2016

Peanut Variety and Quality Evaluation Results

Quality Data

Tidewater Agricultural Research and Extension Center

Virginia Agricultural Experiment Station

AREC-208NP

Virginia Cooperative Extension

Virginia Tech
Virginia State University

PEANUT VARIETY AND QUALITY EVALUATION RESULTS 2016

II. Quality Data

Maria Balota, Ph.D.
Associate Professor Crop Physiology
Virginia Tech – Tidewater AREC

Thomas G. Isleib, Ph.D.
Professor, Peanut Breeder
North Carolina State University

Joseph Oakes, Ph.D.
Research Associate
Virginia Tech – Tidewater AREC

Dan Anco, Ph.D.
Extension Specialist
Clemson University

TECHNICAL SUPPORT:
D. Redd, Ag Specialist
F. Bryant, Ag Specialist
C. Daughtrey, Ag Technician
B. Kennedy, Ag Technician
A. Acharya, Ag Technicianv
A. Sexton, Ag Techician
G. Rawls, Ag Technician
S. Copeland, Research Assistant

Virginia Polytechnic Institute and State University
Virginia Agricultural Experiment Station
Tidewater Agricultural Research and Extension Center
Suffolk, Virginia 23437

Information Series No 511
February 2017

ACKNOWLEDGEMENTS

FINANCIAL SUPPORT

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

Virginia Tech

Virginia Agricultural Experiment Station

NC State University

Virginia Carolina Peanut Association

South Carolina Peanut Growers

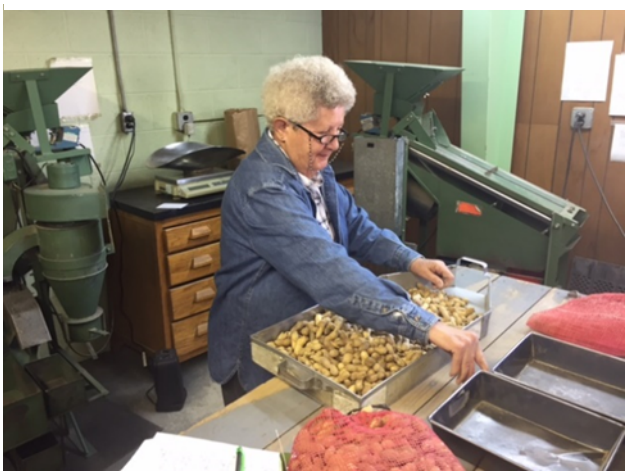
North Carolina Peanut Growers

Clemson University

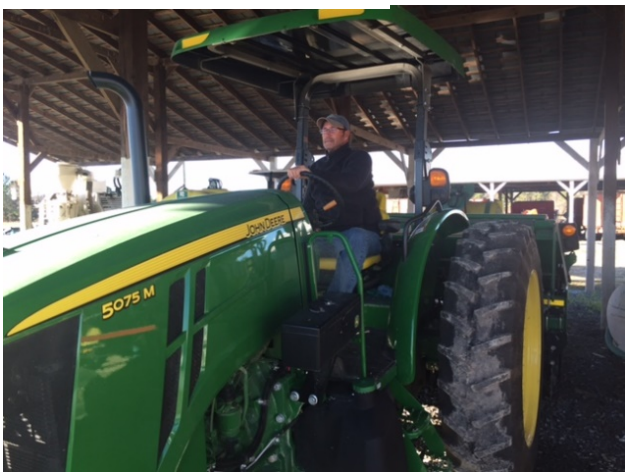
TECHNICAL SUPPORT

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: Frank Bryant, Doug Redd, Carolyn Daughtrey, Brenda Kennedy, Anita Acharya, Austen Sexton, and Gaby Rawls.

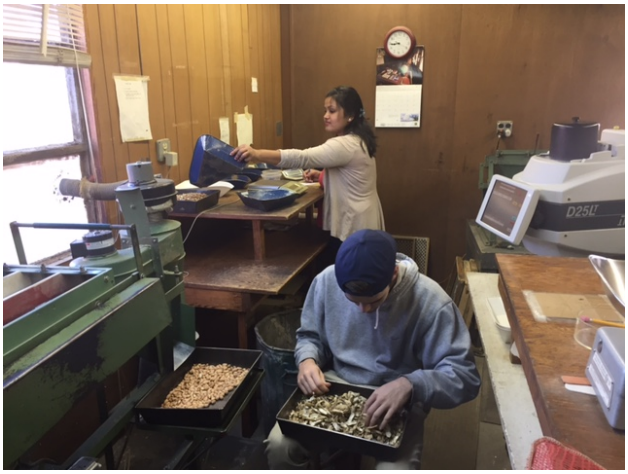
Carolyn Daughtrey, below



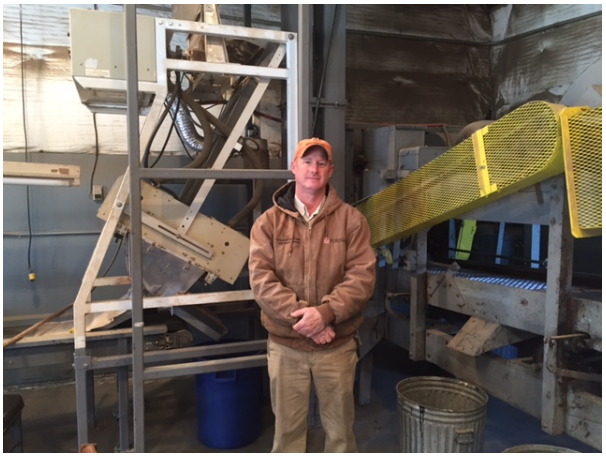
Frank Bryant, below



Anita Acharya and Austen Sexton, below



Doug Redd, below



All of the following cooperators are also acknowledged for their various support provided to the PVQE program in 2016.

LIST OF COOPERATORS

Virginia Tech, Virginia Agricultural Experiment Station, and VCIA

- Mr. K. Jones, Farm Manager, Tidewater AREC
- Mr. B. Slye, Assistant Farm Manager, Tidewater AREC
- Mr. Bruce Beahm, VCIA
- Mr. T. Hardiman, VCIA

Other universities

- Dr. T. Isleib, NCSU
- Dr. B. Tillman, University of Florida
- Mr. C. Bogle, Upper Coastal Plain Research Station, NCSU

Growers

- Mr. T. Slade, Martin Co., NC
- Mr. D. McDuffie, Bladen Co., NC

County Agents

- Ms. L. Preisser, Southampton Co., VA
- Ms. J. Spencer, Isle of Wight Co., VA
- Mr. S. Reiter, Prince George Co., VA
- Mr. M. Parrish, Dinwiddie Co., VA
- Mr. M. Williams, Suffolk, VA
- Ms. N. Norton, Greensville/Emporia, VA
- Mr. G. Slade, Surry Co., VA
- Mr. K. Wells, Sussex Co., VA
- Mr. A. Cochran, Martin Co., NC

Commodity Groups

- Mr. D. Cotton, Virginia Peanut Board
- Mr. B. Sutter, North Carolina Peanut Board
- Mr. M. Copelan, South Carolina Peanut Board

Companies

- Mr. M. Simmons, Birdsong Peanut
- Mr. K. Bennett, Birdsong Peanut
- Mr. J. Laine, Wakefield Peanut Company
- Mr. B. Gwaltney, Indika Farms, Inc.
- Mr. L. Fowler, Helena
- Mr. H. Hamlin, Helena

Amadas Industries	DuPont	AMVAC
BASF Corporation	Dow Agro Sciences LLC	
Bayer Crop Science	Helena	
Coastal Chemical Corporation	Syngenta Crop Protection	
Monsanto	Valent USA Corporation	

TABLE OF CONTENTS

List of Tables

List of tables continued

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 4 Virginia-type cultivars that currently are on the market and 21 advanced breeding lines tested in the Peanut Variety and Quality Evaluation (PVQE) small plots in 2016. The small PVQE plots with 25 varieties were tested at five locations in Virginia, North Carolina, and South Carolina: Suffolk, VA, Martin Co., NC, Rocky Mount, NC, Bladen Co., NC, and Blackville, SC. At Suffolk, VA and at Martin Co., NC, two digs were achieved. For the other locations, only one dig was tested. Each genotype was replicated 2 times at each location and digging date. 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 2016. A detailed description of the plant material, test locations, weather conditions, and cultural practices is included in the PVQE 2016 Results. I. Agronomic and Grade Data, at https://pubs.ext.vt.edu/AREC/AREC-198/AREC-198.html.

2016 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 2016.

Genotype Number	Variety or Line	Parentage
1	Bailey	NC 12C*2 / N96076L
2	Sugg	Gregory // X98006 (F1)
3	Sullivan	Bailey / X03034 (F01)
4	Wynne	N03079FT / X03034(F01)
5	08X09-3-14-1	
6	09X38-1-5-1	
7	09X39-1-11-2	
8	N10046ol	Emery
9	N11020olJ	X0314 (BC1F1-01-03-01:F04) / N03084FT
10	N11028ol	X03151 (BC1F1-05-02-S-04:F05) / Sugg
11	N12006ol	Bailey / X07015 (BC2F1-01:F01)
12	N12007ol	Bailey / X07016 (BC2F1-04:F01)
13	N12008olCLSmT	Bailey / X07016 (BC2F1-04:F01)
14	N12009olCLT	Bailey / X07016 (BC2F1-04:F01)
15	N12010ol	Bailey / X07016 (BC2F1-04:F01)
16	N12014ol	Bailey / X07018 (BC2F1-07:F01)
17	N12015ol	Bailey / X07018 (BC2F1-07:F01)
18	N13003olF	Bailey / X05027 (F01)
19	N13006ol	Bailey / X05027 (F01)
20	N13048+ol	X03155 (ol ol, BC1F1-04-01-S-04-S-01:F09) / N05044FCSm
21	N13049olJ	X03155 (ol ol, BC1F1-04-01-S-04-S-01:F09) / N05044FCSm
22	N13054ol	X03155 (ol ol, BC1F1-04-01-S-04-S-01:F09) / N05049J
23	N13057olL	X03155 (ol ol, BC1F1-04-01-S-04-S-01:F09) / N05049J
24	N13058olSm	X03157 (ol ol, BC1F1-04-01-S-04-S-05:F09) / GP-NC WS 16 (SPT06-06)
25	N14035olSmT	Sullivan / X09006 (F01)

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 2016 PVQE locations and digging dates in Tables 20 through 28. Table 29 shows the content of the fatty acids averaged across all locations in 2016. Two- and three-year averages are included in Tables 30 and 31.

Statistics:

Analysis of Variance was run for the cultivars and breeding lines on individual digging dates and locations, and averaged digging dates, locations, and years. When significant differences between cultivars and lines were detected, means were compared by the Tukey HSD test and the minimum significant difference was included in the tables. These values were used to compare the varieties.

For example in Table 2, the difference between Bailey and Sugg for percent whole blanched kernels is 2.4 (93.4-95.8) and this is not a significant difference because it is smaller than 4.7, which is the minimum significant difference. Bailey and Sugg are, therefore, not significantly different from each other for this trait. However, Sugg and 08X09-3-14-1 are significantly different for the percent whole blanched kernels because their means difference is 6.8; and this difference is more than 4.7.

Blanching Results

Table 2. Laboratory sample blanching of Extra Large Kernels (ELK) from Tidewater AREC (Suffolk) VA, Dig 1, 2016 (6 October).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.6	4.8	1.7	1.7	93.4	0.0	3.3
Sugg	5.6	4.8	1.7	0.5	95.8	0.0	2.1
Sullivan	5.6	4.8	1.7	1.0	93.9	0.0	3.5
Wynne	5.6	4.7	1.7	2.1	93.9	0.0	2.4
08X09-3-14-1	5.6	4.7	1.7	2.2	89.0	0.3	6.9
09X38-1-5-1	5.5	4.7	1.7	1.9	90.0	0.0	6.5
09X39-1-11-2	5.6	4.7	1.7	2.5	91.8	0.0	4.1
N10046ol	5.6	4.8	1.7	1.1	95.0	0.0	2.2
N11020olJ	5.6	4.7	1.7	1.1	94.2	0.0	3.1
N11028ol	5.6	4.8	1.7	0.8	96.1	0.0	1.5
N12006ol	5.6	4.8	1.6	1.0	93.4	0.0	4.1
N12007ol	5.6	4.6	1.7	1.5	93.8	0.1	2.9
N12008olCLSmT	5.6	4.8	1.7	1.2	95.1	0.0	2.0
N12009olCLT	5.6	4.7	1.6	1.1	95.4	0.0	2.0
N12010ol	5.6	4.6	1.7	1.6	92.7	0.0	4.1
N12014ol	5.6	4.7	1.7	1.1	94.9	0.0	2.3
N12015ol	5.7	4.7	1.7	2.0	91.4	0.0	5.0
N13003olF	5.6	4.8	1.8	0.7	95.8	0.0	1.8
N13006ol	5.6	4.6	1.7	1.1	94.1	0.0	3.2
N13048+ol	5.5	4.6	1.7	2.1	89.4	0.1	6.8
N13049olJ	5.6	4.7	1.6	2.2	87.3	0.0	9.0
N13054ol	5.6	4.7	1.7	1.4	90.8	0.2	5.9
N13057olL	5.6	4.6	1.7	1.5	92.7	0.0	4.2
N13058olSm	5.5	4.6	1.7	2.4	88.6	0.2	7.2
N14035olSmT	5.7	3.3	1.7	1.2	92.4	0.0	4.8
Mean	**5.6**	**4.7**	**1.7**	**1.5**	**92.8**	**0.0**	**4.0**
Tukey HSD[1]	**0.3**	**1.7**	**0.3**	**2.6**	**4.7**	**0.5**	**3.6**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 3. Laboratory sample blanching of Extra Large Kernels (ELK) from Tidewater AREC (Suffolk) VA, Dig 2, 2016 (15 October).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.7	4.8	1.9	1.4	94.0	0.0	2.8
Sugg	5.7	4.7	1.7	1.6	92.9	0.1	3.8
Sullivan	5.8	4.7	1.7	2.7	92.4	0.2	3.2
Wynne	5.7	4.8	1.7	1.8	91.8	0.1	4.6
08X09-3-14-1	5.6	4.8	1.7	2.8	87.8	0.9	6.9
09X38-1-5-1	5.7	4.8	1.7	3.0	89.6	0.3	5.5
09X39-1-11-2	5.6	4.8	1.7	2.8	90.1	0.3	5.3
N10046ol	5.7	4.7	1.7	1.2	94.0	0.0	3.1
N11020olJ	5.7	4.8	1.7	1.3	92.1	0.4	4.7
N11028ol	5.7	4.8	1.6	2.1	93.4	0.2	2.8
N12006ol	5.7	4.8	1.4	2.2	92.0	0.0	4.5
N12007ol	5.7	4.8	1.7	1.7	93.6	0.0	3.1
N12008olCLSmT	5.7	4.8	1.7	1.7	93.6	0.0	3.1
N12009olCLT	5.7	4.8	1.7	1.9	94.6	0.0	1.9
N12010ol	5.7	4.8	1.7	1.1	93.0	0.1	4.2
N12014ol	5.7	4.8	1.6	2.3	93.1	0.2	3.0
N12015ol	5.6	4.7	1.7	0.7	91.9	0.2	5.6
N13003olF	5.8	4.8	1.7	0.8	95.4	0.0	2.2
N13006ol	5.7	4.8	1.6	1.5	91.9	0.3	4.8
N13048+ol	5.7	4.7	1.7	2.5	84.8	0.8	10.3
N13049olJ	5.7	4.7	1.5	2.2	86.5	0.8	9.1
N13054ol	5.6	4.7	1.7	2.3	90.2	0.6	5.2
N13057olL	5.7	4.7	1.7	2.5	89.9	0.3	5.8
N13058olSm	5.7	4.7	1.7	2.7	86.1	1.0	8.7
N14035olSmT	5.6	4.7	1.7	1.7	91.2	0.2	5.3
Mean	**5.7**	**4.8**	**1.7**	**1.9**	**91.4**	**0.3**	**4.8**
Tukey HSD[1]	**0.3**	**0.3**	**0.5**	**2.5**	**4.0**	**1.3**	**4.0**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 4. Laboratory sample blanching of Extra Large Kernels (ELK). Averages of both digging dates from Tidewater AREC (Suffolk), VA, 2016.

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.7	4.8	1.8	1.5	93.7	0.0	3.0
Sugg	5.6	4.7	1.7	1.1	94.3	0.1	2.9
Sullivan	5.7	4.7	1.7	1.8	93.2	0.1	3.3
Wynne	5.7	4.7	1.7	1.9	92.9	0.1	3.5
08X09-3-14-1	5.6	4.7	1.7	2.5	88.4	0.6	6.9
09X38-1-5-1	5.6	4.7	1.7	2.4	89.8	0.2	6.0
09X39-1-11-2	5.6	4.7	1.7	2.6	90.9	0.1	4.7
N10046ol	5.6	4.8	1.7	1.2	94.5	0.0	2.7
N11020olJ	5.6	4.8	1.7	1.2	93.1	0.2	3.9
N11028ol	5.6	4.8	1.6	1.4	94.7	0.1	2.2
N12006ol	5.6	4.8	1.5	1.6	92.7	0.0	4.3
N12007ol	5.6	4.7	1.7	1.6	93.7	0.1	3.0
N12008olCLSmT	5.7	4.8	1.7	1.4	94.4	0.0	2.6
N12009olCLT	5.6	4.8	1.7	1.5	95.0	0.0	1.9
N12010ol	5.6	4.7	1.7	1.3	92.9	0.1	4.1
N12014ol	5.6	4.7	1.6	1.7	94.0	0.1	2.6
N12015ol	5.6	4.7	1.7	1.3	91.6	0.1	5.3
N13003olF	5.7	4.8	1.7	0.7	95.6	0.0	2.0
N13006ol	5.6	4.7	1.6	1.3	93.0	0.1	4.0
N13048+ol	5.6	4.6	1.7	2.3	87.1	0.5	8.5
N13049olJ	5.6	4.7	1.5	2.2	86.9	0.4	9.0
N13054ol	5.6	4.7	1.7	1.9	90.5	0.4	5.6
N13057olL	5.6	4.7	1.7	2.0	91.3	0.2	5.0
N13058olSm	5.6	4.6	1.7	2.5	87.4	0.6	7.9
N14035olSmT	5.6	4.0	1.7	1.5	91.8	0.1	5.0
Mean	**5.6**	**4.7**	**1.7**	**1.7**	**92.1**	**0.2**	**4.4**
Tukey HSD[1]	**0.3**	**0.8**	**0.3**	**1.8**	**3.7**	**0.7**	**2.9**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 5. Laboratory sample blanching of Extra Large Kernels (ELK) from Martin County, NC, Dig 1, 2016 (18 October).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.8	4.9	1.7	1.8	93.5	0.1	3.0
Sugg	5.8	4.9	1.7	1.4	91.4	0.2	5.5
Sullivan	5.8	4.9	1.7	3.4	90.9	0.2	3.8
Wynne	5.8	4.8	1.7	2.9	91.2	0.2	4.2
08X09-3-14-1	5.8	4.9	1.7	2.8	88.9	0.4	6.3
09X38-1-5-1	5.7	4.8	1.7	2.2	90.0	0.0	6.2
09X39-1-11-2	5.8	4.8	2.7	2.5	90.3	0.4	4.2
N10046ol	5.8	4.8	1.7	1.4	93.2	0.0	3.7
N11020olJ	5.8	4.9	1.7	2.5	90.0	0.8	5.1
N11028ol	5.8	4.8	1.7	2.6	91.0	0.1	4.7
N12006ol	5.8	4.9	2.6	3.5	90.8	0.3	2.9
N12007ol	5.8	4.9	1.7	3.1	90.1	0.9	4.3
N12008olCLSmT	5.8	4.9	1.7	2.9	90.5	0.1	4.9
N12009olCLT	5.8	4.8	1.7	1.8	90.8	0.1	5.7
N12010ol	5.7	4.9	1.7	3.0	91.4	0.2	3.9
N12014ol	5.8	4.8	1.7	3.1	90.5	1.0	3.8
N12015ol	5.8	4.9	1.7	2.8	89.9	0.2	5.6
N13003olF	6.3	4.9	1.7	1.8	92.1	0.0	4.5
N13006ol	6.3	4.8	1.7	1.8	92.7	0.0	3.8
N13048+ol	5.8	4.8	1.7	1.3	84.1	0.9	12.1
N13049olJ	5.7	4.8	1.5	3.1	83.2	1.1	11.3
N13054ol	5.7	4.7	1.2	2.1	85.5	1.1	10.1
N13057olL	5.8	4.8	1.7	2.7	89.3	0.2	6.2
N13058olSm	5.8	4.8	1.7	3.1	85.8	1.5	8.0
N14035olSmT	5.8	4.9	1.7	3.2	87.8	0.2	7.2
Mean	**0.8**	**4.8**	**1.7**	**2.5**	**89.8**	**0.4**	**5.6**
Tukey HSD[1]	**5.8**	**0.3**	**1.8**	**3.5**	**5.7**	**2.5**	**4.5**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 6. Laboratory sample blanching of Extra Large Kernels (ELK) from Martin County, NC, Dig 2, 2016 (26 October).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.8	4.8	1.7	2.6	91.2	0.3	4.3
Sugg	5.8	4.8	1.7	3.2	90.5	0.2	4.5
Sullivan	5.8	4.8	1.7	2.2	92.0	0.2	4.0
Wynne	5.8	4.8	1.7	3.5	90.7	0.5	3.8
08X09-3-14-1	5.8	4.8	1.6	4.0	88.5	0.7	5.3
09X38-1-5-1	5.8	4.9	1.7	2.2	91.6	0.0	4.7
09X39-1-11-2	5.7	4.8	1.7	2.9	90.4	0.4	4.8
N10046ol	5.7	4.8	1.7	2.3	90.7	0.0	5.4
N11020olJ	5.8	4.9	1.7	2.8	89.7	1.0	5.0
N11028ol	5.8	4.8	1.7	3.7	89.6	0.8	4.4
N12006ol	6.2	4.8	1.7	2.7	90.8	0.1	4.8
N12007ol	5.8	4.8	1.7	3.0	89.1	1.4	5.0
N12008olCLSmT	5.8	4.8	1.7	1.4	91.4	0.5	5.0
N12009olCLT	5.7	4.8	1.7	4.1	89.7	0.9	3.8
N12010ol	5.8	4.8	1.7	2.3	90.8	0.0	5.3
N12014ol	5.8	4.8	1.7	2.9	90.7	0.0	4.8
N12015ol	5.8	4.9	1.8	2.3	91.3	0.0	4.7
N13003olF	5.7	4.7	3.3	1.0	47.7	46.5	1.7
N13006ol	5.7	4.8	1.7	4.3	89.1	0.0	5.0
N13048+ol	5.8	4.8	1.7	4.1	81.0	2.3	11.0
N13049olJ	5.7	4.8	1.7	3.9	83.5	1.9	9.1
N13054ol	5.7	4.8	2.7	3.5	83.5	1.6	8.8
N13057olL	5.8	4.8	1.7	2.9	89.0	0.7	5.8
N13058olSm	5.8	4.8	1.7	2.9	87.5	0.5	7.6
N14035olSmT	5.7	4.8	1.7	3.7	88.9	0.2	5.6
Mean	**5.8**	**4.8**	**1.8**	**3.0**	**87.6**	**2.4**	**5.4**
Tukey HSD[1]	**0.6**	**0.2**	**2.2**	**3.3**	**5.4**	**1.8**	**5.5**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 7. Laboratory sample blanching of Extra Large Kernels (ELK). Averages of both digging dates from Martin County, NC, 2016.

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.7	4.8	1.7	1.9	93.0	0.1	3.3
Sugg	5.7	4.8	1.7	1.7	92.6	0.1	4.0
Sullivan	5.7	4.8	1.7	2.3	92.3	0.1	3.6
Wynne	5.7	4.8	1.7	2.5	91.9	0.2	3.7
08X09-3-14-1	5.7	4.8	1.7	2.9	88.5	0.5	6.3
09X38-1-5-1	5.7	4.8	1.7	2.3	90.3	0.1	5.7
09X39-1-11-2	5.7	4.8	1.9	2.6	90.6	0.2	4.6
N10046ol	5.7	4.8	1.7	1.5	93.2	0.0	3.6
N11020olJ	5.7	4.8	1.7	1.9	91.5	0.5	4.5
N11028ol	5.7	4.8	1.6	2.3	92.5	0.3	3.3
N12006ol	5.8	4.8	1.8	2.3	91.7	0.1	4.1
N12007ol	5.7	4.8	1.7	2.3	91.6	0.6	3.8
N12008olCLSmT	5.7	4.8	1.7	1.8	92.6	0.2	3.8
N12009olCLT	5.7	4.8	1.7	2.2	92.6	0.2	3.3
N12010ol	5.7	4.8	1.7	2.0	92.0	0.1	4.0
N12014ol	5.7	4.8	1.7	2.3	92.3	0.3	3.4
N12015ol	5.7	4.8	1.7	1.9	91.1	0.1	5.2
N13003olF	5.8	4.8	2.1	1.0	92.8	0.3	2.5
N13006ol	5.8	4.7	1.7	2.2	91.9	0.1	4.2
N13048+ol	5.7	4.7	1.7	2.5	84.8	1.0	10.0
N13049olJ	5.7	4.7	1.6	2.8	85.1	0.9	9.6
N13054ol	5.7	4.7	1.8	2.3	87.5	0.9	7.5
N13057olL	5.7	4.7	1.7	2.4	90.2	0.3	5.5
N13058olSm	5.7	4.7	1.7	2.8	87.0	0.8	7.9
N14035olSmT	5.7	4.4	1.7	2.5	90.1	0.1	5.7
Mean	**5.7**	**4.8**	**1.7**	**2.2**	**90.4**	**0.8**	**4.9**
Tukey HSD[1]	**0.3**	**0.4**	**0.7**	**1.8**	**4.0**	**1.4**	**2.6**

Blanching Results

Table 8. Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk) VA and Martin County, NC, 2016.

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.7	4.8	1.7	1.9	93.0	0.1	3.3
Sugg	5.7	4.8	1.7	1.7	92.6	0.1	4.0
Sullivan	5.7	4.8	1.7	2.3	92.3	0.1	3.6
Wynne	5.7	4.8	1.7	2.5	91.9	0.2	3.7
08X09-3-14-1	5.7	4.8	1.7	2.9	88.5	0.5	6.3
09X38-1-5-1	5.7	4.8	1.7	2.3	90.3	0.1	5.7
09X39-1-11-2	5.7	4.8	1.9	2.6	90.6	0.2	4.6
N10046ol	5.7	4.8	1.7	1.5	93.2	0.0	3.6
N11020olJ	5.7	4.8	1.7	1.9	91.5	0.5	4.5
N11028ol	5.7	4.8	1.6	2.3	92.5	0.3	3.3
N12006ol	5.8	4.8	1.8	2.3	91.7	0.1	4.1
N12007ol	5.7	4.8	1.7	2.3	91.6	0.6	3.8
N12008olCLSmT	5.7	4.8	1.7	1.8	92.6	0.2	3.8
N12009olCLT	5.7	4.8	1.7	2.2	92.6	0.2	3.3
N12010ol	5.7	4.8	1.7	2.0	92.0	0.1	4.3
N12014ol	5.7	4.8	1.7	2.3	92.3	0.3	3.4
N12015ol	5.7	4.8	1.7	1.9	91.1	0.1	5.2
N13003olF	5.8	4.8	2.1	1.0	94.1	0.2	2.5
N13006ol	5.8	4.7	1.7	2.2	91.9	0.1	4.2
N13048+ol	5.7	4.7	1.7	2.5	84.8	1.0	10.0
N13049olJ	5.7	4.7	1.6	2.8	85.1	0.9	9.6
N13054ol	5.7	4.7	1.8	2.3	87.5	0.9	7.5
N13057olL	5.7	4.7	1.7	2.4	90.2	0.3	5.5
N13058olSm	5.7	4.7	1.7	2.8	87.0	0.8	7.9
N14035olSmT	5.7	4.4	1.7	2.5	90.1	0.1	5.7
Mean	**5.7**	**4.8**	**1.7**	**2.2**	**90.4**	**0.8**	**4.9**
Tukey HSD[1]	**0.3**	**0.4**	**0.7**	**1.8**	**3.9**	**0.9**	**2.6**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD 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 (2015- 2016).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.8	4.8	1.7	2.1	91.9	0.2	4.1
Sugg	5.8	4.8	1.7	2.2	91.3	0.2	4.6
Sullivan	5.9	4.8	1.7	2.4	91.3	0.3	4.4
Wynne	5.8	4.8	1.7	2.7	90.5	0.4	4.7
08X09-3-14-1	5.8	4.8	1.7	3.1	88.6	0.6	6.1
N10046ol	5.8	4.8	1.7	1.6	92.5	0.1	4.1
N11020olJ	5.8	4.8	1.7	2.6	90.1	0.4	5.2
N11028ol	5.8	4.8	1.7	2.6	90.5	0.6	4.7
N12007ol	5.8	4.8	1.7	2.3	91.0	0.4	4.7
N12008olCLSmT	5.8	4.8	1.7	2.0	91.9	0.1	4.3
N12009olCLT	5.8	4.8	1.7	2.2	92.0	0.2	3.9
N12010ol	5.8	4.8	1.7	2.5	90.6	0.3	5.0
N12014ol	5.7	4.8	1.7	2.4	90.7	0.3	4.9
N12015ol	5.8	4.8	1.6	2.3	90.7	0.1	5.3
N13048+ol	5.7	4.8	1.7	3.0	84.0	1.4	9.9
Mean	**5.8**	**4.8**	**1.7**	**2.4**	**90.5**	**0.4**	**5.1**
Tukey HSD[1]	**0.3**	**0.2**	**0.1**	**1.1**	**2.7**	**0.6**	**1.8**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD 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 (2014- 2016).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.8	4.8	1.7	1.8	92.9	0.1	3.5
Sugg	5.8	4.8	1.7	2.1	92.1	0.1	4.0
Sullivan	5.8	4.9	1.7	2.0	92.6	0.2	3.6
Wynne	5.8	4.8	1.7	2.0	92.2	0.3	3.8
N10046ol	5.8	4.8	1.7	1.3	93.8	0.0	3.2
N11020olJ	5.8	4.8	1.7	2.3	91.4	0.3	4.3
N11028ol	5.7	4.8	1.7	2.1	91.9	0.4	3.9
N12007ol	5.8	4.8	1.7	2.2	91.7	0.2	4.2
N12008olCLSmT	5.8	4.9	1.7	2.0	92.4	0.1	3.8
N12009olCLT	5.7	4.8	1.7	2.2	92.4	0.2	3.6
N12010ol	5.7	4.8	1.7	2.2	91.8	0.2	4.2
N12014ol	5.7	4.8	1.7	2.2	91.8	0.2	4.2
N12015ol	5.8	4.8	1.6	2.0	91.6	0.1	4.7
Mean	**5.8**	**4.8**	**1.7**	**2.0**	**92.2**	**0.2**	**3.9**
Tukey HSD[1]	**0.2**	**0.1**	**0.1**	**0.9**	**2.4**	**0.4**	**1.6**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 11. Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk) VA, Dig 1, 2016 (6 October).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.6	4.8	1.7	3.2	83.8	1.3	10.1
Sugg	6.3	4.8	1.7	2.8	82.9	1.4	11.3
Sullivan	5.8	4.9	1.7	3.3	82.4	1.4	11.3
Wynne	5.7	4.8	1.7	3.4	83.3	1.9	9.8
08X09-3-14-1	5.7	4.9	1.7	4.3	82.3	1.5	10.2
09X38-1-5-1	5.7	4.9	1.7	2.5	81.1	2.2	12.6
09X39-1-11-2	5.8	4.8	1.7	3.8	84.1	1.5	9.1
N10046ol	5.7	4.8	1.7	3.8	83.1	1.8	9.7
N11020olJ	5.8	4.8	1.7	4.2	79.9	2.9	11.4
N11028ol	5.7	4.7	1.7	3.8	84.9	1.1	8.6
N12006ol	5.7	4.9	1.7	3.6	84.9	1.2	8.6
N12007ol	5.8	4.8	1.7	3.7	82.1	1.9	10.8
N12008olCLSmT	5.8	4.8	1.7	3.3	82.9	1.1	11.2
N12009olCLT	5.6	4.7	1.7	2.6	84.1	1.6	10.1
N12010ol	5.6	4.7	1.7	3.3	80.8	2.1	12.2
N12014ol	5.8	4.8	1.7	3.2	82.9	2.3	9.9
N12015ol	5.8	4.8	1.7	3.2	85.7	0.7	8.7
N13003olF	5.6	4.7	1.7	2.5	86.3	1.2	8.5
N13006ol	5.6	4.7	1.7	3.2	83.1	1.6	10.4
N13048+ol	5.6	4.7	1.7	4.1	66.4	2.9	24.9
N13049olJ	5.6	4.7	1.7	3.4	65.0	3.2	26.8
N13054ol	5.6	4.7	1.7	3.4	68.4	3.0	23.6
N13057olL	5.6	4.8	1.7	1.3	71.5	1.8	20.8
N13058olSm	5.7	4.8	1.7	3.0	70.7	2.3	22.4
N14035olSmT	5.7	4.7	1.7	3.3	81.4	1.6	12.2
Mean	**5.7**	**4.8**	**1.7**	**3.3**	**80.2**	**1.8**	**13.0**
Tukey HSD[1]	**0.8**	**0.4**	**0.1**	**3.9**	**6.9**	**2.5**	**6.4**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 12. Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk) VA, Dig 2, 2016 (15 October).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.6	4.7	1.7	2.8	84.1	1.9	9.7
Sugg	5.6	4.8	1.7	3.9	79.7	2.1	12.7
Sullivan	5.6	4.6	1.6	3.7	82.6	0.7	11.5
Wynne	5.6	4.9	1.7	2.9	80.3	1.9	13.3
08X09-3-14-1	5.6	4.7	1.7	4.3	82.1	1.1	10.9
09X38-1-5-1	5.7	4.8	1.7	3.0	79.0	2.0	14.4
09X39-1-11-2	5.6	4.8	1.7	3.9	80.9	2.0	11.5
N10046ol	5.7	4.8	1.9	3.1	82.6	2.0	10.6
N11020olJ	5.7	4.8	1.7	3.8	79.4	2.0	13.2
N11028ol	5.6	4.8	1.7	2.9	82.3	1.7	11.6
N12006ol	5.6	4.8	1.7	4.2	82.7	1.6	10.0
N12007ol	5.6	4.8	1.7	2.2	81.8	1.1	13.3
N12008olCLSmT	5.6	4.8	1.7	4.4	83.4	1.2	9.4
N12009olCLT	5.6	4.8	1.7	4.1	82.3	1.5	10.5
N12010ol	5.6	4.8	1.7	3.8	80.6	1.5	12.5
N12014ol	5.6	4.8	1.7	3.1	82.1	1.2	12.0
N12015ol	5.6	4.8	1.7	3.6	82.9	1.3	10.6
N13003olF	5.7	4.8	1.7	3.8	84.9	1.4	8.3
N13006ol	5.6	4.7	1.7	3.6	81.5	1.4	11.9
N13048+ol	5.7	4.8	1.7	4.5	66.1	3.0	24.8
N13049olJ	5.7	4.8	1.7	3.0	65.7	3.1	26.6
N13054ol	5.7	4.8	1.7	4.1	66.4	2.8	25.2
N13057olL	5.7	4.8	1.7	4.0	68.0	2.7	23.7
N13058olSm	5.7	4.8	1.7	3.3	69.7	2.4	23.0
N14035olSmT	5.7	4.8	1.7	3.0	81.5	2.2	11.7
Mean	**5.6**	**4.8**	**1.7**	**3.6**	**78.9**	**1.8**	**14.1**
Tukey HSD[1]	**0.2**	**0.3**	**0.2**	**3.6**	**5.3**	**2.3**	**6.6**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 13. Laboratory sample blanching of Medium Kernels. Averages from both digging dates from Tidewater AREC (Suffolk) VA, 2016.

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.6	4.7	1.7	3.0	83.9	1.6	9.9
Sugg	5.9	4.8	1.7	3.3	81.3	1.7	12.0
Sullivan	5.7	4.7	1.7	3.5	82.5	1.0	11.4
Wynne	5.7	4.8	1.7	3.2	81.8	1.9	11.5
08X09-3-14-1	5.7	4.8	1.7	4.3	82.2	1.3	10.5
09X38-1-5-1	5.7	4.8	1.7	2.7	80.0	2.1	13.5
09X39-1-11-2	5.7	4.8	1.7	3.8	82.5	1.7	10.3
N10046ol	5.7	4.8	1.7	3.5	82.8	1.9	10.1
N11020olJ	5.7	4.8	1.7	4.0	79.7	2.4	12.3
N11028ol	5.6	4.7	1.7	3.3	83.6	1.4	10.1
N12006ol	5.7	4.8	1.7	3.9	83.8	1.4	9.3
N12007ol	5.7	4.8	1.7	3.0	81.9	1.5	12.0
N12008olCLSmT	5.7	4.8	1.7	3.8	83.1	1.1	10.3
N12009olCLT	5.6	4.7	1.7	3.4	83.2	1.5	10.3
N12010ol	5.6	4.7	1.7	3.5	80.7	1.8	12.3
N12014ol	5.7	4.8	1.7	3.2	82.5	1.7	10.9
N12015ol	5.7	4.8	1.7	3.4	84.3	1.0	9.6
N13003olF	5.6	4.7	1.7	3.1	85.6	1.3	8.4
N13006ol	5.6	4.7	1.7	3.4	82.3	1.5	11.2
N13048+ol	5.6	4.7	1.7	4.3	66.2	2.9	24.9
N13049olJ	5.6	4.7	1.7	3.2	65.3	3.1	26.7
N13054ol	5.6	4.7	1.7	3.7	67.4	2.9	24.4
N13057olL	5.7	4.8	1.7	4.1	69.8	2.2	22.2
N13058olSm	5.7	4.8	1.7	3.2	70.2	2.3	22.7
N14035olSmT	5.7	4.7	1.7	3.1	81.4	1.9	11.9
Mean	**5.7**	**4.8**	**1.7**	**3.5**	**79.5**	**1.8**	**13.5**
Tukey HSD[1]	**0.4**	**0.2**	**0.1**	**2.3**	**4.4**	**1.6**	**4.3**

Blanching Results

Table 14. Laboratory sample blanching of Medium Kernels from Martin County, NC, Dig 1, 2016 (18 October).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.7	4.8	1.7	3.2	84.2	1.2	9.8
Sugg	5.6	4.8	1.7	2.8	82.0	2.0	11.5
Sullivan	5.8	4.9	1.7	3.7	80.4	1.3	13.0
Wynne	5.6	4.7	1.5	3.0	82.0	1.6	12.1
08X09-3-14-1	5.7	4.8	1.7	5.0	79.7	2.0	11.7
09X38-1-5-1	5.7	4.7	1.2	4.1	78.8	1.8	14.3
09X39-1-11-2	5.7	4.7	1.2	3.9	79.7	2.7	12.7
N10046ol	5.7	4.8	1.7	2.1	82.2	1.7	12.4
N11020olJ	5.7	4.8	1.7	4.1	77.2	2.6	14.5
N11028ol	5.7	4.8	1.7	2.5	80.8	2.3	12.7
N12006ol	5.7	4.7	1.7	4.3	81.3	2.4	10.4
N12007ol	5.7	4.9	1.7	3.7	80.5	1.6	12.6
N12008olCLSmT	5.6	4.7	1.7	2.8	78.6	3.2	13.8
N12009olCLT	5.7	4.8	1.7	4.5	80.5	1.7	11.7
N12010ol	5.7	4.8	1.7	3.6	79.1	1.8	13.9
N12014ol	5.7	4.7	1.7	3.7	79.2	1.4	14.2
N12015ol	5.8	4.9	1.7	3.1	82.0	1.4	11.8
N13003olF	5.6	4.8	1.7	3.9	82.5	2.1	9.8
N13006ol	5.6	4.8	1.5	3.6	79.7	1.8	13.6
N13048+ol	5.7	4.8	1.7	3.3	62.9	2.6	29.7
N13049olJ	5.7	4.9	1.7	3.8	62.9	1.8	29.9
N13054ol	5.7	4.8	1.7	4.2	66.7	2.6	24.9
N13057olL	5.7	4.8	1.7	4.2	67.5	2.5	24.3
N13058olSm	5.7	4.8	1.7	3.7	65.6	2.7	26.4
N14035olSmT	5.7	4.8	1.7	3.0	80.0	3.0	12.5
Mean	**5.7**	**4.8**	**1.6**	**3.6**	**77.4**	**2.1**	**15.4**
Tukey HSD[1]	**0.2**	**0.2**	**0.9**	**3.5**	**7.1**	**3.1**	**6.9**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 15. Laboratory sample blanching of Medium Kernels from Martin County, NC, Dig 2, 2016 (26 October).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.7	4.8	1.7	3.0	83.7	1.0	10.7
Sugg	5.6	4.8	1.7	3.5	78.8	1.5	14.7
Sullivan	5.6	4.8	1.7	3.3	83.0	1.3	10.8
Wynne	5.6	4.8	1.7	3.8	75.3	1.6	17.7
08X09-3-14-1	5.6	4.8	1.7	3.7	77.1	3.2	14.5
09X38-1-5-1	5.6	4.8	1.7	3.0	74.0	2.9	18.5
09X39-1-11-2	5.6	4.8	1.6	4.6	78.4	2.3	13.3
N10046ol	5.7	4.8	1.2	3.2	76.6	3.8	15.3
N11020olJ	5.6	4.8	1.7	4.1	73.2	4.1	17.0
N11028ol	5.6	4.8	1.7	4.1	80.0	1.9	12.5
N12006ol	5.6	4.8	1.7	4.1	80.4	1.8	12.1
N12007ol	5.6	4.8	1.7	3.6	78.6	2.2	14.0
N12008olCLSmT	5.6	4.8	1.7	3.3	77.8	8.1	14.7
N12009olCLT	5.6	4.9	1.7	3.6	80.2	2.1	12.5
N12010ol	5.6	4.8	1.7	3.6	78.9	2.1	13.9
N12014ol	5.6	4.8	1.7	2.9	78.4	3.0	14.0
N12015ol	5.6	4.8	1.7	2.7	82.1	1.3	12.4
N13003olF	5.6	4.8	1.7	3.9	79.9	2.0	12.6
N13006ol	5.6	4.8	1.7	3.6	78.7	1.8	14.3
N13048+ol	5.6	4.7	1.7	4.2	62.6	3.5	28.0
N13049olJ	5.7	4.8	1.7	4.0	63.5	3.5	27.4
N13054ol	5.6	4.8	1.9	4.1	65.3	3.7	25.0
N13057olL	5.7	4.7	1.7	4.3	65.2	4.1	24.8
N13058olSm	5.7	4.8	1.8	3.1	66.3	3.0	25.9
N14035olSmT	5.6	4.8	1.7	4.4	77.7	2.7	13.5
Mean	**5.6**	**4.8**	**1.7**	**3.7**	**75.8**	**2.7**	**16.4**
Tukey HSD[1]	**0.2**	**0.2**	**0.6**	**3.6**	**6.9**	**3.7**	**9.3**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 16. Laboratory sample blanching of Medium Kernels. Averages from both digging dates from Martin County, NC, 2016.

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.7	4.8	1.7	3.1	84.0	1.1	10.3
Sugg	5.6	4.8	1.7	3.2	80.4	1.7	13.1
Sullivan	5.7	4.8	1.7	3.5	81.7	1.3	11.9
Wynne	5.6	4.7	1.6	3.4	78.6	1.6	14.9
08X09-3-14-1	5.6	4.8	1.7	4.3	78.4	2.6	13.1
09X38-1-5-1	5.6	4.8	1.5	3.5	76.4	2.3	13.4
09X39-1-11-2	5.6	4.8	1.4	4.2	79.0	2.5	13.0
N10046ol	5.7	4.8	1.5	2.6	79.4	2.8	13.8
N11020olJ	5.6	4.8	1.7	4.1	75.2	3.4	15.7
N11028ol	5.7	4.8	1.7	3.3	80.4	2.1	12.6
N12006ol	5.6	4.7	1.7	4.2	80.9	2.2	11.2
N12007ol	5.7	4.8	1.7	3.6	79.6	1.9	13.3
N12008olCLSmT	5.6	4.7	1.7	3.0	78.2	5.6	14.2
N12009olCLT	5.6	4.8	1.7	4.0	80.3	1.9	12.1
N12010ol	5.6	4.8	1.7	3.6	79.0	1.9	13.9
N12014ol	5.7	4.8	1.7	3.3	78.8	2.2	14.1
N12015ol	5.7	4.8	1.7	2.9	82.0	1.3	12.1
N13003olF	5.6	4.8	1.7	3.9	81.2	2.0	11.2
N13006ol	5.6	4.8	1.6	3.6	79.2	1.8	13.9
N13048+ol	5.7	4.7	1.7	3.7	62.7	3.0	28.8
N13049olJ	5.7	4.8	1.7	3.9	63.2	2.7	28.6
N13054ol	5.6	4.8	1.8	4.1	66.0	3.2	25.0
N13057olL	5.7	4.7	1.7	4.2	66.3	3.3	24.5
N13058olSm	5.7	4.8	1.7	3.4	65.9	2.8	26.2
N14035olSmT	5.6	4.8	1.7	3.7	78.8	2.8	13.0
Mean	**5.6**	**4.8**	**1.7**	**3.6**	**76.6**	**2.4**	**15.8**
Tukey HSD[1]	**0.1**	**0.2**	**0.5**	**2.3**	**6.1**	**2.3**	**5.5**

Blanching Results

Table 17. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk) VA and Martin County, NC, 2016.

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.6	4.8	1.7	3.0	83.9	1.3	10.1
Sugg	5.8	4.8	1.7	3.2	80.8	1.7	12.5
Sullivan	5.7	4.8	1.7	3.5	82.1	1.2	11.6
Wynne	5.6	4.8	1.7	3.3	80.2	1.7	13.2
08X09-3-14-1	5.6	4.8	1.7	4.3	80.3	1.9	11.8
09X38-1-5-1	5.7	4.8	1.6	3.1	78.2	2.2	14.9
09X39-1-11-2	5.7	4.8	1.5	4.0	80.7	2.1	11.6
N10046ol	5.7	4.8	1.6	3.0	81.1	2.3	12.0
N11020olJ	5.7	4.8	1.7	4.0	77.4	2.9	14.0
N11028ol	5.6	4.7	1.7	3.3	82.0	1.7	11.3
N12006ol	5.6	4.8	1.7	4.0	82.3	1.7	10.3
N12007ol	5.7	4.8	1.7	3.3	80.7	1.7	12.6
N12008olCLSmT	5.7	4.8	1.7	3.4	80.7	3.4	12.2
N12009olCLT	5.6	4.8	1.7	3.7	81.7	1.7	11.2
N12010ol	5.6	4.8	1.7	3.5	79.8	1.8	13.1
N12014ol	5.7	4.8	1.7	3.2	80.6	2.0	12.5
N12015ol	5.7	4.8	1.7	3.2	83.2	1.2	10.9
N13003olF	5.6	4.7	1.7	3.5	83.4	1.7	9.8
N13006ol	5.6	4.7	1.7	3.5	80.7	1.6	12.5
N13048+ol	5.6	4.7	1.7	4.0	64.5	3.0	26.8
N13049olJ	5.6	4.8	1.7	3.5	64.2	2.9	27.7
N13054ol	5.6	4.7	1.7	3.9	66.7	3.0	24.7
N13057olL	5.7	4.7	1.7	4.2	68.0	2.7	23.4
N13058olSm	5.7	4.8	1.7	3.3	68.1	2.6	24.4
N14035olSmT	5.6	4.7	1.7	3.4	80.1	2.3	12.4
Mean	**5.7**	**4.8**	**1.7**	**3.5**	**78.1**	**2.1**	**14.7**
Tukey HSD[1]	**0.2**	**0.1**	**0.3**	**1.5**	**4.6**	**1.5**	**4**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 18. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk) VA, and Martin County, NC. Two-year averages (2015- 2016).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.7	4.8	1.6	3.0	79.7	1.9	13.8
Sugg	5.8	4.9	1.7	3.2	75.9	2.5	16.7
Sullivan	5.8	4.8	1.7	3.3	76.1	2.3	16.6
Wynne	5.7	4.8	1.7	3.1	75.1	2.5	17.7
08X09-3-14-1	5.7	4.6	1.7	3.9	74.8	3.0	16.6
N10046ol	5.7	4.8	1.6	3.0	77.1	2.9	15.4
N11020olJ	5.7	4.8	1.7	3.7	72.8	4.8	17.0
N11028ol	5.7	4.8	1.7	3.0	76.9	2.4	16.1
N12007ol	5.7	4.8	1.7	3.2	73.6	2.9	18.6
N12008olCLSmT	5.7	4.8	1.0	3.2	76.5	3.7	15.6
N12009olCLT	5.7	4.8	1.7	3.2	76.5	2.4	16.2
N12010ol	5.7	4.8	1.6	3.2	75.7	2.7	16.7
N12014ol	5.7	4.8	1.7	2.9	75.9	3.1	16.4
N12015ol	5.7	4.8	1.6	3.2	77.4	2.0	15.7
N13048+ol	5.7	4.8	1.7	3.5	64.0	3.5	27.2
Mean	**5.7**	**4.8**	**1.6**	**3.2**	**75.2**	**2.8**	**17.1**
Tukey HSD[1]	**0.2**	**0.3**	**0.9**	**1**	**6.9**	**1.9**	**6**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD test

Blanching Results

Table 19. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk), VA and Martin County, NC. Three-year averages (2014- 2016).

Variety	% H_2O before Roasting	% H_2O after Roasting	% Blanching Loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
Bailey	5.7	4.8	1.6	2.7	83.1	1.5	11.1
Sugg	5.8	4.9	1.7	2.7	80.1	2.0	13.5
Sullivan	5.7	4.8	1.7	2.9	80.3	1.9	13.2
Wynne	5.7	4.9	1.7	2.6	79.8	1.9	11.7
N10046ol	5.7	4.8	1.7	2.5	81.9	2.3	14.0
N11020olJ	5.7	4.8	1.7	3.2	77.2	4.2	13.8
N11028ol	5.7	4.8	1.7	2.6	81.0	1.8	12.9
N12007ol	5.7	4.9	1.7	2.8	78.2	2.3	15.0
N12008olCLSmT	5.7	4.8	1.2	2.7	80.8	2.8	12.3
N12009olCLT	5.7	4.8	1.7	2.8	80.2	1.9	13.5
N12010ol	5.7	4.8	1.7	2.9	79.7	2.2	13.6
N12014ol	5.7	4.8	1.7	2.6	79.6	2.6	13.5
N12015ol	5.7	4.8	1.6	2.7	81.9	1.5	13.0
Mean	**5.7**	**4.8**	**1.6**	**2.7**	**80.3**	**2.2**	**13.2**
Tukey HSD[1]	**0.1**	**0.1**	**0.6**	**1.0**	**7.5**	**1.6**	**6.1**

[1] Minimum significant difference at P=0.05, based on the TUKEY HSD 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, 2016[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.6	2.4	51.7	29.8	1.3	1.2
Sugg	9.6	2.4	51.5	29.8	1.3	1.3
Sullivan	6.0	2.4	79.0	6.0	1.2	1.7
Wynne	6.0	2.5	79.9	5.0	1.3	1.6
08X09-3-14-1	5.5	2.6	80.8	3.1	1.3	2.1
09X38-1-5-1	6.3	2.9	81.2	3.2	1.4	1.5
09X39-1-11-2	5.6	3.3	80.6	3.3	1.5	1.6
N10046ol	5.7	2.9	80.9	3.9	1.4	1.6
N11020olJ	6.1	2.5	79.3	5.3	1.3	1.7
N11028ol	6.5	2.9	77.5	7.0	1.4	1.4
N12006ol	6.7	2.3	74.7	9.5	1.2	1.7
N12007ol	6.1	2.4	79.7	5.5	1.2	1.6
N12008olCLSmT	6.9	2.5	72.6	11.4	1.3	1.6
N12009olCLT	7.8	2.5	65.2	18.0	1.3	1.4
N12010ol	7.0	2.5	72.3	11.7	1.3	1.5
N12014ol	5.8	2.7	80.8	3.9	1.3	1.7
N12015ol	6.5	2.6	77.1	7.3	1.3	1.6
N13003olF	5.8	2.4	81.3	3.6	1.2	1.8
N13006ol	5.7	2.5	81.4	3.6	1.2	1.7
N13048+ol	6.1	2.1	81.2	4.3	1.1	1.8
N13049olJ	6.2	2.1	80.6	4.6	1.1	1.8
N13054ol	6.0	2.2	81.3	4.2	1.1	1.7
N13057olL	6.1	2.1	80.4	5.0	1.1	1.8
N13058olSm	6.1	2.3	80.9	4.2	1.2	1.7
N14035olSmT	6.0	2.4	79.6	4.8	1.3	1.8
Mean	**6.5**	**2.5**	**76.5**	**7.9**	**1.3**	**1.6**
Tukey HSD[2]	**1.3**	**0.4**	**9.1**	**7.8**	**0.1**	**0.3**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD 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, 2016[1] (cont.).

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.7	1.3	97.0	1.7	17.3	1.7	5.3
Sugg	2.8	1.3	96.9	1.7	17.5	1.7	5.5
Sullivan	2.4	1.4	79.6	13.9	13.4	0.4	4.9
Wynne	2.4	1.3	78.6	17.5	13.5	0.4	4.9
08X09-3-14-1	2.9	1.7	76.6	25.9	14.0	0.2	5.9
09X38-1-5-1	2.4	1.2	76.6	25.2	14.1	0.2	4.9
09X39-1-11-2	2.9	1.2	76.2	24.8	14.6	0.2	5.7
N10046ol	2.4	1.3	77.6	20.7	13.6	0.3	5.0
N11020olJ	2.5	1.4	78.7	15.2	13.7	0.4	5.2
N11028ol	2.3	1.2	79.8	11.5	14.2	0.5	4.8
N12006ol	2.4	1.4	82.1	8.3	14.1	0.7	5.0
N12007ol	2.2	1.3	79.4	14.2	13.2	0.4	4.7
N12008olCLSmT	2.4	1.3	83.4	6.6	14.5	0.8	5.0
N12009olCLT	2.5	1.3	88.3	4.1	15.4	1.2	5.1
N12010ol	2.4	1.3	83.6	6.2	14.5	0.8	5.0
N12014ol	2.5	1.3	77.6	20.8	13.6	0.3	5.1
N12015ol	2.4	1.3	80.2	10.5	14.1	0.5	4.9
N13003olF	2.4	1.4	77.6	22.5	13.3	0.3	5.1
N13006ol	2.3	1.5	77.7	22.5	13.3	0.3	5.0
N13048+ol	2.2	1.3	78.6	19.1	12.8	0.3	4.6
N13049olJ	2.3	1.4	78.7	18.1	13.0	0.4	4.7
N13054ol	2.1	1.3	78.6	19.3	12.7	0.3	4.5
N13057olL	2.2	1.4	79.2	16.2	12.8	0.4	4.7
N13058olSm	2.3	1.4	78.3	19.1	13.2	0.3	4.8
N14035olSmT	2.6	1.6	78.1	17.0	13.9	0.3	5.4
Mean	**2.4**	**1.4**	**80.8**	**15.3**	**14.0**	**0.5**	**5.0**
Tukey HSD[2]	**0.4**	**0.3**	**5.8**	**10.8**	**1.5**	**0.5**	**0.7**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[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, 2016[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.3	2.3	53.6	27.9	1.3	1.4
Sugg	9.0	2.6	57.0	25.3	1.3	1.2
Sullivan	5.8	2.5	80.2	4.6	1.3	1.9
Wynne	6.6	2.4	76.0	8.4	1.2	1.7
08X09-3-14-1	5.5	2.6	81.1	3.3	1.3	2.0
09X38-1-5-1	6.8	2.6	77.8	6.0	1.3	1.6
09X39-1-11-2	5.7	3.1	81.1	3.1	1.4	1.6
N10046ol	6.1	2.5	79.1	5.6	1.2	1.8
N11020olJ	6.6	2.1	75.8	8.0	1.2	2.0
N11028ol	6.7	2.5	76.5	8.0	1.2	1.5
N12006ol	6.8	2.4	73.6	10.6	1.2	1.6
N12007ol	6.2	2.4	79.1	6.0	1.2	1.7
N12008olCLSmT	7.0	2.4	71.7	12.1	1.2	1.7
N12009olCLT	7.5	2.6	67.3	16.2	1.3	1.5
N12010ol	7.6	2.4	67.7	15.7	1.2	1.6
N12014ol	5.8	2.7	81.2	3.7	1.3	1.6
N12015ol	6.7	2.3	75.7	8.5	1.2	1.7
N13003olF	5.8	2.4	80.8	4.0	1.2	1.9
N13006ol	6.0	2.3	80.3	4.4	1.2	1.9
N13048+ol	6.2	2.0	80.2	4.7	1.1	2.0
N13049olJ	6.1	2.1	81.0	4.3	1.1	1.9
N13054ol	6.3	2.1	79.3	5.6	1.1	1.9
N13057olL	6.1	2.2	80.7	4.6	1.1	1.8
N13058olSm	6.5	2.2	78.3	6.5	1.1	1.8
N14035olSmT	6.0	2.4	79.6	4.9	1.2	1.8
Mean	**6.6**	**2.4**	**75.8**	**8.5**	**1.2**	**1.7**
Tukey HSD[2]	**0.8**	**0.3**	**5.9**	**5.2**	**0.1**	**0.3**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

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, 2016[1] (cont.).

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.8	1.4	95.5	1.9	17.1	1.6	5.5
Sugg	2.4	1.2	93.7	2.3	16.6	1.5	4.9
Sullivan	2.5	1.4	78.4	18.2	13.4	0.3	5.1
Wynne	2.4	1.3	81.3	9.0	13.9	0.6	4.9
08X09-3-14-1	2.6	1.5	77.1	24.7	13.5	0.2	5.4
09X38-1-5-1	2.6	1.2	78.7	12.9	14.5	0.4	5.1
09X39-1-11-2	2.7	1.2	76.4	26.1	14.2	0.2	5.4
N10046ol	2.4	1.3	79.1	14.7	13.6	0.4	5.0
N11020olJ	2.7	0.5	80.7	9.5	14.1	0.6	5.3
N11028ol	2.3	1.3	80.8	9.8	14.0	0.6	4.8
N12006ol	2.4	1.4	82.9	7.0	14.2	0.7	5.0
N12007ol	2.2	1.3	79.7	13.3	13.3	0.5	4.7
N12008olCLSmT	2.5	1.4	83.9	6.0	14.5	0.8	5.1
N12009olCLT	2.4	1.3	87.1	4.2	15.1	1.1	5.0
N12010ol	2.5	1.4	86.6	4.4	15.1	1.0	5.1
N12014ol	2.4	1.3	77.6	21.7	13.4	0.3	4.9
N12015ol	2.5	1.4	81.1	8.9	14.2	0.6	5.1
N13003olF	2.5	1.4	78.0	20.1	13.3	0.3	5.1
N13006ol	2.4	1.5	78.3	18.2	13.3	0.3	5.0
N13048+ol	2.4	1.4	78.7	17.0	13.1	0.4	4.9
N13049olJ	2.2	1.4	78.6	19.0	12.9	0.3	4.7
N13054ol	2.3	1.4	79.4	14.7	13.2	0.4	4.8
N13057olL	2.2	1.3	78.8	17.6	12.9	0.4	4.6
N13058olSm	2.3	1.4	80.0	13.1	13.4	0.5	4.8
N14035olSmT	2.6	1.5	78.4	16.3	13.7	0.4	5.3
Mean	**2.4**	**1.3**	**81.2**	**13.2**	**14.0**	**0.6**	**5.0**
	0.4	**0.2**	**3.9**	**8.7**	**1**	**0.3**	**0.6**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[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, 2016[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.5	2.4	52.6	28.8	1.3	1.3
Sugg	9.3	2.5	54.2	27.5	1.3	1.2
Sullivan	5.9	2.4	79.6	5.3	1.2	1.8
Wynne	6.3	2.5	78.0	6.7	1.2	1.6
08X09-3-14-1	5.5	2.6	81.0	3.2	1.3	2.1
09X38-1-5-1	6.6	2.8	79.5	4.6	1.3	1.5
09X39-1-11-2	5.7	3.2	80.9	3.2	1.5	1.6
N10046ol	5.9	2.7	80.0	4.8	1.3	1.7
N11020olJ	6.4	2.3	77.5	6.7	1.2	1.9
N11028ol	6.6	2.7	77.0	7.5	1.3	1.5
N12006ol	6.8	2.4	74.2	10.0	1.2	1.6
N12007ol	6.1	2.4	79.4	5.8	1.2	1.7
N12008olCLSmT	7.0	2.5	72.1	11.7	1.2	1.6
N12009olCLT	7.7	2.5	66.2	17.1	1.3	1.4
N12010ol	7.3	2.5	70.0	13.7	1.2	1.5
N12014ol	5.8	2.7	81.0	3.8	1.3	1.6
N12015ol	6.6	2.5	76.4	7.9	1.2	1.6
N13003olF	5.8	2.4	81.0	3.8	1.2	1.9
N13006ol	5.9	2.4	80.8	4.0	1.2	1.8
N13048+ol	6.1	2.0	80.7	4.5	1.1	1.9
N13049olJ	6.1	2.1	80.8	4.4	1.1	1.8
N13054ol	6.2	2.2	80.3	4.9	1.1	1.8
N13057olL	6.1	2.1	80.5	4.8	1.1	1.8
N13058olSm	6.3	2.2	79.6	5.4	1.1	1.8
N14035olSmT	6.0	2.4	79.6	4.9	1.2	1.8
Mean	**6.5**	**2.5**	**76.1**	**8.2**	**1.2**	**1.7**
Tukey HSD[2]	**0.8**	**0.3**	**5.3**	**4.6**	**0.1**	**0.3**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

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, 2016[1] (cont.).

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.7	1.4	96.3	1.8	17.2	1.7	5.4
Sugg	2.6	1.3	95.3	2.0	17.0	1.6	5.2
Sullivan	2.4	1.4	79.0	16.1	13.4	0.4	5.0
Wynne	2.4	1.3	79.9	13.3	13.7	0.5	4.9
08X09-3-14-1	2.8	1.6	76.8	25.3	13.7	0.2	5.6
09X38-1-5-1	2.5	1.2	77.6	19.0	14.3	0.3	5.0
09X39-1-11-2	2.8	1.2	76.3	25.4	14.4	0.2	5.5
N10046ol	2.4	1.3	78.4	17.4	13.6	0.4	5.0
N11020olJ	2.6	1.4	79.7	12.3	13.9	0.5	5.3
N11028ol	2.3	1.2	80.3	10.7	14.1	0.5	4.8
N12006ol	2.4	1.4	82.5	7.6	14.1	0.7	5.0
N12007ol	2.2	1.3	79.5	13.9	13.2	0.4	4.7
N12008olCLSmT	2.5	1.4	83.6	6.3	14.5	0.8	5.1
N12009olCLT	2.5	1.3	87.7	4.1	15.2	1.1	5.0
N12010ol	2.5	1.3	85.1	5.3	14.8	0.9	5.0
N12014ol	2.4	1.3	77.6	21.2	13.5	0.3	5.0
N12015ol	2.5	1.3	80.6	9.7	14.1	0.6	5.0
N13003olF	2.5	1.4	77.8	21.3	13.3	0.3	5.1
N13006ol	2.4	1.5	78.0	20.3	13.3	0.3	5.0
N13048+ol	2.3	1.4	78.7	18.1	12.9	0.3	4.7
N13049olJ	2.2	1.4	78.6	18.5	12.9	0.3	4.7
N13054ol	2.2	1.3	79.0	17.0	13.0	0.4	4.6
N13057olL	2.2	1.3	79.0	16.9	12.9	0.4	4.6
N13058olSm	2.3	1.4	79.1	16.1	13.3	0.4	4.8
N14035olSmT	2.6	1.5	78.3	16.6	13.8	0.4	5.4
Mean	**2.4**	**1.4**	**81.0**	**14.2**	**14.0**	**0.6**	**5.0**
	0.3	**0.2**	**3.4**	**8.2**	**0.9**	**0.3**	**0.5**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

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, 2016[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.8	2.5	50.8	30.1	1.3	1.3
Sugg	9.6	2.4	51.7	29.3	1.3	1.3
Sullivan	6.2	2.5	78.8	5.2	1.3	1.8
Wynne	6.5	2.6	77.1	7.0	1.3	1.7
08X09-3-14-1	5.7	2.5	79.0	4.6	1.3	2.2
09X38-1-5-1	7.1	2.8	75.4	7.7	1.4	1.6
09X39-1-11-2	6.1	3.0	79.5	4.2	1.4	1.7
N10046ol	6.2	2.6	78.9	5.4	1.3	1.7
N11020olJ	6.1	2.3	78.2	5.9	1.2	2.0
N11028ol	6.5	2.6	78.4	5.6	1.3	1.7
N12006ol	7.2	2.4	71.7	11.6	1.2	1.7
N12007ol	6.5	2.7	78.0	6.5	1.3	1.5
N12008olCLSmT	7.0	2.5	73.0	10.7	1.3	1.6
N12009olCLT	7.9	2.3	65.3	17.6	1.2	1.6
N12010ol	7.3	2.3	70.4	13.2	1.2	1.6
N12014ol	6.0	2.3	79.3	5.0	1.2	1.9
N12015ol	6.7	2.3	75.6	8.1	1.2	1.8
N13003olF	5.9	2.3	79.7	4.5	1.2	2.0
N13006ol	5.9	2.4	80.7	3.8	1.2	1.9
N13048+ol	6.0	2.0	79.4	5.2	1.1	2.1
N13049olJ	6.4	2.3	77.9	6.4	1.2	1.9
N13054ol	6.1	2.1	80.1	4.7	1.1	1.9
N13057olL	6.2	2.2	80.1	4.5	1.1	1.9
N13058olSm	6.3	2.3	79.7	4.9	1.2	1.8
N14035olSmT	6.3	2.4	77.6	6.1	1.2	2.0
Mean	**6.7**	**2.4**	**75.1**	**8.7**	**1.2**	**1.8**
Tukey HSD[2]	**0.9**	**0.6**	**5.5**	**4.6**	**0.1**	**0.4**

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

[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

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, 2016[1] (cont.).

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.8	1.5	96.8	1.7	17.9	1.7	5.6
Sugg	2.8	1.5	96.3	1.8	17.6	1.7	5.6
Sullivan	2.6	1.5	78.3	15.4	14.1	0.4	5.4
Wynne	2.5	1.4	79.8	11.0	14.2	0.5	5.1
08X09-3-14-1	3.0	1.7	77.7	18.0	14.2	0.3	6.0
09X38-1-5-1	2.7	1.3	79.5	10.3	15.3	0.5	5.4
09X39-1-11-2	2.9	1.3	76.9	19.2	14.6	0.3	5.6
N10046ol	2.5	1.4	78.5	14.9	14.0	0.4	5.2
N11020olJ	2.7	1.6	79.0	13.3	14.0	0.4	5.5
N11028ol	2.5	1.4	78.4	14.0	14.3	0.4	5.2
N12006ol	2.7	1.5	83.1	6.3	15.0	0.8	5.4
N12007ol	2.2	1.3	79.6	11.9	14.0	0.5	4.8
N12008olCLSmT	2.5	1.4	82.6	6.8	14.7	0.7	5.2
N12009olCLT	2.6	1.5	88.0	3.7	15.5	1.1	5.3
N12010ol	2.5	1.4	84.7	5.4	14.8	0.9	5.2
N12014ol	2.7	1.5	78.4	16.3	13.8	0.4	5.5
N12015ol	2.7	1.5	80.5	9.3	14.5	0.6	5.5
N13003olF	2.7	1.6	77.9	17.8	13.8	0.3	5.6
N13006ol	2.5	1.6	77.5	21.4	13.5	0.3	5.3
N13048+ol	2.6	1.6	79.0	15.2	13.3	0.4	5.3
N13049olJ	2.5	1.5	79.5	12.8	13.9	0.5	5.2
N13054ol	2.4	1.5	78.6	17.0	13.2	0.4	5.0
N13057olL	2.4	1.5	78.3	18.4	13.5	0.3	5.1
N13058olSm	2.3	1.4	78.5	17.4	13.6	0.4	4.9
N14035olSmT	2.8	1.6	79.0	12.7	14.3	0.4	5.7
Mean	**2.6**	**1.5**	**81.1**	**12.5**	**14.5**	**0.6**	**5.3**
Tukey HSD[2]	**0.5**	**0.3**	**3.4**	**11.3**	**1**	**0.3**	**0.7**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[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, 2016[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.2	2.4	55.8	25.8	1.2	1.5
Sugg	9.6	2.6	54.0	27.3	1.3	1.3
Sullivan	5.8	2.3	78.7	5.7	1.2	2.1
Wynne	6.3	2.5	77.8	6.7	1.2	1.7
08X09-3-14-1	5.7	2.6	79.6	4.7	1.3	2.1
09X38-1-5-1	7.2	2.8	75.6	7.8	1.3	1.6
09X39-1-11-2	6.3	3.1	78.3	5.3	1.4	1.6
N10046ol	5.9	2.5	79.9	4.9	1.2	1.8
N11020olJ	5.9	2.2	80.3	4.7	1.2	2.0
N11028ol	6.1	2.2	78.8	5.9	1.2	1.9
N12006ol	7.4	2.3	69.0	14.6	1.2	1.7
N12007ol	6.2	2.5	78.3	6.3	1.2	1.8
N12008olCLSmT	7.0	2.3	71.1	12.8	1.2	1.7
N12009olCLT	8.1	2.4	63.8	19.5	1.2	1.4
N12010ol	7.4	2.4	68.3	15.2	1.2	1.6
N12014ol	6.0	2.4	79.3	5.5	1.2	1.8
N12015ol	6.7	2.2	75.9	8.1	1.2	1.9
N13003olF	5.8	2.1	79.7	5.1	1.1	2.1
N13006ol	6.0	2.1	80.3	4.4	1.1	2.1
N13048+ol	5.8	1.9	80.2	5.0	1.0	2.2
N13049olJ	6.6	2.3	76.0	8.3	1.2	1.8
N13054ol	6.2	1.9	78.5	6.4	1.0	2.1
N13057olL	6.2	2.2	78.5	6.3	1.2	1.9
N13058olSm	6.0	1.9	78.8	6.0	1.1	2.1
N14035olSmT	6.1	2.3	79.0	5.6	1.2	1.9
Mean	**6.6**	**2.3**	**75.0**	**9.1**	**1.2**	**1.8**
Tukey HSD[2]	**0.9**	**0.7**	**6.4**	**5.3**	**0.2**	**0.5**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

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, 2016[1] (cont.).

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.7	1.5	93.9	2.2	16.9	1.5	5.4
Sugg	2.6	1.3.	94.9	2.0	17.3	1.6	5.2
Sullivan	2.7	1.5	79.1	14.0	13.5	0.4	5.4
Wynne	2.4	1.4	79.8	11.7	13.8	0.5	5.0
08X09-3-14-1	2.6	1.6	78.2	16.9	13.7	0.3	5.5
09X38-1-5-1	2.5	1.3	79.8	9.7	15.1	0.5	5.1
09X39-1-11-2	2.7	1.2	77.9	14.7	14.7	0.4	5.4
N10046ol	2.3	1.4	78.7	16.3	13.4	0.4	4.9
N11020olJ	2.4	1.4	78.6	17.2	13.1	0.4	5.0
N11028ol	2.5	1.4	79.5	13.7	13.4	0.4	5.1
N12006ol	2.5	1.4	85.9	4.8	14.8	1.0	5.1
N12007ol	2.3	1.4	79.6	12.6	13.6	0.5	4.9
N12008olCLSmT	2.5	1.4	84.7	5.6	14.4	0.9	5.1
N12009olCLT	2.4	1.3	89.7	3.3	15.4	1.3	4.9
N12010ol	2.5	1.4	86.2	4.6	15.0	1.0	5.1
N12014ol	2.4	1.3	79.1	14.4	13.4	0.4	5.0
N12015ol	2.6	1.5	80.8	9.5	14.1	0.6	5.2
N13003olF	2.6	1.5	79.1	15.6	13.1	0.4	5.2
N13006ol	2.4	1.6	78.3	18.4	13.2	0.3	5.1
N13048+ol	2.4	1.6	79.3	16.3	12.6	0.4	5.0
N13049olJ	2.4	1.4	81.2	9.5	13.9	0.6	5.0
N13054ol	2.4	1.5	80.2	13.0	13.0	0.5	4.9
N13057olL	2.4	1.4	79.9	13.1	13.3	0.5	4.9
N13058olSm	2.5	1.5	79.9	13.3	13.0	0.5	5.1
N14035olSmT	2.5	1.5	79.1	14.3	13.5	0.4	5.1
Mean	**2.5**	**1.4**	**81.7**	**11.5**	**14.0**	**0.6**	**5.1**
	0.5	**0.3**	**3.8**	**7.9**	**1.5**	**0.3**	**0.8**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[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, 2016[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.5	2.4	53.3	28.0	1.3	1.4
Sugg	9.6	2.5	52.9	28.3	1.3	1.3
Sullivan	6.0	2.4	78.7	5.5	1.2	2.0
Wynne	6.4	2.5	77.4	6.8	1.2	1.7
08X09-3-14-1	5.7	2.5	79.2	4.7	1.3	2.2
09X38-1-5-1	7.1	2.8	75.5	7.8	1.4	1.6
09X39-1-11-2	6.2	3.0	78.9	4.8	1.4	1.6
N10046ol	6.0	2.6	79.4	5.2	1.3	1.7
N11020olJ	6.0	2.3	79.2	5.3	1.2	2.0
N11028ol	6.3	2.4	78.6	5.8	1.2	1.8
N12006ol	7.3	2.4	70.3	13.1	1.2	1.7
N12007ol	6.3	2.6	78.2	6.4	1.2	1.6
N12008olCLSmT	7.0	2.4	72.0	11.8	1.2	1.7
N12009olCLT	8.0	2.3	64.6	18.6	1.2	1.5
N12010ol	7.3	2.4	69.3	14.2	1.2	1.6
N12014ol	6.0	2.4	79.3	5.3	1.2	1.9
N12015ol	6.7	2.3	75.7	8.1	1.2	1.9
N13003olF	5.9	2.2	79.7	4.8	1.2	2.1
N13006ol	5.9	2.3	80.5	4.1	1.2	2.0
N13048+ol	5.9	1.9	79.8	5.1	1.1	2.1
N13049olJ	6.5	2.3	76.9	7.3	1.2	1.9
N13054ol	6.2	2.0	79.3	5.6	1.1	2.0
N13057olL	6.2	2.2	79.3	5.4	1.1	1.9
N13058olSm	6.2	2.1	79.3	5.5	1.1	2.0
N14035olSmT	6.2	2.3	78.3	5.9	1.2	1.9
Mean	**6.7**	**2.4**	**75.0**	**8.9**	**1.2**	**1.8**
Tukey HSD[2]	**0.6**	**0.4**	**4.1**	**3.5**	**0.1**	**0.3**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

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, 2016[1] (cont.).

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.7	1.5	95.3	1.9	17.4	1.6	5.5
Sugg	2.7	1.4	95.6	1.9	17.5	1.6	5.4
Sullivan	2.6	1.5	78.8	14.5	13.8	0.4	5.4
Wynne	2.4	1.4	79.8	11.3	14.0	0.5	5.1
08X09-3-14-1	2.8	1.7	77.9	17.6	14.0	0.3	5.8
09X38-1-5-1	2.6	1.3	79.6	10.0	15.2	0.5	5.2
09X39-1-11-2	2.8	1.3	77.4	17.0	14.7	0.3	5.5
N10046ol	2.4	1.4	78.6	15.6	13.7	0.4	5.1
N11020olJ	2.6	1.5	78.8	15.3	13.5	0.4	5.3
N11028ol	2.5	1.4	79.0	13.8	13.9	0.4	5.1
N12006ol	2.6	1.5	84.5	5.5	14.9	0.9	5.2
N12007ol	2.3	1.3	79.6	12.2	13.8	0.5	4.9
N12008olCLSmT	2.5	1.4	83.7	6.2	14.5	0.8	5.1
N12009olCLT	2.5	1.4	88.8	3.5	15.4	1.2	5.1
N12010ol	2.5	1.4	85.5	5.0	14.9	1.0	5.2
N12014ol	2.6	1.4	78.8	15.3	13.6	0.4	5.2
N12015ol	2.6	1.5	80.6	9.4	14.3	0.6	5.3
N13003olF	2.6	1.6	78.5	16.7	13.4	0.4	5.4
N13006ol	2.4	1.6	77.9	19.9	13.4	0.3	5.2
N13048+ol	2.5	1.6	79.1	15.7	13.0	0.4	5.1
N13049olJ	2.4	1.5	80.3	11.2	13.9	0.5	5.1
N13054ol	2.4	1.5	79.4	15.0	13.1	0.4	5.0
N13057olL	2.4	1.5	79.1	15.7	13.4	0.4	5.0
N13058olSm	2.4	1.5	79.2	15.4	13.3	0.4	5.0
N14035olSmT	2.7	1.6	79.2	13.5	13.9	0.4	5.4
Mean	**2.5**	**1.5**	**81.4**	**12.0**	**14.3**	**0.6**	**5.2**
	0.4	**0.2**	**2.8**	**6.3**	**1**	**0.2**	**0.6**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[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, 2016[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.6	2.5	53.9	27.0	1.3	1.4
Sugg	9.6	2.5	54.4	27.5	1.3	1.2
Sullivan	5.8	2.4	81.4	3.6	1.2	1.8
Wynne	6.3	2.7	78.4	5.8	1.3	1.6
08X09-3-14-1	5.6	2.9	80.2	3.4	1.4	2.0
09X38-1-5-1	6.8	2.8	78.0	5.7	1.4	1.5
09X39-1-11-2	5.9	3.3	80.0	3.6	1.5	1.5
N10046ol	5.8	2.8	80.7	4.1	1.3	1.6
N11020olJ	5.9	2.7	80.6	4.1	1.3	1.7
N11028ol	7.1	2.8	72.5	11.2	1.4	1.4
N12006ol	6.9	2.3	73.9	10.0	1.2	1.7
N12007ol	6.3	2.6	78.7	6.3	1.2	1.5
N12008olCLSmT	7.3	2.6	70.5	13.2	1.3	1.5
N12009olCLT	7.8	2.6	66.3	17.1	1.3	1.3
N12010ol	7.4	2.7	70.2	13.3	1.3	1.4
N12014ol	6.1	2.6	79.7	4.7	1.3	1.7
N12015ol	6.4	2.6	78.4	5.9	1.3	1.6
N13003olF	5.9	2.3	80.4	4.1	1.2	1.9
N13006ol	6.0	2.3	81.2	3.7	1.2	1.8
N13048+ol	6.5	2.2	78.0	7.0	1.1	1.7
N13049olJ	5.9	2.3	82.1	3.4	1.2	1.7
N13054ol	6.4	2.2	79.4	5.4	1.2	1.7
N13057olL	6.2	2.3	81.0	4.1	1.2	1.7
N13058olSm	6.0	2.5	82.0	3.3	1.2	1.6
N14035olSmT	5.9	2.5	80.7	3.8	1.3	1.8
Mean	**6.6**	**2.6**	**76.1**	**8.1**	**1.3**	**1.6**
Tukey HSD[2]	**5.8**	**0.4**	**8.7**	**7.3**	**0.1**	**0.3**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

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, 2016[1] (cont.).

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	3.0	1.4	94.2	2.0	17.7	1.5	5.7
Sugg	2.5	1.1	95.3	2.0	16.9	1.6	4.9
Sullivan	2.4	1.4	77.6	22.6	13.2	0.3	5.1
Wynne	2.5	1.3	78.7	13.9	14.2	0.4	5.2
08X09-3-14-1	2.9	1.6	76.4	24.4	14.4	0.2	5.9
09X38-1-5-1	2.5	1.2	78.2	14.5	14.8	0.4	5.1
09X39-1-11-2	2.9	1.2	76.3	22.1	14.8	0.2	5.6
N10046ol	2.4	1.3	77.7	19.8	13.6	0.3	5.0
N11020olJ	2.4	1.3	77.7	21.1	13.6	0.3	5.1
N11028ol	2.4	1.3	82.9	6.5	14.9	0.8	5.0
N12006ol	2.6	1.4	82.2	8.1	14.4	0.7	5.2
N12007ol	2.2	1.2	79.7	14.1	13.6	0.5	4.7
N12008olCLSmT	2.5	1.3	84.6	5.4	14.9	0.9	5.0
N12009olCLT	2.4	1.2	87.6	3.9	15.3	1.1	4.9
N12010ol	2.5	1.3	84.5	5.3	15.1	0.9	5.0
N12014ol	2.6	1.3	78.0	17.1	13.9	0.3	5.1
N12015ol	2.5	1.4	78.9	13.5	14.1	0.4	5.1
N13003olF	2.7	1.5	77.7	20.1	13.6	0.3	5.4
N13006ol	2.4	1.4	77.6	22.2	13.3	0.3	5.0
N13048+ol	2.2	1.4	80.4	16.3	13.4	0.5	4.7
N13049olJ	2.1	1.3	77.8	24.5	12.8	0.3	4.6
N13054ol	2.3	1.4	79.0	14.8	13.4	0.4	4.8
N13057olL	2.2	1.3	78.1	19.7	13.2	0.3	4.8
N13058olSm	2.1	1.3	77.6	24.7	13.1	0.3	4.6
N14035olSmT	2.6	1.5	77.3	21.5	13.8	0.3	5.4
Mean	**2.5**	**1.3**	**80.6**	**15.2**	**14.2**	**0.5**	**5.1**
Tukey HSD[2]	**0.5**	**0.2**	**5.2**	**16.6**	**1.6**	**0.5**	**0.7**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[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, 2016[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.6	2.7	53.6	27.5	1.4	1.2
Sugg	9.5	2.7	53.9	27.2	1.4	1.2
Sullivan	6.0	2.6	79.8	4.4	1.3	1.7
Wynne	6.2	3.0	80.0	4.4	1.4	1.5
08X09-3-14-1	5.5	3.1	80.9	2.9	1.5	1.9
09X38-1-5-1	6.9	3.2	78.1	5.2	1.5	1.4
09X39-1-11-2	5.8	3.4	81.1	2.8	1.5	1.4
N10046ol	5.9	2.9	81.0	3.7	1.4	1.5
N11020olJ	6.0	2.8	80.7	3.8	1.4	1.6
N11028ol	6.5	3.0	77.4	6.6	1.4	1.4
N12006ol	7.3	2.6	71.5	11.7	1.3	1.5
N12007ol	6.5	2.7	78.1	6.2	1.3	1.5
N12008olCLSmT	6.6	2.7	75.7	8.5	1.3	1.4
N12009olCLT	7.7	2.8	67.2	16.1	1.3	1.3
N12010ol	7.4	2.8	70.1	13.8	1.3	1.2
N12014ol	6.0	2.8	80.7	3.5	1.4	1.6
N12015ol	6.2	2.7	79.9	4.2	1.3	1.6
N13003olF	5.9	2.7	81.1	3.4	1.3	1.7
N13006ol	6.0	2.6	80.8	3.7	1.3	1.7
N13048+ol	6.1	2.4	81.8	3.4	1.2	1.6
N13049olJ	6.0	2.5	82.1	3.2	1.2	1.5
N13054ol	6.3	2.4	80.2	4.6	1.2	1.6
N13057olL	6.2	2.4	81.2	3.6	1.2	1.7
N13058olSm	6.3	2.3	80.7	3.9	1.2	1.8
N14035olSmT	6.0	2.6	80.4	3.7	1.3	1.7
Mean	**6.6**	**2.7**	**76.7**	**7.3**	**1.3**	**1.5**
Tukey HSD[2]	**0.7**	**0.4**	**4.7**	**4**	**0.1**	**0.3**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

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, 2016[1] (cont.).

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.6	1.4	94.7	1.9	17.7	1.6	5.4
Sugg	2.8	1.4	94.4	2.0	17.7	1.5	5.5
Sullivan	2.6	1.5	77.7	18.5	14.0	0.3	5.4
Wynne	2.4	1.3	77.5	18.3	14.2	0.3	5.0
08X09-3-14-1	2.7	1.6	76.0	29.1	14.4	0.2	5.8
09X38-1-5-1	2.5	1.2	77.3	15.4	15.3	0.3	5.2
09X39-1-11-2	2.7	1.2	75.7	28.8	14.7	0.2	5.4
N10046ol	2.4	1.3	77.2	22.3	13.9	0.3	5.0
N11020olJ	2.5	1.3	77.3	21.4	13.9	0.3	5.2
N11028ol	2.4	1.3	79.2	11.8	14.6	0.5	5.1
N12006ol	2.6	1.5	82.9	6.2	15.3	0.8	5.4
N12007ol	2.3	1.3	79.0	12.7	14.2	0.4	5.0
N12008olCLSmT	2.4	1.4	80.9	9.0	14.4	0.6	5.0
N12009olCLT	2.3	1.3	86.7	4.2	15.5	1.0	5.0
N12010ol	2.3	1.2	85.2	5.3	14.9	0.9	4.8
N12014ol	2.5	1.4	76.9	22.8	14.1	0.3	5.3
N12015ol	2.6	1.5	77.2	19.3	14.3	0.3	5.4
N13003olF	2.5	1.5	76.9	24.1	13.8	0.2	5.3
N13006ol	2.4	1.5	77.3	21.8	13.7	0.3	5.2
N13048+ol	2.2	1.4	77.6	23.8	13.1	0.3	4.7
N13049olJ	2.1	1.3	77.4	25.4	13.1	0.3	4.6
N13054ol	2.2	1.4	78.3	17.4	13.5	0.3	4.8
N13057olL	2.3	1.4	77.3	22.9	13.5	0.3	5.0
N13058olSm	2.4	1.5	77.6	20.8	13.6	0.3	5.0
N14035olSmT	2.7	1.5	77.0	21.5	14.2	0.3	5.6
Mean	**2.5**	**1.4**	**79.8**	**17.1**	**14.5**	**0.5**	**5.2**
Tukey HSD[2]	**0.3**	**0.2**	**2.9**	**9.7**	**1**	**0.2**	**0.5**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[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 from Blackville, SC, 2016[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.6	2.7	55.2	25.8	1.4	1.2
Sugg	9.4	2.8	57.5	23.9	1.4	1.2
Sullivan	6.1	2.6	80.6	3.9	1.3	1.6
Wynne	6.9	2.7	77.0	6.8	1.3	1.5
08X09-3-14-1	6.1	2.6	80.2	3.8	1.3	1.8
09X38-1-5-1	6.8	3.0	78.0	5.2	1.5	1.5
09X39-1-11-2	6.1	3.1	80.5	3.2	1.5	1.5
N10046ol	6.1	2.7	80.5	4.1	1.3	1.5
N11020olJ	6.2	2.6	80.8	3.6	1.3	1.6
N11028ol	6.9	2.8	76.2	7.7	1.4	1.4
N12006ol	7.4	2.4	72.5	11.2	1.3	1.5
N12007ol	6.1	2.7	80.7	4.2	1.3	1.5
N12008olCLSmT	6.8	2.6	75.7	8.5	1.3	1.4
N12009olCLT	7.6	2.6	69.8	13.9	1.3	1.3
N12010ol	7.7	2.7	69.3	14.0	1.3	1.3
N12014ol	6.0	2.9	81.5	3.4	1.3	1.4
N12015ol	7.1	2.7	74.7	9.0	1.3	1.4
N13003olF	6.3	2.4	80.4	3.8	1.3	1.8
N13006ol	6.2	2.5	80.7	4.0	1.2	1.6
N13048+ol	6.4	2.2	80.8	4.0	1.2	1.7
N13049olJ	6.6	2.2	79.8	4.6	1.2	1.8
N13054ol	6.4	2.3	80.1	4.5	1.2	1.7
N13057olL	6.5	2.3	79.7	4.8	1.2	1.7
N13058olSm	6.7	2.3	79.4	5.0	1.2	1.6
N14035olSmT	6.8	2.6	76.5	7.4	1.3	1.5
Ga06G	9.7	3.0	56.4	23.9	1.4	1.1
Ga12Y	10.0	3.0	51.7	27.5	1.5	1.2
Ga13M	6.3	3.0	78.4	3.2	1.6	1.8
TufRunner 297	6.5	2.5	80.1	3.4	1.2	1.8
TufRunner 511	6.3	2.5	81.0	3.1	1.3	1.7
TufRunner 727	6.6	2.5	80.2	3.5	1.2	1.8
Mean	**7.0**	**2.6**	**75.4**	**8.2**	**1.3**	**1.5**
Tukey HSD[2]	**1.0**	**0.4**	**7.2**	**6.0**	**0.2**	**0.2**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

Table 28. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Blackville, SC, 2016[1] (cont.).

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.7	1.4	93.1	2.1	17.8	1.5	5.5
Sugg	2.6	1.3	91.8	2.4	17.4	1.4	5.2
Sullivan	2.5	1.4	77.4	20.7	13.9	0.3	5.2
Wynne	2.5	1.3	79.2	14.1	14.7	0.5	5.1
08X09-3-14-1	2.6	1.6	77.0	21.6	14.2	0.3	5.5
09X38-1-5-1	2.8	1.3	77.3	15.0	15.3	0.3	5.5
09X39-1-11-2	2.8	1.3	76.0	25.4	14.8	0.2	5.5
N10046ol	2.4	1.3	77.5	20.5	13.9	0.3	5.0
N11020olJ	2.5	1.3	77.0	22.6	14.0	0.3	5.2
N11028ol	2.4	1.2	80.0	10.2	14.7	0.5	5.0
N12006ol	2.5	1.3	82.9	6.7	14.8	0.8	5.1
N12007ol	2.2	1.3	77.9	19.3	13.6	0.3	4.8
N12008olCLSmT	2.3	1.3	81.0	9.3	14.3	0.6	4.9
N12009olCLT	2.3	1.3	85.1	5.2	15.0	0.9	4.8
N12010ol	2.4	1.3	84.8	5.0	15.4	0.9	5.0
N12014ol	2.3	1.2	77.1	24.3	13.7	0.2	4.8
N12015ol	2.5	1.3	80.9	8.3	14.9	0.6	5.1
N13003olF	2.7	1.5	77.1	21.3	14.0	0.3	5.4
N13006ol	2.3	1.4	77.6	20.3	13.7	0.3	4.9
N13048+ol	2.4	1.4	77.7	20.3	13.6	0.3	4.9
N13049olJ	2.5	1.5	77.9	17.5	13.9	0.3	5.1
N13054ol	2.4	1.4	78.0	17.9	13.7	0.3	5.0
N13057olL	2.4	1.4	78.2	16.8	13.8	0.3	5.0
N13058olSm	2.3	1.4	78.3	17.0	14.0	0.4	4.9
N14035olSmT	2.5	1.4	79.9	12.3	14.6	0.5	5.2
Ga06G	3.1	1.5	90.7	2.4	18.6	1.3	6.0
Ga12Y	3.5	1.7	93.0	1.9	19.6	1.4	6.7
Ga13M	3.8	1.9	74.5	24.3	16.5	0.2	7.3
TufRunner 297	2.8	1.7	76.3	24.1	14.6	0.2	5.7
TufRunner 511	2.7	1.5	76.3	26.6	14.2	0.2	5.5
TufRunner 727	2.7	1.6	76.5	22.8	14.5	0.2	5.4
Mean	**2.6**	**1.4**	**80.3**	**15.4**	**14.9**	**0.5**	**5.3**
Tukey HSD[2]	**0.5**	**0.2**	**4.3**	**13.6**	**1.5**	**0.4**	**0.7**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Table 29. 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, 2016.[1]

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.5	2.5	53.5	27.7	1.3	1.3
Sugg	9.5	2.6	54.3	27.2	1.3	1.2
Sullivan	6.0	2.4	79.7	4.8	1.3	1.8
Wynne	6.4	2.6	78.0	6.3	1.3	1.6
08X09-3-14-1	5.7	2.7	80.3	3.6	1.3	2.0
09X38-1-5-1	6.8	2.9	77.7	5.8	1.4	1.5
09X39-1-11-2	5.9	3.2	80.2	3.7	1.5	1.6
N10046ol	6.0	2.7	80.1	4.5	1.3	1.6
N11020olJ	6.1	2.5	79.4	5.1	1.3	1.8
N11028ol	6.6	2.7	76.7	7.4	1.3	1.5
N12006ol	7.1	2.4	72.4	11.3	1.2	1.6
N12007ol	6.3	2.6	78.9	5.8	1.2	1.6
N12008olCLSmT	7.0	2.5	72.9	11.0	1.3	1.6
N12009olCLT	7.8	2.5	66.4	16.9	1.3	1.4
N12010ol	7.4	2.5	69.7	13.8	1.3	1.5
N12014ol	6.0	2.6	80.4	4.3	1.3	1.7
N12015ol	6.6	2.5	76.7	7.3	1.3	1.7
N13003olF	5.9	2.3	80.5	4.1	1.2	1.9
N13006ol	6.0	2.4	80.8	3.9	1.2	1.8
N13048+ol	6.2	2.1	80.2	4.8	1.1	1.8
N13049olJ	6.3	2.3	79.9	5.0	1.1	1.8
N13054ol	6.2	2.2	79.9	5.1	1.1	1.8
N13057olL	6.2	2.2	80.2	4.7	1.2	1.8
N13058olSm	6.3	2.3	80.0	4.8	1.2	1.8
N14035olSmT	6.1	2.4	79.0	5.2	1.3	1.8
Ga06G	9.7	3.0	56.4	23.9	1.4	1.1
Ga12Y	10.0	3.0	51.7	27.5	1.5	1.2
Ga13M	6.3	3.0	78.4	3.2	1.6	1.8
TufRunner 297	6.5	2.5	80.1	3.4	1.2	1.8
TufRunner 511	6.3	2.5	81.0	3.1	1.3	1.7
TufRunner 727	6.6	2.5	80.2	3.5	1.2	1.8
Mean	**6.8**	**2.6**	**75.0**	**8.7**	**1.3**	**1.6**
Tukey HSD[2]	**0.6**	**0.4**	**4**	**3.5**	**0.1**	**0.3**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

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 averaged across all locations, 2016[1]. (cont.)

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.8	1.4	95.0	1.9	17.5	1.6	5.5
Sugg	2.6	1.3	94.8	2.0	17.3	1.6	5.3
Sullivan	2.5	1.5	78.3	17.4	13.6	0.4	5.2
Wynne	2.4	1.3	79.3	13.6	14.1	0.4	5.0
08X09-3-14-1	2.8	1.6	76.9	23.4	14.1	0.3	5.7
09X38-1-5-1	2.6	1.3	78.2	14.7	14.9	0.4	5.2
09X39-1-11-2	2.8	1.2	76.5	23.0	14.6	0.3	5.5
N10046ol	2.4	1.3	78.1	18.3	13.7	0.3	5.0
N11020olJ	2.5	1.4	78.4	17.2	13.8	0.4	5.2
N11028ol	2.4	1.3	80.1	11.1	14.3	0.5	5.0
N12006ol	2.5	1.4	83.1	6.8	14.6	0.8	5.2
N12007ol	2.3	1.3	79.3	14.1	13.6	0.4	4.8
N12008olCLSmT	2.4	1.4	83.0	7.0	14.5	0.8	5.1
N12009olCLT	2.4	1.3	87.5	4.1	15.3	1.1	5.0
N12010ol	2.4	1.3	85.1	5.2	15.0	0.9	5.0
N12014ol	2.5	1.3	77.8	19.6	13.7	0.3	5.1
N12015ol	2.5	1.4	79.9	11.3	14.3	0.5	5.2
N13003olF	2.6	1.5	77.8	20.2	13.6	0.3	5.3
N13006ol	2.4	1.5	77.8	20.7	13.4	0.3	5.1
N13048+ol	2.3	1.4	78.8	18.3	13.1	0.4	4.9
N13049olJ	2.3	1.4	78.7	18.1	13.4	0.4	4.8
N13054ol	2.3	1.4	78.9	16.3	13.3	0.4	4.8
N13057olL	2.3	1.4	78.5	17.8	13.3	0.4	4.9
N13058olSm	2.3	1.4	78.6	17.9	13.4	0.4	4.9
N14035olSmT	2.6	1.5	78.4	16.5	14.0	0.4	5.4
Ga06G	3.1	1.5	90.7	2.4	18.6	1.3	6.0
Ga12Y	3.5	1.7	93.0	1.9	19.6	1.4	6.7
Ga13M	3.8	1.9	74.5	24.3	16.5	0.2	7.3
TufRunner 297	2.8	1.7	76.3	24.1	14.6	0.2	5.7
TufRunner 511	2.7	1.5	76.3	26.6	14.2	0.2	5.5
TufRunner 727	2.7	1.6	76.5	22.8	14.5	0.2	5.4
Mean	**2.6**	**1.4**	**80.8**	**14.8**	**14.7**	**0.6**	**5.3**
Tukey HSD[2]	**0.3**	**0.2**	**2.8**	**7.9**	**0.9**	**0.2**	**0.5**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Table 30. 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, (2015 – 2016)[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.5	2.5	52.5	28.7	1.3	1.3
Sugg	9.3	2.5	52.9	28.5	1.3	1.3
Sullivan	6.1	2.4	78.1	6.2	1.2	1.9
Wynne	6.3	2.6	78.3	6.1	1.3	1.7
08X09-3-14-1	5.8	2.8	79.3	4.5	1.4	2.0
N10046ol	5.9	2.7	79.6	5.0	1.3	1.7
N11020olJ	6.0	2.5	79.5	5.0	1.3	1.8
N11028ol	6.4	2.6	77.6	6.6	1.3	1.6
N12007ol	6.2	2.5	78.5	6.3	1.2	1.7
N12008olCLSmT	6.7	2.5	74.4	9.7	1.2	1.6
N12009olCLT	7.5	2.5	67.5	15.9	1.2	1.5
N12010ol	7.4	2.5	68.4	15.0	1.3	1.5
N12014ol	6.2	2.5	77.8	6.6	1.2	1.8
N12015ol	6.5	2.5	76.3	7.7	1.2	1.7
N13048+ol	6.2	2.1	79.6	5.2	1.1	1.9
Mean	**6.8**	**2.5**	**73.4**	**10.5**	**1.3**	**1.7**
Tukey HSD[2]	**0.5**	**0.3**	**3.4**	**2.9**	**0.1**	**0.2**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

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. Two-year averages across all locations, (2015 – 2016)[1]. (cont.)

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.8	1.5	95.9	1.9	17.5	1.6	5.5
Sugg	2.7	1.4	95.9	1.9	17.2	1.6	5.4
Sullivan	2.6	1.5	79.5	15.7	13.8	0.4	5.3
Wynne	2.4	1.4	79.2	14.2	13.9	0.4	5.1
08X09-3-14-1	2.8	1.6	77.4	21.6	14.3	0.3	5.7
N10046ol	2.4	1.4	78.4	17.4	13.7	0.4	5.1
N11020olJ	2.5	1.4	78.5	17.5	13.7	0.4	5.2
N11028ol	2.5	1.3	79.6	13.1	14.1	0.5	5.1
N12007ol	2.3	1.4	79.7	14.4	13.6	0.5	4.9
N12008olCLSmT	2.4	1.4	82.1	9.6	14.3	0.7	5.1
N12009olCLT	2.5	1.4	86.8	5.2	15.1	1.0	5.1
N12010ol	2.5	1.4	86.0	4.9	15.1	1.0	5.1
N12014ol	2.5	1.4	79.7	15.9	13.9	0.5	5.2
N12015ol	2.6	1.4	80.4	11.3	14.2	0.5	5.2
N13048+ol	2.4	1.5	79.1	16.6	13.2	0.4	5.0
Mean	**2.5**	**1.4**	**82.5**	**12.1**	**14.5**	**0.7**	**5.2**
Tukey HSD[2]	**0.2**	**0.1**	**2.2**	**4.5**	**0.6**	**0.2**	**0.3**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

Fatty Acid Results

Table 31. 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, (2014 – 2016)[1].

Variety	Palmitic C16:0	Stearic C18:0	Oleic C18:1	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Bailey	9.4	2.4	80.4	28.9	1.3	1.4
Sugg	9.3	2.5	53.4	28.1	1.3	1.3
Sullivan	5.9	2.4	79.0	5.6	1.2	1.8
Wynne	6.2	2.6	78.5	6.0	1.3	1.7
N10046ol	5.8	2.6	80.0	4.7	1.3	1.7
N11020olJ	5.9	2.5	79.9	4.7	1.3	1.8
N11028ol	6.2	2.7	79.1	5.3	1.3	1.6
N12007ol	6.3	2.6	78.9	5.8	1.2	1.6
N12008olCLSmT	7.0	2.5	72.9	11.0	1.3	1.6
N12009olCLT	7.8	2.5	66.4	16.9	1.3	1.4
N12010ol	7.4	2.5	69.7	13.8	1.3	1.5
N12014ol	6.0	2.6	52.3	4.3	1.3	1.7
N12015ol	6.6	2.5	76.7	7.3	1.3	1.7
Mean	**6.9**	**2.5**	**72.9**	**11.0**	**1.3**	**1.6**
Tukey HSD[2]	**0.5**	**0.2**	**3.4**	**2.9**	**0.1**	**0.2**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.

Fatty Acid Results

Table 31. 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, (2014 – 2016)[1]. (cont.)

Variety	Behenic C22:0	Lignoceric C24:0	Iodine[3] Value	O/L[4] Ratio	%Total Saturated	P/S Ratio	% Total Long Chain Saturated
Bailey	2.8	1.5	96.2	2.0	17.4	1.7	5.6
Sugg	2.7	1.4	95.7	2.3	17.2	1.6	5.4
Sullivan	2.5	1.5	79.1	16.8	13.4	0.4	5.2
Wynne	2.4	1.4	79.3	14.3	13.8	0.4	5.1
N10046ol	2.4	1.4	78.4	17.9	13.5	0.3	5.1
N11020olJ	2.5	1.4	78.4	18.1	13.5	0.3	5.2
N11028ol	2.4	1.3	78.5	18.7	14.0	0.4	5.1
N12007ol	2.3	1.3	79.3	14.1	13.6	0.4	4.8
N12008olCLSmT	2.4	1.4	83.0	7.0	14.5	0.8	5.1
N12009olCLT	2.4	1.3	87.5	4.1	15.3	1.1	5.0
N12010ol	2.4	1.3	85.1	5.2	15.0	0.9	5.0
N12014ol	2.5	1.3	77.8	19.6	13.7	0.3	5.1
N12015ol	2.5	1.4	79.9	11.3	14.3	0.5	5.2
Mean	**2.5**	**1.4**	**82.9**	**11.6**	**14.6**	**0.7**	**5.1**
Tukey HSD[2]	**0.2**	**0.1**	**2.2**	**4.4**	**0.6**	**0.2**	**0.3**

[1] Refer to page 3 for an explanation of the computations of these characters.
[2] Minimum significant difference at P=0.05, based on the TUKEY HSD test.
[3] Lower iodine value indicates longer shelf life.
[4] Higher O/L ratio indicates longer shelf life.

www.ext.vt.edu

Produced by Communications and Marketing, College of Agriculture and Life Sciences, Virginia Tech, 2018