Florida Potato Variety Trial Report, 2017

Volume 8

HORTICULTURAL SCIENCES DEPARTMENT
INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

UF UNIVERSITY of FLORIDA
IFAS Extension

Florida Potato Variety Trial Report, 2017

Editors

Lincoln Zotarelli, Ph.D. Associate Professor, University of Florida/IFAS, Horticultural Sciences Department.
Pam Solano, Biological Scientist, University of Florida/IFAS, Hastings AEC Research Farm.

Photograph

Cover photos: L. Zotarelli

Acknowledgements

Many talented and dedicated people assisted in these experiments during the potato season of 2017. The variety evaluation team is indebted to Scott Chambers, Gary England, Randal L. Greene, Dave Baggett, Deana Mckenzie, Corry Moseley and Lynn Darby for their hard work. Without the commitment and effort from these individuals, the variety evaluation program would not be possible.

Table of Contents

University of Florida Potato Variety Program Team

University Staff

Dr. Lincoln Zotarelli, Associate Professor
University of Florida/IFAS
Horticultural Sciences Department
PO Box 110690
1241 Fifield Hall
Gainesville, FL 32611
Telephone: 352-273-4949
Fax: 352-846-0909
lzota@ufl.edu

Pam Solano, Biological Scientist
University of Florida/IFAS
Horticultural Sciences Department
9500 Cowpen Branch Road
PO Box 728
Hastings, FL 32145
Telephone: 904-692-1557
Fax: 904-692-3306
pasolano@ufl.edu

Mr. Gary England, Ext Ctr Dir & RSA
University of Florida/IFAS
Hastings AEC Demonstration Unit
PO Box 728
595 E. St. Johns Ave.
Hastings, FL 32145
Telephone: 904-692-4944
Fax: 904-692-4673
gke@ufl.edu

Mr. Scott Chambers, Farm Manager
University of Florida/IFAS
Hastings Demonstration Unit
9500 Cowpen Branch Road
PO Box 728
Hastings, FL 32145
Telephone: 904-692-1557
Fax: 904-692-3306
sdchambers@ufl.edu

County Faculty

Bonnie Wells, DPM
St. Johns Co Commercial Ag Ext Agent
3125 Agricultural Center Dr
St. Augustine, FL 32092

Mr. Gene McAvoy
Hendry Co CED & Reg Veg Ext Agent
PO Box 68
Labelle, FL 33975

USDA, University, and Industry Cooperators

USDA

Dr. Kathleen Haynes
USDA Vegetable Laboratory
10300 Baltimore Avenue
Beltsville, MD 20705-2350

Dr. Richard Novy
USDA/ARS
1693 S 2700 W
Aberdeen, ID, 83210

University

Dr. Walter De Jong
Dept. of Plant Breeding
252 Emerson Hall
Cornell University
Ithaca, NY 14853

Dr. David Douches
Dept. of Crop & Soil Sciences
Michigan State University
East Lansing, MI 48824-1325

Dr. Greg Porter
University of Maine
Aroostook Farm
59 Houlton Road
Presque Isle, ME 04679

Dr. Susie Thompson
Department of Plant Sciences
North Dakota State University
Fargo, ND 58105-5051

Dr. David Holm
Colorado State University
San Luis Valley Research Center
Center, CO 81125

Dr. J. Creighton Miller Jr.
Texas A&M University
Dept. of Horticultural Sciences
College Station, TX 77843

Dr. Craig Yencho
Department of Horticulture
214 Kilgore Hall
Raleigh, NC 27695

Dr. Chris Long
Michigan State University
Plant, Soil and Microbial Sciences Department
A412 Plant and Soil Sciences Building
1066 Bogue St.
East Lansing, MI 48824

Industry

Real Potatoes
Mr. Don Northcott
Mr. Gerard Basten
52 Trans Canada Hwy
Cornwall, PEI C0A 1H0 Canada
1-902-368-2669

Mr. David Parish
AIS Consulting LLC
621 Wills Point Drive
Allen, TX 75013
214-674-8567

Wise Foods, Incorporated
Mr. Steve Molnar
228 Raseley Street
Berwick, PA 18603

Maine Farmers Exchange
Mr. Bob Sirois
Mr. Todd Bradley
P.O. Box 869
Presque Isle, ME 04769
800-333-1564

Utz Quality Foods
Mr. Jack Corriere
Mr. Mitch Keeney
900 High Street
Hanover, PA 17331

Potatoes USA
Mr. Ryan J. Krabill
4949 S. Syracuse Street
Suite 400
Denver, CO 80237-2747

Chapter 1. Introduction

General Potato Production Information

Potato clones were obtained from university, government, and industry breeding programs. Clones progress through the evaluation program following the track described in the Potato Variety Evaluation Flowchart (Fig.1).

Variety trials, unless noted, were conducted at the University of Florida/IFAS Hastings Agricultural Extension Center (HAEC) Research Farm in Hastings, FL. The HAEC Research Farm is part of the University of Florida/IFAS network of research and demonstration farms located around the state to conduct research on important horticultural crops. The soil at the field site is classified as Ellzey fine sand (sandy, siliceous, hyperthermic Arenic Ochraqualf; sand 93%, < 1% clay, < 6% silt).

The trials were conducted under conditions that represent the grower's practices for potato (*Solanum tuberosum* L.) production in the Tri-County Agricultural Area (TCAA) around Hastings, Florida. The research plots were irrigated with seepage and subsurface drip irrigation for water table management. In this system, the perched water table depth is managed by water flow into irrigation furrows that evenly separate each bed. Potatoes were grown in 60 feet wide beds consisting of sixteen raised rows. The spacing between rows was 40 inches (center to center). A clay layer underlies the topsoil at a depth of 3 to 5 feet in the Tri-County Agricultural Area (TCAA).

Potatoes were planted following a sorghum/sudan grass summer cover crop (variety: Sugargrazer). The cover crop was incorporated into the potato beds in October, 2016. Potato beds were fumigated with Pic-Clor 60, 11 gal/A (1,3-dichloropropene 39%, and chloropicrin 59.4%) in December 2016. Fertilizer (14-6-12, 100 lb/acre N granular) was incorporated into the beds prior to planting.

Potato seed pieces were whole and cut tubers weighing approximately 2.5 oz and were dusted with fungicide (Maxim) prior to being planted. They were planted on an 8-inch within row spacing unless otherwise noted. Regent (3.0 oz/A), Quadris (10.4 oz/A), and Vydate C-LV (68 oz/A) were applied in a banded spray in the furrow after planting but before the seed was covered with soil. Boundary (24 oz/A) was broadcast sprayed at "boarding off" for weed control. Fungicides and insecticides were applied on a schedule during the season based on IPM practices. One side-dress fertilizer application (14-0-12, 100 lb/acre N granular) was made around plant emergence in all trials unless otherwise noted.

Plant growth characteristics were rated during the season using the rating scale listed in Table 1. An initial stand count was done around 25 days after planting. The final stand count, plant vigor rating, and vine type rating were done around 40 days after planting. The vine maturity rating was done around 80 days after planting. No growth enhancers or chemicals to enhance skin color were used in any trial unless otherwise noted.

Fresh market tablestock variety plots were vine-killed by chemical desiccation with diquat dibromide (Reglone, 2 pt/A). Plots were harvested with a single-row, commercial potato harvester. Potatoes were graded using commercial grading equipment. Culls were removed and remaining potatoes were separated into six size classes and weighed. Specific gravity was measured on a random 20-tuber sample (less if not enough tubers available) from each plot using the weight-in-air/weight-in-water method. A random sample was rated for external appearance characteristics. External tuber quality characteristics were rated using the rating scale listed in Table 2. A second random 20-tuber sample (less if not enough tubers available) was collected from each plot and each tuber was cut into fourths and rated for hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC), and enlarged lenticel. BC was rated as light, moderate, or heavy based on incidence.

Sub-samples of potatoes from the SNAC trial were shipped to Utz Quality Foods. Chips were prepared following the procedures outlined in the Snack Food Association Chipping Potato Handbook (1995). Chips fried by Utz utilized the Hunter Lab rating scale.

Seasonal Weather and Growing Conditions

Daily rainfall and temperatures are reported in Appendix 1. The data reported was collected at a University weather station located at the UF/IFAS HAEC Research Farm. Real-time and historic weather data from the weather station can be accessed at: http://fawn.ifas.ufl.edu/ .

Growing conditions for the 2017 growing season were rated as fair. The total precipitation between planting and harvest was 5.99", relatively drier than previous years. There was a poor distribution of rainfall throughout the season with few large rainfall events (e.g. April 4th with 2.65", see table 39). Overall air temperatures were near normal for the season (Table 40). No freeze events were reported during the growing season. Plant stand was affected by the dry initial conditions; the final plant stand ranged from 0 to 100%. Total and marketable yields for many clones tested were relatively better than Atlantic. Tuber specific gravity was lower than expected for most of the varieties tested. There were few incidences of internal defects.

Production

There were no major changes to the production system in 2017.

Figure 1. Potato Variety Program Evaluation Flowchart.

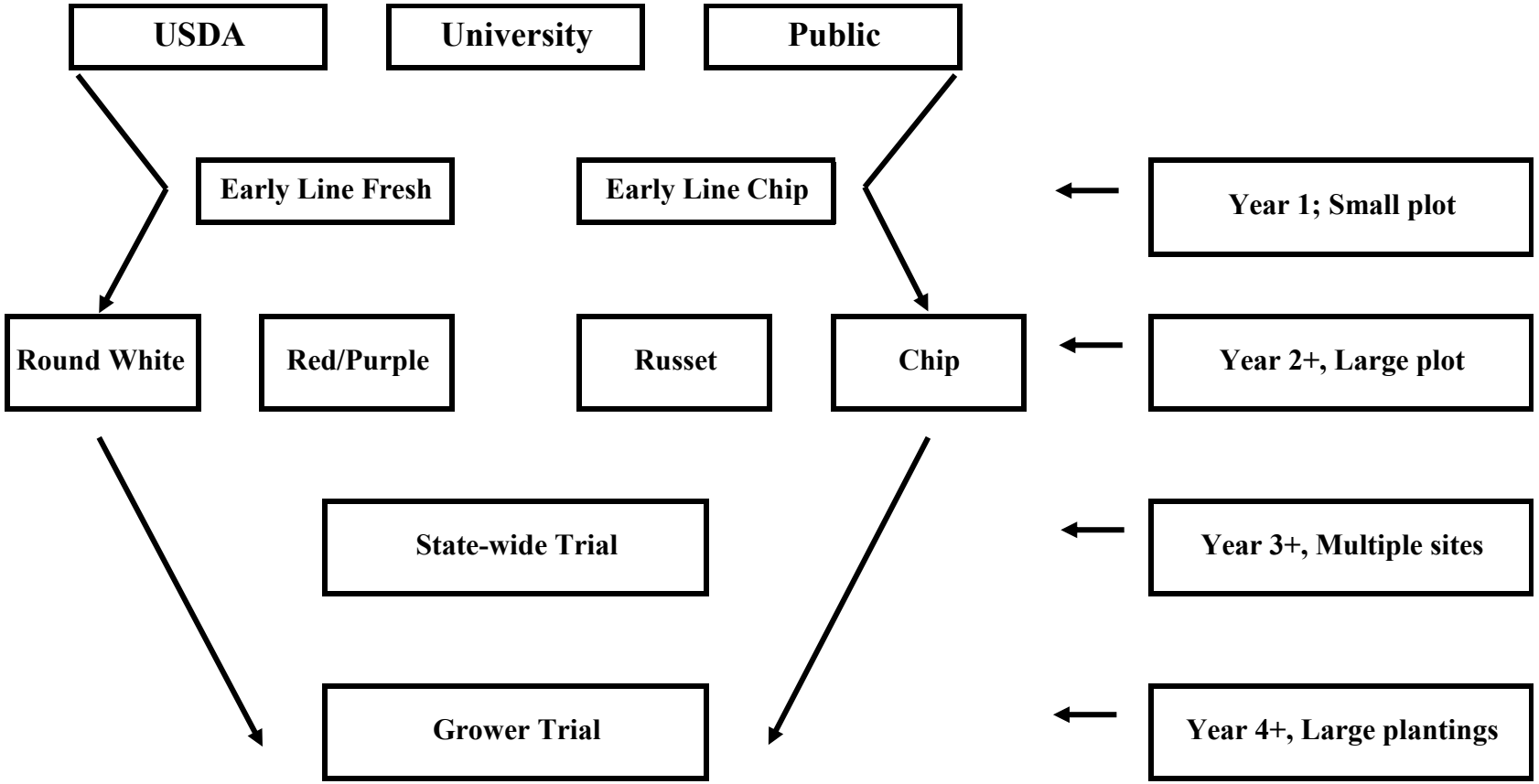

Table 1. Plant growth characteristics.

Rating	Early Vigor (plant height)	Vine Type	Vine Maturity at Harvest/Vine Kill
1	no emergence	decumbent – poor	dead
2	leaves in rosette	decumbent – fair	+-
3	plants < 2 in	decumbent – good	yellow and dying
4	plants 2 to 4 in	spreading – poor	+-
5	plants 4 to 6 in	spreading – fair	moderately senesced
6	plants 6 to 8 in	spreading – good	+-
7	plants 8 to 10 in	upright – poor	starting to senesce
8	plants 10 to 12 in	upright – fair	+-
9	plants > 12 in	upright – good	green and vigorous

Adapted from Sisson and Porter, 2002.

Table 2. External and Internal Potato Tuber Characteristics.

Rating	Internal Flesh Color	Skin Color	Skin Texture	Tuber Shape	Eye Depth	Overall Appearance
1	White	Purple	Partial Russet	Round	Very Deep	Very Poor
2	Cream	Red	Heavy Russet	Mostly Round	+-	+-
3	Light Yellow	Pink	Mod. Russet	Round to Oblong	Deep	Poor
4	Medium Yellow	Dark Brown	Light Russet	Mostly Oblong	+-	+-
5	Dark Yellow	Brown	Netted	Oblong	Intermediate	Fair
6	Pink	Tan	Slightly Netted	Oblong to Long	+-	+-
7	Red	Buff	Mod. Smooth	Mostly Long	Shallow	Good
8	Blue	White	Smooth	Long	+-	+-
9	Purple	Cream	Very Smooth	Cylindrical	Very Shallow	Excellent

Adapted from Sisson and Porter, 2002.

Chapter 2. USDA 2nd Year Potato Variety Trial

General Comments

A goal of the 2nd year USDA trial is to continue evaluating new clones for production potential in Florida. The entries in this trial were selected from an early generation clone trial conducted in 2016.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	January 31, 2017
Vine Kill Date	N/A
Harvest Date	May 16, 2017
Season Length	105 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	5 (Standard: Atlantic)
Number of Clones	203
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	1
Plot Size	6 ft (1.8 m)

Production Statistics

Early Vigor Ratings	43 DAP
Highest Total Yield	B3295-5 (297 cwt/acre or 33.3 T/ha)
Highest Marketable Yield	B3295-5 (258 cwt/acre or 28.9 T/ha)
Best Appearance Rating	B3294-4, B3311-3, B3325-5, BNC708-2, BNC733-2, BNC739-1 (9, excellent)

Table 3. Production statistics for the 2017 USDA 2nd Year Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	% of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	A2 to A3	Specific Gravity
Season–105 days												
B3292-5	131	98	71	0	4	83	13	0	0	96	13	1.062
B3293-1	160	131	95	0	16	80	5	0	0	84	5	1.080
B3293-5	119	79	57	2	23	64	10	0	0	75	10	1.074
B3294-1	115	70	50	7	21	72	0	0	0	72	0	1.072
B3294-2	109	67	49	8	27	58	7	0	0	65	7	1.071
B3294-3	185	144	105	3	7	61	14	16	0	90	30	1.068
B3294-4	214	168	122	3	16	69	8	5	0	81	13	1.065
B3294-5	143	94	68	2	18	62	11	7	0	80	18	1.065
B3294-6	211	174	127	2	6	60	14	17	0	92	31	1.072
B3295-5	297	258	187	2	7	69	14	7	0	91	22	1.066
B3295-6	213	149	109	5	24	72	0	0	0	72	0	1.063
B3295-7	235	170	124	4	8	39	14	34	0	87	48	1.070
B3295-8	288	246	179	3	5	63	14	15	0	92	29	1.059
B3295-9	206	192	140	3	4	52	29	12	0	93	41	1.059
B3295-10	233	156	113	4	11	70	16	0	0	86	16	1.061
B3295-11	216	135	98	4	19	67	4	6	0	77	10	1.065
B3295-12	263	94	68	13	49	38	0	0	0	38	0	1.069
B3295-13	216	144	104	4	20	75	0	0	0	75	0	1.057
B3296-1	243	177	128	4	15	65	12	5	0	81	16	1.068
B3296-2	105	68	49	4	19	77	0	0	0	77	0	1.075
B3296-3	165	93	68	4	11	47	30	8	0	85	38	1.072
B3297-1	201	129	93	4	24	72	0	0	0	72	0	1.072
B3297-4	145	82	59	6	25	50	13	7	0	70	20	1.066
B3297-5	235	199	145	3	12	70	8	6	0	85	15	1.075
B3298-1	215	157	114	3	5	45	24	23	0	92	47	1.070
B3298-3	193	160	116	4	6	69	13	8	0	90	21	1.065
B3298-5	235	200	145	1	11	81	8	0	0	89	8	1.063
B3298-6	176	117	85	3	11	51	20	15	0	86	36	1.063
B3298-7	179	137	100	2	7	39	13	40	0	91	52	1.064
B3299-2	177	94	68	10	25	65	0	0	0	65	0	1.067

Table 3 (cont'd). Production statistics for the 2017 USDA 2nd Year Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
B3299-4	244	184	134	5	17	75	3	0	0	78	3	1.066
B3299-5	192	71	51	9	51	39	0	0	0	39	0	1.078
B3300-1	186	139	101	1	11	82	0	6	0	87	6	1.068
B3300-2	138	48	35	15	36	49	0	0	0	49	0	1.071
B3300-3	152	113	82	0	10	55	35	0	0	90	35	1.064
B3301-3	234	202	146	3	9	46	30	12	0	88	42	1.059
B3301-4	65	33	24	6	39	54	0	0	0	54	0	1.057
B3301-8	229	151	110	5	21	65	0	8	0	74	8	1.059
B3302-1	244	133	97	13	26	52	9	0	0	61	9	1.070
B3302-3	139	34	25	34	40	26	0	0	0	26	0	1.069
B3302-4	85	0	0	24	76	0	0	0	0	0	0	1.062
B3303-2	188	166	121	3	8	77	12	0	0	89	12	1.063
B3304-1	178	118	86	2	24	69	5	0	0	74	5	1.078
B3304-2	122	91	66	6	18	63	12	0	0	75	12	1.081
B3304-3	149	122	89	2	9	55	8	26	0	88	33	1.067
B3304-5	161	140	101	2	3	56	18	21	0	95	39	1.066
B3304-6	214	156	113	5	20	74	0	0	0	74	0	1.068
B3304-7	190	132	96	2	13	85	0	0	0	85	0	1.075
B3304-9	108	72	53	3	16	52	19	10	0	81	29	1.075
B3304-11	98	58	42	2	19	80	0	0	0	80	0	1.060
B3304-12	155	131	95	3	13	66	19	0	0	84	19	1.067
B3305-1	209	157	114	4	21	71	0	4	0	75	4	1.076
B3305-3	215	153	111	5	15	62	13	5	0	80	18	1.071
B3306-2	130	87	63	4	18	70	8	0	0	78	8	1.074
B3307-4	182	109	79	5	23	72	0	0	0	72	0	1.072
B3307-5	222	168	122	3	16	81	0	0	0	81	0	1.066
B3307-6	168	55	40	10	57	28	6	0	0	33	6	1.070
B3308-1	158	76	55	12	38	50	0	0	0	50	0	1.058
B3308-2	226	144	104	8	25	60	7	0	0	67	7	1.063
B3308-3	208	116	84	9	23	60	9	0	0	69	9	1.066

Table 3 (cont'd). Production statistics for the 2017 USDA 2nd Year Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
B3309-1	182	95	69	10	36	54	0	0	0	54	0	1.070
B3309-2	150	66	48	14	42	44	0	0	0	44	0	1.072
B3311-3	123	89	65	4	20	77	0	0	0	77	0	1.067
B3312-1	183	154	112	3	14	67	12	5	0	84	17	1.080
B3312-2	150	80	58	6	32	56	0	5	0	62	5	1.072
B3312-4	155	74	54	2	43	55	0	0	0	55	0	1.072
B3312-5	77	41	30	12	35	53	0	0	0	53	0	1.075
B3312-7	124	74	54	11	22	66	0	0	0	66	0	1.065
B3312-8	187	116	84	7	28	65	0	0	0	65	0	1.078
B3314-1	120	27	20	10	58	32	0	0	0	32	0	1.072
B3315-1	113	41	30	11	35	54	0	0	0	54	0	1.061
B3315-3	95	55	40	7	33	60	0	0	0	60	0	1.070
B3315-4	120	73	53	9	24	67	0	0	0	67	0	1.065
B3316-1	107	40	29	30	27	43	0	0	0	43	0	1.069
B3317-1	144	121	88	3	13	47	37	0	0	84	37	1.064
B3317-2	106	59	43	11	28	61	0	0	0	61	0	1.073
B3317-3	170	140	101	1	11	87	0	0	0	87	0	1.071
B3318-1	120	81	59	8	25	67	0	0	0	67	0	1.058
B3318-3	111	104	76	1	5	81	13	0	0	94	13	1.061
B3318-4	183	175	127	3	0	82	11	5	0	97	16	1.060
B3319-1	128	100	73	2	18	73	0	8	0	81	8	1.070
B3320-1	223	197	143	1	10	75	14	0	0	89	14	1.074
B3320-4	136	99	72	9	19	72	0	0	0	72	0	1.073
B3320-5	114	78	57	10	22	61	8	0	0	69	8	1.072
B3322-1	187	113	82	6	33	57	3	0	0	61	3	1.068
B3322-2	151	102	74	8	15	61	10	6	0	78	16	1.079
B3322-3	110	47	34	13	35	52	0	0	0	52	0	1.073
B3322-5	140	77	56	8	31	52	0	9	0	61	9	1.067
B3325-1	220	153	111	2	12	68	8	9	0	86	18	1.068
B3325-5	236	194	141	2	7	52	25	14	0	91	39	1.065

Table 3 (cont'd). Production statistics for the 2017 USDA 2nd Year Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
B3325-6	222	142	103	2	10	62	12	14	0	88	26	1.066
B3326-1	275	143	104	11	28	53	4	4	0	61	8	1.062
B3326-2	207	137	100	3	18	61	12	6	0	79	18	1.065
B3326-3	212	130	94	4	11	76	9	0	0	85	9	1.063
B3327-1	266	201	146	4	7	69	6	13	0	89	20	1.075
B3327-2	184	96	70	3	14	61	7	15	0	83	22	1.061
B3328-2	158	68	50	5	35	45	15	0	0	60	15	1.077
B3328-3	209	142	103	5	24	67	3	0	0	71	3	1.060
B3328-4	198	156	113	1	10	73	12	4	0	89	16	1.066
B3328-5	201	143	104	2	9	62	22	5	0	89	27	1.064
B3328-6	234	148	107	6	23	72	0	0	0	72	0	1.072
B3329-1	239	158	115	4	14	83	0	0	0	83	0	1.066
B3329-4	144	100	72	9	21	56	13	0	0	69	13	1.070
B3330-1	226	169	122	5	17	68	10	0	0	78	10	1.071
B3331-1	284	218	158	3	8	47	25	17	0	89	41	1.058
B3333-2	249	114	83	9	43	48	0	0	0	48	0	1.070
B3335-1	193	171	124	2	4	46	34	13	0	94	48	1.070
B3335-2	227	206	149	3	7	52	9	30	0	90	39	1.073
B3335-3	125	85	61	5	22	73	0	0	0	73	0	1.066
B3336-1	186	156	113	3	9	77	11	0	0	88	11	1.068
B3337-1	145	88	64	3	7	62	19	9	0	90	28	1.068
B3340-1	134	110	80	5	3	46	6	39	0	92	46	1.074
B3340-2	99	71	51	8	14	78	0	0	0	78	0	1.078
B3340-3	120	101	73	5	0	78	17	0	0	95	17	1.071
B3340-4	183	124	90	3	9	65	9	15	0	88	23	1.069
B3341-1	126	94	69	6	9	85	0	0	0	85	0	1.080
B3341-3	145	114	83	3	10	60	5	22	0	87	26	1.073
B3342-1	190	94	68	14	26	60	0	0	0	60	0	1.059
B3342-2	156	96	70	7	24	69	0	0	0	69	0	1.062
B3344-1	155	112	82	5	11	80	4	0	0	84	4	1.065

Table 3 (cont'd). Production statistics for the 2017 USDA 2nd Year Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
B3344-2	128	100	72	0	7	86	7	0	0	93	7	1.059
B3345-1	122	60	43	8	25	68	0	0	0	68	0	1.074
B3345-2	105	87	63	4	2	76	8	10	0	94	18	1.065
B3346-1	156	100	73	3	12	54	31	0	0	85	31	1.059
B3349-1	103	56	41	4	13	59	10	15	0	83	24	1.065
B3351-1	81	30	22	9	19	72	0	0	0	72	0	1.070
BNC705-1	180	116	84	5	26	69	0	0	0	69	0	1.049
BNC705-2	130	100	72	9	14	77	0	0	0	77	0	1.062
BNC708-1	165	131	95	4	11	78	0	6	0	84	6	1.067
BNC708-2	187	126	91	8	20	71	0	0	0	71	0	1.063
BNC709-2	193	149	109	1	9	83	7	0	0	90	7	1.068
BNC709-3	181	137	99	4	10	75	11	0	0	87	11	1.057
BNC710-2	137	111	80	4	12	60	17	6	0	84	24	1.053
BNC712-1	177	132	96	3	20	67	10	0	0	76	10	1.056
BNC712-2	86	27	20	30	38	32	0	0	0	32	0	1.071
BNC712-3	207	152	111	4	22	74	0	0	0	74	0	1.065
BNC712-4	108	66	48	8	26	66	0	0	0	66	0	1.066
BNC713-1	24	10	7	12	32	56	0	0	0	56	0	.
BNC713-2	153	101	73	5	3	44	6	41	0	92	48	1.059
BNC713-3	156	58	42	10	53	37	0	0	0	37	0	1.062
BNC714-1	67	39	28	13	29	58	0	0	0	58	0	1.057
BNC714-2	76	37	27	11	40	49	0	0	0	49	0	1.059
BNC715-1	101	48	35	10	37	53	0	0	0	53	0	1.067
BNC716-1	95	67	48	7	23	62	7	0	0	70	7	1.050
BNC716-2	129	98	71	7	15	78	0	0	0	78	0	1.062
BNC716-3	90	72	52	4	15	80	0	0	0	80	0	1.065
BNC717-1	142	112	81	3	18	79	0	0	0	79	0	1.063
BNC717-3	82	65	47	4	17	70	10	0	0	79	10	1.058
BNC718-1	170	152	110	4	6	89	0	0	0	89	0	1.068
BNC718-2	208	160	116	3	15	78	4	0	0	81	4	1.070

Table 3 (cont'd). Production statistics for the 2017 USDA 2nd Year Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
BNC720-1	151	126	91	5	12	74	10	0	0	83	10	1.058
BNC722-1	94	51	37	9	9	57	11	14	0	82	25	1.059
BNC723-1	181	107	78	7	20	55	6	12	0	73	19	1.066
BNC723-2	155	106	77	12	15	67	0	6	0	73	6	1.069
BNC723-3	169	146	106	0	11	71	7	10	0	89	18	1.069
BNC723-4	197	155	113	2	10	65	5	19	0	89	23	1.068
BNC724-1	109	87	63	4	17	80	0	0	0	80	0	1.072
BNC725-1	141	95	69	4	22	56	10	7	0	73	18	1.073
BNC726-1	168	136	98	4	8	61	17	11	0	89	28	1.079
BNC726-4	189	177	128	2	5	44	11	39	0	94	50	1.080
BNC726-5	209	168	122	2	16	58	10	14	0	82	24	1.072
BNC728-1	186	148	107	5	15	80	0	0	0	80	0	1.076
BNC729-1	151	99	72	8	21	51	11	9	0	71	20	1.059
BNC729-3	187	129	94	7	13	55	11	15	0	81	26	1.070
BNC730-1	136	45	33	16	51	33	0	0	0	33	0	1.066
BNC730-2	218	102	74	7	7	77	0	9	0	86	9	1.065
BNC731-2	140	130	95	0	7	50	28	15	0	93	42	1.068
BNC733-1	126	74	54	8	17	66	0	9	0	75	9	1.072
BNC733-2	179	127	92	2	9	75	0	13	0	89	13	1.069
BNC736-1	182	147	107	3	12	84	0	0	0	84	0	1.070
BNC738-2	262	222	161	2	13	78	3	3	0	85	7	1.073
BNC739-1	197	169	123	2	12	69	17	0	0	86	17	1.068
BNC740-1	224	186	135	1	9	77	7	5	0	89	13	1.076
BNC741-1	204	168	122	2	5	74	12	7	0	93	19	1.069
BNC742-1	225	164	119	5	7	60	10	18	0	88	28	1.068
BNC742-2	133	100	72	2	13	76	0	8	0	84	8	1.075
BNC744-1	106	62	45	3	26	71	0	0	0	71	0	.
BNC744-2	66	33	24	6	23	40	31	0	0	71	31	1.073
BNC744-3	118	51	37	3	36	61	0	0	0	61	0	1.077
BNC747-2	70	0	0	54	46	0	0	0	0	0	0	1.056

Table 3 (cont'd). Production statistics for the 2017 USDA 2nd Year Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	% of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	A2 to A3	Specific Gravity
BNC751-1	164	125	91	10	13	59	18	0	0	77	18	1.076
BNC754-7	170	117	85	6	26	69	0	0	0	69	0	1.071
BNC754-9	125	85	61	10	22	61	7	0	0	68	7	1.062
BNC756-2	135	42	30	17	52	31	0	0	0	31	0	1.072
BNC756-3	93	22	16	36	40	24	0	0	0	24	0	1.062
BNC757-1	117	46	33	9	52	39	0	0	0	39	0	1.053
BNC757-2	71	14	10	56	24	20	0	0	0	20	0	1.059
BNC760-1	117	65	47	16	24	60	0	0	0	60	0	1.070
BNC762-1	67	42	31	12	25	63	0	0	0	63	0	1.062
BNC762-2	120	99	72	5	12	83	0	0	0	83	0	1.064
BNC762-3	152	106	77	6	16	77	0	0	0	77	0	1.064
BNC763-1	98	62	45	11	26	64	0	0	0	64	0	1.067
BNC764-1	122	44	32	13	36	51	0	0	0	51	0	1.072
BNC764-2	111	22	16	41	39	20	0	0	0	20	0	1.073
BNC765-1	191	102	74	9	37	53	0	0	0	53	0	1.066
BNC765-2	85	50	36	12	29	59	0	0	0	59	0	1.058
BNC765-3	109	23	17	36	43	21	0	0	0	21	0	1.074
BNC767-2	107	15	11	34	51	14	0	0	0	14	0	1.062
BNC767-3	71	36	26	16	34	50	0	0	0	50	0	1.056
BNC767-4	119	21	16	42	40	18	0	0	0	18	0	1.072
BNC767-5	75	8	6	50	39	11	0	0	0	11	0	1.066
BNC768-2	90	48	35	13	34	53	0	0	0	53	0	1.066
BNC768-7	51	32	23	16	21	62	0	0	0	62	0	1.050
Atlantic	173	138	100	2	6	72	10	10	0	92	20	1.075
Harley Blackwell (B0564-8)	144	50	36	18	22	60	0	0	0	60	0	1.073
Snowden	151	123	89	9	10	58	14	9	0	81	23	1.075
Peter Wilcox (B1816-5)	123	80	58	7	26	67	0	0	0	67	0	1.060
Soraya	89	66	48	5	21	74	0	0	0	74	0	1.055

[1] Marketable Yield: size classes A1 to A3.

[2] Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

Table 4. Plant growth and tuber characteristics for the 2017 USDA 2nd Year Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
B3292-5	88	5	9	8						6	3
B3293-1	100	6	9	7						7	2
B3293-5	75	5	9	8						6	3
B3294-1	100	8	9	7						5	3
B3294-2	88	7	9	7						6	3
B3294-3	100	7	9	7						8	2
B3294-4	88	7	9	7						9	1
B3294-5	100	7	9	7						6	3
B3294-6	100	9	9	8						7	2
B3295-5	100	8	9	8						8	1
B3295-6	100	9	9	7						6	1
B3295-7	100	8	9	8						7	2
B3295-8	100	8	9	9						8	1
B3295-9	100	9	9	7						7	1
B3295-10	100	9	9	7						7	3
B3295-11	100	8	9	8						8	3
B3295-12	100	7	9	8						7	2
B3295-13	100	9	9	7						8	2
B3296-1	88	8	9	7						7	2
B3296-2	100	8	9	7						5	3
B3296-3	100	6	9	8						5	4
B3297-1	100	6	9	7						8	2
B3297-4	88	9	9	7						6	3
B3297-5	100	9	9	7						6	1
B3298-1	100	8	9	7						7	2
B3298-3	100	8	9	7						8	1
B3298-5	100	6	9	8						8	1
B3298-6	88	4	9	9						7	2
B3298-7	100	3	9	9						8	2
B3299-2	100	9	6	6						8	3

Table 4 (cont'd). Plant growth and tuber characteristics for the 2017 USDA 2nd Year Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
B3299-4	100	7	9	7						6	1
B3299-5	100	7	6	7						6	3
B3300-1	100	8	9	6						7	2
B3300-2	100	8	9	7						5	4
B3300-3	100	8	9	7						7	2
B3301-3	100	7	9	8						8	1
B3301-4	100	9	9	5						4	3
B3301-8	88	8	9	7						8	2
B3302-1	100	9	9	7						5	2
B3302-3	100	7	9	6						4	3
B3302-4	100	8	9	7						5	3
B3303-2	88	5	9	8						8	1
B3304-1	100	6	9	8						8	2
B3304-2	75	3	9	9						7	2
B3304-3	38	3	9	9						7	1
B3304-5	75	3	9	9						7	1
B3304-6	100	8	9	7						7	1
B3304-7	100	5	9	8						7	2
B3304-9	100	6	9	7						5	3
B3304-11	100	4	9	8						8	4
B3304-12	100	8	9	7						7	1
B3305-1	100	6	9	8						7	1
B3305-3	100	6	9	8						7	2
B3306-2	100	9	9	6						6	3
B3307-4	100	8	9	7						7	2
B3307-5	100	5	9	8						8	1
B3307-6	88	9	9	7						7	3
B3308-1	100	7	9	8						7	2
B3308-2	100	9	9	6						6	1
B3308-3	100	9	9	7						6	2

Table 4 (cont'd). Plant growth and tuber characteristics for the 2017 USDA 2nd Year Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
B3309-1	100	9	9	7						8	2
B3309-2	100	9	9	6						6	3
B3311-3	100	8	9	7						9	2
B3312-1	100	8	9	7						7	1
B3312-2	100	8	9	7						5	3
B3312-4	100	7	9	7						7	3
B3312-5	100	9	9	6						6	3
B3312-7	100	6	9	7						6	3
B3312-8	100	7	9	7						8	2
B3314-1	100	7	9	7						7	4
B3315-1	100	7	9	7						7	4
B3315-3	75	3	9	9						5	3
B3315-4	100	8	9	4						5	3
B3316-1	63	5	9	7						6	3
B3317-1	88	3	9	9						6	1
B3317-2	88	4	9	9						6	3
B3317-3	88	8	9	7						5	1
B3318-1	88	8	9	6						8	2
B3318-3	100	9	9	5						6	2
B3318-4	100	9	6	7						6	1
B3319-1	88	9	9	5						7	2
B3320-1	100	9	9	7						8	1
B3320-4	88	5	9	8						8	2
B3320-5	100	9	9	7						8	2
B3322-1	100	9	9	7						7	2
B3322-2	75	8	9	8						6	2
B3322-3	100	5	9	7						6	3
B3322-5	100	9	9	5						7	3
B3325-1	100	9	9	7						7	3
B3325-5	100	7	9	7						9	2

Table 4 (cont'd). Plant growth and tuber characteristics for the 2017 USDA 2nd Year Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
B3325-6	100	6	9	8						8	2
B3326-1	100	9	6	6						7	2
B3326-2	100	9	6	7						5	2
B3326-3	100	9	6	7						8	2
B3327-1	100	8	6	8						6	2
B3327-2	100	9	6	6						5	3
B3328-2	100	8	9	7						5	4
B3328-3	100	9	6	5						8	1
B3328-4	100	5	9	8						5	2
B3328-5	100	3	9	8						7	2
B3328-6	75	7	9	8						7	2
B3329-1	100	7	9	7						8	2
B3329-4	100	9	9	6						7	2
B3330-1	100	6	9	8						5	1
B3331-1	100	9	9	7						8	2
B3333-2	100	5	9	8						8	2
B3335-1	75	4	9	9						.	1
B3335-2	88	5	9	9						7	1
B3335-3	100	3	9	9						8	2
B3336-1	88	6	9	8						6	1
B3337-1	100	7	9	7						6	4
B3340-1	63	5	9	8						6	2
B3340-2	63	4	9	9						5	3
B3340-3	100	7	9	7						6	2
B3340-4	100	5	9	7						5	2
B3341-1	88	4	9	8						8	3
B3341-3	100	7	9	7						7	2
B3342-1	88	6	9	7						6	3
B3342-2	100	7	9	7						6	2
B3344-1	38	3	9	9						7	2

Table 4 (cont'd). Plant growth and tuber characteristics for the 2017 USDA 2nd Year Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
B3344-2	38	3	9	9						7	2
B3345-1	88	6	9	7						6	4
B3345-2	75	4	9	9						7	3
B3346-1	100	5	9	8						5	3
B3349-1	88	5	9	8						5	4
B3351-1	100	9	9	9						6	4
BNC705-1	100	6	9	6						7	2
BNC705-2	88	8	9	7						7	2
BNC708-1	100	7	9	7						8	1
BNC708-2	88	9	9	7						9	1
BNC709-2	75	6	9	8						7	2
BNC709-3	88	7	9	8						8	2
BNC710-2	75	4	9	8						7	2
BNC712-1	88	6	9	7						4	1
BNC712-2	63	3	9	9						6	3
BNC712-3	100	6	9	9						7	1
BNC712-4	100	6	9	8						7	3
BNC713-1	0	1	-	9						3	4
BNC713-2	88	4	9	9						8	3
BNC713-3	88	7	9	7						7	3
BNC714-1	100	9	9	6						7	3
BNC714-2	100	7	9	5						6	3
BNC715-1	75	3	9	9						6	3
BNC716-1	38	2	9	9						6	3
BNC716-2	75	4	9	9						6	2
BNC716-3	100	4	9	9						7	3
BNC717-1	75	5	9	8						7	2
BNC717-3	88	4	9	8						6	3
BNC718-1	63	3	9	9						7	1
BNC718-2	100	6	9	8						6	1

Table 4 (cont'd). Plant growth and tuber characteristics for the 2017 USDA 2nd Year Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
BNC720-1	63	3	9	9						6	1
BNC722-1	100	6	9	8						6	4
BNC723-1	88	9	9	6						6	2
BNC723-2	100	9	9	6						5	2
BNC723-3	88	9	9	7						7	1
BNC723-4	100	9	9	6						8	2
BNC724-1	100	6	9	8						6	2
BNC725-1	88	6	9	8						6	2
BNC726-1	88	9	9	8						7	1
BNC726-4	100	5	9	8						6	1
BNC726-5	88	9	9	8						6	1
BNC728-1	100	8	9	7						6	1
BNC729-1	100	8	9	7						6	2
BNC729-3	88	6	9	8						5	2
BNC730-1	100	7	9	8						5	3
BNC730-2	100	7	9	8						6	3
BNC731-2	38	4	9	9						8	1
BNC733-1	88	5	9	9						7	4
BNC733-2	88	5	9	8						9	2
BNC736-1	100	8	9	7						8	1
BNC738-2	88	9	9	7						8	1
BNC739-1	100	8	9	7						9	1
BNC740-1	88	4	9	9						7	1
BNC741-1	100	9	9	7						8	2
BNC742-1	100	9	9	7						7	2
BNC742-2	100	8	9	6						6	2
BNC744-1	100	9	9	6						.	3
BNC744-2	100	9	6	5						7	4
BNC744-3	100	9	9	6						5	4
BNC747-2	100	5	9	7						3	3

Table 4 (cont'd). Plant growth and tuber characteristics for the 2017 USDA 2nd Year Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
BNC751-1	100	6	9	7						7	1
BNC754-7	75	5	9	8						6	1
BNC754-9	75	5	9	9						5	2
BNC756-2	100	8	9	7						7	3
BNC756-3	75	6	9	8						5	3
BNC757-1	88	5	9	7						7	3
BNC757-2	100	9	9	5						4	3
BNC760-1	100	7	9	7						5	3
BNC762-1	100	7	9	7						7	3
BNC762-2	75	6	9	7						6	2
BNC762-3	88	8	9	7						8	2
BNC763-1	100	7	9	7						4	3
BNC764-1	100	9	9	6						6	4
BNC764-2	88	9	6	5						4	3
BNC765-1	100	7	9	7						7	2
BNC765-2	88	6	9	6						6	3
BNC765-3	100	6	9	7						6	3
BNC767-2	100	7	9	7						4	3
BNC767-3	38	4	9	9						6	3
BNC767-4	100	7	9	7						6	3
BNC767-5	75	4	9	8						4	3
BNC768-2	88	5	9	8						6	3
BNC768-7	25	2	9	9						5	3
Atlantic	100	6	9	8						7	-
Harley Blackwell (B0564-8)	75	8	9	6						5	4
Snowden	100	9	9	7						6	1
Peter Wilcox (B1816-5)	100	5	9	7						7	2
Soraya	88	7	9	7						7	3

[1] Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 8 for 10 ft plot, 8 in spacing.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2] Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.

Merit Score: 1-4 scale: 1 = outstanding, 2 = good/keep, 3 = marginal, 4 = not acceptable/drop.

Table 5. External and internal defects for the 2017 USDA 2nd Year Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
B3292-5	0	0	0	22	22	0	0	0	0	0	0	0	0
B3293-1	0	0	0	3	3	0	0	0	0	15	0	0	0
B3293-5	0	0	0	12	12	0	0	0	0	0	0	0	0
B3294-1	0	0	0	16	16	0	0	0	0	0	0	0	0
B3294-2	0	0	0	6	6	0	0	0	0	0	10	0	0
B3294-3	0	0	0	14	14	0	0	0	0	0	0	0	0
B3294-4	0	0	0	3	3	0	0	0	0	0	0	0	0
B3294-5	0	0	2	16	18	0	0	0	0	0	5	0	0
B3294-6	0	0	2	8	10	0	0	0	0	0	0	0	0
B3295-5	0	0	0	4	4	0	0	0	0	0	0	0	0
B3295-6	0	0	2	0	2	0	0	0	0	0	0	0	0
B3295-7	3	0	11	4	17	0	0	0	0	0	0	0	0
B3295-8	0	0	5	2	7	0	0	0	0	0	0	0	0
B3295-9	0	0	0	0	0	0	0	0	0	0	0	0	0
B3295-10	2	0	0	20	22	0	0	0	0	10	0	0	0
B3295-11	0	0	3	15	19	0	0	0	0	20	0	0	0
B3295-12	0	0	2	3	5	0	0	0	0	0	0	0	0
B3295-13	0	0	0	11	11	0	0	0	0	5	0	0	0
B3296-1	0	0	4	6	10	0	0	0	0	0	0	0	0
B3296-2	0	13	3	0	16	0	0	0	0	0	0	0	0
B3296-3	0	0	0	34	34	0	0	0	0	0	0	0	0
B3297-1	0	0	0	11	11	0	0	0	0	0	0	0	0
B3297-4	5	0	0	14	19	0	0	0	0	0	0	0	0
B3297-5	0	0	0	0	0	0	0	0	0	0	0	0	0
B3298-1	0	0	12	9	21	0	0	0	0	0	0	0	0
B3298-3	7	0	2	0	8	0	0	0	0	0	0	0	0
B3298-5	0	0	0	4	4	0	0	0	0	0	0	0	0
B3298-6	0	0	0	23	23	0	5	0	0	0	5	0	0
B3298-7	0	0	8	8	16	0	0	0	0	0	7	0	0
B3299-2	0	0	2	17	19	0	0	0	0	0	0	0	0

Table 5 (cont'd). External and internal defects for the 2017 USDA 2nd Year Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
B3299-4	0	0	0	3	3	0	0	0	0	0	0	0	0
B3299-5	0	0	3	4	7	0	0	0	0	0	0	0	0
B3300-1	0	0	2	13	15	0	0	0	0	0	0	0	0
B3300-2	0	0	0	29	29	0	0	0	0	0	0	0	0
B3300-3	0	0	6	11	18	0	0	0	0	0	5	0	0
B3301-3	0	0	0	2	2	0	0	0	0	0	0	0	0
B3301-4	0	0	0	7	7	0	0	0	0	0	0	0	0
B3301-8	0	0	0	10	10	0	0	0	0	0	0	0	0
B3302-1	0	0	0	11	11	0	0	0	0	0	0	0	0
B3302-3	0	0	0	5	5	0	0	0	0	0	0	0	0
B3302-4	0	0	0	0	0	0	0	0	0	0	0	0	0
B3303-2	0	0	0	0	0	0	0	0	0	0	0	0	0
B3304-1	0	0	0	10	10	0	0	0	0	0	0	0	0
B3304-2	0	0	0	0	0	0	0	0	0	0	0	0	0
B3304-3	0	0	0	8	8	0	0	0	0	0	0	0	0
B3304-5	0	0	0	8	8	0	0	0	0	0	0	0	0
B3304-6	0	0	0	2	2	0	0	0	0	0	0	0	0
B3304-7	0	0	0	19	19	0	0	0	0	0	0	0	0
B3304-9	0	0	0	17	17	0	0	0	0	0	0	0	0
B3304-11	0	0	0	26	26	0	0	0	0	0	0	0	0
B3304-12	0	0	0	0	0	0	0	0	0	0	0	0	0
B3305-1	0	0	0	0	0	0	0	0	0	0	0	0	0
B3305-3	0	0	0	11	11	0	0	0	0	0	0	0	0
B3306-2	0	0	0	14	14	0	0	0	0	0	5	0	0
B3307-4	0	0	0	16	16	0	0	0	0	0	0	0	0
B3307-5	0	0	0	7	7	0	0	0	0	0	0	0	0
B3307-6	0	0	0	3	3	0	0	0	0	0	0	0	0
B3308-1	0	0	0	4	4	0	0	0	0	0	0	0	0
B3308-2	0	0	0	4	4	0	0	0	0	0	0	0	0
B3308-3	0	0	0	18	18	0	0	0	0	0	0	0	0

Table 5 (cont'd). External and internal defects for the 2017 USDA 2nd Year Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
B3309-1	0	0	0	4	4	0	0	0	0	0	0	0	0
B3309-2	0	0	0	0	0	0	0	0	0	0	0	0	0
B3311-3	0	0	0	5	5	0	0	0	0	0	0	0	0
B3312-1	0	0	0	0	0	0	0	0	0	0	0	0	0
B3312-2	0	0	0	14	14	0	0	0	0	5	0	0	0
B3312-4	0	0	0	13	13	0	0	0	0	0	0	0	0
B3312-5	0	0	0	0	0	0	0	0	0	0	0	0	0
B3312-7	0	0	0	10	10	0	0	0	0	0	0	0	0
B3312-8	0	0	0	5	5	0	0	0	0	0	0	0	0
B3314-1	0	0	0	29	29	0	0	0	0	0	0	0	0
B3315-1	0	0	0	33	33	0	0	0	0	0	0	0	0
B3315-3	0	0	0	4	4	0	0	0	0	0	0	0	0
B3315-4	0	0	0	10	10	0	0	0	0	0	0	0	0
B3316-1	0	0	0	14	14	0	0	0	0	0	0	0	0
B3317-1	0	0	0	0	0	0	0	0	5	0	0	0	0
B3317-2	0	0	0	9	9	0	0	0	0	0	5	0	0
B3317-3	0	0	0	6	6	0	0	0	0	0	0	0	0
B3318-1	0	0	0	0	0	0	0	0	0	0	0	0	0
B3318-3	0	0	0	0	0	0	0	0	0	0	0	0	0
B3318-4	0	0	2	0	2	0	0	0	0	0	0	0	0
B3319-1	0	0	0	3	3	0	0	0	0	0	5	0	0
B3320-1	0	0	0	0	0	0	0	0	0	0	0	0	0
B3320-4	0	0	0	0	0	0	0	0	0	0	0	0	0
B3320-5	0	0	0	0	0	0	0	0	0	0	0	0	0
B3322-1	0	0	0	0	0	0	0	0	0	0	0	0	0
B3322-2	0	0	4	9	13	0	0	0	0	0	0	0	0
B3322-3	0	0	0	17	17	0	0	0	0	0	0	0	0
B3322-5	0	0	0	10	10	0	0	0	0	0	5	0	0
B3325-1	0	0	0	19	19	0	0	0	0	5	30	0	0
B3325-5	5	0	5	0	10	0	0	0	0	0	5	0	0

Table 5 (cont'd). External and internal defects for the 2017 USDA 2nd Year Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
B3325-6	2	0	5	20	27	0	0	0	0	0	0	0	0
B3326-1	0	0	2	12	15	0	0	0	0	0	0	0	0
B3326-2	4	0	0	11	16	0	0	0	0	0	0	0	0
B3326-3	0	0	0	28	28	0	0	0	0	0	0	0	0
B3327-1	0	0	1	14	15	0	0	0	0	0	0	0	0
B3327-2	5	0	0	32	37	0	0	0	0	0	0	0	0
B3328-2	8	0	0	20	28	0	0	0	0	5	0	0	0
B3328-3	0	0	0	3	3	0	0	0	0	0	0	0	0
B3328-4	0	0	0	12	12	0	0	0	0	0	0	0	0
B3328-5	0	0	0	20	20	0	0	0	0	0	0	0	0
B3328-6	8	0	0	3	12	0	0	0	0	0	0	0	0
B3329-1	15	0	1	4	20	0	0	0	0	0	0	0	0
B3329-4	0	0	0	0	0	0	0	0	0	0	0	0	0
B3330-1	0	0	1	3	4	0	0	0	0	0	0	0	0
B3331-1	0	0	5	9	14	0	10	0	0	0	0	0	0
B3333-2	0	0	5	0	5	0	0	0	0	0	0	0	0
B3335-1	0	0	0	6	6	0	0	0	0	0	0	0	0
B3335-2	0	0	0	0	0	0	0	0	0	0	0	0	0
B3335-3	0	0	0	7	7	0	0	0	0	0	0	0	0
B3336-1	0	0	0	5	5	0	0	0	0	0	0	0	0
B3337-1	0	0	0	33	33	0	0	0	0	0	0	0	0
B3340-1	0	0	2	9	10	0	0	0	0	0	0	0	0
B3340-2	0	0	0	8	8	0	0	0	0	0	5	0	0
B3340-3	0	0	0	12	12	0	0	0	0	0	5	0	0
B3340-4	5	0	0	18	23	0	0	0	0	0	5	0	0
B3341-1	0	0	0	12	12	0	0	0	0	0	0	0	0
B3341-3	0	0	0	9	9	0	0	0	0	0	0	0	0
B3342-1	0	0	0	17	17	0	0	0	0	0	0	0	0
B3342-2	0	0	0	11	11	0	0	0	0	0	0	0	0
B3344-1	0	0	0	14	14	0	0	0	0	0	0	0	0

Table 5 (cont'd). External and internal defects for the 2017 USDA 2nd Year Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
B3344-2	0	0	0	16	16	0	0	0	0	0	0	0	0
B3345-1	0	0	0	28	28	0	0	0	0	0	0	0	0
B3345-2	0	0	0	11	11	0	0	0	0	0	0	0	0
B3346-1	0	0	0	25	25	0	0	0	0	0	0	0	0
B3349-1	0	0	0	34	34	0	0	0	0	0	0	0	0
B3351-1	0	0	0	49	49	0	0	0	0	0	0	0	0
BNC705-1	0	0	0	6	6	0	0	0	0	0	0	0	0
BNC705-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC708-1	0	0	0	6	6	0	0	0	0	0	0	0	0
BNC708-2	0	0	0	6	6	0	0	0	0	0	0	0	0
BNC709-2	0	0	0	14	14	0	0	0	0	0	0	0	0
BNC709-3	0	0	0	12	12	0	10	0	0	0	15	0	0
BNC710-2	0	0	0	4	4	0	5	0	0	0	15	0	0
BNC712-1	0	0	0	2	2	0	0	0	0	0	0	0	0
BNC712-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC712-3	0	0	0	0	0	0	0	0	0	0	5	0	0
BNC712-4	0	0	0	8	8	0	0	0	0	0	5	0	0
BNC713-1	0	0	0	27	27	.	.	.	.	.	.	.	.
BNC713-2	0	0	6	22	28	0	0	0	0	0	0	0	0
BNC713-3	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC714-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC714-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC715-1	0	0	5	5	10	0	0	0	0	0	0	0	0
BNC716-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC716-2	0	0	0	3	3	0	0	0	0	0	0	0	0
BNC716-3	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC717-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC717-3	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC718-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC718-2	5	0	0	0	5	0	0	0	0	0	0	0	0

Table 5 (cont'd). External and internal defects for the 2017 USDA 2nd Year Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
BNC720-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC722-1	0	0	0	34	34	0	0	0	0	0	0	0	0
BNC723-1	0	0	0	19	19	0	0	0	0	0	0	0	0
BNC723-2	0	0	2	4	6	0	0	0	0	0	0	0	0
BNC723-3	0	0	0	3	3	0	0	0	0	0	0	0	0
BNC723-4	5	0	0	6	11	0	0	0	0	0	0	0	0
BNC724-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC725-1	0	0	0	8	8	0	0	0	0	0	0	0	0
BNC726-1	9	0	0	0	9	0	0	0	0	0	0	0	0
BNC726-4	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC726-5	0	0	2	0	2	0	0	0	0	0	5	0	0
BNC728-1	0	0	0	2	2	0	0	0	0	0	0	0	0
BNC729-1	0	0	0	7	7	0	0	0	0	0	0	0	0
BNC729-3	0	0	0	15	15	0	0	0	0	0	0	0	0
BNC730-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC730-2	0	0	0	45	45	0	0	0	0	0	0	0	0
BNC731-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC733-1	0	0	0	21	21	0	0	0	0	0	0	0	0
BNC733-2	0	0	2	17	19	0	0	0	0	0	5	0	0
BNC736-1	0	0	0	4	4	0	0	0	0	0	0	0	0
BNC738-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC739-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC740-1	0	0	2	5	7	0	0	0	0	0	0	0	0
BNC741-1	0	0	0	12	12	0	0	0	0	0	0	0	0
BNC742-1	13	0	0	4	18	0	0	0	0	5	0	0	0
BNC742-2	0	0	3	8	11	0	0	0	0	0	0	0	0
BNC744-1	0	0	3	13	17	.	.	.	.	.	.	.	.
BNC744-2	0	0	0	28	28	0	0	0	0	0	0	0	0
BNC744-3	0	0	3	26	30	0	0	0	0	0	5	0	0
BNC747-2	0	0	0	0	0	0	0	0	0	0	5	0	0

Table 5 (cont'd). External and internal defects for the 2017 USDA 2nd Year Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
BNC751-1	0	0	0	1	1	0	0	0	0	0	5	0	0
BNC754-7	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC754-9	0	0	0	0	0	0	10	0	0	0	0	0	0
BNC756-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC756-3	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC757-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC757-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC760-1	0	0	0	8	8	0	0	0	0	0	0	0	0
BNC762-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC762-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC762-3	0	0	0	10	10	0	0	0	0	0	0	0	0
BNC763-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC764-1	0	0	0	29	29	0	0	0	0	0	5	0	0
BNC764-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC765-1	0	0	0	0	0	0	0	0	0	5	0	0	0
BNC765-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC765-3	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC767-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC767-3	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC767-4	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC767-5	0	0	0	8	8	0	0	0	0	0	0	0	0
BNC768-2	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC768-7	0	0	0	0	0	0	0	0	0	0	10	0	0
Atlantic	11	0	0	3	13	0	0	0	0	0	0	0	0
Harley Blackwell (B0564-8)	0	0	0	42	42	0	0	0	0	0	5	0	0
Snowden	0	0	0	0	0	0	0	0	0	0	0	0	0
Peter Wilcox (B1816-5)	0	0	0	3	3	0	0	0	0	0	10	0	0
Soraya	0	0	0	0	0	0	0	0	0	0	0	0	0

[1] Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.
[2] Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

Chapter 3. USDA 3rd Year Potato Variety Trial

General Comments

A goal of the 3rd year USDA trial is to continue evaluating new clones for production potential in Florida. The entries in this trial were selected from the 2nd year clone trial conducted in 2016.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	January 24, 2017
Vine Kill Date	N/A
Harvest Date	May 3, 2017
Season Length	99 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	5 (Standard: Atlantic)
Number of Clones	52
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	1
Plot Size	16 ft (4.9 m)

Production Statistics

Early Vigor Ratings	42 DAP
Highest Total Yield	BNC626-15 (281 cwt/acre or 31.5 T/ha)
Highest Marketable Yield	Atlantic (210 cwt/acre or 23.5 T/ha)
Best Appearance Rating	B3263-1, B3263-2, B3270-4, BNC646-1, BNC539-1, BNC556-1, Atlantic, Harley Blackwell (B0564-8), Soraya (8, very good)

Table 6. Production statistics for the 2017 USDA 3rd Year Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	% of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	A2 to A3	Specific Gravity
Season–99 days												
B3255-2	159	56	27	22	43	35	0	0	0	35	0	1.078
B3255-5	149	38	18	32	42	26	0	0	0	26	0	1.089
B3257-9	171	25	12	32	53	15	0	0	0	15	0	1.082
B3259-1	227	110	52	8	42	50	0	0	0	50	0	1.077
B3260-5	215	93	44	16	35	47	0	2	0	49	2	1.077
B3263-1	238	134	64	5	36	59	0	0	0	59	0	1.065
B3263-2	266	191	91	6	18	77	0	0	0	77	0	1.080
B3263-3	241	111	53	10	44	46	0	0	0	46	0	1.079
B3263-7	250	145	69	5	29	66	0	0	0	66	0	1.071
B3263-14	193	125	59	4	29	65	2	0	0	67	2	1.080
B3264-3	186	42	20	24	53	24	0	0	0	24	0	1.068
B3264-5	210	129	61	7	28	64	0	0	0	64	0	1.071
B3264-9	152	25	12	28	54	17	0	0	0	17	0	1.072
B3265-1	153	47	22	14	44	42	0	0	0	42	0	1.068
B3265-9	212	72	34	11	53	36	0	0	0	36	0	1.063
B3265-17	193	82	39	15	36	49	0	0	0	49	0	1.081
B3268-3	187	127	61	7	15	70	8	0	0	78	8	1.073
B3270-4	157	60	29	10	42	49	0	0	0	49	0	1.081
B3270-8	237	122	58	10	34	52	2	3	0	57	5	1.073
B3270-10	236	78	37	12	53	35	0	0	0	35	0	1.083
B3280-1	192	14	6	35	58	7	0	0	0	7	0	1.060
BNC623-2	229	174	83	5	15	79	0	2	0	81	2	1.075
BNC626-3	241	156	75	4	24	61	2	9	0	72	11	1.080
BNC626-7	260	167	80	6	26	62	5	0	0	67	5	1.081
BNC626-8	252	197	94	5	16	71	3	4	0	79	8	1.079
BNC626-15	281	161	76	9	34	58	0	0	0	58	0	1.073
BNC646-1	263	203	97	3	16	80	0	0	0	80	0	1.073
BNC646-3	212	96	46	7	47	47	0	0	0	47	0	1.079
BNC648-1	165	88	42	9	32	58	0	0	0	58	0	1.084
B3175-5	198	77	37	13	45	42	0	0	0	42	0	1.073

Table 6 (cont'd). Production statistics for the 2017 USDA 3rd Year Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
B3175-8	195	104	50	9	34	57	0	0	0	57	0	1.074
B3176-1	117	20	10	25	55	19	0	0	0	19	0	1.075
B3177-9	176	65	31	12	45	43	0	0	0	43	0	1.064
B3179-5	181	92	44	15	30	50	0	5	0	55	5	1.074
B3187-11	190	59	28	21	47	29	0	3	0	32	3	1.065
B3195-5	189	48	23	25	49	25	0	0	0	25	0	1.084
B3195-8	261	131	63	10	39	51	0	0	0	51	0	1.081
B3195-9	203	70	33	16	49	35	0	0	0	35	0	1.070
B3195-11	193	100	48	10	35	55	0	0	0	55	0	1.067
B3200-3	188	134	64	6	16	47	16	15	0	78	31	1.080
B3210-5	145	49	23	14	51	35	0	0	0	35	0	1.058
B3215-17	124	64	30	12	30	48	11	0	0	58	11	1.067
B3219-5	166	94	45	4	31	65	0	0	0	65	0	1.065
B3222-2	188	67	32	19	44	37	0	0	0	37	0	1.062
BNC537-3	215	127	61	10	31	59	0	0	0	59	0	1.067
BNC538-3	147	91	44	8	29	59	0	4	0	63	4	1.070
BNC539-1	171	106	50	7	29	64	0	0	0	64	0	1.071
BNC543-2	168	74	35	10	42	48	0	0	0	48	0	1.065
BNC555-4	192	111	53	8	30	62	0	0	0	62	0	1.062
BNC556-1	186	154	73	3	14	80	3	0	0	83	3	1.070
BNC559-1	249	133	64	5	40	56	0	0	0	56	0	1.062
BNC568-1	222	139	66	7	29	64	0	0	0	64	0	1.059
Atlantic	275	210	100	1	19	75	2	3	0	80	5	1.081
Harley Blackwell (B0564-8)	213	157	75	5	14	66	10	5	0	81	15	1.073
Snowden	222	150	71	7	23	70	0	0	0	70	0	1.077
Peter Wilcox (B1816-5)	181	93	44	8	39	53	0	0	0	53	0	1.061
Soraya	197	123	59	9	29	63	0	0	0	63	0	1.059

[1] Marketable Yield: size classes A1 to A3.

[2] Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

Table 7. Plant growth and tuber characteristics for the 2017 USDA 3rd Year Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
B3255-2	100	6	9	5						5	3
B3255-5	100	7	9	6						6	3
B3257-9	100	5	9	7						5	3
B3259-1	100	6	9	8						5	3
B3260-5	100	7	9	7						5	3
B3263-1	96	5	9	6						8	2
B3263-2	100	7	9	7						8	1
B3263-3	100	7	9	7						6	3
B3263-7	100	6	9	8						6	3
B3263-14	79	5	9	7						7	2
B3264-3	100	6	9	7						5	3
B3264-5	100	5	9	7						6	2
B3264-9	100	7	9	7						7	3
B3265-1	100	8	9	8						6	4
B3265-9	96	8	9	5						7	3
B3265-17	100	7	9	8						4	3
B3268-3	92	4	9	7						7	3
B3270-4	100	6	9	7						8	4
B3270-8	96	5	9	8						7	3
B3270-10	100	6	9	8						7	3
B3280-1	100	7	9	4						7	3
BNC623-2	100	8	9	7						5	2
BNC626-3	100	6	9	8						6	2
BNC626-7	100	8	9	7						7	2
BNC626-8	100	7	9	8						7	1
BNC626-15	100	9	9	8						7	2
BNC646-1	100	8	9	5						8	1
BNC646-3	100	8	9	7						7	3
BNC648-1	92	4	9	8						4	3
B3175-5	100	5	9	7						6	3

Table 7 (cont'd). Plant growth and tuber characteristics for the 2017 USDA 3rd Year Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
B3175-8	75	3	9	9						6	3
B3176-1	38	2	9	9						4	3
B3177-9	96	5	9	7						7	3
B3179-5	100	6	9	7						6	3
B3187-11	100	6	9	5						6	3
B3195-5	100	4	9	8						6	3
B3195-8	100	7	9	7						7	2
B3195-9	100	7	9	7						5	3
B3195-11	100	5	9	7						7	3
B3200-3	75	3	9	9						5	2
B3210-5	100	6	9	7						5	3
B3215-17	100	6	9	7						7	3
B3219-5	100	6	9	6						7	3
B3222-2	100	5	9	6						6	3
BNC537-3	100	7	9	7						6	2
BNC538-3	96	3	9	8						7	3
BNC539-1	63	3	9	9						8	3
BNC543-2	100	6	9	8						6	3
BNC555-4	100	4	9	7						7	3
BNC556-1	54	3	9	9						8	2
BNC559-1	100	5	9	8						7	2
BNC568-1	83	3	9	8						6	2
Atlantic	100	7	9	8						8	-
Harley Blackwell (B0564-8)	100	4	9	8						8	2
Snowden	100	4	9	8						7	2
Peter Wilcox (B1816-5)	96	3	9	7						6	3
Soraya	83	4	9	8						8	2

[1] Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 24 for 16 ft plot, 8 in spacing.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2] Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.
Merit Score: 1-4 scale: 1 = outstanding, 2 = good/keep, 3 = marginal, 4 = not acceptable/drop.

Table 8. External and internal defects for the 2017 USDA 3rd Year Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
B3255-2	0	0	0	0	0	0	0	0	0	0	0	0	0
B3255-5	0	0	0	1	1	0	0	0	5	0	0	0	0
B3257-9	0	0	0	3	3	0	0	0	0	0	0	0	0
B3259-1	0	0	0	3	3	0	0	0	0	0	0	0	0
B3260-5	0	0	0	11	11	0	0	0	0	0	0	0	0
B3263-1	0	0	0	4	4	0	0	0	0	0	0	0	0
B3263-2	0	0	0	6	6	0	0	0	0	0	0	0	0
B3263-3	0	0	0	0	0	0	0	0	0	0	0	0	0
B3263-7	0	0	0	12	12	0	0	0	0	0	0	0	0
B3263-14	0	0	0	4	4	0	0	0	0	0	0	0	0
B3264-3	0	0	0	4	4	0	0	0	0	0	0	0	0
B3264-5	0	0	0	5	5	0	0	0	0	0	0	0	0
B3264-9	1	0	0	2	4	0	0	0	0	0	0	0	0
B3265-1	0	0	0	27	27	0	0	0	0	0	0	0	0
B3265-9	0	0	0	5	5	0	0	0	0	0	0	0	0
B3265-17	0	0	0	14	14	0	0	0	0	0	0	0	0
B3268-3	0	0	2	11	13	0	0	0	0	0	0	0	0
B3270-4	0	0	2	19	21	0	0	0	0	0	0	0	0
B3270-8	0	0	0	10	10	0	0	0	0	5	0	0	0
B3270-10	0	0	0	4	4	0	0	0	0	0	0	0	0
B3280-1	0	0	0	2	2	0	0	0	0	0	0	0	0
BNC623-2	1	0	2	3	6	0	0	0	0	0	0	0	0
BNC626-3	0	0	0	10	10	0	0	0	0	0	0	0	0
BNC626-7	0	0	0	5	5	0	0	0	0	0	0	0	0
BNC626-8	0	0	1	0	1	0	0	0	0	0	0	0	0
BNC626-15	0	0	0	1	1	0	0	0	0	0	0	0	0
BNC646-1	0	0	0	4	4	0	0	0	5	0	0	0	0
BNC646-3	0	0	0	3	3	0	0	0	0	0	0	0	0
BNC648-1	0	0	0	9	9	0	0	0	0	0	0	0	0
B3175-5	0	0	0	7	7	0	0	0	0	0	0	0	0

Table 8 (cont'd). External and internal defects for the 2017 USDA 3rd Year Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
B3175-8	0	0	6	0	6	0	0	0	0	0	0	0	0
B3176-1	0	0	9	2	12	0	0	0	0	0	0	0	0
B3177-9	0	0	1	12	13	0	0	0	0	0	0	5	0
B3179-5	0	0	3	6	9	0	0	0	0	0	0	0	0
B3187-11	2	0	0	0	2	0	0	0	0	0	0	0	0
B3195-5	0	0	0	0	0	0	0	0	5	0	0	0	0
B3195-8	0	0	1	0	1	0	0	0	0	0	0	0	0
B3195-9	1	0	0	0	1	0	0	0	5	0	0	0	0
B3195-11	0	0	0	5	5	0	0	0	0	0	0	0	0
B3200-3	0	0	0	9	9	0	5	0	0	0	0	0	0
B3210-5	0	0	0	3	3	0	0	0	0	0	0	0	0
B3215-17	0	0	0	11	11	0	0	0	10	0	0	0	0
B3219-5	0	0	0	14	14	0	0	0	0	0	0	0	0
B3222-2	0	0	0	4	4	0	0	0	0	0	0	0	0
BNC537-3	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC538-3	0	0	0	1	1	0	0	0	0	0	0	0	0
BNC539-1	0	0	0	4	4	0	0	0	0	0	0	0	0
BNC543-2	0	0	0	9	9	0	0	0	0	0	0	0	0
BNC555-4	0	0	0	7	7	0	0	0	0	0	0	0	0
BNC556-1	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC559-1	0	0	0	3	3	0	0	0	0	0	0	0	0
BNC568-1	0	0	0	3	3	0	0	0	5	0	0	0	0
Atlantic	0	0	2	3	5	0	0	0	0	0	0	0	0
Harley Blackwell (B0564-8)	0	0	2	8	10	0	0	0	0	0	0	0	0
Snowden	0	0	1	2	3	0	0	0	0	0	0	0	0
Peter Wilcox (B1816-5)	0	0	0	2	2	0	0	0	0	0	0	0	0
Soraya	0	0	0	0	0	0	0	0	0	0	0	0	0

[1] Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.
[2] Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

Chapter 4. Fresh Market, Red, And Purple Potato Variety Trial

General Comments

A goal of the fresh market, red, and purple variety trial is to identify a round white, red, or purple potato that has better quality and production characteristics than the "standard" Red LaSoda. Identification of "specialty" potatoes that expand the varieties produced in Florida is also a priority. Established varieties were included to provide a baseline for comparison with the numbered clones.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	February 6, 2017
Vine Kill Date	May 5, 2017
Harvest Date	May 18, 2017
Season Length	88 days planting to vine kill; 101 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	32 (Standard: Red LaSoda)
Number of Clones	11
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	4
Plot Size	20 ft (6.1 m)

Production Statistics

Early Vigor Ratings	42 DAP
Highest Total Yield	Electra (325 cwt/acre or 36.4 T/ha)
Highest Marketable Yield	Electra (201 cwt/acre or 22.5 T/ha)
Best Appearance Rating	Carolina Red, Georgina, Volare, Dark Red Norland, Actrice, CO9907-6R, W2978-3 (9, excellent)

Table 9. Production statistics for the 2017 Fresh Market, Red, and Purple Variety Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Season–88 days												
Arizona	203	74	67	14	46	39	0	0	0	39	0	1.048
Carolina Red	165	97	89	8	31	61	0	0	0	61	0	1.048
Coronada	208	57	52	22	47	31	0	0	0	31	0	1.043
Georgina	247	93	85	15	46	38	0	0	0	39	0	1.052
Malou	260	84	77	20	47	33	1	0	0	33	1	1.058
Viviana	176	90	83	11	34	53	1	1	0	55	2	1.058
Natascha	220	95	86	9	47	43	1	0	0	44	1	1.051
AC Hamer	164	56	51	18	46	37	0	0	0	37	0	1.055
CO98012-5R-06B21	146	54	49	22	42	35	0	0	0	35	0	1.061
Roko	222	85	78	13	48	39	0	0	0	39	0	1.056
RP2016-195	277	164	150	5	31	64	0	0	0	64	0	1.059
Volare	233	158	144	6	19	73	1	0	0	75	2	1.049
MSW343-2R	193	120	110	4	17	69	7	4	0	79	11	1.048
MSX324-1P	169	68	62	17	41	42	0	0	0	42	0	1.063
MSX569-1R	100	50	46	10	32	54	3	0	0	58	3	1.048
NC414-2	175	79	72	16	36	48	0	0	0	48	0	1.078
NC499-14	122	39	35	32	36	32	0	0	0	32	0	1.058
NC507-15	125	10	9	57	35	8	0	0	0	8	0	1.056
NCB2607-3	161	29	27	25	56	19	0	0	0	19	0	1.064
Aurea	204	110	100	7	24	69	0	0	0	70	0	1.064
Crisper	266	76	70	18	52	30	0	0	0	30	0	1.060
Adirondack Blue	162	84	77	8	38	54	0	0	0	54	0	1.056
All Blue	138	13	12	38	52	9	0	0	0	9	0	1.060
Chieftain	189	110	100	10	30	60	0	0	0	60	0	1.052
Dark Red Norland	147	72	66	13	35	51	2	0	0	52	2	1.050
French Fingerling	163	10	9	47	47	6	0	0	0	6	0	1.048
Goldrush	160	73	67	13	39	49	0	0	0	49	0	1.052
Lamoka	192	120	110	6	21	68	2	4	0	74	5	1.061
Marcy	238	155	142	3	14	77	4	3	0	83	6	1.062
Peter Wilcox (B1816-5)	194	101	92	8	37	54	0	0	0	54	0	1.058

Table 9 (cont'd). Production statistics for the 2017 Fresh Market, Red, and Purple Variety Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Pike	231	158	144	4	14	63	13	6	0	82	18	1.055
Red LaSoda	174	110	100	7	20	72	1	0	0	73	1	1.053
Russian Banana	73	1	1	78	21	2	0	0	0	2	0	1.051
Satina	218	154	141	5	17	74	2	2	0	78	5	1.050
Soraya	150	89	82	8	21	70	2	0	0	71	2	1.052
Vivaldi	202	82	75	11	45	44	0	0	0	44	0	1.058
Yukon Gold	151	83	76	10	26	61	1	2	0	64	3	1.064
Actrice	221	138	126	6	28	63	2	0	0	65	2	1.046
CO9907-6R	132	49	45	17	47	37	0	0	0	37	0	1.060
Electra	325	201	184	6	24	68	1	1	0	70	2	1.051
Taisya	234	84	77	10	48	42	0	0	0	42	0	1.048
Talent	186	57	52	32	34	34	0	0	0	34	0	1.051
W2978-3	213	135	123	8	24	68	0	0	0	68	0	1.059
MSD[3]	95	87		15	21	25	6	4	ns	25	7	0.014
P Value	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001

[1] Marketable Yield: size classes A1 to A3.

[2] Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

[3] Means separated within columns by Tukey's Studentized Range (HSD) Test.

Table 10. Plant growth and tuber characteristics for the 2017 Fresh Market, Red, and Purple Variety Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]					
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP
Arizona	93	8	8	5	2	9	8	3	8	8
Carolina Red	88	8	9	5	1	3	9	3	9	9
Coronada	88	7	9	7	3	9	9	3	9	8
Georgina	88	9	9	6	3	9	8	3	9	9
Malou	95	9	9	4	3	9	7	3	6	7
Viviana	85	8	8	4	3	9	8	3	9	8
Natascha	89	8	9	6	3	7	9	3	7	8
AC Hamer	83	9	8	3	1	9	8	2	8	7
CO98012-5R-06B21	93	7	9	7	1	2	8	1	7	8
Roko	96	9	9	7	1	3	8	3	7	8
RP2016-195	91	7	9	7	1	9	8	3	9	8
Volare	86	8	9	5	1	9	9	3	8	9
MSW343-2R	83	6	9	7	1	2	9	2	9	8
MSX324-1P	90	9	8	5	1	1	9	1	7	7
MSX569-1R	56	6	9	5	1	2	9	3	9	8
NC414-2	71	9	8	6	9	1	9	1	7	7
NC499-14	91	8	8	4	3	3	9	2	9	6
NC507-15	90	7	9	3	6	2	8	5	9	6
NCB2607-3	88	9	9	4	2	2	9	2	7	8
Aurea	83	6	9	7	2	7	7	2	7	7
Crisper	90	9	9	6	2	1,9	8	3	7	8
Adirondack Blue	88	5	9	7	9	1	8	3	7	6
All Blue	83	7	9	6	9	1	8	3	7	6
Chieftain	90	7	9	7	1	2	8	3	7	7
Dark Red Norland	93	7	9	5	1	2	8	2	9	9
French Fingerling	93	8	9	6	3	3	9	6	7	7
Goldrush	92	7	9	6	1	5	3	6	9	8
Lamoka	77	8	9	8	1	7	7	3	7	6
Marcy	88	7	9	7	1	6	5	3	7	7
Peter Wilcox (B1816-5)	81	7	9	7	3	1	7	3	7	7

Table 10 (cont'd). Plant growth and tuber characteristics for the 2017 Fresh Market, Red, and Purple Variety Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]					
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP
Pike	69	5	9	9	1	7	7	2	7	7
Red LaSoda	85	7	9	6	1	2	8	3	6	7
Russian Banana	90	6	9	6	2	7	7	6	8	4
Satina	78	7	9	7	3	9	8	3	7	8
Soraya	63	6	9	7	3	9	7	3	9	8
Vivaldi	88	7	9	7	2	9	8	4	7	8
Yukon Gold	92	6	9	6	2	7	7	2	9	7
Actrice	91	6	9	7	3	9	9	3	8	9
CO9907-6R	94	7	9	5	3,9	2	9	2	8	9
Electra	94	7	9	7	2	7	7	3	9	8
Taisya	72	6	9	8	3	9	8	6	8	6
Talent	87	6	9	9	3	7	7	6	8	7
W2978-3	93	5	9	7	1	8	9	2	9	9

[1] Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 30 for 20 ft plot, 8 in spacing.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2] Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.

Table 11. External and internal defects for the 2017 Fresh Market, Red, and Purple Variety Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
Arizona	0	2	0	10	12	0	0	0	0	0	0	0	0
Carolina Red	1	1	0	4	6	0	0	0	0	0	0	0	0
Coronada	0	0	0	11	11	0	0	0	0	0	0	0	0
Georgina	0	0	0	5	6	0	0	0	0	0	0	0	0
Malou	1	0	0	1	2	0	0	0	0	0	0	0	0
Viviana	2	1	0	6	9	0	0	0	0	0	0	0	0
Natascha	0	1	0	0	2	0	0	0	0	0	0	0	0
AC Hamer	0	1	0	4	5	0	0	0	0	0	0	0	0
CO98012-5R-06B21	1	0	0	3	4	0	0	0	0	0	0	0	0
Roko	1	1	0	4	6	0	0	0	0	0	0	0	0
RP2016-195	0	1	0	7	8	0	0	0	0	0	0	0	0
Volare	0	0	0	10	10	0	0	0	0	0	0	0	0
MSW343-2R	2	0	1	21	23	0	0	0	0	0	0	0	0
MSX324-1P	1	0	0	3	5	0	0	0	0	0	0	0	0
MSX569-1R	0	0	0	18	18	0	0	0	0	0	0	0	0
NC414-2	0	0	0	4	4	0	0	0	0	0	0	0	0
NC499-14	1	0	0	6	6	0	0	0	0	0	0	0	0
NC507-15	0	1	0	2	3	0	0	0	0	0	0	0	0
NCB2607-3	1	0	0	4	5	0	0	0	0	0	0	0	0
Aurea	1	0	0	23	24	0	0	0	0	0	0	0	0
Crisper	0	1	0	6	7	0	0	0	0	0	0	0	0
Adirondack Blue	0	2	0	3	5	0	0	0	1	0	0	0	0
All Blue	0	1	0	4	5	0	0	0	0	1	0	0	0
Chieftain	0	0	0	5	6	0	0	0	0	0	0	0	0
Dark Red Norland	0	0	0	8	9	0	0	0	0	0	0	0	0
French Fingerling	1	1	0	0	2	0	0	0	0	0	0	0	0
Goldrush	0	1	0	5	6	0	0	0	0	0	0	0	0
Lamoka	1	1	1	11	14	0	0	0	0	0	0	0	0
Marcy	0	0	0	25	25	0	1	0	0	0	0	0	0
Peter Wilcox (B1816-5)	0	3	1	3	7	0	0	0	0	0	0	0	0

Table 11 (cont'd). External and internal defects for the 2017 Fresh Market, Red, and Purple Variety Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
Pike	0	2	2	13	16	0	0	0	0	0	0	0	0
Red LaSoda	1	1	0	11	13	0	0	0	0	0	0	0	0
Russian Banana	1	0	0	0	1	0	0	0	0	0	0	0	0
Satina	0	1	0	11	12	0	0	0	0	0	0	0	0
Soraya	0	3	0	10	13	0	0	0	0	0	0	0	0
Vivaldi	0	0	0	9	9	0	0	0	0	0	0	0	0
Yukon Gold	0	0	0	16	16	0	0	0	0	0	0	0	0
Actrice	0	0	0	5	5	0	0	0	0	0	0	0	0
CO9907-6R	0	0	0	5	6	0	0	0	0	0	0	0	0
Electra	1	2	0	9	12	0	0	0	0	0	0	0	0
Taisya	0	8	0	7	15	0	0	0	0	0	0	0	0
Talent	0	1	0	12	13	0	0	0	0	0	0	0	0
W2978-3	0	0	2	10	11	0	0	0	0	0	0	0	0
MSD[3]	2	4	ns	16	17	ns	ns	ns	ns	ns	ns	ns	ns
P Value	0.0191	<0.0001	0.4107	<0.0001	<0.0001	-	0.4832	-	0.4832	0.4832	-	-	-

[1] Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.

[2] Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

[3] Means separated within columns by Tukey's Studentized Range (HSD) Test.

Chapter 5. University of Maine Advanced Selection Potato Variety Trial

General Comments

A goal of the University of Maine advanced selection trial is to continue gathering data on these advanced potato selections for potential Florida production. The chipping “standard” Atlantic was included to provide a baseline for comparison with the numbered clones.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	January 25, 2017
Vine Kill Date	April 20, 2017
Harvest Date	May 8, 2017
Season Length	85 days planting to vine kill; 103 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	5 (Standard: Atlantic)
Number of Clones	16
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	4
Plot Size	20 ft (6.1 m)

Production Statistics

Early Vigor Ratings	42 DAP
Highest Total Yield	AF4659-12 (299 cwt/acre or 33.5 T/ha)
Highest Marketable Yield	AF0338-17 (199 cwt/acre or 22.3 T/ha)
Best Appearance Rating	AF4659-12, AF4872-2, AF5412-3, AF5414-1, Atlantic, NDAF113484B-1 (8, very good)

Table 12. Production statistics for the 2017 University of Maine Advanced Selection Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Season–85 days												
Atlantic	220	169	102	3	13	77	6	2	0	84	8	1.071
Harley Blackwell (B0564-8)	231	162	98	6	16	72	4	1	0	77	6	1.074
Snowden	224	163	99	3	18	78	1	0	0	79	1	1.070
Yukon Gold	137	100	60	4	15	74	3	5	0	81	7	1.070
AF0338-17	260	199	121	4	14	72	4	6	0	82	11	1.070
AF4157-6	166	104	63	4	29	66	0	1	0	67	1	1.068
AF4659-12	299	70	43	23	53	24	0	0	0	24	0	1.061
AF4872-2	208	133	81	5	26	66	2	1	0	69	3	1.063
AF5412-3	215	148	90	5	19	74	2	1	0	76	3	1.053
AF5414-1	158	87	53	13	27	60	1	0	0	61	1	1.060
NDAF102629C-4	174	123	75	7	17	67	5	4	0	76	9	1.053
WAF10664-3	205	147	89	3	19	66	7	5	0	78	12	1.059
WAF10073-3Rus	169	75	45	6	28	63	1	2	0	66	3	1.052
AF5635-8	179	74	45	15	39	45	0	1	0	46	1	1.061
AF5648-3	177	126	76	4	22	70	1	2	0	74	3	1.063
AF5677-4	175	115	70	4	23	66	4	2	0	72	6	1.062
AF5677-6	215	171	104	2	14	80	3	1	0	83	3	1.066
Atlantic	207	161	98	3	13	67	9	8	0	84	17	1.072
AAF10577-1	221	127	77	7	27	63	2	1	0	65	3	1.061
NDAF113458-2	218	166	100	3	13	80	3	1	0	85	4	1.057
NDAF113484B-1	145	85	52	4	29	67	0	0	0	67	0	1.054
MSD [3]	36	30		3	10	11	4	6	ns	11	6	0.006
P Value	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	0.0113	-	<0.0001	<0.0001	<0.0001

[1] Marketable Yield: size classes A1 to A3.

[2] Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

[3] Means separated within columns by Waller-Duncan K-ratio t Test.

Table 13. Plant growth and tuber characteristics for the 2017 University of Maine Advanced Selection Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Atlantic	89	6	9	8						6	-
Harley Blackwell (B0564-8)	88	7	9	8						6	1
Snowden	83	5	9	8						6	1
Yukon Gold	87	4	9	7						4	3
AF0338-17	89	7	9	7						7	1
AF4157-6	83	4	9	8						7	2
AF4659-12	99	7	9	7						8	3
AF4872-2	91	5	9	7						8	2
AF5412-3	90	6	9	8						8	2
AF5414-1	87	5	9	7						8	3
NDAF102629C-4	63	4	9	9						6	2
WAF10664-3	87	5	9	8						5	1
WAF10073-3Rus	83	4	9	9						7	4
AF5635-8	83	4	9	8						4	3
AF5648-3	83	4	9	8						6	2
AF5677-4	76	4	9	9						6	2
AF5677-6	80	5	9	8						6	1
Atlantic	89	6	9	8						8	-
AAF10577-1	82	7	9	7						7	2
NDAF113458-2	88	6	9	8						5	2
NDAF113484B-1	88	6	9	8						8	3

[1] Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 30 for 20 ft plot, 8 in spacing.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2] Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.
Merit Score: 1-4 scale: 1 = outstanding, 2 = good/keep, 3 = marginal, 4 = not acceptable/drop.

Table 14. External and internal defects for the 2017 University of Maine Advanced Selection Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
Atlantic	2	1	1	5	9	0	1	0	0	0	5	3	0
Harley Blackwell (B0564-8)	0	0	0	8	8	0	0	0	0	0	1	0	0
Snowden	0	4	1	2	8	0	0	0	0	0	0	0	0
Yukon Gold	1	0	0	12	13	0	0	0	0	0	0	0	0
AF0338-17	1	0	1	6	8	0	1	0	0	0	0	0	0
AF4157-6	1	1	0	5	7	0	1	0	0	0	0	0	0
AF4659-12	0	1	0	1	2	0	0	0	0	0	0	0	0
AF4872-2	0	1	0	6	7	0	0	0	0	0	0	0	0
AF5412-3	1	4	0	5	10	0	0	0	0	0	0	0	0
AF5414-1	0	3	0	4	8	0	1	0	0	3	0	0	0
NDAF102629C-4	0	3	0	3	7	0	0	0	0	0	1	0	0
WAF10664-3	2	0	1	6	9	0	0	0	0	0	0	0	0
WAF10073-3Rus	1	14	0	18	33	0	0	0	0	0	0	0	0
AF5635-8	3	1	1	1	5	0	0	0	0	0	4	0	0
AF5648-3	0	0	0	3	3	0	0	0	0	0	0	0	0
AF5677-4	1	2	1	5	9	0	0	0	0	0	0	0	0
AF5677-6	1	1	0	3	4	0	0	0	0	0	0	0	0
Atlantic	1	1	1	4	7	0	0	0	0	2	0	0	0
AAF10577-1	1	1	0	11	12	0	0	0	0	0	0	0	0
NDAF113458-2	1	2	2	6	10	0	0	0	0	0	0	0	0
NDAF113484B-1	0	1	0	13	14	0	0	0	0	0	0	0	0
MSD[3]	2	4	ns	5	6	ns	ns	ns	ns	ns	2	ns	ns
P Value	0.0456	<0.0001	0.2855	<0.0001	<0.0001	-	0.6844	-	-	0.4147	<0.0001	0.4940	-

[1] Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.

[2] Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

[3] Means separated within columns by Waller-Duncan K-ratio t Test.

Chapter 6. University of Maine Early Line Potato Variety Trial

General Comments

A goal of the University of Maine early line trial is to continue gathering data on early line potato selections for potential Florida production. The fresh market “standard” Red LaSoda was included to provide a baseline for comparison with the numbered clones.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	January 25, 2017
Vine Kill Date	April 20, 2017
Harvest Date	May 3, 2017
Season Length	85 days planting to vine kill; 98 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	6 (Standard: Red LaSoda)
Number of Clones	36
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	1
Plot Size	15 ft (4.6 m)

Production Statistics

Early Vigor Ratings	42 DAP
Highest Total Yield	AF5762-8 (344 cwt/acre or 38.6 T/ha)
Highest Marketable Yield	AF5819-2 (259 cwt/acre or 29.0 T/ha)
Best Appearance Rating	All Blue, AF5745-3, AF5774-2, NDAF113555CB-2 (9, excellent)

Table 15. Production statistics for the 2017 University of Maine Early Line Variety Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	% of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	A2 to A3	Specific Gravity
Season–85 days												
Red LaSoda	152	118	100	3	16	71	8	3	0	82	11	1.057
Peter Wilcox (B1816-5)	247	186	158	0	22	78	0	0	0	78	0	1.059
Soraya	198	155	132	2	14	77	8	0	0	85	8	1.048
Satina	293	211	179	3	14	77	4	2	0	83	6	1.051
Dark Red Norland	150	121	103	4	13	74	9	0	0	84	9	1.057
All Blue	195	66	56	16	49	35	0	0	0	35	0	1.068
AF5715-6	255	173	147	2	27	71	0	0	0	71	0	1.069
AF5811-1	317	178	151	7	30	63	0	0	0	63	0	1.056
AF5819-2	318	259	220	2	12	76	5	5	0	86	10	1.064
AF5824-6	250	170	145	6	22	72	0	0	0	72	0	1.059
AF5855-1	263	156	133	6	29	66	0	0	0	66	0	1.060
AF5869-2	327	247	210	6	15	70	10	0	0	80	10	1.066
AF5870-2	202	111	94	13	31	56	0	0	0	56	0	1.068
AAF11478-1	243	67	57	24	48	29	0	0	0	29	0	1.065
MSAFB605-4	161	92	78	9	32	59	0	0	0	59	0	1.057
MSAFB609-5	270	181	153	6	21	73	0	0	0	73	0	1.069
MSAFB609-12	242	105	89	10	44	46	0	0	0	46	0	1.062
MSAFB610-2	257	151	128	7	34	54	2	4	0	60	6	1.059
MSAFB616-9	253	160	136	4	29	67	0	0	0	67	0	1.059
MSAFB619-2	275	170	144	6	30	64	0	0	0	64	0	1.056
MSAFB635-15	226	160	136	7	21	72	0	0	0	72	0	1.066
MSAFB636-1	162	78	66	7	44	49	0	0	0	49	0	1.057
AF5857-1	244	143	121	14	24	54	3	5	0	62	8	1.049
AF5892-1	262	145	123	6	37	56	0	0	0	56	0	1.063
AF5831-2	224	149	126	6	26	68	0	0	0	68	0	1.068
MSAFB603-2	253	17	14	45	48	7	0	0	0	7	0	1.059
MSAFB607-4	298	87	74	22	49	29	0	0	0	29	0	1.060
AF5707-1	205	129	109	6	29	64	0	0	0	64	0	1.051
AF5714-2	161	50	43	17	51	32	0	0	0	32	0	1.059
AF5723-1	297	166	141	5	36	59	0	0	0	59	0	1.072

Table 15 (cont'd). Production statistics for the 2017 University of Maine Early Line Variety Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
AF5727-3	284	154	131	4	39	55	2	0	0	57	2	1.064
AF5735-8	170	63	54	9	53	38	0	0	0	38	0	1.054
AF5736-16	179	135	115	4	17	79	0	0	0	79	0	1.057
AF5745-3	186	136	116	3	24	73	0	0	0	73	0	1.053
AF5759-9	289	196	167	3	28	69	0	0	0	69	0	1.059
AF5762-4	313	204	174	4	29	67	0	0	0	67	0	1.065
AF5762-8	344	223	189	6	29	65	0	0	0	65	0	1.070
AF5774-2	228	177	150	4	19	77	0	0	0	77	0	1.060
AF5789-1	263	207	175	0	20	74	5	0	0	80	5	1.060
WAF13027-2	189	96	82	6	42	52	0	0	0	52	0	1.062
NDAF113555CB-2	271	181	153	6	27	67	0	0	0	67	0	1.064
NDAF1260B-1	204	49	41	11	65	25	0	0	0	25	0	1.061

[1] Marketable Yield: size classes A1 to A3.

[2] Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

Table 16. Plant growth and tuber characteristics for the 2017 University of Maine Early Line Variety Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Red LaSoda	100	7	9	7						7	-
Peter Wilcox (B1816-5)	83	4	9	8						5	1
Soraya	71	5	9	8						8	2
Satina	96	6	9	7						7	2
Dark Red Norland	92	7	9	6						7	1
All Blue	75	6	9	7						9	2
AF5715-6	83	7	9	8						6	1
AF5811-1	96	8	9	7						6	2
AF5819-2	88	6	9	7						6	1
AF5824-6	83	5	9	7						5	1
AF5855-1	88	6	9	8						7	1
AF5869-2	88	8	9	7						8	1
AF5870-2	83	5	9	8						7	1
AAF11478-1	92	5	9	8						6	2
MSAFB605-4	50	2	9	9						7	2
MSAFB609-5	88	6	9	8						7	1
MSAFB609-12	79	4	9	8						6	1
MSAFB610-2	79	4	9	8						4	1
MSAFB616-9	88	6	9	8						7	2
MSAFB619-2	71	5	9	9						5	1
MSAFB635-15	67	4	9	9						7	1
MSAFB636-1	75	4	9	9						6	2
AF5857-1	75	6	9	9						8	1
AF5892-1	96	7	9	7						7	1
AF5831-2	79	5	9	8						8	1
MSAFB603-2	88	6	9	5						7	3
MSAFB607-4	88	9	9	5						8	2
AF5707-1	79	4	9	9						8	1
AF5714-2	42	3	9	9						4	3
AF5723-1	96	8	9	6						8	1

Table 16 (cont'd). Plant growth and tuber characteristics for the 2017 University of Maine Early Line Variety Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
AF5727-3	96	6	9	8						7	1
AF5735-8	8	2	9	9						6	3
AF5736-16	58	3	9	9						7	1
AF5745-3	92	3	9	9						9	1
AF5759-9	88	4	9	9						6	1
AF5762-4	96	4	9	8						7	1
AF5762-8	96	7	9	8						8	1
AF5774-2	96	4	9	8						9	1
AF5789-1	83	4	9	9						7	1
WAF13027-2	63	4	9	9						8	2
NDAF113555CB-2	92	6	9	8						9	1
NDAF1260B-1	88	3	9	9						6	3

[1] Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 24 for 15 ft plot, 8 in spacing.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2] Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.
Merit Score: 1-4 scale: 1 = outstanding, 2 = good/keep, 3 = marginal, 4 = not acceptable/drop.

Table 17. External and internal defects for the 2017 University of Maine Early Line Variety Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
Red LaSoda	0	0	1	4	5	0	0	0	0	0	0	0	0
Peter Wilcox (B1816-5)	0	0	0	4	4	0	0	0	0	0	0	0	0
Soraya	2	1	2	2	8	0	10	0	0	0	0	0	0
Satina	0	0	1	12	13	0	0	0	0	0	0	0	0
Dark Red Norland	2	0	1	0	3	0	0	0	0	0	0	0	0
All Blue	0	0	3	0	3	0	0	0	0	0	0	0	0
AF5715-6	0	0	0	4	4	0	0	0	0	0	0	0	0
AF5811-1	0	0	0	11	11	0	0	0	0	0	0	0	0
AF5819-2	0	0	1	4	6	0	0	0	0	0	0	0	0
AF5824-6	0	0	2	3	5	0	0	0	0	0	0	0	0
AF5855-1	2	0	2	6	9	0	0	0	0	0	0	0	0
AF5869-2	0	0	1	4	5	0	0	0	0	0	0	0	0
AF5870-2	1	0	1	0	2	0	0	0	0	0	0	0	0
AAF11478-1	0	0	0	4	4	0	0	0	0	0	0	0	0
MSAFB605-4	0	0	3	0	3	0	0	0	0	0	0	0	0
MSAFB609-5	0	0	0	8	8	0	0	0	0	0	0	0	0
MSAFB609-12	0	0	4	1	5	0	0	0	0	0	0	0	0
MSAFB610-2	0	0	0	1	1	0	0	0	0	0	0	0	0
MSAFB616-9	0	0	0	5	5	0	0	0	0	5	0	0	0
MSAFB619-2	0	0	0	4	4	0	0	0	0	0	0	0	0
MSAFB635-15	0	0	0	1	1	0	0	0	0	0	0	0	0
MSAFB636-1	0	0	0	3	3	0	0	0	0	0	0	0	0
AF5857-1	0	0	1	4	5	0	0	0	0	0	0	0	0
AF5892-1	0	0	2	1	2	0	0	0	0	0	0	0	0
AF5831-2	0	0	0	2	2	0	0	0	0	0	0	0	0
MSAFB603-2	0	0	0	0	0	0	0	0	0	0	0	0	0
MSAFB607-4	0	0	0	0	0	0	0	0	0	0	0	0	0
AF5707-1	0	0	0	2	2	0	0	0	0	0	0	0	0
AF5714-2	0	0	0	3	3	0	0	0	0	0	0	0	0
AF5723-1	0	0	1	4	5	0	0	0	0	0	0	0	0

Table 17 (cont'd). External and internal defects for the 2017 University of Maine Early Line Variety Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
AF5727-3	0	0	0	5	5	0	0	0	0	0	0	0	0
AF5735-8	0	0	0	3	3	0	0	0	0	0	0	0	0
AF5736-16	0	0	0	4	4	0	0	0	0	0	0	0	0
AF5745-3	0	0	0	0	0	0	0	0	0	0	0	0	0
AF5759-9	0	0	2	0	2	0	0	0	0	0	0	0	0
AF5762-4	1	0	0	2	3	0	0	0	0	0	0	0	0
AF5762-8	1	0	0	0	1	0	0	0	0	0	0	0	0
AF5774-2	0	0	0	0	0	0	0	0	0	0	0	0	0
AF5789-1	0	0	0	2	2	0	0	0	0	0	0	0	0
WAF13027-2	0	0	0	2	2	0	0	0	0	0	0	0	0
NDAF113555CB-2	0	0	0	1	1	0	0	0	0	0	0	0	0
NDAF1260B-1	0	0	0	2	2	0	0	0	0	0	0	0	0

[1] Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.

[2] Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

Chapter 7. University of Maine Early Generation Red and Specialty Potato Variety Trial

General Comments

The University of Maine early generation red and specialty trial gives us an opportunity to look at these newest breeding clones for the first time.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	January 25, 2017
Vine Kill Date	April 20, 2017
Harvest Date	May 4, 2017
Season Length	85 days planting to vine kill; 99 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	9 (Standard: Dark Red Norland instead of Red LaSoda)
Number of Clones	47
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	1
Plot Size	6 ft (1.8 m)

Production Statistics

Early Vigor Ratings	42 DAP
Highest Total Yield	Satina (235 cwt/acre or 26.3 T/ha)
Highest Marketable Yield	Satina (203 cwt/acre or 22.8 T/ha)
Best Appearance Rating	Soraya, AF6043-1, AF6048-4, AF6054-1, AAF10263-2, NDAF14424-1, NDAF14437CAB-3, AF6053-2 (9, excellent)

Table 18. Production statistics for the 2017 University of Maine Early Generation Red and Specialty Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	% of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	A2 to A3	Specific Gravity
Season–85 days												
Red LaSoda	129	76	44	4	10	61	14	11	0	86	24	1.056
Atlantic	202	174	100	1	3	50	26	20	0	96	46	1.068
Peter Wilcox (B1816-5)	179	161	92	4	6	56	28	5	0	90	33	1.062
Soraya	108	90	52	4	12	56	18	10	0	83	27	1.048
Satina	235	203	116	2	9	79	6	4	0	89	11	1.054
Snowden	164	137	79	4	12	84	0	0	0	84	0	1.067
Dark Red Norland	134	119	68	2	8	67	11	13	0	90	24	1.059
All Blue	92	35	20	20	42	38	0	0	0	38	0	1.060
Chieftain	138	117	67	3	9	88	0	0	0	88	0	1.057
AF6039-1	153	117	67	5	8	75	12	0	0	87	12	1.058
AF6039-3	188	138	79	7	15	78	0	0	0	78	0	1.049
AF6039-5	179	138	79	4	12	70	14	0	0	84	14	1.049
AF6041-2	166	110	63	5	6	67	5	16	0	88	21	1.045
AF6041-3	76	44	25	0	15	42	8	36	0	85	43	1.060
AF6042-2	98	85	49	2	9	64	26	0	0	90	26	1.054
AF6043-1	74	50	29	13	12	50	12	14	0	75	25	1.053
AF6043-2	110	78	45	3	11	58	28	0	0	86	28	1.057
AF6043-3	118	78	45	5	18	38	21	18	0	77	39	1.047
AF6044-2	147	117	67	2	12	56	16	14	0	86	30	1.052
AF6045-1	155	117	67	5	20	61	15	0	0	75	15	1.061
AF6045-2	22	7	4	9	58	33	0	0	0	33	0	1.049
AF6048-3	132	79	45	3	6	81	9	0	0	91	9	1.054
AF6048-4	79	45	26	7	15	58	20	0	0	78	20	1.055
AF6049-2	129	91	52	6	10	77	7	0	0	84	7	1.063
AF6050-1	110	61	35	9	34	58	0	0	0	58	0	1.063
AF6050-4	134	116	66	2	11	88	0	0	0	88	0	1.062
AF6051-1	155	103	59	11	20	70	0	0	0	70	0	1.060
AF6052-1	122	56	32	8	33	60	0	0	0	60	0	1.057
AF6052-3	152	101	58	3	21	65	11	0	0	76	11	1.055
AF6054-1	74	20	11	15	56	29	0	0	0	29	0	1.064

Table 18 (cont'd). Production statistics for the 2017 University of Maine Early Generation Red and Specialty Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
AF6054-3	89	36	21	8	33	59	0	0	0	59	0	1.048
AF6127-1	108	89	51	0	14	86	0	0	0	86	0	1.061
AF6127-3	180	84	48	11	41	41	7	0	0	47	7	1.064
WAF14104-1	76	37	21	14	31	55	0	0	0	55	0	1.046
WAF14104-4	148	117	67	3	10	87	0	0	0	87	0	1.047
WAF14096-2	136	105	60	4	13	72	12	0	0	84	12	1.048
WAF14096-5	124	107	61	3	11	70	16	0	0	86	16	1.069
WAF14115-1	119	66	38	6	22	60	0	12	0	71	12	1.059
WAF14115-3	121	66	38	6	18	52	23	0	0	76	23	1.045
AAF10250-1	157	137	79	2	11	83	5	0	0	88	5	1.065
AAF10250-3	171	148	85	4	10	77	10	0	0	87	10	1.055
AAF10263-2	110	41	24	16	45	39	0	0	0	39	0	1.051
AAF10284-1	102	50	28	11	32	57	0	0	0	57	0	1.076
COAF13125-2	169	80	46	20	30	50	0	0	0	50	0	1.068
COAF13144-2	130	42	24	13	54	33	0	0	0	33	0	1.055
NDAF12238Y-2	180	133	76	2	17	70	0	11	0	81	11	1.066
NDAF12239Y-1	142	76	44	7	34	59	0	0	0	59	0	1.065
NDAF12239Y-2	123	79	45	6	26	53	15	0	0	68	15	1.064
NDAF14424-1	107	55	31	10	23	67	0	0	0	67	0	1.052
NDAF14424-2	116	85	49	2	3	50	45	0	0	95	45	1.050
NDAF14424-3	126	92	53	5	6	51	38	0	0	89	38	1.048
NDAF14424-5	95	45	26	4	6	62	28	0	0	90	28	1.050
NDAF14437CAB-3	81	54	31	12	21	49	18	0	0	67	18	1.066
AF6047-1	99	67	39	4	17	39	27	13	0	79	40	1.047
AF6053-1	71	33	19	8	36	55	0	0	0	55	0	1.045
AF6053-2	119	77	44	0	16	84	0	0	0	84	0	1.038

[1] Marketable Yield: size classes A1 to A3.

[2] Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

Table 19. Plant growth and tuber characteristics for the 2017 University of Maine Early Generation Red and Specialty Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Red LaSoda	88	6	9	8						8	4
Atlantic	75	7	9	8						7	2
Peter Wilcox (B1816-5)	100	6	9	8						7	1
Soraya	63	4	9	8						9	2
Satina	100	7	9	7						8	1
Snowden	100	5	9	8							1
Dark Red Norland	100	6	9	6						7	-
All Blue	75	4	9	8						6	3
Chieftain	88	5	9	7						8	1
AF6039-1	100	4	9	8						6	2
AF6039-3	88	4	9	9							1
AF6039-5	75	3	9	9							1
AF6041-2	100	4	9	8						8	2
AF6041-3	88	5	9	8						8	4
AF6042-2	100	5	9	8						7	2
AF6043-1	100	5	9	7						9	3
AF6043-2	100	8	9	7						8	3
AF6043-3	100	6	9	6						8	3
AF6044-2	100	4	9	8						8	1
AF6045-1	100	4	9	9							1
AF6045-2	13	2	9	9						6	3
AF6048-3	100	4	9	9						7	4
AF6048-4	100	4	9	7						9	4
AF6049-2	100	5	9	8						6	2
AF6050-1	100	6	9	5							3
AF6050-4	100	5	9	8						8	2
AF6051-1	100	7	9	7							1
AF6052-1	100	6	9	7						8	4
AF6052-3	100	5	9	8							2
AF6054-1	50	4	9	8						9	3

Table 19 (cont'd). Plant growth and tuber characteristics for the 2017 University of Maine Early Generation Red and Specialty Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
AF6054-3	100	5	9	5						8	4
AF6127-1	75	4	9	8						7	2
AF6127-3	100	8	9	6							2
WAF14104-1	50	3	9	9						7	3
WAF14104-4	63	2	9	9						7	2
WAF14096-2	63	4	9	9						8	3
WAF14096-5	100	7	9	8						8	1
WAF14115-1	75	4	9	8						7	3
WAF14115-3	75	4	9	9						6	3
AAF10250-1	88	4	9	9							1
AAF10250-3	88	5	9	9							1
AAF10263-2	100	4	9	8						9	3
AAF10284-1	88	7	6	7						6	3
COAF13125-2	100	6	9	8							2
COAF13144-2	88	5	9	8							3
NDAF12238Y-2	100	8	9	7							1
NDAF12239Y-1	63	4	9	9							2
NDAF12239Y-2	100	4	9	8						7	2
NDAF14424-1	50	4	9	8						9	4
NDAF14424-2	75	5	9	8						7	3
NDAF14424-3	63	3	9	8						8	2
NDAF14424-5	75	4	9	8						8	4
NDAF14437CAB-3	100	4	9	8						9	3
AF6047-1	63	4	9	7						5	3
AF6053-1	25	2	9	9						7	3
AF6053-2	50	3	9	9						9	3

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 8 for 10 ft plot, 8 in spacing.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2]Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.

Merit Score: 1-4 scale: 1 = outstanding, 2 = good/keep, 3 = marginal, 4 = not acceptable/drop.

Table 20. External and internal defects for the 2017 University of Maine Early Generation Red and Specialty Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
Red LaSoda	0	0	0	31	31	0	0	0	0	0	0	0	0
Atlantic	10	0	0	0	10	0	5	0	0	0	0	0	0
Peter Wilcox (B1816-5)	0	0	0	0	0	0	0	0	0	0	0	0	0
Soraya	0	0	0	0	0	0	5	0	0	0	0	0	0
Satina	0	0	0	3	3	0	0	0	0	0	0	0	0
Snowden	0	0	0	0	0	0	0	0	0	0	0	0	0
Dark Red Norland	0	0	0	2	2	0	0	0	0	0	0	0	0
All Blue	0	0	0	0	0	0	0	0	0	0	0	0	0
Chieftain	0	0	0	3	3	0	0	0	0	0	0	0	0
AF6039-1	5	0	0	7	12	0	0	0	0	0	0	0	0
AF6039-3	0	0	0	6	6	0	0	0	0	0	0	0	0
AF6039-5	0	0	0	8	8	0	0	0	0	0	0	0	0
AF6041-2	0	0	0	25	25	0	0	0	0	0	0	0	0
AF6041-3	0	0	0	31	31	0	0	0	8	8	0	0	0
AF6042-2	0	0	0	3	3	0	0	0	0	0	0	0	0
AF6043-1	0	0	0	10	10	0	0	0	0	0	0	0	0
AF6043-2	0	0	0	18	18	0	0	0	0	0	0	0	0
AF6043-3	0	0	0	15	15	0	0	0	0	0	0	0	0
AF6044-2	0	0	0	7	7	0	0	0	0	0	0	0	0
AF6045-1	0	0	0	0	0	0	0	0	0	0	0	0	0
AF6045-2	0	0	0	0	0	0	0	0	0	0	0	0	0
AF6048-3	18	0	0	16	34	0	0	0	0	0	0	0	0
AF6048-4	0	0	0	27	27	0	0	0	0	0	0	0	0
AF6049-2	0	0	0	16	16	0	0	0	0	0	0	0	0
AF6050-1	0	0	0	4	4	0	0	0	0	0	0	0	0
AF6050-4	0	0	0	2	2	0	0	0	0	5	0	0	0
AF6051-1	0	0	0	4	4	0	0	0	0	0	0	0	0
AF6052-1	0	0	0	22	22	0	0	0	0	0	0	0	0
AF6052-3	0	0	0	13	13	0	0	0	0	0	0	0	0
AF6054-1	0	0	0	9	9	0	0	0	0	0	0	0	0

Table 20 (cont'd). External and internal defects for the 2017 University of Maine Early Generation Red and Specialty Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
AF6054-3	0	0	0	32	32	0	0	0	0	0	0	0	0
AF6127-1	0	0	0	3	3	0	0	0	0	0	0	0	0
AF6127-3	0	0	2	0	2	0	0	0	0	0	0	0	0
WAF14104-1	0	0	4	9	12	0	0	0	5	5	0	0	0
WAF14104-4	0	0	0	9	9	0	0	0	0	5	0	0	0
WAF14096-2	0	0	0	8	8	0	0	0	0	10	0	0	0
WAF14096-5	0	0	0	0	0	0	0	0	0	0	0	0	0
WAF14115-1	0	0	0	23	23	0	0	0	0	0	0	0	0
WAF14115-3	0	0	0	28	28	0	0	0	0	0	0	0	0
AAF10250-1	0	0	0	0	0	0	0	0	0	0	0	0	0
AAF10250-3	0	0	0	0	0	0	0	0	0	0	0	0	0
AAF10263-2	0	0	0	4	4	0	0	0	0	0	0	0	0
AAF10284-1	0	0	0	15	15	0	0	0	0	0	0	0	0
COAF13125-2	0	0	0	5	5	0	0	0	0	0	0	0	0
COAF13144-2	0	0	0	2	2	0	0	0	0	0	0	0	0
NDAF12238Y-2	0	0	0	9	9	0	0	0	0	0	0	0	0
NDAF12239Y-1	0	0	0	9	9	0	0	0	0	0	0	0	0
NDAF12239Y-2	0	0	0	5	5	0	0	0	0	0	0	0	0
NDAF14424-1	0	0	0	25	25	0	0	0	0	0	0	0	0
NDAF14424-2	0	0	0	23	23	0	0	0	0	0	0	0	0
NDAF14424-3	0	0	0	18	18	0	0	0	0	0	0	0	0
NDAF14424-5	0	0	0	48	48	0	13	0	0	13	0	0	0
NDAF14437CAB-3	0	0	0	0	0	0	0	0	0	0	0	0	0
AF6047-1	4	0	0	10	13	0	0	0	0	0	0	0	0
AF6053-1	0	0	0	17	17	0	10	0	5	0	0	0	0
AF6053-2	8	0	0	15	23	0	0	0	5	10	5	0	0

[1] Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.
[2] Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

Chapter 8. University of Maine Early Generation Round White Potato Variety Trial

General Comments

The University of Maine early generation round white trial gives us an opportunity to look at these newest breeding clones for the first time. This trial only evaluated round white clones.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	February 1, 2017
Vine Kill Date	N/A
Harvest Date	May 18, 2017
Season Length	106 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	19 (Standard: Atlantic instead of LaChipper)
Number of Clones	133
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	1
Plot Size	6 ft (1.8 m)

Production Statistics

Early Vigor Ratings	43 DAP
Highest Total Yield	AF5994-2 (367 cwt/acre or 41.1 T/ha)
Highest Marketable Yield	AF6031-3 (230 cwt/acre or 25.8 T/ha)
Best Appearance Rating	Satina, AF5974-2, WAF14105-1, WAF14105-2, WAF14108-3, WAF14108-8, WAF14106-1, NDAF1462ABC-1 (9, excellent)

Table 21. Production statistics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	% of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	A2 to A3	Specific Gravity
Season–106 days												
Red LaSoda	171	110	62	5	6	82	0	7	0	89	7	1.055
Atlantic	211	192	108	2	6	64	28	0	0	92	28	1.076
Peter Wilcox (B1816-5)	193	154	87	3	10	87	0	0	0	87	0	1.064
Soraya	248	206	116	2	4	85	10	0	0	95	10	1.058
Satina	262	181	102	2	10	55	20	13	0	88	33	1.062
Snowden	105	76	43	6	16	78	0	0	0	78	0	1.069
Dark Red Norland	72	45	25	5	15	80	0	0	0	80	0	1.049
All Blue	118	15	8	12	73	15	0	0	0	15	0	1.072
Katahdin	121	101	57	3	2	78	9	8	0	95	17	1.062
AF5912-1	125	27	15	14	23	62	0	0	0	62	0	1.056
AF5920-3	206	118	67	3	4	44	20	29	0	93	49	1.069
AF5921-3	199	132	74	2	13	56	29	0	0	85	29	1.066
AF5923-1	160	116	66	5	15	61	14	5	0	81	19	1.070
AF5925-2	151	104	59	5	6	77	12	0	0	89	12	1.074
AF5930-3	192	130	73	3	2	30	39	26	0	95	65	1.069
AF5930-5	181	143	81	1	3	75	15	6	0	96	21	1.067
AF5931-1	206	148	84	1	11	76	0	12	0	88	12	1.062
AF5931-2	171	93	52	3	9	74	7	7	0	88	14	1.062
AF5933-5	185	110	62	7	16	77	0	0	0	77	0	1.078
AF5934-3	173	130	74	2	10	81	6	0	0	88	6	1.068
AF5937-2	166	125	71	3	8	59	11	19	0	88	30	1.074
AF5937-3	161	113	64	3	8	89	0	0	0	89	0	1.060
AF5938-4	4	0	0	100	0	0	0	0	0	0	0	.
AF5938-5	159	122	69	3	8	56	10	23	0	89	33	1.065
AF5938-6	206	124	70	4	6	75	16	0	0	90	16	1.066
AF5943-2	133	83	47	6	13	46	26	9	0	81	35	1.080
AF5994-2	367	203	114	3	8	50	18	21	0	89	39	1.067
AF5945-2	173	107	60	3	11	73	0	13	0	86	13	1.065
AF5948-3	150	83	47	4	15	81	0	0	0	81	0	1.071
AF5953-1	137	85	48	7	10	71	12	0	0	83	12	1.071

Table 21 (cont'd). Production statistics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
AF5954-1	149	68	39	4	22	48	16	10	0	74	26	1.068
AF5954-2	177	121	68	2	9	75	5	9	0	89	14	1.066
AF5956-6	149	89	50	3	16	74	8	0	0	81	8	1.075
AF5956-8	154	74	42	7	34	48	5	6	0	59	11	1.072
AF5957-2	212	123	69	7	19	69	5	0	0	74	5	1.086
AF5959-1	179	114	64	7	20	60	13	0	0	73	13	1.075
AF5960-4	168	108	61	6	20	74	0	0	0	74	0	1.077
AF5964-1	150	117	66	4	8	89	0	0	0	89	0	1.080
AF5970-3	165	105	59	10	11	56	16	7	0	79	22	1.060
AF5970-5	143	82	46	9	5	86	0	0	0	86	0	1.066
AF5971-4	170	141	80	2	6	71	8	12	0	92	20	1.047
AF5974-2	172	127	72	0	8	67	13	13	0	92	25	1.067
AF5982-3	83	45	25	12	22	66	0	0	0	66	0	1.049
AF5985-1	254	106	60	10	23	51	0	17	0	67	17	1.071
AF5994-5	216	70	40	4	14	24	26	32	0	82	58	1.056
AF5996-5	179	100	56	4	7	54	8	27	0	88	35	1.058
AF5997-2	154	89	50	6	15	79	0	0	0	79	0	1.053
AF5997-3	189	94	53	2	9	33	0	57	0	90	57	1.066
AF5998-1	172	104	59	4	12	58	6	21	0	85	26	1.080
AF5998-4	140	103	58	5	2	86	7	0	0	93	7	1.075
AF5999-2	126	73	41	6	27	67	0	0	0	67	0	1.067
AF5999-5	154	89	50	8	14	47	23	7	0	78	31	1.067
AF5999-8	146	113	64	3	6	74	17	0	0	91	17	1.057
AF6001-4	173	114	64	5	19	77	0	0	0	77	0	1.065
AF6006-2	170	99	56	7	30	64	0	0	0	64	0	1.068
AF6010-7	180	146	82	3	4	80	7	5	0	93	13	1.064
AF6011-1	101	62	35	6	12	82	0	0	0	82	0	1.056
AF6013-1	184	114	64	3	8	89	0	0	0	89	0	1.074
AF6014-1	200	145	82	4	11	86	0	0	0	86	0	1.066
AF6018-1	150	125	71	2	9	75	8	6	0	89	14	1.060

Table 21 (cont'd). Production statistics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
AF6018-3	152	119	67	4	2	59	0	35	0	94	35	1.070
AF6021-3	234	198	112	2	8	73	13	4	0	90	17	1.066
AF6024-1	216	142	80	6	5	63	27	0	0	89	27	1.056
AF6024-2	164	106	60	3	11	54	5	26	0	85	31	1.067
AF6024-4	197	140	79	3	5	51	34	7	0	92	41	1.077
AF6025-1	136	105	59	2	7	54	18	19	0	91	37	1.068
AF6027-1	158	98	55	5	12	72	11	0	0	83	11	1.069
AF6027-2	179	110	62	8	16	75	0	0	0	75	0	1.067
AF6030-3	154	42	24	8	11	59	0	22	0	81	22	1.069
AF6033-3	199	142	80	4	12	73	4	7	0	84	10	1.072
AF6037-1	175	139	78	4	2	61	18	15	0	94	34	1.067
AF6037-2	169	143	81	4	2	64	13	16	0	93	30	1.063
AF6037-3	201	150	85	5	11	76	8	0	0	83	8	1.065
AF6037-6	114	87	49	5	14	74	7	0	0	81	7	1.067
AF6038-2	239	147	83	3	17	80	0	0	0	80	0	1.058
WAF14189-2	306	225	127	2	6	70	9	13	0	92	22	1.050
WAF14067-3	149	91	51	5	7	72	16	0	0	89	16	1.062
WAF14067-6	209	150	85	4	15	76	4	0	0	81	4	1.055
WAF14070-2	182	116	65	3	6	24	41	26	0	91	67	1.067
WAF14186-3	219	143	81	0	7	64	14	15	0	93	29	1.059
WAF14074-2	208	162	91	3	14	66	7	9	0	82	17	1.062
WAF14074-5	178	139	79	2	12	56	17	13	0	87	31	1.067
WAF14068-6	254	227	128	1	5	61	16	17	0	94	33	1.064
WAF14187-5	276	172	97	5	5	64	21	5	0	90	25	1.072
WAF14188-3	151	118	66	3	6	81	11	0	0	92	11	1.056
WAF14184-1	195	142	80	4	2	68	15	11	0	94	26	1.075
WAF14184-8	152	83	47	4	6	32	31	28	0	91	58	1.065
WAF14080-1	112	69	39	5	29	66	0	0	0	66	0	1.072
WAF14183-2	232	127	72	5	2	51	18	25	0	93	42	1.062
WAF14183-3	177	114	64	2	8	58	20	12	0	90	32	1.063

Table 21 (cont'd). Production statistics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
WAF14183-5	206	154	87	0	4	69	16	11	0	96	27	1.069
WAF14104-2	208	85	48	8	24	52	0	15	0	68	15	1.064
WAF14104-5	171	110	62	2	7	68	6	17	0	91	23	1.069
WAF14105-1	257	115	65	4	7	43	30	16	0	89	46	1.063
WAF14105-2	218	181	102	2	2	60	27	9	0	97	36	1.061
WAF14105-3	177	129	73	5	13	69	8	5	0	82	13	1.054
WAF14105-5	177	113	64	3	13	51	24	9	0	83	32	1.057
WAF14108-3	178	83	47	2	4	63	31	0	0	94	31	1.061
WAF14108-6	191	163	92	2	4	60	4	30	0	94	34	1.066
WAF14108-8	146	95	54	3	8	61	27	0	0	89	27	1.068
WAF14106-1	199	122	69	4	14	66	10	5	0	81	15	1.066
WAF14096-3	155	116	65	4	15	62	19	0	0	81	19	1.064
AAF11493-2	118	74	42	6	31	63	0	0	0	63	0	1.064
AAF11536-2	199	120	68	8	21	59	13	0	0	71	13	1.067
NDAF12236Y-1	123	55	31	10	19	71	0	0	0	71	0	1.059
NDAF1448CAB	147	120	68	3	6	91	0	0	0	91	0	1.067
NDAF1453C-1	141	95	53	4	19	77	0	0	0	77	0	1.069
NDAF1462ABC-1	168	48	27	3	69	19	9	0	0	28	9	1.066
NDAF14311CAB-1	181	131	74	5	15	80	0	0	0	80	0	1.075
NDAF14352ABY-2	202	110	62	2	6	82	10	0	0	92	10	1.063
NDAF14353AB-3	215	163	92	7	10	67	7	9	0	83	17	1.058
Atlantic	189	139	79	4	7	56	21	12	0	89	33	1.071
NDAF14371AB-3	176	96	54	8	18	74	0	0	0	74	0	1.063
NDAF14437CAB-4	166	99	56	6	28	66	0	0	0	66	0	1.067
NDAF14440C-2	164	130	73	1	14	74	10	0	0	85	10	1.068
NDAF14446C-3	204	137	77	7	21	72	0	0	0	72	0	1.067
NDAF14477C-1	104	59	33	10	19	72	0	0	0	72	0	1.072
NDAF14477C-2	85	59	33	11	13	76	0	0	0	76	0	1.076
NDAF14477C-7	121	82	46	10	21	69	0	0	0	69	0	1.079
AF5927-1	248	148	83	12	18	63	7	0	0	70	7	1.074

Table 21 (cont'd). Production statistics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
AF5929-1	317	226	128	5	17	78	0	0	0	78	0	1.082
AF5932-1	281	176	99	4	14	61	13	8	0	82	21	1.071
AF5942-1	226	147	83	3	11	71	10	6	0	86	16	1.071
AF5968-1	143	70	40	11	26	63	0	0	0	63	0	1.065
AF5969-2	238	89	50	4	9	56	7	25	0	88	32	1.070
AF5973-3	148	101	57	6	16	78	0	0	0	78	0	1.082
AF5976-1	197	127	72	2	5	69	12	12	0	93	23	1.075
AF5979-1	203	142	80	2	2	96	0	0	0	96	0	1.068
AF5979-2	130	58	33	3	20	77	0	0	0	77	0	1.065
AF5984-1	246	160	90	2	7	55	22	13	0	91	35	1.072
AF5995-1	250	147	83	2	5	42	25	27	0	94	52	1.076
AF6004-1	171	113	64	6	10	67	17	0	0	84	17	1.068
AF6009-2	213	91	52	4	7	43	14	32	0	90	46	1.067
AF6015-1	137	57	32	5	5	90	0	0	0	90	0	1.073
AF6015-3	206	114	64	4	9	70	17	0	0	87	17	1.063
AF6016-2	179	120	68	2	8	50	20	19	0	89	39	1.082
AF6022-1	181	101	57	5	33	62	0	0	0	62	0	1.078
AF6022-2	186	136	77	7	17	76	0	0	0	76	0	1.067
AF6031-2	200	139	79	5	16	57	4	18	0	78	21	1.077
AF6031-3	338	230	130	3	7	65	8	18	0	91	26	1.072
AF6034-1	192	164	92	3	8	76	9	4	0	89	13	1.079
AF6036-1	215	171	97	2	9	89	0	0	0	89	0	1.085
AAF09055-1	120	74	42	10	9	82	0	0	0	82	0	1.070
Red LaSoda	216	113	64	4	8	56	0	32	0	88	32	1.063
Atlantic	251	200	113	1	3	47	44	5	0	96	49	1.079
Peter Wilcox (B1816-5)	217	140	79	1	17	76	0	6	0	82	6	1.065
Soraya	308	226	128	2	13	53	25	7	0	85	32	1.057
Satina	223	148	83	3	3	71	13	10	0	94	22	1.041
Snowden	179	143	81	3	8	72	5	13	0	89	18	1.075
Dark Red Norland	120	68	38	11	27	62	0	0	0	62	0	1.044

Table 21 (cont'd). Production statistics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
All Blue	187	44	25	16	57	27	0	0	0	27	0	1.070
Katahdin	217	126	71	6	22	72	0	0	0	72	0	1.053

[1] Marketable Yield: size classes A1 to A3.

[2] Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

Table 22. Plant growth and tuber characteristics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Red LaSoda	75	7	9	7						8	3
Atlantic	75	9	9	8						7	-
Peter Wilcox (B1816-5)	75	7	9	7							1
Soraya	88	6	9	8						8	3
Satina	75	5	9	9						9	2
Snowden	38	4	9	9						7	3
Dark Red Norland	75	6	9	7						6	4
All Blue	88	8	9	7						5	3
Katahdin	63	4	9	8						8	3
AF5912-1	88	5	9	8						6	4
AF5920-3	100	6	9	8						8	4
AF5921-3	63	4	9	9						7	3
AF5923-1	75	6	9	8						7	3
AF5925-2	63	8	9	8						8	3
AF5930-3	75	4	9	9						8	3
AF5930-5	88	6	9	8						7	2
AF5931-1	63	4	9	8						8	2
AF5931-2	75	5	9	8						8	4
AF5933-5	38	3	9	9						6	3
AF5934-3	88	4	9	8						8	4
AF5937-2	38	4	9	8						7	2
AF5937-3	50	5	9	8						8	3
AF5938-4	38	3	9	8							3
AF5938-5	38	4	9	9						7	3
AF5938-6	63	5	9	8						7	3
AF5943-2	88	7	9	7						7	4
AF5994-2	63	5	9	8						8	3
AF5945-2	63	6	9	8						7	3
AF5948-3	88	6	9	7						7	4
AF5953-1	75	6	9	8						5	4

Table 22 (cont'd). Plant growth and tuber characteristics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
AF5954-1	63	5	9	8						6	4
AF5954-2	75	7	9	7						6	3
AF5956-6	75	7	9	8						6	4
AF5956-8	75	7	9	7						5	3
AF5957-2	88	9	9	8						8	3
AF5959-1	100	9	9	8						6	3
AF5960-4	63	7	9	8						7	3
AF5964-1	63	4	9	8						8	3
AF5970-3	75	6	9	8						7	4
AF5970-5	75	6	9	8						7	4
AF5971-4	75	6	9	8						6	2
AF5974-2	63	7	9	8						9	3
AF5982-3	38	3	9	9						5	3
AF5985-1	88	5	9	8						6	4
AF5994-5	63	4	9	9						7	4
AF5996-5	63	4	9	9						7	4
AF5997-2	100	7	9	8						7	4
AF5997-3	63	4	9	9						6	4
AF5998-1	100	4	9	9						7	3
AF5998-4	88	5	9	8						7	3
AF5999-2	75	6	9	8						7	3
AF5999-5	100	6	9	8						8	4
AF5999-8	88	6	9	8						8	3
AF6001-4	88	5	9	8						7	3
AF6006-2	88	8	9	7						7	2
AF6010-7	88	8	9	8						8	2
AF6011-1	75	6	9	7						8	4
AF6013-1	88	7	9	8						7	4
AF6014-1	100	9	9	7						7	2
AF6018-1	88	5	9	8						7	2

Table 22 (cont'd). Plant growth and tuber characteristics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
AF6018-3	88	6	9	8						8	3
AF6021-3	100	7	9	8						7	1
AF6024-1	100	9	9	7						8	3
AF6024-2	88	7	9	8						8	3
AF6024-4	88	6	9	8						8	3
AF6025-1	88	8	9	7						7	3
AF6027-1	88	7	9	7						8	3
AF6027-2	88	6	9	8						8	3
AF6030-3	88	5	9	8						7	4
AF6033-3	100	7	9	7						6	2
AF6037-1	88	5	9	8						8	2
AF6037-2	88	5	9	8						8	2
AF6037-3	100	5	9	8						8	2
AF6037-6	88	6	9	7						8	3
AF6038-2	100	7	9	8						8	3
WAF14189-2	88	8	9	7						8	2
WAF14067-3	75	5	9	9						7	4
WAF14067-6	100	6	9	8						7	2
WAF14070-2	88	7	9	8						8	4
WAF14186-3	100	7	9	8						7	3
WAF14074-2	100	9	9	7						7	1
WAF14074-5	100	8	9	8						8	2
WAF14068-6	88	4	9	9						7	1
WAF14187-5	100	6	9	9						7	3
WAF14188-3	100	8	9	7						8	3
WAF14184-1	100	5	9	8						7	3
WAF14184-8	100	4	9	9						7	4
WAF14080-1	100	6	9	8						7	3
WAF14183-2	100	5	9	8						8	3
WAF14183-3	100	5	9	9						8	3

Table 22 (cont'd). Plant growth and tuber characteristics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
WAF14183-5	100	5	9	8						7	2
WAF14104-2	88	5	9	9						6	4
WAF14104-5	100	5	9	8						8	3
WAF14105-1	100	5	9	9						9	4
WAF14105-2	100	4	9	8						9	2
WAF14105-3	88	8	9	7						8	2
WAF14105-5	100	7	9	7						7	3
WAF14108-3	88	4	9	9						9	4
WAF14108-6	100	5	9	9						8	2
WAF14108-8	63	3	9	8						9	4
WAF14106-1	88	7	9	9						9	3
WAF14096-3	75	7	9	8						8	2
AAF11493-2	100	6	9	7						5	3
AAF11536-2	88	9	9	7						7	3
NDAF12236Y-1	100	5	9	8						6	4
NDAF1448CAB	100	5	9	8						8	3
NDAF1453C-1	88	7	9	7						7	3
NDAF1462ABC-1	88	5	9	9						9	3
NDAF14311CAB-1	88	9	9	7							2
NDAF14352ABY-2	75	2	9	9						7	4
NDAF14353AB-3	88	7	9	7						7	1
Atlantic	100	7	9	8						7	-
NDAF14371AB-3	88	8	9	7						6	4
NDAF14437CAB-4	100	7	9	7						6	3
NDAF14440C-2	75	4	9	8						6	2
NDAF14446C-3	100	9	9	7							2
NDAF14477C-1	100	8	9	7						8	4
NDAF14477C-2	75	6	9	7						6	3
NDAF14477C-7	75	9	9	5						5	3
AF5927-1	88	7	9	8						6	2

Table 22 (cont'd). Plant growth and tuber characteristics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
AF5929-1	100	8	9	8						7	2
AF5932-1	38	4	9	9						6	2
AF5942-1	63	4	9	9						7	3
AF5968-1	38	2	9	9						5	4
AF5969-2	75	8	9	8						7	4
AF5973-3	63	7	9	8						7	3
AF5976-1	63	5	9	9						7	3
AF5979-1	88	5	9	8						7	3
AF5979-2	63	7	9	8						7	4
AF5984-1	88	8	9	9						7	2
AF5995-1	63	7	9	8						7	3
AF6004-1	88	8	9	7						7	3
AF6009-2	100	7	9	6						7	4
AF6015-1	63	5	9	9						6	4
AF6015-3	75	6	9	9						7	4
AF6016-2	75	5	9	8						7	3
AF6022-1	63	8	9	7						6	3
AF6022-2	100	7	9	7						7	2
AF6031-2	88	8	9	8						7	2
AF6031-3	100	7	9	8						6	2
AF6034-1	100	8	9	8						8	1
AF6036-1	88	8	9	7						8	2
AAF09055-1	75	8	9	8						7	4
Red LaSoda	63	8	9	7						7	4
Atlantic	75	9	9	8						7	-
Peter Wilcox (B1816-5)	88	7	9	8						7	3
Soraya	88	8	9	8						8	2
Satina	100	9	9	7						9	3
Snowden	75	8	9	7						8	2
Dark Red Norland	88	9	9	5						6	3

Table 22 (cont'd). Plant growth and tuber characteristics for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
All Blue	75	8	9	7						6	3
Katahdin	75	8	9	7						6	2

[1] Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 8 for 10 ft plot, 8 in spacing.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2] Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.
Merit Score: 1-4 scale: 1 = outstanding, 2 = good/keep, 3 = marginal, 4 = not acceptable/drop.

Table 23. External and internal defects for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
Red LaSoda	0	22	1	5	28	0	0	0	0	0	0	0	0
Atlantic	0	0	0	1	1	0	0	0	0	0	0	0	0
Peter Wilcox (B1816-5)	0	5	0	3	8	0	0	0	0	0	0	0	0
Soraya	0	6	4	2	12	0	15	0	0	0	5	0	0
Satina	0	19	0	2	22	0	0	0	0	0	0	0	0
Snowden	0	0	0	7	7	0	0	0	0	0	0	0	0
Dark Red Norland	0	18	0	5	23	0	0	0	0	0	0	0	0
All Blue	0	10	0	6	15	0	0	0	0	5	0	0	0
Katahdin	0	0	2	11	12	0	0	0	0	0	0	0	0
AF5912-1	0	7	6	53	65	0	0	0	0	6	0	0	0
AF5920-3	0	14	16	9	38	0	0	0	0	0	0	0	0
AF5921-3	0	12	3	7	22	0	5	0	0	0	0	0	0
AF5923-1	0	7	3	0	10	0	0	0	0	0	10	0	0
AF5925-2	0	0	12	11	23	0	0	0	0	0	0	0	0
AF5930-3	3	9	5	12	29	0	0	0	0	0	0	0	0
AF5930-5	0	15	0	3	18	0	0	0	0	0	0	0	0
AF5931-1	0	13	5	0	19	0	5	0	0	0	0	0	0
AF5931-2	0	3	5	31	38	0	0	0	0	0	0	0	0
AF5933-5	0	0	0	23	23	0	0	0	0	0	0	0	0
AF5934-3	0	7	3	4	14	0	0	0	0	10	15	0	0
AF5937-2	0	8	7	0	15	0	0	0	0	0	0	0	0
AF5937-3	0	3	12	7	22	0	0	0	0	0	0	0	0
AF5938-4	0	0	0	0	0	.	.	.	.	.	.	.	.
AF5938-5	0	0	12	2	14	0	0	0	0	0	0	0	0
AF5938-6	0	10	10	14	33	0	0	0	0	0	0	0	0
AF5943-2	2	9	8	3	23	0	0	0	0	0	0	0	0
AF5994-2	14	6	0	19	38	0	0	0	0	0	5	0	0
AF5945-2	0	0	8	20	28	0	0	0	0	0	0	0	0
AF5948-3	6	10	6	10	32	0	0	0	0	0	0	0	0
AF5953-1	9	12	0	5	26	0	0	0	0	0	0	0	0

Table 23 (cont'd). External and internal defects for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
AF5954-1	0	11	12	16	38	0	0	0	0	0	0	0	0
AF5954-2	9	3	10	3	24	0	5	0	0	0	0	0	0
AF5956-6	10	7	6	4	27	0	0	0	0	0	0	0	0
AF5956-8	0	0	13	5	18	0	0	0	0	0	0	0	0
AF5957-2	0	15	3	4	22	0	0	0	0	0	5	5	0
AF5959-1	3	5	0	5	13	0	0	0	0	0	0	0	0
AF5960-4	0	10	3	0	13	0	0	0	0	0	0	0	0
AF5964-1	3	3	0	6	12	0	5	0	0	0	0	0	0
AF5970-3	0	13	0	6	19	0	35	0	0	0	0	0	0
AF5970-5	7	5	9	12	33	0	0	0	0	0	15	0	0
AF5971-4	0	0	5	5	10	0	0	0	0	0	0	0	0
AF5974-2	0	6	2	13	20	0	5	0	0	0	0	0	0
AF5982-3	7	0	7	4	17	0	0	0	0	0	0	0	0
AF5985-1	1	2	0	35	38	0	0	0	0	0	0	0	0
AF5994-5	0	34	8	19	61	0	0	0	0	0	0	0	0
AF5996-5	0	26	4	7	37	0	0	0	0	0	0	0	0
AF5997-2	0	5	0	22	27	0	0	0	0	0	0	0	0
AF5997-3	4	25	0	17	45	0	5	0	0	0	5	0	0
AF5998-1	0	19	2	8	29	0	0	0	0	0	0	0	0
AF5998-4	0	15	7	0	21	0	0	0	0	0	0	0	0
AF5999-2	5	4	0	4	14	0	0	0	0	0	0	0	0
AF5999-5	5	9	2	9	25	0	0	0	0	0	0	0	0
AF5999-8	0	4	0	11	15	0	0	0	0	0	0	0	0
AF6001-4	0	0	0	14	14	0	0	0	0	0	0	0	0
AF6006-2	3	3	0	2	8	0	0	0	0	0	0	0	0
AF6010-7	0	5	4	3	13	0	0	0	0	0	0	0	0
AF6011-1	11	11	3	0	25	0	0	0	0	0	0	0	0
AF6013-1	16	0	0	14	31	0	0	0	0	0	0	0	0
AF6014-1	0	4	2	10	15	0	0	0	0	0	0	0	0
AF6018-1	6	0	0	0	6	0	0	0	0	0	0	0	0

Table 23 (cont'd). External and internal defects for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
AF6018-3	9	0	0	8	17	0	0	0	0	0	0	0	0
AF6021-3	0	2	1	3	6	0	5	0	0	0	5	0	0
AF6024-1	0	16	4	7	27	0	0	0	0	0	0	0	0
AF6024-2	0	3	8	14	25	0	0	0	0	0	0	0	0
AF6024-4	8	3	0	13	23	0	0	0	0	0	0	0	0
AF6025-1	0	0	5	10	15	0	0	0	0	0	0	0	0
AF6027-1	0	7	14	4	25	0	0	0	0	5	0	0	0
AF6027-2	1	9	4	4	19	0	0	0	0	0	0	0	0
AF6030-3	16	32	0	18	66	0	0	0	0	0	0	0	0
AF6033-3	0	6	2	7	14	0	0	0	0	0	0	0	0
AF6037-1	0	11	2	3	16	0	0	0	0	0	0	0	0
AF6037-2	0	0	2	7	9	0	0	0	0	0	0	0	0
AF6037-3	0	2	5	3	10	0	0	0	0	0	0	0	0
AF6037-6	0	0	6	0	6	0	0	0	0	0	0	0	0
AF6038-2	2	15	1	4	23	0	0	0	0	0	0	0	0
WAF14189-2	0	10	2	8	20	0	0	0	0	0	5	0	0
WAF14067-3	0	8	2	21	31	0	0	0	0	0	0	0	0
WAF14067-6	5	2	4	0	11	0	0	0	0	0	0	0	0
WAF14070-2	0	12	10	7	30	0	0	0	0	0	40	0	0
WAF14186-3	0	25	0	5	29	0	0	0	0	0	0	0	0
WAF14074-2	0	0	0	5	5	0	0	0	0	0	0	0	0
WAF14074-5	0	5	5	0	10	0	0	0	0	0	0	0	0
WAF14068-6	0	0	4	1	5	0	0	0	0	0	0	0	0
WAF14187-5	0	28	2	0	30	0	0	0	0	0	0	0	0
WAF14188-3	0	5	10	0	15	0	0	0	0	0	0	0	0
WAF14184-1	0	0	0	22	22	0	5	0	0	0	0	0	0
WAF14184-8	0	9	0	31	40	0	0	0	0	0	0	0	0
WAF14080-1	3	0	0	4	7	0	0	0	0	0	0	0	0
WAF14183-2	10	23	5	4	41	0	0	0	0	0	10	0	0
WAF14183-3	0	5	5	19	29	0	0	0	0	0	5	0	0

Table 23 (cont'd). External and internal defects for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
WAF14183-5	16	0	2	5	22	0	0	0	0	0	0	0	0
WAF14104-2	0	26	2	12	40	0	0	0	0	0	0	0	0
WAF14104-5	0	0	0	29	29	0	0	0	0	0	0	0	0
WAF14105-1	0	16	4	30	50	0	0	0	0	0	0	0	0
WAF14105-2	0	4	0	10	14	0	0	0	0	0	0	0	0
WAF14105-3	0	4	0	7	11	0	0	0	0	0	0	0	0
WAF14105-5	0	16	0	8	24	0	0	0	0	0	0	0	0
WAF14108-3	0	23	4	23	50	0	0	0	0	0	0	0	0
WAF14108-6	0	4	0	6	10	0	5	0	0	0	0	0	0
WAF14108-8	0	13	0	13	26	0	0	0	0	0	0	0	0
WAF14106-1	0	6	0	19	25	0	0	0	0	0	0	0	0
WAF14096-3	0	0	0	8	8	0	0	0	0	0	0	0	0
AAF11493-2	0	0	0	0	0	0	0	0	0	0	0	0	0
AAF11536-2	4	0	3	8	15	0	0	0	0	0	0	0	0
NDAF12236Y-1	0	0	0	37	37	0	0	0	0	0	0	0	0
NDAF1448CAB	0	4	0	7	11	0	0	0	0	0	0	0	0
NDAF1453C-1	9	4	0	0	13	0	0	0	0	0	5	0	0
NDAF1462ABC-1	0	0	0	0	0	0	0	0	0	0	0	0	0
NDAF14311CAB-1	5	0	0	4	9	0	5	0	0	0	0	0	0
NDAF14352ABY-2	6	22	11	2	40	0	0	0	0	0	0	0	0
NDAF14353AB-3	0	0	2	8	9	0	0	0	0	0	0	0	0
Atlantic	0	0	5	12	17	0	5	0	0	0	0	0	0
NDAF14371AB-3	10	11	2	3	26	0	0	0	0	0	0	0	0
NDAF14437CAB-4	0	0	0	10	10	0	0	0	0	0	0	0	0
NDAF14440C-2	0	0	5	2	7	0	0	0	0	0	0	0	0
NDAF14446C-3	2	4	1	0	7	0	0	0	0	0	0	0	0
NDAF14477C-1	3	10	0	7	21	0	0	0	0	0	5	0	0
NDAF14477C-2	9	0	0	0	9	0	0	0	0	0	0	0	0
NDAF14477C-7	0	0	0	2	2	0	0	0	0	0	0	0	0
AF5927-1	2	0	1	11	15	0	0	0	0	0	0	0	0

Table 23 (cont'd). External and internal defects for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
AF5929-1	0	5	3	1	8	0	5	0	5	5	0	0	0
AF5932-1	3	13	2	5	23	0	0	0	0	0	0	0	0
AF5942-1	0	17	0	8	25	0	0	0	0	0	0	0	0
AF5968-1	6	3	12	0	22	0	0	0	0	0	0	0	0
AF5969-2	4	27	3	24	57	0	15	0	0	0	0	0	0
AF5973-3	5	7	0	0	12	0	0	0	0	0	0	0	0
AF5976-1	10	13	2	6	30	0	0	0	0	0	10	0	0
AF5979-1	0	11	2	14	27	0	0	0	0	0	0	0	0
AF5979-2	0	20	0	22	42	0	0	0	0	0	0	0	0
AF5984-1	7	2	0	19	28	0	0	0	0	0	0	0	0
AF5995-1	5	11	0	21	37	0	0	0	0	0	0	0	0
AF6004-1	13	4	3	1	21	0	0	0	5	0	10	0	0
AF6009-2	2	13	2	35	52	0	0	0	0	0	0	0	0
AF6015-1	13	21	6	15	54	0	0	0	0	0	0	0	0
AF6015-3	1	30	5	1	37	0	0	0	0	0	0	0	0
AF6016-2	0	13	10	2	25	0	0	0	0	0	0	0	0
AF6022-1	0	5	5	0	10	0	0	0	0	0	0	0	0
AF6022-2	0	0	4	0	4	0	0	0	0	0	0	0	0
AF6031-2	0	0	4	8	11	0	0	0	0	0	0	0	0
AF6031-3	21	4	0	0	25	0	0	0	0	0	0	0	0
AF6034-1	0	0	3	1	5	0	0	0	0	0	0	0	0
AF6036-1	0	0	7	4	11	0	0	0	5	0	0	0	0
AAF09055-1	3	5	7	9	24	0	0	0	0	0	0	0	0
Red LaSoda	3	22	6	9	40	0	0	0	5	0	0	0	0
Atlantic	4	3	7	3	17	0	0	0	0	0	0	0	0
Peter Wilcox (B1816-5)	0	19	2	0	22	0	0	0	0	0	0	0	0
Soraya	0	4	2	7	14	0	0	0	0	0	0	0	0
Satina	3	10	0	16	29	0	0	0	0	0	0	0	0
Snowden	2	7	0	1	11	0	0	0	0	0	0	0	0
Dark Red Norland	0	0	2	7	9	0	0	0	0	0	0	0	0

Table 23 (cont'd). External and internal defects for the 2017 University of Maine Early Generation Round Whites Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
All Blue	0	12	0	1	13	0	0	0	0	0	0	0	0
Katahdin	1	5	8	4	19	0	0	0	0	0	0	0	0

[1] Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.

[2] Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

Chapter 9. Potatoes USA National Chip Processing Trial

General Comments

In the past, many selections from breeding programs may have been eliminated before they had an opportunity to be evaluated in many locations. This study has been set up to evaluate the earliest selections from public breeding programs. These selections are also evaluated in several other locations across the United States. Clones that perform the best at multiple locations are then compared and kept for further evaluation. This trial is supported by Potatoes USA, formerly the United States Potato Board.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	January 24, 2017
Vine Kill Date	N/A
Harvest Date	May 3, 2017
Season Length	99 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	4 (Standard: Atlantic)
Number of Clones	145
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	1 replication for Tier 1 & 2 replications for Tier 2
Plot Size	10 ft (3.0 m)

Production Statistics

Early Vigor Ratings	42 DAP
Highest Total Yield	COTX12428-1W (470 cwt/acre or 52.7 T/ha)
Highest Marketable Yield	NC473-2 (291 cwt/acre or 32.6 T/ha)
Highest Specific Gravity	CO11087-1W (1.093)

Table 24. Production statistics for the 2017 Potatoes USA National Chip Processing Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Season–99 days												
Atlantic	272	205	100	4	16	73	4	3	0	80	7	1.083
Lamoka	227	126	61	6	23	69	2	0	0	70	2	1.076
Pike	119	65	32	10	25	60	3	2	0	66	5	1.079
Snowden	198	127	62	8	24	66	2	0	0	68	2	1.076
Tier 1 = 1 rep												
AFC5687-2W	100	51	25	6	32	27	15	20	0	62	35	1.078
CO11023-2W	274	212	103	2	16	77	5	0	0	82	5	1.076
CO11023-9W	213	149	73	6	17	58	19	0	0	77	19	1.083
CO11037-5W	272	187	91	4	22	58	5	11	0	74	16	1.081
CO11048-8W	198	172	84	0	13	87	0	0	0	87	0	1.075
CO11074-1W	278	122	59	13	39	46	3	0	0	49	3	1.076
CO11087-1W	106	59	29	7	30	53	9	0	0	63	9	1.093
B3174-4	284	179	87	6	25	61	8	0	0	69	8	1.072
B3176-1	163	53	26	15	49	36	0	0	0	36	0	1.068
B3176-2	81	7	4	24	65	11	0	0	0	11	0	1.073
B3181-7	105	26	13	14	48	38	0	0	0	38	0	1.088
B3182-1	199	84	41	18	40	42	0	0	0	42	0	1.088
B3183-6	255	197	96	3	14	71	4	9	0	83	12	1.073
B3194-1	127	55	27	20	33	47	0	0	0	47	0	1.049
B3223-5	146	48	24	22	44	33	0	0	0	33	0	1.084
BNC537-5	148	43	21	11	50	31	0	8	0	38	8	1.074
BNC541-5	129	51	25	9	31	60	0	0	0	60	0	.
BNC544-2	227	102	50	15	32	52	0	0	0	52	0	1.080
BNC549-1	258	180	87	4	10	71	12	3	0	86	16	1.073
AF5563-5	211	148	72	3	4	88	0	5	0	93	5	1.077
AF5801-1	167	125	61	5	15	46	24	9	0	80	34	.
AF5819-6	282	221	108	1	14	59	17	8	0	84	25	1.073
AF5825-3	172	114	55	8	23	69	0	0	0	69	0	1.087
AF5846-3	180	112	55	7	20	73	0	0	0	73	0	1.078
AF5846-4	228	165	80	5	15	68	0	12	0	80	12	1.072

Table 24 (cont'd). Production statistics for the 2017 Potatoes USA National Chip Processing Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
MSAFB610-4	314	177	86	9	30	62	0	0	0	62	0	1.080
MSAFB611-5	216	117	57	7	35	54	3	0	0	58	3	1.077
MSAFB614-4	175	87	42	10	35	56	0	0	0	56	0	1.080
MSAFB614-6	229	142	69	7	29	55	9	0	0	64	9	1.070
MSAFB618-2	46	17	8	22	39	40	0	0	0	40	0	1.076
MSAFB618-3	42	34	17	6	13	65	16	0	0	81	16	1.071
MSAFB626-2	229	148	72	5	25	62	5	3	0	70	8	1.086
MSAFB626-5	169	102	50	9	24	54	12	0	0	66	12	.
MSAFB626-8	189	84	41	9	42	49	0	0	0	49	0	1.060
MSAFB635-3	261	154	75	5	26	65	3	0	0	68	3	1.083
NDAF113490C-6	189	130	64	3	28	59	4	6	0	69	10	1.065
NDAF113491C-6	314	224	109	5	13	82	0	0	0	82	0	1.085
NDAF12139C-2	312	241	117	2	18	68	2	9	0	79	12	1.078
WAF13066-2	178	90	44	6	34	59	0	0	0	59	0	.
WAF13076-2	247	148	72	6	25	56	6	7	0	69	13	1.077
MST437-1	164	60	29	27	34	35	4	0	0	39	4	.
MSV016-2	193	117	57	7	22	65	5	0	0	70	5	.
MSV030-4	263	104	51	8	42	50	0	0	0	50	0	1.062
MSV177-1	263	169	82	4	21	60	9	6	0	75	15	1.071
MSV380-1	132	82	40	11	27	62	0	0	0	62	0	.
MSV505-2	218	179	87	5	13	74	8	0	0	82	8	1.055
MSV507-003	225	160	78	3	21	76	0	0	0	76	0	1.079
MSV507-012	278	194	94	4	21	63	0	12	0	75	12	1.075
MSV507-073	311	221	107	5	16	71	5	3	0	79	8	1.085
MSV507-001	219	106	52	10	30	61	0	0	0	61	0	1.071
MSV507-128	221	162	79	3	20	74	0	3	0	77	3	1.084
MSW004-1	272	176	86	6	23	70	2	0	0	71	2	1.074
MSW294-1	255	166	81	10	21	54	12	4	0	70	16	1.073
MSW324-1	135	80	39	18	20	62	0	0	0	62	0	1.050
MSW474-1	113	19	9	26	54	15	5	0	0	20	5	1.071

Table 24 (cont'd). Production statistics for the 2017 Potatoes USA National Chip Processing Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
MSW501-2	160	142	69	2	9	69	7	13	0	89	20	1.084
MSX042-3	184	108	53	4	31	65	0	0	0	65	0	.
MSX111-3	252	192	94	3	8	58	26	6	0	90	32	1.086
MSX225-2	210	122	59	5	33	61	0	0	0	61	0	1.074
MSX277-1	184	90	44	10	35	55	0	0	0	55	0	1.086
MSX345-6Y	198	146	71	3	18	71	7	0	0	79	7	1.085
MSX526-1	198	109	53	7	37	52	5	0	0	56	5	1.081
MSX542-2	194	142	69	3	23	74	0	0	0	74	0	1.075
MSY022-2	270	135	66	5	35	60	0	0	0	60	0	.
MSY041-1	176	91	44	3	41	55	0	0	0	55	0	.
MSY156-2	149	51	25	19	42	38	0	0	0	38	0	1.081
MSZ013-3	231	134	65	11	27	58	0	4	0	62	4	1.076
MSZ022-16	191	117	57	4	30	62	3	0	0	65	3	1.073
MSZ042-7	174	125	61	2	19	61	18	0	0	79	18	1.082
MSZ063-2	222	161	78	7	21	63	9	0	0	72	9	1.079
MSZ118-1	115	36	17	16	53	31	0	0	0	31	0	1.067
MSZ118-8	222	188	92	3	7	45	9	35	0	90	45	1.066
MSZ157-3	243	112	55	8	38	54	0	0	0	54	0	1.080
MSZ159-3	246	98	48	14	43	39	0	4	0	43	4	1.077
MSZ194-2	225	168	82	4	8	70	14	4	0	88	18	1.080
MSZ242-09	249	143	70	4	32	64	0	0	0	64	0	1.073
MSZ246-1	214	105	51	14	26	60	0	0	0	60	0	1.061
MSZ269-18	191	86	42	14	36	46	5	0	0	51	5	1.078
MSZ424-13	192	140	68	11	12	70	7	0	0	77	7	1.080
NYM15-3	179	103	50	9	28	63	0	0	0	63	0	1.078
NYM18-2	244	154	75	6	27	63	0	4	0	67	4	1.070
NYN6-2	287	167	82	17	23	59	0	0	0	59	0	1.080
NYN11-4	176	84	41	11	41	48	0	0	0	48	0	1.079
NYN24-2	281	159	77	9	23	65	0	3	0	69	3	1.068
NYN25-1	233	132	64	10	33	53	4	0	0	57	4	.

Table 24 (cont'd). Production statistics for the 2017 Potatoes USA National Chip Processing Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
NYN40-7	260	101	49	8	46	42	0	3	0	46	3	.
NYN44-7	119	65	31	9	22	69	0	0	0	69	0	1.060
NYN52-5	174	119	58	4	25	72	0	0	0	72	0	1.081
AORTX09033-11W	166	80	39	12	39	48	0	0	0	48	0	1.064
AORTX09037-5W/Y	219	154	75	5	25	66	4	0	0	70	4	.
AORTX09144-2W	202	90	44	7	45	49	0	0	0	49	0	1.079
COTX12235-2W	166	53	26	12	43	45	0	0	0	45	0	1.070
COTX12428-1W	470	241	117	15	26	48	10	2	0	60	12	1.069
NDTX113467CB-1W	343	172	84	8	34	55	3	0	0	57	3	.
NDTX12203AB-1W	257	145	71	9	28	63	0	0	0	63	0	1.060
NDTX1244-3W/Y	207	79	38	16	39	45	0	0	0	45	0	.
NDTX1246-3W/Y	275	184	90	5	27	67	0	0	0	67	0	1.058
TX13563-1W	169	24	12	32	49	19	0	0	0	19	0	1.074
NYWN25-1	121	57	28	5	41	54	0	0	0	54	0	1.075
NYWN39-2	217	192	94	3	8	65	9	15	0	88	24	1.071
NYWN40-3	180	104	51	10	28	62	0	0	0	62	0	1.088
W12074-29 (removed)												
W12078-76	214	142	69	11	23	66	0	0	0	66	0	1.078
W12078-77	159	100	49	9	28	63	0	0	0	63	0	1.086
W12078-80 (removed)												
W12082-5	179	74	36	14	31	47	0	8	0	55	8	1.064
Tier 2 = 2 reps												
CO10073-7W	222	123	60	10	29	57	4	0	0	61	4	1.059
CO10076-4W	192	92	45	13	32	55	0	0	0	55	0	1.068
B2869-29	236	130	63	4	34	61	0	0	0	61	0	1.079
B2904-2	304	242	118	4	15	76	3	3	0	82	6	1.083
BNC311-4	234	136	66	5	22	68	2	3	0	73	5	1.087
B3012-1	226	142	69	6	26	63	4	0	0	67	4	1.067
BNC469-7	272	135	66	14	31	56	0	0	0	56	0	1.069
BNC472-3	182	127	62	8	19	65	9	0	0	74	9	1.083
AF5429-3	231	142	69	5	26	61	7	2	0	69	8	1.062
AF5484-3	183	104	51	6	36	58	0	0	0	58	0	1.085

Table 24 (cont'd). Production statistics for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	Total	Marketable Yield[1]										
	Yield		% of	Size Distribution by Class (%)[2]						Size Class Range (%)		Specific
Clone	(cwt/A)	(cwt/A)	standard	C	B	A1	A2	A3	A4	A1 to A3	A2 to A3	Gravity
AF5563-2	263	214	104	0	13	59	21	7	0	86	27	1.074
AF5583-3	195	120	58	7	27	66	0	0	0	66	0	1.081
AF5648-3	267	170	83	6	24	70	0	0	0	70	0	1.081
AF5682-5	252	91	44	12	41	46	0	2	0	48	2	1.079
NDAF113470C-3	248	122	60	15	30	55	0	0	0	55	0	1.071
MSZ052-02	186	114	56	12	22	64	3	0	0	67	3	1.075
MSZ052-11	216	141	69	7	23	68	1	2	0	71	3	1.073
MSZ242-13	199	120	59	6	27	60	7	0	0	67	7	1.070
MSZ242-07	247	178	87	3	22	70	6	0	0	75	6	1.082
MSZ251-1	77	18	9	17	60	23	0	0	0	23	0	1.072
NCB3171-7	220	98	48	7	42	48	0	3	0	51	3	1.080
NC473-2	362	291	142	1	7	70	15	7	0	91	22	1.070
NC472-1	349	247	120	3	18	53	7	19	0	79	26	1.081
NC470-3	307	222	108	5	19	64	10	3	0	76	13	1.076
NYL7-2	145	79	38	11	30	54	3	3	0	59	5	1.064
NYL8-12	197	113	55	5	29	62	3	0	0	66	3	1.066
NYM7-4	281	180	88	5	26	66	1	2	0	69	3	1.082
NYM8-5	217	150	73	6	22	60	5	6	0	72	11	1.069
AOR11484-2	166	109	53	6	23	61	5	5	0	71	10	1.063
AOR11488-1	229	106	52	13	36	51	0	0	0	51	0	1.081
AOR11470-1	195	70	34	17	45	35	0	2	0	38	2	1.067
AOR09034-3	239	131	64	9	35	56	0	0	0	56	0	1.082
AORTX09032-3W	195	116	56	10	28	62	0	0	0	62	0	1.082
AORTX09033-4W	307	157	76	6	37	56	2	0	0	58	2	1.058
AORTX09037-1W	217	113	55	14	31	49	4	2	0	54	6	1.077
AORTX09037-4W/Y	222	104	51	10	35	54	0	0	0	54	0	1.074
AORTX10247-1W/Y	262	177	86	6	26	67	1	0	0	68	1	1.075
NDTX113030C-3W	184	85	41	11	32	52	4	0	0	57	4	1.079
W10659-16	264	164	80	8	26	64	2	0	0	66	2	1.073

[1]Marketable Yield: size classes A1 to A3.

[2]Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

Table 25. Plant growth and tuber characteristics for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]								
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	SFA Chip Score	SED Score	Merit
Atlantic	90	4	9	9	1	6	5	4	7	8	1.4	1	2
Lamoka	58	3	9	9	1	7	7	3	7	8	1.0	1	3
Pike	23	2	9	9	1	7	6	1	7	7	1.1	1	3
Snowden	93	4	9	9	1	7	6	2	7	7	1.1	1	2
Tier 1 = 1 rep													
AFC5687-2W	13	3	9	9	1	6	6	2	4	7	2.5	3	3
CO11023-2W	100	6	9	8	1	6	6	2	4	8	1.0	1	1
CO11023-9W	67	3	9	9	2	9	7	2	8	6	1.0	1	2
CO11037-5W	87	4	9	9	1	7	6	2	3	8	1.0	0	1
CO11048-8W	80	3	9	9	1	7	6	2	9	8	1.0	1	2
CO11074-1W	100	5	9	8	1	6	8	1	7	9	1.5	2	3
CO11087-1W	20	2	9	9	1	7	7	1	9	8	1.0	1	3
B3174-4	100	4	9	8	1	9	6	2	7	8	1.5	1	2
B3176-1	20	2	9	9	1	7	8	4	9	6	2.0	3	3
B3176-2	7	2	9	9	1	5	5	1	9	8	2.5	1	3
B3181-7	100	7	9	7	1	7	5	1	8	6	1.0	1	4
B3182-1	100	7	9	8	2	9	6	2	8	7	1.5	2	3
B3183-6	100	3	9	9	1	7	5	3	7	9	1.0	2	1
B3194-1	20	2	9	9	1	7	6	1	9	7	2.0	2	3
B3223-5	100	4	9	7	2	9	5	1	8	6	1.0	1	3
BNC537-5	100	4	9	8							1.5	1	4
BNC541-5	93	3	9	8	1	7	7	1	8	7	1.0	2	4
BNC544-2	100	6	9	8	1	7	6	3	8	7	1.5	1	3
BNC549-1	100	6	9	8	1	5	5	2	7	9	1.5	1	2
AF5563-5	93	3	9	9	1	6	7	3	7	8	1.0	2	3
AF5801-1	67	3	9	9							1.5	2	2
AF5819-6	60	3	9	9	1	7	7	5	7	9	1.5	2	1
AF5825-3	100	3	9	9	1	9	7	3	8	7	1.0	1	2
AF5846-3	67	3	9	9	1	4	6	2	3	7	1.0	1	3
AF5846-4	87	3	9	9	1	7	6	2	6	8	1.0	1	2

Table 25 (cont'd). Plant growth and tuber characteristics for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]								
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	SFA Chip Score	SED Score	Merit
MSAFB610-4	80	3	9	8	2	9	7	4	8	8	1.0	1	1
MSAFB611-5	100	6	9	7	2	7	6	1	7	7	1.0	1	2
MSAFB614-4	100	7	9	7	1	9	7	1	9	7	1.0	0	3
MSAFB614-6	53	3	9	9	1	7	6	2	8	8	1.5	1	2
MSAFB618-2	7	2	9	9	1	7	6	1	8	7	1.5	1	3
MSAFB618-3	0	1	-	9	1	6	4	1	9	7	1.0	1	3
MSAFB626-2	53	3	9	9	1	7	6	1	7	8	1.0	1	2
MSAFB626-5	100	4	9	9	1	7	5	3	4	6	1.0	1	3
MSAFB626-8	20	2	9	9	1	9	7	1	5	7	1.5	2	3
MSAFB635-3	93	3	9	9	1	9	6	1	7	8	1.0	1	2
NDAF113490C-6	53	3	9	9	1	7	7	2	8	8	1.5	2	2
NDAF113491C-6	100	4	9	9	1	9	6	5	9	9	1.0	0	2
NDAF12139C-2	100	5	9	9	1	7	7	2	7	8	1.5	1	2
WAF13066-2	87	3	9	9	1	7	5	1	9	7	1.0	1	3
WAF13076-2	93	3	9	9	2	5	4	2	8	7	1.0	1	2
MST437-1	53	3	9	9	1	7	5	1	9	5	1.5	2	3
MSV016-2	60	3	9	9	1	6	7	2	4	8	1.5	1	3
MSV030-4	100	4	9	9	1	7	6	4	7	7	2.0	1	4
MSV177-1	87	4	9	8	1	5	2	1	7	8	1.0	0	2
MSV380-1	27	3	9	9	1	9	7	3	7	7	1.0	1	3
MSV505-2	67	3	9	9	1	7	4	3	8	7	1.0	1	2
MSV507-003	73	4	9	9	1	5	5	2	8	7	1.0	0	2
MSV507-012	93	4	9	9	1	9	5	2	9	8	1.5	1	1
MSV507-073	73	3	9	9	1	6	6	2	7	8	2.0	1	2
MSV507-001	100	7	9	7	1	9	6	4	8	7	2.0	2	4
MSV507-128	100	4	9	9	1	5	5	1	7	8	1.5	2	2
MSW004-1	73	3	9	9	2	9	7	6	8	8	2.0	3	2
MSW294-1	100	6	9	7	1	5	5	3	6	7	1.0	1	2
MSW324-1	73	4	9	9	2	5	5	4	6	7	1.0	1	3
MSW474-1	100	6	9	7	1	5	4	1	8	7	1.0	0	3

Table 25 (cont'd). Plant growth and tuber characteristics for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]								
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	SFA Chip Score	SED Score	Merit
MSW501-2	80	4	9	9	1	9	6	4	8	8	1.0	0	2
MSX042-3	100	4	9	9	1	5	4	1	6	7	1.0	0	3
MSX111-3	87	3	9	9	2	9	5	3	8	8	1.0	0	2
MSX225-2	100	4	9	9	1	5	4	2	8	8	1.0	1	2
MSX277-1	87	4	9	9	1	9	7	1	8	7	1.0	1	3
MSX345-6Y	67	3	9	9	2	9	6	1	7	8	1.0	1	2
MSX526-1	87	5	9	8	1	7	5	6	9	8	1.5	2	3
MSX542-2	93	4	9	9	1	9	6	2	4	8	1.0	1	3
MSY022-2	100	6	9	7	1	5	5	4	8	8	1.0	0	3
MSY041-1	93	3	9	7	1	7	7	4	9	8	2.0	1	3
MSY156-2	93	5	9	7	1	9	5	2	9	5	1.0	1	3
MSZ013-3	93	4	9	7	1	7	6	2	7	9	1.0	0	2
MSZ022-16	87	4	9	9	1	5	6	1	7	8	1.0	1	2
MSZ042-7	100	6	9	7	1	7	6	6	9	7	2.0	1	2
MSZ063-2	87	3	9	9	1	7	6	1	4	8	2.0	1	2
MSZ118-1	67	3	9	9	1	7	6	1	8	6	1.0	1	3
MSZ118-8	87	5	9	8	1	6	6	5	4	7	1.0	0	1
MSZ157-3	80	4	9	8	1	6	8	4	9	8	1.0	1	3
MSZ159-3	100	5	9	7	1	7	8	1	8	7	1.0	2	3
MSZ194-2	87	5	9	8	1	5	5	1	6	8	1.5	1	2
MSZ242-09	100	5	9	8	2	9	3	1	7	6	1.0	1	2
MSZ246-1	100	5	9	8	1	6	7	2	4	7	1.5	1	3
MSZ269-18	93	4	9	8	2	5	6	4	7	6	1.5	2	3
MSZ424-13	93	3	9	9	1	5	4	3	8	8	.	.	2
NYM15-3	100	5	9	9	1	7	6	4	8	7	1.0	1	3
NYM18-2	100	5	9	7	1	6	8	3	8	8	1.0	1	3
NYN6-2	47	4	9	9	1	7	8	5	8	7	1.0	1	2
NYN11-4	67	3	9	9	1	7	5	4	7	7	1.0	1	3
NYN24-2	100	6	9	7	1	7	6	1	8	8	1.0	0	2
NYN25-1	87	4	9	8	1	6	7	5	8	7	1.0	0	2

Table 25 (cont'd). Plant growth and tuber characteristics for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]								
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	SFA Chip Score	SED Score	Merit
NYN40-7	93	4	9	8	1	7	7	3	7	8	1.0	1	3
NYN44-7	13	2	9	9	1	7	7	2	9	8	1.5	2	4
NYN52-5	100	4	9	8	1	7	6	3	8	7	1.0	1	2
AORTX09033-11W	87	4	9	7	1	7	6	1	8	6	2.0	1	3
AORTX09037-5W/Y	93	4	9	6	2	9	8	2	8	7	1.5	1	2
AORTX09144-2W	80	4	9	8	1	5	5	4	8	8	1.0	1	3
COTX12235-2W	67	3	9	9	1	5	6	1	8	6	2.0	2	4
COTX12428-1W	93	4	9	7	2	9	6	1	8	7	1.0	1	2
NDTX113467CB-1W	100	7	9	7	1	7	4	3	8	8	1.0	1	2
NDTX12203AB-1W	93	5	9	7	1	6	7	2	8	7	1.0	2	2
NDTX1244-3W/Y	80	5	9	8	2	9	7	1	7	6	1.5	2	3
NDTX1246-3W/Y	93	6	9	7	1	6	8	3	8	7	1.0	1	2
TX13563-1W	53	3	9	9	1	5	6	1	8	7	1.0	1	4
NYWN25-1	7	2	9	9	1	7	6	2	7	8	1.0	0	3
NYWN39-2	60	4	9	8	2	9	6	3	8	8	1.0	1	1
NYWN40-3	93	3	9	8	1	9	6	3	7	7	1.0	1	3
W12074-29 (removed)													
W12078-76	67	3	9	9	1	7	6	2	8	8	1.5	1	2
W12078-77	80	3	9	9	1	9	6	1	8	6	1.0	1	3
W12078-80 (removed)													
W12082-5	80	4	9	7	1	6	6	3	7	6	1.0	1	4
Tier 2 = 2 reps													
CO10073-7W	80	4	9	8	1	9	7	4	8	7	1.0	0	2
CO10076-4W	80	5	9	8	1	7	7	1	8	7	1.0	1	3
B2869-29	100	6	9	8	1	6	9	1	7	8	1.5	2	2
B2904-2	87	4	9	9	1	8	6	5	7	8	1.0	0	1
BNC311-4	77	3	9	9	2	7	6	3	8	7	1.3	1	3
B3012-1	93	4	9	9	1	7	5	2	7	8	1.0	2	2
BNC469-7	97	5	9	8	1	8	6	2	8	8	1.0	1	2
BNC472-3	93	4	9	8	1	6	8	4	8	8	1.3	1	2
AF5429-3	97	5	9	8	1	7	7	3	8	8	1.0	1	2
AF5484-3	97	4	9	9	2	9	7	1	9	8	1.3	1	3

Table 25 (cont'd). Plant growth and tuber characteristics for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]								
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	SFA Chip Score	SED Score	Merit
AF5563-2	80	3	9	9	1	8	6	5	7	8	1.8	2	1
AF5583-3	63	3	9	9	1	5	7	2	8	8	1.0	1	2
AF5648-3	97	3	9	9	1	7	7	3	8	8	1.3	1	2
AF5682-5	77	3	9	9	2	9	7	4	9	7	1.5	1	3
NDAF113470C-3	100	5	9	8	2	6	7	4	8	8	1.5	1	3
MSZ052-02	100	5	9	8	1	7	7	3	8	8	1.5	2	3
MSZ052-11	93	4	9	9	1	8	6	1	6	7	1.0	1	2
MSZ242-13	97	4	9	9	1	5	5	4	9	7	1.0	0	2
MSZ242-07	90	4	9	9	1	6	5	1	8	8	1.0	1	2
MSZ251-1	100	5	9	7	1	7	6	4	9	6	1.0	0	3
NCB3171-7	100	7	8	5	1	7	8	2	9	8	1.3	2	3
NC473-2	93	4	9	9	1	6	6	5	7	9	1.0	0	1
NC472-1	93	5	9	8	1	7	6	3	8	8	1.0	1	1
NC470-3	100	7	9	8	1	7	5	2	6	8	1.5	2	1
NYL7-2	87	3	9	9	1	6	7	3	9	8	1.3	2	3
NYL8-12	87	5	9	7	2	9	6	2	7	8	1.0	1	3
NYM7-4	97	5	9	9	2	7	6	2	8	8	1.0	1	1
NYM8-5	100	7	9	7	2	8	7	2	8	7	1.0	1	2
AOR11484-2	97	4	9	8	1	7	6	1	8	8	1.0	1	3
AOR11488-1	90	4	9	9	2	7	6	2	8	7	1.0	1	3
AOR11470-1	77	3	9	9	1	7	8	1	9	7	1.5	1	3
AOR09034-3	90	5	9	9	1	6	7	3	8	7	1.5	1	2
AORTX09032-3W	60	5	9	9	1	7	7	5	8	8	1.3	1	2
AORTX09033-4W	90	5	9	7	1	7	7	3	8	8	1.3	1	3
AORTX09037-1W	100	5	9	8	2	9	7	1	8	7	1.3	1	2
AORTX09037-4W/Y	90	3	9	9	2	8	7	5	7	7	1.5	2	3
AORTX10247-1W/Y	97	6	9	7	2	8	8	2	8	8	1.3	2	2
NDTX113030C-3W	90	4	9	7	1	7	7	2	8	6	1.5	1	3
W10659-16	90	5	9	8	1	7	7	4	8	8	1.3	1	2

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 15 for 10 ft plot, 8 in spacing.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2]Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.

SFA Chip Score: Snack Food Association Scale (out of the field) Ratings 1-5: 1 = no defects, exceptionally bright, 2 = excellent, bright, 3 = good, light or golden, 4 = dark defects, marginal, 5 = not acceptable.

SED Score: Stem End Defect, based on Paul Bethke's (USDA/UWisconsin - Madison) 0-5 scale: 0 = no SED, 3 = significant SED, 5 = severe SED.

Merit Score: 1-4 scale: 1 = outstanding, 2 = good/keep, 3 = marginal, 4 = not acceptable/drop.

Table 26. External and internal defects for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects						% Internal Defects[2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
Atlantic	0	1	3	2	6	0	0	0	3	3	13	0	0
Lamoka	3	3	3	9	19	0	0	0	0	0	0	0	0
Pike	2	3	5	6	16	0	0	0	0	0	0	0	0
Snowden	2	1	2	1	7	0	0	0	0	0	0	0	0
Tier 1 = 1 rep													
AFC5687-2W	0	0	7	11	17	0	0	0	0	0	0	0	0
CO11023-2W	0	0	3	3	6	0	0	0	0	0	0	0	0
CO11023-9W	0	9	0	0	9	0	0	0	0	0	0	0	0
CO11037-5W	0	2	0	5	7	0	0	0	0	0	0	0	0
CO11048-8W	0	0	0	0	0	0	0	0	0	0	0	0	0
CO11074-1W	0	0	3	7	10	0	0	0	0	0	0	0	0
CO11087-1W	8	0	0	2	10	0	0	0	0	0	0	0	0
B3174-4	2	2	1	3	8	0	0	0	0	5	0	0	0
B3176-1	4	0	6	0	10	0	0	0	0	0	0	0	0
B3176-2	0	0	0	18	18	0	0	0	0	0	0	0	0
B3181-7	0	0	16	19	35	0	0	0	0	0	0	0	0
B3182-1	0	0	0	0	0	0	0	0	0	0	0	0	0
B3183-6	0	0	1	5	6	0	0	0	0	0	0	0	0
B3194-1	0	3	0	6	9	0	0	0	0	0	0	0	0
B3223-5	0	0	0	0	0	0	0	0	0	0	0	0	0
BNC537-5	2	12	2	8	24	0	0	0	0	0	0	0	0
BNC541-5	21	13	0	0	34	0	0	0	0	0	0	0	0
BNC544-2	9	0	6	0	15	0	0	0	0	0	0	0	0
BNC549-1	0	0	19	0	19	0	0	0	0	0	0	0	0
AF5563-5	0	0	14	10	24	0	0	0	0	0	0	0	0
AF5801-1	0	0	3	3	6	0	0	0	0	0	0	0	0
AF5819-6	4	1	0	2	7	0	0	0	0	0	0	0	0
AF5825-3	0	0	2	2	4	0	0	0	0	0	0	0	0
AF5846-3	0	5	3	7	15	0	0	0	0	0	0	0	0
AF5846-4	0	3	3	4	10	0	0	0	0	0	0	0	0

Table 26 (cont'd). External and internal defects for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects						% Internal Defects[2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
MSAFB610-4	5	2	0	1	8	0	0	0	0	0	0	0	0
MSAFB611-5	0	6	0	0	6	0	0	0	0	0	0	0	0
MSAFB614-4	0	6	3	2	11	0	0	0	0	0	0	0	0
MSAFB614-6	1	0	2	0	3	0	0	0	0	0	0	0	0
MSAFB618-2	0	0	0	6	6	0	0	0	0	0	0	0	0
MSAFB618-3	0	0	0	0	0	0	0	0	0	0	0	0	0
MSAFB626-2	0	8	0	0	8	0	0	0	0	0	0	0	0
MSAFB626-5	0	0	6	4	9	0	0	0	0	0	10	0	0
MSAFB626-8	0	0	7	2	9	0	0	0	0	0	0	0	0
MSAFB635-3	9	2	0	3	14	0	0	0	0	0	0	0	0
NDAF113490C-6	0	0	0	0	0	0	0	0	0	5	0	0	0
NDAF113491C-6	5	3	1	3	13	0	0	0	0	0	0	0	0
NDAF12139C-2	0	0	2	1	3	0	0	0	0	0	10	0	0
WAF13066-2	2	0	2	11	15	0	0	0	0	0	0	0	0
WAF13076-2	0	7	4	3	13	0	0	0	0	0	0	0	0
MST437-1	0	6	0	0	6	0	0	0	0	0	0	0	0
MSV016-2	0	2	2	10	14	0	0	0	0	0	0	0	0
MSV030-4	12	4	2	3	21	0	0	0	0	0	0	0	0
MSV177-1	0	4	0	10	14	0	0	0	0	0	0	0	0
MSV380-1	0	0	0	0	0	0	0	0	0	0	0	0	0
MSV505-2	0	0	0	0	0	0	0	0	0	0	0	0	0
MSV507-003	0	0	4	2	6	0	0	0	0	0	0	0	0
MSV507-012	7	0	0	0	7	0	0	0	0	0	0	0	0
MSV507-073	5	1	1	4	11	0	0	0	0	0	0	0	0
MSV507-001	6	2	0	12	20	0	0	0	0	0	0	0	0
MSV507-128	0	2	0	3	6	0	0	0	5	0	0	0	0
MSW004-1	6	2	1	1	10	0	0	0	0	0	0	0	0
MSW294-1	0	4	0	3	7	0	0	0	0	0	0	0	0
MSW324-1	0	0	4	1	4	0	0	0	0	0	0	0	0
MSW474-1	0	0	0	15	15	0	0	0	0	0	0	0	0

Table 26 (cont'd). External and internal defects for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects						% Internal Defects[2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
MSW501-2	0	0	0	0	0	0	0	0	0	5	0	0	0
MSX042-3	3	0	0	7	10	0	0	0	5	0	0	0	0
MSX111-3	8	5	0	2	15	0	0	0	0	0	0	0	0
MSX225-2	0	0	0	5	5	0	0	0	0	0	0	0	0
MSX277-1	0	4	4	3	10	0	0	0	0	0	0	0	0
MSX345-6Y	2	0	0	4	6	0	0	0	0	0	0	0	0
MSX526-1	0	0	0	2	2	0	0	0	0	0	0	0	0
MSX542-2	0	0	0	0	0	0	10	0	0	0	0	0	0
MSY022-2	0	8	7	2	17	0	0	0	0	5	0	0	0
MSY041-1	0	5	2	0	6	0	0	0	0	0	0	0	0
MSY156-2	0	3	4	2	9	0	0	0	0	0	0	0	0
MSZ013-3	0	7	0	0	7	0	0	0	0	0	0	0	0
MSZ022-16	0	0	2	4	6	0	0	0	0	0	0	0	0
MSZ042-7	2	0	5	2	9	0	0	0	0	0	0	0	0
MSZ063-2	0	0	0	0	0	0	0	0	0	0	0	0	0
MSZ118-1	0	0	0	0	0	0	0	0	0	0	0	0	0
MSZ118-8	0	3	0	2	6	0	0	0	0	0	0	0	0
MSZ157-3	1	2	0	12	14	0	0	0	0	5	0	0	0
MSZ159-3	3	0	1	4	7	0	0	0	0	0	0	0	0
MSZ194-2	13	0	1	1	15	0	0	0	0	0	0	0	0
MSZ242-09	0	0	0	10	10	0	0	0	0	0	0	0	0
MSZ246-1	8	0	4	6	18	0	0	0	0	0	0	0	0
MSZ269-18	5	0	0	7	11	0	0	0	5	0	0	0	0
MSZ424-13	0	2	4	0	6	0	0	0	0	0	0	0	0
NYM15-3	0	0	3	7	9	0	0	0	0	0	0	0	0
NYM18-2	0	1	0	5	5	0	0	0	0	10	0	0	0
NYN6-2	0	0	0	2	2	0	0	0	0	0	0	0	0
NYN11-4	0	0	1	0	1	0	0	0	0	0	0	0	0
NYN24-2	0	2	4	12	18	0	0	0	0	0	0	0	0
NYN25-1	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 26 (cont'd). External and internal defects for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects						% Internal Defects[2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
NYN40-7	5	4	0	6	15	0	0	0	0	0	0	0	0
NYN44-7	7	5	0	9	21	0	0	0	0	0	0	0	0
NYN52-5	0	0	5	0	5	0	0	0	0	0	0	0	0
AORTX09033-11W	0	0	0	0	0	0	0	0	0	0	0	0	0
AORTX09037-5W/Y	0	0	0	0	0	0	0	0	0	0	0	0	0
AORTX09144-2W	0	0	2	6	9	0	0	0	0	0	0	0	0
COTX12235-2W	11	0	2	15	29	0	0	0	0	0	0	0	0
COTX12428-1W	1	1	8	4	14	0	0	0	0	0	0	0	0
NDTX113467CB-1W	0	11	1	1	13	0	0	0	0	0	0	0	0
NDTX12203AB-1W	0	1	9	0	10	0	0	0	0	0	0	0	0
NDTX1244-3W/Y	0	0	9	5	15	0	0	0	0	0	5	0	0
NDTX1246-3W/Y	0	0	0	0	0	0	0	0	0	0	0	0	0
TX13563-1W	0	2	6	16	24	0	0	0	0	0	0	0	0
NYWN25-1	0	0	5	6	12	0	0	0	0	0	0	0	0
NYWN39-2	0	0	0	0	0	0	0	0	0	0	0	0	0
NYWN40-3	0	7	0	0	7	0	0	0	0	0	0	0	0
W12074-29 (removed)													
W12078-76	0	0	0	0	0	0	0	0	0	0	0	0	0
W12078-77	0	0	0	0	0	0	0	0	0	0	0	0	0
W12078-80 (removed)													
W12082-5	0	5	3	16	24	0	0	0	0	0	0	0	0
Tier 2 = 2 reps													
CO10073-7W	0	2	3	5	10	0	0	0	0	0	0	0	0
CO10076-4W	0	0	6	6	12	0	0	0	0	0	0	0	0
B2869-29	1	1	4	4	11	0	0	0	0	0	0	0	0
B2904-2	0	1	2	0	3	0	0	0	0	0	0	0	0
BNC311-4	4	3	5	8	20	0	0	0	0	0	0	0	0
B3012-1	0	2	4	2	8	0	0	0	0	0	0	0	0
BNC469-7	4	3	2	2	11	0	0	0	3	0	0	0	0
BNC472-3	2	0	3	2	7	0	0	0	3	0	0	0	0
AF5429-3	3	2	0	6	10	0	0	0	0	0	0	0	0
AF5484-3	0	1	1	3	6	0	0	0	13	13	0	0	0

Table 26 (cont'd). External and internal defects for the 2017 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects						% Internal Defects[2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
AF5563-2	2	2	1	2	6	0	0	0	0	0	0	0	0
AF5583-3	2	2	2	3	9	0	0	0	0	0	0	0	0
AF5648-3	1	1	2	5	10	0	3	0	0	0	0	0	0
AF5682-5	6	8	4	6	24	0	0	0	0	0	0	0	0
NDAF113470C-3	2	2	4	7	15	0	0	0	3	0	0	0	0
MSZ052-02	0	2	4	2	8	0	3	0	0	0	0	0	0
MSZ052-11	0	0	3	5	8	0	0	0	0	3	0	0	0
MSZ242-13	4	1	8	1	14	0	0	0	0	0	0	0	0
MSZ242-07	2	0	0	2	5	0	0	0	0	3	0	0	0
MSZ251-1	0	0	2	0	2	0	0	0	0	0	0	0	0
NCB3171-7	3	0	1	6	10	0	0	0	0	0	0	0	0
NC473-2	2	5	2	2	11	0	0	0	0	0	0	0	0
NC472-1	3	2	4	1	10	0	0	0	0	0	0	0	0
NC470-3	1	0	1	3	5	0	0	0	0	0	0	0	0
NYL7-2	0	0	2	3	5	0	0	0	0	0	0	0	0
NYL8-12	0	1	3	9	12	0	0	0	0	0	0	0	0
NYM7-4	0	2	2	3	6	0	0	0	0	0	0	0	0
NYM8-5	3	0	2	1	6	0	0	0	0	0	0	0	0
AOR11484-2	1	0	4	2	7	0	0	0	0	0	0	0	0
AOR11488-1	0	3	1	5	10	0	0	0	0	0	0	0	0
AOR11470-1	1	0	1	2	5	0	0	0	0	0	0	0	0
AOR09034-3	0	3	2	2	7	0	0	0	0	0	0	0	0
AORTX09032-3W	1	0	1	3	4	0	0	0	0	0	0	0	0
AORTX09033-4W	9	5	2	2	19	0	0	0	0	0	0	0	0
AORTX09037-1W	2	0	2	0	4	0	0	0	3	0	0	0	0
AORTX09037-4W/Y	4	4	3	3	13	0	0	0	0	0	0	0	0
AORTX10247-1W/Y	0	1	3	2	6	0	0	0	0	0	0	0	0
NDTX113030C-3W	2	0	4	14	20	0	0	0	0	3	0	0	0
W10659-16	0	0	3	4	7	0	0	0	0	0	0	0	0

[1]Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.

[2]Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

Chapter 10. USDA Chipping Potato Variety Trial

General Comments

A goal of the chipping trial is to identify a short-season processing potato variety with better production and quality characteristics than the “standard” Atlantic.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	February 1, 2017
Vine Kill Date	N/A
Harvest Date	May 17, 2017
Season Length	105 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	10 (Standard: Atlantic)
Number of Clones	22
Within Row Spacing	8 in (20 cm)
Between Row Spacing	40 in (102 cm)
Replications	4
Plot Size	16 ft (4.9 m)

Production Statistics

Early Vigor Ratings	43 DAP
Highest Total Yield	BNC177-5 (362 cwt/acre or 40.6 T/ha)
Highest Marketable Yield	Elkton (278 cwt/acre or 31.2 T/ha)
Highest Specific Gravity	NC426-2, B2832-12 (1.080)

Table 27. Production statistics for the 2017 USDA Chipping Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	% of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	A2 to A3	Specific Gravity
Season–105 days												
BNC469-9	344	261	103	4	9	55	10	22	0	87	32	1.070
BNC470-13	274	141	56	9	37	50	4	0	0	54	4	1.071
BNC470-16	312	256	101	3	9	74	10	4	0	89	15	1.069
BNC481-6	159	67	26	18	42	40	0	0	0	40	0	1.061
B3156-10	270	170	67	7	27	63	1	1	0	66	2	1.072
B3083-4	306	244	96	4	5	45	16	30	0	91	46	1.065
B3083-11	321	269	106	2	9	66	15	8	0	90	24	1.076
B3084-3	296	223	88	3	11	74	9	2	0	86	11	1.073
NC420-2	294	186	74	6	23	68	2	2	0	71	3	1.072
NC426-2	297	209	83	4	15	72	8	1	0	81	10	1.080
BNC177-5	362	267	105	3	11	65	10	10	0	85	21	1.069
BNC182-5	334	254	100	4	15	62	10	9	0	81	18	1.071
BNC201-1	244	173	68	4	18	72	3	2	0	78	6	1.079
B2832-12	245	178	70	4	15	67	8	6	0	81	13	1.080
B2834-8	231	168	66	3	13	67	10	7	0	84	17	1.077
B2869-28	290	222	88	4	15	72	6	3	0	81	9	1.068
B2869-29	250	155	61	6	25	65	2	1	0	69	3	1.079
B2904-2	328	236	93	4	19	66	6	4	0	76	10	1.078
BNC266-6	308	216	85	4	15	70	6	5	0	81	11	1.077
BNC364-1	302	219	87	3	15	79	2	1	0	82	3	1.074
BNC369-4	310	259	102	3	8	67	12	10	0	89	23	1.074
B2727-2	261	210	83	3	8	75	8	6	0	90	14	1.079
Atlantic	329	253	100	2	9	73	9	7	0	89	15	1.078
Chieftain	250	182	72	5	20	68	4	3	0	75	7	1.062
Dark Red Norland	156	106	42	7	17	76	0	0	0	76	0	1.058
Elkton	339	278	110	3	9	70	8	10	0	88	18	1.074
Harley Blackwell (B0564-8)	290	200	79	5	18	59	11	8	0	77	18	1.076
Kennebec	305	208	82	2	10	76	7	5	0	87	11	1.073
Peter Wilcox (B1816-5)	283	203	80	4	16	78	2	1	0	81	3	1.067
Snowden	249	195	77	3	15	73	4	4	0	81	9	1.074

Table 27 (cont'd). Production statistics for the 2017 USDA Chipping Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Superior	181	82	32	11	28	60	1	0	0	61	1	1.071
Yukon Gold	189	130	51	3	12	69	6	9	0	84	16	1.074
MSD[3]	114	116		7	15	24	14	13	ns	20	20	0.007
P Value	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001

[1] Marketable Yield: size classes A1 to A3.

[2] Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

[3] Means separated within columns by Tukey's Studentized Range (HSD) Test.

Table 28. Plant growth and tuber characteristics for the 2017 USDA Chipping Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
BNC469-9	66	5	9	8	1	6	5	4	7	7	2
BNC470-13	80	8	9	7	2	7	8	1	6	4	2
BNC470-16	82	7	9	8	2	5	3	5	6	6	1
BNC481-6	85	8	8	5	1	1	9	3	8	7	3
B3156-10	76	9	9	7	2	9	8	5	9	8	3
B3083-4	72	6	9	8	2	7	6	3	8	8	2
B3083-11	94	7	9	8	1	7	5	4	5	7	1
B3084-3	77	6	9	9	1	6	4	5	5	6	2
NC420-2	89	8	9	7	3	3	8	4	7	7	2
NC426-2	83	9	9	7	1	9	7	5	8	8	2
BNC177-5	82	9	8	8	1	6	3	2	6	6	2
BNC182-5	83	8	8	7	1	7	6	2	8	7	1
BNC201-1	83	6	9	8	2	2	7	5	5	8	2
B2832-12	81	8	9	7	1	7	5	1	7	7	2
B2834-8	80	9	8	6	1	7	7	1	7	7	3
B2869-28	85	8	9	7	1	8	9	2	8	8	1
B2869-29	82	9	8	6	1	8	8	2	4	8	3
B2904-2	89	9	9	7	1	7	5	5	5	6	1
BNC266-6	82	8	9	8	2	9	8	3	8	7	2
BNC364-1	80	7	9	8	1	9	7	6	7	8	2
BNC369-4	84	8	9	8	2	7	5	3	8	8	1
B2727-2	81	7	9	8	1	7	5	5	8	8	2
Atlantic	84	8	9	8	2	6	5	2	7	6	-
Chieftain	80	7	9	8	1	3	7	5	6	6	2
Dark Red Norland	81	7	9	6	3	2	8	6	7	8	3
Elkton	80	8	9	8	2	5	3	6	9	8	1
Harley Blackwell (B0564-8)	89	8	9	8	1	6	4	3	8	7	2
Kennebec	73	5	9	9	1	9	7	8	6	8	3
Peter Wilcox (B1816-5)	83	7	9	7	3	1	5	5	6	7	2
Snowden	75	8	9	7	1	6	5	1	8	7	2

Table 28 (cont'd). Plant growth and tuber characteristics for the 2017 USDA Chipping Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Superior	88	7	9	7	1	7	6	2	6	6	4
Yukon Gold	80	7	9	7	3	9	8	3	6	8	4

[1] Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 24 for 16 ft plot, 8 in spacing.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2] Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.
Merit Score: 1-4 scale: 1 = outstanding, 2 = good/keep, 3 = marginal, 4 = not acceptable/drop.

Table 29. External and internal defects for the 2017 USDA Chipping Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
BNC469-9	2	1	3	8	14	0	0	0	0	0	0	0	0
BNC470-13	0	3	1	5	8	0	1	0	1	0	1	0	0
BNC470-16	0	2	3	4	9	0	3	0	0	1	1	0	0
BNC481-6	0	1	0	3	3	0	0	0	0	0	3	0	0
B3156-10	1	3	2	4	10	0	1	0	0	0	0	0	0
B3083-4	5	2	1	6	13	0	0	0	0	0	0	0	0
B3083-11	1	0	2	3	6	0	0	0	0	0	0	0	0
B3084-3	2	2	1	8	13	0	0	0	0	0	0	0	0
NC420-2	1	2	1	8	11	0	0	0	0	0	0	0	0
NC426-2	2	4	4	4	14	0	0	0	0	0	0	0	0
BNC177-5	2	1	2	10	15	0	0	0	0	0	0	0	0
BNC182-5	1	1	1	5	7	0	0	0	0	0	0	0	0
BNC201-1	1	1	0	6	9	0	0	0	0	0	0	0	0
B2832-12	0	1	1	9	11	0	0	0	0	1	0	0	0
B2834-8	1	0	1	11	14	0	0	0	0	0	0	0	0
B2869-28	1	1	1	6	8	0	0	0	0	0	0	0	0
B2869-29	0	1	1	8	10	0	0	0	0	0	0	0	0
B2904-2	3	1	1	4	9	0	0	0	0	0	0	0	0
BNC266-6	1	1	3	9	13	0	0	0	0	0	0	0	0
BNC364-1	2	0	2	7	11	0	0	0	0	0	0	0	0
BNC369-4	0	2	1	4	7	0	0	0	0	0	0	0	0
B2727-2	0	0	1	10	12	0	0	0	0	0	0	0	0
Atlantic	2	2	0	10	14	0	1	0	1	0	0	0	0
Chieftain	0	1	0	5	6	0	0	0	0	3	0	0	0
Dark Red Norland	0	0	1	9	11	0	0	0	0	0	0	0	0
Elkton	0	1	0	5	6	0	0	0	0	0	0	0	0
Harley Blackwell (B0564-8)	0	0	0	11	12	0	0	0	0	0	0	0	0
Kennebec	2	9	5	6	22	0	0	0	0	0	0	0	0
Peter Wilcox (B1816-5)	1	6	0	4	11	0	0	0	0	1	0	0	0
Snowden	1	1	2	1	5	0	0	0	0	0	0	0	0

Table 29 (cont'd). External and internal defects for the 2017 USDA Chipping Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
Superior	0	3	1	23	26	0	0	0	0	0	1	0	0
Yukon Gold	0	3	3	15	20	0	0	0	0	1	1	0	0
MSD[3]	4	5	3	13	14	ns	ns	ns	ns	ns	ns	ns	ns
P Value	0.0048	<0.0001	<0.0001	<0.0001	<0.0001	-	0.0604	-	0.5390	0.6448	0.6177	-	-

[1] Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.
[2] Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).
[3] Means separated within columns by Tukey's Studentized Range (HSD) Test.

Chapter 11. Potatoes USA SNAC Potato Variety Trial

General Comments

A goal of the SNAC trial is to identify a short-season processing potato variety with better production and quality characteristics than the “standard” Atlantic. Potatoes were fried and chip scores are noted in Table 31.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	January 31, 2017
Vine Kill Date	N/A
Harvest Date	May 8, 2017
Season Length	97 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	2 (Standard: Atlantic)
Number of Clones	11
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	4
Plot Size	20 ft (6.1 m) x 2

Production Statistics

Early Vigor Ratings	43 DAP
Highest Total Yield	Atlantic (378 cwt/acre or 42.4 T/ha)
Highest Marketable Yield	Atlantic (317 cwt/acre or 35.5 T/ha)
Highest Specific Gravity	MSX540-4 (1.075)

Table 30. Production statistics for the 2017 Potatoes USA SNAC Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Season–97 days												
AC01144-1W	264	168	53	6	28	64	2	0	0	66	2	1.057
AF5040-8	266	173	54	6	28	63	1	1	0	65	2	1.074
B2727-2	280	236	74	2	9	74	11	4	0	89	15	1.071
CO07070-13W	262	176	56	8	23	65	4	1	0	69	4	1.065
MSR127-2	318	259	82	3	16	78	1	1	0	81	3	1.068
MSV358-3	272	195	61	5	22	72	2	0	0	73	2	1.066
MSW485-2	326	204	64	8	30	60	1	0	0	62	2	1.068
MSX540-4	273	185	58	6	24	69	1	0	0	70	1	1.075
NDTX081648CB-13W	347	245	77	6	24	64	3	2	0	70	6	1.067
NY152	332	228	72	5	25	68	1	1	0	70	2	1.066
W9968-5	354	274	86	4	19	73	3	1	0	77	4	1.074
Atlantic	378	317	100	3	14	75	6	3	0	83	8	1.074
Snowden	323	246	77	3	21	71	3	1	0	76	5	1.072
MSD[3]	78	80		3	10	13	4	4	ns	12	5	0.008
P Value	<0.0001	<0.0001		<0.0001	<0.0001	0.0003	<0.0001	0.0397	-	<0.0001	<0.0001	<0.0001

[1]Marketable Yield: size classes A1 to A3.

[2]Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

[3]Means separated within columns by Tukey's Studentized Range (HSD) Test.

Table 31. Plant growth and tuber characteristics for the 2017 Potatoes USA SNAC Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]							
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Chip Score	Merit
AC01144-1W	94	7	9	7	2	7	7	2	6	7	71.0	3
AF5040-8	98	9	9	6	2	8	7	2	6	6	74.1	3
B2727-2	84	7	9	8	2	8	5	5	8	8	75.0	2
CO07070-13W	97	9	6	5	2	7	5	1	8	5	72.8	2
MSR127-2	95	8	9	7	2	6	4	3	7	8	70.8	2
MSV358-3	88	6	9	8	2	7	6	4	7	8	74.9	2
MSW485-2	95	8	9	7	2	7	6	1	7	7	70.8	2
MSX540-4	85	6	9	9	2	6	5	3	7	6	73.9	2
NDTX081648CB-13W	93	8	9	7	2	7	6	2	8	8	75.1	2
NY152	90	7	9	8	2	6	5	5	7	7	75.1	2
W9968-5	95	8	9	7	2	6	5	5	7	5	74.3	1
Atlantic	96	8	9	8	2	6	5	4	7	7	71.6	
Snowden	94	8	9	7	2	6	5	5	5	7	70.1	2

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 30 for 20 ft plot, 8 in spacing.

Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2]Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2. Chip Score: A subsample of potatoes from the trial was shipped to Utz Quality Snacks, chipped and scored according to the Hunter Lab rating. Merit Score: 1-4 scale: 1 = outstanding, 2 = good/keep, 3 = marginal, 4 = not acceptable/drop.

Table 32. External and internal defects for the 2017 Potatoes USA SNAC Trial potato selections.

	% External Tuber Defects						% Internal Defects[2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
AC01144-1W	0	0	1	4	4	0	0	0	0	0	0	0	0
AF5040-8	0	0	0	2	2	0	0	0	0	0	0	0	0
B2727-2	0	0	1	4	5	0	0	0	0	0	0	0	0
CO07070-13W	0	0	0	3	3	0	0	0	0	0	0	0	0
MSR127-2	0	0	0	1	1	0	0	0	0	0	0	0	0
MSV358-3	0	0	0	5	5	0	0	0	0	0	0	0	0
MSW485-2	0	0	0	1	1	0	1	0	0	0	1	0	0
MSX540-4	0	0	0	4	4	0	0	0	0	0	0	0	0
NDTX081648CB-13W	0	0	0	2	2	0	0	0	0	0	1	0	0
NY152	0	0	0	3	3	0	0	0	0	0	0	0	0
W9968-5	0	0	0	1	1	0	0	0	0	0	0	0	0
Atlantic	0	0	0	2	2	0	0	0	0	0	0	0	0
Snowden	0	0	0	0	1	0	0	0	0	0	0	0	0
MSD[3]	0	ns	ns	3	4	ns	ns	ns	ns	ns	ns	ns	ns
P Value	0.0053	-	0.2580	<0.0001	<0.0001	-	0.4685	-	-	-	0.5629	-	-

[1]Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.

[2]Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

[3]Means separated within columns by Tukey's Studentized Range (HSD) Test.

Chapter 12. NE1231 Regional Project Potato Variety Trial

General Comments

The NE1231 regional project trial is a multi-state potato evaluation program developed to identify and evaluate new and advanced potato clones. The production, adaptation, and performance stability of new potato clones are documented under a wide range of geographic, climatic, soil, and cultural conditions. The University of Maine produces and supplies all cooperators with similar seed.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	January 24, 2017
Vine Kill Date	N/A
Harvest Date	May 4, 2017
Season Length	100 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	15 (Standard: Atlantic)
Number of Clones	13
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	4
Plot Size	16 ft (4.9 m)

Production Statistics

Early Vigor Ratings	42 DAP
Highest Total Yield	Snowden (272 cwt/acre or 30.5 T/ha)
Highest Marketable Yield	B2904-2 (218 cwt/acre or 24.4 T/ha)
Highest Specific Gravity	B2869-29 (1.089)
Best Appearance Rating	Atlantic, Russet Norkotah, Caribou Russet, AF4138-8, AF5280-5, B2869-29, B2904-2, ND8068-5Russ, NY161 (8, very good)

Table 33. Production statistics for the 2017 University of Maine NE1231 Variety Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	% of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	A2 to A3	Specific Gravity
Season–100 days												
Harley Blackwell (B0564-8)	170	118	61	6	20	69	3	2	0	74	5	1.079
Red LaSoda	177	128	66	4	15	72	6	3	0	81	9	1.059
Atlantic	220	193	100	2	10	75	7	6	0	88	13	1.083
Chieftain	230	143	74	6	27	65	1	0	0	67	1	1.064
Dark Red Norland	161	89	46	9	31	58	1	0	0	59	1	1.063
Katahdin	235	170	88	4	20	68	3	5	0	76	8	1.068
Kennebec	204	169	87	3	14	78	2	4	0	83	5	1.070
Russet Burbank	106	44	23	15	42	42	0	0	0	42	0	1.065
Russet Norkotah	198	106	55	7	32	60	1	0	0	61	1	1.065
Shepody	175	116	60	6	23	69	2	0	0	71	2	1.081
Snowden	272	185	96	4	29	66	1	0	0	67	1	1.083
Superior	212	127	66	8	25	64	3	1	0	68	4	1.072
Teton Russet	135	69	36	9	35	56	0	0	0	56	0	1.072
Yukon Gold	196	143	74	4	16	67	8	4	0	80	12	1.074
Caribou Russet (AF3362-1)	196	103	53	7	37	56	0	0	0	56	0	1.064
AF4138-8	169	102	53	8	30	60	3	0	0	63	3	1.066
AF4296-3	168	83	43	12	40	47	1	0	0	48	1	1.072
AF4648-2	207	156	81	4	19	67	5	5	0	77	10	1.074
AF5040-8	201	127	66	8	29	63	0	0	0	63	0	1.080
AF5280-5	215	156	81	4	16	67	7	6	0	80	13	1.062
AF5429-3	216	139	72	6	17	65	4	7	0	76	11	1.077
B2869-29	257	163	84	6	28	66	0	0	0	66	0	1.089
B2904-2	267	218	113	6	12	56	19	7	0	82	26	1.083
BNC364-1	202	148	77	3	20	75	2	0	0	77	2	1.073
ND8068-5Russ	188	127	66	6	27	67	0	0	0	67	0	1.074
NY157	211	145	75	5	21	69	3	1	0	74	5	1.078
NY158	243	125	65	9	39	52	0	0	0	52	0	1.076
NY161	243	166	86	7	22	67	3	1	0	71	4	1.068
MSD [3]	52	47		4	9	14	6	5	ns	10	8	0.006
P Value	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	0.0001	0.0010	-	<0.0001	<0.0001	<0.0001

[1] Marketable Yield: size classes A1 to A3.

[2] Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

[3] Means separated within columns by Waller-Duncan K-ratio t Test.

Table 34. Plant growth and tuber characteristics for the 2017 University of Maine NE1231 Variety Trial potato selections.

	Plant Growth Characteristics [1]				Tuber Characteristics [2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Harley Blackwell (B0564-8)	84	5	9	8	1	9	5	1	7	7	2
Red LaSoda	81	4	9	7	1	3	8	6	5	7	3
Atlantic	67	3	9	9	2	5	4	5	6	8	-
Chieftain	59	3	9	9	1	3	8	3	7	7	2
Dark Red Norland	89	4	9	7	1	3	7	4	6	7	3
Katahdin	71	3	9	9	1	7	7	7	8	7	1
Kennebec	45	3	9	9	1	7	6	6	6	6	1
Russet Burbank	49	3	9	9	1	4	3	5	8	6	3
Russet Norkotah	58	3	9	9	1	4	2	8	8	8	3
Shepody	89	3	9	9	1	9	7	8	9	7	2
Snowden	84	3	9	9	1	5	5	2	6	7	1
Superior	71	4	9	8	1	9	7	1	6	5	3
Teton Russet	57	3	9	9	1	4	3	5	7	7	3
Yukon Gold	47	3	9	9	3	7	7	3	7	6	2
Caribou Russet (AF3362-1)	84	4	9	8	2	6	5	9	7	8	3
AF4138-8	48	3	9	9	1	7	8	6	8	8	3
AF4296-3	70	3	9	9	1	4	2	8	8	7	3
AF4648-2	63	3	9	9	1	6	8	7	8	7	2
AF5040-8	88	4	9	8	2	7	7	3	6	7	2
AF5280-5	33	3	9	9	1	9	5	3	8	8	2
AF5429-3	92	4	9	9	1	9	5	1	8	6	2
B2869-29	100	7	9	6	1	1	8	1	6	8	2
B2904-2	75	4	9	9	1	6	5	2	7	8	2
BNC364-1	47	3	9	9	1	5	3	5	8	7	2
ND8068-5Russ	47	4	9	8	1	5	4	8	9	8	2
NY157	66	3	9	9	1	9	5	2	8	7	2
NY158	57	3	9	9	1	7	5	3	6	7	2
NY161	72	4	9	9	4	7	7	2	7	8	1

[1] Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 24 for 16 ft plot, 8 in spacing.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

[2] Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.
Merit Score: 1-4 scale: 1 = outstanding, 2 = good/keep, 3 = marginal, 4 = not acceptable/drop.

Table 35. External and internal defects for the 2017 University of Maine NE1231 Variety Trial potato selections.

	% External Tuber Defects						% Internal Defects [2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
Harley Blackwell (B0564-8)	0	0	0	9	9	0	0	0	0	0	0	0	0
Red LaSoda	0	0	1	11	13	0	0	0	0	0	0	0	0
Atlantic	0	0	0	0	1	0	0	0	0	0	0	0	0
Chieftain	0	0	0	8	8	0	0	0	0	0	0	0	0
Dark Red Norland	0	0	0	10	10	0	0	0	0	0	0	0	0
Katahdin	0	0	0	6	6	0	0	0	0	0	0	0	0
Kennebec	0	0	1	0	1	0	0	0	0	0	0	0	0
Russet Burbank	0	0	0	9	9	0	1	0	0	0	0	0	0
Russet Norkotah	0	1	0	11	13	0	0	0	0	0	0	0	0
Shepody	0	0	0	6	6	0	3	0	0	0	0	0	0
Snowden	0	0	0	2	2	0	0	0	0	0	0	0	0
Superior	0	0	0	13	13	0	0	0	0	0	1	0	0
Teton Russet	4	0	1	5	9	0	0	0	0	0	0	0	0
Yukon Gold	0	0	1	8	9	0	0	0	0	0	0	0	0
Caribou Russet (AF3362-1)	0	0	0	6	6	0	0	0	0	0	0	0	0
AF4138-8	0	0	0	6	6	0	0	0	0	0	0	0	0
AF4296-3	0	0	0	3	3	0	0	0	0	0	0	0	0
AF4648-2	1	0	0	4	5	0	0	0	0	0	0	0	0
AF5040-8	0	0	0	5	5	0	0	0	0	0	0	0	0
AF5280-5	0	0	0	8	9	0	4	0	0	0	0	0	0
AF5429-3	1	0	2	14	17	0	0	0	0	0	0	0	0
B2869-29	0	0	0	4	4	0	0	0	5	0	0	0	0
B2904-2	0	0	0	0	0	0	0	0	5	0	0	0	0
BNC364-1	0	0	0	5	5	0	0	0	0	0	0	0	0
ND8068-5Russ	0	0	0	2	2	0	0	0	0	0	3	0	0
NY157	0	0	0	7	7	0	0	0	0	0	0	0	0
NY158	0	0	0	4	4	0	0	0	0	0	0	0	0
NY161	1	0	0	4	5	0	0	0	0	0	0	0	0
MSD[3]	ns	ns	ns	9	9	ns	ns	ns	0	ns	ns	ns	ns
P Value	0.5284	0.6058	0.2693	0.0078	0.0012	-	0.6183	-	<0.0001	-	0.6585	-	-

[1] Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.

[2] Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

Chapter 13. French Fry Selection

General Comments

The objective of this trial is to initiate a selection of clones with potential for French Fry processing.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	February 2, 2017
Vine Kill Date	N/A
Harvest Date	May 22, 2017
Season Length	109 days planting to harvest
Fertilizer Program	Pre-plant, 14-6-12 (100 lb/acre N); Side-dress, 14-0-12 (100 lb/acre N)
Irrigation Program	seepage

Experimental Design

Number of Varieties	8 (Standard: Atlantic)
Number of Clones	15
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.02 m)
Replications	1
Plot Size	20 ft (6.1 m)

Production Statistics

Highest Total Yield	BNC182-5 (272 cwt/acre or 30.5 T/ha)
Highest Marketable Yield	BNC182-5 (206 cwt/acre or 23.1 T/ha)
Highest Specific Gravity	BNC201-1 (1.079)

Table 36. Production statistics for the 2017 French Fry Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield [1] (cwt/A)	Marketable Yield [1] % of standard	Size Distribution by Class (%) [2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Season–109 days												
Atlantic	204	152	100	2	9	78	4	7	0	88	11	1.077
Caribou Russet (AF3362-1)	130	60	39	6	41	53	0	0	0	53	0	1.054
Goldrush	182	97	64	8	30	60	0	2	0	62	2	1.059
H. Blackwell	247	157	103	7	14	62	14	4	0	79	18	1.075
Sebec	193	138	91	3	15	70	9	3	0	81	12	1.078
Snowden	227	169	111	5	16	68	5	7	0	79	11	1.071
AF4172-2	155	62	41	10	42	47	1	0	0	47	1	1.067
AF5164-19	131	30	20	15	52	31	0	2	0	33	2	1.059
AF5312-1	102	54	36	9	26	64	1	0	0	65	1	1.058
Easton (AF3001-6)	225	146	96	3	15	83	0	0	0	83	0	1.057
NY152	153	84	55	6	32	62	0	0	0	62	0	1.069
NY157	151	86	57	8	27	64	0	0	0	64	0	1.070
Caribou Russet (AF3362-1)	99	43	28	8	28	64	0	0	0	64	0	1.058
AF4138-8	113	61	40	9	26	65	0	0	0	65	0	1.058
AF4296-3	114	43	29	10	29	61	0	0	0	61	0	1.063
AF4648-2	147	70	46	7	24	64	0	5	0	69	5	1.067
AF5040-8	164	76	50	9	33	58	0	0	0	58	0	1.071
AF5280-5	140	76	50	4	22	68	3	3	0	74	6	1.053
AF5429-3	131	81	53	9	15	64	12	0	0	76	12	1.068
NC426-2	152	112	74	5	16	79	0	0	0	79	0	1.075
BNC182-5	272	206	135	3	15	67	13	2	0	81	15	1.069
BNC201-1	214	157	103	5	14	76	1	4	0	81	5	1.079
B2832-12	140	92	60	5	20	74	1	0	0	75	1	1.073

[1] Marketable Yield: size classes A1 to A3.

[2] Size classes: C = 0.5 to 1.5" , B = 1.5 to 1.88", A1 = 1.88 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4". Size Class Distribution calculated based on weight using the formula, Class Wt / (Total Yield Wt – Cull Wt) * 100.

Table 37. Plant growth and tuber characteristics for the 2017 French Fry Trial potato selections.

	Tuber Characteristics[1]					
Clone	IFC	SC	ST	TS	ED	APP
Atlantic				1		
Caribou Russet (AF3362-1)				8		
Goldrush				7		
H. Blackwell				2		
Sebec				1		
Snowden				1		
AF4172-2				6		
AF5164-19				6		
AF5312-1				6		
Easton (AF3001-6)				8		
NY152				1		
NY157				2		
Caribou Russet (AF3362-1)				7		
AF4138-8				1		
AF4296-3				7		
AF4648-2				2		
AF5040-8				3		
AF5280-5				2		
AF5429-3				3		
NC426-2				3		
BNC182-5				2		
BNC201-1				1		
B2832-12				1		

[1]Internal Flesh Color (IFC), Skin Color (SC), Skin Texture (ST), Tuber Shape (TS), Eye Depth (ED), Overall Appearance (APP): see rating system outlined in Table 2.

Table 38. External and internal defects for the 2017 French Fry Trial potato selections.

	% External Tuber Defects						% Internal Defects[2]						
											Brown Center		
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	Enlarged Lenticel	HH	BR	CRS	IHN	L	M	H
Atlantic	0	0	1	15	15	0	0	0	0	0	0	0	0
Caribou Russet (AF3362-1)	0	0	1	11	13	0	0	0	0	0	0	0	0
Goldrush	0	0	0	13	13	0	0	0	0	0	0	0	0
H. Blackwell	0	0	0	21	21	0	0	0	0	0	0	0	0
Sebec	0	0	0	11	12	0	0	0	0	0	0	0	0
Snowden	0	0	0	5	6	0	0	0	0	0	0	0	0
AF4172-2	0	0	1	15	16	0	0	0	0	0	0	0	0
AF5164-19	0	0	0	30	30	0	0	0	0	0	0	0	0
AF5312-1	1	0	1	16	18	0	0	0	0	0	0	0	0
Easton (AF3001-6)	0	0	1	20	21	0	0	0	0	0	0	0	0
NY152	0	0	1	10	11	0	0	0	0	0	0	0	0
NY157	0	0	1	9	11	0	0	0	0	0	0	0	0
Caribou Russet (AF3362-1)	0	0	1	33	34	0	0	0	0	0	0	0	0
AF4138-8	0	0	0	18	18	0	0	0	0	0	0	0	0
AF4296-3	0	0	0	37	37	0	0	0	0	0	0	0	0
AF4648-2	1	0	0	31	31	0	0	0	0	0	0	0	0
AF5040-8	0	0	1	19	20	0	0	0	0	0	0	0	0
AF5280-5	0	0	1	29	30	0	0	0	0	0	0	0	0
AF5429-3	0	0	1	18	19	0	0	0	0	0	3	0	0
NC426-2	0	1	1	7	8	0	0	0	0	0	0	0	0
BNC182-5	0	1	2	5	7	0	0	0	0	0	0	0	0
BNC201-1	0	0	2	7	9	0	0	0	5	0	0	0	0
B2832-12	0	0	0	12	12	0	0	0	0	0	0	0	0

[1]Percent of Total Yield. Total culls include the sum of growth cracks, misshapen, sunburned and rotten/misc.

[2]Percent tubers hollow heart (HH), brown rot (BR), corky ringspot (CRS), internal heat necrosis (IHN), Brown Center: light (L), moderate (M), heavy (H).

Appendix 1. Potato Season Weather Data for Northeast Florida

Weather data was obtained from the Florida Automated Weather Network (FAWN). FAWN provides up-to-date weather information through a system of automated weather stations distributed throughout the state of Florida. An automated FAWN weather station is located at the University of Florida/IFAS Hastings AEC Research Farm in Hastings, FL. Current and historical weather data can be obtained for many sites in Florida including Hastings at the FAWN website: http://fawn.ifas.ufl.edu/ .

Table 39. Daily rainfall amounts (in) at the UF/IFAS Hastings AEC Research Farm between Jan. 1 and Jun. 30, 2017.

Day	January	February	March	April	May	June
1	0.00	0.00	0.00	0.00	0.00	1.31
2	0.00	0.00	0.10	0.00	0.00	0.21
3	0.01	0.00	0.00	0.09	0.00	0.00
4	0.00	0.00	0.01	2.65	0.31	0.00
5	0.00	0.00	0.01	0.01	0.22	0.00
6	0.32	0.00	0.00	0.00	0.00	1.01
7	0.53	0.44	0.00	0.00	0.00	1.20
8	0.00	0.19	0.00	0.00	0.00	0.07
9	0.00	0.06	0.00	0.00	0.00	0.01
10	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.06
12	0.00	0.00	0.05	0.00	0.00	1.78
13	0.00	0.00	0.77	0.00	0.00	1.37
14	0.03	0.00	0.12	0.00	0.00	0.10
15	0.00	0.01	0.00	0.00	0.00	0.15
16	0.00	0.00	0.00	0.00	0.00	0.65
17	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.04
19	0.00	0.00	0.00	0.32	0.00	0.81
20	0.00	0.00	0.00	0.00	0.00	0.04
21	0.00	0.00	0.00	0.00	0.43	0.22
22	0.03	0.21	0.00	0.00	0.05	0.00
23	0.00	0.36	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.05	0.32	0.00
25	0.00	0.01	0.00	0.00	0.00	0.24
26	0.00	0.00	0.00	0.00	0.00	1.48
27	0.00	0.00	0.00	0.00	0.00	0.46
28	0.00	0.00	0.00	0.00	0.00	0.01
29	0.00		0.00	0.00	0.00	0.02
30	0.00		0.00	0.00	0.49	0.12
31	0.00		0.00		0.04	
Total	0.92	1.28	1.06	3.12	1.86	11.36

Table 40. Daily maximum and minimum air temperatures (°F) at the UF/IFAS Hastings AEC Research Farm between Jan. 1 and Jun. 30, 2017.

	January		February		March		April		May		June	
Day	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	80	49	75	40	85	65	85	59	92	70	92	69
2	83	59	76	42	73	56	87	54	82	60	86	71
3	82	69	78	46	65	43	88	66	86	55	84	70
4	73	58	63	55	69	40	73	65	89	59	85	70
5	71	52	69	48	69	50	89	65	75	63	86	73
6	75	48	76	46	72	53	77	60	80	53	84	72
7	67	38	82	50	75	50	71	47	87	49	77	71
8	45	31	79	58	81	57	72	43	84	57	76	68
9	58	34	76	54	79	57	74	44	87	53	82	64
10	68	42	64	43	82	53	76	53	94	58	87	68
11	72	48	80	41	72	49	77	52	95	60	88	72
12	78	50	79	48	76	57	77	53	92	66	85	72
13	76	55	74	55	71	58	77	55	78	68	86	72
14	76	57	79	50	61	47	78	53	83	64	90	71
15	76	58	79	60	55	38	80	60	85	65	89	71
16	79	55	67	43	59	33	78	59	87	59	85	72
17	80	51	74	35	66	34	80	54	87	63	90	71
18	79	53	74	46	77	41	83	56	86	66	90	73
19	79	57	78	56	70	45	80	58	88	64	88	73
20	83	57	78	50	72	41	81	59	91	73	87	74
21	82	59	77	56	83	45	82	54	88	69	91	73
22	85	61	73	61	87	60	85	60	89	71	90	73
23	67	56	73	64	72	62	84	66	90	70	92	72
24	72	51	77	62	74	58	79	61	82	72	94	75
25	80	40	82	60	78	55	82	57	83	64	92	74
26	82	61	68	46	80	54	84	54	88	56	90	71
27	64	44	81	46	80	55	93	59	94	59	86	71
28	52	42	85	61	86	55	91	66	94	65	85	73
29	61	44			87	57	88	68	96	74	87	74
30	61	37			87	59	87	73	93	72	93	75
31	72	32			85	64			91	71		
Avg.	73	50	76	51	75	51	81	58	88	63	87	72