



PEANUT VARIETY AND QUALITY EVALUATION RESULTS

Quality Data

Tidewater Agricultural Research and Extension Center
Virginia Agricultural Experiment Station

2008

Virginia
Cooperative
Extension



www.ext.vt.edu

3002-1436



PEANUT VARIETY AND QUALITY EVALUATION RESULTS 2009

II. Quality Data

Maria Balota, Ph.D.
Assistant Professor Crop Physiology

TECHNICAL SUPPORT:

F. Bryant, Ag Specialist
P. Copeland, Office Services Specialist
C. Daughtrey, Ag Technician
B. Kennedy, Ag Technician
L. Mehalko, Lab Assistant
D. Redd, Ag Specialist
T. Balota, Ag Technician

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

Information Series No. 492
March 2010

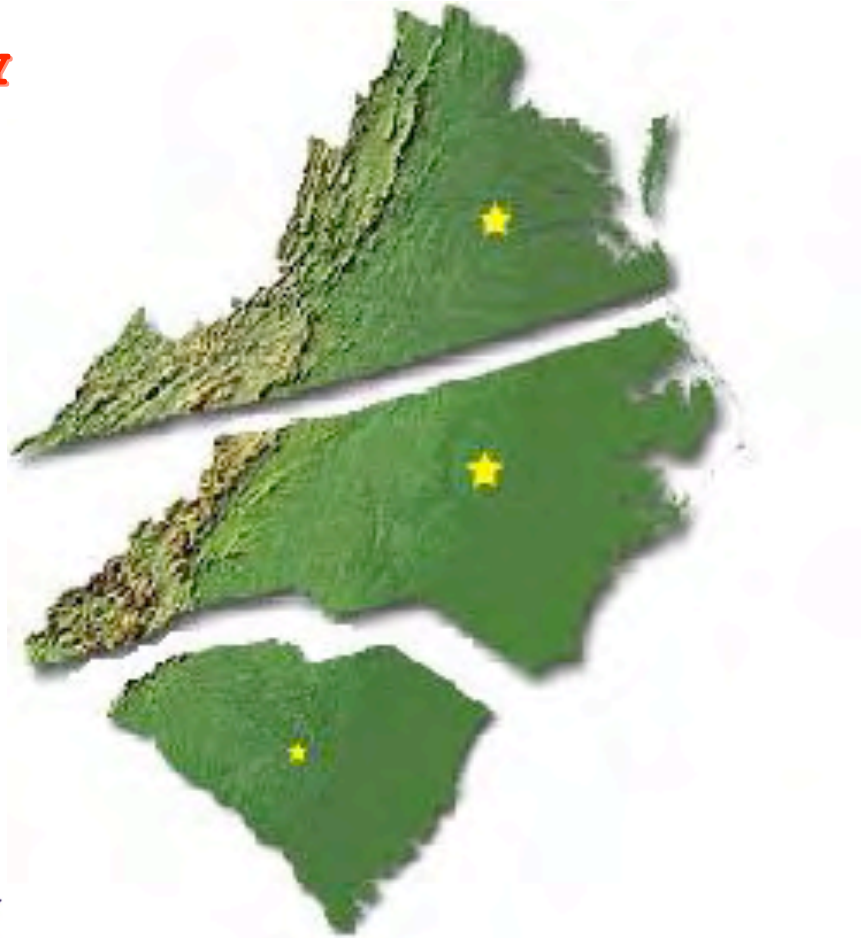
**ACKNOWLEDGEMENTS
FINANCIAL SUPPORT**

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



SC PEANUT GROWERS

**NC STATE
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, L. Mehalko, and T. Balota. 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 2009.



Louis Mehalko, left, and
Pam Copland, right



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



Brenda Kennedy, above



Carolyn Daughtrey, at left

LIST OF COOPERATORS

Virginia Tech, Virginia Agricultural Experiment Station, and VCIA

Mr. R. D. Ashburn, Farm Manager, Tidewater AREC

Dr. D. A. Herbert, Jr., Tidewater AREC

Dr. D. Holshouser, Tidewater AREC

Mr. W. Mozingo, Tidewater AREC (retired)

Mr. B. Beahm, VCIA

Dr. B. Corl, Virginia Tech

Ms. A. Tilley, Virginia Tech

Other universities

Dr. T. Isleib, NCSU

Dr. J. Chapin, Clemson University

Mr. J. Farmer, PeeDee Research and Education Center, Farm Manager

Mr. D. Gunter, Extension Associate, PeeDee Research and Education Center

Mr. J. R. Horton, Border Belt Tobacco Research Station, NCSU

Mr. C. Bogle, Upper Coastal Plain Research Station, NCSU

Growers

Mr. T. Slade, Martin Co., NC

Mr. J. Pond, Southampton Co., VA

Mr. J. Pope, Southampton Co., VA

County Agents

Mr. R. Cotten, Suffolk, VA

Ms. C. Estienne, Greensville/Emporia, VA

Mr. G. Slade, Surry Co., VA

Mr. K. Wells, Sussex Co., VA

Mr. A. Cochran, Martin Co., NC

Mr. R. Harrell, Bladen Co., NC

Mr. C. Fountain, Duplin Co., NC

Commodity Groups

Mr. D. Cotton, Virginia Peanut Board

Mr. B. Sutter, North Carolina Peanut Board

Companies

Mr. F. Garner, Birdsong Peanut

Mr. Bennett, Birdsgon Peanut

Mr. J. Laine, Wakefield Peanut Company

Mr. David Benton, Hubbard Peanut Company, Inc.

Mr. Ted Fries, Feridies

Agencies

Mr. J. Gillespie, Federal-State Inspection Service

TABLE OF CONTENTS

Acknowledgements	i
Technical Support	ii
List of Cooperators	iii
Table of Contents	iv
List of Tables	v
List of Pictures	vii
Introduction	1
Plant Material and Test Location	2
2009 Blanching Results	4
2009 Fatty Acid Results	22
Calcium Results	50
Increase Plot Results	53

List of Tables

1.	Breeding lines and varieties evaluated in 2009.....	2
2.	Laboratory sample blanching of Extra Large Kernels (ELK) From Tidewater AREC (Suffolk), VA, Planting Date 1, 2009.....	4
3.	Laboratory sample blanching of Extra Large Kernels (ELK) From Tidewater AREC (Suffolk), VA, Planting Date 2, 2009.....	5
4.	Laboratory sample blanching of Extra Large Kernels (ELK) From Tidewater AREC (Suffolk), VA, Planting Date 3, 2009.....	6
5.	Laboratory sample blanching of Extra Large Kernels (ELK) From Tidewater AREC (Suffolk), VA, Average of all Planting Dates, 2009	7
6.	Laboratory sample blanching of Extra Large Kernels (ELK) from Martin County, NC, Planting Date 1, 2009.....	8
7.	Laboratory sample blanching of Extra Large Kernels (ELK) from Martin County, NC, Planting Date 2, 2009.....	9
8.	Laboratory sample blanching of Extra Large Kernels (ELK) from Martin County, NC, Average of all Planting Dates, 2009	10
9.	Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk), VA and Martin County, NC, 2009	11
10.	Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk), VA and Martin County, NC. Two years averages (2008-2009).....	12
11.	Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk), VA and Martin County, NC. Three years averages (2007-2009).....	13
12.	Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk), VA, Planting Date 1, 2009	14
13.	Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk), VA, Planting Date 2, 2009	15
14.	Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk), VA, Planting Date 3, 2009	16
15.	Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk), VA, Average of all Planting Dates, 2009	17
16.	Laboratory sample blanching of Medium Kernels from Martin County, NC, 2009	18
17.	Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk), VA and Martin County, NC, 2009	19
18.	Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk), VA and Martin County, NC, Two years averages (2008-2009).....	20
19.	Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk), VA and Martin County, NC. Three years averages (2007-2009).....	21
20.	Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Tidewater AREC (Suffolk), VA, Planting Date 1, 2009	22
21.	Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Tidewater AREC (Suffolk), VA, Planting Date 2, 2009	24
22.	Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Tidewater AREC (Suffolk), VA, Planting Date 3, 2009	26
23.	Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Tidewater AREC (Suffolk), VA, average of all Planting Dates, 2009	28
24.	Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Southampton County, Virginia, 2009	30
25.	Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Martin County, NC, Planting Date 1, 2009.....	32

List of tables continued

26. Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Martin County, NC, Planting Date 2, 2009..... 34

27. Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Martin County, NC, Average of all Planting Date, 2009..... 36

28. Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Rocky Mount, NC, 2009 38

29. Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Whiteville, NC, 2009 40

30. Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Florence, SC, 2009..... 42

31. Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Averaged across all locations, 2009 44

32. Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Averaged across Tidewater AREC (Suffolk), VA & Martin County, NC. Two years averages (2008- 2009) 46

33. Fatty Acid Composition, Iodine Values, Oleic/Linoleic (O/L) Ratio, % Total Saturated, Polyunsaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Averaged across Tidewater AREC (Suffolk), VA & Martin County, NC. Three years averages (2007- 2009) 48

34. Calcium Content (ppm) in kernels from PVQE small plots in 2009 50

35. Calcium Content (ppm) in kernels from PVQE small plots at Tidewater AREC (Suffolk), VA 51

36. Calcium Content (ppm) in kernels from PVQE small plots at Martin Co., NC 52

37. Increase Plot Data from farmers’ stock peanuts, 2009 54

38. Mill Outturn from Increase Plots Straight Shelling, 2009 55

39. Mill Outturn from Increase Plots with Jumbo and Fancy Pods screened Off, 2009 56

40. Grade characteristics of ELK, Med., and No. 1’s from Straight Shelling Increase Plots, 2009 58

41. Grade characteristics of ELK, Med., and No. 1’s from Shelling Increase Plots with Jumbo and Fancy Screened Off, 2009 59

42. Seed Size Distribution Based on Farmers’ Stock Peanuts from Tidewater AREC (Suffolk), VA Martin County, NC, 2009 60

43. Grade Percentages and Characteristics of Jumbo, 2009 62

44. Grade Percentages and Characteristics of Fancy, 2009 62

45. Processor Evaluation (Royal Oak Peanuts) of jumbo size peanuts for roasting-in-the-shell, 2009 63

46. Processor Evaluation (Royal Oak Peanuts) of fancy size peanuts for roasting-in-the-shell, 2009..... 63

47. Processor Evaluation (Feridies) of peanuts for roasting-in-the-shell, 2009 64

48. Processor Evaluation (Wakefield) of peanuts for roasting-in-the-shell, 2009..... 64

49. Processor Evaluation (Hubbard Peanut Co., Inc.) of peanuts for roasting-in-the-shell, 2009..... 65

50. Taste test panel results of Jumbo and Fancy peanuts roasted-in-the-shell, 2009 65

List of Pictures

1. Kernels of CHAMPS (left) and VT 024051 (right) at grading 54
2. Jumbo pods of CHAMPS and VT 024051 from farmer's stock of Increase plots in 2009..... 57
3. Fancy pods of CHAMPS and VT 024051 from farmer's stock of Increase plots in 2009 61

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 10 Virginia-type cultivars that currently are on the market and 20 advanced breeding lines tested in the Peanut Variety and Quality Evaluation (PVQE) small and increased plots in 2009. The small PVQE plots with 30 varieties were tested at six locations in Virginia, North Carolina, and South Carolina: Suffolk, VA, Southampton Co., VA, Martin Co., NC, Rocky Mount, NC, Whiteville, NC, and Florence, SC. At Suffolk three and at Martin Co., NC, two planting dates were achieved. For the other locations, only one planting date was done. Each genotype was replicated 3 times at each location and planting date. Varieties' names and pedigree are presented in Table 1. The PVQE increased plots contained only two varieties: CHAMPS, as a check cultivar, and VT 024051, a VT line proposed for release. Increase plots were approximately 0.5 A for each variety at the Tidewater Agricultural Research and Extension Center (AREC), Suffolk, VA, and Martin Co., NC. A detailed description of the plant material, test locations, weather conditions, and cultural practices is included in the PVQE 2009 Results. I. Agronomic and Grade Data, at <http://pubs.ext.vt.edu/3001/3001-1432/3001-1432.html>.

2009 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 8 contain blanching data for the extra large kernels (ELK) from these locations sorted by variety: commercial cultivar, VT line, and NCSU line. Means of both locations for ELK blanching are included in Table 9 for 2009, Table 10 for 2008 and 2009, and Table 11 for 2007-2009 combined. Similarly, we included in Tables 12 through 19 blanching results of medium size kernels. Statistical analyses 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 2009.

Genotype Number	Variety or Line	Pedigree
1	NC-V 11	Florigiant / NC 5 // Florigiant / Valencia
2	Gregory	NC 7 / NC 9
3	Perry	NC 7 / Florigiant // N90021
4	CHAMPS	VA 8911215 / VA-C 92R
5	Phillips	N90014E / N91024
6	Bailey	NC 12C*2 / N96076L
7	Georgia 08V	C99R / GA Hi-O/L
8	Florida Fancy	F87 x 8-2-1 / F 85410 / 93Q10
9	VA 98R	VA 81B x VA 780839P
10	Sugg	Gregory // X98006 (F1)
11	VT 024077	Wilson*2 / N95003C
12	VT 004152	N91054E / VA 901082
13	VT 003194	N93008 / VA 901082
14	VT 003069	N91004E / VA 93B
15	VT 003191	N92037 / VA 93B
16	VT 003192	N92037 / VA 901082
17	VT 003200	N93008 / VT 940419P
18	VT 024024	NC 12C / Wilson
19	VT 023117	VA 98R // X98025 (F1), Wilson / N95003C
20	VT 024051	VA 98R // X98011 (F1), Perry / N96076L
21	N03023EF	VA 98R / X98011 (F1)
22	N04074FCT	N97070 / N96029
23	N05006	NC-V 11 // Ga. Green / NC-V 11
24	N05007	Ga. Green // NC-V 11 / Ga. Green
25	N05008	Ga. Green // NC-V 11 / Ga. Green
26	N05018	N97137C / N98002
27	N03088T	NC 12C*2 / N96076L
28	N05024J	N98002 / N97140C
29	N05049J	N98002 / N99121CSm
30	HST 02-08	NC 6 / 90 APS 15

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:

$$\text{Iodine Value} = (\% \text{ oleic}) (0.8601) + (\% \text{ linoleic}) (1.7321) + (\% \text{ eicosenoic}) (0.7854)$$

$$\text{Oleic/Linoleic (O/L) ratio} = \% \text{ oleic} / \% \text{ linoleic}$$

$$\% \text{ Total Saturated} = \% \text{ palmitic} + \% \text{ stearic} + \% \text{ arachidic} + \% \text{ behenic} + \% \text{ lignoceric}$$

$$\text{Polyunsaturated/Saturated (P/S) ratio} = \% \text{ polyunsaturated (linoleic)} / \% \text{ total saturated}$$

$$\% \text{ Total Long Chain Saturated} = \% \text{ arachidic} + \% \text{ behenic} + \% \text{ lignoceric}$$

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 2009 PVQE locations and planting dates in Tables 20 through 33. Table 31 shows the content of the fatty acids averaged across all locations in 2009. Two- and three-year averages are included in Tables 32 and 33. In 2009, location and genotype had a significant effect on the fatty acid content. However, the genotype \times location interaction was significant only for the palmitic and stearic acid. Their content was highest at Martin Co., the driest location. This may be an indication that these two fatty acids could be involved in genotypes' adaptation to their growing conditions such as drought and heat.

Calcium content (ppm) of seeds of each genotype was determined and presented in Tables 34 to 36 for each location and planting dates.

Blanching Results

Table 2. Laboratory sample blanching of Extra Large Kernels (ELK) from Tidewater AREC (Suffolk) VA, Planting Date 1, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.50	4.60	2.70	1.40	90.00	0.00	5.90
Gregory	5.40	4.50	2.10	1.00	95.00	0.00	1.90
Perry	5.50	4.60	2.30	1.10	94.50	0.00	2.10
CHAMPS	5.50	4.50	1.90	0.20	96.50	0.00	1.40
Phillips	5.30	4.50	2.40	0.30	95.30	0.00	2.00
Bailey	5.70	4.70	1.60	2.00	94.20	0.00	2.20
Georgia 08V	5.50	4.50	2.50	2.90	93.30	0.00	1.30
Florida Fancy	5.60	4.70	2.90	1.50	93.90	0.00	1.70
VA 98R	5.60	4.50	2.30	0.80	95.50	0.00	1.40
Sugg	5.30	4.40	1.40	0.60	97.00	0.00	1.00
VT 024077	5.70	4.60	2.50	0.70	94.90	0.00	1.90
VT 004152	5.60	4.70	1.80	0.80	86.80	0.00	10.60
VT 003194	5.70	4.70	2.80	2.20	90.20	0.00	4.80
VT 003069	5.40	4.80	2.20	0.80	96.50	0.00	0.50
VT 003191	5.60	4.60	2.30	0.00	95.20	0.00	2.50
VT 003192	5.70	4.60	2.60	0.90	94.00	0.00	2.50
VT 003200	5.60	4.50	1.60	2.10	89.90	0.00	6.40
VT 024024	5.60	4.50	2.20	0.90	91.90	0.00	5.00
VT 023117	5.60	4.60	1.90	0.50	94.90	0.00	2.70
VT 024051	5.20	4.40	2.00	0.40	90.40	0.00	7.20
N03023EF	5.70	4.70	2.20	1.10	94.40	0.00	2.30
N04074FCT	5.50	4.60	2.60	0.60	95.80	0.00	1.00
N05006	5.60	4.60	2.40	0.90	92.40	0.00	4.30
N05007	5.60	4.70	1.70	0.50	88.20	0.00	9.60
N05008	5.70	4.60	1.70	1.80	83.50	0.20	12.80
N05018	5.40	4.50	2.50	1.50	95.20	0.00	0.80
N03088T	5.20	4.50	1.90	0.30	94.30	0.00	3.50
N05024J	5.30	4.40	1.50	0.40	96.50	0.00	1.60
N05049J	5.50	4.50	2.10	1.10	96.20	0.00	0.60
HST 02-08	5.40	4.50	2.30	2.00	93.80	0.00	1.90
Mean	5.52	4.57	2.16	1.04	93.34	0.01	3.45

Blanching Results

Table 3. Laboratory sample blanching of Extra Large Kernels (ELK) from Tidewater AREC (Suffolk) VA, Planting Date 2, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.60	4.60	1.40	0.30	87.00	0.00	11.30
Gregory	5.40	4.50	2.00	0.10	93.90	0.00	4.00
Perry	5.30	4.40	1.00	0.10	92.10	0.00	6.80
CHAMPS	5.40	4.50	1.60	0.50	93.30	0.00	4.60
Phillips	5.20	4.50	2.30	0.00	95.90	0.00	1.80
Bailey	5.40	4.40	1.60	0.90	88.40	0.10	9.00
Georgia 08V	5.30	4.50	1.70	13.20	78.30	0.00	6.80
Florida Fancy	5.50	4.60	2.00	2.70	91.40	0.00	3.90
VA 98R	5.40	4.40	2.50	0.40	95.30	0.00	1.80
Sugg	5.50	4.60	2.60	0.50	92.90	0.00	4.00
VT 024077	5.40	4.60	2.10	0.90	92.80	0.00	4.20
VT 004152	5.30	4.50	2.30	0.60	89.20	0.00	7.90
VT 003194	5.30	4.50	1.70	0.40	92.80	0.00	5.10
VT 003069	5.50	4.60	2.40	0.20	94.80	0.00	2.60
VT 003191	5.50	4.60	1.70	0.40	84.80	0.00	13.10
VT 003192	5.50	4.60	2.60	0.40	87.40	0.00	9.60
VT 003200	5.40	4.50	2.70	0.10	93.50	0.00	3.70
VT 024024	5.40	4.50	1.30	0.60	92.90	0.00	5.20
VT 023117	5.40	4.40	1.80	0.80	93.80	0.00	3.60
VT 024051	5.30	4.60	2.60	1.00	90.80	0.00	5.60
N03023EF	5.40	4.50	2.10	1.30	93.30	0.00	3.30
N04074FCT	5.40	4.50	1.10	0.00	84.90	0.00	14.00
N05006	5.50	4.60	2.10	0.00	81.90	0.00	16.00
N05007	5.30	4.50	1.20	1.00	89.80	0.00	8.00
N05008	5.50	4.60	2.30	1.80	79.00	0.00	16.90
N05018	5.50	4.60	3.50	0.40	90.00	0.00	6.10
N03088T	5.30	4.40	2.90	0.90	91.50	0.10	4.60
N05024J	5.60	4.60	2.70	1.20	93.30	0.00	2.80
N05049J	5.40	4.50	2.10	0.30	97.30	0.00	0.30
HST 02-08	5.40	4.60	1.60	1.50	84.50	0.00	12.40
Mean	5.41	4.53	2.05	1.08	90.23	0.01	6.63

Blanching Results

Table 4. Laboratory sample blanching of Extra Large Kernels (ELK) from Tidewater AREC (Suffolk) VA, Planting Date 3, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.40	4.50	0.60	1.70	91.00	0.00	6.70
Gregory	5.30	4.50	1.50	1.40	92.90	0.00	4.20
Perry	5.40	4.60	2.60	1.30	92.40	0.00	3.70
CHAMPS	5.40	4.50	1.50	0.00	95.20	0.00	3.30
Phillips	5.40	4.50	2.00	3.50	94.30	0.00	0.20
Bailey	5.40	4.60	1.50	0.40	96.10	0.00	2.00
Georgia 08V	5.40	4.50	2.10	7.90	87.60	0.00	2.40
Florida Fancy	5.50	4.60	1.70	4.70	90.70	0.00	2.90
VA 98R	5.50	4.60	1.70	0.90	93.70	0.00	3.70
Sugg	5.50	4.60	2.20	1.30	94.70	0.00	1.80
VT 024077	5.40	4.50	2.30	2.30	90.00	0.00	5.40
VT 004152	5.40	4.50	1.60	1.50	89.00	0.00	7.90
VT 003194	5.40	4.60	1.50	2.60	92.40	0.00	3.50
VT 003069	5.30	4.50	1.50	2.20	92.20	0.00	4.10
VT 003191	5.30	4.60	1.40	2.30	89.00	0.00	7.30
VT 003192	5.60	4.60	2.50	1.40	92.00	0.00	4.10
VT 003200	5.50	4.70	1.60	1.60	93.30	0.00	3.50
VT 024024	5.50	4.60	2.00	2.00	91.40	0.00	4.60
VT 023117	5.50	4.60	1.40	2.00	93.40	0.00	3.20
VT 024051	5.60	4.60	2.40	0.70	93.80	0.00	3.10
N03023EF	5.40	4.50	1.20	0.60	95.40	0.00	2.80
N04074FCT	5.50	4.60	1.60	1.00	92.30	0.00	5.10
N05006	5.40	4.60	2.30	1.90	90.00	0.00	5.80
N05007	5.30	4.50	1.50	0.60	77.90	0.00	20.00
N05008	5.30	4.50	1.40	1.90	88.80	0.00	7.90
N05018	5.50	4.70	0.70	1.70	92.00	0.00	5.60
N03088T	5.50	4.60	2.30	3.00	92.00	0.00	2.70
N05024J	5.40	4.60	1.80	3.30	92.70	0.00	2.20
N05049J	5.20	4.70	1.90	1.50	92.90	0.00	3.70
HST 02-08	5.30	4.50	1.70	4.50	83.80	0.00	10.00
Mean	5.42	4.57	1.73	2.06	91.43	0.00	4.78

Blanching Results

Table 5. Laboratory sample blanching of Extra Large Kernels (ELK). Averages of planting dates from Tidewater AREC (Suffolk), VA, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.50 a-c	4.57 a	1.57 bc	1.13 b-d	89.33 c-g	0.00 b	7.97 a-e
Gregory	5.37 bc	4.50 a	1.87 a-c	0.83 b-d	93.93 a-c	0.00 b	3.37 d-h
Perry	5.40 a-c	4.53 a	1.97 a-c	0.83 b-d	93.00 a-d	0.00 b	4.20 b-h
CHAMPS	5.43 a-c	4.50 a	1.67 bc	0.23 d	95.00 ab	0.00 b	3.10 d-h
Phillips	5.30 c	4.50 a	2.23 a-c	1.27 b-d	95.17 a	0.00 b	1.33 h
Bailey	5.50 a-c	4.57 a	1.57 bc	1.10 b-d	92.90 a-d	0.03 ab	4.40 b-h
Georgia 08V	5.40 a-c	4.50 a	2.10 a-c	8.00 a	86.40 f-h	0.00 b	3.50 d-h
Florida Fancy	5.53 ab	4.63 a	2.20 a-c	2.97 b	92.00 a-e	0.00 b	2.83 e-h
VA 98R	5.50 a-c	4.50 a	2.17 a-c	0.70 cd	94.83 ab	0.00 b	2.30 gh
Sugg	5.43 a-c	4.53 a	2.07 a-c	0.80 cd	94.87 ab	0.00 b	2.27 gh
VT 024077	5.50 a-c	4.57 a	2.30 a-c	1.30 b-d	92.60 a-e	0.00 b	3.83 b-h
VT 004152	5.43 a-c	4.57 a	1.90 a-c	0.97 b-d	88.33 d-h	0.00 b	8.80 ab
VT 003194	5.47 a-c	4.60 a	2.00 a-c	1.73 b-d	91.80 a-f	0.00 b	4.47 b-h
VT 003069	5.40 a-c	4.63 a	2.03 a-c	1.07 b-d	94.50 a-c	0.00 b	2.40 gh
VT 003191	5.47 a-c	4.60 a	1.80 a-c	0.90 b-d	89.67 b-g	0.00 b	7.63 a-f
VT 003192	5.60 a	4.60 a	2.57 a	0.90 b-d	91.13 a-f	0.00 b	5.40 b-h
VT 003200	5.50 a-c	4.57 a	1.97 a-c	1.27 b-d	92.23 a-e	0.00 b	4.53 b-h
VT 024024	5.50 a-c	4.53 a	1.83 a-c	1.17 b-d	92.07 a-e	0.00 b	4.93 b-h
VT 023117	5.50 a-c	4.53 a	1.70 a-c	1.10 b-d	94.03 a-c	0.00 b	3.17 d-h
VT 024051	5.37 bc	4.53 a	2.33 a-c	0.70 cd	91.67 a-f	0.00 b	5.30 b-h
N03023EF	5.50 a-c	4.57 a	1.83 a-c	1.00 b-d	94.37 a-c	0.00 b	2.80 f-h
N04074FCT	5.47 a-c	4.57 a	1.77 a-c	0.53 cd	91.00 a-f	0.00 b	6.70 b-g
N05006	5.50 a-c	4.60 a	2.27 a-c	0.93 b-d	88.10 d-h	0.00 b	8.70 a-c
N05007	5.40 a-c	4.57 a	1.47 c	0.70 cd	85.30 gh	0.00 b	12.53 a
N05008	5.50 a-c	4.57 a	1.80 a-c	1.83 b-d	83.77 h	0.07 a	12.53 a
N05018	5.47 a-c	4.60 a	2.23 a-c	1.20 b-d	92.40 a-e	0.00 b	4.17 b-h
N03088T	5.33 bc	4.50 a	2.37 ab	1.40 b-d	92.60 a-e	0.03 ab	3.60 c-h
N05024J	5.43 a-c	4.53 a	2.00 a-c	1.63 b-d	94.17 a-c	0.00 b	2.20 gh
N05049J	5.37 bc	4.57 a	2.03 a-c	0.97 b-d	95.47 a	0.00 b	1.53 h
HST 02-08	5.37 bc	4.53 a	1.87 a-c	2.67 bc	87.37 e-h	0.00 b	8.10 a-d
Mean	5.45	4.56	1.98	1.39	91.67	0.00	4.95
LSD_{0.05}¹	0.21	0.15	0.9	2.15	5.43	0.04	5.16

¹ Least significant difference at 5% probability level.

Blanching Results

Table 6. Laboratory sample blanching of Extra Large Kernels (ELK) from Martin County, NC, Planting Date 1, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.50	4.60	2.10	1.50	91.60	0.00	4.80
Gregory	5.50	4.60	1.27	1.30	95.00	0.00	2.43
Perry	5.30	4.50	2.50	2.00	94.30	0.00	1.20
CHAMPS	5.20	4.50	1.70	1.70	93.00	0.00	3.60
Phillips	5.30	4.50	2.20	3.50	93.40	0.00	0.90
Bailey	5.30	4.60	1.60	0.00	85.90	0.00	12.50
Georgia 08V	5.40	4.50	1.80	5.30	89.90	0.00	3.00
Florida Fancy	5.40	4.50	2.50	2.20	93.40	0.00	1.90
VA 98R	5.40	4.60	1.50	1.10	92.00	0.00	5.40
Sugg	5.30	4.50	1.70	0.30	84.90	0.00	13.10
VT 024077	5.20	4.50	2.20	0.20	92.80	0.00	4.80
VT 004152	5.30	4.60	2.50	2.00	87.90	0.00	7.60
VT 003194	5.40	4.60	2.10	1.90	95.60	0.00	0.40
VT 003069	5.20	4.40	1.80	0.20	92.00	0.00	6.00
VT 003191	5.40	4.60	2.40	1.80	90.70	0.00	5.10
VT 003192	5.30	4.50	2.40	0.30	90.00	0.00	7.30
VT 003200	5.30	4.60	2.80	2.40	91.10	0.00	3.70
VT 024024	5.30	4.50	0.40	0.20	88.40	0.00	11.00
VT 023117	5.20	4.50	1.60	2.00	94.20	0.00	2.20
VT 024051	5.20	4.50	1.70	0.20	91.50	0.00	6.60
N03023EF	5.30	4.50	2.10	0.30	92.40	0.00	5.20
N04074FCT	5.20	4.40	1.80	0.90	84.40	0.00	12.90
N05006	5.30	4.50	1.50	1.00	93.60	0.00	3.90
N05007	5.40	4.50	0.60	0.10	72.80	0.00	26.50
N05008	5.40	4.50	1.80	1.60	78.90	0.00	17.70
N05018	5.40	4.60	2.10	1.90	94.20	0.00	1.80
N03088T	5.30	4.60	2.40	2.80	92.00	0.00	2.80
N05024J	5.30	4.50	2.60	3.20	91.60	0.10	2.50
N05049J	5.20	4.50	2.70	2.60	92.70	0.00	2.00
HST 02-08	5.40	4.60	2.20	3.30	80.50	0.00	14.00
Mean	5.32	4.53	1.95	1.59	90.02	0.00	6.43

Blanching Results

Table 7. Laboratory sample blanching of Extra Large Kernels (ELK) from Martin County, NC, Planting Date 2, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.30	4.60	2.60	2.40	87.20	0.00	7.80
Gregory	5.30	4.50	1.80	0.20	93.60	0.00	4.40
Perry	5.30	4.60	2.20	1.00	95.30	0.00	1.50
CHAMPS	5.40	4.50	1.60	0.80	91.80	0.00	5.80
Phillips	5.40	4.60	1.80	2.00	95.30	0.00	0.90
Bailey	5.40	4.50	2.00	1.70	91.90	0.00	4.40
Georgia 08V	5.20	4.50	1.50	7.00	77.70	0.30	13.50
Florida Fancy	5.30	4.60	2.50	3.30	90.20	0.00	4.00
VA 98R	5.20	4.50	1.80	0.60	93.90	0.00	3.70
Sugg	5.50	4.50	2.40	1.70	92.70	0.00	3.20
VT 024077	5.40	4.60	2.30	2.20	91.00	0.00	4.50
VT 004152	5.30	4.50	2.00	0.90	86.80	0.00	10.30
VT 003194	5.30	4.60	2.20	2.00	93.90	0.00	1.90
VT 003069	5.30	4.60	1.60	1.10	93.50	0.00	3.80
VT 003191	5.40	4.50	2.30	0.20	92.90	0.00	4.60
VT 003192	5.40	4.60	2.30	2.30	92.80	0.00	2.60
VT 003200	5.20	4.60	1.20	1.30	88.00	0.00	9.50
VT 024024	5.30	4.60	2.20	0.70	90.70	0.00	6.40
VT 023117	5.30	4.50	2.30	0.30	92.20	0.00	5.20
VT 024051	5.30	4.50	2.10	0.00	85.90	0.00	12.00
N03023EF	5.50	4.60	2.30	0.50	94.20	0.00	3.00
N04074FCT	5.40	4.60	2.00	0.00	80.00	0.00	18.00
N05006	5.20	4.60	1.60	0.60	89.80	0.00	8.00
N05007	5.20	4.60	1.40	2.00	76.70	0.00	19.90
N05008	5.30	4.60	2.00	1.40	71.90	0.00	24.70
N05018	5.40	4.50	2.10	1.40	95.80	0.00	0.70
N03088T	5.40	4.60	2.00	0.40	93.30	0.00	4.30
N05024J	5.40	4.60	1.80	0.70	96.30	0.00	1.20
N05049J	5.30	4.50	2.70	0.50	95.40	0.00	1.40
HST 02-08	5.30	4.60	2.80	3.30	80.70	0.00	13.20
Mean	5.33	4.56	2.05	1.42	89.71	0.01	6.81

Blanching Results

Table 8. Laboratory sample blanching of Extra Large Kernels (ELK). Averages of planting dates from Martin County, NC, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.40 a	4.60 a	2.35 a-c	1.95 b-d	89.40 a-e	0.00 b	6.30 e-h
Gregory	5.40 a	4.55 a	1.55 c-e	0.75 d	94.30 a-c	0.00 b	3.40 e-h
Perry	5.30 a	4.55 a	2.35 a-c	1.50 b-d	94.80 a	0.00 b	1.35 h
CHAMPS	5.30 a	4.55 a	1.65 c-e	1.25 cd	92.40 a-d	0.00 b	4.70 e-h
Phillips	5.35 a	4.55 a	2.00 a-d	2.75 bc	94.35 a-c	0.00 b	0.90 h
Bailey	5.35 a	4.55 a	1.80 b-e	0.85 cd	88.90 b-e	0.00 b	8.45 d-f
Georgia 08V	5.30 a	4.55 a	1.65 c-e	6.15 a	83.80 e-g	0.15 a	8.25 d-f
Florida Fancy	5.35 a	4.55 a	2.50 ab	2.75 bc	91.80 a-d	0.00 b	2.95 f-h
VA 98R	5.30 a	4.55 a	1.65 c-e	0.85 cd	92.95 a-d	0.00 b	4.55 e-h
Sugg	5.40 a	4.50 a	2.05 a-d	1.00 cd	88.80 c-e	0.00 b	8.15 d-g
VT 024077	5.30 a	4.55 a	2.25 a-c	1.20 cd	91.90 a-d	0.00 b	4.65 e-h
VT 004152	5.30 a	4.55 a	2.25 a-c	1.45 b-d	87.35 d-f	0.00 b	8.95 d-f
VT 003194	5.35 a	4.60 a	2.15 a-c	1.95 b-d	94.75 ab	0.00 b	1.15 h
VT 003069	5.25 a	4.50 a	1.70 b-e	0.65 d	92.75 a-d	0.00 b	4.90 e-h
VT 003191	5.40 a	4.55 a	2.35 a-c	1.00 cd	91.80 a-d	0.00 b	4.85 e-h
VT 003192	5.35 a	4.55 a	2.35 a-c	1.30 cd	91.40 a-d	0.00 b	4.95 e-h
VT 003200	5.25 a	4.60 a	2.00 a-d	1.85 b-d	89.55 a-e	0.00 b	6.60 e-h
VT 024024	5.30 a	4.55 a	1.30 de	0.45 d	89.55 a-e	0.00 b	8.70 d-f
VT 023117	5.25 a	4.50 a	1.95 a-d	1.15 cd	93.20 a-d	0.00 b	3.70 e-h
VT 024051	5.25 a	4.50 a	1.90 a-d	0.10 d	88.70 c-e	0.00 b	9.30 c-e
N03023EF	5.40 a	4.55 a	2.20 a-c	0.40 d	93.30 a-c	0.00 b	4.10 e-h
N04074FCT	5.30 a	4.50 a	1.90 a-d	0.45 d	82.20 fg	0.00 b	15.45 bc
N05006	5.25 a	4.55 a	1.55 c-e	0.80 d	91.70 a-d	0.00 b	5.95 e-h
N05007	5.30 a	4.55 a	1.00 e	1.05 cd	74.75 h	0.00 b	23.20 a
N05008	5.35 a	4.55 a	1.90 a-d	1.50 b-d	75.40 h	0.00 b	21.20 ab
N05018	5.40 a	4.55 a	2.10 a-d	1.65 b-d	95.00 a	0.00 b	1.25 h
N03088T	5.35 a	4.60 a	2.20 a-c	1.60 b-d	92.65 a-d	0.00 b	3.55 e-h
N05024J	5.35 a	4.55 a	2.20 a-c	1.95 b-d	93.95 a-c	0.05 b	1.85 gh
N05049J	5.25 a	4.50 a	2.70 a	1.55 b-d	94.05 a-c	0.00 b	1.70 h
HST 02-08	5.35 a	4.60 a	2.50 ab	3.30 b	80.60 gh	0.00 b	13.60 cd
Mean	5.33	4.55	2.00	1.51	89.87	0.01	6.62
LSD_{0.05}¹	0.20	0.13	0.85	1.93	5.86	0.08	6.32

¹ Least significant difference at 5% probability level.

Blanching Results

Table 9. Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk) VA and Martin County, NC, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.46 ab	4.58 ab	1.88 a-d	1.46 cd	89.36 f-h	0.00 b	7.30 b-e
Gregory	5.38 ab	4.52 ab	1.74 b-d	0.80 cd	94.08 a-c	0.00 b	3.38 d-h
Perry	5.36 ab	4.54 ab	2.12 a-c	1.10 cd	93.70 a-d	0.00 b	3.06 e-h
CHAMPS	5.38 ab	4.50 b	1.66 cd	0.64 cd	93.96 a-c	0.00 b	3.74 d-h
Phillips	5.32 b	4.52 ab	2.14 a-c	1.86 bc	94.84 ab	0.00 b	1.16 h
Bailey	5.44 ab	4.56 ab	1.66 cd	1.00 cd	91.30 a-g	0.02 ab	6.02 b-g
Georgia 08V	5.36 ab	4.50 b	1.92 a-c	7.26 a	85.36 h-j	0.06 a	5.40 c-h
Florida Fancy	5.46 ab	4.60 a	2.32 ab	2.88 b	91.90 a-f	0.00 b	2.88 f-h
VA 98R	5.42 ab	4.52 ab	1.98 a-c	0.76 cd	94.08 a-c	0.00 b	3.20 e-h
Sugg	5.42 ab	4.52 ab	2.07 a-c	0.88 cd	92.44 a-e	0.00 b	4.62 c-h
VT 024077	5.42 ab	4.56 ab	2.28 ab	1.26 cd	92.30 a-e	0.00 b	4.16 d-h
VT 004152	5.38 ab	4.56 ab	2.04 a-c	1.16 cd	87.94 g-i	0.00 b	8.86 bc
VT 003194	5.42 ab	4.60 a	2.06 a-c	1.82 b-d	92.98 a-e	0.00 b	3.14 e-h
VT 003069	5.34 ab	4.58 ab	1.90 a-c	0.90 cd	93.80 a-d	0.00 b	3.40 d-h
VT 003191	5.44 ab	4.58 ab	2.02 a-c	0.94 cd	90.52 b-g	0.00 b	6.52 b-f
VT 003192	5.50 a	4.58 ab	2.48 a	1.06 cd	91.24 a-g	0.00 b	5.22 c-h
VT 003200	5.40 ab	4.58 ab	1.98 a-c	1.50 cd	91.16 a-g	0.00 b	5.36 c-h
VT 024024	5.42 ab	4.54 ab	1.62 cd	0.88 cd	91.06 b-g	0.00 b	6.44 b-f
VT 023117	5.40 ab	4.52 ab	1.80 b-d	1.12 cd	93.70 a-d	0.00 b	3.38 d-h
VT 024051	5.32 b	4.52 ab	2.16 a-c	0.46 cd	90.48 c-g	0.00 b	6.90 b-f
N03023EF	5.46 ab	4.56 ab	1.98 a-c	0.76 cd	93.94 a-c	0.00 b	3.32 d-h
N04074FCT	5.40 ab	4.54 ab	1.82 b-d	0.50 cd	87.48 g-i	0.00 b	10.20 b
N05006	5.40 ab	4.58 ab	1.98 a-c	0.88 cd	89.54 d-g	0.00 b	7.60 b-d
N05007	5.36 ab	4.56 ab	1.28 d	0.84 cd	81.08 jk	0.00 b	16.80 a
N05008	5.44 ab	4.56 ab	1.84 b-d	1.70 b-d	80.42 k	0.04 ab	16.00 a
N05018	5.44 ab	4.58 ab	2.18 a-c	1.38 cd	93.44 a-e	0.00 b	3.00 e-h
N03088T	5.34 ab	4.54 ab	2.30 ab	1.48 cd	92.62 a-e	0.02 ab	3.58 d-h
N05024J	5.40 ab	4.54 ab	2.08 a-c	1.76 b-d	94.08 a-c	0.02 ab	2.06 gh
N05049J	5.32 b	4.54 ab	2.30 ab	1.20 cd	94.90 a	0.00 b	1.60 h
HST 02-08	5.36 ab	4.56 ab	2.12 a-c	2.92 b	84.66 jk	0.00 b	10.30 b
Mean	5.40	4.55	1.99	1.44	90.95	0.00	5.62
LSD_{0.05}¹	0.16	0.10	0.60	1.40	4.30	0.00	4.40

¹ Least significant difference at 5% probability level.

Blanching Results

Table 10. Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk) VA, and Martin County, NC. Two-year averages (2008- 2009)¹.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.65 ab	4.72 a	1.32 ab	7.09 a	85.59 a-f	0.02 b	4.82 fg
Gregory	5.66 ab	4.71 a	1.29 ab	4.19 a-d	90.19 a	0.06 b	3.32 g
Perry	5.59 ab	4.77 a	1.35 ab	6.95 a	87.08 a-f	0.03 b	3.36 g
CHAMPS	5.69 ab	4.75 a	1.24 ab	4.39 a-d	87.99 a-d	0.03 b	5.25 d-g
Phillips	5.59 ab	4.76 a	1.34 ab	5.82 a-d	88.84 a-d	0.03 b	2.49 g
Bailey	5.78 a	4.80 a	1.28 ab	6.13 ab	88.42 a-d	0.04 b	3.25 g
Florida Fancy	5.70 ab	4.80 a	1.71 a	5.56 a-d	89.11 a-c	0.00 b	2.81 g
VA 98R	5.59 ab	4.69 a	1.31 ab	5.65 a-d	86.23 a-f	0.02 b	5.73 d-g
Sugg	5.64 ab	4.75 a	1.34 ab	5.18 a-d	87.59 a-e	0.03 b	4.85 fg
VT 024077	5.68 ab	4.83 a	1.39 ab	4.17 a-d	87.62 a-e	0.03 b	5.72 d-g
VT 004152	5.73 ab	4.74 a	1.67 ab	3.04 b-d	85.74 a-f	0.00 b	8.87 b-d
VT 003194	5.59 ab	4.83 a	1.24 ab	5.42 a-d	89.37 ab	0.02 b	2.53 g
VT 003069	5.59 ab	4.76 a	1.27 ab	4.74 a-d	88.53 a-d	0.02 b	4.35 g
VT 024024	5.71 ab	4.76 a	1.27 ab	3.84 b-d	84.04 d-g	0.00 b	10.32 a-c
VT 024051	5.60 ab	4.76 a	1.27 ab	4.63 a-d	84.13 c-g	0.03 b	8.69 b-e
N04074FCT	5.71 ab	4.76 a	1.27 ab	2.73 cd	82.75 e-g	0.22 a	11.89 ab
N05006	5.43 b	4.67 a	1.41 ab	4.86 a-d	84.60 b-g	0.04 b	8.23 c-f
N05007	5.67 ab	4.73 a	1.20 b	2.60 d	82.48 fg	0.00 b	13.06 a
N05008	5.61 ab	4.75 a	1.25 ab	4.87 a-d	79.61 g	0.05 b	13.23 a
N05018	5.70 ab	4.78 a	1.66 ab	5.99 a-c	88.59 a-d	0.00 b	3.01 g
N03088T	5.72 ab	4.81 a	1.49 ab	5.17 a-d	87.68 a-e	0.04 b	4.49 g
N05024J	5.62 ab	4.72 a	1.36 ab	7.12 a	85.19 a-f	0.04 b	5.12 e-g
N05049J	5.58 ab	4.69 a	1.48 ab	5.39 a-d	89.72 a	0.03 b	2.68 g
Mean	5.64	4.75	1.4	5.0	86.6	0.0	6.0
LSD_{0.05}¹	0.31	0.18	0.5	3.3	5.1	0.1	3.7

¹ Least significant difference at 5% probability level.

Blanching Results

Table 11. Laboratory sample blanching of Extra Large Kernels (ELK). Averages from Tidewater AREC (Suffolk) VA, and Martin County, NC. Three-year averages (2007- 2009).

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.65 ab	4.72 a	1.32 a	7.09 a	85.59 a-e	0.02 b	4.82 de
Gregory	5.66 ab	4.71 a	1.29 a	4.19 ab	90.19 a	0.06 b	3.32 e
Perry	5.59 ab	4.77 a	1.35 a	6.95 a	87.08 a-e	0.03 b	3.36 e
CHAMPS	5.68 ab	4.75 a	1.24 a	4.39 ab	87.68 a-e	0.03 b	5.25 c-e
Phillips	5.59 ab	4.76 a	1.34 a	5.82 ab	88.84 a-d	0.03 b	2.49 e
Bailey	5.78 a	4.80 a	1.28 a	6.13 a	88.42 a-d	0.04 b	3.25 e
VA 98R	5.58 ab	4.68 a	1.31 a	5.65 ab	86.23 a-e	0.02 b	5.73 c-e
Sugg	5.64 ab	4.75 a	1.34 a	5.18 ab	87.59 a-e	0.03 b	4.85 de
VT 024077	5.68 ab	4.83 a	1.39 a	4.17 ab	87.62 a-e	0.03 b	5.72 c-e
VT 003194	5.59 ab	4.83 a	1.24 a	5.42 ab	89.37 a-c	0.02 b	2.53 e
VT 003069	5.59 ab	4.75 a	1.27 a	4.74 ab	88.53 a-d	0.02 b	4.35 e
VT 024051	5.60 ab	4.76 a	1.27 a	4.63 ab	84.13 d-f	0.03 b	8.69 bc
N04074FCT	5.71 ab	4.76 a	1.27 a	2.73 b	82.75 ef	0.22 a	11.89 ab
N05006	5.43 b	4.67 a	1.41 a	4.86 ab	84.60 c-e	0.04 b	8.23 cd
N05008	5.62 ab	4.75 a	1.25 a	5.87 ab	79.61 f	0.05 b	13.23 a
N03088T	5.72 ab	4.81 a	1.49 a	5.17 ab	87.68 a-e	0.04 b	4.49 e
N05024J	5.62 ab	4.72 a	1.36 a	7.12 a	85.19 b-e	0.04 b	5.12 de
N05049J	5.58 ab	4.68 a	1.48 a	5.39 ab	89.72 ab	0.03 b	2.68 e
Mean	5.63	4.75	1.3	5.31	86.71	0.04	5.56
LSD_{0.05}¹	0.30	0.17	0.5	3.27	4.98	0.11	3.48

¹ Least significant difference at 5% probability level.

Blanching Results

Table 12. Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk) VA, Planting Date 1, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.40	4.40	0.5	5.50	90.20	1.40	2.40
Gregory	5.70	5.00	0.8	3.80	83.60	2.00	9.80
Perry	5.40	4.40	2.1	5.00	82.80	2.30	7.80
CHAMPS	5.50	4.50	1.3	3.30	84.40	1.90	9.10
Phillips	5.60	4.60	1.3	4.00	83.20	1.60	9.90
Bailey	5.60	4.80	1.3	4.40	83.90	2.00	8.40
Georgia 08V	5.60	4.70	0.5	2.90	80.10	2.10	14.40
Florida Fancy	5.40	4.40	0.5	6.30	86.70	2.60	4.90
VA 98R	5.60	4.50	1.3	1.90	90.80	1.60	4.40
Sugg	5.60	4.80	1.0	2.80	86.30	1.40	8.50
VT 024077	5.60	4.40	2.8	3.80	85.70	1.10	6.60
VT 004152	5.60	4.80	0.9	3.00	78.20	0.80	17.10
VT 003194	5.50	4.50	2.2	4.00	88.00	0.90	4.90
VT 003069	5.60	4.70	1.7	0.90	68.10	3.20	26.10
VT 003191	5.50	4.90	1.4	3.90	87.70	1.60	5.40
VT 003192	5.60	4.50	0.6	2.70	89.10	0.80	6.80
VT 003200	5.60	4.90	0.6	4.90	86.50	1.80	6.20
VT 024024	5.50	4.70	0.7	3.80	89.10	1.80	4.60
VT 023117	5.60	4.00	1.3	3.30	89.80	1.20	4.40
VT 024051	5.40	1.10	1.5	1.90	87.10	1.70	7.80
N03023EF	5.60	4.90	1.3	0.30	86.40	0.00	12.00
N04074FCT	5.50	4.60	1.5	1.95	80.40	2.20	13.90
N05006	5.70	4.30	1.4	2.30	86.40	1.30	8.60
N05007	5.60	4.50	1.1	1.90	83.40	2.20	11.40
N05008	5.50	4.60	1.2	2.10	84.90	1.80	10.00
N05018	5.50	4.50	1.0	5.10	85.20	1.80	6.90
N03088T	5.30	4.50	1.0	2.10	89.00	2.60	5.30
N05024J	5.40	4.40	1.3	2.60	80.00	1.60	14.50
N05049J	5.50	4.50	1.3	5.30	88.80	2.00	2.60
HST 02-08	5.30	4.40	1.3	6.80	76.60	4.10	11.20
Mean	5.53	4.46	1.19	3.42	84.75	1.78	8.86

Blanching Results

Table 13. Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk) VA, Planting Date 2, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.50	4.70	2.00	2.30	90.00	0.20	5.50
Gregory	5.40	4.70	0.70	3.80	77.00	2.70	15.80
Perry	5.30	4.50	1.80	1.30	91.00	0.00	5.90
CHAMPS	5.50	4.60	2.50	1.10	85.90	0.00	10.50
Phillips	5.50	4.70	1.30	1.50	88.90	0.40	7.90
Bailey	5.40	4.60	2.00	2.00	88.20	0.00	7.80
Georgia 08V	5.40	4.60	0.40	10.70	71.70	2.60	14.60
Florida Fancy	5.40	4.60	1.80	1.90	88.90	1.40	6.00
VA 98R	5.50	4.70	0.80	1.50	90.80	0.00	6.90
Sugg	5.50	4.70	1.80	3.00	82.80	0.20	12.20
VT 024077	5.40	4.60	1.20	1.80	77.60	1.40	18.00
VT 004152	5.30	4.70	2.22	2.40	70.40	1.00	4.00
VT 003194	5.40	4.60	2.00	2.80	89.20	2.50	3.50
VT 003069	5.50	4.70	3.10	1.00	80.00	1.00	14.90
VT 003191	5.50	4.60	1.40	1.90	82.80	0.30	13.60
VT 003192	5.40	4.60	1.80	4.90	86.00	0.80	6.50
VT 003200	5.40	4.70	1.40	3.10	86.30	1.00	8.20
VT 024024	5.40	4.70	2.80	1.80	87.80	1.20	6.40
VT 023117	5.40	4.60	1.90	1.00	88.60	1.10	7.40
VT 024051	5.40	4.60	1.50	1.90	80.80	2.00	13.80
N03023EF	5.40	4.60	1.70	1.30	89.70	0.00	7.30
N04074FCT	5.40	4.60	1.20	0.50	83.70	2.40	12.20
N05006	5.40	4.70	1.90	5.80	84.90	0.50	6.90
N05007	5.40	4.60	1.70	0.40	80.90	0.00	17.00
N05008	5.40	4.70	1.60	1.00	73.90	0.00	23.50
N05018	5.50	4.60	1.90	5.10	86.70	0.00	6.30
N03088T	5.40	4.60	2.30	3.60	86.50	4.60	3.00
N05024J	5.40	4.60	1.50	1.00	89.50	3.00	5.00
N05049J	5.30	4.70	1.80	6.40	79.40	3.00	9.40
HST 02-08	5.40	4.60	1.20	1.00	67.00	9.70	21.10
Mean	5.42	4.64	2.37	2.59	83.56	1.43	10.04

Blanching Results

Table 14. Laboratory sample blanching of Medium Kernels from Tidewater AREC (Suffolk) VA, Planting Date 3, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.40	4.50	1.40	4.90	85.90	1.90	5.90
Gregory	5.70	4.60	0.00	3.40	79.00	5.80	11.80
Perry	5.60	4.50	0.50	4.40	78.80	1.90	14.40
CHAMPS	5.60	4.60	1.80	3.20	85.90	1.80	7.30
Phillips	5.70	4.60	2.30	4.20	79.50	2.00	12.00
Bailey	5.60	4.60	0.70	3.80	86.80	1.90	6.80
Georgia 08V	5.70	4.70	1.00	4.00	80.20	1.80	13.00
Florida Fancy	5.60	4.60	2.60	11.00	70.40	2.20	13.80
VA 98R	5.60	4.70	0.60	5.00	79.70	0.70	14.00
Sugg	5.70	4.80	1.50	4.90	76.20	3.80	13.60
VT 024077	5.60	4.60	2.00	3.60	82.80	2.10	9.50
VT 004152	5.60	4.70	1.90	3.90	77.00	2.00	15.20
VT 003194	5.60	4.60	2.20	5.00	82.20	4.00	6.60
VT 003069	5.50	4.50	1.40	3.80	84.20	1.00	9.60
VT 003191	5.60	4.50	1.40	8.90	67.70	4.10	17.90
VT 003192	5.70	4.70	1.30	4.00	80.10	2.00	12.60
VT 003200	5.50	4.50	2.60	4.00	82.00	2.10	9.30
VT 024024	5.50	4.50	2.40	4.00	75.30	2.30	16.00
VT 023117	5.60	4.60	1.40	4.60	83.90	1.50	8.60
VT 024051	5.60	4.50	0.90	2.70	81.90	0.90	13.60
N03023EF	5.50	4.50	1.80	1.90	84.90	2.00	9.40
N04074FCT	5.70	4.60	0.50	2.90	78.50	1.90	16.20
N05006	5.60	4.50	1.70	1.60	89.20	0.90	6.60
N05007	5.60	4.70	1.60	1.40	81.90	0.90	14.20
N05008	5.60	4.60	2.20	1.80	82.50	0.90	12.60
N05018	5.40	4.50	1.20	9.00	79.90	1.90	8.00
N03088T	5.50	4.60	1.60	5.10	71.90	5.80	15.60
N05024J	5.50	4.60	2.00	7.90	76.90	3.20	10.00
N05049J	5.40	4.50	1.40	5.70	82.50	2.70	7.70
HST 02-08	5.70	4.60	1.00	5.00	71.90	9.90	12.20
Mean	5.58	4.59	1.50	4.52	79.99	2.53	11.47

Blanching Results

Table 15. Laboratory sample blanching of Medium Kernels. Averages from planting dates from Tidewater AREC (Suffolk) VA, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.43 ab	4.53 a	1.30 b	4.23 a-d	88.70 a	1.17 d	4.60 h
Gregory	5.60 a	4.77 a	0.50 b	3.67 a-d	79.87b-e	3.50 bc	12.47 a-f
Perry	5.43 ab	4.47 a	1.47 b	3.57 a-d	84.20 a-c	1.40 d	9.37 b-h
CHAMPS	5.53 ab	4.57 a	1.87 b	2.53 cd	85.40 a-c	1.23 d	8.97 b-h
Phillips	5.60 a	4.63 a	1.63 b	3.23 a-d	83.87 a-d	1.33 d	9.93 a-h
Bailey	5.53 ab	4.67 a	1.33 b	3.40 a-d	86.30 ab	1.30 d	7.67 d-h
Georgia 08V	5.57 ab	4.67 a	0.63 b	5.87 ab	77.3 c-e	2.17 cd	14.00 a-e
Florida Fancy	5.47 ab	4.53 a	1.30 b	6.40 a	82.00 a-d	2.07 cd	8.23 c-h
VA 98R	5.57 ab	4.63 a	0.90 b	2.80 b-d	87.10 ab	0.77 d	8.43 b-h
Sugg	5.60 a	4.77 a	1.43 b	3.57 a-d	81.77 a-d	1.80 cd	11.43 a-h
VT 024077	5.53 ab	4.53 a	2.00 b	3.07 b-d	82.03 a-d	1.53 d	11.37 a-h
VT 004152	5.50 ab	4.73 a	8.33 a	3.10 b-d	75.20 de	1.27 d	12.10 a-f
VT 003194	5.50 ab	4.57 a	2.13 b	3.93 a-d	86.47 ab	2.47 b-d	5.00 gh
VT 003069	5.53 ab	4.63 a	2.07 b	1.90 cd	77.43 c-e	1.73 cd	16.87 a
VT 003191	5.53 ab	4.67 a	1.40 b	4.90 a-c	79.40 b-e	2.00 cd	12.30 a-f
VT 003192	5.57 ab	4.60 a	1.23 b	3.87 a-d	85.07 a-c	1.20 d	8.63 b-h
VT 003200	5.50 ab	4.70 a	1.53 b	4.00 a-d	84.93 a-c	1.63 cd	7.90 c-h
VT 024024	5.47 ab	4.63 a	1.97 b	3.20 a-d	84.07 a-c	1.77 cd	9.00 b-h
VT 023117	5.53 ab	4.40 a	1.53 b	2.97 b-d	87.43 ab	1.27 d	6.80 f-h
VT 024051	5.47 ab	3.40 b	1.30 b	3.07 b-d	83.27 a-d	1.53 d	11.73 a-g
N03023EF	5.50 ab	4.67 a	1.60 b	1.17 d	87.00 ab	0.67 d	9.57 b-h
N04074FCT	5.50 ab	4.60 a	1.07 b	1.80 cd	80.87 a-d	2.17 cd	14.10 a-d
N05006	5.57 ab	4.50 a	1.67 b	3.23 a-d	86.83 ab	0.90 d	7.37 d-h
N05007	5.53 ab	4.60 a	1.47 b	1.23 d	82.07 a-d	1.03 d	14.20 a-d
N05008	5.50 ab	4.63 a	1.67 b	1.63 d	80.43 b-e	0.90 d	15.37 ab
N05018	5.47 ab	4.53 a	1.37 b	6.40 a	83.93 a-c	1.23 d	7.07 e-h
N03088T	5.40 b	4.57 a	1.63 b	3.60 a-d	82.47 a-d	4.33 b	7.97 c-h
N05024J	5.43 ab	4.53 a	1.60 b	3.83 a-d	82.13 a-d	2.60 b-d	9.83 b-h
N05049J	5.40 b	4.57 a	1.50 b	5.80 ab	83.57 a-d	2.57 b-d	6.57 f-h
HST 02-08	5.47 ab	4.53 a	1.17 b	4.27 a-d	71.83 e	7.90 a	14.83 a-c
Mean	5.51	4.56	1.69	3.54	82.76	1.91	10.12
LSD_{0.05}¹	0.19	0.63	3.72	3.25	8.7	1.96	6.95

¹ Least significant difference at 5% probability level.

Blanching Results

Table 16. Laboratory sample blanching of Medium Kernels from Martin County, NC, Planting date 1, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.60	4.30	-1.80	8.40	84.20	2.00	7.20
Gregory	5.50	4.50	1.60	5.20	86.20	2.00	5.00
Perry	5.60	4.60	1.40	8.00	86.40	1.70	2.50
CHAMPS	5.50	4.40	0.70	2.10	84.80	1.90	10.50
Phillips	5.50	4.10	3.80	3.20	85.40	2.00	5.60
Bailey	5.60	4.60	2.10	2.10	87.20	1.00	7.60
Georgia 08V	5.70	4.70	1.50	10.80	79.40	2.00	6.30
Florida Fancy	5.50	4.50	1.10	6.40	86.00	3.20	3.30
VA 98R	5.50	4.40	0.30	4.00	87.50	2.00	6.20
Sugg	5.60	4.60	1.50	2.80	82.70	2.00	11.00
VT 024077	5.50	4.50	1.50	4.00	80.30	2.00	12.20
VT 004152	5.60	4.50	1.60	2.00	78.50	3.00	14.90
VT 003194	5.50	4.00	2.30	5.20	89.00	1.00	2.50
VT 003069	5.40	4.40	1.90	4.00	85.50	1.60	7.00
VT 003191	5.50	4.00	1.00	7.40	82.50	2.00	7.10
VT 003192	5.50	4.50	0.20	6.90	84.40	2.00	6.50
VT 003200	5.50	4.80	1.10	1.30	85.60	2.00	10.00
VT 024024	5.40	4.50	1.00	4.40	85.00	2.00	7.60
VT 023117	5.60	4.50	1.20	3.80	87.40	1.00	6.60
VT 024051	5.40	4.40	1.50	3.30	84.10	1.00	10.10
N03023EF	5.40	4.40	2.10	4.50	86.20	1.00	6.20
N04074FCT	5.60	4.60	1.50	3.10	82.10	1.00	12.30
N05006	5.40	4.40	2.60	1.60	92.20	1.00	2.60
N05007	5.60	4.70	1.20	1.20	82.70	1.30	13.60
N05008	5.50	4.30	1.40	2.90	78.20	2.00	15.50
N05018	5.60	4.60	2.80	5.00	85.10	2.20	4.90
N03088T	5.60	4.70	2.40	4.10	87.10	1.00	5.40
N05024J	5.50	4.30	1.90	6.20	87.40	1.00	3.50
N05049J	5.40	4.00	0.40	4.80	80.00	2.00	12.80
HST 02-08	5.30	4.70	1.50	4.10	79.40	5.10	9.90
Mean	5.51	4.45	1.44	4.43	84.42	1.83	7.88

Blanching Results

Table 17. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk) VA and Martin County, NC, 2009.

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.48 a-c	4.48 a	0.53 b	2.73 a-e	87.58 ab	1.38 de	5.25 hi
Gregory	5.58 ab	4.70 a	0.78 b	4.05 b-g	81.45 b-f	3.13 bc	10.60 a-h
Perry	5.48 a-c	4.50 a	1.45 b	4.68 a-f	84.75 a-d	1.48 de	7.65 e-i
CHAMPS	5.53 a-c	4.53 a	1.58 b	2.43 f-h	85.25 a-d	1.40 de	9.35 b-i
Phillips	5.58 ab	4.50 a	2.18 b	3.23 d-h	84.25 a-e	1.50 de	8.85 b-i
Bailey	5.55 a-c	4.65 a	1.53 b	3.08 d-h	86.53 a-c	1.23 de	7.65 e-i
Georgia 08V	5.60 a	4.68 a	0.85 b	7.10 a	77.85 e-g	2.13 b-e	12.08 a-f
Florida Fancy	5.48 a-c	4.53 a	1.25 b	6.40 ab	83.00 a-e	2.35 b-d	7.00 f-i
VA 98R	5.55 a-c	4.58 a	0.75 b	3.10 d-h	87.20 ab	1.08 de	7.88 e-i
Sugg	5.60 a	4.73 a	1.45 b	3.38 c-h	82.00 b-f	1.85 c-e	11.33 a-g
VT 024077	5.53 a-c	4.53 a	1.88 b	3.30 d-h	81.60 b-f	1.65 c-e	11.58 a-g
VT 004152	5.53 a-c	4.68 a	6.65 a	2.83 e-h	76.03 fg	1.70 c-e	12.80 a-e
VT 003194	5.50 a-c	4.43 a	2.18 b	4.25 b-g	87.10 ab	2.10 b-e	4.38 i
VT 003069	5.50 a-c	4.58 a	2.03 b	2.43 f-h	79.45 d-g	1.70 c-e	14.40 ab
VT 003191	5.53 a-c	4.50 a	1.30 b	5.53 a-e	80.18 c-g	2.00 b-e	11.00 a-g
VT 003192	5.55 a-c	5.58 a	0.98 b	4.63 a-g	84.90 a-d	1.40 de	8.10 d-i
VT 003200	5.50 a-c	4.73 a	1.43 b	3.33 d-h	85.10 a-d	1.73 c-e	8.43 c-i
VT 024024	5.45 a-c	4.60 a	1.73 b	3.50 c-h	84.30 a-e	1.83 c-e	8.65 c-i
VT 023117	5.55 a-c	4.43 a	1.45 b	3.18 d-h	87.43 ab	1.20 de	6.75 f-i
VT 024051	5.45 a-c	3.65 b	1.35 b	2.45 f-h	83.48 a-e	1.40 de	11.33 a-g
N03023EF	5.48 a-c	4.60 a	1.73 b	2.00 f-h	86.80 ab	0.75 e	8.73 b-i
N04074FCT	5.55 a-c	4.60 a	1.18 b	2.13 f-h	81.18 b-f	1.88 c-e	13.65 a-d
N05006	5.53 a-c	4.48 a	1.90 b	2.83 e-h	88.18 a	0.93 de	6.18 g-i
N05007	5.55 a-c	4.63 a	1.40 b	1.23 h	82.23 a-f	1.10 de	14.05 a-c
N05008	5.50 a-c	4.55 a	1.60 b	1.95 gh	79.88 d-g	1.18 de	15.40 a
N05018	5.50 a-c	4.55 a	1.73 b	6.05 a-c	84.23 a-e	1.48 de	6.53 f-i
N03088T	5.45 a-c	4.60 a	1.83 b	3.73 b-h	83.63 a-e	3.50 b	7.33 e-i
N05024J	5.45 a-c	4.48 a	1.68 b	4.43 a-g	83.45 a-e	2.20 c-e	8.25 d-i
N05049J	5.40 c	4.43 a	1.23 b	5.55 a-d	82.68 a-e	2.43 b-d	8.13 d-i
HST 02-08	5.43 bc	4.58 a	1.25 b	4.23 b-g	73.73 g	7.20 a	13.60 a-d
Mean	5.51	4.57	1.63	3.66	83.18	1.90	9.56
LSD_{0.05}¹	0.15	0.50	2.80	2.70	6.60	1.60	5.70

¹ Least significant difference at 5% probability level.

Blanching Results

Table 18. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk) VA, and Martin County, NC. Two-year averages (2008- 2009).

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.70 a	4.97 a	0.75 b	12.18 a-c	73.91 a-d	0.86 cd	11.47 c-f
Gregory	5.72 a	4.84 a	0.76 b	9.56 a-e	74.82 a-d	1.63 a-d	11.55 c-f
Perry	5.68 a	4.74 ab	1.10 b	12.78 a	75.31 a-d	0.69 d	9.17 d-f
CHAMPS	5.70 a	4.77 a	1.13 b	8.99 a-f	75.59 a-d	0.61 d	12.78 c-f
Phillips	5.72 a	4.86 a	1.23 b	9.29 a-f	73.46 a-d	1.13 a-d	13.78 c-e
Bailey	5.47 a	4.87 a	1.08 b	8.49 a-f	80.09 a	0.65 d	8.43 ef
Florida Fancy	5.58 a	4.72 ab	1.01 b	12.83 a	75.88 a-d	1.66 a-d	8.14 ef
VA 98R	5.73 a	4.82 a	0.83 b	8.78 a-f	74.14 a-d	0.89 b-d	14.38 b-d
Sugg	5.63 a	4.84 a	0.98 b	7.73 b-f	71.22 b-d	2.13 a	16.69 a-c
VT 024077	5.63 a	4.74 ab	1.18 b	7.53 c-f	72.31 a-d	1.31 a-d	16.63 a-c
VT 004152	5.66 a	4.84 a	3.73 a	4.99 ef	74.26 a-d	1.16 a-d	15.63 a-c
VT 003194	5.63 a	4.76 ab	1.23 b	10.56 a-d	77.43 ab	1.07 a-d	8.43 ef
VT 003069	5.73 a	4.86 a	1.23 b	8.74 a-f	70.74 b-d	1.07 a-d	17.05 a-c
VT 024024	5.63 a	4.76 a	1.30 b	7.83 b-f	72.99 a-d	1.58 a-d	16.21 a-c
VT 024051	5.63 a	4.48 b	0.99 b	7.34 d-f	69.20 b-d	1.16 a-d	20.27 ab
N04074FCT	5.75 a	4.88 a	0.95 b	4.79 f	69.91 b-d	1.35 a-d	21.22 a
N05006	5.59 a	4.70 ab	1.31 b	7.50 d-f	77.33 ab	0.81 cd	11.55 c-f
N05007	5.68 a	4.78 a	1.14 b	4.66 f	75.85 a-d	0.69 d	17.11 a-c
N05008	5.69 a	4.74 ab	1.09 b	7.53 b-f	68.93 cd	1.37 a-d	20.27 ab
N05018	5.68 a	4.75 ab	1.31 b	12.83 a	76.69 a-c	0.81 cd	7.69 f
N03088T	5.70 a	4.88 a	1.15 b	7.76 b-f	73.70 a-d	2.08 ab	14.48 b-d
N05024J	5.62 a	4.77 a	1.08 b	12.68 a	68.26 d	1.46 a-d	15.32 bc
N05049J	5.63 a	4.74 ab	0.98 b	12.32 ab	69.91 d	1.95 a-c	13.65 c-e
Mean	5.66	4.79	1.2	9.0	73.6	1.3	14.0
LSD_{0.05}¹	0.20	0.28	1.2	4.7	8.3	1.2	5.9

¹ Least significant difference at 5% probability level.

Blanching Results

Table 19. Laboratory sample blanching of Medium Kernels. Averages from Tidewater AREC (Suffolk), VA and Martin County, NC. Three-year averages (2007- 2009).

Variety or Line	% H ₂ O before Roasting	% H ₂ O after Roasting	% Blanching loss	% Splits Blanched	% Whole Blanched	% Not Blanched	% Partially Blanched
NC-V 11	5.70 a	4.79 a	0.75 c	12.18 a	73.91 a-c	0.86 cd	11.47 c-e
Gregory	5.72 a	4.84 a	0.76 c	9.56 ab	74.82 a-c	1.63 a-d	12.40 c-e
Perry	5.68 a	4.74 ab	1.10 a-c	12.78 a	75.31 a-c	0.69 d	9.17 c-e
CHAMPS	5.70 a	4.77 a	1.13 a-c	8.99 a-c	75.59 a-c	0.61 d	12.78 c-e
Phillips	5.72 a	4.86 a	1.23 ab	9.29 ab	73.46 a-c	1.13 a-d	13.78 c-e
Bailey	5.74 a	4.87 a	1.08 a-c	8.49 a-c	80.09 a	0.65 d	8.48 e
VA 98R	5.73 a	4.82 a	0.83 bc	8.78 a-c	74.14 a-c	0.89 b-d	14.38 cd
Sugg	5.63 a	4.84 a	0.98 a-c	7.73 bc	71.21 bc	2.13 a	16.69 a-c
VT 024077	5.63 a	4.74 ab	1.18 a-c	7.53 bc	72.31 a-c	1.31 a-d	16.63 a-c
VT 003194	5.63 a	4.76 ab	1.23 ab	10.56 ab	77.43 ab	1.07 a-d	8.43 e
VT 003069	5.73 a	4.86 a	1.23 ab	8.74 a-c	70.74 bc	1.07 a-d	17.05 a-c
VT 024051	5.63 a	4.48 b	0.99 a-c	7.34 bc	69.20 c	1.16 a-d	20.27 ab
N04074FCT	5.75 a	4.88 a	0.95 a-c	4.79 c	70.21 bc	1.35 a-d	21.22 a
N05006	5.59 a	4.70 ab	1.31 a	7.50 bc	77.32 ab	0.81 cd	11.55 c-e
N05008	5.69 a	4.74 ab	1.09 a-c	7.63 bc	68.93 c	1.37 a-d	20.27 ab
N03088T	5.70 a	4.88 a	1.15 a-c	7.76 bc	73.70 a-c	2.08 ab	14.48 cd
N05024J	5.62 a	4.77 a	1.08 a-c	12.68 a	68.26 c	1.46 a-d	15.32 bc
N05049J	5.63 a	4.74 ab	0.98 a-c	12.32 a	69.91 bc	1.95 a-c	13.65 c-e
Mean	5.68	4.78	1.06	9.1	73.1	1.2	14.3
LSD_{0.05}¹	0.20	0.28	0.50	4.4	7.9	1.2	5.7

¹ 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 Planting Date 1, 2009¹.

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	9.90 a-f	2.74 h-l	50.30 e-h	30.49 a-e	1.35 h-k	1.16 e-k
Gregory	8.86 j-l	2.94 e-i	54.60 b-d	26.80 h-k	1.45 c-i	1.22 c-f
Perry	9.50 d-j	2.89 f-j	50.66 e-h	29.89 b-f	1.49 c-g	1.17 c-j
CHAMPS	9.28 f-j	2.96 e-i	53.04 de	27.54 g-j	1.48 c-g	1.29 c
Phillips	9.46 d-j	2.73 h-l	50.88 e-g	30.01 b-f	1.39 f-k	1.19 c-h
Bailey	9.33 e-j	2.53 l-n	51.61 d-f	29.66 c-g	1.36 h-k	1.24 c-e
Georgia 08V	6.13 m	2.74 h-l	80.41 a	3.57 l	1.37 h-k	1.62 b
Florida Fancy	5.84 m	2.83 g-k	79.70 a	3.97 l	1.45 c-i	1.75 a
Sugg	9.35 e-j	2.69 h-l	52.60 de	28.83 d-h	1.37 g-k	1.16 d-k
VA 98R	10.05 a-d	2.67 i-m	50.24 e-h	30.79 a-d	1.28 kl	1.12 e-k
VT 024077	9.23 g-j	3.17 b-f	51.89 de	28.95 d-h	1.53 c-e	1.09 h-l
VT 004152	9.47 d-j	3.61 a	51.19 ef	28.85 d-h	1.68 a	1.00 lm
VT 003194	8.54 kl	3.43 ab	56.58 b	24.58 k	1.66 ab	1.09 h-l
VT 003069	9.83 a-g	2.96 e-i	50.52 e-h	30.12 b-f	1.42 e-j	1.14 e-k
VT 003191	10.37 ab	3.23 b-e	47.93 g-i	31.85 a-c	1.54 cd	0.97 m
VT 003192	9.96 a-e	3.26 b-d	51.26 ef	29.06 d-h	1.50 c-f	1.00 m
VT 003200	9.22 g-j	2.95 e-i	52.31 de	28.52 d-i	1.48 c-g	1.19 c-h
VT 024024	9.16 h-k	2.87 g-k	52.55 de	28.48 e-i	1.47 c-h	1.20 c-h
VT 023117	8.43 l	3.09 c-g	56.31 bc	25.58 jk	1.50 c-f	1.12 f-k
VT 024051	9.48 d-j	3.37 a-c	52.55 de	27.85 f-j	1.55 bc	1.06 j-m
N03023EF	8.51 l	2.38 mn	45.41 i	26.44 i-k	1.22 l	1.13 e-k
N04074FCT	8.97 j-l	2.68 i-l	52.78 de	28.60 d-i	1.38 g-j	1.28 c
N05006	10.34 ab	2.62 j-n	48.49 f-i	31.99 ab	1.32 j-l	1.18 c-i
N05007	10.24 a-c	2.89 f-j	47.78 g-i	32.57 a	1.41 f-j	1.07 i-m
N05008	10.45 a	2.99 d-h	47.53 hi	32.50 a	1.45 c-i	1.04 k-m
N05018	9.07 i-l	2.68 i-l	53.21 c-e	28.59 d-i	1.35 i-k	1.22 c-g
N03088T	9.07 i-l	2.33 n	52.15 de	29.81 b-g	1.29 kl	1.24 c-e
N05024J	9.63 c-i	2.89 f-j	52.41 de	28.57 d-i	1.41 f-j	1.10 g-l
N05049J	9.40 d-j	2.80 g-l	52.09 de	28.66 d-i	1.44 d-i	1.28 cd
HST 02-08	9.78 b-h	2.59 k-n	49.99 f-h	30.59 a-e	1.36 h-k	1.21 c-h
Mean	9.23	2.88	53.30	27.46	1.43	1.18
LSD_{0.05}²	0.65	0.30	3.24	2.29	0.12	0.12

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 Planting Date 1, 2009¹ (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	2.59 b	1.48 a-e	96.98 ab	1.65 c	18.06 bc	1.69 a-e	5.42 b
Gregory	2.68 b	1.43 a-f	94.38 ab	2.04 c	17.35 bc	1.55 b-f	5.56 b
Perry	2.91 b	1.51 a-d	96.26 ab	1.69 c	18.29 bc	1.63 a-e	5.90 b
CHAMPS	2.89 b	1.53 a-c	94.34 ab	1.93 c	18.13 bc	1.52 d-f	5.89 b
Phillips	2.78 b	1.47 a-f	96.83 ab	1.69 c	17.83 bc	1.69 a-e	5.64 b
Bailey	2.77 b	1.49 a-e	96.74 ab	1.75 c	17.49 bc	1.69 a-e	5.62 b
Georgia 08V	2.71 b	1.46 a-f	76.61 d	25.40 a	14.40 c	0.25 h	5.50 b
Florida Fancy	2.90 b	1.57 a	76.80 d	21.48 b	14.58 c	0.27 h	5.91 b
Sugg	2.62 b	1.39 b-f	96.09 ab	1.83 c	17.41 bc	1.66 a-e	5.37 b
VA 98R	2.43 b	1.42 a-f	97.42 ab	1.63 c	17.85 bc	1.72 a-d	5.13 b
VT 024077	2.73 b	1.42 a-f	95.62 ab	1.80 c	18.07 bc	1.60 a-f	5.68 b
VT 004152	2.86 b	1.35 d-f	94.78 ab	1.78 c	18.96 bc	1.52 c-f	5.88 b
VT 003194	2.81 b	1.31 e-f	92.09 b	2.30 c	17.75 bc	1.38 f-g	5.79 b
VT 003069	2.56 b	1.44 a-f	96.51 ab	1.68 c	18.22 bc	1.65 a-e	5.43 b
VT 003191	2.74 b	1.38 c-f	97.16 ab	1.50 c	19.25 b	1.66 a-e	5.66 b
VT 003192	2.65 b	1.35 d-f	95.19 ab	1.76 c	18.71 bc	1.55 a-f	5.49 b
VT 003200	2.90 b	1.42 a-f	95.19 ab	1.83 c	17.98 bc	1.59 a-f	5.81 b
VT 024024	2.79 b	1.48 a-e	95.47 ab	1.85 c	17.75 bc	1.60 a-f	5.74 b
VT 023117	2.64 b	1.33 e-f	93.62 ab	2.20 c	16.99 bc	1.51 d-f	5.48 b
VT 024051	2.73 b	1.41 a-f	94.27 ab	1.89 c	18.54 bc	1.50 e-f	5.70 b
N03023EF	13.53 a	1.40 b-f	85.74 c	1.73 c	27.02 a	1.24 g	16.14 a
N04074FCT	2.81 b	1.48 a-e	95.95 ab	1.85 c	16.99 bc	1.65 a-e	5.67 b
N05006	2.61 b	1.45 a-f	98.04 a	1.52 c	18.34 bc	1.74 a-c	5.38 b
N05007	2.59 b	1.44 a-f	98.35 a	1.47 c	18.58 bc	1.75 ab	5.45 b
N05008	2.61 b	1.45 a-f	97.99 a	1.46 c	18.94 bc	1.72 a-e	5.50 b
N05018	2.51 b	1.38 c-f	96.23 ab	1.86 c	16.99 bc	1.68 a-e	5.24 b
N03088T	2.71 b	1.40 a-f	97.47 ab	1.75 c	16.80 bc	1.77 a	5.40 b
N05024J	2.63 b	1.35 d-f	95.43 ab	1.84 c	17.92 bc	1.59 a-f	5.40 b
N05049J	2.90 b	1.44 a-f	95.45 ab	1.82 c	17.93 bc	1.59 a-f	5.77 b
HST 02-08	2.93 b	1.55 ab	96.92 ab	1.64 c	18.22 bc	1.68 a-e	5.85 b
Mean	3.08	1.43	94.33	3.22	18.04	1.52	5.95
LSD_{0.05}²	5.59	0.16	5.57	3.56	4.59	0.22	5.38

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 Planting Date 2, 2009¹.

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.23 a-c	2.60 k-m	49.27 h-j	32.05 a-d	1.24 mn	1.08 f-j
Gregory	9.07 k	2.93 d-h	52.81 de	28.60 j-l	1.42 b-f	1.20 c-e
Perry	9.68 f-h	2.77 f-k	49.31 h-j	31.52 b-e	1.40 c-h	1.14 d-i
CHAMPS	9.71 e-g	2.96 d-g	51.01 e-h	29.76 e-l	1.42 b-g	1.15 c-h
Phillips	9.44 g-j	2.73 g-l	50.99 e-h	30.34 d-j	1.35 e-k	1.16 c-g
Bailey	9.45 g-j	2.42 mn	50.79 e-h	30.75 c-i	1.28 j-n	1.21 b-d
Georgia 08V	6.13 n	2.74 g-l	80.07 a	4.09 p	1.35 e-k	1.60 a
Florida Fancy	6.55 m	2.75 g-l	77.20 b	6.93 o	1.32 l-n	1.57 a
Sugg	9.62 f-i	2.77 g-k	51.29 d-h	29.29 h-l	1.33 g-m	1.20 c-e
VA 98R	10.09 b-d	2.69 h-l	49.81 g-i	31.35 c-f	1.27 k-n	1.10 d-i
VT 024077	9.28 i-k	3.04 cd	51.84 d-g	29.37 g-l	1.47 bc	1.06 g-k
VT 004152	9.44 g-j	3.49 a	51.63 d-g	28.78 j-l	1.63 a	0.98 j-l
VT 003194	8.50 l	3.29 ab	56.57 c	25.00 n	1.60 a	1.10 d-i
VT 003069	9.92 c-f	2.92 d-h	50.22 f-h	30.73 c-i	1.3 d-i	1.09 d-j
VT 003191	10.54 a	3.20 bc	47.76 i-k	32.58 a-c	1.44 b-d	0.91 l
VT 003192	10.05 c-e	3.02 c-e	50.92 e-h	29.95 e-k	1.39 c-i	0.95 kl
VT 003200	9.16 jk	2.90 d-i	53.47 d	27.98 lm	1.42 b-f	1.11 d-i
VT 024024	9.27 i-k	2.85 d-j	52.20 d-f	29.03 i-l	1.42 b-f	1.18 c-f
VT 023117	8.60 l	2.99 c-f	55.74 c	26.49 mn	1.43 b-e	1.09 e-j
VT 024051	9.58 f-i	3.34 ab	52.21 d-f	28.58 j-l	1.49 b	0.98 j-l
N03023EF	9.45 g-j	2.79 e-k	53.39 d	28.12 l-m	1.35 e-k	1.16 c-h
N04074FCT	8.99 k	2.60 k-m	52.87 de	28.71 j-l	1.33 g-m	1.32 b
N05006	10.54 a	2.53 l-n	47.25 jk	33.27 ab	1.24 n	1.12 d-i
N05007	10.43 b	2.79 e-k	46.88 k	33.60 a	1.36 d-j	1.04 h-k
N05008	10.50 ab	2.85 d-j	46.58 k	33.88 a	1.26 d-j	1.03 i-l
N05018	9.10 jk	2.65 j-m	52.20 d-f	29.57 f-k	1.34 f-l	1.21 b-d
N03088T	9.14 jk	2.29 n	50.97 e-h	31.24 c-g	1.25 mn	1.21 b-d
N05024J	9.57 f-i	2.80 e-k	51.80 d-g	29.38 g-l	1.39 d-i	1.14 c-i
N05049J	9.34 h-k	2.68 i-l	51.80 d-g	28.68 j-l	1.37 d-j	1.26 bc
HST 02-08	9.84 d-f	2.59 l-m	49.82 g-i	31.09 d-h	1.31 i-n	1.20 c-f
Mean	9.37	2.83	52.96	28.36	1.37	1.15
LSD_{0.05}²	0.36	0.24	2.23	1.87	0.09	0.12

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 Planting Date 2, 2009¹ (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	2.30 d	1.24 d-f	98.73 a-e	1.54 c	17.60 e-i	1.82 ab	4.78 f
Gregory	2.61 b-d	1.36 a-e	95.90 j-m	1.85 c	17.39 f-j	1.65 d-i	5.39 a-e
Perry	2.74 ab	1.43 a-c	97.91 b-h	1.56 c	18.03 a-g	1.75 b-e	5.57 a-c
CHAMPS	2.65 b-d	1.36 a-e	96.32 h-l	1.72 c	18.09 a-g	1.65 d-i	5.42 a-e
Phillips	2.63 b-d	1.36 a-e	97.31 d-j	1.68 c	17.51 e-i	1.73 b-f	5.35 a-f
Bailey	2.59 b-d	1.37 a-e	97.89 b-h	1.65 c	17.11 h-k	1.80 a-c	5.24 b-f
Georgia 08V	2.63 b-d	1.39 a-d	77.20 p	19.88 a	14.25 l	0.29 l	5.38 a-e
Florida Fancy	2.43 b-d	1.25 d-f	79.64 o	13.27 b	14.30 l	0.47 k	4.99 d-f
Sugg	3.10 a	1.39 a-d	95.79 j-m	1.76 c	18.22 a-e	1.62 f-i	5.83 a
VA 98R	2.36 cd	1.33 a-f	98.01 a-g	1.59 c	17.74 c-i	1.77 a-d	4.95 ef
VT 024077	2.60 b-d	1.33 a-f	96.30 i-l	1.77 c	17.23 c-i	1.66 d-i	5.40 a-e
VT 004152	2.76 ab	1.30 a-f	95.01 lm	1.80 c	18.62 ab	1.55 ij	5.69 ab
VT 003194	2.69 bc	1.25 c-f	92.81 n	2.27 c	17.34 g-k	1.44 j	5.54 a-d
VT 003069	2.42 b-d	1.32 a-f	97.28 e-j	1.64 c	17.96 a-g	1.71 b-g	5.12 b-f
VT 003191	2.40 cd	1.16 f	98.22 a-f	1.47 c	18.75 a	1.74 b-f	5.01 c-f
VT 003192	2.46 b-d	1.25 d-f	96.42 g-l	1.70 c	18.18 a-f	1.65 d-i	5.11 c-f
VT 003200	2.64 b-d	1.31 a-f	95.32 lm	1.91 c	17.44 e-j	1.60 g-i	5.37 a-e
VT 024024	2.67 bc	1.39 a-d	96.10 i-m	1.80 c	17.60 e-i	1.65 d-i	5.48 a-e
VT 023117	2.45 b-d	1.20 ef	94.68 m	2.11 c	16.68 jk	1.59 hi	5.08 c-f
VT 024051	2.51 b-d	1.31 a-f	95.18 lm	1.83 c	18.23 a-e	1.57 hi	5.31 a-f
N03023EF	2.35 cd	1.38 a-d	95.54 k-m	1.90 c	17.33 g-k	1.62 f-i	5.08 c-f
N04074FCT	2.73 ab	1.44 ab	96.25 i-m	1.86 c	17.09 h-k	1.68 c-h	5.50 a-e
N05006	2.42 b-d	1.47 a	99.15 a-c	1.42 c	18.20 a-f	1.83 ab	5.13 b-f
N05007	2.51 b-d	1.37 a-e	99.34 ab	1.39 c	18.47 a-d	1.82 ab	5.25 b-f
N05008	2.47 b-d	1.33 a-f	97.07 f-k	1.38 c	18.52 a-c	1.83 ab	5.17 b-f
N05018	2.54 b-d	1.40 a-d	97.07 f-k	1.77 c	17.02 i-k	1.74 b-f	5.27 a-f
N03088T	2.59 b-d	1.29 b-f	98.91 a-d	1.63 c	16.57 k	1.88 a	5.14 b-f
N05024J	2.62 b-d	1.32 a-f	96.33 h-l	1.76 c	17.69 d-i	1.66 d-i	5.23 a-f
N05049J	2.76 ab	1.39 a-d	95.84 j-m	1.83 c	17.54 e-i	1.64 e-i	5.53 a-e
HST 02-08	2.74 ab	1.40 a-d	97.65 c-i	1.61 c	17.89 b-h	1.74 b-f	5.46 a-e
Mean	2.58	1.33	95.51	2.71	17.49	1.61	5.29
LSD_{0.05}²	0.37	0.18	1.61	2.21	0.81	0.12	0.58

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 from Tidewater AREC (Suffolk), VA Planting Date 3, 2009¹.

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.07 a-f	2.41 j-n	48.03 f-i	33.13 a-e	1.22 e-j	1.24 d-f
Gregory	8.88 hi	2.74 c-g	53.47 cd	28.36 gh	1.37 a-e	1.25 d-f
Perry	9.77 b-g	2.53 i-m	48.75 e-i	32.42 a-f	1.33 b-g	1.20 e-g
CHAMPS	9.34 e-i	2.68 d-h	51.48 c-f	29.48 d-h	1.37 a-e	1.37 cd
Phillips	10.21 a-e	2.36 l-n	48.76 e-i	32.86 a-f	1.15 h-j	1.22 e-g
Bailey	9.47 d-i	2.34 no	49.31 d-i	32.18 a-g	1.24 d-j	1.38 cd
Georgia 08V	7.02 j	2.55 g-l	72.86 b	10.82 i	1.29 b-j	1.55 b
Florida Fancy	5.89 k	2.63 f-i	79.10 a	4.96 j	1.37 a-e	1.78 a
Sugg	9.38 e-i	2.32 mn	50.07 c-i	31.80 a-g	1.26 c-j	1.26 d-f
VA 98R	9.99 b-f	2.46 i-m	48.89 e-i	32.61 a-f	1.20 g-j	1.17 e-h
VT 024077	9.10 g-i	2.86 a-e	51.01 c-g	30.43 c-h	1.43 ab	1.15 f-i
VT 004152	10.29 a-d	3.04 a	50.02 c-i	30.97 a-h	1.36 b-g	1.01 ij
VT 003194	8.81 i	3.03 a	54.39 c	27.09 h	1.52 a	1.18 e-h
VT 003069	9.91 b-g	2.72 c-h	48.86 e-i	32.29 a-g	1.33 b-g	1.15 f-i
VT 003191	10.36 a-c	2.89 a-d	46.72 g-i	33.59 a-c	1.40 a-c	1.08 g-j
VT 003192	10.16 a-e	2.98 ab	49.49 d-i	31.42 a-g	1.37 a-f	0.99 j
VT 003200	9.12 g-i	2.77 b-f	52.49 c-e	29.09 e-h	1.38 a-d	1.17 f-h
VT 024024	10.13 a-f	2.64 f-i	51.26 c-f	30.54 c-h	1.22 e-j	1.08 g-j
VT 023117	8.79 i	2.92 a-c	53.07 c-e	29.02 f-h	1.41 a-c	1.13 f-j
VT 024051	9.80 b-g	3.06 a	50.10 c-i	30.61 b-h	1.41 a-c	1.08 g-j
N03023EF	9.62 b-i	2.56 f-l	50.95 c-g	30.54 c-h	1.29 b-i	1.22 e-g
N04074FCT	9.28 f-i	2.37 k-n	49.63 d-i	31.72 a-g	1.26 c-j	1.45 bc
N05006	10.88 a	2.36 l-n	46.17 hi	34.95 a	1.14 ij	1.14 f-i
N05007	10.47 ab	2.58 f-k	46.10 i	34.64 ab	1.29 b-i	1.12 f-j
N05008	10.45 ab	2.65 e-i	46.25 hi	34.62 ab	1.30 b-h	1.05 h-j
N05018	9.25 e-i	2.54 g-l	50.99 c-g	30.89 b-h	1.30 b-h	1.18 e-h
N03088T	9.36 e-i	2.03 o	49.51 d-i	33.02 a-f	1.13 j	1.31 c-e
N05024J	9.69 b-h	2.58 f-k	50.32 c-i	30.97 a-h	1.31 b-g	1.21 e-g
N05049J	9.55 c-i	2.60 f-j	50.52 c-h	30.64 b-h	1.35 b-g	1.26 d-f
HST 02-08	9.91 b-g	2.21 no	47.22 f-i	33.49 a-d	1.21 f-j	1.42 bc
Mean	9.50	2.61	51.71	29.97	1.31	1.23
LSD_{0.05}²	0.87	0.21	4.41	4.04	0.16	0.15

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 from Tidewater AREC (Suffolk), VA Planting Date 3, 2009¹ (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	2.48 a-e	1.43 a-e	99.66 a-e	1.45 c	17.60 b-f	1.88 a-d	5.12 a-e
Gregory	2.57 a-e	1.36 a-f	96.09 gh	1.89 c	16.92 g-i	1.67 c-e	5.30 a-e
Perry	2.65 a-d	1.36 a-f	99.02 a-g	1.50 c	17.64 b-f	1.84 a-d	5.34 a-d
CHAMPS	2.79 ab	1.49 a-c	96.41 f-h	1.75 c	17.67 b-f	1.67 de	5.65 ab
Phillips	2.29 b-e	1.15 e-g	99.80 a-d	1.48 c	17.17 f-i	1.97 a-c	4.59 c-e
Bailey	2.72 a-c	1.48 a-d	99.23 a-g	1.53 c	17.14 f-i	1.88 a-d	5.43 a-d
Georgia 08V	2.54 a-e	1.39 a-e	82.61 i	15.81 b	14.78 k	0.68 f	5.22 a-e
Florida Fancy	2.75 a-c	1.53 ab	78.02 j	21.46 a	14.17 k	0.35 g	5.65 ab
Sugg	2.61 a-d	1.31 a-g	99.13 a-g	1.57 c	16.88 hi	1.89 a-d	5.18 a-e
VA 98R	2.31 b-e	1.37 a-f	99.45 a-f	1.50 c	17.33 e-i	1.88 a-d	4.88 a-e
VT 024077	2.60 a-d	1.41 a-e	97.50 c-h	1.68 c	17.40 d-i	1.75 b-e	5.44 a-d
VT 004152	2.29 c-e	1.03 g	97.46 c-h	1.62 c	18.01 a-d	1.72 c-e	4.68 c-e
VT 003194	2.74 a-c	1.25 b-g	94.63 h	2.01 c	17.34 d-i	1.56 e	5.50 a-c
VT 003069	2.41 b-e	1.33 a-g	98.86 a-g	1.51 c	17.70 b-f	1.82 a-d	5.07 a-e
VT 003191	2.62 a-d	1.33 a-g	99.21 a-g	1.39 c	18.61 a	1.81 a-d	5.36 a-d
VT 003192	2.40 b-e	1.21 b-g	97.76 b-h	1.58 c	18.11 a-c	1.74 b-e	4.97 a-e
VT 003200	2.65 a-d	1.32 a-g	96.47 e-h	1.81 c	17.24 e-i	1.69 c-e	5.35 a-d
VT 024024	2.09 e	1.06 fg	97.83 b-h	1.68 c	17.13 f-i	1.78 b-e	4.36 e
VT 023117	2.45 a-e	1.23 b-g	96.79 d-h	1.83 c	16.79 ij	1.73 b-e	5.08 a-e
VT 024051	2.56 a-e	1.37 a-f	96.97 d-h	1.64 c	18.20 ab	1.68 c-e	5.34 a-d
N03023EF	2.39 b-e	1.44 a-e	97.67 b-h	1.67 c	17.30 e-i	1.76 b-e	5.13 a-e
N04074FCT	2.79 ab	1.51 a-c	98.76 a-g	1.57 c	17.21 f-i	1.84 a-d	5.55 a-c
N05006	2.20 de	1.16 d-g	101.13 a	1.32 c	17.75 b-f	1.97 ab	4.51 de
N05007	2.43 b-e	1.37 a-f	100.52 a-c	1.33 c	18.15 a-c	1.91 a-d	5.10 a-e
N05008	2.36 b-e	1.32 a-g	100.57 a-c	1.34 c	18.08 a-c	1.91 a-c	4.98 a-e
N05018	2.43 b-e	1.31 a-g	98.30 a-g	1.65 c	16.94 g-i	1.83 a-d	5.04 a-e
N03088T	2.42 b-e	1.21 c-g	100.81 ab	1.50 c	16.16 j	2.04 a	4.76 b-e
N05024J	2.59 a-e	1.33 a-g	97.87 b-g	1.63 c	17.50 c-h	1.77 b-e	5.23 a-e
N05049J	2.74 a-c	1.35 a-f	97.51 c-h	1.65 c	17.58 b-g	1.74 b-e	5.44 a-d
HST 02-08	2.94 a	1.60 a	99.73 a-d	1.41 c	17.87 b-e	1.87 a-d	5.75 a
Mean	2.53	1.33	97.19	2.73	17.28	1.72	5.17
LSD_{0.05}²	0.50	0.32	3.21	4.87	0.66	0.25	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 23. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Averages of all planting dates from Tidewater AREC (Suffolk), VA , 2009¹.

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.07 bc	2.58 i-l	49.20 jk	31.89 a-d	1.27 k-m	1.16 f-i
Gregory	8.94 hi	2.87 d-f	53.63 cd	27.94 jk	1.42 c-g	1.22 d-f
Perry	9.65 de	2.73 f-j	49.57 ij	31.28 c-f	1.41 c-h	1.17 f-i
CHAMPS	9.44 e-g	2.86 d-f	51.84 d-g	28.93 ij	1.42 c-f	1.27 de
Phillips	9.71 c-e	2.61 h-l	50.21 f-j	31.10 c-g	1.30 i-m	1.19 e-h
Bailey	9.42 e-g	2.40 mn	50.57 f-j	30.86 c-h	1.29 i-m	1.28 cd
Georgia 08V	6.43 j	2.68 g-k	77.78 a	6.16 m	1.33 g-l	1.59 b
Florida Fancy	6.09 j	2.74 f-i	78.67 a	5.29 m	1.38 d-i	1.70 a
Sugg	9.45 e-g	2.59 i-l	51.32 e-i	29.97 e-i	1.32 h-l	1.21 d-g
VA 98R	10.42 bc	2.61 h-l	49.65 h-j	31.58 b-e	1.25 lm	1.13 g-j
VT 024077	9.20 f-h	3.02 cd	51.58 d-i	29.58 f-j	1.48 bc	1.10 i-k
VT 004152	9.73 c-e	3.38 a	50.95 e-j	29.53 f-j	1.55 ab	1.00 l
VT 003194	8.62 i	3.25 ab	55.85 b	25.55 l	1.59 a	1.12 h-j
VT 003069	9.88 cd	2.87 d-f	49.87 g-j	31.05 c-g	1.37 e-i	1.13 g-j
VT 003191	10.42 ab	3.11 bc	47.47 kl	32.67 a-c	1.46 cd	1.00 l
VT 003192	10.06 bc	3.09 bc	50.55 f-j	30.14 d-i	1.42 c-g	1.00 l
VT 003200	9.17 f-h	2.87 d-f	52.76 de	28.53 i-k	1.43 c-f	1.16 f-i
VT 024024	9.52 d-f	2.79 f-h	52.00 d-f	29.35 g-j	1.37 e-j	1.15 f-j
VT 023117	8.61 i	3.00 c-e	55.04 bc	27.03 kl	1.45 c-e	1.11 i-k
VT 024051	9.62 de	3.26 ab	51.62 d-i	29.01 h-j	1.48 bc	1.04 kl
N03023EF	9.19 f-h	2.58 i-m	49.92 g-j	28.37 i-k	1.29 j-m	1.17 f-i
N04074FCT	9.08 gh	2.55 j-m	51.76 d-g	29.68 f-j	1.32 h-l	1.35 c
N05006	10.59 a	2.50 k-m	47.30 kl	33.40 ab	1.23 m	1.15 f-j
N05007	10.38 ab	2.76 f-i	46.92 l	33.60 a	1.36 f-k	1.08 jk
N05008	10.46 a	2.83 e-g	46.79 l	33.67 a	1.37 e-j	1.04 kl
N05018	9.18 f-h	2.62 h-l	52.14 d-f	29.68 f-j	1.33 h-l	1.20 d-h
N03088T	9.19 f-h	2.22 n	50.88 e-j	31.56 c-f	1.22 m	1.25 de
N05024J	9.63 de	2.76 f-i	51.51 e-i	29.64 f-j	1.37 e-j	1.15 f-j
N05049J	9.43 e-g	2.69 f-j	51.71 d-h	29.35 g-j	1.39 d-h	1.26 de
HST 02-08	9.84 cd	2.46 lm	49.01 jk	31.72 b-e	1.30 i-m	1.27 cd
Mean	9.40	2.80	52.60	28.60	1.40	1.20
LSD_{0.05}²	0.39	0.18	2.08	1.86	0.09	0.08

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. Average of all planting dates from Tidewater AREC (Suffolk), VA, 2009¹ (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	2.46 b	1.38 a-h	98.46 a-c	1.55 b	17.76 b-e	1.80 a-c	5.11 b
Gregory	2.62 b	1.38 a-h	95.46 f-h	1.92 b	17.22 c-e	1.62 f-i	5.42 b
Perry	2.77 b	1.43 a-e	97.73 a-f	1.59 b	17.98 b-e	1.74 b-g	5.61 b
CHAMPS	2.77 b	1.46 a-c	95.69 e-g	1.80 b	17.96 b-e	1.61 g-i	5.66 b
Phillips	2.57 b	1.33 c-i	97.98 a-e	1.62 b	17.50 b-e	1.78 a-e	5.19 b
Bailey	2.69 b	1.44 a-d	97.95 a-e	1.64 b	17.25 c-e	1.79 a-d	5.43 b
Georgia 08V	2.63 b	1.41 a-f	78.81 j	20.36 a	14.48 f	0.41 k	5.38 b
Florida Fancy	2.69 b	1.45 a-d	78.15 j	18.74 a	14.35 f	0.36 k	5.52 b
Sugg	2.78 b	1.36 b-i	97.00 b-g	1.72 b	17.50 b-e	1.72 b-h	5.46 b
VA 98R	2.37 b	1.37 b-h	98.30 a-c	1.57 b	17.64 b-e	1.79 a-d	4.99 b
VT 024077	2.64 b	1.39 a-h	96.47 c-g	1.75 b	17.73 b-e	1.67 c-i	5.51 b
VT 004152	2.63 b	1.23 i	95.75 d-g	1.73 b	18.53 bc	1.60 h-j	5.42 b
VT 003194	2.75 b	1.27 g-i	93.18 hi	2.19 b	17.48 b-e	1.46 j	5.61 b
VT 003069	2.46 b	1.37 b-i	97.55 a-f	1.61 b	17.96 b-e	1.73 b-h	5.21 b
VT 003191	2.59 b	1.29 f-i	98.20 a-c	1.45 b	18.87 b	1.73 b-h	5.34 b
VT 003192	2.50 b	1.27 g-i	96.46 c-g	1.68 b	18.33 b-d	1.65 e-i	5.19 b
VT 003200	2.73 b	1.35 b-i	95.71 e-g	1.85 b	17.55 b-e	1.63 f-i	5.51 b
VT 024024	2.51 b	1.31 d-i	96.47 c-g	1.78 b	17.50 b-e	1.68 c-i	5.19 b
VT 023117	2.52 b	1.25 hi	95.03 g-i	2.05 b	16.82 de	1.61 g-i	5.21 b
VT 024051	2.60 b	1.36 b-i	95.47 f-h	1.78 b	18.33 b-d	1.58 ij	5.45 b
N03023EF	6.09 a	1.40 a-g	92.98 i	1.77 b	20.55 a	1.54 ij	8.78 a
N04074FCT	2.78 b	1.48 ab	96.99 c-g	1.76 b	17.21 c-e	1.72 b-h	5.58 b
N05006	2.41 b	1.36 b-i	99.44 a	1.42 b	18.10 b-e	1.85 ab	5.00 b
N05007	2.51 b	1.40 a-g	99.40 a	1.40 b	18.40 b-d	1.83 ab	5.26 b
N05008	2.48 b	1.37 b-h	99.37 ab	1.39 b	18.51 bc	1.82 ab	5.22 b
N05018	2.49 b	1.36 b-i	97.20 a-g	1.76 b	16.98 c-e	1.75 b-f	5.18 b
N03088T	2.57 b	1.30 e-i	99.06 ab	1.63 b	16.51 e	1.90 a	5.10 b
N05024J	2.61 b	1.33 c-i	96.54 c-g	1.74 b	17.70 b-e	1.67 c-i	5.32 b
N05049J	2.80 b	1.40 a-g	96.26 c-g	1.77 b	17.70 b-e	1.66 d-i	5.58 b
HST 02-08	2.87 b	1.52 a	98.10 a-d	1.55 b	17.99 b-e	1.76 a-e	2.69 b
Mean	2.70	1.40	95.70	2.90	17.60	1.60	5.40
LSD_{0.05}²	1.86	0.14	2.39	2.10	1.59	0.14	1.84

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 Southampton County, VA, 2009.¹

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.17 b-f	2.49 i	48.90 l-o	31.92 a-c	1.25 g	1.20 d-j
Gregory	8.97 lm	2.83 ef	53.63 de	27.48 j-l	1.44 b-d	1.3 bc
Perry	9.60 h-k	2.80 fg	49.78 j-m	30.73 b-e	1.44 b-d	1.20 d-j
CHAMPS	9.38 jk	2.84 ef	53.30 de	27.54 j-l	1.41 b-d	1.29 b-d
Phillips	9.48 i-k	2.77 f-h	50.93 g-k	29.88 d-h	1.38 c-e	1.24 b-g
Bailey	9.51 i-k	2.43 i	50.95 f-k	30.37 c-f	1.29 fg	1.27 b-e
Georgia 08V	6.25 n	2.81 fg	79.62 a	4.11 n	1.40 b-d	1.60 a
Florida Fancy	6.06 n	2.86 d-f	78.78 a	4.76 n	1.45 b-d	1.67 a
VA 98R	10.58 a	2.56 g-i	49.37 k-n	31.79 a-c	1.14 h	1.07 lm
Sugg	9.80 f-i	2.38 i	50.76 h-k	31.07 b-d	1.21 gh	1.15 h-l
VT 024077	9.32 kl	2.93 c-f	51.41 f-j	29.42 e-i	1.46 bc	1.18 e-k
VT 004152	9.38 jk	3.30 a	51.44 f-j	28.83 f-j	1.62 a	1.09 k-m
VT 003194	8.61 m	3.31 a	56.87 b	24.18 m	1.63 a	1.16 g-l
VT 003069	10.13 c-f	2.94 c-f	49.66 k-n	30.80 b-e	1.38 c-e	1.14 i-l
VT 003191	10.47 a-c	3.17 a-c	48.09 m-o	31.78 a-c	1.48 b	1.00 n
VT 003192	9.92 f-h	3.09 a-d	52.41 e-h	28.26 h-k	1.41 b-d	1.03 mn
VT 003200	8.96 lm	2.86 d-f	54.48 cd	26.68 kl	1.43 b-d	1.26 b-g
VT 024024	9.41 jk	2.81 fg	52.57 e-g	28.56 g-j	1.41 b-d	1.16 g-l
VT 023117	8.70 m	3.08 a-e	55.47 bc	26.16 l	1.47 bc	1.17 f-l
VT 024051	9.49 i-k	3.19 ab	52.66 ef	27.98 i-k	1.47 bc	1.10 k-m
N03023EF	9.70 g-j	2.84 ef	52.22 e-i	28.49 g-j	1.38 c-f	1.23 b-i
N04074FCT	9.38 jk	2.48 i	50.53 i-l	30.68 b-e	1.29 e-g	1.32 b
N05006	10.52 ab	2.32 i	47.41 o	32.90 a	1.22 gh	1.32 b
N05007	10.37 a-d	2.85 d-f	48.04 no	32.05 ab	1.38 c-e	1.13 j-l
N05008	10.34 a-e	2.96 b-f	48.02 no	32.14 ab	1.40 b-d	1.09 k-m
N05018	9.25 kl	2.54 hi	51.99 e-i	29.64 d-h	1.30 e-g	1.25 b-g
N03088T	9.25 kl	2.32 i	50.97 f-k	30.98 b-e	1.26 g	1.22 c-i
N05024J	9.99 e-g	2.76 f-h	50.52 i-l	30.10 d-g	1.36 d-f	1.16 g-l
N05049J	9.50 i-k	2.84 ef	52.13 e-i	28.60 g-j	1.42 b-d	1.24 b-h
HST 02-08	10.08 d-g	2.33 i	49.36 k-n	31.17 b-d	1.27 g	1.26 b-f
Mean	9.42	2.79	53.08	27.97	1.38	1.22
LSD_{0.05}²	0.38	0.25	1.73	1.65	0.09	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 24. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated from Southampton County, VA, 2009¹ (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	2.57 h-j	1.50 a-c	98.29 a-c	1.53 b	17.98 g-i	1.78 a-d	5.31 fg
Gregory	2.86 a-e	1.48 a-d	94.75 h-j	1.95 b	17.59 j-l	1.56 k-m	5.79 a-d
Perry	2.94 ab	1.53 ab	96.98 c-f	1.62 b	18.30 d-g	1.68 d-i	5.90 ab
CHAMPS	2.75 b-i	1.50 a-c	94.55 ij	1.93 b	17.88 h-j	1.54 lm	5.66 a-g
Phillips	2.83 a-f	1.48 a-d	96.53 d-g	1.71 b	17.95 g-i	1.66 e-j	5.70 a-f
Bailey	2.72 c-i	1.46 a-e	97.42 a-e	1.68 b	17.41 lm	1.75 a-f	5.47 c-g
Georgia 08V	2.76 a-i	1.44 b-f	76.86 l	21.33 a	14.66 p	0.28 o	5.61 a-g
Florida Fancy	2.89 a-d	1.53 ab	77.33 l	19.14 a	14.78 p	0.32 o	5.86 a-c
VA 98R	2.20 k	1.29 gh	98.37 a-c	1.56 b	17.76 i-l	1.79 a-c	4.62 h
Sugg	2.45 j	1.17 h	98.38 a-c	1.63 b	17.02 no	1.83 ab	4.84 h
VT 024077	2.78 a-h	1.50 a-c	96.10 e-h	1.75 b	17.99 g-i	1.63 g-l	5.74 a-e
VT 004152	2.97 a	1.38 c-g	95.04 h-j	1.79 b	18.65 b-d	1.55 lm	5.96 a
VT 003194	2.91 a-c	1.33 e-g	91.71 k	2.35 b	17.79 i-k	1.36 n	5.87 a-c
VT 003069	2.55 ij	1.41 b-g	96.95 c-f	1.61 b	18.41 c-e	1.67 e-j	5.34 e-g
VT 003191	2.68 d-i	1.35 d-g	97.18 b-e	1.51 b	19.15 a	1.66 e-k	5.51 b-g
VT 003192	2.56 h-j	1.32 e-g	94.84 h-j	1.86 b	18.30 d-g	1.54 lm	5.29 fg
VT 003200	2.88 a-d	1.45 b-f	94.05 j	2.06 b	17.58 j-l	1.52 m	5.76 a-d
VT 024024	2.66 e-j	1.41 b-g	95.59 f-i	1.84 b	17.71 i-l	1.61 h-m	5.48 c-g
VT 023117	2.64 f-j	1.32 fg	93.93 j	2.12 b	17.21 mn	1.52 m	5.42 d-g
VT 024051	2.68 d-i	1.43 b-f	94.62 ij	1.89 b	18.26 e-g	1.53 lm	5.57 a-g
N03023EF	2.60 g-j	1.54 ab	95.23 g-j	1.83 b	18.06 e-i	1.58 j-m	5.52 b-g
N04074FCT	2.81 a-g	1.50 a-c	97.64 a-d	1.65 b	17.47 k-m	1.76 a-e	5.60 a-g
N05006	2.77 a-h	1.54 ab	98.80 a	1.45 b	18.37 d-f	1.79 a-c	5.53 b-g
N05007	2.67 d-i	1.50 a-c	97.72 a-d	1.50 b	18.78 b	1.70 c-h	5.55 a-g
N05008	2.60 h-j	1.44 b-f	97.82 a-d	1.49 b	18.75 bc	1.71 c-h	5.45 d-g
N05018	2.60 g-j	1.44 b-f	97.03 b-f	1.76 b	17.13 m-o	1.73 b-g	5.33 fg
N03088T	2.65 e-j	1.34 d-g	98.46 ab	1.65 b	16.82 o	1.84 a	5.25 g
N05024J	2.72 b-i	1.39 c-g	96.50 d-g	1.68 b	18.22 e-h	1.65 f-k	5.47 c-g
N05049J	2.83 a-f	1.43 b-g	95.36 g-j	1.82 b	18.02 f-i	1.59 i-m	5.68 a-f
HST 02-08	2.95 a	1.59 a	97.43 a-e	1.58 b	18.21 e-h	1.71 c-h	5.80 a-d
Mean	2.72	1.43	95.05	2.98	17.74	1.56	5.53
LSD_{0.05}¹	0.22	0.14	1.44	3.99	0.35	0.10	0.41

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 from Martin County, NC Planting Date 1, 2009¹.

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.16 b-e	2.47 i-l	50.46 lm	30.84 a-d	1.22 ij	1.10 f-i
Gregory	8.94 k-m	2.82 ef	55.67 c-e	26.12 j-l	1.37 c-f	1.17 c-f
Perry	9.54 f-i	2.65 gh	51.49 i-l	29.44 c-g	1.38 c-f	1.19 c-e
CHAMPS	9.35 h-k	2.72 fg	55.31 c-f	26.02 j-l	1.34 c-g	1.20 c-e
Phillips	10.18 b-d	2.55 h-j	51.48 i-l	29.92 b-f	1.21 j	1.12 e-i
Bailey	9.67 e-h	2.39 kl	50.47 lm	30.73 a-d	1.27 g-j	1.20 c-e
Georgia 08V	6.43 n	2.63 gh	78.93 a	5.13 n	1.33 d-g	1.49 b
Florida Fancy	6.51 n	2.52 h-l	77.32 a	6.48 n	1.31 e-h	1.61 a
Sugg	9.40 h-k	2.48 i-l	52.64 g-l	29.22 d-h	1.30 e-i	1.12 d-h
VA 98R	9.94 d-g	2.58 g-i	51.32 j-l	29.92 b-f	1.26 g-j	1.14 d-g
VT 024077	9.46 g-j	2.92 de	52.55 g-l	28.70 e-i	1.42 b-d	1.04 h-j
VT 004152	9.01 j-m	3.33 a	56.02 b-d	25.00 lm	1.59 a	1.01 jk
VT 003194	8.55 m	3.29 a	58.15 b	23.38 m	1.58 a	1.07 g-j
VT 003069	10.18 b-d	2.83 ef	50.41 lm	30.21 b-e	1.37 c-f	1.11 f-i
VT 003191	10.52 ab	3.11 bc	48.25 mn	31.42 a-c	1.43 bc	0.91 l
VT 003192	9.98 c-f	3.01 cd	52.71 g-l	28.23 f-i	1.38 c-f	0.95 kl
VT 003200	9.36 h-k	2.84 ef	53.83 d-h	27.46 h-k	1.38 c-f	1.12 e-i
VT 024024	9.37 h-k	2.70 fg	53.02 f-k	28.29 e-i	1.39 c-e	1.15 d-g
VT 023117	8.77 lm	2.96 c-e	56.32 bc	25.75 kl	1.41 b-d	1.09 f-j
VT 024051	9.55 f-i	3.24 ab	53.61 e-j	26.99 i-k	1.48 b	1.04 ij
N03023EF	9.90 d-g	2.58 g-i	53.71 d-i	27.95 f-j	1.24 h-j	1.12 e-i
N04074FCT	9.21 h-l	2.55 h-j	53.39 e-k	28.12 f-i	1.32 e-h	1.25 c
N05006	10.70 a	2.42 j-l	48.22 mn	32.41 a	1.22 ij	1.14 d-g
N05007	10.47 a-c	2.64 gh	48.61 mn	31.84 ab	1.32 e-h	1.07 g-j
N05008	10.74 a	2.64 gh	47.79 n	32.60 a	1.30 f-j	1.07 g-j
N05018	9.11 i-l	2.53 h-k	54.08 c-g	27.82 g-j	1.30 f-j	1.20 cd
N03088T	9.40 h-k	2.38 l	51.95 g-l	29.87 b-f	1.26 g-j	1.20 c-e
N05024J	9.96 d-f	2.66 gh	51.62 h-l	29.23 d-h	1.34 c-g	1.15 d-g
N05049J	9.57 f-i	2.63 gh	52.89 g-k	28.16 f-i	1.35 c-g	1.21 cd
HST 02-08	10.24 a-d	2.61 g-i	51.14 kl	29.47 b-g	1.27 g-j	1.09 f-i
Mean	9.47	2.72	54.11	27.22	1.34	1.17
LSD_{0.05}²	0.5	0.15	2.31	1.98	0.09	0.08

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 from Martin County, NC Planting Date 1, 2009¹ (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	2.36 fg	1.38 bc	97.69 a-c	1.64 b	17.59 f-k	1.75 a-c	4.96 c-e
Gregory	2.56 b-f	1.35 bc	94.05 h-j	2.13 b	17.04 j-n	1.53 h-j	5.28 a-e
Perry	2.84 ab	1.46 ab	96.23 c-g	1.75 b	17.87 c-h	1.65 c-g	5.68 ab
CHAMPS	2.68 a-f	1.39 bc	93.58 jk	2.13 b	17.48 g-m	1.49 i-k	5.41 a-c
Phillips	2.37 e-g	1.17 c	96.98 a-e	1.72 b	17.49 g-l	1.71 a-f	4.76 de
Bailey	2.58 a-f	1.69 a	97.59 a-c	1.64 b	17.60 f-j	1.75 a-c	5.54 a-c
Georgia 08V	2.66 a-f	1.39 bc	77.94 m	15.71 a	14.45 o	0.35 m	5.38 a-c
Florida Fancy	2.76 a-d	2.48 ab	79.00 m	14.26 a	14.58 o	0.44 m	5.55 a-c
Sugg	2.56 b-f	1.27 bc	96.78 b-e	1.80 b	17.01 k-n	1.72 a-e	5.14 b-e
VA 98R	2.44 d-g	1.39 bc	96.86 b-e	1.73 b	17.61 f-j	1.70 b-f	5.09 b-e
VT 024077	2.58 a-f	1.33 bc	95.74 e-g	1.83 b	17.70 e-i	1.63 d-h	5.33 a-e
VT 004152	2.72 a-d	1.31 bc	92.28 kl	2.25 b	17.97 c-h	1.39 kl	5.63 ab
VT 003194	2.73 a-d	1.27 bc	91.35 l	2.49 b	17.40 h-n	1.34 l	5.58 ab
VT 003069	2.53 b-g	1.36 bc	96.55 b-f	1.67 b	18.27 b-e	1.65 b-g	5.26 a-e
VT 003191	2.89 a	1.48 ab	96.63 b-f	1.54 b	19.43 a	1.62 d-h	5.81 a
VT 003192	2.48 d-g	1.26 bc	94.97 g-j	1.87 b	18.11 b-f	1.56 g-j	5.13 b-e
VT 003200	2.69 a-e	1.33 bc	94.73 g-j	1.97 b	17.60 f-j	1.56 g-j	5.40 a-c
VT 024024	2.67 a-f	1.40 bc	95.52 e-h	1.87 b	17.53 g-l	1.61 e-h	5.46 a-c
VT 023117	2.47 d-g	1.23 bc	93.90 ij	2.19 b	16.84 n	1.53 h-j	5.11 b-e
VT 024051	2.70 a-d	1.37 bc	93.68 i-k	1.99 b	18.35 bc	1.47 jk	5.56 a-c
N03023EF	2.23 g	1.26 bc	95.49 e-h	1.93 b	17.22 i-n	1.62 d-h	4.73 e
N04074FCT	2.74 a-d	1.42 a-c	95.60 e-g	1.91 b	17.25 i-n	1.63 e-h	5.48 a-c
N05006	2.52 b-g	1.38 bc	98.50 a	1.49 b	18.24 b-d	1.78 a	5.12 b-e
N05007	2.58 a-f	1.47 ab	97.79 ab	1.53 b	18.48 b	1.72 a-d	5.37 a-d
N05008	2.50 c-g	1.36 bc	98.41 a	1.47 b	18.54 b	1.76 ab	5.16 b-e
N05018	2.54 b-g	2.42 a-c	95.64 e-g	1.95 b	16.90 mn	1.65 c-g	5.25 a-e
N03088T	2.60 a-f	1.34 bc	97.36 a-d	1.75 b	16.98 l-n	1.76 a	5.20 a-e
N05024J	2.70 a-d	1.34 bc	95.93 d-g	1.77 b	18.00 b-g	1.63 d-h	5.38 a-c
N05049J	2.82 a-c	1.39 bc	95.21 f-i	1.88 b	17.74 d-i	1.59 g-i	5.56 a-c
HST 02-08	2.74 a-d	1.43 a-c	95.88 d-g	1.74 b	18.31 b-d	1.61 f-h	5.44 a-c
Mean	2.61	1.44	94.60	2.72	17.52	1.54	5.33
LSD_{0.05}²	0.33	0.27	1.54	2.68	0.58	0.11	0.61

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 Martin County, NC Planting Date 2, 2009¹.

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.23 bc	2.38 m-o	49.83 i-l	31.50 a-e	1.20 kl	1.17 b-g
Gregory	9.06 ij	2.70 e-j	54.49 c-e	27.28 l-n	1.36 b-f	1.22 b-d
Perry	9.98 c-e	2.60 g-l	49.83 i-l	31.07 b-g	1.35 c-f	1.14 d-h
CHAMPS	9.36 g-i	2.58 g-m	54.68 cd	26.85 mn	1.32 c-h	1.26 b
Phillips	9.82 c-g	2.48 k-n	50.33 h-k	31.07 c-g	1.29 e-j	1.22 b-d
Bailey	9.65 e-h	2.42 l-o	50.89 g-j	30.64 c-h	1.28 f-k	1.22 b-d
Georgia 08V	6.49 k	2.45 l-o	79.74 a	4.65 p	1.26 h-k	1.57 a
Florida Fancy	6.28 k	2.56 h-m	79.34 a	4.83 p	1.32 c-h	1.62 a
Sugg	9.92 c-f	2.30 no	52.38 e-h	30.17 c-i	1.14 l	1.09 f-k
VA 98R	10.26 bc	2.54 i-m	48.31 j-l	31.63 a-d	1.23 i-k	1.15 c-g
VT 024077	9.66 e-h	2.78 d-g	51.80 f-i	29.55 e-j	1.37 b-e	1.09 f-k
VT 004152	9.49 f-i	3.38 a	52.92 d-g	27.77 k-n	1.60 a	0.96 lm
VT 003194	8.64 j	3.12 b	57.62 b	24.12 o	1.54 a	1.11 e-i
VT 003069	10.14 cd	2.74 d-i	50.93 g-j	29.99 d-j	1.34 c-g	1.08 g-k
VT 003191	10.68 ab	3.06 bc	48.31 kl	31.99 a-c	1.43 b	0.91 m
VT 003192	10.24 bc	2.81 d-f	51.41 f-j	29.54 f-k	1.34 c-h	1.02 j-l
VT 003200	9.38 g-i	2.76 d-h	53.19 d-f	28.29 i-m	1.38 b-d	1.14 d-h
VT 024024	9.47 f-i	2.69 e-k	53.45 d-f	28.16 j-n	1.35 b-f	1.14 d-h
VT 023117	9.79 j	2.92 b-d	56.15 bc	26.22 n	1.38 bc	1.06 h-k
VT 024051	10.17 c	2.88 c-e	51.42 f-j	29.51 g-k	1.34 c-g	1.02 i-l
N03023EF	9.92 c-f	2.54 i-m	52.26 f-h	29.00 h-l	1.28 f-k	1.20 c-e
N04074FCT	9.48 f-i	2.53 j-m	52.12 f-h	29.50 g-k	1.28 f-k	1.25 b
N05006	10.73 a	2.56 h-m	49.63 i-l	31.33 b-g	1.22 j-l	1.08 g-k
N05007	10.80 a	2.67 f-k	47.19 lm	33.39 a	1.31 c-i	1.03 i-l
N05008	10.82 a	2.72 d-j	47.19 lm	32.91 ab	1.31 c-i	1.01 kl
N05018	9.39 g-i	2.44 l-o	52.48 e-h	29.41 g-k	1.26 h-k	1.23 b-d
N03088T	9.33 hi	2.27 o	52.16 f-h	30.17 c-i	1.23 i-k	1.17 b-f
N05024J	10.25 bc	2.61 f-l	50.42 h-k	30.17 c-h	1.30 d-j	1.10 f-j
N05049J	9.69 d-h	2.60 g-l	52.03 f-h	29.07 h-l	1.34 c-h	1.24 bc
HST 02-08	10.22 bc	2.44 l-o	49.28 j-l	31.46 a-f	1.26 g-j	1.18 b-f
Mean	9.64	2.65	53.39	28.04	1.29	1.16
LSD_{0.05}²	0.47	0.21	2.19	2.77	0.08	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 26. 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 Planting Date 2, 2009¹ (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	2.34 e-g	1.36 a-e	98.34 a-c	1.58 b	17.50 i-m	1.80 a-d	4.89 d-f
Gregory	2.54 a-f	1.35 a-e	95.08 i-k	2.00 b	17.01 op	1.60 i-l	5.25 a-e
Perry	2.66 a	1.39 a-d	97.56 b-g	1.61 b	17.98 ef	1.73 c-h	5.40 ab
CHAMPS	2.58 a-e	1.37 a-e	94.53 jk	2.07 b	17.21 l-p	1.56 kl	5.25 a-e
Phillips	2.63 a-c	1.37 a-e	97.71 a-f	1.63 b	17.59 g-k	1.75 a-f	5.29 a-e
Bailey	2.54 a-f	1.37 a-e	97.80 a-d	1.66 b	17.25 k-o	1.78 a-e	5.18 a-e
Georgia 08V	2.49 a-f	1.37 a-e	77.86 m	17.23 a	14.05 s	0.33 n	5.12 a-f
Florida Fancy	1.42 a	1.42 a	77.88 m	17.44 a	14.21 s	0.34 n	5.36 a-e
Sugg	2.05 h	0.95 g	98.16 a-c	1.74 b	16.36 r	1.85 a	4.14 g
VA 98R	2.38 d-g	1.40 a-c	98.19 a-c	1.56 b	17.80 e-i	1.78 a-e	5.00 b-f
VT 024077	2.47 a-g	1.27 a-f	96.59 d-i	1.75 b	17.56 h-l	1.68 e-i	5.12 a-f
VT 004152	2.64 ab	1.26 a-f	94.37 k	1.91 b	18.36 b-d	1.52 l	5.49 a
VT 003194	2.60 a-d	1.25 b-f	92.21 j	2.39 b	17.15 m-p	1.41 m	5.39 a-c
VT 003069	2.48 a-g	1.32 a-f	96.59 d-i	1.70 b	18.01 d-f	1.67 f-j	5.14 a-f
VT 003191	2.40 b-g	1.22 d-f	97.67 a-f	1.51 b	18.79 a	1.70 d-h	5.05 a-f
VT 003192	2.39 b-g	1.25 a-f	96.18 e-i	1.74 b	18.03 de	1.64 h-k	4.98 b-f
VT 003200	2.60 a-d	1.27 a-f	95.65 h-k	1.88 b	17.38 j-n	1.63 h-k	5.24 a-e
VT 024024	2.45 a-g	1.29 a-f	95.65 h-k	1.90 b	17.24 k-o	1.63 h-k	5.09 a-f
VT 023117	2.32 fg	1.16 f	94.54 jk	2.14 b	16.57 qr	1.58 j-l	4.86 ef
VT 024051	2.38 c-g	1.28 a-f	96.14 f-i	1.77 b	18.05 c-e	1.64 h-k	5.00 b-f
N03023EF	2.38 c-g	1.41 ab	96.13 f-i	1.80 b	17.53 h-l	1.65 h-k	5.07 a-f
N04074FCT	2.52a-f	1.32 a-f	96.91 ch	1.77 b	17.12n-p	1.72 c-h	5.12 a-f
N05006	2.24 gh	1.21 ef	97.81 a-d	1.59 b	17.95 ef	1.74 b-g	4.67 f
N05007	2.33 fg	1.29 a-f	99.24 a	1.41 b	18.39 bc	1.82 a-c	4.93 b-f
N05008	2.31 fg	1.29 a-f	98.77 ab	1.45 b	18.44 b	1.79 a-d	4.91 c-f
N05018	2.44 a-g	1.35 a-e	97.04 c-h	1.78 b	16.57 qr	1.74 b-g	5.05 a-f
N03088T	2.44 a-g	1.23 c-f	98.04 a-d	1.73 b	16.50 r	1.83 ab	4.90 c-f
N05024J	2.45 a-g	1.26 a-f	97.25 b-g	1.65 b	17.87 e-h	1.71 d-h	5.01 b-f
N05049J	2.68 a	1.35 a-e	96.08 g-i	1.79 b	17.66 f-j	1.65 g-k	5.37 a-d
HST 02-08	2.61 a-d	1.41 ab	97.93 a-d	1.57 b	17.93 e-g	1.76 a-f	5.28 a-e
Mean	2.43	1.30	95.46	2.79	17.34	1.60	5.09
LSD_{0.05}²	0.25	0.17	1.55	1.89	0.35	0.10	0.48

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. Average of planting dates from Martin County, NC, 2009¹.

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.20 bc	2.42 o-r	50.15 ij	31.17 b-e	1.21 n	1.14 g-m
Gregory	9.00 kl	2.76 g-i	55.08 cd	26.70 mn	1.37 b-f	1.20 c-g
Perry	9.72 d-g	2.63 i-m	50.83 hi	30.09 e-h	1.37 b-f	1.17 d-i
CHAMPS	9.36 h-j	2.65 i-l	54.99 cd	26.44 mn	1.33 e-i	1.23 cd
Phillips	10.00 b-d	2.52 l-q	50.90 g-i	30.40 d-g	1.25 k-n	1.17 d-j
Bailey	9.66 d-h	2.40 p-r	50.68 hi	30.69 c-f	1.27 i-n	1.21 c-f
Georgia 08V	6.46 n	2.56 k-o	79.25 a	4.93 p	1.30 f-l	1.52 b
Florida Fancy	6.40 n	2.54 l-o	78.33 a	5.66 p	1.32 e-j	1.62 a
Sugg	9.66 d-h	2.39 qr	52.51 fg	29.70 f-k	1.22 mn	1.11 j-o
VA 98R	10.10 bc	2.56 j-o	50.37 ij	30.77 c-f	1.25 l-n	1.15 f-l
VT 024077	9.56 f-i	2.85 e-g	52.18 f-h	29.13 g-k	1.40 b-d	1.07 n-q
VT 004152	9.20 jk	3.35 a	54.78 c-e	26.11 n	1.60 a	1.00 rs
VT 003194	8.59 m	3.21 b	57.88 b	23.75 o	1.56 a	1.10 l-q
VT 003069	10.16 bc	2.80 f-h	50.61 hi	30.12 e-h	1.36 c-g	1.10 k-p
VT 003191	10.60 a	3.09 bc	48.28 k	31.70 a-d	1.43 b	0.91 t
VT 003192	10.11 bc	2.91 ef	52.06 f-h	28.89 h-l	1.36 c-g	1.00 s
VT 003200	9.37 g-j	2.80 f-h	53.51 d-f	27.88 lm	1.38 b-e	1.13 h-n
VT 024024	9.42 g-j	2.70 h-j	53.24 ef	28.23 l	1.37 b-e	1.15 f-l
VT 023117	8.78 lm	2.94 de	56.24 c	25.99 n	1.40 b-d	1.08 m-q
VT 024051	9.86 c-f	3.06 cd	52.51 fg	28.25 kl	1.41 bc	1.03 q-s
N03023EF	9.91 b-e	2.56 j-o	52.99 f	28.48 j-l	1.26 j-n	1.16 e-k
N04074FCT	9.34 h-k	2.54 l-o	52.76 f	28.81 h-l	1.30 g-l	1.25 c
N05006	10.71 a	2.49 m-q	48.93 jk	31.87 a-c	1.22 mn	1.11 i-o
N05007	10.60 a	2.65 i-l	48.04 k	32.46 ab	1.31 e-k	1.05 o-r
N05008	10.78 a	2.68 h-k	47.71 k	32.76 a	1.30 f-l	1.04 p-s
N05018	9.25 i-k	2.49 n-q	53.28 ef	28.62 i-l	1.28 h-m	1.22 c-e
N03088T	9.37 h-j	2.32 r	52.06 f-h	30.02 e-i	1.24 l-n	1.19 d-h
N05024J	10.11 bc	2.64 i-l	51.02 g-i	29.92 e-j	1.32 e-j	1.13 h-n
N05049J	9.63 e-h	2.61 j-n	52.46 fg	28.61 i-l	1.34 d-h	1.23 cd
HST 02-08	10.23 b	2.53 l-p	50.28 ij	30.47 c-g	1.27 j-n	1.14 g-l
Mean	9.54	2.69	53.80	27.62	1.33	1.15
LSD_{0.05}²	0.35	0.14	1.62	1.47	0.07	0.06

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. Average of planting dates from Martin County, NC, 2009¹ (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	2.35 gh	1.37 a-d	98.01 a-c	1.61 b	17.55 f-h	1.78 ab	4.93 e-h
Gregory	2.55 a-g	1.35 b-e	94.57 lm	2.07 b	17.03 j-l	1.57 j-l	5.27 a-g
Perry	2.77 a	1.43 a-c	96.76 d-i	1.69 b	17.91 de	1.68 c-h	5.57 a
CHAMPS	2.63 a-e	1.38 a-d	94.06 mn	2.10 b	17.35 g-j	1.52 lm	5.34 a-e
Phillips	2.50 c-h	1.27 c-f	97.35 b-g	1.68 b	17.54 f-i	1.73 a-f	5.02 c-h
Bailey	2.56 a-g	1.53 a	97.70 a-d	1.65 b	17.42 f-i	1.76 a-c	5.36 a-d
Georgia 08V	2.59 a-f	1.38 a-d	77.91 p	16.32 a	14.29 m	0.34 o	5.28 a-g
Florida Fancy	2.69 a-c	1.45 ab	78.44 p	15.85 a	14.39 m	0.39 o	5.46 ab
Sugg	2.31 h	1.11 f	97.47 a-f	1.77 b	16.69 l	1.78 a	4.64 h
VA 98R	2.41 e-h	1.40 a-d	97.53 a-e	1.65 b	17.71 ef	1.74 a-e	5.05 b-h
VT 024077	2.53 b-h	1.30 b-e	96.16 g-j	1.79 b	17.63 e-h	1.65 f-i	5.23 a-g
VT 004152	2.69 a-c	1.29 b-e	93.11 n	2.11 b	18.12 cd	1.44 mn	5.57 a
VT 003194	2.67 a-c	1.26 d-f	91.78 o	2.44 b	17.28 h-j	1.38 n	5.48 a
VT 003069	2.51 c-h	1.34 b-e	96.57 e-i	1.68 b	18.17 b-d	1.66 e-i	5.21 a-g
VT 003191	2.65 a-d	1.35 b-e	97.15 b-g	1.52 b	19.11 a	1.66 e-i	5.43 a-c
VT 003192	2.44 d-h	1.26 d-f	95.58 i-l	1.81 b	18.07 d	1.60 h-l	5.05 b-h
VT 003200	2.64 a-d	1.30 b-e	95.19 j-m	1.92 b	17.49 f-i	1.59 i-l	5.32 a-f
VT 024024	2.56 a-g	1.34 b-e	95.59 i-l	1.89 b	17.39 f-i	1.62 g-k	5.27 a-g
VT 023117	2.39 f-h	1.20 ef	94.22 mn	2.17 b	16.70 l	1.55 kl	4.99 d-h
VT 024051	2.54 a-g	1.33 b-e	94.91 k-m	1.88 b	18.20 b-d	1.55 kl	5.28 a-g
N03023EF	2.31 h	1.34 b-e	95.81 h-k	1.87 b	17.38 f-j	1.64 g-j	4.90 f-h
N04074FCT	2.63 a-e	1.37 a-d	96.26 f-j	1.84 b	17.19 i-k	1.68 d-i	5.30 a-g
N05006	2.38 f-h	1.30 b-e	98.15 ab	1.54 b	18.10 cd	1.76 a-d	4.89 gh
N05007	2.48 c-h	1.40 a-d	98.37 ab	1.48 b	18.44 bc	1.76 a-d	5.19 a-g
N05008	2.41 e-h	1.33 b-e	98.59 a	1.46 b	18.49 b	1.77 ab	5.04 c-h
N05018	2.49 c-h	1.39 a-d	96.34 e-j	1.87 b	16.89 kl	1.70 b-g	5.15 b-g
N03088T	2.52 c-h	1.29 c-e	97.70 a-d	1.74 b	16.74 l	1.79 a	5.05 b-h
N05024J	2.58 a-f	1.30 b-e	96.59 e-i	1.71 b	17.94 de	1.67 e-i	5.19 a-g
N05049J	2.75 ab	1.37 a-d	95.64 i-l	1.84 b	17.70 e-g	1.62 g-k	5.46 ab
HST 02-08	2.68 a-c	1.42 a-d	96.91 c-h	1.66 b	18.12 cd	1.68 c-g	5.36 a-d
Mean	2.54	1.34	95.01	2.75	17.43	1.57	5.21
LSD_{0.05}²	0.23	0.17	1.23	1.51	0.36	0.08	0.42

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 from Rocky Mount, NC, 2009¹.

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
Gregory	9.25 ij	2.58 c-g	53.25 cd	28.71 de	1.29 b-e	1.15 b-d
Perry	9.76 c-g	2.47 e-i	49.67 e-g	31.52 a-c	1.31 b-d	1.14 b-d
CHAMPS	9.54 f-i	2.56 c-h	53.24 cd	28.19 ef	1.29 b-e	1.22 ab
Georgia 08V	7.72 l	2.65 b-f	67.81 a	15.39 g	1.29 b-e	1.30 a
Sugg	9.42 g-j	2.21 jk	51.34 c-f	30.70 b-e	1.22 f-i	1.18 a-c
VT 024077	9.59 f-i	2.70 b-e	51.15 c-f	30.36 b-e	1.34 b	1.05 d-f
VT 004152	9.94 b-f	2.86 ab	50.50 d-f	30.38 b-e	1.42 a	0.98 ef
VT 003194	8.76 k	3.02 a	56.29 b	25.79 f	1.45 a	1.04 d-f
VT 003069	10.15 bc	2.55 c-i	50.10 ef	31.20 a-d	1.25 d-h	1.06 c-e
VT 003191	10.71 a	2.71 b-e	47.05 g	33.49 a	1.33 bc	0.96 f
VT 003192	10.15 b-d	2.72 b-d	51.27 c-f	29.95 b-e	1.28 b-f	0.99 ef
VT 003200	9.4 f-i	2.53 c-i	51.95 c-e	29.55 c-e	1.31 b-d	1.15 b-d
VT 024024	9.64 e-i	2.45 f-j	51.00 c-f	30.59 b-e	1.27 c-g	1.15 b-d
VT 023117	9.05 jk	2.73 bc	53.96 bc	28.27 ef	1.31 b-d	1.06 d-f
VT 024051	10.02 b-e	2.88 ab	50.86 d-f	30.22 b-e	1.34 b	0.97 f
N03023EF	9.88 c-f	2.35 g-j	50.86 d-f	30.72 b-e	1.21 hi	1.16 b-d
N04074FCT	9.61 e-i	2.34 g-j	50.18 ef	31.35 a-c	1.26 d-h	1.19 a-c
N05007	10.34 ab	2.44 f-j	48.63 fg	32.27 ab	1.24 e-h	1.12 b-d
N05018	9.68 e-i	2.31 i-k	49.57 e-g	32.12 a-c	1.23 f-i	1.19 a-c
N03088T	9.31 h-j	2.09 k	51.42 c-f	30.93 a-d	1.17 i	1.24 ab
N05024J	9.73 d-h	2.43 f-j	50.80 d-f	30.67 b-e	1.27 c-h	1.16 b-d
N05049J	9.77 c-g	2.49 d-i	50.91 d-f	30.32 b-e	1.28 b-f	1.21 a-c
HST 02-08	10.18 bc	2.32 i-k	48.88 fg	32.05 a-c	1.21 g-i	1.19 a-c
Mean	9.63	2.54	51.77	29.77	1.29	1.12
LSD_{0.05}²	0.43	0.24	3.01	2.62	0.06	0.12

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 from Rocky Mount, NC, 2009¹ (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
Gregory	2.45 e-g	1.31 e-h	96.43 e-g	1.85 bc	16.89 h-k	1.70 c-e	5.06 d-f
Perry	2.71 a	1.41 a-d	98.22 a-e	1.58 bc	17.67 b-g	1.78 a-d	5.43 a
CHAMPS	2.59 a-f	1.38 a-g	95.57 gh	1.90 bc	17.36 e-i	1.63 ef	5.25 a-e
Georgia 08V	2.55 a-f	1.31 e-h	86.00 i	4.70 a	15.51 l	0.99 g	5.16 a-f
Sugg	2.60 a-e	1.32 d-h	98.27 a-e	1.67 bc	16.77 i-k	1.83 ab	5.14 b-f
VT 024077	2.51 b-g	1.31 e-h	97.41 a-g	1.69 bc	17.44 c-h	1.74 b-e	5.16 a-f
VT 004152	2.65 a-d	1.28 g-i	96.83 c-g	1.67 bc	18.14 ab	1.68 de	5.35 a-c
VT 003194	2.47 e-g	1.19 i	93.90 h	2.18 b	16.89 h-k	1.53 f	5.11 b-f
VT 003069	2.37 g	1.30 f-h	97.98 a-f	1.61 bc	17.62 b-g	1.77 a-d	4.92 f
VT 003191	2.49 d-g	1.27 hi	99.23 a	1.40 c	18.50 a	1.81 a-c	5.09 c-f
VT 003192	2.36 g	1.28 g-i	96.75 d-g	1.72 bc	17.79 b-f	1.68 c-e	4.92 f
VT 003200	2.65 a-d	1.33 c-h	96.76 d-g	1.76 bc	17.35 e-i	1.70 b-e	5.29 a-e
VT 024024	2.53 b-g	1.39 a-f	97.75 a-f	1.67 bc	17.27 f-j	1.77 a-d	5.18 a-f
VT 023117	2.41 fg	1.19 i	96.21 fg	1.91 bc	16.70 jk	1.69 c-e	4.91 f
VT 024051	2.44 e-g	1.28 hi	96.84 c-g	1.69 bc	17.96 a-d	1.68 de	5.06 d-f
N03023EF	2.42 fg	1.43 ab	97.85 a-f	1.66 bc	17.28 f-j	1.78 a-d	5.06 d-f
N04074FCT	2.68 ab	1.39 a-f	98.40 a-d	1.60 bc	17.28 e-j	1.81 a-c	5.33 a-d
N05007	2.55 a-f	1.41 a-e	98.61 a-d	1.51 c	17.98 a-c	1.80 a-d	5.20 a-e
N05018	2.50 c-g	1.42 a-c	99.21 ab	1.55 bc	17.13 g-j	1.88 a	5.15 b-f
N03088T	2.55 a-f	1.31 f-h	98.77 a-c	1.67 bc	16.42 k	1.89 a	5.03 ef
N05024J	2.60 a-e	1.36 a-h	97.72 a-f	1.66 bc	17.38 d-h	1.77 a-d	5.22 a-e
N05049J	2.67 a-c	1.34 b-h	97.26 b-g	1.68 bc	17.56 b-g	1.73 b-e	5.30 a-e
HST 02-08	2.72 a	1.45 a	98.50 a-d	1.53 c	17.87 b-e	1.79 a-d	5.37 ab
Mean	2.54	1.33	96.98	1.82	17.34	1.71	5.16
LSD_{0.05}²	0.17	0.1	1.96	0.64	0.59	0.13	0.28

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 from Whiteville, NC, 2009¹.

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.34 a-f	2.83 i-k	49.81 e-j	30.97 a-e	1.30 i-k	1.08 d-g
Gregory	9.29 l-n	3.37 b-e	52.83 b-d	27.88 f-h	1.53 bc	1.14 b-d
Perry	9.79 e-l	3.21 c-g	51.86 d-f	28.85 d-f	1.46 b-g	1.06 c-h
CHAMPS	9.96 c-j	2.94 g-k	51.88 d-f	28.99 d-f	1.38 e-k	1.14 b-d
Phillips	9.78 f-j	3.15 c-i	51.11 d-h	29.54 a-f	1.42 c-h	1.10 b-f
Bailey	9.74 g-l	2.88 h-k	51.00 d-i	30.11 a-f	1.36 f-k	1.11 b-e
Georgia 08V	6.77 o	3.09 e-j	77.66 a	5.97 i	1.41 c-j	1.37 a
Florida Fancy	6.93 o	3.46 bc	76.37 a	7.00 i	1.47 b-f	1.32 a
VA 98R	10.39 a-e	3.03 f-k	51.02 d-i	29.95 a-f	1.29 jk	1.02 f-j
VT 024077	9.87 d-l	3.21 c-g	51.61 d-g	29.13 d-f	1.43 c-h	1.04 e-i
VT 004152	9.72 g-l	3.59 b	51.91 d-f	28.50 e-g	1.58 b	0.92 jk
VT 003194	8.89 n	4.06 a	54.89 bc	25.68 h	1.74 a	0.98 h-j
VT 003069	10.49 a-c	2.83 i-k	49.94 e-j	30.75 a-e	1.30 i-k	1.07 b-h
VT 003191	10.84 a	3.59 b	47.89 j	31.80 a-c	1.50 b-d	0.89 k
VT 003192	10.29 a-g	3.43 b-d	51.18 d-g	29.19 d-f	1.43 c-h	0.96 i-k
VT 003200	9.50 h-m	3.31 b-f	52.81 b-d	27.88 f-h	1.51 b-d	1.09 b-g
VT 024024	9.41 i-n	3.09 e-i	52.47 c-e	28.42 e-g	1.47 b-f	1.16 b
VT 023117	8.94 mn	3.31 b-f	55.37 b	26.14 gh	1.49 b-e	1.08 d-g
VT 024051	10.40 a-d	3.07 e-k	49.74 e-j	30.69 a-e	1.37 e-k	1.04 d-i
N03023EF	10.01 b-i	3.12 d-i	51.00 d-i	29.69 a-f	1.42 c-h	1.06 c-h
N04074FCT	9.72 g-l	2.96 g-k	51.44 d-g	29.39 b-f	1.40 d-j	1.15 bc
N05006	10.82 a	2.74 k	48.37 h-j	32.04 a	1.27 k	1.09 b-g
N05007	10.60 ab	3.17 c-h	48.28 ij	31.84 ab	1.42 c-i	1.00g-j
N05008	10.40 a-d	3.03 f-k	49.17 f-j	31.27 a-d	1.38 e-k	1.07 b-h
N05018	9.38 j-n	2.96 g-k	52.21 c-e	29.24 c-f	1.39 d-j	1.10 b-f
N03088T	9.33 k-n	2.76 jk	51.92 d-f	29.84 a-f	1.34 g-k	1.11 b-f
N05024J	9.92 c-k	3.05 e-k	51.58 d-g	29.21 d-f	1.40 d-j	1.08 d-g
N05049J	10.02 b-h	3.03 f-k	51.93 d-f	28.63 e-g	1.42 c-i	1.12 b-e
HST 02-08	10.13 b-g	2.75 k	48.93 g-j	31.81 ab	1.32 h-k	1.11 b-e
Mean	9.71	3.14	52.97	27.94	1.42	1.08
LSD_{0.05}²	0.60	0.33	2.80	2.57	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 from Whiteville, NC, 2009¹ (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	2.35 c-e	1.33 a-d	97.33 a-c	1.61 c	18.15 c-f	1.71 a-c	4.98 b-d
Gregory	2.63 a	1.34 a-c	94.62 fg	1.90 c	18.16 c-f	1.53 e-g	5.50 a
Perry	2.46 a-d	1.31 a-e	95.40 b-g	1.81 c	18.23 c-f	1.58 c-g	5.23 a-c
CHAMPS	2.46 a-d	1.27 a-f	95.72 b-g	1.79 c	18.00 d-f	1.61 a-g	5.11 a-d
Phillips	2.57 a-d	1.32 a-e	96.00 a-f	1.73 c	18.24 c-f	1.62 a-g	5.31 a-c
Bailey	2.48 a-d	1.32 a-d	96.90 a-d	1.69 c	17.77 fg	1.59 a-d	5.16 a-c
Georgia 08V	2.44 a-d	1.30 a-f	78.20i	16.99 a	15.01 i	0.39 i	5.15 a-c
Florida Fancy	2.33 de	1.13 f	78.84 i	10.92 b	15.32 i	0.46 i	4.93 cd
VA 98R	2.14 e	1.18 c-f	96.55 a-f	1.71 c	18.02 d-f	1.66 a-f	4.61 d
VT 024077	2.42 a-d	1.29 a-f	95.66 b-g	1.79 c	18.23 c-f	1.60 b-g	5.14 a-c
VT 004152	2.56 a-d	1.20 a-f	94.75 e-g	1.82 c	18.66 bc	1.53 f-h	5.34 a-c
VT 003194	2.62 a	1.14 ef	92.47 h	2.14 c	18.45 b-e	1.39 h	5.50 a
VT 003069	2.32 de	1.29 a-f	97.05 a-d	1.63 c	18.24 c-f	1.69 a-d	4.92 cd
VT 003191	2.34 c-e	1.15 d-f	96.97 a-d	1.51 c	19.43 a	1.64 a-g	5.00 b-d
VT 003192	2.32 de	1.19 b-f	95.34 c-g	1.76 c	18.67 bc	1.57 c-g	4.95 b-d
VT 003200	2.59 a-c	1.31 a-e	94.56 f-h	1.90 c	18.23 c-f	1.53 f-h	5.41 a-c
VT 024024	2.62 ab	1.36 ab	95.27 c-g	1.85 c	17.95 e-g	1.58 c-g	5.44 ab
VT 023117	2.48 a-d	1.20 a-f	93.74 gh	2.13 c	17.41 gh	1.50 gh	5.16 a-c
VT 024051	2.40 a-d	1.29 a-f	96.76 a-e	1.64 c	18.53 b-d	1.66 a-f	5.06 a-d
N03023EF	2.36 b-e	1.33 a-d	96.13 a-f	1.72 c	18.25 c-f	1.63 a-g	5.11 a-c
N04074FCT	2.61 ab	1.33 a-d	96.05 a-f	1.75 c	18.02 d-f	1.63 a-g	5.34 a-c
N05006	2.38 a-e	1.30 a-f	97.95 a	1.52 c	18.51 b-d	1.74 ab	4.95 b-d
N05007	2.39 a-e	1.30 a-f	97.47 ab	1.52 c	18.88 b	1.68 a-d	5.11 a-c
N05008	2.39 a-e	1.29 a-f	97.29 a-c	1.58 c	18.49 b-d	1.67 a-e	5.06 a-d
N05018	2.42 a-d	1.30 a-f	96.41 a-f	1.79 c	17.45 gh	1.67 a-e	5.12 a-c
N03088T	2.46 a-d	1.24 a-f	97.22 a-d	1.74 c	17.13 h	1.74 a	5.04 a-d
N05024J	2.49 a-d	1.27 a-f	95.81 b-g	1.77 c	18.13 c-f	1.61 a-g	5.16 a-c
N05049J	2.58 a-d	1.29 a-f	95.12 d-g	1.82 c	18.33 c-e	1.56 d-g	5.29 a-c
HST 02-08	2.57 a-d	1.37 a	98.05 a	1.54 c	18.15 c-f	1.75 a	5.27 a-c
Mean	2.45	1.27	94.81	2.59	18.00	1.54	5.15
LSD_{0.05}²	0.26	0.18	2.10	3.12	0.54	0.14	0.50

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 from Florence, SC, 2009¹.

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	11.05 a-c	2.65 k-m	47.06 i-k	32.92 ab	1.27 kl	1.13 c-f
Gregory	9.88 h-k	3.08 d-h	52.00 b-e	28.58 d-f	1.44 c-f	1.13 c-g
Perry	10.05 e-k	3.16 c-g	49.75 d-i	30.52 b-e	1.49 bc	1.06 f-j
CHAMPS	10.46 c-h	2.56 m	49.80 d-i	30.35 b-e	1.31 i-l	1.30 b
Phillips	10.33 d-i	2.98 f-j	48.07 g-k	32.06 a-c	1.40 d-h	1.13 c-g
Bailey	9.79 i-k	3.00 e-i	51.17 c-g	29.73 c-e	1.39 d-h	1.14 c-f
Georgia 08V	6.70 m	3.16 c-g	78.75 a	4.49 h	1.45 c-e	1.45 a
Florida Fancy	6.42 m	3.39 a-c	79.31 a	3.70 h	1.59 a	1.42 a
Sugg	9.74 i-k	2.83 h-l	51.33 c-g	29.90 c-e	1.36 g-i	1.10 e-i
VA 98R	11.34 ab	2.65 lm	46.96 i-k	33.13 ab	1.25 l	1.10 e-i
VT 024077	9.93 h-k	3.07 d-h	51.07 d-g	29.53 c-e	1.42 c-g	1.08 e-j
VT 004152	9.57 j-l	3.50 a	54.41 bc	26.02 fg	1.56 ab	1.02 h-k
VT 003194	9.16 l	3.46 ab	55.24 b	25.41 g	1.61 a	1.09 e-i
VT 003069	10.74 b-d	2.94 f-j	49.94 d-i	30.28 b-e	1.39 d-h	1.03 g-j
VT 003191	10.74 b-d	3.26 a-e	48.66 f-k	31.27 a-d	1.47 cd	0.93 k
VT 003192	10.15 d-j	2.78 i-m	51.45 c-f	28.87 d-f	1.35 g-j	1.22 bc
VT 003200	9.87 h-k	2.97 f-j	52.98 b-d	27.76 e-g	1.42 c-g	1.10 e-i
VT 024024	10.66 b-e	2.72 j-m	49.51 e-j	30.82 b-d	1.33 h-k	1.12 d-h
VT 023117	9.46 kl	3.27 a-d	52.17 b-e	28.73 d-f	1.47 cd	1.11 d-i
VT 024051	10.46 c-h	2.96 f-j	49.12 e-j	30.84 b-d	1.39 d-h	1.14 c-f
N03023EF	10.64 b-f	3.20 b-f	48.93 e-j	30.59 b-e	1.46 cd	1.14 c-f
N04074FCT	10.04 f-k	2.78 i-m	49.14 e-j	31.22 a-d	1.38 e-i	1.21 b-d
N05006	11.46 a	2.64 lm	45.55 k	33.91 a	1.27 j-l	1.15 c-f
N05007	11.39 a	2.92 g-k	46.45 jk	33.02 ab	1.37 f-i	1.01 i-k
N05008	11.04 a-c	2.87 h-l	47.56 h-k	32.27 a-c	1.36 g-i	1.06 f-j
N05018	9.99 g-k	3.05 d-i	51.85 c-f	29.03 de	1.39 d-h	1.05 f-j
N03088T	9.69 j-l	2.67 k-m	51.54 c-f	29.90 c-e	1.31 i-l	1.12 d-h
N05024J	10.55 c-g	3.18 c-g	50.42 d-h	29.85 c-e	1.41 c-g	0.99 jk
N05049J	10.34 d-i	2.95 f-j	49.46 e-j	30.65 b-d	1.41 d-h	1.17 c-e
HST 02-08	10.73 b-d	2.97 f-j	47.33 h-k	32.23 a-c	1.42 c-g	1.06 f-j
Mean	10.08	2.92	51.90	28.59	1.40	1.13
LSD_{0.05}²	0.60	0.27	3.27	2.88	0.08	0.97

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 from Florence, SC, 2009¹ (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	2.47 e-j	1.45 a-d	98.39 a-c	1.43 c	18.89 b-e	1.74 a-c	5.19 f-l
Gregory	2.55 c-h	1.34 d-j	95.11 hi	1.83 c	18.29 e-h	1.56 f-h	5.34 c-i
Perry	2.66 b-d	1.32 e-k	96.47 b-i	1.63 c	18.68 d-g	1.63 a-h	5.46 b-g
CHAMPS	2.75 ab	1.47 a	96.42 b-i	1.64 c	18.56 d-h	1.64 a-h	5.54 a-d
Phillips	2.65 b-d	1.37 a-h	97.76 a-e	1.50 c	18.74 c-g	1.71 a-e	5.43 b-g
Bailey	2.51 d-i	1.26 h-l	96.40 c-i	1.73 c	17.97 h-j	1.66 a-h	5.17 g-l
Georgia 08V	2.62 b-f	1.39 a-f	76.64 k	17.61 b	15.32 k	0.30 k	5.46 a-f
Florida Fancy	2.76 ab	1.41 a-e	75.74 k	22.16 a	15.57 k	0.23 k	5.76 a
Sugg	2.51 d-i	1.23 k-l	96.80 a-h	1.72 c	17.67 ij	1.69 a-f	5.11 i-l
VA 98R	2.32 j	1.35 b-i	98.63 ab	1.42 c	18.81 b-f	1.76 a	4.93 l
VT 024077	2.54 c-i	1.36 a-h	95.92 d-i	1.73c	18.32 e-h	1.61 c-h	5.32 d-j
VT 004152	2.63 b-e	1.28 f-l	92.68 j	2.12 c	18.54 d-h	1.40 ij	5.47 a-f
VT 003194	2.79 ab	1.24 i-l	92.38 j	2.20 c	18.26 f-i	1.39 j	5.64 ab
VT 003069	2.39 h-j	1.28 f-l	96.22 c-i	1.65 c	18.74 c-g	1.62 b-h	5.06 i-l
VT 003191	2.45 f-j	1.21 kl	96.75 a-h	1.56 c	19.13 a-d	1.63 a-h	5.14 h-l
VT 003192	2.71 a-c	1.48 a	95.20 g-i	1.91 c	18.47 e-h	1.56 gh	5.53 a-d
VT 003200	2.62 b-f	1.29 f-l	94.51 ij	1.92 c	18.16 g-i	1.53 hi	5.33 c-i
VT 024024	2.50 d-i	1.34 d-j	96.84 a-h	1.61 c	18.55 d-h	1.66 a-h	5.18 f-l
VT 023117	2.57 c-g	1.21 kl	95.51 f-i	1.82 c	17.99 h-j	1.60 d-h	5.25 d-k
VT 024051	2.66 b-d	1.43 a-e	96.57 b-i	1.59 c	18.89 b-e	1.63 b-h	5.48 a-e
N03023EF	2.58 c-g	1.46 ab	95.96 d-i	1.60 c	19.34 a-c	1.58 e-h	5.50 a-e
N04074FCT	2.77 ab	1.47 a	97.28 a-h	1.58 c	18.44 e-h	1.69 a-f	5.62 a-c
N05006	2.56 c-h	1.46 a-c	98.82 a	1.34 c	19.39 ab	1.75 ab	5.29 d-j
N05007	2.45 g-j	1.39 a-f	97.95 a-d	1.41 c	19.51 a	1.69 a-f	5.21 e-l
N05008	2.46 e-j	1.38 a-g	97.63 a-f	1.48 c	19.11 a-d	1.69 a-f	5.20 e-l
N05018	2.37 ij	1.27 h-l	95.72 e-i	1.79 c	18.06 hi	1.61 d-h	5.03 j-l
N03088T	2.51 d-i	1.27 g-l	96.99 a-h	1.72 c	17.44 j	1.72 a-d	5.08 i-l
N05024J	2.39 h-j	1.19 l	95.86 d-i	1.70 c	18.73 d-g	1.60 d-h	5.00 kl
N05049J	2.67 b-d	1.35 c-j	96.56 b-i	1.61 c	18.71 d-g	1.64 a-h	5.42 b-h
HST 02-08	2.87 a	1.39 a-f	97.37 a-g	1.47 c	19.38 ab	1.66 a-g	5.69 ab
Mean	2.58	1.31	95.04	2.88	18.39	1.54	5.33
LSD_{0.05}²	0.17	0.11	2.22	1.54	0.61	0.13	0.29

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 31. 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, 2009.¹

Variety or Line	Palmitic C16:0	Stearic C18:0	Oleic C18:0	Linoleic C18:2	Arachidic C20:0	Eicosenoic C20:1
NC-V 11	10.27 b	2.56 lm	49.18 n	31.76 b	1.25 lm	1.15 i-k
Gregory	9.13 m	2.89 d-f	53.64 d	27.76 ij	1.41 b-d	1.20 e-h
Perry	9.73 e-h	2.79 f-h	50.13 l-n	30.65 cd	1.41 b-d	1.14 i-l
CHAMPS	9.59 h-k	2.75 g-k	52.67 d-f	28.27 g-i	1.37 d-g	1.25 cd
Phillips	9.84 e-g	2.72 h-k	50.32 k-m	30.70 cd	1.33 g-j	1.17 f-i
Bailey	9.58 h-k	2.54 lm	50.78 j-l	30.52 cd	1.31 i-k	1.22 d-f
Georgia 08V	6.61 o	2.76 f-j	77.29 a	6.45 l	1.35 e-i	1.50 b
Florida Fancy	6.31 p	2.88 d-g	78.39 a	5.33 m	1.41 b-d	1.59 a
VA 98R	10.31 b	2.63 j-m	49.57 mn	31.46 bc	1.24 m	1.11 j-n
Sugg	9.58 h-k	2.50 mn	51.55 g-j	30.12 de	1.28 k-m	1.16 g-j
VT 024077	9.49 i-l	2.97 c-e	51.61 f-j	29.46 ef	1.44 b	1.09 m-o
VT 004152	9.58 h-k	3.36 a	52.27 e-g	28.29 g-i	1.56 a	1.00 q
VT 003194	8.71 n	3.35 a	56.29 b	25.00 k	1.60 a	1.09 m-o
VT 003069	10.17 bc	2.84 e-h	50.03 l-n	30.72 cd	1.36 e-i	1.10 k-n
VT 003191	10.58 a	3.14 b	47.85 o	32.20 ab	1.45 b	0.09
VT 003192	10.10 b-d	3.01 b-d	51.34 g-k	29.39 ef	1.38 c-e	1.01 pq
VT 003200	9.35 k-m	2.88 d-g	53.06 de	28.13 hi	1.41 b-d	1.15 i-l
VT 024024	9.61 g-j	2.77 f-i	52.04 e-i	29.16 e-g	1.37 d-f	1.15 h-k
VT 023117	8.84 n	3.03 bc	54.95 c	26.93 j	1.43 bc	1.10 l-n
VT 024051	9.89 d-f	3.11 bc	51.36 g-k	29.25 e-g	1.43 bc	1.05 op
N03023EF	9.73 e-h	2.72 h-k	50.98 j-l	29.00 f-h	1.32 h-k	1.16 g-j
N04074FCT	9.38 j-l	2.62 k-m	51.49 g-j	29.74 d-f	1.33 f-j	1.28 c
N05006	10.75 a	2.51 lm	47.61 o	32.89 a	1.24 m	1.16 g-j
N05007	10.56 a	2.78 f-i	47.57 o	32.78 a	1.35 e-i	1.07 no
N05008	10.59 a	2.84 e-h	47.57 o	32.77 a	1.36 e-h	1.05 op
N05018	9.36 k-m	2.65 i-l	52.16 e-h	29.49 ef	1.32 h-k	1.18 e-i
N03088T	9.32 lm	2.36 n	51.40 g-k	30.63 cd	1.25 lm	1.20 e-g
N05024J	9.93 c-e	2.79 f-h	51.11 h-l	29.81 d-f	1.36 e-h	1.12 j-m
N05049J	9.68 f-i	2.72 h-k	51.60 f-j	29.29 ef	1.37 d-f	1.22 de
HST 02-08	10.12 bc	2.53 lm	49.12 n	31.48 bc	1.29 j-l	1.19 e-i
Mean	9.56	2.80	52.83	28.31	1.37	1.13
LSD_{0.05}²	0.24	0.14	1.11	0.99	0.05	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 31. 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, 2009¹. (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	2.44 b	1.40 a-e	98.21 a-c	1.55 b	17.91 d-i	1.77 a-c	5.09 b
Gregory	2.61 b	1.37 b-f	95.16 k-m	1.94 b	17.41 i-k	1.60 j-l	5.39 b
Perry	2.73 b	1.41 a-d	97.10 d-g	1.64 b	18.08 c-h	1.70 e-h	5.55 b
CHAMPS	2.69 b	1.42 a-c	95.25 j-m	1.88 b	17.81 e-i	1.59 j-l	5.48 b
Phillips	2.60 b	1.34 e-j	97.37 c-f	1.64 b	17.82 e-i	1.72 c-g	5.26 b
Bailey	2.61 b	1.43 a-c	97.50 b-f	1.67 b	17.47 i-k	1.75 b-f	5.35 b
Georgia 08V	2.61 b	1.39 b-e	78.87 o	17.16 a	14.72 m	0.43 n	5.34 b
Florida Fancy	2.68 b	1.41 a-d	77.91 o	17.52 a	14.69 m	0.36 o	5.50 b
VA 98R	2.33 b	1.35 d-i	98.00 a-d	1.58 b	17.86 d-i	1.76 b-d	4.92 b
Sugg	2.56 b	1.25 kl	97.42 c-f	1.71 b	17.17 j-l	1.76 b-e	5.09 b
VT 024077	2.59 b	1.36 c-h	96.27 g-j	1.76 b	17.84 e-i	1.65 h-j	5.38 b
VT 004152	2.68 b	1.27 j-l	94.73 m	1.87 b	18.45 a-d	1.53 l	5.50 b
VT 003194	2.72 b	1.25 kl	92.57 n	2.26 b	17.62 g-k	1.42 m	5.56 b
VT 003069	2.45 b	1.34 d-i	97.10 d-g	1.63 b	18.15 c-g	1.69 f-h	5.15 b
VT 003191	2.56 b	1.29 i-l	97.67 b-e	1.49 b	19.01 a	1.70 e-h	5.29 b
VT 003192	2.48 b	1.29 h-l	95.85 h-l	1.77 b	18.26 c-f	1.61 i-k	5.15 b
VT 003200	2.69 b	1.34 e-j	95.27 j-m	1.89 b	17.66 f-j	1.59 j-l	5.44 b
VT 024024	2.55 b	1.34 d-i	96.17 g-k	1.79 b	17.65 g-j	1.65 h-j	5.27 b
VT 023117	2.49 b	1.23 l	95.77 m	2.05 b	17.02 kl	1.58 kl	5.15 b
VT 024051	2.56 b	1.35 d-i	95.67 i-m	1.77 b	18.34 b-e	1.60 j-l	5.34 b
N03023EF	3.70 a	1.40 a-e	94.98 lm	1.76 b	18.87 ab	1.60 i-k	6.42 a
N04074FCT	2.72 b	1.43 ab	96.81 e-h	1.74 b	17.49 h-k	1.70 d-h	5.49 b
N05006	2.47 b	1.38 b-f	98.81 a	1.45 b	18.34 b-e	1.79 ab	5.08 b
N05007	2.51 b	1.40 a-e	98.53 ab	1.45 b	18.59 a-c	1.76 a-d	5.25 b
N05008	2.46 b	1.36 c-h	98.50 ab	1.46 b	18.61 a-c	1.76 b-d	5.18 b
N05018	2.48 b	1.36 b-g	96.87 e-h	1.77 b	17.17 j-l	1.72 c-g	5.17 b
N03088T	2.55 b	1.29 g-l	98.20 a-c	1.68 b	16.77 l	1.83 a	5.09 b
N05024J	2.57 b	1.31 f-k	96.48 f-i	1.72 b	17.96 d-i	1.66 gh	5.24 b
N05049J	2.74 b	1.37 b-f	96.08 g-k	1.77 b	17.89 d-i	1.64 h-k	5.49 b
HST 02-08	2.79 b	1.47 a	97.72 b-e	1.57 b	18.20 c-g	1.73 b-f	5.55 b
Mean	2.62	1.35	95.43	2.76	17.69	1.59	5.34
LSD_{0.05}²	0.66	0.07	1.04	1.1	0.61	0.07	0.67

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 32. 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, (2008 – 2009)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	10.34 b	2.52 k	49.08 k	31.96 b	1.22 gh	1.14 f-h
Gregory	9.20 i	2.87 cd	53.60 c	27.92 m	1.37 bc	1.18 de
Perry	9.73 ef	2.78 d-g	50.27 ij	30.69 d-g	1.37 bc	1.14 f-h
CHAMPS	9.64 f	2.74 e-g	52.54 d	28.49 lm	1.34 cd	1.23 c
Phillips	9.86 de	2.67 g-i	50.21 ij	30.91 d-f	1.29 ef	1.17 d-f
Bailey	9.65 f	2.54 jk	50.65 hi	30.72 d-g	1.29 ef	1.21 cd
Florida Fancy	6.43 k	2.83 c-e	77.80 a	5.96 o	1.38 bc	1.58 a
VA 98R	10.34 b	2.59 i-k	49.46 jk	31.66 bc	1.21 h	1.12 g-i
Sugg	9.58 fg	2.49 k	51.72 ef	30.06 g-i	1.26 fg	1.16 e-g
VT 024077	9.59 fg	2.92 c	51.29 e-h	29.85 h-j	1.39 b	1.09 ij
VT 004152	9.69 f	3.32 a	51.80 d-f	28.67 kl	1.52 a	0.99 m
VT 003194	8.81 j	3.30 a	56.16 b	25.23 n	1.55 a	1.09 i-k
VT 003069	10.27 b	2.81 d-f	49.77 jk	31.08 cd	1.32 de	1.08 i-k
VT 024024	9.68 f	2.74 e-g	51.67 ef	29.63 h-j	1.34 cd	1.14 gh
VT 024051	9.92 cd	3.12 b	51.49 e-g	29.19 j-l	1.41 b	1.04 l
N04074FCT	9.46 gh	2.58 i-k	51.09 f-h	30.22 f-i	1.29 ef	1.27 b
N05006	10.75 a	2.51 k	47.61 l	32.89 a	1.24 gh	1.16 e-g
N05007	10.64 a	2.73 e-h	47.29 l	33.16 a	1.31 de	1.06 j-l
N05008	10.68 a	2.79 d-f	47.39 l	33.03 a	1.32 de	1.05 kl
N05018	9.39 h	2.63 h-j	52.01 de	29.71 h-j	1.30 ef	1.18 de
N03088T	9.39 h	2.32 l	51.15 f-h	30.98 c-e	1.22 gh	1.19 d
N05024J	10.05 c	2.75 e-g	50.73 g-i	30.25 f-h	1.32 de	1.11 hi
N05049J	9.73 ef	2.71 f-h	51.54 e-g	29.48 i-k	1.34 cd	1.20 cd
Mean	9.69	2.75	52.01	29.21	1.33	1.16
LSD_{0.05}²	0.18	0.1	0.81	0.74	0.04	0.04

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 32. 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, (2008 – 2009)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	2.38 jk	1.36 a-d	98.46 ab	1.54 c	17.83 e	1.79 bc	4.96 ij
Gregory	2.53 d-h	1.32 c-f	95.39 h	1.93 bc	17.30 ij	1.62 jk	5.23 b-f
Perry	2.66 a	1.37 a-c	97.28 d-f	1.64 bc	17.91 de	1.72 f-h	5.40 ab
CHAMPS	2.63 a-c	1.38 ab	95.50 h	1.86 bc	17.74 e-g	1.61 k	5.36 ab
Phillips	2.56 b-f	1.32 c-f	97.65 cd	1.63 bc	17.70 e-g	1.75 c-f	5.17 c-g
Bailey	2.56 b-e	1.38 ab	97.72 cd	1.65 bc	17.41 hi	1.76 b-e	5.22 b-f
Florida Fancy	2.65 ab	1.38 ab	78.47 j	15.93 a	14.67 l	0.40 m	5.40 ab
VA 98R	2.30 k	1.32 b-f	98.26 bc	1.57 bc	17.76 ef	1.78 b-d	4.83 j
Sugg	2.52 e-h	1.23 h-j	97.44 de	1.73 bc	17.08 j	1.76 b-e	5.01 g-i
VT 024077	2.54 c-g	1.33 b-f	96.67 fg	1.73 bc	17.77 ef	1.68 hi	5.26 a-d
VT 004152	2.62 a-d	1.22 ij	95.32 h	1.81 bc	18.35 ab	1.57 k	5.35 ab
VT 003194	2.65 ab	1.21 j	92.86 i	2.24 b	17.52 g-i	1.44 l	5.42 a
VT 003069	2.38 jk	1.29 e-h	97.49 de	1.61 bc	18.07 cd	1.72 e-h	4.99 g-j
VT 024024	2.50 e-i	1.31 d-f	96.65 fg	1.75 bc	17.56 f-h	1.69 hi	5.14 e-h
VT 024051	2.52 e-h	1.32 b-f	95.66 h	1.78 bc	18.29 bc	1.60 k	5.25 a-e
N04074FCT	2.69 a	1.40 a	97.28 d-f	1.70 bc	17.42 hi	1.73 e-g	5.38 ab
N05006	2.47 f-j	1.37 a-c	98.81 ab	1.45 c	18.34 ab	1.79 b	5.08 e-i
N05007	2.45 h-j	1.37 a-d	98.94 a	1.43 c	18.49 ab	1.79 b	5.12 d-i
N05008	2.42 ij	1.33 b-e	98.79 ab	1.44 c	18.53 a	1.78 b-d	5.07 f-i
N05018	2.45 g-j	1.33 b-e	97.11 d-f	1.76 bc	17.11 j	1.74 d-f	5.08 e-i
N03088T	2.49 e-i	1.26 g-j	98.59 ab	1.66 bc	16.68 k	1.86 a	4.97 h-j
N05024J	2.53 d-h	1.27 f-i	96.89 e-g	1.68 bc	17.92 de	1.69 g-i	5.12 d-i
N05049J	2.67 a	1.32 b-f	96.33 g	1.75 bc	17.78 ef	1.66 ij	5.34 a-c
Mean	2.53	1.32	96.24	2.32	17.62	1.65	5.18
LSD_{0.05}²	0.09	0.06	0.65	0.69	0.23	0.05	0.18

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 33. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Three-year averages across Tidewater AREC (Suffolk), VA and Martin County, NC, (2007 – 2009)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	10.38 c	2.54 gh	49.33 j	31.57 b	1.23 i	1.14 g
Gregory	9.24 j	2.85 c	53.69 b	27.67 j	1.38 cd	1.21 bc
Perry	9.72 fg	2.80 cd	50.69 f-h	30.19 de	1.38 cd	1.15 fg
CHAMPS	9.65 g	2.78 c-e	53.16 b	27.75 ij	1.37 de	1.24 b
Phillips	9.84 ef	2.70 ef	50.64 gh	30.37 de	1.31 fg	1.19 c-e
Bailey	9.67 g	2.55 gh	51.03 e-g	30.26 de	1.30 gh	1.21 bc
Sugg	9.62 gh	2.51 h	51.82 cd	29.81 ef	1.27 h	1.16 e-g
VA 98R	10.27 c	2.62 fg	49.82 ij	31.14 bc	1.22 i	1.13 gh
VT 024077	9.60 gh	2.97 b	51.73 c-e	29.28 fg	1.41 bc	1.09 i
VT 003194	8.82 k	3.29 a	56.41 a	24.87 k	1.56 a	1.11 hi
VT 003069	10.27 c	2.85 c	50.08 hi	30.61 de	1.34 ef	1.10 hi
VT 024051	9.91 e	3.22 a	52.11 c	28.42 hi	1.43 b	1.03 j
N04074FCT	9.50 hi	2.61 fg	51.00 fg	30.15 de	1.30 gh	1.28 a
N05006	10.84 a	2.52 h	47.71 k	32.59 a	1.23 i	1.17 d-f
N05008	10.69 b	2.81 cd	47.82 k	32.47 a	1.33 f	1.06 j
N03088T	9.41 i	2.35 i	51.36 d-f	30.64 cd	1.23 i	1.20 cd
N05024J	10.09 d	2.80 cd	51.04 e-g	29.81 ef	1.33 f	1.11 hi
N05049J	9.72 fg	2.75 de	52.18 c	28.72 gh	1.37 de	1.21 bc
Mean	9.85	2.75	51.20	29.80	1.33	1.16
LSD_{0.05}²	0.13	0.09	0.70	0.68	0.31	0.03

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 33. Fatty Acid Composition, Iodine Values, Oleic/Linoleic O/L Ratio, % Total Polysaturated/Saturated (P/S) Ratio, and % Total Long Chain Saturated. Three-year averages across Tidewater AREC (Suffolk), VA and Martin County, NC, (2007–2009)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	2.41 hi	1.40 a-c	98.01 ab	1.57 j	17.96 de	1.76 bc	5.04 a
Gregory	2.59 c-e	1.36 b-e	95.06 hi	1.95 b	17.43 f	1.59 ij	5.34 a
Perry	2.67 ab	1.39 a-d	96.79 de	1.69 f-h	17.97 de	1.68 ef	5.45 a
CHAMPS	2.66 a-c	1.40 a-c	94.76 i	1.93 b	17.86 de	1.55 jk	42.51 a
Phillips	2.60 b-d	1.35 de	97.09 cd	1.68 gh	17.81 e	1.71 de	5.27 a
Bailey	2.59 c-e	1.39 a-d	97.25 cd	1.70 f-h	17.49 f	1.73 b-d	5.27 a
Sugg	2.55 d-f	1.26 gh	97.11 cd	1.75 ef	17.21 g	1.74 b-d	5.08 a
VA 98R	2.34 i	1.36 b-e	97.68 bc	1.61 ij	17.96 de	1.74 b-d	4.93 a
VT 024077	2.56 d-f	1.35 b-e	96.07 fg	1.78 de	17.90 de	1.64 hi	5.33 a
VT 003194	2.70 a	1.24 h	92.47 j	2.29 a	17.61 f	1.41 l	5.50 a
VT 003069	2.43 h	1.32 ef	96.95 de	1.64 hi	18.21 c	1.68 ef	42.88 a
VT 024051	2.53 d-g	1.34 e	94.86 i	1.85 c	18.43 b	1.54 k	5.31 a
N04074FCT	2.73 a	1.44 a	97.09 cd	1.70 f-h	17.58 f	1.72 c-e	5.46 a
N05006	2.51 fg	1.41 a	98.41 a	1.47 k	18.51 ab	1.76 b	5.16 a
N05008	2.46 gh	1.36 b-e	98.20 ab	1.48 k	18.65 a	1.74 b-d	43.67 a
N03088T	2.52 e-g	1.28 fg	98.19 ab	1.68 f-h	16.80 g	1.83 a	5.03 a
N05024J	2.53 d-g	1.29 fg	94.41 ef	1.72 e-h	18.04 cd	1.65 fg	5.15 a
N05049J	2.70 a	1.35 de	95.57 gh	1.83 cd	17.88 de	1.61 hi	42.50 a
Mean	2.56	1.35	96.44	1.74	16.96	1.67	13.60
LSD_{0.05}²	0.08	0.05	0.63	0.07	0.19	0.04	49.46

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 34. Calcium content (ppm)¹ in kernels from PVQE small plots in 2009.

Variety or Line	Tidewater AREC, VA	Southampton Co., VA	Martin Co., NC	Rocky Mt., NC	Whiteville, NC	Florence, SC	Average across locations
NC-V 11	917 a-g	754 a-c	831 d-h	--	981 d-h	614 d-f	839 c-g
Gregory	830 f-h	646 b-h	816 d-h	809 a-c	988 d-h	639 c-e	800 e-g
Perry	976 a-d	719 b-f	912 a-d	918 ab	1051 b-f	707 a-d	905 a-c
CHAMPS	1004 ab	738 a-f	979 ab	880 a-c	1201 a	816 ab	947 ab
Phillips	902 a-h	616 d-h	804 d-h	--	926 f-h	674 a-e	816 c-g
Bailey	878 c-h	627 c-h	894 b-f	--	1021 c-h	655 b-e	840 c-g
Georgia 08V	999 a-c	661 b-g	895 b-e	845 a-c	1008 c-h	687 a-d	889 a-e
Florida Fancy	895 b-h	622 c-h	902 b-d	--	997 d-h	728 a-d	854 c-g
VA 98R	879 b-h	658 b-g	844 d-h	--	958 e-h	684 a-e	822 c-g
Sugg	878 c-h	639 c-h	878 b-g	784 c	--	689 a-d	809 d-g
VT 024077	955 a-f	622 c-h	854 d-h	738 c	1102 a-e	819 ab	878 a-f
VT 004152	1002 a-c	742 a-e	980 ab	864 a-c	1172 ab	753 a-d	946 ab
VT 003194	952 a-f	670 b-g	896 b-e	810 a-c	1036 b-g	738 a-d	881 a-f
VT 003069	972 a-d	693 b-f	776 gh	801 a-c	1011 c-h	742 a-d	863 b-h
VT 003191	931 a-g	751 a-c	872 b-g	892 a-c	1032 b-h	801 a-c	890 a-d
VT 003192	966 a-e	858 a	969 a-c	923 ab	1109 a-d	827 a	950 ab
VT 003200	889 b-h	722 b-f	809 d-h	784 bc	1050 b-f	659 b-e	833 c-g
VT 024024	1026 a	712 b-f	1017 a	914 ab	1203 a	678 a-e	958 a
VT 023117	852 d-h	776 ab	834 d-h	791 bc	1044 b-g	667 a-e	833 c-g
VT 024051	922 a-g	629 c-h	815 d-h	954 a	1075 a-e	626 de	853 c-g
N03023EF	955 a-f	708 b-f	885 b-g	830 a-c	1149 a-c	614 d-f	884 a-f
N04074FCT	891 b-h	606 f-i	784 f-h	--	1012 c-h	516 ef	797 f-h
N05006	808 gh	546 g-i	859 c-g	--	913 f-h	697 a-d	782 gh
N05007	895 b-h	623 c-h	783 f-h	884 a-c	986 d-h	614 d-f	819 c-g
N05008	878 c-h	628 c-h	786 e-h	--	1104 a-e	669 a-e	826 c-g
N05018	841 e-h	686 b-f	875 b-g	819 a-c	1035 b-h	605 d-f	824 c-g
N03088T	870 d-h	610 e-i	876 b-g	739 c	901 gh	518 ef	794 f-h
N05024J	855 d-h	513 hi	817 d-h	849 a-c	1027 b-h	589 d-f	796 f-h
N05049J	898 b-h	746 a-d	839 d-h	797 a-c	888 h	753 a-d	838 c-g
HST 02-08	776 h	478 i	747 h	741 c	899 gh	448 f	710 h
Mean	910	667	861	835	1030	674	849
LSD_{0.05}²	126	134	111	158	148	168	90

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 35. Calcium content (ppm)¹ in kernels from PVQE small plots @ Tidewater AREC (Suffolk), VA in 2009.

Variety or Line	Planting Date 1	Planting Date 2	Planting Date 3
NC-V 11	875 a-f	993 a-d	883 b-h
Gregory	730 e-g	893 b-d	866 b-h
Perry	932 a-d	960 a-d	1038 a
CHAMPS	972 ab	1102 ab	938 a-f
Phillips	825 a-g	1008 a-d	873 b-h
Bailey	823 a-g	959 a-d	852 d-h
Georgia 08V	801 b-g	1160 a	1036 a
Florida Fancy	813 a-g	879 cd	995 a-d
VA 98R	863 a-g	986 a-d	789 gh
Sugg	765 c-g	950 a-d	917 a-h
VT 024077	906 a-e	1082 a-c	879 b-h
VT 004152	941 a-c	1057 a-c	1010 ab
VT 003194	842 a-g	1085 a-c	928 a-g
VT 003069	886 a-f	1141 a	888 b-h
VT 003191	925 a-d	917 b-d	951 a-f
VT 003192	873 a-f	1020 a-d	1005 a-c
VT 003200	801 b-g	1005 a-d	861 c-h
VT 024024	1005 a	1064 a-c	1008 ab
VT 023117	807 b-g	903 b-d	845 e-h
VT 024051	767 c-g	1061 a-c	939 a-f
N03023EF	859 a-g	1051 a-c	954 a-f
N04074FCT	918 a-e	876 cd	878 b-h
N05006	710 fg	886 b-d	829 e-h
N05007	820 a-g	953 a-d	913 a-h
N05008	805 b-g	964 a-d	865 b-h
N05018	799 b-g	903 b-d	821 f-h
N03088T	742 d-g	988 a-d	880 b-h
N05024J	678 g	1022 a-c	864 b-h
N05049J	808 b-g	912 b-d	974 a-e
HST 02-08	753 c-g	805 d	771 h
Mean	835	986	908
LSD_{0.05}²	194	217	147

¹Calcium 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 36. Calcium content (ppm)¹ in kernels from PVQE small plots @ Martin Co., NC in 2009.

Variety or Line	Planting Date 1	Planting Date 2
NC-V 11	842 c-g	821 d-g
Gregory	806 d-h	827 d-g
Perry	828 c-g	1039 a
CHAMPS	931 a-c	1026 ab
Phillips	799 d-h	809 d-g
Bailey	813 d-h	974 a-d
Georgia 08V	906 a-d	879 a-g
Florida Fancy	930 a-c	873 a-g
VA 98R	784 e-h	903 a-g
Sugg	835 c-g	921 a-f
VT 024077	803 d-h	905 a-g
VT 004152	1012 a	933 a-f
VT 003194	908 a-d	885 a-g
VT 003069	712 h	873 a-g
VT 003191	898 b-d	845 b-g
VT 003192	987 ab	951 a-e
VT 003200	809 d-h	809 d-g
VT 024024	1017 a	1017 a-c
VT 023117	855 c-f	812 d-g
VT 024051	787 e-h	842 c-g
N03023EF	876 c-e	895 a-g
N04074FCT	740 gh	828 d-g
N05006	771 e-h	946 a-e
N05007	768 e-h	807 d-g
N05008	811 d-h	760 fg
N05018	865 c-f	885 a-g
N03088T	805 d-h	947 a-e
N05024J	865 c-f	769 e-g
N05049J	779 e-h	899 a-g
HST 02-08	761 f-h	733 g
Mean	843	880
LSD_{0.05}²	111	182

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.

Increase Plot Results

2009 INCREASE PLOT TESTS

Advanced breeding lines that have exhibited good yield potential in previous tests or have other desirable characteristics are entered in the Increase plot tests for additional testing and quality evaluations, comparatively with a commercial cultivar. In 2009, the check cultivar was CHAMPS and the advanced breeding line was VT 024051.

Farmers' stock peanut from increase plots of both varieties were shelled in a pilot shelling plant for mill outturn and sized into shelled grades. Pod yield, support price, crop value, and grade characteristics for straight shelling (Table 37) and with jumbo and fancy pods screened off (Tables 38 through 40) were further analyzed. Seed size distributions based on shelling of farmers' stock peanut is presented in Table 41. Characteristics of the jumbo and fancy in-shell grades are shown in Tables 42 and 43. Because the increase plots were not replicated, comparisons between CHAMPS and VT 024051 are irrelevant.

Processor and testing evaluations are presented in Tables 45 through 50.

Increase Plot Results

Table 37. Increase plot data from farmers' stock peanuts, 2009.

Variety or Line	% LSK	% FM	% Fancy	% Moisture	% ELK	% SS	% OK	% DK	% SMK	% Total Kernels	Support Price €/lb	Yield lb/A	Value \$/A
<u>Tidewater AREC (Suffolk), VA</u>													
CHAMPS	1.8	0.6	86	7.6	44	0.9	2.7	2.2	69	75	18.19	5053	919
VT 024051	2.9	0.8	93	5.5	47	2.5	2.1	2.7	67	74	18.08	5393	975
<u>Martin County, North Carolina</u>													
CHAMPS	1.9	1.0	85	5.6	43	2.5	1.8	2.2	69	76	18.66	5657	1056
VT 024051	1.7	0.7	95	5.4	47	2.4	1.4	2.1	69	75	18.58	5981	1111
<u>Average Across Locations</u>													
CHAMPS	1.9	0.8	86	6.58	44	2	2.3	2	69	75	18.43	5355	988
VT 024051	2.3	0.8	94	5.45	47	2	1.7	2	68	74	18.33	5687	1043



Picture 1. Kernels of CHAMPS (left) and VT 024051 (right) at grading.

Increase Plot Results

Table 38. Mill Outturn from Increase Plots by Straight Shelling¹, 2009.

Variety or line	% ELK	% Med	% No. 1	% No. 2	% Oil-stock	% Pick-outs	% LSK	% Total Mill Outturn	% FM	% Hull
Tidewater AREC (Suffolk), VA										
CHAMPS	41.0	15.8	3.1	2.7	2.3	8.2	0.3	73.4	1.2	25.4
VT 024051	42.5	12.5	2.8	2.9	1.4	9.8	0.3	72.2	1.0	26.8
Martin County, NC										
CHAMPS	39.1	16.6	3.1	1.5	1.7	9.6	0.5	72.1	1.7	26.2
VT 024051	41.2	13.1	2.7	2.3	1.4	11.0	0.4	72.1	1.5	26.4
Average Across Locations										
CHAMPS	40.1	16.2	3.1	2.1	2.0	8.9	0.4	72.8	1.5	25.8
VT 024051	41.9	12.8	2.8	2.6	1.4	10.4	0.4	72.2	1.3	26.6

¹ Based on gross weight of farmers' stock peanuts.

Peanut Variety & Quality Evaluation Results – II Quality Data 2009

Increase Plot Results

Table 39. Mill Outturn from Increase Plots with Jumbo and Fancy Pods Screened Off¹, 2009.

Variety or Line	% Jumbo	% Fancy	% ELK	% Med.	% No. 1	% No. 2	% Oil-Stock	% Pick-outs	% LSK	% Total Mill Outturn	% FM	% Hulls
<u>Tidewater AREC (Suffolk), VA</u>												
CHAMPS	9.5	32.5	18.2	11.1	2.8	1.2	1.9	3.1	0.4	80.7	0.9	18.4
VT 024051	27.3	21.1	15.1	8.3	2.3	1.6	1.7	5.3	0.4	83.1	0.7	16.2
<u>Martin County, North Carolina</u>												
CHAMPS	2.8	27.7	20.6	14.0	2.8	2.0	1.5	4.9	0.2	77.3	0.8	21.9
VT 024051	20.4	31.5	13.8	9.4	2.3	1.5	1.1	5.1	0.2	85.3	0.7	14.0
<u>Average Across Locations</u>												
CHAMPS	6.2	30.1	19.4	12.6	2.8	1.6	1.7	4.0	0.3	79.0	0.9	20.1
VT 024051	23.9	26.3	14.5	8.9	2.3	1.6	1.4	5.2	0.3	84.2	0.7	15.1

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

Increase Plot Results



Picture 2. Jumbo pods of CHAMPS and VT 024051 from farmer's stock of Increase plots in 2008.

Increase Plot Results

Table 40. Grade Characteristics of ELK, Med., and No. 1's from Straight Shelling Increase Plots – 2009.

Variety or Line	Grade	Count /lb	% Splits	% Damaged	% Moisture	% Passing through Screen ¹
<u>Tidewater AREC (Suffolk), VA</u>						
CHAMPS	ELK	424	0.3	1.0	6.1	0.1
	Med.	627	0.2	0.8	6.5	6.8
	No. 1	1081	9.1	0.1	6.6	7.1
	No. 2	1322	94.8	0.9	6.2	4.3
VT 024051	ELK	415	0.6	0.7	6.0	0.0
	Med.	615	0.5	0.2	6.1	6.1
	No. 1	1084	12.8	0.3	6.2	9.1
	No. 2	1160	95.7	0.7	6.0	3.6
<u>Martin County, NC</u>						
CHAMPS	ELK	435	0.3	0.5	6.5	0.1
	Med.	594	0.5	1.7	6.8	7.3
	No. 1	1143	3.8	0.2	6.6	14.0
	No. 2	1148	98.2	0.6	6.1	1.3
VT 024051	ELK	412	0.7	0.3	6.0	0.0
	Med.	595	0.7	0.7	6.2	6.4
	No. 1	1121	16.4	1.3	6.1	12.5
	No. 2	1145	98.4	0.7	5.8	1.0
<u>Average Across Locations</u>						
CHAMPS	ELK	430	0.3	0.8	6.3	0.1
	Med.	611	0.4	1.3	6.7	7.1
	No. 1	1112	6.5	0.2	6.6	10.6
	No. 2	1235	96.5	0.8	6.2	2.8
VT 024051	ELK	414	0.7	0.5	6.0	0.0
	Med.	605	0.6	0.5	6.2	6.3
	No. 1	1103	14.6	0.8	6.2	10.8
	No. 2	1153	97.05	0.7	5.9	2.3

¹ Screen used to get % fall through were: ELK-20/64 x 1" slot; Medium-18/64 x 1" slot; No. 1-15/64 x 1" slot.

Increase Plot Results

Table 41. Grade Characteristics of ELK, Med., and No. 1's from Shelling Increase Plots with Jumbo and Fancy Screened Off – 2009.

Variety or Line	Grade	Count /lb	% Splits	% Damaged	% Moisture	% Passing through Screen ¹
<u>Tidewater AREC (Suffolk), VA</u>						
CHAMPS	ELK	442	0.7	0.7	6.0	0.0
	Med.	623	0.5	0.5	6.3	3.8
	No. 1	1043	6.7	0.2	6.6	3.1
	No. 2	1137	98.0	1.2	5.6	0.8
VT 024051	ELK	446	1.2	1.1	5.9	0.0
	Med.	645	0.6	1.2	6.1	6.5
	No. 1	1025	18.3	0.7	6.1	2.4
	No. 2	1051	98.3	0.9	5.7	1.5
<u>Martin County, NC</u>						
CHAMPS	ELK	470	0.4	0.5	6.4	0.0
	Med.	614	0.4	0.3	6.5	2.9
	No. 1	1181	5.5	0.3	6.6	3.1
	No. 2	1108	97.8	0.8	6.0	1.0
VT 024051	ELK	453	1.0	0.2	6.0	0.0
	Med.	616	0.7	0.4	6.1	6.6
	No. 1	1024	18.6	0.8	6.2	5.0
	No. 2	1115	98.3	0.3	5.7	1.5
<u>Average Across Locations</u>						
CHAMPS	ELK	456	0.6	0.6	6.2	0.0
	Med.	619	0.5	0.4	6.4	3.4
	No. 1	1112	6.1	0.3	6.6	3.1
	No. 2	1123	97.9	1.0	5.8	0.9
VT 024051	ELK	450	1.1	0.7	6.0	0.0
	Med.	631	0.7	0.8	6.1	6.6
	No. 1	1025	18.5	0.8	6.2	3.7
	No. 2	1083	98.3	0.6	5.7	1.5

¹ Screen used to get % fall through were: ELK-20/64 x 1" slot; Medium-18/64 x 1" slot; No. 1-15/64 x 1" slot.

Increase Plot Results

Table 42. Seed size distribution based on farmers' stock peanuts from Tidewater AREC (Suffolk), VA and Martin County, NC, 2009.

Screen Size	Tidewater AREC (Suffolk), VA		Martin County, NC		Average Across Locations	
	CHAMPS	VT 024051	CHAMPS	VT 024051	CHAMPS	VT 024051
<18R	0.10	0.00	0.00	0.00	0.05	0.00
18R	0.00	0.00	0.00	0.00	0.00	0.00
14	0.20	0.10	0.20	0.20	0.20	0.15
15	0.90	0.20	0.60	0.30	0.75	0.25
16	0.70	0.50	1.00	0.50	0.85	0.50
17	1.60	1.30	1.90	1.10	1.75	1.20
18	3.30	1.80	3.30	2.30	3.30	2.05
19	2.50	3.30	5.10	5.40	3.80	4.35
20	7.70	8.70	8.90	9.70	8.30	9.20
21	14.70	15.90	19.40	17.30	17.05	16.60
22	24.70	23.80	22.70	19.30	23.70	21.55
23	26.60	26.80	25.20	20.50	25.90	23.65
24	9.50	4.70	4.80	5.80	7.15	5.25
25	4.90	5.50	4.30	15.00	4.60	10.25
26	1.90	4.50	2.60	1.60	2.25	3.05
27	0.50	1.80	0.00	1.00	0.25	1.40
28>	0.20	1.10	0.00	0.00	0.10	0.55

Increase Plot Results



Picture 3. Fancy pods of CHAMPS and VT 024051 from farmer's stock of Increase plots in 2008.

Peanut Variety & Quality Evaluation Results – II Quality Data 2009

Increase Plot Results

Table 43. Grade percentages and characteristics of Jumbo pods, 2009.

Variety or Line	Grade Characteristics									
	Count /lb	% Total Kernels	% Passing Through Screen	% Cracked or Broken Shells	% Discolored Shells	% Other Shell Defects	% Foreign Material	% Total External Defects	% Damaged Kernels	% Moisture
<u>Tidewater AREC (Suffolk), VA</u>										
CHAMPS	142 a	73.45 a	1.90 a	1.99 a	0.00 a	0.00 a	0.02 a	2.00 a	0.33 a	5.65 a
VT 024051	148 a	72.59 a	3.00 a	3.46 a	0.00 a	0.00 a	0.00 a	3.46 a	0.36 a	5.95 a
<u>Martin County, NC</u>										
CHAMPS	141 b	71.57 b	3.30 a	1.22 a	0.00 a	0.00 a	0.01 a	1.23 a	0.38 a	5.90 a
VT 024051	149 a	73.03 a	2.87 a	3.50 a	0.00 a	0.00 a	0.00 a	3.51 a	0.24 a	6.05 a
<u>Average Across Locations</u>										
CHAMPS	142 a	72.51 a	2.60 a	1.60 b	0.00 a	0.00 a	0.01 a	1.62 b	0.35 a	5.78 a
VT 024051	148 a	72.81 a	2.93 a	3.48 a	0.00 a	0.00 a	0.00 a	3.48 a	0.30 a	6.00 a

Table 44. Grade percentages and characteristics of Fancy pods, 2009.

Variety or Line	Grade Characteristics									
	Count /lb	% Total Kernels	% Passing Through Screen	% Cracked or Broken Shells	% Discolored Shells	% Other Shell Defects	% Foreign Material	% Total External Defects	% Damaged Kernels	% Moisture
<u>Tidewater AREC (Suffolk), VA</u>										
CHAMPS	180 a	77.79 a	0.58 a	3.10 a	0.00 a	0.00 a	0.00 a	3.10 a	0.04 a	5.90 a
VT 024051	191 a	76.77 a	0.91 a	2.98 a	0.00 a	0.12 a	0.03 a	3.13 a	0.15 a	6.10 a
<u>Martin County, NC</u>										
CHAMPS	172 a	77.68 a	0.77 a	3.09 a	0.00 a	0.00 a	0.01 a	3.10 a	0.00 a	6.20 a
VT 024051	182 a	76.36 b	0.16 a	3.40 a	0.00 a	0.00 a	0.03 a	3.43 a	0.00 a	5.95 a
<u>Average Across Locations</u>										
CHAMPS	176 b	77.73 a	0.67 a	3.09 a	0.00 a	0.00 a	0.01 a	3.10 a	0.18 a	6.17 a
VT 024051	187 a	76.56 b	0.54 a	3.19 a	0.00 a	0.06 a	0.03 a	3.28 a	0.08 a	5.93 a

Increase Plot Results

Table 45. Processor Evaluation (Royal Oak Peanuts) of jumbo size peanuts for roasting-in-the-shell - 2009.

Variety or Line	Raw Sample Comments	Cooking Comments	Acceptable	Taste & Flavor
CHAMPS	Great size, bright hull	A little over done, still a great peanut	Yes	Good
VT 024051	Bright hull	A little over done, still a great peanut	Yes	Good
CHAMPS	Bright hull, uniform in size	A little over done, still a great peanut	Yes	Good
VT 024051	Discolored hull, taste okay	A little over done, still a great peanut	Yes	Good

Table 46. Processor Evaluation (Royal Oak Peanuts) of fancy size peanuts for roasting-in-the-shell - 2009.

Variety or Line	Raw Sample Comments	Cooking Comments	Acceptable	Taste & Flavor
CHAMPS	Bright hull, great tasting	A little over done, still a great peanut	Yes	Excellent
VT 024051	Bright hull, uniform in color	A little over done, still a great peanut	Yes	Good
CHAMPS	Bright color, not uniform in size	A little over done, still a great peanut	Yes	Good
VT 024051	Uniform in size, good color	A little over done, still a great peanut	Yes	Good

Increase Plot Results

Table 47. Processor Evaluation (Feridies) of peanuts for roasting-in-the-shell - 2009.

Variety or Line	Raw Sample Comments	Cooking Comments	Acceptable	Taste & Flavor
CHAMPS	Bright hulls, nice size, overall very good	Constant flavor	Yes	Good
VT 024051	Bright hulls, fancy are small	Dry	Yes	Ok
CHAMPS	Bright hulls, fancy are small	Good	Yes	Good
VT 024051	Bright hulls, jumbos are good size	Nice	Yes	Good

Table 48. Processor Evaluation (Wakefield) of peanuts for roasting-in-the-shell - 2009.

Variety or Line	Raw Sample Comments	Cooking Comments	Acceptable	Taste & Flavor
CHAMPS	Bright hulls, good in shell peanuts	Some darkened hulls from cooking, cooked well overall	Yes	Good full flavor, well done taste
VT 024051	Bright hulls, very beige peanuts	Hulls stayed very bright and pretty	Yes	Cooked perfectly, just the right amount of doneness
CHAMPS	Bright hulls, nice size, a few broken hulls	Cooked very well	Yes	All around pretty good
VT 024051	Nice color, good peanuts for in shell use	Hulls darkened, good looking peanuts	Yes	Good with a well done taste

Increase Plot Results

Table 49. Processor Evaluation (Hubbard Peanut Co., Inc.) of peanuts for roasting-in-the-shell - 2009.

Variety or Line	Raw Sample Comments	Cooking Comments	Acceptable	Taste & Flavor
CHAMPS	Bright, light colored shells	None	Yes	Good full flavor, well done taste
VT 024051	Bright hulls, very beige peanuts	None	Yes	Cooked perfectly, just the right amount of doneness
CHAMPS	Bright hulls, nice size, a few broken hulls	Cooked very well	Yes	All around pretty good
VT 024051	Nice color, good peanuts for in shell use	Hulls darkened, good looking peanuts	Yes	Good with a well done taste

Table 50. Taste test panel results of Jumbo and Fancy peanuts roasted-in-the-shell – 2009.

Variety	Suffolk		Martin	
	Jumbo	Fancy	Jumbo	Fancy
CHAMPS	3.3 a	4.1 a	3.5 a	2.9 c
VT 024051	3.1 a	3.5 b	3.0 a	3.2 b

Flavor scores are based on a seven-point hedonic scale. The smaller the number, the more desirable the flavor is. Jumbo scores are an average of 49 panelists. Fancy scores are an average of 87 panelists.