54**	**77.63**	**3.59**	**14.71**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.
[2] Missing values are due to the lack of available sample to run blanching anlyses.

Blanching Results

Table 16. Laboratory sample blanching of Medium Kernels. Averages from both digging dates from Martin County, NC, 2011.

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.88	4.83	1.73	2.73 c-g	87.35 ab	1.20 de	7.00 l
Gregory	5.88	4.78	1.53	3.93 a-c	81.35 b-h	1.88 de	11.33 g-l
VA 98R	5.93	4.93	1.45	2.80 c-g	83.78 a-f	0.65 e	11.33 g-l
Perry	5.85	4.93	1.63	3.13 b-d	84.25 a-f	1.50 de	9.50 kl
CHAMPS	5.85	4.83	1.58	2.93 b-f	81.85 b-g	0.93 de	12.73 f-k
Phillips	5.85	4.90	1.65	3.88 a-c	80.95 c-i	3.63 b-e	9.90 j-l
Bailey	5.90	4.90	1.45	2.50 d-g	88.35 a	0.80 de	6.90 l
Sugg	5.90	4.93	1.58	1.48 g	74.38 jk	3.85 b-d	18.73 b-e
Florida Fancy	5.93	4.90	1.50	3.95 a-c	78.58 e-j	6.03 bc	9.95 h-l
N07018JCSm	5.90	4.90	1.50	2.68 c-g	59.88 m	12.15 a	23.80 ab
N07019JCSm	5.90	4.93	1.45	2.33 d-g	61.25 m	9.70 a	25.28 a
N08070olJC	5.85	4.88	1.70	1.98 d-g	72.43 kl	1.30 de	22.60 a-c
N08074olC	5.88	4.90	1.53	2.50 d-g	83.50 a-f	0.93 de	11.55 g-l
N08075olCT	5.90	4.95	1.45	2.20 d-g	75.13 i-k	0.78 de	20.45 a-d
N08081olJC	5.90	4.90	1.40	1.65 e-g	84.65 a-e	0.85 de	11.45 g-l
N08082olJCT	5.90	4.98	1.40	2.20 d-g	75.98 g-k	5.40 bc	15.03 d-j
N08085olJCT	5.90	4.93	1.33	2.33 d-g	85.08 a-c	1.35 de	9.93 i-l
N08087olJCT	5.95	4.85	1.68	1.58 fg	83.08 a-f	1.05 de	12.63 f-k
N09019olJ	5.83	4.98	1.50	2.95 b-e	67.78 l	10.28 a	17.50 c-f
N09024olJ	5.90	4.95	1.45	4.28 ab	75.50 h-k	3.28 b-e	15.50 d-g
N09026olJ	5.88	4.90	1.55	4.68 a	78.83 d-j	3.28 b-e	11.68 g-l
N09031ol	5.88	4.90	1.45	1.93 d-g	74.85 jk	6.38 b	15.40 d-i
N09032ol	5.88	4.88	1.48	2.15 d-g	75.43 h-k	6.13 bc	14.83 e-k
N09037ol	5.85	4.90	1.55	1.68 e-g	78.30 f-k	3.05 c-e	15.43 d-h
N09049olC	5.88	4.90	1.48	3.10 b-d	85.10 a-c	0.98 de	9.35 kl
N09053olCSm	5.83	4.90	1.58	2.23 d-g	84.80 a-d	0.88 de	10.53 g-l
N09056olC	5.98	4.95	1.40	2.73 c-g	80.20 c-j	1.35 de	14.20 e-k
N09068olCSm	5.88	4.90	1.60	2.95 b-e	80.08 c-j	3.33 b-e	12.05 f-l
Mean	**5.88**	**4.90**	**1.52**	**2.69**	**78.67**	**3.32**	**13.80**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.
[2] Missing values are due to the lack of available sample to run blanching anlyses.

Blanching Results

Table 17. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk) VA and Martin County, NC, 2011.

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.91 a	4.86	2.06	3.99 b-f	86.64 a	0.70 gh	6.61 i
Gregory	5.88 a	4.85	2.06	5.59 a-d	81.05 b-f	1.29 e-h	10.01 c-i
VA 98R	5.91 a	4.91	2.04	4.91 a-e	83.01 a-d	0.53 h	9.51 e-i
Perry	5.83 a	4.93	2.04	6.71 a	83.60 a-c	0.96 f-h	6.69 i
CHAMPS	5.86 a	4.86	1.94	4.91 a-e	82.09 a-e	1.04 f-h	10.03 c-i
Phillips	5.88 a	4.94	2.16	6.05 a-c	80.48 c-f	2.14 d-h	9.18 f-i
Bailey	5.89 a	4.93	2.05	3.85 c-f	86.38 a	0.94 f-h	6.79 i
Sugg	5.90 a	4.94	2.08	3.19 ef	77.95 ef	2.54 c-h	14.25 bc
Florida Fancy	5.90 a	4.93	2.01	4.36 b-f	81.35 b-f	3.26 c-e	9.01 g-i
N07018JCSm	5.90 a	4.93	2.10	4.30 b-f	61.39 i	10.51 a	21.70 a
N07019JCSm	5.90 a	4.96	1.98	3.70 d-f	64.78 hi	8.99 ab	20.56 a
N08070olJC	5.90 a	4.90	2.03	3.53 d-f	72.86 g	1.15 e-h	20.44 a
N08074olC	5.91 a	4.93	1.98	2.89 ef	84.41 a-c	0.71 gh	10.01 c-i
N08075olCT	5.91 a	4.96	1.98	3.03 ef	80.89 b-f	0.51 h	13.60 b-f
N08081olJC	5.93 a	4.93	1.88	2.20 f	82.21 a-e	1.01 f-h	12.70 c-g
N08082olJCT	5.93 a	4.99	2.01	3.20 ef	78.03 ef	2.94 c-f	13.83 b-e
N08085olJCT	5.95 a	5.00	1.75	3.84 c-f	84.68 a-c	0.93 f-h	8.81 g-i
N08087olJCT	5.95 a	4.90	2.01	3.51 d-f	81.45 b-f	1.05 f-h	11.98 c-h
N09019olJ	5.90 a	4.98	1.84	4.03 b-f	67.96 h	8.18 b	18.00 ab
N09024olJ	5.91 a	4.96	2.03	6.21 ab	77.88 ef	2.18 c-h	11.71 c-h
N09026olJ	5.84 a	4.93	2.05	6.73 a	78.29 ef	2.33 c-h	10.61 c-i
N09031ol	5.90 a	4.90	2.00	3.16 ef	77.03 fg	3.70 cd	14.11 b-d
N09032ol	5.91 a	4.93	2.16	2.64 ef	76.93 fg	4.34 c	13.94 b-e
N09037ol	5.91 a	4.93	1.95	2.80 ef	78.71 d-f	2.73 c-g	13.81 b-e
N09049olC	5.91 a	4.96	2.00	3.38 d-f	86.39 a	0.65 gh	7.59 hi
N09053olCSm	5.88 a	4.94	1.93	2.85 ef	85.08 ab	0.44 h	9.71 d-i
N09056olC	5.94 a	5.01	2.03	3.31 d-f	84.11 a-c	1.01 f-h	9.48 e-i
N09068olCSm	5.88 a	4.93	2.33	4.11 b-f	80.68 b-f	2.23 c-h	10.66 c-i
Mean	**5.90**	**4.93**	**2.02**	**4.03**	**79.51**	**2.46**	**11.98**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 18. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk) VA, and Martin County, NC. Two-year averages (2010- 2011).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.56	4.79	1.16	3.24 bc	82.58 a	0.91 d	11.31 f-h
Gregory	5.56	4.76	1.20	4.12 a-c	79.56 a-d	1.94 a-c	12.49 e-h
VA 98R	5.56	4.80	1.13	4.09 a-c	75.22 e	1.40 a-d	17.48 bc
Perry	5.58	4.81	1.25	4.41 ab	83.09 a	0.83 d	9.84 h
CHAMPS	5.59	4.79	1.16	3.34 a-c	80.75 ab	1.03 cd	13.01 d-h
Phillips	5.59	4.82	1.35	4.63 a	79.63 a-d	1.97 a-c	11.88 f-h
Bailey	5.55	4.80	1.16	3.80 a-c	83.10 a	0.80 d	10.42 gh
Sugg	5.58	4.83	1.22	2.82 c	75.06 e	2.24 ab	18.01 b
Florida Fancy	5.62	4.81	1.23	3.55 a-c	81.38 ab	2.35 a	10.77 gh
N08070olJC	5.54	4.76	1.18	4.09 a-c	70.16 f	1.23 cd	22.65 a
N08074olC	5.57	4.77	1.16	3.25 bc	80.15 a-c	1.12 cd	13.61 d-g
N08075olCT	5.55	4.80	1.13	3.54 a-c	77.05 c-e	1.34 b-d	16.31 b-d
N08081olJC	5.61	4.81	1.19	2.79 c	79.78 a-c	1.27 cd	14.41 c-f
N08082olJCT	5.54	4.80	1.12	3.26 bc	76.08 de	2.26 ab	16.58 b-d
N08085olJCT	5.51	4.77	1.02	3.13 bc	81.79 a	0.97 d	12.31 e-h
N08087olJCT	5.55	4.78	1.14	3.68 a-c	77.83 b-e	1.16 cd	15.49 b-e
Mean	**5.56**	**4.79**	**1.17**	**3.60**	**78.92**	**1.41**	**14.22**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Blanching Results

Table 19. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk), VA and Martin County, NC. Three-year averages (2009- 2011).

Variety or Line	% H_2O before Roasting	% H_2O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.64	4.82	1.05	8.79 ab	75.37 a	0.67 d	12.92 c
Gregory	5.61	4.78	1.09	8.07 ab	71.30 a	1.54 a-c	13.55 bc
VA 98R	5.59	4.82	1.02	9.33 ab	70.32 a	0.99 b-d	17.22 ab
Perry	5.63	4.83	1.13	9.49 ab	73.78 a	0.76 d	13.80 bc
CHAMPS	5.64	4.79	1.08	9.80 ab	73.28 a	0.83 cd	13.91 bc
Phillips	5.64	4.82	1.20	10.77 ab	71.78 a	1.59 ab	13.51 c
Bailey	5.61	4.79	1.10	10.59 ab	73.51 a	0.58 d	13.09 c
Sugg	5.63	4.84	1.09	7.56 b	68.72 a	1.78 a	19.69 a
Florida Fancy	5.63	4.84	1.07	12.81 a	71.27 a	1.71 a	11.74 c
Mean	**5.62**	**4.81**	**1.09**	**9.67**	**72.17**	**1.15**	**14.39**

[1] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's protected LSD test.

Fatty Acid Results

Table 20. 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 1, 2011[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	11.98 a	2.39 e-h	50.17 f	31.98 a	0.85 b	1.08 f-h
Gregory	10.50 ab	2.91 bc	54.22 c-e	28.24 cd	1.11 ab	1.07 gh
VA 98R	10.97 ab	2.75 b-f	50.51 f	31.64 ab	1.03 ab	1.08 f-h
Perry	10.93 ab	2.86 bc	51.29 ef	30.33 a-c	1.15 ab	1.04 h
CHAMPS	10.84 ab	2.61 b-g	52.01 d-f	29.46 bc	1.10 ab	1.22 d-h
Phillips	9.88 b	2.60 b-g	49.88 f	31.33 ab	1.28 a	1.25 c-h
Bailey	10.24 ab	2.71 b-f	55.49 c	26.06 d	1.15 ab	1.23 d-h
Sugg	10.40 ab	2.75 b-f	54.89 cd	28.08 cd	1.04 ab	1.04 h
Florida Fancy	6.73 c	2.85 b-d	78.94 b	6.15 e	1.20 ab	1.55 a-d
N07018JCSm	10.97 ab	2.74 b-f	51.41 ef	29.88 a-c	1.16 ab	1.11 e-h
N07019JCSm	10.67 ab	2.70 b-g	50.43 f	30.89 ab	1.17 ab	1.23 d-h
N08070olJC	6.03 c	2.13 h	79.98 ab	5.48 ef	1.08 ab	1.86 a
N08074olC	5.78 c	2.35 f-h	80.22 ab	4.70 ef	1.20 ab	1.86 a
N08075olCT	5.82 c	2.38 e-h	80.06 ab	4.82 ef	1.23 ab	1.85 a
N08081olJC	7.45 c	2.64 b-g	80.14 ab	4.74 ef	1.03 ab	1.39 b-h
N08082olJCT	6.84 c	2.91 bc	80.62 ab	5.10 ef	1.09 ab	1.41 b-h
N08085olJCT	6.29 c	2.74 b-f	80.10 ab	4.44 ef	1.23 ab	1.88 a
N08087olJCT	6.94 c	2.45 d-h	79.88 ab	5.77 ef	1.01 ab	1.49 a-g
N09019olJ	5.95 c	2.97 b	82.46 a	3.62 f	1.15 ab	1.49 a-f
N09024olJ	7.04 c	3.75 a	81.14 ab	4.18 ef	1.16 ab	1.12 e-h
N09026olJ	6.35 c	3.70 a	82.04 ab	3.31 f	1.31 a	1.23 d-h
N09031ol	6.84 c	2.64 b-g	80.90 ab	4.17 ef	1.14 ab	1.62 a-d
N09032ol	6.16 c	2.78 b-e	81.72 ab	3.54 f	1.23 ab	1.66 a-c
N09037ol	6.03 c	2.29 gh	81.25 ab	4.54 ef	1.13 ab	1.77 ab
N09049olC	6.28 c	2.65 b-g	80.98 ab	3.84 ef	1.23 ab	1.78 ab
N09053olCSm	6.35 c	2.53 c-h	82.16 a	3.91 ef	1.09 ab	1.69 ab
N09056olC	6.57 c	2.78 b-e	81.76 ab	4.42 ef	1.08 ab	1.51 a-e
N09068olCSm	6.19 c	3.45 a	80.96 ab	4.24 ef	1.33 a	1.39 b-h
Mean	**7.96**	**2.75**	**70.56**	**13.53**	**1.14**	**1.42**
LSD $_{0.05}$[2]	**1.76**	**0.41**	**3.15**	**2.51**	**0.39**	**0.42**

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

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

Fatty Acid Results

Table 20. 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 1, 2011[1] (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	1.18 b	0.39 c	99.38 a	1.57 h	16.79 ab	1.90 a	2.42 b
Gregory	1.49 ab	0.48 bc	96.39 b	1.92 h	16.48 ab	1.72 c	3.07 ab
VA 98R	1.48 ab	0.57 bc	99.08 a	1.60 h	16.79 ab	1.89 ab	3.08 ab
Perry	1.74 ab	0.67 a-c	97.46 ab	1.70 h	17.35 a	1.75 bc	3.56 ab
CHAMPS	1.91 ab	0.85 a-c	96.73 b	1.77 h	17.31 a	1.71 c	3.87 ab
Phillips	2.57 a	1.25 a-c	98.13 ab	1.59 h	17.56 a	1.79 a-c	5.09 a
Bailey	2.12 ab	1.02 a-c	93.83 c	2.19 h	17.23 a	1.51 d	4.29 ab
Sugg	1.41 ab	0.41 bc	96.66 b	1.96 h	15.99 b	1.76 a-c	2.85 ab
Florida Fancy	1.90 ab	0.69 a-c	79.76 d	13.53 g	13.37 c-e	0.46 e	3.79 ab
N07018JCSm	1.93 ab	0.82 a-c	96.84 b	1.73 h	17.61 a	1.70 c	3.91 ab
N07019JCSm	2.07 ab	0.86 a-c	97.84 ab	1.63 h	17.45 a	1.77 a-c	4.09 ab
N08070olJC	2.15 ab	1.31 ab	79.73 d	14.96 fg	12.69 c-e	0.44 ef	4.53 ab
N08074olC	2.43 ab	1.48 a	78.59 de	17.10 d-g	13.23 c-e	0.36 e-g	5.11 a
N08075olCT	2.40 ab	1.47 a	78.65 de	17.13 d-g	13.28 c-e	0.36 e-g	5.09 a
N08081olJC	1.75 ab	0.88 a-c	78.22 de	17.06 d-g	13.74 c	0.35 e-g	3.66 ab
N08082olJCT	1.49 ab	0.55 bc	79.29 de	15.98 e-g	12.87 c-e	0.40 e-g	3.12 ab
N08085olJCT	2.21 ab	1.12 a-c	78.07 de	18.26 d-f	13.28 c-e	0.33 e-g	4.56 ab
N08087olJCT	1.66 ab	0.83 a-c	79.86 d	14.69 fg	12.88 c-e	0.45 e	3.49 ab
N09019olJ	1.62 ab	0.76 a-c	78.36 de	22.86 a-c	12.44 de	0.29 fg	3.52 ab
N09024olJ	1.23 b	0.42 bc	77.89 de	19.52 b-e	13.58 cd	0.31 e-g	2.80 ab
N09026olJ	1.49 ab	0.52 bc	77.27 e	24.80 a	13.42 c-e	0.25 g	3.37 ab
N09031ol	1.79 ab	0.92 a-c	78.07 de	19.66 b-e	13.32 c-e	0.32 e-g	3.84 ab
N09032ol	1.99 ab	0.95 a-c	77.71 de	23.11 ab	13.10 c-e	0.27 g	4.16 ab
N09037ol	1.96 ab	1.04 a-c	79.14 de	17.88 d-g	12.45 de	0.37 e-g	4.13 ab
N09049olC	2.13 ab	1.13 a-c	77.70 de	21.21 a-d	13.41 c-e	0.29 fg	4.49 ab
N09053olCSm	1.63 ab	0.66 a-c	78.75 de	21.19 a-d	12.25 e	0.32 e-g	3.37 ab
N09056olC	1.39 ab	0.52 bc	79.16 de	18.57 c-f	12.32 e	0.36 e-g	2.98 ab
N09068olCSm	1.78 ab	0.68 a-c	78.07 de	19.09 b-f	13.41 c-e	0.32 e-g	3.79 ab
Mean	**1.82**	**0.83**	**85.23**	**12.65**	**14.49**	**0.85**	**3.78**
LSD $_{0.05}$[2]	**1.26**	**0.90**	**2.20**	**4.42**	**1.17**	**0.15**	**2.53**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 21. 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 2, 2011[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	12.42 ab	2.63 bc	51.09 cd	30.59 a	0.87 b	0.92 ij
Gregory	11.55 b	2.91 bc	54.47 b	27.44 ab	0.99 ab	0.90 ij
VA 98R	12.52 ab	2.55 bc	52.84 b-d	28.74 a	0.82 b	1.00 g-j
Perry	10.86 b	2.71 bc	50.16 d	31.82 a	1.10 ab	1.04 f-j
CHAMPS	14.16 a	7.33 a	52.78 b-d	23.78 b	1.32 a	0.87 j
Phillips	11.46 b	2.65 bc	51.00 cd	30.98 a	1.01 ab	0.94 ij
Bailey	11.49 b	2.35 c	52.18 b-d	30.19 a	0.89 b	1.05 f-j
Sugg	11.05 b	2.57 bc	53.38 bc	29.31 a	0.98 ab	0.97 h-j
Florida Fancy	7.16 c	2.66 bc	80.58 a	4.90 c	1.06 ab	1.45 a-d
N07018JCSm	11.18 b	2.61 bc	51.21 cd	29.58 a	1.15 ab	1.17 d-j
N07019JCSm	11.06 b	2.63 bc	52.59 b-d	29.77 a	1.01 ab	1.07 f-j
N08070olJC	6.97 c	2.10 c	81.54 a	5.48 c	0.82 b	1.50 a-c
N08074olC	6.81 c	2.27 c	82.26 a	4.45 c	0.88 b	1.47 a-d
N08075olCT	6.79 c	2.29 c	82.39 a	4.54 c	0.86 b	1.50 a-c
N08081olJC	7.31 c	2.60 bc	81.74 a	4.63 c	0.91 b	1.30 b-g
N08082olJCT	6.23 c	2.58 bc	80.86 a	4.92 c	1.15 ab	1.68 a
N08085olJCT	7.39 c	2.58 bc	82.19 a	4.00 c	0.90 b	1.42 a-d
N08087olJCT	7.63 c	2.54 bc	81.90 a	4.30 c	0.85 b	1.28 b-h
N09019olJ	6.51 c	2.85 bc	82.56 a	3.98 c	0.99 ab	1.41 a-e
N09024olJ	7.32 c	3.43 ab	82.37 a	3.34 c	1.03 ab	1.08 e-j
N09026olJ	7.29 c	3.46 ab	82.25 a	3.17 c	1.08 ab	1.16 d-j
N09031ol	7.21 c	2.51 bc	83.05 a	3.51 c	0.88 b	1.35 b-f
N09032ol	7.76 c	2.70 bc	82.16 a	3.73 c	0.90 b	1.29 b-h
N09037ol	7.00 c	2.16 c	82.89 a	4.33 c	0.79 b	1.41 a-d
N09049olC	7.24 c	2.66 bc	81.13 a	4.34 c	1.02 ab	1.56 ab
N09053olCSm	6.96 c	2.42 bc	81.68 a	4.65 c	0.95 b	1.50 a-c
N09056olC	7.77 c	3.06 bc	80.34 a	4.97 c	1.00 ab	1.29 b-h
N09068olCSm	7.00 c	2.86 bc	82.08 a	4.13 c	1.00 ab	1.22 c-i
Mean	**8.79**	**2.70**	**71.27**	**13.20**	**0.97**	**1.24**
LSD $_{0.05}$[2]	**2.22**	**1.12**	**2.94**	**4.70**	**0.36**	**0.33**

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

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

Fatty Acid Results

Table 21. 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 2, 2011[1] (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	1.11 b	0.39 c	97.65 a	1.67 f	17.41 b	1.76 a	2.36 c
Gregory	1.27 b	0.49 a-c	95.07 a	2.00 f	17.20 b	1.61 a	2.75 a-c
VA 98R	1.13 b	0.44 bc	96.00 a	1.85 f	17.44 b	1.65 a	2.38 c
Perry	1.68 ab	0.64 a-c	99.06 a	1.58 f	16.98 b	1.88 a	3.41 a-c
CHAMPS	1.81 ab	0.98 ab	87.26 b	2.47 f	22.58 a	1.22 b	4.10 ab
Phillips	1.43 ab	0.55 a-c	98.26 a	1.65 f	17.09 b	1.82 a	2.98 a-c
Bailey	1.36 ab	0.50 a-c	98.00 a	1.74 f	16.59 bc	1.83 a	2.75 a-c
Sugg	1.33 ab	0.45 a-c	97.43 a	1.83 f	16.36 b-d	1.79 a	2.75 a-c
Florida Fancy	1.61 ab	0.62 a-c	78.92 c	17.47 c-e	13.09 de	0.37 c	3.28 a-c
N07018JCSm	2.12 a	0.99 a	96.20 a	1.74 f	18.05 b	1.64 a	4.25 a
N07019JCSm	1.42 ab	0.46 a-c	97.62 a	1.77 f	16.58 bc	1.80 a	2.89 a-c
N08070olJC	1.14 b	0.47 a-c	80.79 bc	15.38 e	11.49 e	0.48 c	2.43 bc
N08074olC	1.30 b	0.59 a-c	79.60 c	18.52 b-e	11.84 e	0.38 c	2.76 a-c
N08075olCT	1.19 b	0.45 bc	79.90 c	18.19 c-e	11.58 e	0.40 c	2.50 bc
N08081olJC	1.12 b	0.40 c	79.35 c	18.30 c-e	12.33 e	0.38 c	2.42 c
N08082olJCT	1.82 ab	0.87 a-c	79.38 c	16.46 de	12.56 e	0.40 c	3.75 a-c
N08085olJCT	1.13 b	0.42 c	78.72 c	20.57 b-e	12.41 e	0.32 c	2.45 bc
N08087olJCT	1.07 b	0.46 a-c	78.88 c	19.07 b-e	12.54 e	0.35 c	2.37 c
N09019olJ	1.24 b	0.48 a-c	79.01 c	20.73 b-e	12.06 e	0.33 c	2.70 a-c
N09024olJ	1.10 b	0.35 c	77.47 c	24.82 ab	13.22 c-e	0.25 c	2.48 bc
N09026olJ	1.20 b	0.41 c	77.13 c	28.41 a	13.44 c-e	0.24 c	2.69 a-c
N09031ol	1.14 b	0.38 c	78.56 c	23.73 a-c	12.11 e	0.29 c	2.39 c
N09032ol	1.06 b	0.43 c	78.12 c	22.10 a-d	12.84 e	0.30 c	2.38 c
N09037ol	1.05 b	0.39 c	79.91 c	19.18 b-e	11.37 e	0.38 c	2.22 c
N09049olC	1.46 ab	0.61 a-c	78.53 c	18.69 b-e	12.97 de	0.34 c	3.09 a-c
N09053olCSm	1.37 ab	0.50 a-c	79.48 c	17.63 c-e	12.18 e	0.39 c	2.81 a-c
N09056olC	1.19 b	0.39 c	78.72 c	17.43 c-e	13.41 c-e	0.37 c	2.58 a-c
N09068olCSm	1.24 b	0.48 a-c	78.71 c	19.89 b-e	12.58 e	0.33 c	2.72 a-c
Mean	**1.32**	**0.52**	**85.13**	**13.39**	**14.29**	**0.83**	**2.08**
LSD $_{0.05}$[2]	**0.82**	**0.54**	**6.62**	**6.46**	**3.39**	**0.39**	**1.68**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 22. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Averages of all Digs from Tidewater AREC (Suffolk), VA , 2011[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	12.20 ab	2.51 d-f	50.63 d	31.29 a	0.86 e	1.00 i
Gregory	11.02 bc	2.91 b-d	54.34 c	27.84 de	1.05 a-e	0.99 i
VA 98R	11.74 a-c	2.65 c-f	51.67 d	30.19 a-d	0.92 de	1.04 i
Perry	10.89 c	2.79 c-e	50.72 d	31.07 ab	1.12 a-d	1.04 i
CHAMPS	12.50 a	3.47 ab	52.40 cd	26.62 e	1.21 a	1.04 i
Phillips	10.67 c	2.62 c-f	50.44 d	31.15 ab	1.14 a-d	1.09 hi
Bailey	10.86 c	2.53 d-f	53.84 c	28.12 c-e	1.02 a-e	1.14 f-i
Sugg	10.72 c	2.66 c-f	54.13 c	28.69 b-e	1.01 a-e	1.01 i
Florida Fancy	6.94 d	2.75 c-e	79.76 b	5.52 f	1.13 a-d	1.50 a-d
N07018JCSm	11.08 bc	2.67 c-f	51.31 d	29.73 a-d	1.15 a-d	1.14 f-i
N07019JCSm	10.87 c	2.66 c-f	51.51 d	30.33 a-c	1.09 a-e	1.15 f-i
N08070olJC	6.50 d	2.11 f	80.76 ab	5.48 f	0.95 c-e	1.68 a
N08074olC	6.30 d	2.31 ef	81.24 ab	4.57 f	1.04 a-e	1.66 a
N08075olCT	6.30 d	2.33 ef	81.22 ab	4.68 f	1.04 a-e	1.67 a
N08081olJC	7.38 d	2.62 c-f	80.94 ab	4.68 f	0.97 b-e	1.34 c-g
N08082olJCT	6.53 d	2.75 c-e	80.74 ab	5.01 f	1.12 a-d	1.55 a-d
N08085olJCT	6.84 d	2.66 c-f	81.14 ab	4.22 f	1.06 a-e	1.65 a
N08087olJCT	7.28 d	2.49 d-f	80.89 ab	5.03 f	0.93 c-e	1.38 b-f
N09019olJ	6.23 d	2.91 b-d	82.51 a	3.80 f	1.07 a-e	1.45 a-d
N09024olJ	7.18 d	3.59 a	81.75 ab	3.76 f	1.09 a-e	1.10 g-i
N09026olJ	6.82 d	3.58 a	82.14 a	3.24 f	1.20 ab	1.19 e-i
N09031ol	7.03 d	2.57 d-f	81.97 a	3.84 f	1.01 a-e	1.49 a-d
N09032ol	6.96 d	2.74 c-e	81.94 a	3.63 f	1.06 a-e	1.47 a-d
N09037ol	6.51 d	2.22 ef	82.07 a	4.44 f	0.96 b-e	1.59 a-c
N09049olC	6.76 d	2.65 c-f	81.05 ab	4.09 f	1.12 a-d	1.67 a
N09053olCSm	6.65 d	2.47 d-f	81.92 a	4.28 f	1.02 a-e	1.59 ab
N09056olC	7.17 d	2.92 b-d	81.05 ab	4.70 f	1.04 a-e	1.40 b-e
N09068olCSm	6.59 d	3.15 a-c	81.52 ab	4.18 f	1.16 a-c	1.31 d-h
Mean	**8.37**	**2.72**	**70.91**	**13.36**	**1.05**	**1.33**
LSD $_{0.05}$[2]	**1.26**	**0.57**	**2.04**	**2.48**	**0.24**	**0.25**

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

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

Fatty Acid Results

Table 22. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Average of all Digs from Tidewater AREC (Suffolk), VA, 2011[1] (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	1.14 c	0.39 de	98.52 a	1.62 g	17.10 b	1.83 a	2.39 c
Gregory	1.38 a-c	0.48 b-e	95.73 a	1.96 g	16.84 b	1.66 a	2.91 a-c
VA 98R	1.30 bc	0.50 b-e	97.54 a	1.72 g	17.11 b	1.77 a	2.73 a-c
Perry	1.71 a-c	0.66 a-e	98.26 a	1.64 g	17.17 b	1.81 a	3.48 a-c
CHAMPS	1.86 ab	0.91 a-c	91.99 b	2.12 g	19.94 a	1.46 b	3.98 ab
Phillips	2.00 a	0.90 a-c	98.19 a	1.62 g	17.32 b	1.80 a	4.04 a
Bailey	1.74 a-c	0.76 a-e	95.91 a	1.97 g	16.91 b	1.67 a	3.52 a-c
Sugg	1.37 a-c	0.43 c-e	97.04 a	1.89 g	16.18 b	1.77 a	2.80 a-c
Florida Fancy	1.75 a-c	0.65 a-e	79.34 c	15.50 f	13.23 c	0.42 cd	3.53 a-c
N07018JCSm	2.02 a	0.91 a-c	96.52 a	1.73 g	17.83 b	1.67 a	4.08 a
N07019JCSm	1.74 a-c	0.66 a-e	97.73 a	1.70 g	17.02 b	1.78 a	3.49 a-c
N08070olJC	1.64 a-c	0.89 a-d	80.26 c	15.17 f	12.09 c	0.46 c	3.48 a-c
N08074olC	1.86 ab	1.04 a	79.09 c	17.81 d-f	12.53 c	0.37 cd	3.93 ab
N08075olCT	1.79 a-c	0.96 ab	79.27 c	17.66 d-f	12.43 c	0.38 cd	3.79 ab
N08081olJC	1.43 a-c	0.64 a-e	78.78 c	17.68 d-f	13.04 c	0.36 cd	3.04 a-c
N08082olJCT	1.65 a-c	0.66 a-e	79.33 c	16.22 ef	12.71 c	0.40 cd	3.43 a-c
N08085olJCT	1.67 a-c	0.77 a-e	78.39 c	19.41 b-e	12.99 c	0.32 cd	3.50 a-c
N08087olJCT	1.36 a-c	0.64 a-e	79.37 c	16.88 d-f	12.71 c	0.40 cd	2.93 a-c
N09019olJ	1.43 a-c	0.62 a-e	78.68 c	21.79 bc	12.25 c	0.31 cd	3.11 a-c
N09024olJ	1.16 c	0.38 e	77.68 c	22.17 b	13.40 c	0.28 cd	2.64 bc
N09026olJ	1.37 a-c	0.46 b-e	77.20 c	26.60 a	13.43 c	0.24 d	3.03 a-c
N09031ol	1.46 a-c	0.65 a-e	78.31 c	21.69 bc	12.71 c	0.30 cd	3.12 a-c
N09032ol	1.52 a-c	0.69 a-e	77.92 c	22.60 b	12.97 c	0.28 cd	3.27 a-c
N09037ol	1.50 a-c	0.71 a-e	79.52 c	18.53 c-f	11.91 c	0.37 cd	3.18 a-c
N09049olC	1.79 a-c	0.87 a-e	78.11 c	19.95 b-d	13.19 c	0.31 cd	3.79 ab
N09053olCSm	1.50 a-c	0.58 a-e	79.12 c	19.41 b-e	12.21 c	0.35 cd	3.09 a-c
N09056olC	1.29 bc	0.46 c-e	78.94 c	18.00 d-f	12.86 c	0.36 cd	2.78 a-c
N09068olCSm	1.51 a-c	0.58 a-e	78.39 c	19.49 b-e	12.99 c	0.32 cd	3.25 a-c
Mean	**1.57**	**0.67**	**85.18**	**13.02**	**14.39**	**0.84**	**3.30**
LSD $_{0.05}$[2]	**0.69**	**0.50**	**3.30**	**3.53**	**1.76**	**0.20**	**1.40**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 23. 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 1, 2011[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	11.40 ab	2.89 d-g	56.89 b	25.18 a	0.95 d-h	1.03 fg
Gregory	11.18 ab	2.88 d-g	56.96 b	25.08 a	1.01 c-g	1.07 e-g
VA 98R	12.23 a	2.87 d-g	54.05 b	27.08 a	1.00 c-h	1.00 fg
Perry	12.35 a	2.93 c-g	54.72 b	26.28 a	0.92 f-h	1.03 fg
CHAMPS	11.25 ab	2.67 e-h	55.34 b	26.67 a	1.01 c-g	1.07 e-g
Phillips	12.61 a	2.71 e-g	55.24 b	25.50 a	0.90 f-h	1.09 e-g
Bailey	10.94 ab	2.84 d-g	56.47 b	25.31 a	1.00 c-h	1.31 b-g
Sugg	12.25 a	2.73 e-h	54.93 b	26.82 a	0.89 f-h	0.89 g
Florida Fancy	7.66 cd	3.34 b-d	80.03 a	4.68 b	1.15 a-c	1.25 b-g
N07018JCSm	11.26 ab	3.14 b-e	56.12 b	25.17 a	1.08 b-e	1.21 c-g
N07019JCSm	11.95 a	3.04 c-f	55.30 b	25.62 a	1.00 c-h	1.10 e-g
N08070olJC	7.25 d	2.27 h	81.11 a	5.27 b	0.88 f-h	1.49 a-e
N08074olC	7.28 d	2.49 f-h	82.55 a	4.21 b	0.85 h	1.27 b-g
N08075olCT	8.01 cd	2.72 e-h	78.71 a	6.73 b	0.88 gh	1.37 a-f
N08081olJC	7.90 cd	2.59 e-h	79.80 a	6.15 b	0.88 f-h	1.17 d-g
N08082olJCT	7.07 d	2.90 c-g	80.81 a	4.14 b	1.04 c-f	1.61 a-c
N08085olJCT	7.30 d	2.63 e-h	82.27 a	3.90 b	0.93 e-h	1.38 a-f
N08087olJCT	8.19 cd	2.86 d-g	78.47 a	6.38 b	0.92 f-h	1.46 a-e
N09019olJ	6.86 d	3.13 b-e	82.44 a	3.63 b	1.00 c-h	1.30 b-g
N09024olJ	6.88 d	3.64 b	82.70 a	2.48 b	1.21 ab	1.23 c-g
N09026olJ	9.54 bc	4.55 a	78.61 a	2.98 b	1.24 a	0.92 g
N09031ol	7.09 d	2.78 d-h	82.07 a	4.00 b	1.00 c-h	1.36 a-f
N09032ol	7.15 d	2.90 c-g	83.02 a	2.90 b	0.97 d-h	1.42 a-f
N09037ol	7.27 d	2.44 gh	81.79 a	3.74 b	0.88 gh	1.65 ab
N09049olC	7.72 cd	2.76 e-h	79.27 a	5.73 b	1.00 c-h	1.54 a-d
N09053olCSm	6.85 d	2.66 e-h	81.30 a	3.80 b	1.10 a-d	1.74 a
N09056olC	7.69 cd	2.68 e-h	81.11 a	4.51 b	0.96 d-h	1.35 a-f
N09068olCSm	6.99 d	3.46 bc	80.83 a	4.23 b	1.20 ab	1.30 b-g
Mean	**9.00**	**2.91**	**71.89**	**12.07**	**0.99**	**1.27**
LSD $_{0.05}$[2]	**1.89**	**0.57**	**5.13**	**4.32**	**0.16**	**0.42**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.

Fatty Acid Results

Table 23. 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 1, 2011[1] (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	1.28 a-c	0.42 c	93.34 a	2.27 e	16.92 a	1.50 a	2.64 b-d
Gregory	1.39 a-c	0.45 c	93.27 a	2.28 e	16.90 a	1.49 a	2.85 a-d
VA 98R	1.32 a-c	0.47 bc	94.17 a	2.00 e	17.88 a	1.52 a	2.79 a-d
Perry	1.32 a-c	0.47 bc	93.38 a	2.16 e	17.98 a	1.47 a	2.71 a-d
CHAMPS	1.47 a-c	0.54 a-c	94.63 a	2.08 e	16.93 a	1.58 a	3.02 a-d
Phillips	1.41 a-c	0.54 a-c	92.54 a	2.19 e	18.17 a	1.41 a	2.85 a-d
Bailey	1.61 ab	0.54 a-c	93.43 a	2.24 e	16.92 a	1.50 a	3.15 a-d
Sugg	1.18 bc	0.34 c	94.39 a	2.07 e	17.38 a	1.55 a	2.40 d
Florida Fancy	1.45 a-c	0.46 c	77.92 b	17.13 cd	14.05 b	0.33 bc	3.05 a-d
N07018JCSm	1.54 a-c	0.50 a-c	92.81 a	2.24 e	17.52 a	1.44 a	3.12 a-d
N07019JCSm	1.48 a-c	0.52 a-c	92.81 a	2.16 e	17.98 a	1.43 a	3.00 a-d
N08070olJC	1.27 a-c	0.48 a-c	80.04 b	15.62 d	12.15 b	0.44 bc	2.63 b-d
N08074olC	1.03 c	0.35 c	79.29 b	19.70 b-d	11.98 b	0.35 bc	2.23 d
N08075olCT	1.18 bc	0.43 c	80.42 b	12.99 d	13.21 b	0.51 b	2.48 cd
N08081olJC	1.14 bc	0.39 c	80.20 b	16.30 cd	12.89 b	0.47 bc	2.40 d
N08082olJCT	1.64 ab	0.83 a	77.93 b	19.74 b-d	13.46 b	0.32 bc	3.50 ab
N08085olJCT	1.18 bc	0.42 c	78.60 b	21.11 b-d	12.45 b	0.32 bc	2.52 b-d
N08087olJCT	1.19 bc	0.54 a-c	79.69 b	15.74 d	13.70 b	0.45 bc	2.65 b-d
N09019olJ	1.25 a-c	0.42 c	78.20 b	22.80 b-d	12.65 b	0.29 bc	2.65 b-d
N09024olJ	1.42 a-c	0.47 bc	76.38 bc	35.51 a	13.60 b	0.18 c	3.09 a-d
N09026olJ	1.52 a-c	0.65 a-c	73.49 c	26.48 a-c	17.49 a	0.19 c	3.41 a-c
N09031ol	1.27 a-c	0.46 c	78.56 b	21.32 b-d	12.59 b	0.32 bc	2.73 a-d
N09032ol	1.24 a-c	0.40 c	77.54 bc	29.30 ab	12.66 b	0.32 bc	2.61 b-d
N09037ol	1.57 ab	0.68 a-c	78.11 b	22.07 b-d	12.83 b	0.29 bc	3.13 a-d
N09049olC	1.45 a-c	0.56 a-c	79.30 b	15.12 d	13.48 b	0.42 bc	3.00 a-d
N09053olCSm	1.74 a	0.83 ab	77.87 b	21.61 b-d	13.17 b	0.30 bc	3.66 a
N09056olC	1.25 a-c	0.46 c	78.64 b	18.01 cd	13.03 b	0.35 bc	2.66 b-d
N09068olCSm	1.50 a-c	0.52 a-c	77.86 b	22.31 b-d	13.65 b	0.31 bc	3.20 a-d
Mean	**1.34**	**0.50**	**83.74**	**14.09**	**14.77**	**0.75**	**2.86**
LSD $_{0.05}$[2]	**0.53**	**0.36**	**4.28**	**10.45**	**2.65**	**0.29**	**0.99**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 24. 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 2, 2011[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	11.40 a	2.43 kl	52.04 d-f	29.90 a	0.93 c-f	1.08 j-l
Gregory	9.98 b	2.85 d-i	54.76 d	26.84 c	1.13 a-f	1.37 e-k
VA 98R	11.44 a	2.67 e-l	52.44 d-f	29.39 ab	0.91 d-f	0.01 l
Perry	11.01 ab	2.88 d-g	51.67 f	29.46 ab	1.20 a-e	1.10 j-l
CHAMPS	11.31 ab	2.64 f-l	52.26 d-f	29.25 a-c	1.04 b-f	1.18 h-l
Phillips	11.18 ab	2.95 c-f	51.69 f	29.65 a	1.08 a-f	1.01 l
Bailey	10.54 ab	2.62 f-l	53.09 d-f	29.46 ab	1.06 b-f	1.07 kl
Sugg	10.02 b	2.49 j-l	52.01 ef	30.43 a	1.11 a-f	1.15 h-l
Florida Fancy	8.14 c	3.02 c-e	80.66 a-c	4.52 d-f	0.98 b-f	1.15 h-l
N07018JCSm	11.65 a	2.80 e-j	54.67 de	27.04 bc	0.94 b-f	1.12 i-l
N07019JCSm	11.04 ab	2.86 d-h	52.86 d-f	28.54 a-c	1.11 a-f	1.21 g-l
N08070olJC	6.99 c-f	2.52 h-l	80.11 bc	5.87 de	0.92 d-f	1.57 b-f
N08074olC	6.43 d-f	2.36 l	80.73 a-c	4.93 d-f	1.05 b-f	1.75 a-d
N08075olCT	5.76 f	2.50 i-l	81.55 a-c	3.96 d-f	1.12 a-f	1.93 a
N08081olJC	6.55 d-f	2.60 f-l	82.46 a-c	4.02 d-f	1.01 b-f	1.34 e-l
N08082olJCT	6.78 c-f	2.54 g-l	83.07 a	3.33 f	0.89 ef	1.42 d-j
N08085olJCT	7.08 c-f	2.65 f-l	82.55 ab	3.23 f	0.95 b-f	1.69 a-e
N08087olJCT	6.51 d-f	2.56 g-l	82.29 a-c	4.40 d-f	0.97 b-f	1.35 e-l
N09019olJ	5.90 ef	3.27 bc	81.85 a-c	3.63 d-f	1.25 ab	1.54 b-g
N09024olJ	6.18 ef	3.84 a	82.19 a-c	2.68 f	1.38 a	1.30 f-l
N09026olJ	6.67 d-f	3.58 ab	81.87 a-c	3.45 ef	1.22 a-d	1.15 i-l
N09031ol	6.89 c-f	2.64 f-l	82.64 ab	3.57 d-f	0.94 b-f	1.42 d-k
N09032ol	5.84 ef	2.76 e-k	79.77 c	3.34 f	0.85 f	1.81 a-c
N09037ol	7.68 cd	2.44 j-l	80.21 bc	5.95 d	0.84 f	1.38 e-k
N09049olC	6.88 c-f	2.70 e-l	81.28 a-c	3.98 d-f	1.11 a-f	1.61 a-f
N09053olCSm	7.16 c-e	2.75 e-k	80.77 a-c	4.12 d-f	1.06 b-f	1.83 ab
N09056olC	6.84 c-f	2.80 e-j	81.93 a-c	3.56 d-f	1.11 a-f	1.50 b-h
N09068olCSm	6.45 d-f	3.19 cd	80.55 a-c	4.57 d-f	1.24 a-c	1.47 c-i
Mean	**8.22**	**2.78**	**71.21**	**12.96**	**1.05**	**1.37**
LSD $_{0.05}$[2]	**1.37**	**0.36**	**2.73**	**2.49**	**0.32**	**0.35**

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

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

Fatty Acid Results

Table 24. 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 2, 2011[1] (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	1.54 a-d	0.70 b	97.38 ab	1.76 h	16.99 a	1.76 a-c	3.16 b
Gregory	2.05 a	1.03 b	94.65 c	2.05 h	17.05 a	1.58 c	4.21 b
VA 98R	1.48 a-d	0.68 b	96.79 a-c	1.79 h	17.17 a	1.72 a-c	3.08 b
Perry	1.80 a-c	0.89 b	96.33 a-c	1.76 h	17.78 a	1.66 bc	3.89 b
CHAMPS	1.70 a-d	0.64 b	96.53 a-c	1.79 h	17.32 a	1.69 a-c	3.38 b
Phillips	1.68 a-d	0.78 b	96.60 a-c	1.76 h	17.66 a	1.68 a-c	3.54 b
Bailey	1.58 a-d	0.60 b	97.52 a	1.81 h	16.40 ab	1.80 ab	3.24 b
Sugg	1.97 ab	0.85 b	98.35 a	1.72 h	16.42 ab	1.86 a	3.91 b
Florida Fancy	1.16 cd	0.39 b	78.10 d-g	18.17 c-g	13.68 cd	0.33 d-g	2.53 b
N07018JCSm	1.37 a-d	0.44 b	94.73 bc	2.03 h	17.18 a	1.58 c	2.74 b
N07019JCSm	1.75 a-d	0.64 b	95.85 a-c	1.86 h	17.40 a	1.64 bc	3.50 b
N08070olJC	1.44 a-d	0.61 b	80.30 d	13.77 fg	12.46 d-f	0.47 de	2.97 b
N08074olC	1.75 a-d	1.02 b	79.34 de	16.60 e-g	12.60 d-f	0.39 d-f	3.82 b
N08075olCT	2.05 a	1.15 b	78.51 d-f	20.63 b-g	12.57 d-f	0.32 d-g	4.32 b
N08081olJC	1.39 a-d	0.64 b	78.95 d-f	20.75 b-f	12.18 ef	0.33 d-g	3.03 b
N08082olJCT	1.32 b-d	0.67 b	78.34 d-g	25.57 ab	12.18 ef	0.27 fg	2.87 b
N08085olJCT	1.32 b-d	0.54 b	77.91 d-g	25.77 ab	12.54 d-f	0.26 fg	2.81 b
N08087olJCT	1.34 a-d	0.59 b	79.46 de	19.34 b-g	11.97 f	0.37 d-g	2.89 b
N09019olJ	1.80 a-c	0.78 b	77.89 d-g	22.58 b-e	12.99 d-f	0.28 fg	3.82 b
N09024olJ	1.79 a-c	0.66 b	76.35 fg	31.43 a	13.84 cd	0.20 g	3.82 b
N09026olJ	1.48 a-d	0.59 b	77.28 e-g	25.29 a-c	13.55 de	0.26 fg	3.29 b
N09031ol	1.33 a-d	0.59 b	78.38 d-g	23.19 b-e	12.38 d-f	0.29 e-g	2.86 b
N09032ol	1.95 ab	3.71 a	75.81 g	24.51 a-d	15.09 bc	0.24 fg	6.50 a
N09037ol	1.06 d	0.45 b	80.37 d	13.48 g	12.47 d-f	0.48 d	2.36 b
N09049olC	1.68 a-d	0.78 b	78.06 d-g	20.80 b-f	13.14 d-f	0.30 d-g	3.56 b
N09053olCSm	1.43 a-d	0.90 b	78.04 d-g	21.51 b-e	13.29 d-f	0.31 d-g	3.39 b
N09056olC	1.59 a-d	0.70 b	77.80 d-g	23.06 b-e	13.03 d-f	0.27 fg	3.40 b
N09068olCSm	1.74 a-d	0.82 b	78.34 d-g	17.68 d-g	13.42 d-f	0.35 d-g	3.79 b
Mean	**1.59**	**0.81**	**84.78**	**14.37**	**14.45**	**0.81**	**3.45**
LSD $_{0.05}$[2]	**0.73**	**1.63**	**0.67**	**7.22**	**1.46**	**0.19**	**2.02**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 25. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Average of Digs from Martin County, NC , 2011[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	11.40 a-c	2.66 e-i	54.46 b	27.54 ab	0.94 e-g	1.05 h
Gregory	10.58 c	2.86 d-f	55.86 b	25.96 b	1.07 b-f	1.22 e-h
VA 98R	11.83 ab	2.77 e-g	53.24 b	28.23 ab	0.96 d-g	1.00 h
Perry	11.68 a-c	2.90 c-f	53.19 b	27.87 ab	1.06 b-f	1.06 h
CHAMPS	11.28 a-c	2.65 e-i	53.80 b	27.96 ab	1.03 d-g	1.13 gh
Phillips	11.89 a	2.83 ef	53.46 b	27.57 ab	0.99 d-g	1.05 h
Bailey	10.74 bc	2.73 e-h	54.78 b	27.38 ab	1.03 d-g	1.19 e-h
Sugg	11.13 a-c	2.61 f-i	53.47 b	28.63 a	1.00 d-g	1.02 h
Florida Fancy	7.90 de	3.18 b-d	80.35 a	4.60 cd	1.06 b-f	1.20 e-h
N07018JCSm	11.45 a-c	2.97 c-e	55.39 b	26.10 ab	1.01 d-g	1.16 e-h
N07019JCSm	11.49 a-c	2.95 c-e	54.08 b	27.08 ab	1.06 b-f	1.15 f-h
N08070olJC	7.12 d-f	2.39 i	80.61 a	5.57 c	0.90 fg	1.53 a-c
N08074olC	6.85 ef	2.42 hi	81.64 a	4.57 cd	0.95 d-g	1.51 b-d
N08075olCT	6.88 ef	2.61 f-i	80.13 a	5.34 c	1.00 d-g	1.65 ab
N08081olJC	7.23 d-f	2.60 f-i	81.13 a	5.08 cd	0.95 e-g	1.25 e-h
N08082olJCT	6.92 ef	2.72 e-i	81.94 a	3.74 cd	0.96 d-g	1.51 a-d
N08085olJCT	7.19 d-f	2.64 e-i	72.41 a	3.56 cd	0.94 e-g	1.53 a-c
N08087olJCT	7.35 d-f	2.71 e-i	80.38 a	5.39 c	0.95 e-g	1.40 b-f
N09019olJ	6.38 f	3.20 bc	82.14 a	3.63 cd	1.12 a-d	1.42 b-f
N09024olJ	6.53 f	3.74 a	82.44 a	2.58 d	1.29 a	1.26 c-h
N09026olJ	8.11 d	4.06 a	80.24 a	3.21 cd	1.23 ab	1.03 h
N09031ol	6.99 d-f	2.71 e-i	82.35 a	3.78 cd	0.97 d-g	1.39 b-g
N09032ol	6.50 f	2.83 ef	81.39 a	3.12 cd	0.91 e-g	1.61 ac
N09037ol	7.48 d-f	2.44 g-i	81.00 a	4.85 cd	0.86 g	1.51 a-d
N09049olC	7.30 d-f	2.73 e-h	80.27 a	4.85 cd	1.05 c-f	1.57 ab
N09053olCSm	7.00 d-f	2.70 e-i	81.03 a	3.96 cd	1.08 b-e	1.78 a
N09056olC	7.26 d-f	2.74 e-h	81.52 a	4.03 cd	1.03 d-g	1.42 b-e
N09068olCSm	6.72 f	3.32 b	80.69 a	4.40 cd	1.22 a-c	1.38 b-g
Mean	**8.61**	**2.84**	**71.55**	**12.52**	**1.02**	**1.32**
LSD $_{0.05}$[2]	**1.15**	**0.33**	**2.98**	**2.58**	**0.18**	**0.27**

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

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

Fatty Acid Results

Table 25. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Average of Digs from Martin County, NC, 2011[1] (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	1.41 ab	0.56 b	95.36 ab	2.01 h	16.95 ab	1.63 ab	2.90 b
Gregory	1.72 a	0.74 b	93.96 ab	2.16 h	16.97 ab	1.54 ab	3.53 ab
VA 98R	1.40 ab	0.58 b	95.48 ab	1.89 h	17.53 a	1.62 ab	2.93 b
Perry	1.56 ab	0.68 b	94.85 ab	1.96 h	17.88 a	1.57 ab	3.30 b
CHAMPS	1.58 ab	0.59 b	95.58 ab	1.94 h	17.13 a	1.63 ab	3.20 b
Phillips	1.55 ab	0.66 b	94.57 ab	1.97 h	17.92 a	1.55 ab	3.19 b
Bailey	1.60 ab	0.57 b	95.47 ab	2.02 h	16.66 ab	1.65 ab	3.19 b
Sugg	1.57 ab	0.59 b	96.37 a	1.89 h	16.90 ab	1.70 a	3.16 b
Florida Fancy	1.30 ab	0.42 b	78.01 cd	17.65 d-g	13.86 c	0.33 c-f	2.79 b
N07018JCSm	1.45 ab	0.47 b	93.77 b	2.13 h	17.35 a	1.51 b	2.93 b
N07019JCSm	1.61 ab	0.58 b	94.33 ab	2.01 h	17.69 a	1.53 ab	3.25 b
N08070olJC	1.35 ab	0.55 b	80.17 c	14.69 g	12.30 d	0.45 c	2.80 b
N08074olC	1.39 ab	0.69 b	79.31 c	18.15 d-g	12.29 d	0.37 c-e	3.02 b
N08075olCT	1.61 ab	0.79 b	79.46 c	16.81 fg	12.89 cd	0.41 cd	3.40 ab
N08081olJC	1.26 b	0.51 b	79.57 c	18.53 d-g	12.53 cd	0.40 c-e	2.71 b
N08082olJCT	1.48 ab	0.75 b	78.13 cd	22.65 b-e	12.82 cd	0.29 c-f	3.18 b
N08085olJCT	1.25 b	0.48 b	78.26 cd	23.44 b-d	12.49 cd	0.29 c-f	2.67 b
N08087olJCT	1.27 ab	0.56 b	79.57 c	17.54 e-g	12.83 cd	0.41 cd	2.77 b
N09019olJ	1.53 ab	0.60 b	78.04 cd	22.69 b-e	12.82 cd	0.28 c-f	3.24 b
N09024olJ	1.60 ab	0.56 b	76.36 de	33.47 a	13.72 cd	0.19 f	3.45 ab
N09026olJ	1.50 ab	0.62 b	75.38 e	25.88 bc	15.52 b	0.22 ef	3.35 b
N09031ol	1.30 ab	0.52 b	78.47 cd	22.25 b-e	12.48 cd	0.30 c-f	2.79 b
N09032ol	1.59 ab	2.06 a	76.68 de	26.90 b	13.88 c	0.23 d-f	4.55 a
N09037ol	1.31 ab	0.57 b	79.24 c	17.78 d-g	12.65 cd	0.39 c-e	2.74 b
N09049olC	1.56 ab	0.67 b	78.68 cd	17.96 d-g	13.31 cd	0.36 c-f	3.28 b
N09053olCSm	1.59 ab	0.86 b	77.95 cd	21.56 b-f	13.23 cd	0.30 c-f	3.52 ab
N09056olC	1.42 ab	0.58 b	78.22 cd	20.54 c-f	13.03 cd	0.31 c-f	3.03 b
N09068olCSm	1.62 ab	0.67 b	78.10 cd	19.99 d-g	13.53 cd	0.33 c-f	3.50 ab
Mean	**1.48**	**0.66**	**84.26**	**14.23**	**14.61**	**0.78**	**3.15**
LSD $_{0.05}$[2]	**0.46**	**0.84**	**2.54**	**5.83**	**1.46**	**0.18**	**1.17**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 26. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Rocky Mount, NC, 2011[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	10.74 bc	2.60 d-j	49.66 e	31.97 a	1.08 ab	1.15 i
Gregory	10.56 c	2.78 b-f	54.14 c	28.00 bc	1.08 ab	1.14 i
VA 98R	11.17 a-c	2.69 c-i	53.26 c	27.52 c	1.04 b-e	1.28 f-i
Perry	11.68 a	2.70 c-h	52.44 cd	28.56 bc	1.00 b-f	1.14 i
CHAMPS	11.07 a-c	2.83 b-d	53.56 c	28.08 bc	1.06 a-c	1.10 i
Phillips	10.89 a-c	2.58 d-k	50.00 de	31.71 a	1.05 b-d	1.15 i
Bailey	10.78 bc	2.56 d-k	51.70 c-e	30.46 ab	1.03 b-e	1.12 i
Sugg	11.57 ab	2.48 g-l	53.82 c	28.27 bc	0.89 ef	1.12 i
Florida Fancy	7.45 d	2.74 b-g	78.68 b	6.43 d	1.03 b-e	1.49 b-e
N07018JCSm	11.14 a-c	2.71 c-h	54.10 c	27.91 bc	1.00 b-f	1.10 i
N07019JCSm	11.26 a-c	2.69 c-i	53.65 c	27.79 bc	1.04 b-e	1.14 i
N08070olJC	7.44 d	2.48 g-l	79.94 ab	5.82 de	0.87 ef	1.58 a-d
N08074olC	6.36 fg	2.26 l	81.36 a	4.81 de	0.97 b-f	1.71 a
N08075olCT	6.81 d-g	2.47 g-l	81.85 a	4.12 de	0.84 f	1.73 a
N08081olJC	7.08 d-g	2.53 f-l	79.96 ab	5.85 de	0.97 b-f	1.47 c-g
N08082olJCT	6.25 g	2.58 d-k	81.17 ab	4.89 de	1.10 ab	1.48 b-f
N08085olJCT	7.26 de	2.54 e-k	81.13 ab	4.53 de	0.90 d-f	1.64 a-c
N08087olJCT	6.22 g	2.42 i-l	82.38 a	3.99 de	1.00 b-f	1.60 a-c
N09019olJ	7.44 d	2.94 bc	81.35 a	4.69 de	0.84 f	1.27 g-i
N09024olJ	7.19 d-f	3.61 a	81.57 a	3.21 e	1.11 ab	1.22 hi
N09026olJ	6.41 e-g	3.39 a	81.89 a	3.27 e	1.22 a	1.36 e-h
N09031ol	6.95 d-g	2.81 b-e	81.74 a	3.58 e	0.98 b-f	1.76 a
N09032ol	6.48 e-g	2.89 bc	82.47 a	3.38 e	1.06 b-d	1.48 b-f
N09037ol	6.70 d-g	2.31 kl	80.76 ab	5.59 de	0.91 c-f	1.56 a-e
N09049olC	6.90 d-g	2.46 h-l	81.21 ab	4.30 de	0.97 b-f	1.69 ab
N09053olCSm	7.23 d-f	2.40 j-l	81.12 ab	5.16 de	0.85 f	1.46 c-g
N09056olC	6.58 d-g	2.71 c-h	81.51 a	4.18 de	1.06 b-d	1.60 a-c
N09068olCSm	5.61 e-g	3.01 b	81.01 ab	4.67 de	1.13 ab	1.38 d-h
Mean	**8.36**	**2.68**	**70.98**	**13.31**	**1.00**	**1.39**
LSD $_{0.05}$[2]	**0.89**	**0.27**	**2.64**	**2.76**	**0.17**	**0.21**

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

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

Fatty Acid Results

Table 26. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Rocky Mount, NC, 2011[1] (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	1.89 ab	0.91 ab	99.00 a	1.56 g	17.22 ab	1.86 a	3.88 ab
Gregory	1.67 a-d	0.63 b-d	95.97 cd	1.95 g	16.71 b	1.68 a-d	3.37 a-d
VA 98R	2.04 a	1.00 a	94.48 d	1.99 g	17.94 a	1.54 d	4.08 a
Perry	1.78 a-c	0.70 a-d	95.47 cd	1.87 g	17.86 a	1.61 d	3.48 a-d
CHAMPS	1.67 a-d	0.61 b-d	95.58 cd	1.91 g	17.24 ab	1.63 cd	3.34 a-d
Phillips	1.87 ab	0.75 a-d	98.83 ab	1.58 g	17.14 ab	1.85 ab	3.67 a-c
Bailey	1.68 a-d	0.67 a-d	98.10 a-c	1.70 g	16.72 b	1.82 a-c	3.37 a-d
Sugg	1.35 c-e	0.50 cd	96.14 b-d	1.91 g	16.79 b	1.69 a-d	2.74 c-e
Florida Fancy	1.61 a-d	0.57 b-d	79.99 e	13.48 f	13.39 c-e	0.47 e	3.21 a-e
N07018JCSm	1.53 b-e	0.51 cd	95.74 cd	1.95 g	16.89 b	1.66 b-d	3.04 b-e
N07019JCSm	1.71 a-d	0.71 a-d	95.18 d	1.95 g	17.42 ab	1.60 d	3.46 a-d
N08070olJC	1.33 c-e	0.54 cd	80.08 e	14.29 ef	12.66 d-f	0.46 ef	2.74 c-e
N08074olC	1.68 a-d	0.85 a-c	79.65 ef	17.38 c-f	12.12 f	0.40 e-g	3.50 a-d
N08075olCT	1.49 b-e	0.58 b-d	78.90 e-g	21.40 a-d	12.30 f	0.34 e-g	3.02 b-e
N08081olJC	1.51 b-e	0.64 b-d	80.06 e	14.91 d-f	12.73 d-f	0.46 ef	3.11 b-e
N08082olJCT	1.71 a-d	0.82 a-c	79.44 e-g	16.69 c-f	12.46 ef	0.39 e-g	3.63 a-c
N08085olJCT	1.43 b-e	0.58 b-d	78.92 e-g	20.54 a-e	12.70 d-f	0.35 e-g	2.90 c-e
N08087olJCT	1.61 a-d	0.77 a-c	79.02 e-g	21.95 a-c	12.03 f	0.33 e-g	3.38 a-d
N09019olJ	1.07 e	0.41 d	79.08 e-g	17.62 c-f	12.70 d-f	0.37 e-g	2.32 e
N09024olJ	1.44 b-e	0.64 a-d	76.68 g	25.43 ab	14.00 c	0.23 g	3.20 a-e
N09026olJ	1.72 a-d	0.73 a-d	77.16 fg	26.46 a	13.48 cd	0.24 g	3.68 a-c
N09031ol	1.53 b-e	0.64 b-d	77.90 e-g	24.72 ab	12.91 d-f	0.28 e-g	3.16 a-e
N09032ol	1.57 b-d	0.68 a-d	77.95 e-g	24.99 ab	12.67 d-f	0.27 fg	3.30 a-d
N09037ol	1.49 b-e	0.68 a-d	80.36 e	14.74 d-f	12.10 f	0.46 ef	3.09 b-e
N09049olC	1.64 a-d	0.82 a-c	78.62 e-g	19.05 b-f	12.80 d-f	0.34 e-g	3.44 a-d
N09053olCSm	1.28 de	0.51 cd	79.85 ef	16.54 c-f	12.26 f	0.42 e-g	2.64 de
N09056olC	1.67 a-d	0.70 a-d	78.60 e-g	19.65 b-f	12.72 d-f	0.33 e-g	3.43 a-d
N09068olCSm	1.62 a-d	0.68 a-d	78.85 e-g	17.70 c-f	12.94 d-f	0.36 e-g	3.42 a-d
Mean	**1.59**	**0.68**	**85.20**	**13.07**	**14.32**	**0.84**	**3.27**
LSD $_{0.05}$[2]	**0.47**	**0.36**	**2.77**	**6.71**	**0.95**	**0.20**	**0.96**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 27. 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, 2011[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	12.70 ab	2.07 h	49.81 f	32.13 a	0.77 h	0.97 ij
Gregory	11.03 e	2.37 d-h	53.76 cd	29.07 b-d	0.91 d-f	1.08 g-j
VA 98R	12.37 bc	2.97 bc	53.35 cd	27.06 d	0.96 b-e	1.14 gh
Perry	13.42 a	2.81 b-d	50.57 ef	29.77 a-c	0.90 d-f	0.92 j
CHAMPS	12.19 bc	2.37 d-h	52.79 c-e	28.87 b-d	0.89 d-f	1.08 g-i
Phillips	12.05 b-d	2.31 e-h	52.14 de	29.90 ab	0.85 f-h	1.06 g-j
Bailey	11.79 b-e	2.30 e-g	53.05 cd	29.37 b-d	0.84 f-h	1.01 h-j
Sugg	11.13 de	2.27 e-h	52.99 cd	29.30 b-d	0.97 b-e	1.09 g-i
Florida Fancy	7.68 fg	2.63 b-f	79.46 b	5.77 e	1.02 bc	1.42 a-c
N07018JCSm	11.89 b-e	2.52 c-h	54.56 c	27.17 cd	0.90 d-f	1.14 f-h
N07019JCSm	11.61 c-e	2.55 c-g	53.35 cd	28.68 b-d	0.90 d-f	1.08 g-j
N08070olJC	7.29 fg	2.12 gh	80.72 ab	5.63 e	0.85 f-h	1.53 a
N08074olC	7.23 fg	2.21 f-h	80.87 ab	5.54 e	0.84 f-h	1.47 ab
N08075olCT	7.24 fg	2.45 d-h	81.16 ab	4.90 e	0.93 c-f	1.45 a-c
N08081olJC	7.22 fg	2.71 b-e	81.63 ab	4.11 e	0.97 b-e	1.43 a-c
N08082olJCT	7.32 fg	2.53 c-h	81.84 a	4.51 e	0.90 d-f	1.31 c-e
N08085olJCT	7.16 fg	2.44 d-h	81.55 ab	4.58 e	0.93 c-f	1.52 a
N08087olJCT	7.42 fg	2.47 d-h	80.54 ab	5.75 e	0.88 e-g	1.33 c-e
N09019olJ	6.98 g	2.61 c-f	81.29 ab	5.14 e	0.93 c-f	1.40 a-c
N09024olJ	8.02 f	3.59 a	80.20 ab	3.81 e	1.16 a	1.16 e-h
N09026olJ	7.30 fg	3.10 b	81.69 ab	3.99 e	1.05 b	1.20 d-g
N09031ol	7.28 fg	2.49 d-h	80.98 ab	4.75 e	0.97 b-e	1.53 a
N09032ol	7.33 fg	2.52 c-h	81.01 ab	4.67 e	0.93 c-f	1.54 a
N09037ol	7.08 g	2.13 gh	82.19 a	4.83 e	0.79 gh	1.42 a-c
N09049olC	7.78 fg	2.31 e-h	81.09 ab	4.89 e	0.84 f-h	1.47 ab
N09053olCSm	7.70 fg	2.36 d-h	81.44 ab	4.85 e	0.83 f-h	1.30 c-f
N09056olC	7.63 fg	2.50 c-h	80.23 ab	5.72 e	0.90 d-f	1.34 b-d
N09068olCSm	7.13 fg	2.74 b-e	80.98 ab	4.99 e	0.99 b-d	1.34 b-d
Mean	**9.03**	**2.52**	**70.90**	**13.56**	**0.92**	**1.28**
LSD $_{0.05}$[2]	**0.94**	**0.47**	**2.31**	**2.61**	**0.11**	**0.16**

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

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

Fatty Acid Results

Table 27. 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, 2011[1] (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	1.14 e-g	0.37 h	99.25 a	1.55 e	16.93 c	1.89 a	2.16 f
Gregory	1.30 a-g	0.47 d-h	97.45 ab	1.85 e	16.08 cd	1.81 ab	2.68 b-e
VA 98R	1.51 ab	0.65 ab	93.65 c	2.06 e	18.46 ab	1.51 d	3.12 ab
Perry	1.25 b-g	0.36 h	95.79 bc	1.70 e	18.73 a	1.60 b-d	2.51 d-f
CHAMPS	1.34 a-f	0.47 d-h	96.26 a-c	1.83 e	17.26 bc	1.68 b-d	2.70 b-e
Phillips	1.28 b-g	0.42 gh	97.47 ab	1.75 e	16.90 c	1.77 a-c	2.54 c-f
Bailey	1.21 d-g	0.43 f-h	97.28 ab	1.81 e	16.58 c	1.77 a-c	2.48 d-f
Sugg	1.55 a	0.70 a	97.19 ab	1.81 e	16.61 c	1.77 a-c	3.21 a
Florida Fancy	1.50 a-c	0.51 b-h	79.46 de	14.80 d	13.35 e	0.43 e	3.03 a-c
N07018JCSm	1.36 a-f	0.45 d-h	94.89 bc	2.03 e	17.12 bc	1.59 cd	2.71 a-e
N07019JCSm	1.37 a-e	0.47 d-h	96.40 a-c	1.86 e	16.90 c	1.70 a-d	2.74 a-e
N08070olJC	1.25 b-g	0.61 a-d	80.37 d	14.60 d	12.12 ef	0.46 e	2.71 a-e
N08074olC	1.25 b-g	0.59 a-f	80.30 d	14.76 d	12.13 ef	0.46 e	2.68 b-e
N08075olCT	1.30 a-g	0.57 a-g	79.43 de	16.74 b-d	12.49 ef	0.39 e	2.80 a-e
N08081olJC	1.30 a-g	0.63 a-c	78.44 de	20.47 a-c	12.83 ef	0.32 e	2.90 a-d
N08082olJCT	1.15 e-g	0.42 gh	79.23 de	18.15 b-d	12.34 ef	0.37 e	2.48 d-f
N08085olJCT	1.26 b-g	0.56 a-g	79.27 de	17.90 b-d	12.35 ef	0.37 e	2.75 a-e
N08087olJCT	1.17 d-g	0.45 e-h	80.27 d	15.05 d	12.39 ef	0.46 e	2.50 d-f
N09019olJ	1.17 d-g	0.48 c-h	79.92 d	16.17 d	12.18 ef	0.42 e	2.58 c-f
N09024olJ	1.50 a-c	0.56 a-g	76.49 e	22.47 a	14.83 d	0.27 e	3.22 a
N09026olJ	1.23 c-g	0.43 f-h	78.12 de	20.68 ab	13.12 e	0.30 e	2.72 a-e
N09031ol	1.43 a-d	0.57 a-g	79.09 de	17.26 b-d	12.73 ef	0.37 e	2.96 a-d
N09032ol	1.40 a-e	0.60 a-e	78.98 de	17.37 b-d	12.78 ef	0.36 e	2.92 a-d
N09037ol	1.10 fg	0.46 d-h	80.19 d	17.01 b-d	11.55 f	0.42 e	2.34 ef
N09049olC	1.15 e-g	0.47 d-h	79.37 de	16.89 b-d	12.55 ef	0.39 e	2.46 d-f
N09053olCSm	1.07 g	0.45 e-h	79.48 d	17.17 b-d	12.40 ef	0.40 e	2.35 ef
N09056olC	1.20 d-g	0.47 d-h	79.97 d	14.07 d	12.71 ef	0.45 e	2.58 c-f
N09068olCSm	1.33 a-g	0.49 c-h	79.35 de	16.43 cd	12.68 ef	0.40 e	2.81 a-e
Mean	**1.29**	**0.51**	**85.48**	**11.65**	**14.25**	**0.86**	**2.70**
LSD $_{0.05}$[2]	**0.27**	**2.95**	**2.99**	**4.08**	**1.34**	**0.22**	**0.51**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 28. 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, 2011.[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	11.77 a	2.48 i-k	51.34 g	30.54 a	0.91 f-h	1.04 i
Gregory	10.80 b	2.75 c-g	54.61 d	27.60 d	1.03 c-e	1.11 g-i
VA 98R	11.78 a	2.76 c-g	52.82 ef	28.39 cd	0.97 d-h	1.10 g-i
Perry	11.83 a	2.81 c-f	51.76 fg	29.34 a-c	1.03 c-e	1.04 i
CHAMPS	11.78 a	2.86 b-d	53.13 e	27.80 d	1.06 cd	1.09 g-i
Phillips	11.36 ab	2.61 e-i	51.58 fg	29.98 ab	1.02 d-f	1.09 g-i
Bailey	11.01 b	2.54 g-j	53.48 de	28.68 b-d	0.99 d-h	1.12 g-i
Sugg	11.11 b	2.52 g-j	53.63 de	28.71 b-d	0.97 d-h	1.05 hi
Florida Fancy	7.48 c	2.84 b-e	79.63 c	5.51 e	1.07 b-d	1.39 ef
N07018JCSm	11.37 ab	2.73 c-h	53.77 de	27.76 d	1.02 de	1.14 g-i
N07019JCSm	11.29 ab	2.73 c-h	53.09 e	28.50 cd	1.03 c-e	1.13 g-i
N08070olJC	7.05 cd	2.27 k	80.53 bc	5.61 e	0.90 gh	1.58 ab
N08074olC	6.67 d	2.31 jk	81.30 ab	4.83 e-h	0.96 d-h	1.59 ab
N08075olCT	6.78 d	2.47 i-k	81.03 ab	4.80 e-h	0.96 d-h	1.63 a
N08081olJC	7.24 cd	2.61 e-i	80.93 a-c	4.92 e-h	0.96 d-h	1.36 f
N08082olJCT	6.75 d	2.66 d-i	81.41 ab	4.51 e-i	1.02 de	1.47 b-f
N08085olJCT	7.10 cd	2.58 f-i	81.59 ab	4.18 g-i	0.96 d-h	1.59 ab
N08087olJCT	7.10 cd	2.54 g-j	80.99 ab	5.07 e-g	0.94 e-h	1.42 d-f
N09019olJ	6.69 d	2.93 bc	81.89 a	4.23 f-i	1.01 d-g	0.39 f
N09024olJ	7.18 cd	3.64 a	81.58 ab	3.31 i	1.17 ab	1.18 gh
N09026olJ	7.20 cd	3.57 a	81.45 ab	3.40 i	1.18 a	1.19 g
N09031ol	7.05 cd	2.64 d-i	81.82 ab	3.96 g-i	0.98 d-h	1.53 a-d
N09032ol	6.80 d	2.75 c-g	81.70 ab	3.65 hi	0.99 d-h	1.53 a-d
N09037ol	6.95 cd	2.28 k	81.51 ab	4.88 e-h	0.88 h	1.53 a-e
N09049olC	7.16 cd	2.56 g-i	80.87 a-c	4.52 e-i	1.01 d-f	1.60 ab
N09053olCSm	7.10 cd	2.50 h-k	81.39 ab	4.50 e-i	0.96 d-h	1.56 a-c
N09056olC	7.17 cd	2.73 c-h	81.10 ab	4.62 e-i	1.01 d-f	1.44 c-f
N09068olCSm	6.73 d	3.08 b	81.06 ab	4.52 e-i	1.14 a-c	1.35 f
Mean	**8.58**	**2.71**	**71.11**	**13.15**	**1.00**	**1.33**
LSD $_{0.05}$[2]	**0.65**	**0.24**	**1.30**	**1.32**	**0.11**	**0.13**

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

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

Fatty Acid Results

Table 28. 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, 2011[1]. (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	1.37 bc	0.56 b	97.87 a	1.70 j	17.05 b-d	1.79 a	2.80 b
Gregory	1.52 a-c	0.58 b	95.64 cd	1.99 j	16.69 cd	1.66 b-d	3.14 ab
VA 98R	1.53 a-c	0.66 b	95.46 cd	1.90 j	17.70 ab	1.62 cd	3.16 ab
Perry	1.58 a-c	0.61 b	96.16 b-d	1.79 j	17.85 a	1.65 b-d	3.22 ab
CHAMPS	1.63 ab	0.66 b	94.70 d	1.96 j	17.98 a	1.59 d	3.35 ab
Phillips	1.69 a	0.69 b	97.14 ab	1.74 j	17.36 a-c	1.73 ab	3.40 ab
Bailey	1.57 a-c	0.62 b	96.55 a-c	1.89 j	16.73 cd	1.72 a-c	3.17 ab
Sugg	1.46 a-c	0.55 b	96.69 a-c	1.88 j	16.61 d	1.73 ab	2.98 ab
Florida Fancy	1.54 a-c	0.54 b	79.12 e-g	15.53 hi	13.47 ef	0.41 ef	3.14 ab
N07018JCSm	1.61 a-c	0.60 b	95.22 cd	1.96 j	17.34 a-d	1.60 d	3.23 ab
N07019JCSm	1.62 a-c	0.61 b	95.93 b-d	1.88 j	17.27 a-d	1.65 b-d	3.25 ab
N08070olJC	1.41 a-c	0.66 b	80.22 e	14.72 i	12.28 hi	0.46 e	2.96 ab
N08074olC	1.56 a-c	0.80 ab	79.54 ef	17.16 g-i	12.29 hi	0.39 ef	3.31 ab
N08075olCT	1.57 a-c	0.77 ab	79.28 e-g	18.02 e-h	12.54 g-i	0.38 e-g	3.30 ab
N08081olJC	1.37 bc	0.60 b	79.21 e-g	17.93 e-h	12.78 f-i	0.38 ef	2.93 ab
N08082olJCT	1.51 a-c	0.67 b	78.99 e-g	18.57 e-g	12.61 g-i	0.36 e-g	3.20 ab
N08085olJCT	1.41 a-c	0.60 b	78.65 fg	20.48 de	12.65 g-i	0.33 f-i	2.97 ab
N08087olJCT	1.35 bc	0.61 b	79.54 ef	17.76 f-h	12.53 g-i	0.40 ef	2.89 b
N09019olJ	1.32 c	0.54 b	78.85 e-g	19.95 d-f	12.49 g-i	0.34 f-h	2.86 b
N09024olJ	1.42 a-c	0.53 b	76.83 h	26.16 a	13.93 e	0.24 i	3.11 ab
N09026olJ	1.45 a-c	0.56 b	79.87 h	25.10 ab	13.97 e	0.25 hi	3.19 ab
N09031ol	1.42 a-c	0.59 b	78.43 fg	21.55 cd	12.69 g-i	0.31 f-i	3.00 ab
N09032ol	1.52 a-c	1.06 a	77.80 gh	23.22 bc	13.12 fg	0.28 g-i	3.57 a
N09037ol	1.36 bc	0.61 b	79.76 ef	17.18 g-i	12.08 i	0.41 ef	2.85 b
N09049olC	1.56 a-c	0.72 b	78.65 fg	18.53 e-g	13.00 f-h	0.35 f-h	3.28 ab
N09053olCSm	1.38 bc	0.62 b	79.02 e-g	18.93 d-g	12.55 g-i	0.36 e-g	2.96 ab
N09056olC	1.39 bc	0.55 b	78.88 e-g	18.24 e-g	12.84 f-h	0.36 e-g	2.95 ab
N09068olCSm	1.52 a-c	0.61 b	78.61 fg	18.59 e-g	13.07 fg	0.35 f-h	3.26 ab
Mean	**1.49**	**0.63**	**84.99**	**13.08**	**14.41**	**0.83**	**3.12**
LSD $_{0.05}$[2]	**0.30**	**0.31**	**1.49**	**2.69**	**0.75**	**0.10**	**0.64**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 29. 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 all locations, (2010 – 2011)[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	11.24 a	2.52 ef	52.02 c	29.43 a	1.04 bc	1.09 e
Gregory	10.38 d	2.82 ab	54.58 b	27.09 cd	1.17 a	1.13 e
VA 98R	11.19 a	2.78 a-c	53.30 bc	27.28 b-d	1.09 a-c	1.11 e
Perry	11.05 a-c	2.81 ab	52.28 c	28.72 ab	1.16 a	1.08 e
CHAMPS	11.10 ab	2.89 a	54.02 b	26.85 d	1.17 a	1.12 e
Phillips	10.83 a-d	2.71 a-d	52.16 c	29.10 ab	1.14 ab	1.10 e
Bailey	10.59 b-d	2.65 b-e	53.25 bc	28.43 a-c	1.12 a-c	1.13 e
Sugg	10.50 cd	2.61 c-e	54.32 b	27.68 b-d	1.11 a-c	1.09 e
Florida Fancy	7.12 e	2.89 a	79.05 a	5.44 e	1.20 a	1.45 b-d
N08070olJC	6.96 e	2.39 f	79.20 a	6.17 e	1.02 c	1.57 a
N08074olC	6.68 e	2.49 ef	79.81 a	5.52 e	1.09 a-c	1.54 ab
N08075olCT	6.67 e	2.58 de	79.67 a	5.52 e	1.10 a-c	1.59 a
N08081olJC	7.08 e	2.74 a-d	79.15 a	5.92 e	1.11 a-c	1.38 d
N08082olJCT	6.67 e	2.75 a-d	80.17 a	5.06 e	1.15 ab	1.46 b-d
N08085olJCT	7.05 e	2.65 b-e	79.35 a	5.70 e	1.09 a-c	1.52 a-c
N08087olJCT	6.89 e	2.64 b-e	79.75 a	5.52 e	1.09 a-c	1.44 cd
Mean	**8.89**	**2.68**	**66.45**	**16.81**	**1.12**	**1.30**
LSD $_{0.05}$[2]	**0.56**	**0.18**	**1.73**	**1.56**	**0.12**	**0.09**

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

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

Fatty Acid Results

Table 29. 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 all locations, (2010 – 2011)[1]. (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	1.77 a	0.91 a	96.60 a	1.81 d	17.44 a-c	1.69 a	3.68 a
Gregory	1.93 a	0.89 a	94.76 bc	2.03 d	17.20 bc	1.58 bc	3.99 a
VA 98R	1.87 a	0.94 a	94.74 bc	1.96 d	17.86 ab	1.56 bc	3.90 a
Perry	1.98 a	0.91 a	95.55 ab	1.85 d	17.93 a	1.61 a-c	4.05 a
CHAMPS	1.95 a	0.90 a	93.84 c	2.07 d	18.01 a	1.52 c	4.02 a
Phillips	2.00 a	0.95 a	96.14 ab	1.81 d	17.64 ab	1.66 ab	4.09 a
Bailey	1.94 a	0.90 a	96.93 ab	1.90 d	17.19 bc	1.66 ab	3.96 a
Sugg	1.86 a	0.83 a	95.52 ab	2.01 d	16.91 c	1.64 ab	3.80 a
Florida Fancy	1.97 a	0.88 a	78.55 e	15.99 a-c	14.06 d	0.39 d	4.05 a
N08070olJC	1.74 a	0.94 a	80.05 d	13.95 c	13.06 e	0.47 d	3.70 a
N08074olC	1.85 a	1.02 a	79.41 de	16.06 a-c	13.13 e	0.41 d	3.95 a
N08075olCT	1.88 a	1.00 a	79.34 de	15.86 a-c	13.22 e	0.41 d	3.97 a
N08081olJC	1.76 a	0.85 a	79.41 de	15.71 bc	13.55 de	0.43 d	3.73 a
N08082olJCT	1.84 a	0.91 a	78.87 de	17.50 ab	13.31 e	0.38 d	3.89 a
N08085olJCT	1.77 a	0.86 a	79.32 de	17.96 a	13.43 de	0.41 d	3.73 a
N08087olJCT	1.77 a	0.89 a	79.29 de	16.58 ab	13.28 e	0.41 d	3.75 a
Mean	**1.87**	**0.91**	**87.29**	**9.10**	**15.44**	**1.01**	**3.89**
LSD $_{0.05}$[2]	**0.33**	**0.24**	**1.44**	**2.22**	**0.67**	**0.10**	**0.68**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 30. 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 all locations, (2009 – 2011)[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	10.75 a	2.54 d	50.60 f	30.59 a	1.15 d	1.12 de
Gregory	9.71 c	2.86 a	54.07 b	27.45 d	1.30 a	1.17 cd
VA 98R	10.75 a	2.70 bc	51.43 ef	29.59 bc	1.16 cd	1.11 e
Perry	10.35 b	2.80 ab	51.14 ef	29.74 a-c	1.29 a	1.11 e
CHAMPS	10.26 b	2.81 ab	53.27 bc	27.64 d	1.28 ab	1.19 b
Phillips	10.32 b	2.72 bc	51.22 ef	29.92 ab	1.24 a-c	1.4 c-e
Bailey	10.07 bc	2.59 cd	51.99 de	29.50 bc	1.22 b-d	1.18 bc
Sugg	10.03 bc	2.55 d	52.91 cd	28.93 c	1.19 cd	1.13 c-e
Florida Fancy	6.71 d	2.88 a	78.71 a	5.38 e	1.31 a	1.52 a
Mean	**9.88**	**2.72**	**55.03**	**26.53**	**1.24**	**1.18**
LSD $_{0.05}$[2]	**0.40**	**0.13**	**0.98**	**0.99**	**0.07**	**0.05**

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

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

Fatty Acid Results

Table 30. 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 all locations, (2009 – 2011)[1]. (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	2.10 b	1.16 a	97.39 a	1.68 b	17.68 ab	1.73 a	4.38 c
Gregory	2.29 ab	1.15 a	94.97 c	1.98 b	17.31 c	1.59 cd	4.74 a-c
VA 98R	2.10 b	1.14 a	96.37 b	1.77 b	17.86 a	1.66 b	4.41 bc
Perry	2.38 a	1.18 a	96.37 b	1.74 b	18.01 a	1.66 bc	4.85 a
CHAMPS	2.36 a	1.19 a	94.62 c	1.96 b	17.90 a	1.56 d	4.83 ab
Phillips	2.31 ab	1.15 a	96.76 ab	1.73 b	17.72 a	1.69 ab	4.69 a-c
Bailey	2.28 ab	1.17 a	96.73 ab	1.78 b	17.33 bc	1.70 ab	4.67 a-c
Sugg	2.22 ab	1.05 a	96.49 ab	1.86 b	17.04 c	1.70 ab	4.46 a-c
Florida Fancy	2.33 a	1.15 a	78.22 d	16.77 a	14.38 d	0.37 e	4.79 a-c
Mean	**2.27**	**1.15**	**94.22**	**3.46**	**17.25**	**1.52**	**4.65**
LSD $_{0.05}$[2]	**0.22**	**0.16**	**0.97**	**0.85**	**0.35**	**0.07**	**0.44**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Least significant difference at 5% probability level.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Calcium Results

Table 31. Calcium content (ppm)[1] in kernels from PVQE small plots in 2011.

Variety or Line	Tidewater AREC, VA	Martin Co., NC	Rocky Mt., NC	Bladen Co., NC	Average across locations
NC-V 11	1010 a-c	949 d-f	1084 e-j	1047 c-i	1016 c-g
Gregory	928 a-e	902 e-g	1192 b-e	1217 c-e	1039 c-f
VA 98R	906 a-f	993 cd	1153 b-f	1004 f-i	1055 c-h
Perry	886 a-f	972 c-e	1185 b-e	1221 c-e	1046 c-e
CHAMPS	915 a-f	1041 bc	1230 bc	1245 cd	1089 b-d
Phillips	898 a-f	874 f-h	11089 d-j	1018 e-i	948 d-i
Bailey	1028 ab	993 cd	1205 b-d	1233 cd	1105 a-c
Sugg	763 b-g	856 gh	996 j-l	1041 d-i	899 e-k
Florida Fancy	785 a-g	767 i-k	1043 f-k	1022 e-i	886 f-k
N07018JCSm	720 c-g	665 m	935 kl	851 i	779 jk
N07019JCSm	866 a-f	689 lm	976 j-l	981 f-i	778 jk
N08070olJC	627 fg	710 k-m	915 l	879 hi	766 k
N08074olC	778 a-g	758 j-l	1002 j-l	972 f-i	862 h-k
N08075olCT	675 d-g	823 h-j	1079 e-j	942 f-i	861 h-k
N08081olJC	644 e-g	834 g-i	1152 b-f	1042 d-i	892 f-k
N08082olJCT	789 a-g	835 h-i	1127 b-h	1017 e-i	923 e-j
N08085olJCT	1071 a	1135 a	1423 a	1468 a	1250 a
N08087olJCT	676 d-g	883 f-h	1034 g-k	1136 c-f	911 e-k
N09019olJ	567 g	890 f-h	1044 f-k	1074 c-h	955 c-i
N09024olJ	911 a-f	1025 bc	1242 b	1249 bc	1087 b-d
N09026olJ	826 a-g	994 cd	1236 bc	1003 f-i	1000 c-h
N09031ol	739 b-g	884 f-h	1125 c-i	1085 c-g	937 d-i
N09032ol	716 c-g	879 f-h	1052 f-j	987 f-i	893 e-k
N09037ol	675 d-g	739 k-m	1011 i-l	911 g-i	816 i-k
N09049olC	952 a-d	1137 a	1434 a	1453 ab	1216 ab
N09053olCSm	724 c-g	855 gh	1026 h-l	979 f-i	881 g-k
N09056olC	948 a-d	1088 ab	1388 a	1633 a	1229 ab
N09068olCSm	787 a-g	903 e-g	1149 b-g	1085 c-g	961 c-i
Mean	**813**	**895**	**1126**	**1100**	**965**
LSD $_{0.05}$[2]	**296**	**76**	**116**	**205**	**154**

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

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

Calcium Results

Table 32. Calcium content (ppm)[1] in kernels from PVQE small plots @ Tidewater AREC (Suffolk), VA in 2011.

Variety or Line	Digging Date 1	Digging Date 2
NC-V 11	1307 ab	713 c-f
Gregory	1087 a-c	768 cd
VA 98R	1079 a-c	734 c-e
Perry	1091 a-c	681 c-g
CHAMPS	1066 a-d	764 c-e
Phillips	992 a-d	803 bc
Bailey	1522 a	780 cd
Sugg	747 b-d	779 cd
Florida Fancy	917 b-d	653 d-g
N07018JCSm	889 b-d	552 g
N07019JCSm	475 d	659 c-g
N08070olJC	636 cd	618 e-g
N08074olC	919 b-d	636 d-g
N08075olCT	671 cd	678 c-g
N08081olJC	636 cd	651 d-g
N08082olJCT	906 b-d	673 c-g
N08085olJCT	1155 a-c	987 a
N08087olJCT	669 cd	683 c-g
N09019olJ	958 a-d	773 cd
N09024olJ	1124 a-c	698 c-g
N09026olJ	932 a-d	721 c-e
N09031ol	779 b-d	698 c-g
N09032ol	732 b-d	699 c-g
N09037ol	696 cd	655 d-g
N09049olC	970 a-d	933 ab
N09053olCSm	880 b-d	568 fg
N09056olC	837 b-d	1059 a
N09068olCSm	877 b-d	697 c-g
Mean	**901**	**725**
LSD $_{0.05}$[2]	**600**	**146**

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

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

Calcium Results

Table 33. Calcium content (ppm)[1] in kernels from PVQE small plots @ Martin Co., NC in 2011.

Variety or Line	Digging Date 1	Digging Date 2
NC-V 11	885 c-e	1013 c-f
Gregory	833 d-g	971 d-g
VA 98R	902 b-d	1085 cd
Perry	932 bc	1012 c-f
CHAMPS	966 b	1117 bc
Phillips	783 g-i	965 e-g
Bailey	869 c-f	1116 bc
Sugg	808 f-h	904 f-j
Florida Fancy	612 lm	922 e-i
N07018JCSm	595 m	736 l
N07019JCSm	612 lm	766 kl
N08070olJC	621 lm	799 j-l
N08074olC	673 j-l	842 h-l
N08075olCT	725 ij	920 e-i
N08081olJC	785 g-i	883 g-k
N08082olJCT	744 h-j	925 e-i
N08085olJCT	1043 a	1227 ab
N08087olJCT	742 h-j	1025 c-e
N09019olJ	750 hi	1030 c-e
N09024olJ	931 bc	1119 bc
N09026olJ	903 b-d	1084 cd
N09031ol	816 e-h	952 e-h
N09032ol	779 g-i	797 d-g
N09037ol	649 k-m	829 i-l
N09049olC	1047 a	1228 ab
N09053olCSm	715 i-k	994 d-g
N09056olC	930 bc	1246 a
N09068olCSm	845 d-g	960 e-h
Mean	**803**	**987**
LSD $_{0.05}$[2]	**75**	**118**

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

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