Florida Potato Variety Trial Report, 2024

Volume 15

HORTICULTURAL SCIENCES DEPARTMENT
INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

UF UNIVERSITY of FLORIDA
IFAS Extension

Florida Potato Variety Trial Report, 2024

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Photograph

Cover photo: Bryce Barrineau.

Acknowledgements

Many talented and dedicated people assisted in these experiments during the potato season of 2024. The variety evaluation team is indebted to Dave Baggett, Dr. Christian Christensen, Lynn Darby, Morgan Masters, Zack Scarbrough, Travis Stanley, Wyatt Sylvest, Connor Tucker, Bryce Barrineau, Shayan Hadjiabadi, and Dakota Johnson for their hard work. Without the commitment and effort from these individuals, the variety evaluation program would not be possible.

This publication is also available online at: https://hos.ifas.ufl.edu/extension/variety-trials/

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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 methods. For these irrigation methods, the perched water table depth is managed by water flow into irrigation furrows that evenly separate each bed for seepage and using subsurface drip tape (permanently installed at 20 inches below the surface spaced every 20 ft). 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, 2023. Potato beds were fumigated with Telone II C35, 7.7 gal/A (1,3-dichloropropene 63.4%, and chloropicrin 34.7%) in December 2023. Fertilizer (4-8-4, 50 N 100 P 50 K lb/acre 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 (32 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. Two side-dress fertilizer applications (8-0-8, liquid) were made around plant emergence (100 N 100 K lb/acre) and at layby (50 N 50 K lb/acre) 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 (growth cracks, misshapen, sunburned, rotten/misc.) were removed and weighed and remaining potatoes were separated into six size classes and weighed. Specific gravity was measured on a random 10-tuber sample (less if not enough tubers available) from each plot using the weight-in-air/weight-in-water method. The sample was rated for external appearance characteristics. External tuber quality characteristics were rated using the rating scale listed in Table 2. The sample tubers were then cut into fourths and rated for hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), and brown center (BC).

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).

Seasonal Weather and Growing Conditions

Daily rainfall and temperatures are reported in Appendix 1. The data 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 2024 growing season were rated as very good. The total precipitation between planting and harvest was 5.94” which was fairly evenly distributed throughout the season (Table 63). Overall air temperatures were favorable for crop development, and there were no freeze events (Table 64).

Production

There were no major changes to the production system in 2024.

Figure 1. Potato Variety Program Evaluation Flowchart.

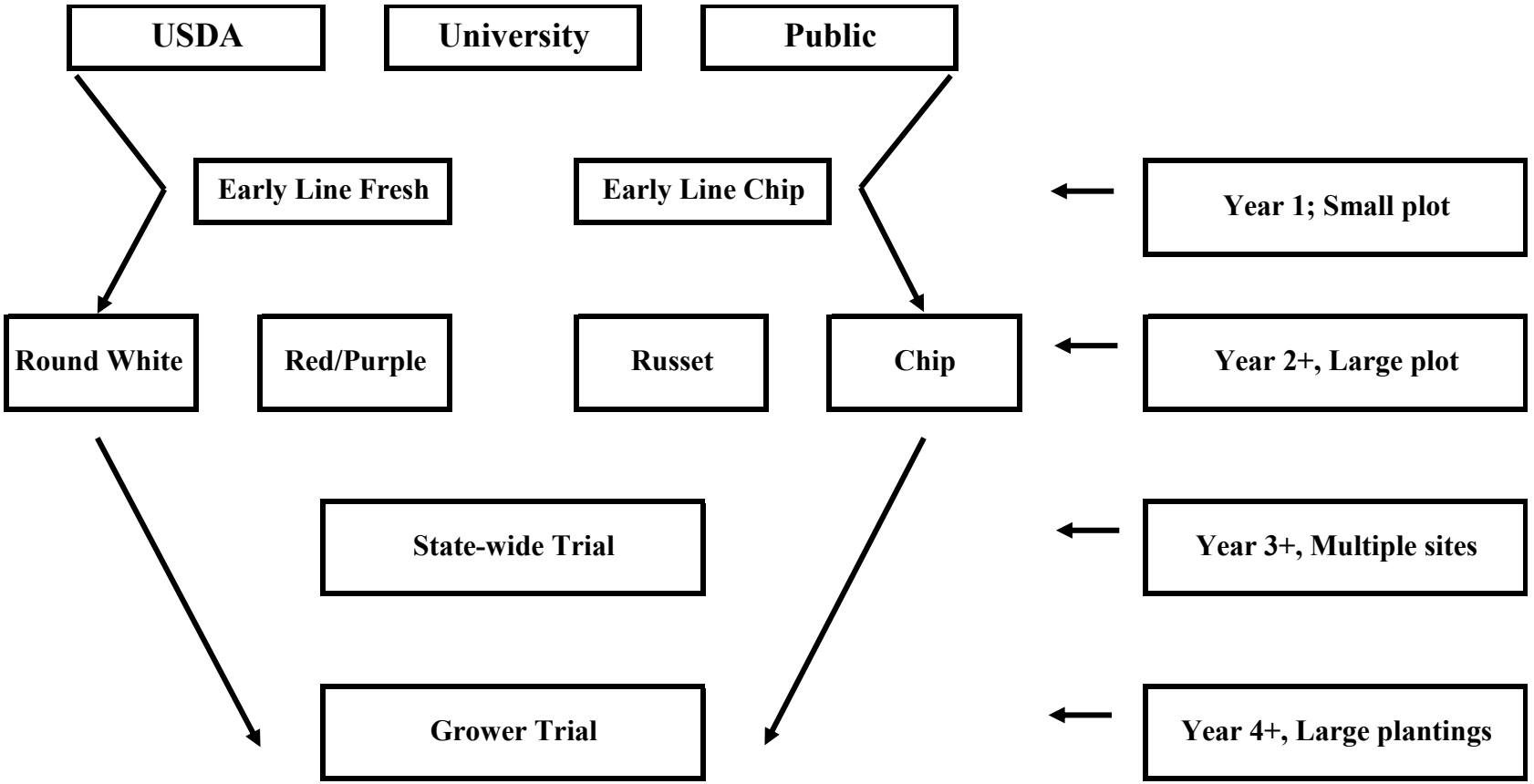

Table 1. Plant growth characteristics.

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 Trials

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 2023. The entries were split by market class into 2 trials: 1: chip, 2: fresh.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	1: February 8, 2024, 2: February 21, 2024
Vine Kill Date	1: N/A, 2: May 15, 2024
Harvest Date	1: May 21, 2024, 2: May 28, 2024
Season Length	1: 103 days planting to harvest, 2: 84 days planting to vine kill
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	Seepage

Experimental Design

Number of Varieties	1: 1 (Standard: Atlantic), 2: 1 (Standard: Red LaSoda)
Number of Clones	1: 50, 2: 49
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.0 m)
Replications	1
Plot Size	5 ft 4 in (1.6 m)

Production Statistics

Early Vigor Ratings	1: 41 DAP, 2: 40 DAP
Highest Total Yield	1: B22AF8283-4 (579 cwt/A or 64.9 T/ha), 2: B22AF8409-5 (761 cwt/A or 85.3 T/ha)
Highest Marketable Yield	1: B22AF8283-4 (462 cwt/A or 51.8 T/ha), 2: B3502-1 (624 cwt/A or 70.0 T/ha)
Best Appearance Rating	1: B3503-3 (9, excellent), 2: B22AF8360-1, B22AF8360-3, B22AF8370-1, B22AF8370-2, B22AF8370-5, B22AF8409-5, B22AF8412-2, B22AF8420-4, B22AF8427-2, B22NC1745-4, B22NC1880-3, B22NC2013-3, B22NC2696-2, B3504-6, B3507-3, B22NYS32-1, Red LaSoda (8, very good)

Table 3. Production statistics for the 2024 USDA 2nd Year Chip 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–103 days												
B22AF8275-1	258	142	100	36	9	48	7	0	0	55	7	1.089
B22AF8278-2	151	123	86	9	9	54	27	0	0	81	27	1.071
B22AF8283-4	579	462	324	6	11	30	47	6	0	84	54	1.074
B22AF8290-1	369	212	149	22	21	37	12	8	0	58	20	1.079
B22AF8300-4	383	179	126	26	26	22	26	0	0	48	26	1.089
B22AF8308-1	339	104	73	46	22	14	17	0	0	32	17	1.092
B22AF8308-3	436	251	176	14	25	15	45	0	0	61	45	1.083
B22AF8335-1	356	277	194	8	14	19	54	5	0	78	59	1.090
B22NC1887-1	229	184	129	4	15	40	40	0	0	80	40	1.087
B22NC2195-1	350	295	207	5	6	6	83	0	0	89	83	1.083
B22NC2391-1	332	167	117	30	18	33	18	0	0	51	18	1.087
B22NC2411-2	362	286	200	8	9	16	62	5	0	82	67	1.066
B22MSII040-2	246	153	108	13	22	39	25	0	0	65	25	1.070
B22MSII042-2	223	123	86	17	26	37	20	0	0	57	20	1.083
B22MSII135-1	453	321	225	12	7	69	11	0	0	81	11	1.087
B22W001-1	429	330	231	7	15	24	55	0	0	79	55	1.092
B22W002-1	479	412	289	6	8	19	67	0	0	86	67	1.090
B22W004-3	332	224	157	8	14	38	40	0	0	77	40	1.077
B22W006-3	268	196	138	12	15	14	59	0	0	73	59	1.079
B3492-2	300	205	144	16	11	46	27	0	0	74	27	1.074
B3493-1	205	96	67	25	27	39	10	0	0	49	10	1.078
B3494-1	306	219	154	8	12	19	61	0	0	80	61	1.085
B3494-3	318	217	152	12	17	17	55	0	0	72	55	1.080
B3497-3	247	119	83	19	31	23	27	0	0	50	27	1.078
B3498-1	229	96	67	32	19	41	8	0	0	49	8	1.099
B3499-1	344	205	144	17	13	21	49	0	0	71	49	1.075
B3501-2	263	173	121	20	14	27	39	0	0	66	39	1.079
B3501-4	306	172	120	14	23	31	31	0	0	63	31	1.083
B3501-6	409	228	160	16	21	11	53	0	0	63	53	1.074
B3503-3	283	211	148	11	12	12	65	0	0	77	65	1.083

Table 3 (cont'd). Production statistics for the 2024 USDA 2nd Year Chip 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
B3503-4	265	173	121	15	14	36	35	0	0	71	35	1.085
B3505-1	426	289	203	12	21	28	40	0	0	68	40	1.078
B3509-2	269	185	130	11	12	34	43	0	0	77	43	1.077
B3510-2	223	78	55	38	24	20	19	0	0	39	19	1.084
B3514-4	263	125	88	35	14	33	19	0	0	51	19	1.084
B3515-2	243	119	83	32	15	34	19	0	0	53	19	1.082
B3515-3	382	163	114	23	25	21	31	0	0	52	31	1.085
B22NYU18-2	170	110	77	15	15	24	46	0	0	70	46	1.067
B22NYU34-2	202	98	69	17	34	32	16	0	0	49	16	1.088
B22NYU37-2	246	197	138	11	9	13	67	0	0	80	67	1.078
B22NYU48-2	224	143	101	11	25	41	24	0	0	64	24	1.099
B22NYT11-1	363	255	179	11	16	26	47	0	0	73	47	1.079
B22NYT13-3	227	172	120	7	12	28	53	0	0	81	53	1.083
B22NYS13-1	291	129	90	21	34	20	26	0	0	46	26	1.080
B22NYS15-1	317	159	112	19	28	33	19	0	0	52	19	1.085
B22NYS16-1	217	101	71	21	30	11	38	0	0	48	38	1.077
B22NYS33-1	165	85	59	20	29	18	34	0	0	51	34	1.072
B22NYS36-1	440	330	231	10	14	31	46	0	0	77	46	1.082
B22NYQ29-3	259	102	71	33	27	35	6	0	0	41	6	1.082
BD22HDJ267-1	239	126	89	17	19	26	38	0	0	64	38	1.076
Atlantic	210	143	100	16	15	15	52	3	0	69	54	1.086

[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. Production statistics for the 2024 USDA 2nd Year Fresh Market 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–84 days												
B22AF8347-5	229	150	45	10	13	23	54	0	0	77	54	1.066
B22AF8358-1	368	139	42	29	31	26	13	0	0	40	13	1.068
B22AF8358-3	169	56	17	25	37	16	21	0	0	37	21	1.052
B22AF8360-1	391	273	82	9	16	15	61	0	0	75	61	1.059
B22AF8360-3	538	465	140	3	4	6	75	12	0	93	87	1.061
B22AF8364-2	252	85	25	35	29	15	21	0	0	36	21	1.062
B22AF8367-2	384	197	59	28	19	37	16	0	0	52	16	1.059
B22AF8370-1	304	244	73	6	12	28	55	0	0	83	55	1.058
B22AF8370-2	386	172	52	22	30	30	18	0	0	48	18	1.069
B22AF8370-5	213	145	44	12	15	27	46	0	0	73	46	1.062
B22AF8403-1	260	93	28	28	32	31	9	0	0	40	9	1.069
B22AF8406-1	22	0	0	10	90	0	0	0	0	0	0	.
B22AF8408-4	78	38	11	16	8	44	32	0	0	76	32	1.057
B22AF8409-5	761	466	140	14	23	32	31	0	0	63	31	1.065
B22AF8412-2	320	218	66	12	20	28	40	0	0	68	40	1.065
B22AF8420-3	263	130	39	27	19	39	15	0	0	54	15	1.054
B22AF8420-4	267	119	36	20	36	45	0	0	0	45	0	1.060
B22AF8427-2	442	321	97	7	13	33	46	0	0	79	46	1.067
B22NC1745-4	386	154	46	26	32	33	9	0	0	42	9	1.069
B22NC1880-3	317	129	39	41	15	28	15	0	0	44	15	1.078
B22NC1964-5	64	5	1	68	24	8	0	0	0	8	0	.
B22NC1993-1	423	156	47	31	30	31	8	0	0	39	8	1.058
B22NC2013-3	517	165	50	40	28	29	3	0	0	32	3	1.064
B22NC2039-1	537	365	110	17	11	31	41	0	0	72	41	1.084
B22NC2115-6	377	264	79	8	19	54	19	0	0	73	19	1.066
B22NC2696-2	458	348	105	7	7	30	56	0	0	87	56	1.075
B22NC2696-4	486	329	99	5	15	20	59	0	0	79	59	1.076
B22NC2696-5	404	242	73	22	16	41	21	0	0	62	21	1.079
B22NC2728-2	391	267	80	10	13	38	39	0	0	76	39	1.069
B22MSHH041-1	146	124	37	5	10	4	80	0	0	85	80	1.070

Table 4 (cont'd). Production statistics for the 2024 USDA 2nd Year Fresh Market 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
B3487-2	478	424	128	4	7	7	82	0	0	89	82	1.060
B3496-6	491	385	116	3	8	25	64	0	0	89	64	1.066
B3502-1	741	624	188	6	6	10	74	4	0	88	78	1.065
B3504-6	616	503	151	3	7	11	76	3	0	90	79	1.067
B3504-7	600	462	139	10	9	11	66	5	0	81	70	1.065
B3507-3	456	371	112	3	12	30	55	0	0	85	55	1.071
B3507-5	431	337	101	6	12	30	52	0	0	82	52	1.067
B22NYS32-1	352	292	88	7	8	12	73	0	0	85	73	1.069
BD22HDJ242-1	200	44	13	45	32	20	3	0	0	23	3	1.062
BD22HDJ248-1	161	67	20	35	18	16	32	0	0	48	32	1.061
BD22HDJ277-1	448	264	79	9	10	10	70	0	0	80	70	1.063
BD22HDJ277-2	215	121	37	21	16	32	31	0	0	63	31	1.058
BD22HDJ277-3	299	213	64	11	7	26	56	0	0	81	56	1.057
BD22HDJ420-2	217	47	14	40	29	11	20	0	0	31	20	1.060
BD1582-5	66	13	4	59	21	20	0	0	0	20	0	1.072
BD1584-2	30	16	5	35	12	17	37	0	0	54	37	1.067
BD1584-5	163	28	8	70	11	14	5	0	0	18	5	1.061
BD1585-1	158	28	8	59	21	15	5	0	0	20	5	1.073
BD1586-1	56	0	0	94	6	0	0	0	0	0	0	.
Red LaSoda	375	332	100	3	5	17	72	3	0	93	75	1.062

[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 5. Plant growth and tuber characteristics for the 2024 USDA 2nd Year Chip 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
B22AF8275-1	100	6	9	7	2	6	8	2	8	7	1
B22AF8278-2	100	7	9	9	1	6	8	2	8	4	1
B22AF8283-4	88	8	9	8	1	6	7	2	8	7	1
B22AF8290-1	100	7	9	6	1	6	8	2	8	7	1
B22AF8300-4	88	8	9	7	3	6	7	2	8	6	1
B22AF8308-1	100	5	9	9	1	6	7	3	8	6	2
B22AF8308-3	88	9	9	6	1	6	8	2	9	8	1
B22AF8335-1	75	9	9	7	1	6	9	2	7	6	1
B22NC1887-1	88	4	9	8	1	6	8	2	8	7	1
B22NC2195-1	100	8	9	7	1	6	8	2	8	8	1
B22NC2391-1	88	9	6	6	1	6	9	2	8	7	1
B22NC2411-2	63	8	9	9	1	6	7	3	9	7	2
B22MSII040-2	100	7	9	7	1	6	8	2	8	7	1
B22MSII042-2	100	6	9	7	1	6	8	2	8	7	1
B22MSII135-1	100	8	9	8	1	6	8	2	7	7	2
B22W001-1	100	9	9	7	1	6	7	2	9	8	1
B22W002-1	100	8	9	8	1	6	8	2	7	7	1
B22W004-3	100	6	9	7	1	9	8	2	9	8	2
B22W006-3	88	6	9	8	1	6	7	2	9	7	1
B3492-2	100	8	9	7	1	9	7	2	8	7	1
B3493-1	100	7	9	6	1	9	8	2	8	7	2
B3494-1	100	8	9	8	1	6	9	2	8	7	2
B3494-3	88	7	9	8	1	6	7	2	7	8	1
B3497-3	88	6	9	7	1	6	9	2	9	8	2
B3498-1	100	8	9	7	4	6	9	2	9	8	3
B3499-1	100	6	9	8	1	6	9	2	7	8	3
B3501-2	63	7	9	8	2	6	9	3	8	8	1
B3501-4	100	8	9	8	1	6	9	2	8	7	2
B3501-6	100	8	9	8	1	6	8	2	7	8	2
B3503-3	88	7	9	8	4	9	9	2	9	9	1

Table 5 (cont'd). Plant growth and tuber characteristics for the 2024 USDA 2nd Year Chip 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
B3503-4	88	7	9	8	2	6	8	2	8	7	1
B3505-1	100	7	9	8	1	9	7	3	8	8	2
B3509-2	100	8	9	7	1	9	9	2	9	8	2
B3510-2	88	9	9	6	3	6	8	3	9	8	2
B3514-4	88	8	9	8	2	6	8	3	8	7	1
B3515-2	100	8	9	5	1	9	9	2	9	8	2
B3515-3	100	6	9	8	2	6	7	2	6	6	2
B22NYU18-2	50	4	9	9	1	6	8	2	8	8	2
B22NYU34-2	63	4	9	9	1	9	9	2	7	8	2
B22NYU37-2	75	6	9	7	2	9	9	2	7	7	1
B22NYU48-2	100	6	9	8	2	9	9	2	8	7	1
B22NYT11-1	100	6	9	8	1	6	7	2	7	7	1
B22NYT13-3	88	4	9	8	1	9	9	2	8	8	1
B22NYS13-1	88	6	9	7	2	9	8	2	8	8	1
B22NYS15-1	38	3	9	9	1	9	8	2	8	7	1
B22NYS16-1	75	6	9	8	1	9	9	1	7	8	2
B22NYS33-1	100	6	9	8	1	9	9	2	8	8	2
B22NYS36-1	100	6	9	8	.	.	.	.	.	.	2
B22NYQ29-3	63	4	9	9	2	9	9	3	8	8	2
BD22HDJ267-1	88	7	9	7	1	9	9	2	7	5	2
Atlantic	96	6	9	9	1	6	7	2	8	7	-

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 8 for 5.33 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 6. Plant growth and tuber characteristics for the 2024 USDA 2nd Year Fresh Market 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
B22AF8347-5	88	9	9	5	1	2	8	2	7	7	3
B22AF8358-1	100	8	9	7	1	2	7	2	7	4	3
B22AF8358-3	100	8	9	5	1	2	8	3	8	7	3
B22AF8360-1	100	9	9	7	1	2	7	3	8	8	2
B22AF8360-3	88	9	9	8	1	2	8	2	8	8	1
B22AF8364-2	75	8	9	4	1	2	8	3	8	7	3
B22AF8367-2	100	7	9	8	1	2	9	2	7	7	2
B22AF8370-1	100	7	9	6	1	2	9	2	9	8	2
B22AF8370-2	100	9	9	5	1	2	7	2	8	8	3
B22AF8370-5	100	9	9	4	1	2	8	3	9	8	3
B22AF8403-1	100	9	9	6	1	2	8	2	8	7	3
B22AF8406-1	38	4	9	9	.	.	.	.	.	.	4
B22AF8408-4	100	9	9	7	1	2	8	2	8	7	4
B22AF8409-5	100	6	9	7	1	2	8	3	7	8	1
B22AF8412-2	100	9	9	3	5	2	7	2	8	8	2
B22AF8420-3	100	9	9	8	1	2	8	3	9	7	3
B22AF8420-4	100	8	9	4	1	2	9	3	8	8	3
B22AF8427-2	100	9	9	8	1	2	8	2	8	8	1
B22NC1745-4	75	9	9	8	9	1	8	2	6	8	3
B22NC1880-3	88	7	9	7	6	2	7	3	7	8	3
B22NC1964-5	100	5	9	7	.	.	.	.	.	.	3
B22NC1993-1	100	9	9	7	1	2	8	2	8	5	3
B22NC2013-3	100	9	9	8	3	9	8	3	8	8	3
B22NC2039-1	100	9	9	8	9	1	8	2	6	7	1
B22NC2115-6	100	8	9	5	1	2	8	3	8	7	2
B22NC2696-2	100	9	9	8	4	1	7	2	7	8	2
B22NC2696-4	100	9	9	7	4	1	9	2	7	7	2
B22NC2696-5	100	9	9	4	3	2	9	2	8	7	2
B22NC2728-2	100	9	9	7	1	6	8	2	8	6	2
B22MSHH041-1	63	9	9	8	1	6	8	2	7	7	3

Table 6 (cont'd). Plant growth and tuber characteristics for the 2024 USDA 2nd Year Fresh Market 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
B3487-2	100	9	9	9	1	1	7	2	7	7	1
B3496-6	100	9	9	7	1	2	8	3	8	6	2
B3502-1	100	9	9	8	1	7	7	2	7	7	1
B3504-6	100	9	9	8	1	6	8	2	7	8	1
B3504-7	100	9	9	8	1	9	7	2	8	7	1
B3507-3	100	9	9	7	1	9	7	2	9	8	1
B3507-5	100	9	9	6	1	9	9	2	8	7	1
B22NYS32-1	100	8	9	8	1	8	8	2	8	8	1
BD22HDJ242-1	100	9	6	3	2	9	8	2	8	4	3
BD22HDJ248-1	100	7	9	7	1	2	8	2	8	7	3
BD22HDJ277-1	88	8	9	8	1	9	7	2	8	7	3
BD22HDJ277-2	100	9	6	7	2	9	8	2	8	7	3
BD22HDJ277-3	100	9	9	6	3	9	8	2	8	7	3
BD22HDJ420-2	100	8	9	7	1	2	9	2	8	6	4
BD1582-5	100	9	9	8	5	9	9	6	9	7	3
BD1584-2	88	9	9	2	5	6	8	0	8	7	3
BD1584-5	100	9	9	7	5	6	8	3	8	7	3
BD1585-1	100	9	9	8	5	6	8	2	6	7	3
BD1586-1	100	9	9	8	.	.	.	.	.	.	3
Red LaSoda	100	8	9	6	1	2	8	2	8	8	-

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 8 for 5.33 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 7. External and internal defects for the 2024 USDA 2nd Year Chip Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
B22AF8275-1	0	0	0	0	0	0	0	0	0
B22AF8278-2	0	0	0	0	0	0	0	0	0
B22AF8283-4	3	0	0	2	4	0	0	0	0
B22AF8290-1	0	0	0	0	0	0	0	0	0
B22AF8300-4	0	0	0	3	3	0	0	0	0
B22AF8308-1	0	0	0	2	2	0	0	0	0
B22AF8308-3	3	0	0	2	5	0	0	0	0
B22AF8335-1	0	0	0	0	0	0	0	0	0
B22NC1887-1	0	0	0	0	0	0	0	0	0
B22NC2195-1	0	0	5	0	5	0	0	0	0
B22NC2391-1	2	0	0	0	2	0	0	0	0
B22NC2411-2	4	0	0	0	4	10	0	0	0
B22MSII040-2	0	0	0	4	4	0	0	0	0
B22MSII042-2	0	4	0	0	4	0	0	0	0
B22MSII135-1	4	0	6	3	12	0	0	0	0
B22W001-1	0	2	0	0	2	0	0	0	0
B22W002-1	0	0	0	0	0	0	0	0	0
B22W004-3	4	9	0	0	13	0	0	0	0
B22W006-3	0	0	0	0	0	0	0	0	0
B3492-2	0	0	0	7	7	0	0	0	0
B3493-1	0	0	0	4	4	0	0	0	0
B3494-1	4	0	0	6	10	0	0	0	0
B3494-3	3	0	0	2	5	0	0	0	0
B3497-3	0	0	4	0	4	0	0	0	0
B3498-1	0	4	0	11	15	0	0	0	0
B3499-1	3	0	10	3	16	0	0	0	20
B3501-2	0	0	0	0	0	0	0	0	0
B3501-4	0	2	4	4	11	0	0	0	0
B3501-6	2	0	4	6	12	0	0	0	0
B3503-3	0	0	0	4	4	0	0	0	0

Table 7 (cont'd). External and internal defects for the 2024 USDA 2nd Year Chip Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
B3503-4	0	3	0	5	8	0	0	0	0
B3505-1	0	0	0	0	0	10	0	0	0
B3509-2	0	0	10	0	10	0	0	0	0
B3510-2	0	0	9	0	9	0	0	0	0
B3514-4	0	3	0	4	7	0	0	0	0
B3515-2	4	0	0	3	8	0	0	0	0
B3515-3	0	0	16	2	18	0	0	0	0
B22NYU18-2	0	0	0	7	7	0	0	0	0
B22NYU34-2	0	0	0	0	0	0	0	0	0
B22NYU37-2	0	0	0	0	0	0	0	0	0
B22NYU48-2	0	0	0	0	0	0	0	0	0
B22NYT11-1	3	0	0	0	3	0	0	0	0
B22NYT13-3	0	0	0	6	6	0	0	0	0
B22NYS13-1	0	0	0	3	3	0	0	0	0
B22NYS15-1	0	0	0	4	4	0	0	0	0
B22NYS16-1	0	0	0	4	4	0	0	0	0
B22NYS33-1	0	0	0	0	0	0	0	0	0
B22NYS36-1	0	0	0	3	3	10	0	0	0
B22NYQ29-3	0	0	0	3	3	0	0	0	0
BD22HDJ267-1	0	7	0	10	17	0	0	0	0
Atlantic	0	0	2	0	2	40	0	0	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Table 8. External and internal defects for the 2024 USDA 2nd Year Fresh Market Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
B22AF8347-5	7	4	0	4	15	0	0	0	0
B22AF8358-1	0	0	0	5	5	0	0	0	0
B22AF8358-3	0	5	0	5	10	0	0	0	0
B22AF8360-1	0	0	0	7	7	0	0	0	0
B22AF8360-3	0	0	0	7	7	0	0	0	0
B22AF8364-2	0	0	0	6	6	0	0	0	0
B22AF8367-2	0	0	0	2	2	0	0	0	0
B22AF8370-1	0	0	0	3	3	0	0	0	0
B22AF8370-2	0	0	2	6	8	0	0	0	0
B22AF8370-5	0	0	0	7	7	0	0	0	0
B22AF8403-1	0	0	0	10	10	0	0	0	0
B22AF8406-1	0	0	0	31	31	.	.	.	.
B22AF8408-4	0	0	27	9	36	0	0	0	0
B22AF8409-5	0	0	0	2	2	0	0	0	0
B22AF8412-2	0	0	0	0	0	0	0	0	0
B22AF8420-3	0	0	0	9	9	0	0	0	0
B22AF8420-4	0	0	0	0	0	0	0	0	0
B22AF8427-2	2	0	0	6	9	0	0	0	0
B22NC1745-4	0	0	0	4	4	0	0	0	0
B22NC1880-3	0	0	7	0	7	0	0	0	0
B22NC1964-5	0	0	0	0	0	.	.	.	.
B22NC1993-1	0	0	2	3	5	0	0	0	0
B22NC2013-3	0	0	0	0	0	0	0	0	0
B22NC2039-1	0	0	0	6	6	0	0	0	0
B22NC2115-6	0	0	0	4	4	0	0	0	0
B22NC2696-2	3	4	0	5	12	0	0	0	0
B22NC2696-4	0	0	0	15	15	0	0	0	0
B22NC2696-5	0	0	0	3	3	0	0	0	0
B22NC2728-2	0	0	2	8	11	0	0	0	0
B22MSHH041-1	0	0	0	0	0	0	0	0	0

Table 8 (cont'd). External and internal defects for the 2024 USDA 2nd Year Fresh Market Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
B3487-2	0	0	0	0	0	0	0	0	0
B3496-6	0	3	0	8	12	0	0	0	0
B3502-1	1	0	1	2	4	0	0	0	0
B3504-6	0	0	0	9	9	0	0	0	0
B3504-7	0	0	0	5	5	0	0	0	0
B3507-3	1	0	0	3	4	0	0	0	0
B3507-5	2	0	0	2	4	0	0	0	0
B22NYS32-1	0	0	0	2	2	0	0	0	0
BD22HDJ242-1	0	0	0	3	3	0	0	0	0
BD22HDJ248-1	0	6	0	5	12	0	0	0	0
BD22HDJ277-1	0	0	0	27	27	0	0	0	0
BD22HDJ277-2	0	0	0	10	10	0	0	0	0
BD22HDJ277-3	0	0	0	12	12	0	0	0	0
BD22HDJ420-2	0	0	0	31	31	0	0	0	0
BD1582-5	0	0	0	0	0	0	0	0	0
BD1584-2	0	0	0	0	0	0	0	0	0
BD1584-5	0	0	0	5	5	0	0	0	0
BD1585-1	0	0	0	11	11	0	0	0	0
BD1586-1	0	0	0	0	0	.	.	.	.
Red LaSoda	0	0	1	3	4	0	0	10	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Chapter 3. USDA 3rd Year Potato Variety Trials

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 2023. The entries were split by market class into 2 trials: 1: chip, 2: fresh.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	1: February 8, 2024, 2: February 21, 2024
Vine Kill Date	1: N/A, 2: May 15, 2024
Harvest Date	1: May 21, 2024, 2: May 28, 2024
Season Length	1: 103 days planting to harvest, 2: 84 days planting to vine kill
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	Seepage

Experimental Design

Number of Varieties	1: 3 (Standard: Atlantic), 2: 3 (Standard: Red LaSoda)
Number of Clones	1: 31, 2: 5
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.0 m)
Replications	1
Plot Size	16 ft (4.9 m)

Production Statistics

Early Vigor Ratings	1: 41 DAP, 2: 40 DAP
Highest Total Yield	1: B21NC1201-3 (373 cwt/A or 41.8 T/ha), 2: B21AF7321-4 (483 cwt/A or 54.1 T/ha)
Highest Marketable Yield	1: B3506-5 (208 cwt/A or 23.3 T/ha), 2: Red LaSoda (332 cwt/A or 37.2 T/ha)
Best Appearance Rating	1: B3503-3, B3514-1 (8, very good), 2: Peter Wilcox (9, excellent)

Table 9. Production statistics for the 2024 USDA 3rd Year Chip 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–103 days												
Atlantic	210	143	100	16	15	15	52	3	0	69	54	1.086
Harley Blackwell (B0564-8)	204	124	87	16	16	22	46	0	0	68	46	1.079
Snowden	251	197	138	4	11	24	58	3	0	85	61	1.083
B3502-2	258	123	86	22	18	20	40	0	0	60	40	1.079
B3503-3	150	118	83	10	12	19	60	0	0	78	60	1.076
B3503-6	152	38	26	41	33	21	5	0	0	26	5	1.085
B3506-5	314	208	146	11	18	33	37	0	0	70	37	1.085
B3508-2	157	62	44	45	14	22	19	0	0	41	19	1.084
B3511-3	102	49	34	29	18	8	44	0	0	53	44	1.090
B3514-1	162	103	72	14	17	24	45	0	0	69	45	1.073
B3516-3	185	109	77	17	19	36	28	0	0	63	28	1.071
B3519-7	153	81	57	26	18	42	15	0	0	57	15	1.077
B3521-1	128	42	30	39	25	20	17	0	0	37	17	1.075
B3527-7	180	42	29	50	25	18	7	0	0	25	7	1.076
B3529-2	160	45	32	50	18	20	11	0	0	32	11	1.073
B3535-1	85	28	19	44	21	29	7	0	0	36	7	1.074
B3535-2	144	50	35	43	20	21	15	0	0	36	15	1.078
B3535-6	204	104	73	24	16	23	37	0	0	61	37	1.080
B3535-9	226	136	96	15	13	11	58	3	0	71	61	1.073
B3537-2	274	191	134	13	11	16	60	0	0	76	60	1.084
B3538-3	123	47	33	34	28	21	17	0	0	38	17	1.088
B3539-4	182	54	38	44	24	11	21	0	0	32	21	1.077
B21NC1193-1	244	91	64	30	23	15	32	0	0	47	32	1.091
B21NC1196-1	164	111	78	10	15	18	58	0	0	75	58	1.088
B21NC1197-3	210	107	75	28	18	17	38	0	0	55	38	1.079
B21NC1198-3	245	179	126	11	14	25	50	0	0	75	50	1.076
B21NC1199-1	148	36	26	58	16	13	13	0	0	26	13	1.075
B21NC1199-2	201	75	53	36	25	19	19	0	0	39	19	1.077
B21NC1200-2	295	159	111	24	19	19	37	0	0	57	37	1.075
B21NC1201-2	352	194	136	24	18	17	39	2	0	58	41	1.085

Table 9 (cont'd). Production statistics for the 2024 USDA 3rd Year Chip 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
B21NC1201-3	373	202	142	21	21	31	27	0	0	58	27	1.090
B21NC1202-6	198	105	74	16	25	23	36	0	0	59	36	1.078
B21NC1203-3	219	133	93	12	13	18	56	0	0	74	56	1.080
B21NC1209-1	342	186	130	15	20	20	45	0	0	65	45	1.083

[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 10. Production statistics for the 2024 USDA 3rd Year Fresh Market 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–84 days												
Peter Wilcox (B1816-5)	401	322	97	9	9	34	47	0	0	81	47	1.067
Red LaSoda	375	332	100	3	5	17	72	3	0	93	75	1.062
Soraya	300	252	76	7	7	22	65	0	0	86	65	1.060
B21NC1211-1	348	225	68	16	16	30	37	0	0	67	37	1.055
B21NC1213-3	353	214	64	15	22	28	35	0	0	63	35	1.071
B21NC1214-1	228	128	39	22	22	46	10	0	0	56	10	1.066
B21AF7280-3	233	113	34	25	27	30	18	0	0	48	18	1.065
B21AF7321-4	483	267	80	20	24	32	23	0	0	56	23	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 11. Plant growth and tuber characteristics for the 2024 USDA 3rd Year Chip 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	96	6	9	9	1	6	7	2	8	7	-
Harley Blackwell (B0564-8)	100	8	9	8	1	6	8	2	7	6	2
Snowden	96	7	9	8	1	6	7	2	8	7	3
B3502-2	96	8	9	8	2	6	8	3	8	6	3
B3503-3	83	6	9	9	1	6	8	3	8	8	3
B3503-6	96	6	9	8	1	6	8	3	9	7	3
B3506-5	92	7	9	8	1	6	8	2	7	7	1
B3508-2	92	9	9	6	1	6	8	2	9	7	3
B3511-3	88	6	9	8	1	6	7	3	9	7	3
B3514-1	96	6	9	7	2	9	9	2	7	8	3
B3516-3	83	7	9	8	1	9	9	3	8	7	2
B3519-7	100	9	9	6	1	6	9	3	7	7	3
B3521-1	100	7	9	4	1	6	8	2	8	7	3
B3527-7	79	7	9	8	1	6	8	3	7	6	3
B3529-2	96	7	9	7	1	6	9	3	9	7	3
B3535-1	100	7	9	7	1	6	9	3	8	7	3
B3535-2	100	8	9	6	1	6	8	2	8	7	3
B3535-6	96	8	9	7	1	6	9	2	8	7	3
B3535-9	96	8	9	8	1	6	7	3	9	6	3
B3537-2	92	7	9	8	1	6	7	3	9	7	2
B3538-3	100	6	9	7	1	9	8	2	8	7	3
B3539-4	96	8	9	7	2	6	9	3	9	7	3
B21NC1193-1	83	9	9	9	2	6	8	2	8	6	4
B21NC1196-1	92	7	9	7	1	6	9	2	8	7	3
B21NC1197-3	88	8	9	7	1	6	8	2	9	7	3
B21NC1198-3	88	7	9	8	1	6	7	2	7	6	2
B21NC1199-1	96	7	9	5	1	6	7	2	7	7	3
B21NC1199-2	100	9	9	7	1	6	7	2	6	4	3
B21NC1200-2	88	8	9	8	1	6	8	3	8	7	1
B21NC1201-2	100	9	6	7	1	6	8	2	7	5	3

Table 11 (cont'd). Plant growth and tuber characteristics for the 2024 USDA 3rd Year Chip 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
B21NC1201-3	96	9	9	7	1	6	8	2	9	7	2
B21NC1202-6	88	5	9	9	1	6	8	2	8	6	2
B21NC1203-3	100	7	9	8	1	6	8	2	7	7	3
B21NC1209-1	88	6	9	8	1	6	8	2	9	6	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 12. Plant growth and tuber characteristics for the 2024 USDA 3rd Year Fresh Market 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
Peter Wilcox (B1816-5)	100	9	6	7	3	1	8	2	8	9	1
Red LaSoda	100	8	9	6	1	2	8	2	8	8	-
Soraya	96	9	9	8	4	6	8	3	9	8	2
B21NC1211-1	100	9	9	7	1	2	8	2	8	8	2
B21NC1213-3	88	9	9	7	1	2	7	2	8	8	2
B21NC1214-1	100	8	9	6	1	1	8	3	8	7	3
B21AF7280-3	96	9	6	6	3	9	7	3	8	8	3
B21AF7321-4	100	9	6	6	1	9	8	2	9	7	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 13. External and internal defects for the 2024 USDA 3rd Year Chip Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Atlantic	0	0	2	0	2	40	0	0	0
Harley Blackwell (B0564-8)	2	0	0	9	11	0	0	0	0
Snowden	2	0	4	2	7	0	0	10	0
B3502-2	0	0	11	10	21	20	0	0	0
B3503-3	0	0	0	0	0	10	0	0	0
B3503-6	0	0	0	3	3	0	0	0	0
B3506-5	0	0	0	6	6	0	0	0	0
B3508-2	0	0	0	4	4	0	0	0	0
B3511-3	3	0	0	7	10	0	0	0	0
B3514-1	2	0	0	6	8	10	0	0	10
B3516-3	0	0	3	4	7	0	0	0	0
B3519-7	0	0	3	4	7	0	0	0	10
B3521-1	0	0	0	11	11	0	0	0	10
B3527-7	0	0	0	6	6	10	0	0	0
B3529-2	0	0	0	10	10	0	0	0	0
B3535-1	0	0	0	8	8	0	0	0	0
B3535-2	0	0	0	4	4	0	0	0	10
B3535-6	4	0	9	2	16	10	0	0	0
B3535-9	2	0	6	8	15	0	0	0	10
B3537-2	1	2	1	4	9	0	0	0	10
B3538-3	0	0	0	0	0	0	0	0	0
B3539-4	0	0	5	3	7	0	0	0	0
B21NC1193-1	15	1	0	4	21	10	0	0	20
B21NC1196-1	2	0	3	4	10	50	0	0	0
B21NC1197-3	0	0	2	5	6	10	0	0	0
B21NC1198-3	1	0	0	1	2	10	0	0	0
B21NC1199-1	0	3	0	3	6	0	0	0	0
B21NC1199-2	0	0	1	2	4	0	0	0	0
B21NC1200-2	0	0	0	5	5	0	0	0	0
B21NC1201-2	0	1	0	4	5	0	0	0	30

Table 13 (cont'd). External and internal defects for the 2024 USDA 3rd Year Chip Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
B21NC1201-3	1	4	0	1	6	10	0	0	0
B21NC1202-6	1	0	2	6	10	0	0	0	0
B21NC1203-3	1	0	4	13	18	0	0	0	10
B21NC1209-1	0	0	0	17	17	0	0	0	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Table 14. External and internal defects for the 2024 USDA 3rd Year Fresh Market Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Peter Wilcox (B1816-5)	0	0	0	1	1	0	0	0	0
Red LaSoda	0	0	1	3	4	0	0	10	0
Soraya	0	0	0	3	3	0	0	0	0
B21NC1211-1	0	0	0	4	4	0	0	0	0
B21NC1213-3	0	0	0	4	4	0	0	0	0
B21NC1214-1	0	0	0	0	0	0	0	0	0
B21AF7280-3	0	0	0	0	0	0	0	0	0
B21AF7321-4	0	0	0	1	1	0	0	0	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Chapter 4. University of Maine Early Generation Red and Specialty Potato Variety Trials

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. The entries were split by market class into 3 trials: 1: chip, 2: fresh, 3: russet.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	1: February 8, 2024, 2: February 21, 2024, 3: February 21, 2024
Vine Kill Date	1: N/A, 2: May 15, 2024, 3: N/A
Harvest Date	1: May 21, 2024, 2: May 28, 2024, 3: June 5, 2024
Season Length	1: 103 days planting to harvest, 2: 84 days planting to vine kill, 3: 105 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	Seepage

Experimental Design

Number of Varieties	1: 1 (Standard: Atlantic), 2: 1 (Standard: Red LaSoda), 3: 1 (Standard: Goldrush)
Number of Clones	1: 3, 2: 54, 3: 1
Within Row Spacing	1, 2: 8 in (20.3 cm), 3: 10 in (25.4 cm)
Between Row Spacing	40 in (1.0 m)
Replications	1
Plot Size	1, 2: 5 ft 4 in (1.6 m), 3: 6 ft 8 in (2.0 m)

Production Statistics

Early Vigor Ratings	1: 41 DAP, 2: 40 DAP, 3: 40 DAP
Highest Total Yield	1: Atlantic (210 cwt/A or 23.5 T/ha), 2: AF7530-7 (588 cwt/A or 65.9 T/ha), 3: Goldrush (561 cwt/A or 62.9 T/ha)
Highest Marketable Yield	1: Atlantic (143 cwt/A or 16.0 T/ha), 2: AAF20736-1 (412 cwt/A or 46.2 T/ha), 3: Goldrush (434 cwt/A or 48.7 T/ha)
Best Appearance Rating	1: Atlantic (7, good), 2: AF7553-3, AF7565-1, AF7575-1, COAF20359-2, AF7542-2 (9, excellent), 3: -

Table 15. Production statistics for the 2024 University of Maine Early Generation Red and Specialty Chip 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–103 days												
AF7474-12	116	75	52	18	18	0	0	0	0	0	0	1.087
AF7516-7	135	60	42	27	28	0	0	0	0	0	0	1.066
AF7520-10	149	74	52	19	27	0	0	0	9	0	0	1.091
Atlantic	210	143	100	16	15	15	52	3	0	69	54	1.086

[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. Production statistics for the 2024 University of Maine Early Generation Red and Specialty Fresh Market 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–84 days												
AF7528-5	198	61	18	27	37	32	4	0	0	36	4	1.060
AF7528-6	464	251	76	17	26	34	24	0	0	57	24	1.060
AF7530-6	374	92	28	52	23	20	5	0	0	25	5	1.062
AF7530-7	588	335	101	24	16	39	21	0	0	60	21	1.063
AF7531-2	226	157	47	10	20	28	41	0	0	69	41	1.061
AF7534-4	211	66	20	43	23	17	17	0	0	33	17	1.061
AF7534-5	426	262	79	8	22	36	34	0	0	70	34	1.058
AF7535-1	146	80	24	29	14	43	14	0	0	57	14	1.066
AF7535-2	281	145	44	13	22	19	46	0	0	65	46	1.068
AF7537-1	215	123	37	23	16	37	25	0	0	62	25	1.059
AF7537-2	353	205	62	15	23	46	15	0	0	61	15	1.057
AF7537-3	389	239	72	13	16	40	32	0	0	72	32	1.059
AF7537-4	405	223	67	11	29	41	19	0	0	60	19	1.056
AF7544-2	550	306	92	13	31	32	25	0	0	57	25	1.058
AF7544-3	466	234	70	20	29	41	10	0	0	51	10	1.064
AF7544-6	406	191	58	25	22	32	22	0	0	53	22	1.060
AF7545-4	412	168	51	22	36	34	8	0	0	42	8	1.066
AF7545-6	353	124	37	26	37	16	20	0	0	36	20	1.056
AF7545-9	452	325	98	12	17	54	18	0	0	72	18	1.059
AF7546-2	253	121	37	25	23	48	4	0	0	52	4	1.061
AF7548-2	280	163	49	11	30	39	19	0	0	58	19	1.067
AF7551-1	400	188	56	19	28	49	5	0	0	54	5	1.058
AF7551-5	320	174	52	15	30	31	23	0	0	54	23	1.064
AF7551-8	326	92	28	31	39	25	5	0	0	30	5	1.073
AF7552-4	161	4	1	56	42	2	0	0	0	2	0	.
AF7553-3	451	354	107	3	14	28	55	0	0	83	55	1.064
AF7555-1	239	140	42	13	24	20	42	0	0	62	42	1.065
AF7560-2	334	210	63	8	29	35	28	0	0	63	28	1.055
AF7560-5	458	283	85	9	23	44	24	0	0	68	24	1.067
AF7561-3	221	58	17	30	41	16	12	0	0	28	12	1.068

Table 16 (cont'd). Production statistics for the 2024 University of Maine Early Generation Red and Specialty Fresh Market 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
AF7564-5	288	43	13	55	30	16	0	0	0	16	0	1.064
AF7564-7	312	143	43	19	27	34	20	0	0	54	20	1.066
AF7565-1	294	174	52	8	24	51	17	0	0	68	17	1.069
AF7565-3	160	116	35	14	0	40	46	0	0	86	46	1.066
AF7566-1	237	162	49	16	5	18	61	0	0	79	61	1.067
AF7566-3	354	238	72	8	13	43	36	0	0	79	36	1.072
AF7573-5	272	101	30	32	27	30	10	0	0	41	10	1.065
AF7574-3	318	115	35	36	23	37	4	0	0	41	4	1.079
AF7575-1	475	349	105	12	12	19	57	0	0	77	57	1.061
AF7575-3	508	280	84	14	21	32	33	0	0	65	33	1.050
AF7576-1	377	273	82	10	12	24	54	0	0	78	54	1.062
AF7576-3	459	262	79	16	17	34	32	0	0	66	32	1.068
COAF20311-4	211	105	32	17	29	35	19	0	0	53	19	1.050
COAF20359-2	279	129	39	29	25	28	18	0	0	46	18	1.061
NDAF20105-4	238	103	31	26	28	24	22	0	0	45	22	1.066
NDAF20137-5	257	207	62	3	16	30	51	0	0	81	51	1.067
AF7567-1	337	259	78	4	8	33	54	0	0	87	54	1.052
AF7569-1	275	181	55	18	11	40	31	0	0	71	31	1.065
AF7530-4	119	51	15	34	12	27	27	0	0	54	27	1.044
AF7542-2	392	192	58	25	26	23	26	0	0	49	26	1.057
AF7542-4	397	137	41	31	34	21	14	0	0	35	14	1.061
NDAF20105-3	144	55	17	27	32	20	21	0	0	40	21	1.042
AF7571-1	326	174	52	20	25	49	6	0	0	55	6	1.061
AAF20736-1	528	412	124	8	11	48	33	0	0	81	33	1.058
Red LaSoda	375	332	100	3	5	17	72	3	0	93	75	1.062

[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 17. Production statistics for the 2024 University of Maine Early Generation Red and Specialty Russet 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–105 days												
Goldrush	561	434	100	5	18	39	38	0	0	77	38	1.071
AAF18165-1	504	380	88	9	16	38	37	0	0	75	37	1.063

[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 18. Plant growth and tuber characteristics for the 2024 University of Maine Early Generation Red and Specialty Chip 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
AF7474-12	88	5	9	8							3
AF7516-7	100	7	9	8							3
AF7520-10	75	6	9	8							3
Atlantic	96	6	9	9	1	6	7	2	8	7	-

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 8 for 5.33 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 19. Plant growth and tuber characteristics for the 2024 University of Maine Early Generation Red and Specialty Fresh Market 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
AF7528-5	100	8	9	4	1	2	8	2	9	5	3
AF7528-6	100	9	9	6	1	2	8	2	8	6	2
AF7530-6	100	9	9	4	1	2	8	3	8	7	3
AF7530-7	100	9	9	6	1	2	8	3	8	8	1
AF7531-2	100	8	9	5	1	2	8	2	8	6	3
AF7534-4	100	9	9	2	1	2	8	2	9	7	3
AF7534-5	100	8	9	5	1	2	8	2	9	8	2
AF7535-1	100	7	9	4	1	2	8	2	9	7	3
AF7535-2	100	7	9	8	1	2	8	2	8	7	4
AF7537-1	75	7	9	5	1	2	8	3	9	5	3
AF7537-2	100	8	9	6	1	2	8	3	9	6	2
AF7537-3	100	9	9	4	1	2	9	2	8	6	2
AF7537-4	100	9	9	5	1	2	8	3	8	5	2
AF7544-2	100	9	9	5	1	2	9	2	8	8	1
AF7544-3	100	9	9	8	1	2	8	3	8	8	2
AF7544-6	100	9	9	6	1	2	8	2	9	8	3
AF7545-4	100	9	9	3	1	2	8	2	9	8	3
AF7545-6	100	8	9	5	1	2	8	2	9	6	3
AF7545-9	100	9	9	6	1	2	8	3	9	8	1
AF7546-2	100	8	9	4	1	2	8	3	8	7	3
AF7548-2	100	9	9	5	1	3	8	3	8	6	3
AF7551-1	100	8	9	7	1	2	9	3	9	7	3
AF7551-5	100	7	9	8	1	2	8	2	7	7	3
AF7551-8	100	9	9	6	1	2	8	3	8	6	3
AF7552-4	100	6	9	5	1	2	8	2	8	7	3
AF7553-3	100	9	9	3	1	2	9	2	9	9	1
AF7555-1	100	8	9	3	1	2	8	2	8	8	3
AF7560-2	100	9	9	7	1	2	8	3	9	7	2
AF7560-5	100	8	9	5	1	2	9	2	8	8	2
AF7561-3	100	9	9	3	1	2	9	2	8	8	3

Table 19 (cont'd). Plant growth and tuber characteristics for the 2024 University of Maine Early Generation Red and Specialty Fresh Market 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
AF7564-5	100	8	9	4	1	3	8	3	9	7	3
AF7564-7	100	8	9	6	1	2	8	3	9	7	3
AF7565-1	100	8	9	7	1	2	9	2	8	9	3
AF7565-3	100	7	9	8	1	2	8	3	8	8	3
AF7566-1	88	8	9	7	1	2	8	2	8	7	4
AF7566-3	100	9	9	7	1	2	8	2	7	7	2
AF7573-5	100	8	9	6	1	2	9	3	8	8	3
AF7574-3	88	8	9	8	1	2	9	2	9	8	3
AF7575-1	88	9	9	8	1	2	9	3	8	9	1
AF7575-3	100	8	9	7	1	2	8	2	8	7	2
AF7576-1	100	9	9	8	1	2	8	2	8	7	2
AF7576-3	100	9	6	7	1	2	9	2	8	8	2
COAF20311-4	100	8	9	3	1	2	8	2	9	6	3
COAF20359-2	100	8	9	5	1	2	9	2	8	9	3
NDAF20105-4	100	7	9	8	1	2	8	3	9	8	3
NDAF20137-5	100	8	9	6	1	2	8	2	9	8	2
AF7567-1	100	9	6	6	1	2	8	3	8	7	2
AF7569-1	100	8	9	5	1	2	9	2	7	8	2
AF7530-4	100	5	9	9	1	1	8	3	8	7	4
AF7542-2	100	8	6	7	9	1	8	3	8	9	2
AF7542-4	100	8	6	6	9	1	8	2	8	8	3
NDAF20105-3	100	7	9	7	1	1	8	2	8	6	3
AF7571-1	100	8	9	6	9	1	8	4	8	8	3
AAF20736-1	100	9	9	8	2	6	7	4	8	7	1
Red LaSoda	100	8	9	6	1	2	8	2	8	8	-

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 8 for 5.33 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. Plant growth and tuber characteristics for the 2024 University of Maine Early Generation Red and Specialty Russet 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
Goldrush	88	6	9	8							-
AAF18165-1	100	8	9	8							1

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 8 for 6.67 ft plot, 10 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 21. External and internal defects for the 2024 University of Maine Early Generation Red and Specialty Chip Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF7474-12	0	0	0	0	0	0	0	0	0
AF7516-7	0	0	0	0	0	0	0	0	0
AF7520-10	0	0	0	8	8	0	0	0	0
Atlantic	2	0	0	0	2	40	0	0	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Table 22. External and internal defects for the 2024 University of Maine Early Generation Red and Specialty Fresh Market Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF7528-5	0	0	0	14	14	0	0	0	0
AF7528-6	0	0	0	5	5	0	0	0	0
AF7530-6	0	0	0	2	2	0	0	0	0
AF7530-7	0	0	0	5	5	0	0	0	0
AF7531-2	0	0	0	0	0	0	0	0	0
AF7534-4	0	0	0	6	6	0	0	0	0
AF7534-5	0	2	0	10	12	0	0	0	0
AF7535-1	0	0	0	4	4	0	0	0	0
AF7535-2	0	0	0	20	20	0	0	0	0
AF7537-1	0	0	0	8	8	0	0	0	0
AF7537-2	0	0	0	5	5	0	0	0	0
AF7537-3	0	0	0	14	14	0	0	0	0
AF7537-4	0	0	0	8	8	0	0	0	0
AF7544-2	1	0	0	0	1	0	0	0	0
AF7544-3	0	0	0	2	2	0	0	0	0
AF7544-6	0	0	0	12	12	0	0	0	0
AF7545-4	0	0	0	4	4	0	0	0	0
AF7545-6	0	0	0	4	4	0	0	0	0
AF7545-9	0	0	0	0	0	0	0	0	0
AF7546-2	0	0	0	9	9	0	0	0	0
AF7548-2	0	0	0	0	0	0	0	0	0
AF7551-1	0	0	0	13	13	0	0	0	0
AF7551-5	0	0	0	0	0	0	0	0	0
AF7551-8	0	0	0	7	7	0	0	0	0
AF7552-4	0	0	0	0	0	.	.	.	.
AF7553-3	0	0	0	5	5	0	0	0	0
AF7555-1	0	0	0	6	6	0	0	0	0
AF7560-2	0	0	0	0	0	0	0	0	0
AF7560-5	0	0	0	9	9	0	10	0	0
AF7561-3	0	0	0	8	8	0	0	0	0

Table 22 (cont'd). External and internal defects for the 2024 University of Maine Early Generation Red and Specialty Fresh Market Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF7564-5	0	0	0	4	4	0	0	0	0
AF7564-7	0	0	0	15	15	0	0	0	0
AF7565-1	0	0	0	13	13	0	0	0	0
AF7565-3	0	0	0	15	15	0	10	0	0
AF7566-1	8	0	0	6	14	0	0	10	0
AF7566-3	0	0	0	15	15	0	0	0	0
AF7573-5	0	0	0	9	9	0	0	0	0
AF7574-3	0	0	0	12	12	0	0	0	0
AF7575-1	0	0	0	4	4	0	0	0	0
AF7575-3	0	0	0	15	15	0	0	0	0
AF7576-1	0	0	0	7	7	0	0	0	0
AF7576-3	0	0	0	14	14	0	0	0	0
COAF20311-4	0	0	0	6	6	0	0	0	0
COAF20359-2	0	0	0	0	0	0	0	0	0
NDAF20105-4	0	0	0	5	5	0	0	0	0
NDAF20137-5	0	0	0	0	0	0	0	0	0
AF7567-1	0	0	0	12	12	0	0	0	0
AF7569-1	0	0	0	6	6	0	0	0	0
AF7530-4	0	0	20	0	20	0	0	0	0
AF7542-2	0	0	0	0	0	0	0	0	0
AF7542-4	0	0	0	0	0	0	0	0	0
NDAF20105-3	0	0	0	5	5	0	0	0	0
AF7571-1	0	0	0	3	3	0	0	0	0
AAF20736-1	0	0	3	0	3	0	0	0	0
Red LaSoda	0	0	1	3	4	0	0	10	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Table 23. External and internal defects for the 2024 University of Maine Early Generation Red and Specialty Russet Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Goldrush	0	0	0	0	0	0	0	0	0
AAF18165-1	0	0	0	0	0	0	0	0	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Chapter 5. University of Maine Early Generation Round White Potato Variety Trials

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. The entries were split by market class into 2 trials: 1: chip, 2: fresh.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	1: February 8, 2024, 2: February 14, 2024
Vine Kill Date	1: N/A, 2: May 15, 2024
Harvest Date	1: May 21, 2024, 2: May 24, 2024
Season Length	1: 103 days planting to harvest, 2: 91 days planting to vine kill
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	Seepage

Experimental Design

Number of Varieties	1: 1 (Standard: Atlantic), 2: 1 (Standard: Red LaSoda)
Number of Clones	1: 80, 2: 13
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.0 m)
Replications	1
Plot Size	5 ft 4 in (1.6 m)

Production Statistics

Early Vigor Ratings	1: 41 DAP, 2: 41 DAP
Highest Total Yield	1: AF7508-1 (541 cwt/A or 60.7 T/ha), 2: AF7491-6 (609 cwt/A or 68.3 T/ha)
Highest Marketable Yield	1: AF7508-1 (385 cwt/A or 43.2 T/ha), 2: AF7516-10 (435 cwt/A or 48.8 T/ha)
Best Appearance Rating	1: AF7498-7, AF7520-7 (9, excellent), 2: AF7504-3, AF7505-5, AF7519-2, Red LaSoda (8, very good)

Table 24. Production statistics for the 2024 University of Maine Early Generation Round White Chip 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–103 days												
AF7471-1	142	77	54	29	8	36	27	0	0	62	27	1.082
AF7472-3	258	126	89	19	23	32	26	0	0	58	26	1.086
AF7474-5	223	163	114	18	9	24	49	0	0	73	49	1.086
AF7476-1	191	71	50	27	31	23	18	0	0	41	18	1.091
AF7477-1	190	126	89	11	18	29	42	0	0	71	42	1.081
AF7477-5	204	85	59	21	36	18	26	0	0	43	26	1.087
AF7478-1	402	222	156	19	17	41	19	5	0	65	23	1.083
AF7478-6	122	77	54	9	15	19	57	0	0	76	57	1.082
AF7479-2	127	72	51	17	16	26	41	0	0	67	41	1.091
AF7484-2	137	81	57	27	8	40	25	0	0	65	25	1.088
AF7484-3	265	146	102	25	16	27	32	0	0	59	32	1.089
AF7485-1	200	76	53	40	20	25	15	0	0	40	15	1.083
AF7486-1	127	66	46	28	20	45	8	0	0	52	8	1.086
AF7486-2	315	143	101	33	19	20	28	0	0	48	28	1.080
AF7486-4	238	146	102	19	16	16	49	0	0	65	49	1.076
AF7486-6	336	223	157	14	16	17	53	0	0	70	53	1.081
AF7486-8	350	229	161	17	14	22	47	0	0	69	47	1.077
AF7488-3	269	146	102	15	28	36	21	0	0	57	21	1.081
AF7488-19	194	113	79	17	23	35	25	0	0	60	25	1.081
AF7489-7	181	140	98	7	14	66	13	0	0	79	13	1.090
AF7493-5	221	132	93	21	13	32	33	0	0	66	33	1.091
AF7494-5	214	116	82	19	15	27	38	0	0	65	38	1.083
AF7495-3	238	89	63	26	34	22	18	0	0	40	18	1.092
AF7497-3	228	92	65	31	20	35	14	0	0	49	14	1.094
AF7497-5	355	167	117	25	16	16	42	0	0	59	42	1.072
AF7498-7	295	240	169	7	6	11	69	7	0	87	76	1.079
AF7499-3	249	140	98	19	17	30	33	0	0	64	33	1.081
AF7499-8	462	322	226	19	8	41	32	0	0	73	32	1.086
AF7500-3	440	239	168	24	21	35	19	0	0	54	19	1.082
AF7500-13	374	288	202	11	12	47	30	0	0	77	30	1.082

Table 24 (cont'd). Production statistics for the 2024 University of Maine Early Generation Round White Chip 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
AF7501-9	312	262	184	6	8	31	55	0	0	86	55	1.097
AF7503-2	321	175	123	17	27	29	28	0	0	57	28	1.101
AF7503-5	341	239	168	11	17	27	44	0	0	71	44	1.094
AF7504-2	224	150	105	17	16	26	41	0	0	67	41	1.090
AF7506-2	432	205	144	19	32	27	21	0	0	49	21	1.088
AF7506-8	235	154	108	7	9	19	58	7	0	84	65	1.071
AF7507-4	418	227	159	20	16	23	40	0	0	64	40	1.089
AF7507-5	212	109	77	18	30	41	10	0	0	52	10	1.082
AF7507-6	348	230	162	11	19	33	36	0	0	70	36	1.080
AF7508-1	541	385	270	11	17	29	43	0	0	72	43	1.091
AF7508-2	333	271	190	5	8	18	68	0	0	87	68	.
AF7508-3	364	306	215	7	7	28	57	0	0	85	57	1.094
AF7511-3	371	259	181	10	16	29	45	0	0	74	45	1.081
AF7511-4	253	163	114	12	21	30	36	0	0	66	36	1.081
AF7512-4	299	186	131	12	25	26	37	0	0	64	37	1.093
AF7513-5	210	104	73	21	29	7	44	0	0	51	44	1.088
AF7515-1	297	188	132	13	19	20	42	6	0	68	48	1.086
AF7515-6	376	294	206	8	13	22	56	0	0	78	56	1.079
AF7516-1	226	184	129	8	11	12	70	0	0	82	70	1.076
AF7516-3	312	181	127	24	13	31	32	0	0	63	32	1.086
AF7516-4	411	335	235	5	7	24	63	0	0	87	63	1.088
AF7516-11	418	270	189	14	11	22	53	0	0	75	53	1.092
AF7516-13	349	257	181	10	13	23	54	0	0	77	54	1.081
AF7517-2	244	152	107	14	17	28	41	0	0	69	41	1.099
AF7517-3	221	103	72	26	27	20	27	0	0	47	27	1.099
AF7518-1	315	145	101	28	21	22	29	0	0	51	29	1.090
AF7518-3	282	151	106	18	24	32	26	0	0	57	26	1.094
AF7519-1	318	272	191	4	5	30	60	0	0	91	60	1.090
AF7520-1	344	228	160	17	15	39	29	0	0	68	29	1.089
AF7520-2	218	119	83	21	21	38	20	0	0	58	20	1.101

Table 24 (cont'd). Production statistics for the 2024 University of Maine Early Generation Round White Chip 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
AF7520-3	465	384	269	5	11	12	65	8	0	85	73	1.082
AF7520-7	376	336	236	4	5	20	71	0	0	91	71	1.085
AF7520-11	323	184	129	23	20	14	43	0	0	57	43	1.091
AF7520-12	299	234	164	12	10	25	53	0	0	78	53	1.091
AF7521-2	126	63	44	27	23	32	18	0	0	50	18	1.089
AF7521-9	323	199	139	16	23	29	32	0	0	62	32	1.090
AF7522-3	252	164	115	12	21	23	44	0	0	67	44	1.087
AF7523-2	169	47	33	35	37	13	14	0	0	28	14	1.089
AF7523-7	227	66	46	27	42	19	12	0	0	32	12	1.080
AF7523-10	235	130	91	12	15	33	40	0	0	73	40	1.080
AF7577-4	213	75	52	30	32	17	21	0	0	38	21	1.071
AAF20623-1	194	135	95	8	12	17	62	0	0	79	62	1.073
NDAF2064-6	228	151	106	16	17	23	45	0	0	68	45	1.079
NDAF2064-8	318	207	145	17	12	23	48	0	0	71	48	1.078
NDAF2064-9	193	67	47	22	36	29	13	0	0	42	13	1.079
NDAF2070-3	104	55	39	20	19	12	49	0	0	61	49	1.078
NDAF20177-5	239	135	95	20	21	33	26	0	0	59	26	1.074
AF7492-1	229	123	86	10	33	34	23	0	0	57	23	1.084
AF7492-3	250	169	119	16	14	41	24	5	0	70	29	1.077
AF7509-2	284	233	163	5	6	18	71	0	0	89	71	1.067
Atlantic	210	143	100	16	15	15	52	3	0	69	54	1.086

[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. Production statistics for the 2024 University of Maine Early Generation Round White Fresh Market 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–91 days												
AF7473-2	367	256	77	10	20	34	35	0	0	70	35	1.082
AF7489-1	362	139	42	23	36	30	10	0	0	41	10	1.087
AF7491-1	366	297	89	6	10	18	67	0	0	85	67	1.075
AF7491-6	609	397	119	8	22	27	43	0	0	70	43	1.084
AF7504-3	425	177	53	22	35	23	20	0	0	43	20	1.087
AF7505-1	402	321	97	6	12	41	41	0	0	82	41	1.078
AF7505-5	272	207	62	11	10	29	50	0	0	79	50	1.094
AF7505-8	375	206	62	14	31	16	39	0	0	55	39	1.082
AF7513-4	211	54	16	45	29	20	6	0	0	26	6	1.086
AF7516-10	567	435	131	7	13	12	68	0	0	80	68	1.075
AF7519-2	553	380	114	8	14	27	51	0	0	79	51	1.090
AF7521-4	371	293	88	10	8	30	52	0	0	82	52	1.076
AF7549-3	297	153	46	21	25	20	35	0	0	54	35	1.064
Red LaSoda	375	332	100	3	5	17	72	3	0	93	75	1.062

[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 26. Plant growth and tuber characteristics for the 2024 University of Maine Early Generation Round White Chip 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
AF7471-1	75	7	9	8	1	6	8	2	8	8	3
AF7472-3	100	8	9	8	1	6	8	2	8	5	2
AF7474-5	88	6	9	7	1	6	8	2	8	6	3
AF7476-1	100	8	9	8	1	9	8	3	8	7	4
AF7477-1	88	4	9	8	1	6	8	2	8	7	3
AF7477-5	100	8	9	7	1	6	9	2	8	7	3
AF7478-1	100	6	9	8	1	9	8	2	9	6	2
AF7478-6	88	9	9	9	1	6	8	3	9	8	3
AF7479-2	75	6	9	8	1	6	8	2	8	8	3
AF7484-2	75	6	9	8	1	9	8	2	8	8	2
AF7484-3	75	6	9	7	1	6	8	2	8	8	1
AF7485-1	88	7	9	6	1	9	7	3	8	7	3
AF7486-1	100	7	9	9	1	6	8	3	8	7	3
AF7486-2	88	6	9	9	1	6	7	3	8	6	3
AF7486-4	100	8	9	8	1	6	9	2	8	8	2
AF7486-6	100	8	9	9	1	6	9	2	8	7	1
AF7486-8	88	8	9	8	1	6	8	3	8	8	1
AF7488-3	100	7	9	8	1	6	8	2	8	6	1
AF7488-19	100	7	9	8	1	6	8	2	9	6	2
AF7489-7	88	6	9	7	1	6	9	3	8	6	1
AF7493-5	100	8	9	7	1	6	9	2	8	8	1
AF7494-5	100	8	9	7	1	6	9	3	8	8	3
AF7495-3	88	8	9	7	1	9	8	3	9	7	2
AF7497-3	100	8	9	7	1	6	8	3	8	7	3
AF7497-5	88	8	9	9	1	6	8	2	8	7	3
AF7498-7	75	6	9	9	1	9	9	3	9	9	1
AF7499-3	100	8	9	7	1	6	8	2	9	7	2
AF7499-8	100	8	9	8	1	6	8	2	8	8	1
AF7500-3	88	8	6	9	1	9	7	3	8	8	1
AF7500-13	100	8	9	7	1	6	8	2	9	7	1

Table 26 (cont'd). Plant growth and tuber characteristics for the 2024 University of Maine Early Generation Round White Chip 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
AF7501-9	100	8	9	8	1	9	8	3	8	7	1
AF7503-2	100	7	9	9	1	6	8	2	9	8	1
AF7503-5	88	7	9	7	1	6	9	2	8	6	1
AF7504-2	75	8	9	8	1	6	9	2	8	6	1
AF7506-2	100	9	9	7	1	6	8	3	9	7	1
AF7506-8	100	5	9	8	2	9	8	2	8	7	2
AF7507-4	88	8	9	9	1	6	8	3	8	6	2
AF7507-5	100	8	9	7	1	9	8	3	8	8	2
AF7507-6	100	6	9	8	1	9	8	3	7	7	3
AF7508-1	88	8	9	9	1	6	8	3	9	8	1
AF7508-2	100	7	9	8	1	6	7	3	8	8	1
AF7508-3	100	9	9	8	1	6	8	2	7	6	1
AF7511-3	88	8	9	9	1	6	7	3	9	5	1
AF7511-4	100	8	9	8	1	6	8	2	8	4	3
AF7512-4	100	8	9	8	1	9	8	2	9	7	1
AF7513-5	100	9	9	7	1	6	8	2	9	7	2
AF7515-1	100	6	9	7	2	6	8	2	9	5	1
AF7515-6	100	8	9	8	1	5	5	2	9	5	3
AF7516-1	88	8	9	8	1	6	9	2	8	5	1
AF7516-3	100	5	9	9	1	6	8	2	8	7	3
AF7516-4	88	8	9	9	1	9	8	3	9	7	2
AF7516-11	75	5	9	9	1	6	8	2	8	7	3
AF7516-13	100	8	9	8	1	6	8	3	8	7	2
AF7517-2	100	7	9	7	2	6	8	2	9	6	2
AF7517-3	100	7	9	8	1	6	8	2	9	4	2
AF7518-1	100	6	9	8	1	6	8	2	8	7	2
AF7518-3	100	6	9	8	1	6	9	2	8	6	1
AF7519-1	100	7	9	8	1	6	9	2	8	6	1
AF7520-1	100	6	9	9	1	6	8	2	8	6	1
AF7520-2	100	6	9	9	1	6	8	2	9	8	2

Table 26 (cont'd). Plant growth and tuber characteristics for the 2024 University of Maine Early Generation Round White Chip 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
AF7520-3	100	8	9	8	1	9	8	2	8	6	1
AF7520-7	100	5	9	9	1	6	9	2	7	9	1
AF7520-11	100	8	9	8	1	6	7	2	9	7	1
AF7520-12	100	8	9	8	1	6	8	2	8	7	1
AF7521-2	100	4	9	9	1	6	9	2	9	7	3
AF7521-9	100	9	9	7	1	6	9	2	7	7	1
AF7522-3	88	8	9	8	2	6	9	2	8	6	1
AF7523-2	88	8	9	6	1	9	9	2	8	8	3
AF7523-7	100	8	9	4	1	6	8	3	9	7	3
AF7523-10	88	7	9	7	1	6	9	2	9	8	3
AF7577-4	75	6	9	9	1	6	9	2	8	8	3
AAF20623-1	63	7	9	8	1	6	9	2	7	6	2
NDAF2064-6	88	7	9	7	1	6	9	2	8	7	1
NDAF2064-8	100	8	9	7	1	6	9	3	9	8	3
NDAF2064-9	100	6	9	8	1	6	8	2	9	7	3
NDAF2070-3	88	8	9	8	1	7	9	2	8	6	3
NDAF20177-5	100	8	9	7	2	6	9	2	9	8	1
AF7492-1	88	6	9	8	1	6	8	3	9	7	1
AF7492-3	100	6	9	7	1	6	9	3	8	7	1
AF7509-2	100	5	9	8	1	6	8	2	8	8	1
Atlantic	96	6	9	9	1	6	7	2	8	7	-

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 8 for 5.33 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 27. Plant growth and tuber characteristics for the 2024 University of Maine Early Generation Round White Fresh Market 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
AF7473-2	100	9	6	8	1	9	7	2	8	7	2
AF7489-1	100	8	6	7	1	9	9	2	9	7	3
AF7491-1	88	9	6	8	1	9	7	3	8	4	1
AF7491-6	100	9	6	7	1	9	7	2	8	7	1
AF7504-3	88	9	9	8	1	9	8	2	9	8	3
AF7505-1	100	9	6	8	1	9	7	2	8	7	3
AF7505-5	63	6	9	9	1	9	8	2	8	8	2
AF7505-8	100	9	6	7	1	9	8	2	9	7	2
AF7513-4	100	8	9	8	1	6	8	2	8	6	3
AF7516-10	100	8	9	8	1	9	7	2	7	7	3
AF7519-2	100	9	6	7	1	9	8	3	7	8	2
AF7521-4	100	9	6	7	1	7	7	2	9	7	1
AF7549-3	100	9	6	5	1	7	8	3	8	6	3
Red LaSoda	100	8	9	6	1	2	8	2	8	8	-

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 8 for 5.33 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 28. External and internal defects for the 2024 University of Maine Early Generation Round White Chip Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF7471-1	0	0	0	13	13	0	0	0	0
AF7472-3	13	0	0	2	16	0	0	0	0
AF7474-5	0	0	0	0	0	20	0	0	10
AF7476-1	0	0	0	9	9	0	0	10	10
AF7477-1	0	0	0	6	6	0	0	11	11
AF7477-5	0	0	0	4	4	0	17	0	0
AF7478-1	0	0	11	3	15	0	0	0	0
AF7478-6	0	11	0	6	17	0	0	0	0
AF7479-2	5	0	0	10	15	0	0	0	0
AF7484-2	0	0	9	0	9	0	0	0	0
AF7484-3	0	0	5	2	7	0	0	0	0
AF7485-1	0	0	0	4	4	0	0	0	0
AF7486-1	0	0	0	0	0	0	0	0	0
AF7486-2	0	0	0	5	5	0	0	0	20
AF7486-4	0	0	0	6	6	0	10	0	0
AF7486-6	0	0	5	0	5	0	0	0	0
AF7486-8	0	0	0	5	5	0	0	0	0
AF7488-3	0	0	0	6	6	0	0	0	0
AF7488-19	0	0	0	3	3	0	0	0	0
AF7489-7	0	0	0	3	3	0	0	0	0
AF7493-5	9	0	0	0	9	0	0	0	0
AF7494-5	0	8	0	8	16	0	10	0	0
AF7495-3	0	6	0	0	6	0	0	0	0
AF7497-3	0	0	9	8	17	0	0	0	0
AF7497-5	0	3	14	3	20	0	0	10	10
AF7498-7	0	0	0	6	6	0	0	0	0
AF7499-3	4	0	7	0	12	0	0	0	0
AF7499-8	0	0	3	2	4	0	0	0	0
AF7500-3	0	0	0	0	0	0	0	0	0
AF7500-13	0	0	0	0	0	0	0	0	0

Table 28 (cont'd). External and internal defects for the 2024 University of Maine Early Generation Round White Chip Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF7501-9	0	0	0	2	2	0	0	0	0
AF7503-2	2	0	0	2	4	0	0	0	0
AF7503-5	0	0	0	2	2	0	0	0	0
AF7504-2	0	0	0	0	0	0	0	0	0
AF7506-2	0	0	3	0	3	0	0	0	0
AF7506-8	17	0	0	5	22	0	0	0	0
AF7507-4	4	0	8	2	15	0	0	0	0
AF7507-5	0	0	0	0	0	0	0	0	0
AF7507-6	0	0	3	2	5	0	0	10	0
AF7508-1	1	0	0	0	1	0	0	0	0
AF7508-2	0	0	4	2	6	0	0	0	0
AF7508-3	0	0	0	1	1	0	0	0	0
AF7511-3	5	0	0	2	6	0	0	0	0
AF7511-4	0	0	0	3	3	0	0	0	20
AF7512-4	0	0	0	2	2	0	0	0	0
AF7513-5	0	0	0	3	3	0	0	0	0
AF7515-1	7	0	0	0	7	0	0	0	0
AF7515-6	0	0	0	0	0	0	0	20	0
AF7516-1	0	0	0	0	0	0	0	0	0
AF7516-3	0	0	0	7	7	0	0	10	0
AF7516-4	4	0	0	3	7	10	0	0	0
AF7516-11	1	0	0	13	14	0	0	20	0
AF7516-13	4	0	0	0	4	0	0	0	10
AF7517-2	0	0	0	10	10	0	0	0	0
AF7517-3	0	0	0	0	0	0	0	0	0
AF7518-1	0	0	0	10	10	0	0	0	0
AF7518-3	5	0	0	2	7	0	0	0	0
AF7519-1	0	0	0	6	6	0	0	0	0
AF7520-1	0	0	0	2	2	0	0	0	0
AF7520-2	7	0	0	0	7	0	0	0	0

Table 28 (cont'd). External and internal defects for the 2024 University of Maine Early Generation Round White Chip Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF7520-3	0	0	0	2	2	0	0	0	0
AF7520-7	0	0	0	1	1	0	0	0	0
AF7520-11	0	0	0	0	0	0	0	0	0
AF7520-12	0	0	0	0	0	0	0	0	0
AF7521-2	0	0	0	0	0	0	0	0	0
AF7521-9	0	0	0	0	0	0	0	0	0
AF7522-3	0	0	0	3	3	0	0	0	0
AF7523-2	0	0	0	0	0	10	0	0	0
AF7523-7	0	0	8	0	8	0	0	0	0
AF7523-10	6	0	18	0	24	0	0	0	20
AF7577-4	6	0	0	0	6	0	0	0	0
AAF20623-1	0	8	0	5	12	0	0	0	0
NDAF2064-6	0	0	0	2	2	0	0	0	0
NDAF2064-8	0	0	3	5	8	0	0	10	0
NDAF2064-9	5	4	0	8	17	0	0	0	0
NDAF2070-3	0	0	0	13	13	0	0	0	0
NDAF20177-5	0	0	0	4	4	0	0	0	0
AF7492-1	0	0	0	6	6	0	0	0	0
AF7492-3	0	0	0	4	4	0	0	0	0
AF7509-2	8	0	0	0	8	0	0	0	0
Atlantic	2	0	0	0	2	40	0	0	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Table 29. External and internal defects for the 2024 University of Maine Early Generation Round White Fresh Market Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF7473-2	0	0	0	0	0	0	0	0	0
AF7489-1	0	0	0	6	6	0	0	0	0
AF7491-1	0	0	4	0	4	0	0	0	0
AF7491-6	0	0	0	6	6	0	0	0	0
AF7504-3	0	0	0	3	3	0	0	0	0
AF7505-1	0	0	0	2	2	0	0	30	0
AF7505-5	0	0	0	3	3	0	0	0	0
AF7505-8	0	0	0	0	0	0	0	0	0
AF7513-4	0	0	0	0	0	0	0	0	0
AF7516-10	0	0	0	4	4	0	0	17	0
AF7519-2	0	0	0	12	12	0	0	0	0
AF7521-4	0	0	0	4	4	0	0	0	0
AF7549-3	0	0	0	5	5	0	0	0	0
Red LaSoda	0	0	1	3	4	0	0	10	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Chapter 6. University of Maine Early Line Potato Variety Trials

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 entries were split by market class into 3 trials: 1: chip, 2: fresh, 3: russet.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	1: February 21, 2024, 2: February 21, 2024, 3: February 21, 2024
Vine Kill Date	1: N/A, 2: May 15, 2024, 3: N/A
Harvest Date	1: May 29, 2024, 2: May 28, 2024, 3: June 5, 2024
Season Length	1: 98 days planting to harvest, 2: 84 days planting to vine kill, 3: 105 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	Seepage

Experimental Design

Number of Varieties	1: 3 (Standard: Atlantic), 2: 1 (Standard: Red LaSoda), 3: 1 (Standard: Goldrush)
Number of Clones	1: 11, 2: 24, 3: 23
Within Row Spacing	1, 2: 8 in (20.3 cm), 3: 10 in (25.4 cm)
Between Row Spacing	40 in (1.0 m)
Replications	1
Plot Size	1, 2: 16 ft (4.9 m), 3: 20 ft (6.1 m)

Production Statistics

Early Vigor Ratings	1: 40 DAP, 2: 40 DAP, 3: 40 DAP
Highest Total Yield	1: AF7295-1 (437 cwt/A or 49.0 T/ha), 2: AF7296-4 (517 cwt/A or 58.0 T/ha), 3: COAF19027-3 (328 cwt/A or 36.8 T/ha)
Highest Marketable Yield	1: AF7295-1 (328 cwt/A or 36.8 T/ha), 2: AF7296-4 (418 cwt/A or 46.9 T/ha), 3: AF7197-3 (249 cwt/A or 27.9 T/ha)
Best Appearance Rating	1: -, 2: AF7322-1, COAF19173-1, AAF18386-3, NDAF1858Y-3, AF7303-4, NDAF1871-2, Red LaSoda (8, very good), 3: -

Table 30. Production statistics for the 2024 University of Maine Early Line Chip 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–98 days												
Atlantic	339	281	100	5	7	10	78	0	0	87	78	1.080
Harley Blackwell (B0564-8)	345	264	94	9	10	19	62	0	0	81	62	1.066
Snowden	390	316	113	7	9	20	63	0	0	84	63	1.071
AF7272-3	366	275	98	8	12	15	65	0	0	80	65	1.082
AF7290-1	307	154	55	18	29	18	35	0	0	53	35	1.080
AF7301-3	189	165	59	4	5	8	76	7	0	91	83	1.084
AF7302-1	333	249	89	11	8	20	59	2	0	81	61	1.082
AF7302-6	332	253	90	6	5	22	67	0	0	89	67	1.070
AF7333-7	301	230	82	7	8	15	70	0	0	84	70	1.075
AF7333-16	274	182	65	16	18	26	38	2	0	66	40	1.085
AF7338-1	328	241	86	7	11	35	47	0	0	82	47	1.077
COAF19115-1	342	203	72	15	21	21	43	0	0	64	43	1.080
NDAF1852-2	415	217	77	19	27	33	20	0	0	54	20	1.081
AF7295-1	437	328	117	13	11	29	47	0	0	77	47	1.078

[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 31. Production statistics for the 2024 University of Maine Early Line Fresh Market 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–84 days												
AF7276-1	369	272	82	5	8	1	0	0	18	1	0	1.072
AF7277-2	419	280	84	10	7	12	55	0	0	67	55	1.068
AF7290-6	310	235	71	9	5	31	45	0	0	76	45	1.069
AF7296-4	517	418	126	5	5	18	62	0	0	81	62	1.069
AF7333-4	411	292	88	8	15	20	51	0	0	71	51	1.077
AF7268-1	268	195	59	9	9	23	50	0	0	73	50	1.077
AF7288-2	298	183	55	7	15	13	48	0	0	61	48	1.071
AF7298-1	395	150	45	28	27	21	17	0	0	38	17	1.074
AF7322-1	382	319	96	3	6	14	69	0	0	83	69	1.065
AF7307-1	324	187	56	16	20	35	23	0	0	58	23	1.057
AF7307-2	416	240	72	18	20	39	19	0	0	58	19	1.065
AF7319-5	342	171	51	18	25	31	19	0	0	50	19	1.063
COAF19173-1	334	237	71	7	10	23	48	0	0	71	48	1.061
AAF15344-1	270	99	30	26	25	27	10	0	0	37	10	1.061
AAF18386-3	397	275	83	7	14	15	54	0	0	69	54	1.067
NDAF1858Y-3	369	283	85	3	10	15	62	0	0	77	62	1.064
NDAF1915-1	351	236	71	10	12	30	38	0	0	67	38	1.067
AF7303-4	284	221	67	8	12	31	45	2	0	78	47	1.070
AAF13166-1	206	93	28	20	24	33	12	0	0	45	12	1.057
AAF15348-1	284	180	54	12	15	23	41	0	0	63	41	1.071
NDAF1871-2	85	15	4	72	2	10	7	0	0	17	7	1.069
AAF18515-2	214	120	36	15	18	28	28	0	0	56	28	1.070
AAF13156-1	323	165	50	25	22	30	21	0	0	51	21	1.072
AAF18464-2	381	112	34	29	36	24	6	0	0	30	6	1.068
Red LaSoda	375	332	100	3	5	17	72	3	0	93	75	1.062

[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 32. Production statistics for the 2024 University of Maine Early Line Russet 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–105 days												
Goldrush	168	88	100	22	26	31	22	0	0	52	22	1.070
AF7197-3	321	249	282	10	13	28	49	0	0	77	49	1.074
AF7204-4	285	191	217	17	16	36	31	0	0	67	31	1.075
AF7209-5	258	71	81	44	29	25	3	0	0	28	3	1.081
AF7216-4	274	150	170	16	29	30	25	0	0	55	25	1.065
AF7224-1	173	83	94	16	36	24	24	0	0	48	24	1.069
AF7228-6	240	80	91	33	33	24	10	0	0	33	10	1.070
AF7234-1	191	91	103	15	37	31	17	0	0	48	17	1.074
AF7243-2	93	34	39	39	25	27	10	0	0	37	10	1.060
AF7251-1	124	42	48	24	42	26	8	0	0	34	8	1.062
AF7256-3	297	194	220	12	22	44	21	0	0	65	21	1.062
AF6340-6	256	124	141	21	30	29	19	0	0	49	19	1.054
COAF19027-3	328	152	172	19	35	33	13	0	0	46	13	1.081
COAF19145-3	256	130	147	18	31	30	20	0	0	51	20	1.060
COAF19186-2	266	70	79	32	41	22	4	0	0	26	4	1.077
COAF19216-1	230	194	220	4	12	57	27	0	0	84	27	1.062
AAF18026-1	190	78	88	25	34	32	8	0	0	41	8	1.069
AAF18267-2	189	111	126	16	25	39	20	0	0	59	20	1.071
AAF19013-1	162	92	104	10	33	44	12	0	0	57	12	1.081
AAF11807-1	214	123	140	22	20	23	34	0	0	57	34	1.064
AAF16240-2	214	128	145	19	21	27	33	0	0	60	33	1.075
AAF18266-4	193	61	69	32	36	22	9	0	0	32	9	1.065
AAF11738-1	187	127	144	13	19	32	36	0	0	68	36	1.071
COAF19026-2	323	112	127	33	33	24	11	0	0	35	11	1.057

[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 33. Plant growth and tuber characteristics for the 2024 University of Maine Early Line Chip 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	88	9	9	8							-
Harley Blackwell (B0564-8)	96	9	9	7							1
Snowden	100	9	9	7							1
AF7272-3	100	9	6	8							1
AF7290-1	88	8	9	7							2
AF7301-3	50	9	9	9							2
AF7302-1	96	9	9	7							1
AF7302-6	92	9	6	8							2
AF7333-7	92	9	6	6							2
AF7333-16	100	9	6	6							2
AF7338-1	75	9	6	6							3
COAF19115-1	100	9	6	6							3
NDAF1852-2	96	9	6	8							2
AF7295-1	100	9	6	7							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 34. Plant growth and tuber characteristics for the 2024 University of Maine Early Line Fresh Market 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
AF7276-1	92	8	9	8	1	7	8	2	8	6	2
AF7277-2	96	8	9	8	1	9	7	2	9	5	2
AF7290-6	96	9	9	5	1	9	8	2	9	7	2
AF7296-4	100	9	6	7	1	6	7	2	8	6	1
AF7333-4	88	9	9	8	1	7	7	2	9	6	3
AF7268-1	92	9	9	7	1	9	8	2	8	6	3
AF7288-2	100	9	9	8	1	6	8	2	8	3	3
AF7298-1	100	9	6	8	1	6	7	2	8	7	4
AF7322-1	96	9	6	6	1	9	8	2	8	8	1
AF7307-1	100	9	9	5	1	2	8	2	7	7	2
AF7307-2	100	9	9	6	1	2	9	3	8	7	3
AF7319-5	96	9	9	4	1	2	8	2	8	7	3
COAF19173-1	100	9	9	4	1	2	8	2	8	8	2
AAF15344-1	96	9	9	4	2	2	8	2	9	6	3
AAF18386-3	100	9	6	7	1	2	8	2	8	8	2
NDAF1858Y-3	100	8	9	5	1	2	8	2	8	8	2
NDAF1915-1	96	8	9	6	1	2	8	2	8	4	2
AF7303-4	100	9	9	5	1	1	7	2	7	8	3
AAF13166-1	92	8	9	7	2	3	8	3	9	6	3
AAF15348-1	92	9	9	4	3	9	8	2	7	7	3
NDAF1871-2	67	6	9	7	3	6	7	2	9	8	3
AAF18515-2	96	9	9	8	3	6	7	2	9	7	3
AAF13156-1	100	9	6	8	3	6	7	2	9	7	3
AAF18464-2	100	7	9	7	2	6	8	3	8	7	4
Red LaSoda	100	8	9	6	1	2	8	2	8	8	-

[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. Plant growth and tuber characteristics for the 2024 University of Maine Early Line Russet 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
Goldrush	100	6	9	7							-
AF7197-3	100	8	9	7							1
AF7204-4	100	9	6	8							1
AF7209-5	96	5	9	9							2
AF7216-4	100	9	9	8							1
AF7224-1	96	7	9	8							1
AF7228-6	100	9	9	8							1
AF7234-1	96	9	6	6							1
AF7243-2	100	5	9	8							3
AF7251-1	100	8	9	6							3
AF7256-3	100	9	6	6							1
AF6340-6	100	8	9	8							1
COAF19027-3	100	9	6	8							1
COAF19145-3	96	9	9	7							1
COAF19186-2	100	8	9	8							2
COAF19216-1	83	5	9	7							1
AAF18026-1	100	6	9	9							1
AAF18267-2	96	6	9	8							3
AAF19013-1	96	8	9	8							1
AAF11807-1	92	8	9	8							1
AAF16240-2	100	8	9	8							1
AAF18266-4	100	6	9	8							2
AAF11738-1	100	9	9	7							1
COAF19026-2	100	6	9	8							1

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 24 for 20 ft plot, 10 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 36. External and internal defects for the 2024 University of Maine Early Line Chip Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Atlantic	0	2	2	2	5	0	0	0	0
Harley Blackwell (B0564-8)	3	0	0	3	6	0	0	0	0
Snowden	3	0	0	0	3	0	0	0	0
AF7272-3	0	0	0	6	6	0	0	0	0
AF7290-1	0	0	0	5	5	0	0	0	0
AF7301-3	0	0	0	4	4	0	0	0	0
AF7302-1	0	0	0	7	7	0	0	0	0
AF7302-6	0	0	0	14	14	0	0	0	0
AF7333-7	0	0	2	7	9	0	0	0	0
AF7333-16	0	0	0	0	0	0	0	0	0
AF7338-1	0	0	0	10	10	0	0	10	0
COAF19115-1	0	0	0	8	8	0	0	10	0
NDAF1852-2	0	0	0	3	3	0	0	0	0
AF7295-1	0	0	0	2	2	0	0	0	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Table 37. External and internal defects for the 2024 University of Maine Early Line Fresh Market Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF7276-1	1	0	0	15	16	0	0	0	0
AF7277-2	0	0	0	16	16	0	0	0	0
AF7290-6	1	0	0	8	9	0	0	0	0
AF7296-4	3	0	0	6	9	0	0	0	0
AF7333-4	3	0	0	4	7	0	0	30	0
AF7268-1	0	0	0	9	9	0	0	30	0
AF7288-2	3	0	0	13	16	0	0	0	0
AF7298-1	0	0	0	7	7	0	0	30	0
AF7322-1	0	0	0	8	8	0	0	0	0
AF7307-1	0	0	0	6	6	0	0	0	0
AF7307-2	0	0	0	5	5	0	0	20	0
AF7319-5	0	0	0	7	7	0	0	0	0
COAF19173-1	0	0	0	11	11	0	0	0	0
AAF15344-1	0	0	0	12	12	0	0	0	0
AAF18386-3	0	0	0	10	10	0	0	0	0
NDAF1858Y-3	0	0	0	10	10	0	0	0	0
NDAF1915-1	0	0	0	11	11	0	0	0	0
AF7303-4	0	0	0	2	2	0	0	10	0
AAF13166-1	2	0	0	9	11	0	0	0	0
AAF15348-1	0	0	0	10	10	0	0	0	0
NDAF1871-2	0	0	0	8	8	0	0	0	0
AAF18515-2	0	0	0	11	11	0	0	0	0
AAF13156-1	0	0	0	2	2	0	0	0	0
AAF18464-2	0	0	0	6	6	0	0	30	0
Red LaSoda	0	0	1	3	4	0	0	10	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Table 38. External and internal defects for the 2024 University of Maine Early Line Russet Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Goldrush	0	0	0	0	0	0	0	0	0
AF7197-3	0	0	0	0	0	0	0	0	0
AF7204-4	0	0	0	0	0	0	0	0	0
AF7209-5	0	0	0	0	0	0	0	0	0
AF7216-4	0	0	0	0	0	0	0	0	0
AF7224-1	0	0	0	0	0	0	0	0	0
AF7228-6	0	0	0	0	0	0	0	0	0
AF7234-1	0	0	0	0	0	0	0	0	0
AF7243-2	0	0	0	0	0	0	0	0	0
AF7251-1	0	0	0	0	0	0	0	0	0
AF7256-3	0	0	0	0	0	0	0	0	0
AF6340-6	0	0	0	0	0	0	0	0	0
COAF19027-3	0	0	0	0	0	0	0	0	0
COAF19145-3	0	0	0	0	0	0	0	0	0
COAF19186-2	0	0	0	0	0	0	0	0	0
COAF19216-1	0	0	0	0	0	0	0	0	0
AAF18026-1	0	0	0	0	0	0	0	0	0
AAF18267-2	0	0	0	0	0	0	0	10	0
AAF19013-1	0	0	0	0	0	0	0	0	0
AAF11807-1	0	0	0	0	0	0	0	0	0
AAF16240-2	0	0	0	0	0	0	0	0	0
AAF18266-4	0	0	0	0	0	0	0	0	0
AAF11738-1	0	0	0	0	0	0	0	0	0
COAF19026-2	0	0	0	0	0	0	0	0	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Chapter 7. 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	February 8, 2024
Vine Kill Date	N/A
Harvest Date	May 14, 2024
Season Length	96 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	Seepage

Experimental Design

Number of Varieties	3 (Standard: Atlantic)
Number of Clones	185
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.0 m)
Replications	1 replication for Tier 1 & 2 replications for Tier 2
Plot Size	10 ft (3.1 m)

Production Statistics

Early Vigor Ratings	41 DAP
Highest Total Yield	MN20CO18192-001 (625 cwt/A or 70.1 T/ha)
Highest Marketable Yield	MN20CO18192-001 (440 cwt/A or 49.3 T/ha)
Highest Specific Gravity	NCV116-03 (1.110)

Table 39. Production statistics for the 2024 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–96 days												
Atlantic	302	239	100	8	9	31	52	1	0	83	53	1.089
Lamoka	325	238	100	11	12	41	36	0	0	77	36	1.082
Snowden	230	157	66	12	17	34	37	1	0	72	38	1.078
Tier 1 = 1 rep												
AC15317-2W	109	66	28	9	12	26	53	0	0	78	53	1.056
AFC6911-2W	297	217	91	7	17	39	36	0	0	75	36	1.088
A15311-6C	171	90	38	26	14	18	42	0	0	59	42	1.070
NDA1849-4C	206	94	39	24	24	26	26	0	0	52	26	1.078
NDA1850-4C	348	231	97	13	18	29	40	0	0	69	40	1.075
AF6896-1	284	174	73	20	10	36	33	0	0	70	33	1.077
AF6911-4	303	210	88	8	21	21	50	0	0	71	50	1.092
AF7114-12	279	166	69	13	25	27	35	0	0	62	35	1.097
AF7114-15	358	182	76	27	20	31	22	0	0	53	22	1.080
AF7131-2	364	282	118	11	8	31	49	0	0	81	49	1.089
AF7145-2	286	204	85	12	12	33	44	0	0	76	44	1.072
AF7149-2	310	215	90	10	17	29	44	0	0	73	44	1.084
AF7153-4	248	201	84	9	9	36	47	0	0	83	47	1.077
AF7157-7	216	94	39	31	19	40	10	0	0	50	10	1.095
AF7159-2	386	335	140	4	4	33	55	4	0	91	59	1.086
AF7170-7	270	192	80	14	13	32	41	0	0	73	41	1.072
AF7172-3	295	240	100	4	10	29	54	3	0	86	57	1.083
AF7173-7	247	184	77	7	15	32	46	0	0	78	46	1.077
AF7182-6	427	306	128	17	10	25	48	0	0	73	48	1.077
AF7183-2	382	291	122	15	8	32	45	0	0	77	45	1.083
NDAF17137-5	350	237	99	19	9	41	28	3	0	72	31	1.075
B20NC1111-1	457	351	147	6	12	25	57	0	0	82	57	1.077
MSFF038-3	233	187	78	5	9	37	49	0	0	86	49	1.079
MSGG190-1	241	163	68	14	14	38	34	0	0	72	34	1.077
MSGG263-1	207	101	42	23	25	24	27	0	0	52	27	1.083

Table 39 (cont'd). Production statistics for the 2024 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
MSGG282-20	230	102	43	30	24	37	9	0	0	46	9	1.084
MSHH004-2	197	75	31	35	27	24	14	0	0	38	14	1.065
MSHH015-5	161	108	45	12	18	31	40	0	0	70	40	1.059
MSHH018-3	258	188	79	9	15	32	44	0	0	76	44	1.086
MSHH018-4	266	121	50	22	29	24	26	0	0	50	26	1.081
MSHH034-12	376	287	120	11	6	15	68	0	0	83	68	1.074
MSHH043-10	354	210	88	18	17	29	36	0	0	64	36	1.079
MSHH048-4	153	109	46	6	22	30	42	0	0	72	42	1.063
MSHH056-03	326	272	114	3	9	41	47	0	0	88	47	1.058
MSHH063-2	426	343	143	6	9	33	51	0	0	84	51	1.067
MSHH066-6	282	150	63	17	20	32	31	0	0	63	31	1.080
MSHH068-10	211	140	59	12	21	23	44	0	0	67	44	1.084
MSHH069-3	232	163	68	19	11	30	40	0	0	70	40	1.079
MSHH119-1	203	168	70	5	9	30	56	0	0	86	56	1.068
MSHH130-1	296	215	90	12	13	55	19	0	0	75	19	1.068
MN18W17039-005	245	184	77	9	14	24	53	0	0	77	53	1.071
MN18W17043-012	161	50	21	38	30	29	3	0	0	33	3	1.095
MN20AF7131-002	205	56	23	47	24	29	0	0	0	29	0	1.073
MN20AF7145-002	195	112	47	11	18	49	22	0	0	71	22	1.073
MN20AF7174-001	330	235	98	14	9	24	53	0	0	77	53	1.101
MN20CO18127-003	349	139	58	33	27	32	8	0	0	40	8	1.082
MN20CO18192-001	625	440	184	12	8	23	56	0	0	80	56	1.076
MN20ND184Y-120	186	54	22	43	27	24	6	0	0	30	6	1.072
MN20ND1810Y-128	130	68	28	27	18	24	30	0	0	55	30	1.069
MN20ND1810Y-297A	330	252	105	5	11	20	64	0	0	84	64	1.074
MN20ND1833B-001	254	157	65	21	18	43	19	0	0	62	19	1.080
MN20TX417-003	205	128	53	17	15	36	32	0	0	68	32	1.078
MN20W19027-074	163	64	27	38	18	35	10	0	0	44	10	1.065
MN21ND1835B-041	198	117	49	12	29	29	30	0	0	59	30	1.068
MN21ND1835B-096	157	74	31	31	21	37	12	0	0	49	12	1.074

Table 39 (cont'd). Production statistics for the 2024 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
MN21ND1835B-134	140	59	25	39	17	34	10	0	0	44	10	1.085
MN21ND1845B-036	323	175	73	30	14	30	26	0	0	56	26	1.076
MN21ND1845B-077	238	110	46	32	20	39	9	0	0	48	9	1.083
MN21ND1845B-100	364	186	77	24	21	33	22	0	0	55	22	1.078
MN21ND1845B-112	147	69	29	19	28	38	15	0	0	54	15	1.074
MN21ND1930-004	306	240	100	5	7	21	67	0	0	88	67	1.062
NC1106-02GS	186	93	39	29	20	36	14	0	0	51	14	1.083
NC1106-04GS	272	135	56	32	16	19	34	0	0	53	34	1.090
NC1110-15GS	119	14	6	59	28	13	0	0	0	13	0	1.096
NC1118-16GS	306	240	100	7	3	17	73	0	0	90	73	1.059
NC1118-21GS	85	37	16	29	25	37	9	0	0	45	9	1.090
NC1119-06GS	126	5	2	76	20	4	0	0	0	4	0	1.054
NC1122-05GS	284	161	67	23	19	44	14	0	0	58	14	1.071
NC1122-13GS	247	174	73	12	17	41	31	0	0	72	31	1.089
NC1125-21GS	152	78	33	21	23	41	15	0	0	56	15	1.086
NC1127-02GS	273	171	71	21	13	28	38	0	0	66	38	1.079
NC1127-19GS	249	186	78	4	13	45	39	0	0	84	39	1.081
NC1127-24GS	167	59	25	43	21	27	9	0	0	36	9	1.091
NC1127-25GS	384	330	138	3	4	10	83	0	0	93	83	1.080
NC1127-30GS	312	144	60	24	29	38	10	0	0	47	10	1.083
NC1127-32GS	174	120	50	19	9	27	45	0	0	72	45	1.080
NC1127-39GS	142	44	19	36	32	28	4	0	0	32	4	1.082
NC1127-42GS	176	99	41	14	24	37	24	0	0	61	24	1.075
NC1130-01GS	335	295	123	7	5	29	59	0	0	88	59	1.068
NC1130-02GS	231	118	49	21	26	34	19	0	0	53	19	1.094
NCV20-02GS	242	138	58	21	20	27	32	0	0	59	32	1.087
NCV22-03GS	157	56	23	35	28	28	8	0	0	36	8	1.077
NCV116-03	174	80	33	29	23	39	9	0	0	48	9	1.110
NYU21-2	72	24	10	31	36	20	13	0	0	33	13	1.082
NYV6-11	318	257	108	5	10	18	66	0	0	84	66	1.078

Table 39 (cont'd). Production statistics for the 2024 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
NYV8-1	342	195	81	18	18	42	18	4	0	64	22	1.082
NYV111-4	255	191	80	12	13	52	23	0	0	75	23	1.089
NYV119-1	258	189	79	10	13	44	33	0	0	77	33	1.100
NYV119-5	377	298	124	10	9	32	49	0	0	81	49	1.087
NYV119-12	251	149	62	21	19	40	20	0	0	60	20	1.090
NYV119-17	244	175	73	16	10	48	27	0	0	75	27	1.089
NYV122-1	137	44	18	38	29	13	20	0	0	33	20	1.072
NYV123-1	219	99	41	19	31	40	10	0	0	50	10	1.094
AO18354-1	126	83	35	5	22	27	46	0	0	73	46	1.072
AO18354-7	486	384	160	7	8	30	55	0	0	85	55	1.073
AO18363-5	141	65	27	34	19	47	0	0	0	47	0	1.089
OR191009-2	320	182	76	26	12	23	38	0	0	62	38	1.076
OR191009-4	268	137	57	29	15	19	38	0	0	56	38	1.068
COTX19084-2W	170	83	35	18	28	38	16	0	0	54	16	1.080
COTX19096-1W	234	131	55	23	15	32	31	0	0	63	31	1.078
COTX19096-8W	176	103	43	18	23	31	27	0	0	59	27	1.078
COTX19123-2Ru	316	267	111	7	8	29	53	3	0	86	56	1.070
COTX19132-1W	224	129	54	25	15	26	34	0	0	61	34	1.075
NDTX2023-2W	230	150	63	15	18	54	13	0	0	67	13	1.081
NDTX2024-2W	163	7	3	73	23	4	0	0	0	4	0	1.092
TX20004-1W	162	93	39	20	21	30	29	0	0	60	29	1.070
TX20004-6W/Y	220	113	47	22	23	21	34	0	0	55	34	1.062
TX20005-9W	114	41	17	40	24	25	10	0	0	36	10	1.084
TX20097-4W	112	18	7	71	13	11	5	0	0	16	5	.
TX20815-11W	245	180	75	11	16	23	50	0	0	73	50	1.074
TX20820-1W	64	30	13	33	20	21	26	0	0	47	26	1.083
TX20820-19W	127	71	29	26	14	32	28	0	0	60	28	1.078
TX20820-30W	202	139	58	12	19	37	33	0	0	70	33	1.068
W13NYP19-2	154	101	42	9	23	50	18	0	0	68	18	1.096
W19012-12	234	131	55	22	22	44	12	0	0	56	12	1.104

Table 39 (cont'd). Production statistics for the 2024 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
W19027-4	231	184	77	7	7	42	44	0	0	86	44	1.075
W19027-40	263	157	66	20	20	43	17	0	0	60	17	1.084
W20001-29	228	122	51	20	20	40	20	0	0	60	20	1.081
W20005-13	218	146	61	16	17	38	29	0	0	67	29	1.076
W20005-28	351	272	114	6	13	29	51	0	0	81	51	1.075
W20017-8	227	148	62	16	18	32	33	0	0	65	33	1.075
W20017-28	327	197	82	11	13	25	46	5	0	76	51	1.086
W20019-1	234	168	70	17	12	39	33	0	0	72	33	1.087
W20020-1	285	85	35	37	33	29	1	0	0	30	1	1.075
W20022-5	228	125	52	21	23	37	19	0	0	56	19	1.084
W20022-8	164	60	25	29	32	31	7	0	0	39	7	1.086
W20023-10	228	193	80	6	10	29	56	0	0	84	56	1.082
W20024-1	201	176	73	8	5	53	35	0	0	87	35	1.084
W20024-12	312	210	88	13	19	35	34	0	0	69	34	1.076
W20031-37	227	124	52	25	17	41	17	0	0	58	17	1.082
W20035-5	435	299	125	13	16	31	39	0	0	71	39	1.080
Tier 2 = 2 reps												
Bliss (NY163)	100	26	11	46	29	20	5	0	0	25	5	1.078
Dundee (MSZ242-13)	258	172	72	12	15	34	39	0	0	73	39	1.089
MSBB058-1	313	225	94	11	15	29	45	0	0	74	45	1.078
NC470-3	396	330	138	5	6	15	75	0	0	89	75	1.086
ND13220C-3	390	268	112	15	15	58	13	0	0	71	13	1.087
NY174	279	197	82	13	15	32	40	0	0	72	40	1.081
A13125-3C	323	142	59	27	19	25	29	0	0	54	29	1.069
A16150-1C	285	116	48	33	25	29	13	0	0	42	13	1.091
AF5933-4	246	210	88	6	6	36	53	0	0	88	53	1.083
AF6200-7	249	165	69	17	14	37	32	0	0	69	32	1.095
AF6565-8	319	259	108	7	8	30	53	2	0	86	55	1.084
AF6671-10	245	179	75	11	16	35	38	0	0	73	38	1.090
AF6872-11	99	47	20	28	25	38	9	0	0	47	9	1.080

Table 39 (cont'd). Production statistics for the 2024 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
AF6880-9	286	223	93	6	11	23	60	0	0	83	60	1.076
AF6883-8	316	251	105	11	9	41	40	0	0	81	40	1.084
AF6978-1	343	288	120	8	7	33	51	2	0	85	53	1.077
B3296-3	337	270	113	6	9	18	63	3	0	84	66	1.073
B3379-2	162	66	28	30	29	34	7	0	0	41	7	1.094
B3379-6	166	78	33	27	23	22	28	0	0	50	28	1.092
B3403-6	442	296	124	15	14	26	45	0	0	71	45	1.083
B3471-1	166	62	26	25	38	27	10	0	0	37	10	1.088
BNC811-15	262	176	74	12	20	26	41	0	0	67	41	1.083
BNC973-7	159	131	55	5	10	30	55	0	0	85	55	1.064
MSDD244-05	320	222	93	11	14	34	42	0	0	76	42	1.085
MSDD247-07	254	159	67	19	15	34	32	0	0	66	32	1.096
MSDD247-11	197	130	54	14	18	40	28	0	0	68	28	1.091
MSDD376-4	291	219	91	11	13	31	45	0	0	76	45	1.083
MSEE031-3	179	124	52	13	16	32	39	0	0	71	39	1.078
MSEE182-3	216	120	50	21	23	50	6	0	0	57	6	1.084
MSEE207-2	290	182	76	13	22	30	35	0	0	65	35	1.076
MN18W17043-006	358	257	107	16	10	39	33	2	0	74	35	1.093
NC958-B	219	167	70	10	14	32	43	0	0	76	43	1.081
NC1030-77	361	219	91	19	17	34	28	1	0	64	30	1.083
NC1036-13	126	47	20	38	22	40	0	0	0	40	0	1.090
NC1042-19	125	106	44	5	6	19	70	0	0	89	70	1.069
NC1046-03	339	277	116	6	9	24	61	0	0	85	61	1.080
NY173	251	176	74	13	15	28	44	0	0	72	44	1.084
NY175	306	204	85	10	21	48	21	0	0	69	21	1.087
NY179	277	216	90	10	12	34	44	0	0	78	44	1.071
NY180	237	176	73	11	13	61	14	0	0	76	14	1.090
NY181	169	36	15	44	33	19	3	0	0	23	3	1.077
NYT7-7	212	113	47	16	24	44	16	0	0	60	16	1.080
NYT34-1	225	49	20	40	38	16	4	2	0	22	6	1.097

Table 39 (cont'd). Production statistics for the 2024 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
NYU15-8	311	229	95	7	18	29	47	0	0	75	47	1.069
NYU34-3	211	139	58	18	17	50	16	0	0	66	16	1.088
AOR10902-2	233	86	36	33	28	26	12	0	0	38	12	1.078
TX19009-2W	53	19	8	33	28	25	14	0	0	39	14	1.076
W17065-11	239	153	64	17	18	35	30	0	0	65	30	1.096
W19009-15	269	143	60	37	8	25	30	0	0	55	30	1.090
W19023-24	297	146	61	31	19	24	25	0	0	50	25	1.078
W19026-12	163	75	31	32	23	41	5	0	0	45	5	1.089
W19027-51	238	151	63	14	18	31	36	0	0	67	36	1.079
W19031-8	239	148	62	16	19	38	28	0	0	65	28	1.087
W19031-14	165	74	31	24	28	40	8	0	0	48	8	1.082

[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 40. Plant growth and tuber characteristics for the 2024 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	93	8	9	8	1	6	7	3	9	7	1.5		2
Lamoka	97	8	9	8	1	7	8	3	8	7	1.0		1
Snowden	95	7	9	8	1	6	7	2	8	6	.		3
Tier 1 = 1 rep													
AC15317-2W	27	6	9	9	1	7	7	2	9	7	1.5		4
AFC6911-2W	80	5	9	8	0	0	0	0	0	0	1.0		1
A15311-6C	87	7	9	7	1	8	8	3	8	7	1.5		3
NDA1849-4C	53	5	9	8	1	7	7	2	9	6	2.0		3
NDA1850-4C	93	4	9	9	0	0	0	0	0	0	1.5		1
AF6896-1	100	7	9	8	0	0	0	0	0	0	1.5		3
AF6911-4	100	6	9	9	0	0	0	0	0	0	1.0		2
AF7114-12	100	8	9	7	0	0	0	0	0	0	1.0		2
AF7114-15	100	9	9	7	0	0	0	0	0	0	1.0		2
AF7131-2	100	8	9	9	0	0	0	0	0	0	1.5		1
AF7145-2	87	8	9	7	0	0	0	0	0	0	1.5		1
AF7149-2	100	7	9	8	0	0	0	0	0	0	1.5		1
AF7153-4	93	7	9	7	1	7	8	1	9	6	1.5		3
AF7157-7	87	8	9	7	1	7	8	3	9	8	1.5		4
AF7159-2	87	8	9	8	0	0	0	0	0	0	1.5		1
AF7170-7	93	8	9	8	2	7	8	3	8	7	1.5		2
AF7172-3	100	8	9	8	0	0	0	0	0	0	1.0		1
AF7173-7	27	4	9	9	0	0	0	0	0	0	1.0		2
AF7182-6	100	7	9	8	1	7	7	2	9	7	1.5		3
AF7183-2	93	7	9	7	0	0	0	0	0	0	1.5		1
NDAF17137-5	93	9	9	7	0	0	0	0	0	0	1.0		2
B20NC1111-1	100	9	9	7	1	8	9	3	9	5	1.5		2
MSFF038-3	73	5	9	8	0	0	0	0	0	0	1.0		2
MSGG190-1	100	8	9	8	0	0	0	0	0	0	1.0		2
MSGG263-1	93	6	9	8	0	0	0	0	0	0	1.5		4

Table 40 (cont'd). Plant growth and tuber characteristics for the 2024 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
MSGG282-20	100	8	9	7	1	6	7	1	9	6	1.0		3
MSHH004-2	100	5	9	7	1	8	8	2	7	7	1.5		3
MSHH015-5	93	5	9	7	1	7	7	3	9	6	1.0		3
MSHH018-3	93	8	9	7	1	8	8	2	9	5	1.0		2
MSHH018-4	80	4	9	9	1	8	8	2	9	8	1.0		3
MSHH034-12	100	9	9	8	0	0	0	0	0	0	1.0		1
MSHH043-10	93	9	9	6	1	6	7	2	7	5	1.5		2
MSHH048-4	93	6	9	8	0	0	0	0	0	0	1.0		3
MSHH056-03	87	6	9	9	0	0	0	0	0	0	1.5		1
MSHH063-2	87	8	9	8	1	6	7	3	8	7	1.5		1
MSHH066-6	93	5	9	8	0	0	0	0	0	0	1.5		3
MSHH068-10	73	7	9	8	0	0	0	0	0	0	1.5		2
MSHH069-3	93	8	9	8	0	0	0	0	0	0	1.5		2
MSHH119-1	100	6	9	7	0	0	0	0	0	0	1.5		2
MSHH130-1	80	8	9	7	1	6	7	2	8	8	1.5		1
MN18W17039-005	93	7	9	8	0	0	0	0	0	0	1.5		3
MN18W17043-012	60	4	9	9	1	7	8	2	8	7	1.0		3
MN20AF7131-002	93	7	9	6	1	7	8	3	9	6	1.0		3
MN20AF7145-002	93	5	9	7	1	8	9	3	9	8	2.0		4
MN20AF7174-001	93	8	9	7	0	0	0	0	0	0	1.5		1
MN20CO18127-003	100	8	9	8	0	0	0	0	0	0	1.5		3
MN20CO18192-001	87	9	6	9	0	0	0	0	0	0	1.5		3
MN20ND184Y-120	100	8	9	6	1	7	8	3	7	6	2.0		3
MN20ND1810Y-128	93	7	9	7	1	8	9	2	9	9	2.0		3
MN20ND1810Y-297A	80	7	9	8	0	0	0	0	0	0	1.5		1
MN20ND1833B-001	100	9	9	6	0	0	0	0	0	0	1.0		3
MN20TX417-003	80	8	9	6	1	7	8	2	8	6	2.0		3
MN20W19027-074	93	8	9	7	0	0	0	0	0	0	1.5		3
MN21ND1835B-041	87	7	9	6	1	8	9	2	9	7	1.0		3
MN21ND1835B-096	100	9	9	5	0	0	0	0	0	0	1.5		3

Table 40 (cont'd). Plant growth and tuber characteristics for the 2024 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
MN21ND1835B-134	80	8	9	8	0	0	0	0	0	0	1.5		4
MN21ND1845B-036	100	7	9	7	1	7	8	2	8	5	2.5		2
MN21ND1845B-077	87	7	9	7	0	0	0	0	0	0	1.5		3
MN21ND1845B-100	93	6	9	9	1	7	8	3	6	5	1.5		2
MN21ND1845B-112	80	7	9	8	1	8	8	2	9	5	1.5		3
MN21ND1930-004	87	8	9	7	0	0	0	0	0	0	2.0		2
NC1106-02GS	93	6	9	8	1	7	7	2	9	7	1.5		3
NC1106-04GS	80	9	9	8	0	0	0	0	0	0	1.0		2
NC1110-15GS	93	7	9	7	0	0	0	0	0	0	1.5		3
NC1118-16GS	87	6	9	8	1	7	7	1	7	7	1.5		2
NC1118-21GS	100	6	9	7	1	7	8	3	7	7	1.5		3
NC1119-06GS	100	6	9	6	2	7	7	5	9	8	1.5		3
NC1122-05GS	87	6	9	7	1	8	8	3	8	6	1.5		2
NC1122-13GS	73	7	9	7	0	0	0	0	0	0	1.0		2
NC1125-21GS	93	7	9	6	1	6	7	3	8	8	1.0		4
NC1127-02GS	100	9	6	6	0	0	0	0	0	0	1.5		2
NC1127-19GS	80	9	6	6	1	6	7	3	9	7	1.0		2
NC1127-24GS	93	7	9	5	1	6	7	1	8	6	1.0		3
NC1127-25GS	80	7	9	9	0	0	0	0	0	0	1.5		3
NC1127-30GS	93	9	9	7	0	0	0	0	0	0	1.0		2
NC1127-32GS	80	7	9	7	1	6	7	2	9	7	1.5		3
NC1127-39GS	100	7	9	7	1	7	8	3	7	4	1.5		3
NC1127-42GS	93	6	9	6	0	0	0	0	0	0	1.0		3
NC1130-01GS	80	6	9	9	1	6	7	3	8	7	1.5		3
NC1130-02GS	100	8	9	6	0	0	0	0	0	0	1.0		3
NCV20-02GS	93	8	9	7	0	0	0	0	0	0	1.0		2
NCV22-03GS	80	6	9	7	1	7	8	2	7	6	1.0		3
NCV116-03	80	6	9	7	1	8	8	3	9	8	1.0		3
NYU21-2	87	7	9	6	1	7	8	3	9	7	1.0		3
NYV6-11	80	6	9	8	0	0	0	0	0	0	1.0		1

Table 40 (cont'd). Plant growth and tuber characteristics for the 2024 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
NYV8-1	80	8	9	8	0	0	0	0	0	0	1.0		2
NYV111-4	87	8	9	8	0	0	0	0	0	0	1.0		2
NYV119-1	93	6	9	8	1	7	7	2	7	7	1.0		2
NYV119-5	80	9	9	7	0	0	0	0	0	0	1.0		1
NYV119-12	100	8	9	8	1	6	7	1	9	6	1.0		2
NYV119-17	93	8	9	7	1	7	8	1	9	7	1.0		3
NYV122-1	60	6	9	7	1	8	9	2	8	8	1.0		3
NYV123-1	73	9	9	6	0	0	0	0	0	0	1.0		3
AO18354-1	67	4	9	8	1	6	7	1	8	7	2.0		3
AO18354-7	100	9	9	8	1	6	7	2	9	5	1.5		1
AO18363-5	67	7	9	6	0	0	0	0	0	0	1.0		3
OR191009-2	100	9	9	5	0	0	0	0	0	0	2.5		2
OR191009-4	87	5	9	8	0	0	0	0	0	0	1.0		2
COTX19084-2W	87	8	9	7	0	0	0	0	0	0	1.0		3
COTX19096-1W	100	7	9	6	1	7	8	2	9	7	1.0		4
COTX19096-8W	100	6	9	7	0	0	0	0	0	0	1.0		3
COTX19123-2Ru	100	7	9	8	1	6	7	2	8	7	1.5		1
COTX19132-1W	73	8	9	7	0	0	0	0	0	0	1.5		3
NDTX2023-2W	80	7	9	7	0	0	0	0	0	0	1.5		2
NDTX2024-2W	93	7	9	7	0	0	0	0	0	0	1.0		3
TX20004-1W	80	5	4	7	0	0	0	0	0	0	1.0		3
TX20004-6W/Y	80	7	9	6	3	8	8	1	8	7	1.0		4
TX20005-9W	100	6	9	5	0	0	0	0	0	0	1.0		3
TX20097-4W	100	5	9	6	1	8	9	1	9	8	1.5		3
TX20815-11W	80	7	9	7	2	6	8	3	8	7	1.0		2
TX20820-1W	100	8	9	4	0	0	0	0	0	0	0.0		3
TX20820-19W	100	8	4	4	0	0	0	0	0	0	1.5		3
TX20820-30W	87	7	9	7	1	8	9	3	9	9	1.0		2
W13NYP19-2	87	5	9	7	1	7	7	3	8	8	1.0		3
W19012-12	93	6	9	8	0	0	0	0	0	0	1.0		2

Table 40 (cont'd). Plant growth and tuber characteristics for the 2024 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
W19027-4	93	6	9	8	1	7	8	2	9	6	1.0		2
W19027-40	100	8	9	8	0	0	0	0	0	0	1.0		2
W20001-29	80	8	9	7	1	7	7	2	9	6	1.5		3
W20005-13	93	9	9	8	0	0	0	0	0	0	1.0		2
W20005-28	93	6	9	9	0	0	0	0	0	0	1.0		1
W20017-8	87	7	9	6	0	0	0	0	0	0	1.5		2
W20017-28	87	7	9	7	0	0	0	0	0	0	1.0		3
W20019-1	87	8	9	7	0	0	0	0	0	0	1.0		2
W20020-1	100	8	9	6	0	0	0	0	0	0	1.0		3
W20022-5	87	6	9	8	1	8	8	2	9	8	1.0		3
W20022-8	93	7	9	6	0	0	0	0	0	0	1.0		3
W20023-10	93	7	9	7	0	0	0	0	0	0	1.5		2
W20024-1	73	6	9	7	0	0	0	0	0	0	1.5		2
W20024-12	87	6	9	9	0	0	0	0	0	0	0.0		1
W20031-37	100	9	9	6	1	7	8	3	9	8	1.0		4
W20035-5	100	9	6	7	0	0	0	0	0	0	1.5		3
Tier 2 = 2 reps													
Bliss (NY163)	90	6	9	7	1	8	9	2	9	7	1.0		3
Dundee (MSZ242-13)	87	8	9	8	.	.	.	.	.	.	1.5		2
MSBB058-1	100	7	9	7	.	.	.	.	.	.	1.0		1
NC470-3	100	8	9	9	.	.	.	.	.	.	1.5		1
ND13220C-3	87	9	8	8	1	8	8	3	8	7	1.0		1
NY174	93	9	9	7	1	8	8	2	9	6	1.5		2
A13125-3C	77	7	9	9	.	.	.	.	.	.	1.5		3
A16150-1C	100	8	9	8	1	7	8	3	8	6	1.0		2
AF5933-4	97	5	9	9	1	7	7	3	8	6	1.5		2
AF6200-7	93	8	9	8	.	.	.	.	.	.	1.0		2
AF6565-8	93	7	9	8	1	6	7	3	9	7	1.0		1
AF6671-10	87	6	9	9	1	7	8	1	8	7	1.0		2
AF6872-11	70	5	9	9	1	8	8	2	8	7	1.5		3

Table 40 (cont'd). Plant growth and tuber characteristics for the 2024 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
AF6880-9	87	8	9	8	1	7	8	3	8	7	1.0		2
AF6883-8	80	6	9	9	1	6	7	2	9	8	1.0		1
AF6978-1	100	7	9	9	1	7	7	2	7	6	1.5		1
B3296-3	87	6	9	8	1	7	7	3	8	7	1.5		2
B3379-2	100	7	9	7	1	7	8	2	8	7	1.5		3
B3379-6	90	8	9	6	2	7	8	1	9	.	1.5		3
B3403-6	100	9	9	8	.	.	.	.	.	.	1.5		1
B3471-1	93	6	9	7	1	8	8	3	8	8	1.0		3
BNC811-15	100	7	9	9	1	7	8	3	8	7	1.5		2
BNC973-7	23	3	9	9	1	7	7	2	8	7	1.0		2
MSDD244-05	93	9	9	8	2	6	7	2	7	7	1.0		2
MSDD247-07	87	7	9	8	.	.	.	.	.	.	1.0		2
MSDD247-11	90	8	9	6	1	6	8	2	8	7	1.0		2
MSDD376-4	97	8	9	8	2	6	7	1	8	6	1.0		1
MSEE031-3	90	7	9	7	1	8	8	2	8	7	1.0		2
MSEE182-3	93	6	9	8	1	6	7	2	8	8	1.5		2
MSEE207-2	93	8	9	7	1	7	7	2	8	8	1.0		2
MN18W17043-006	93	9	9	8	.	.	.	.	.	.	1.0		2
NC958-B	70	6	9	8	1	8	9	3	9	6	1.5		2
NC1030-77	90	7	9	7	1	7	7	2	9	7	1.5		3
NC1036-13	100	6	9	4	1	7	8	2	9	6	2.5		3
NC1042-19	50	7	9	7	1	6	8	3	9	7	1.0		3
NC1046-03	87	9	9	8	.	.	.	.	.	.	1.5		1
NY173	73	7	9	9	2	8	8	2	8	8	1.0		2
NY175	93	8	9	9	1	8	8	2	8	8	1.0		1
NY179	97	9	9	8	2	7	8	3	9	8	1.0		1
NY180	87	8	9	6	1	8	9	3	9	7	1.0		2
NY181	73	7	9	8	1	7	8	2	9	7	1.0		3
NYT7-7	83	5	9	9	1	7	7	3	8	6	1.0		3
NYT34-1	100	8	9	6	1	6	7	3	8	7	1.0		3

Table 40 (cont'd). Plant growth and tuber characteristics for the 2024 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
NYU15-8	90	6	9	8	1	7	7	2	8	8	1.5		2
NYU34-3	87	6	9	9	.	.	.	.	.	.	1.0		2
AOR10902-2	93	7	9	7	1	8	8	2	8	7	1.0		3
TX19009-2W	63	4	9	7	3	8	8	2	9	7	1.5		3
W17065-11	87	6	9	9	.	.	.	.	.	.	1.5		2
W19009-15	93	9	9	7	.	.	.	.	.	.	1.0		3
W19023-24	93	9	9	8	1	7	7	2	8	7	1.5		2
W19026-12	97	8	9	6	.	.	.	.	.	.	1.0		3
W19027-51	73	7	9	8	1	6	7	3	8	6	1.0		2
W19031-8	93	7	9	7	.	.	.	.	.	.	1.0		2
W19031-14	80	7	9	7	.	.	.	.	.	.	1.0		3

[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 41. External and internal defects for the 2024 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Atlantic	1	0	2	3	6	8	5	0	0
Lamoka	0	0	1	4	5	0	0	0	0
Snowden	0	0	0	3	3	0	5	0	5
Tier 1 = 1 rep									
AC15317-2W	0	8	7	8	23	0	0	0	0
AFC6911-2W	0	0	2	1	3	0	0	0	0
A15311-6C	0	0	3	8	11	10	0	0	0
NDA1849-4C	0	3	0	10	13	10	0	0	0
NDA1850-4C	0	0	1	3	4	0	0	0	0
AF6896-1	0	6	0	6	12	20	0	0	20
AF6911-4	0	0	0	2	2	0	0	10	0
AF7114-12	0	0	0	4	4	0	0	0	0
AF7114-15	0	0	0	5	5	0	0	0	0
AF7131-2	0	0	1	3	4	0	0	0	0
AF7145-2	2	0	0	5	7	0	0	0	0
AF7149-2	0	0	1	4	5	0	0	0	0
AF7153-4	0	0	0	2	2	0	0	0	10
AF7157-7	0	0	0	14	14	20	0	0	0
AF7159-2	0	0	0	5	5	0	0	0	0
AF7170-7	0	0	0	3	3	0	0	0	0
AF7172-3	0	0	0	6	6	0	0	0	0
AF7173-7	0	0	0	5	5	0	0	0	0
AF7182-6	0	0	1	1	2	0	0	10	0
AF7183-2	0	0	0	1	1	0	0	0	0
NDAF17137-5	0	0	0	6	6	0	0	0	10
B20NC1111-1	0	0	3	4	6	0	0	0	10
MSFF038-3	0	0	1	5	6	0	0	0	0
MSGG190-1	0	0	0	6	6	0	0	0	0
MSGG263-1	0	0	0	6	6	0	0	10	0

Table 41 (cont'd). External and internal defects for the 2024 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
MSGG282-20	0	0	0	4	4	0	0	0	0
MSHH004-2	0	0	0	0	0	0	0	0	0
MSHH015-5	0	0	0	5	5	0	0	0	0
MSHH018-3	0	0	0	4	4	0	0	0	0
MSHH018-4	0	0	0	9	9	0	0	0	0
MSHH034-12	0	0	2	7	8	0	0	0	0
MSHH043-10	0	0	1	7	8	0	10	0	0
MSHH048-4	0	0	0	0	0	0	0	0	0
MSHH056-03	0	0	0	5	5	0	0	0	0
MSHH063-2	0	0	4	1	4	0	0	0	0
MSHH066-6	0	0	3	13	16	0	0	0	0
MSHH068-10	0	0	0	1	1	0	0	0	0
MSHH069-3	0	0	0	0	0	0	0	0	0
MSHH119-1	0	0	0	4	4	0	0	0	0
MSHH130-1	0	0	0	3	3	0	0	0	0
MN18W17039-005	0	0	0	2	2	0	0	0	10
MN18W17043-012	0	0	0	4	4	.	.	.	.
MN20AF7131-002	0	0	0	5	5	0	0	0	0
MN20AF7145-002	8	10	0	2	20	0	0	0	0
MN20AF7174-001	0	0	1	6	7	0	0	0	0
MN20CO18127-003	0	0	0	0	0	0	0	10	0
MN20CO18192-001	0	6	4	2	12	10	0	90	0
MN20ND184Y-120	0	0	0	5	5	0	0	0	0
MN20ND1810Y-128	0	0	0	4	4	0	0	0	0
MN20ND1810Y-297A	0	0	5	4	9	0	0	0	0
MN20ND1833B-001	0	0	0	0	0	0	10	0	0
MN20TX417-003	3	0	0	5	8	0	0	0	0
MN20W19027-074	0	0	0	11	11	14	0	0	0
MN21ND1835B-041	0	0	0	0	0	0	0	0	0
MN21ND1835B-096	0	0	0	3	3	0	0	0	0

Table 41 (cont'd). External and internal defects for the 2024 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
MN21ND1835B-134	0	0	0	3	3	0	0	10	0
MN21ND1845B-036	0	0	0	3	3	0	0	0	0
MN21ND1845B-077	0	0	0	3	3	0	0	0	0
MN21ND1845B-100	0	0	0	7	7	0	0	0	0
MN21ND1845B-112	6	0	0	7	13	0	0	0	0
MN21ND1930-004	7	0	2	2	11	0	0	0	0
NC1106-02GS	0	0	2	0	2	0	0	0	0
NC1106-04GS	0	0	0	5	5	0	0	0	0
NC1110-15GS	0	0	0	5	5	0	10	0	0
NC1118-16GS	6	0	0	7	13	0	0	0	0
NC1118-21GS	0	0	0	4	4	.	.	.	.
NC1119-06GS	0	0	0	0	0	0	0	0	0
NC1122-05GS	0	0	0	3	3	0	0	0	0
NC1122-13GS	0	0	0	2	2	0	0	0	0
NC1125-21GS	0	0	0	7	7	0	0	10	0
NC1127-02GS	0	3	0	2	5	0	0	0	0
NC1127-19GS	11	0	0	0	11	0	0	0	0
NC1127-24GS	0	0	0	0	0	0	0	0	0
NC1127-25GS	0	0	0	7	7	20	0	0	0
NC1127-30GS	0	0	0	2	2	0	0	0	0
NC1127-32GS	0	0	0	5	5	0	0	0	0
NC1127-39GS	0	0	0	2	2	.	.	.	.
NC1127-42GS	6	0	0	2	8	0	0	0	0
NC1130-01GS	0	0	0	0	0	0	0	10	0
NC1130-02GS	0	0	0	4	4	0	0	0	0
NCV20-02GS	0	0	0	3	3	0	0	0	0
NCV22-03GS	0	0	0	3	3	0	0	0	0
NCV116-03	4	0	0	0	4	0	0	0	0
NYU21-2	0	0	0	0	0	.	.	.	.
NYV6-11	0	0	1	3	4	0	0	0	0

Table 41 (cont'd). External and internal defects for the 2024 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
NYV8-1	0	0	0	11	11	0	0	0	0
NYV111-4	0	0	0	0	0	0	0	0	0
NYV119-1	0	0	0	5	5	0	0	0	0
NYV119-5	0	1	0	2	3	0	0	0	0
NYV119-12	0	0	0	1	1	0	0	0	0
NYV119-17	0	0	0	4	4	0	10	0	0
NYV122-1	0	0	0	3	3	0	0	0	0
NYV123-1	0	0	4	4	9	0	0	0	0
AO18354-1	0	0	0	10	10	0	0	0	0
AO18354-7	0	0	1	6	7	0	0	0	0
AO18363-5	0	0	2	0	2	0	0	0	0
OR191009-2	2	0	0	6	7	0	0	0	0
OR191009-4	0	2	0	7	9	0	0	0	0
COTX19084-2W	10	0	0	0	10	0	0	0	0
COTX19096-1W	0	0	2	8	11	0	0	10	0
COTX19096-8W	0	0	0	0	0	0	0	0	0
COTX19123-2Ru	0	0	0	1	1	0	0	0	0
COTX19132-1W	0	0	2	4	5	0	0	0	0
NDTX2023-2W	0	0	0	2	2	0	0	0	0
NDTX2024-2W	0	0	0	0	0	0	0	0	0
TX20004-1W	0	0	2	2	4	0	0	0	0
TX20004-6W/Y	0	0	0	7	7	0	0	10	0
TX20005-9W	0	0	0	0	0	0	0	0	0
TX20097-4W	0	0	0	2	2	.	.	.	.
TX20815-11W	0	0	0	0	0	0	0	0	0
TX20820-1W	0	0	0	0	0	0	0	0	0
TX20820-19W	0	0	0	8	8	0	0	0	0
TX20820-30W	0	0	0	2	2	0	0	0	0
W13NYP19-2	2	0	0	2	4	0	0	0	0
W19012-12	0	0	0	0	0	0	0	0	0

Table 41 (cont'd). External and internal defects for the 2024 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
W19027-4	3	0	4	0	8	0	0	0	0
W19027-40	0	0	0	0	0	0	0	0	0
W20001-29	0	0	8	3	11	0	0	0	0
W20005-13	0	0	0	0	0	0	0	0	0
W20005-28	0	0	1	3	4	0	0	0	0
W20017-8	0	0	0	0	0	0	0	0	0
W20017-28	16	0	2	3	21	0	0	0	0
W20019-1	0	0	0	0	0	0	0	0	0
W20020-1	0	0	2	0	2	0	0	0	0
W20022-5	0	0	0	2	2	10	0	0	0
W20022-8	0	0	0	5	5	0	0	0	0
W20023-10	0	0	0	0	0	0	0	0	0
W20024-1	0	0	0	0	0	0	0	0	0
W20024-12	0	0	0	2	2	0	0	0	0
W20031-37	4	0	0	2	5	0	20	0	0
W20035-5	0	0	1	2	3	0	0	10	0
Tier 2 = 2 reps									
Bliss (NY163)	0	0	0	6	6	0	0	0	0
Dundee (MSZ242-13)	0	2	1	5	8	0	0	0	0
MSBB058-1	1	0	0	2	3	0	0	0	0
NC470-3	0	0	5	2	7	0	0	0	0
ND13220C-3	0	0	0	2	3	0	0	0	0
NY174	0	0	0	4	4	0	5	0	0
A13125-3C	0	0	1	17	18	0	5	0	0
A16150-1C	2	0	2	5	10	0	5	0	0
AF5933-4	1	0	1	0	3	0	0	0	0
AF6200-7	0	0	0	3	3	0	0	0	0
AF6565-8	0	0	3	2	5	0	0	0	0
AF6671-10	0	0	0	7	7	0	0	0	0
AF6872-11	0	0	0	0	0	0	0	0	0

Table 41 (cont'd). External and internal defects for the 2024 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF6880-9	0	0	6	1	7	0	0	0	0
AF6883-8	0	0	0	3	3	0	0	0	0
AF6978-1	0	0	0	1	1	0	0	0	0
B3296-3	0	2	0	3	5	10	0	0	0
B3379-2	0	0	0	3	3	0	0	0	0
B3379-6	1	0	0	3	4	0	0	0	0
B3403-6	0	1	1	4	6	0	0	0	0
B3471-1	0	0	0	2	2	0	0	0	0
BNC811-15	0	0	0	3	3	0	0	0	0
BNC973-7	0	0	0	4	4	0	0	0	0
MSDD244-05	2	0	3	4	10	0	0	0	0
MSDD247-07	0	0	0	5	5	0	0	0	0
MSDD247-11	1	0	0	3	4	0	0	0	0
MSDD376-4	0	1	0	0	1	0	0	0	0
MSEE031-3	0	0	0	2	2	0	0	0	0
MSEE182-3	0	0	1	2	3	0	0	0	0
MSEE207-2	0	0	0	3	3	0	0	0	0
MN18W17043-006	0	0	1	2	3	0	5	0	0
NC958-B	0	0	0	3	3	0	0	0	0
NC1030-77	0	0	0	5	5	5	0	0	5
NC1036-13	0	0	1	5	6	0	0	0	0
NC1042-19	0	0	0	4	4	0	5	0	0
NC1046-03	0	0	2	1	4	0	0	0	0
NY173	1	0	1	2	3	0	0	0	0
NY175	0	0	0	3	4	0	0	0	0
NY179	0	0	1	1	1	0	0	0	0
NY180	0	0	0	2	2	0	5	0	0
NY181	0	0	0	6	6	0	0	0	0
NYT7-7	0	0	0	12	12	0	0	5	0
NYT34-1	0	0	0	2	2	0	0	0	0

Table 41 (cont'd). External and internal defects for the 2024 Potatoes USA National Chip Processing Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
NYU15-8	0	0	0	2	2	0	0	10	0
NYU34-3	0	0	1	1	2	0	5	0	0
AOR10902-2	0	0	0	4	4	0	0	0	0
TX19009-2W	0	0	0	3	3	0	0	0	0
W17065-11	0	0	0	4	4	0	0	0	0
W19009-15	0	0	0	8	8	0	0	5	0
W19023-24	0	0	1	2	3	0	0	0	0
W19026-12	0	0	0	0	0	0	0	0	0
W19027-51	0	0	0	5	5	0	0	0	0
W19031-8	0	0	0	5	5	0	0	0	0
W19031-14	0	0	0	4	4	0	10	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), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

Chapter 8. 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. Potato samples were fried by Utz Quality Foods.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	February 8, 2024
Vine Kill Date	N/A
Harvest Date	May 13, 2024
Season Length	95 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	Seepage

Experimental Design

Number of Varieties	2 (Standard: Atlantic)
Number of Clones	9
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.0 m)
Replications	4
Plot Size	20 ft (6.1 m) x 2

Production Statistics

Early Vigor Ratings	41 DAP
Highest Total Yield	NC470-3 (407 cwt/A or 45.6 T/ha)
Highest Marketable Yield	NC470-3 (349 cwt/A or 39.1 T/ha)
Highest Specific Gravity	NY177 (1.094)

Table 42. Production statistics for the 2024 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–95 days												
AF6200-4	228	138	47	15	23	36	26	0	0	62	26	1.090
AF6206-3	229	142	48	16	21	38	26	0	0	63	26	1.084
AF6206-5	328	229	78	11	14	41	34	0	0	75	34	1.087
MSBB058-1	276	202	69	13	16	30	41	0	0	71	41	1.089
NC470-3	407	349	119	5	7	20	67	1	0	88	68	1.082
ND13220C-3	364	211	72	23	19	50	7	0	0	58	8	1.093
W17AF6670-1	272	194	66	12	16	42	30	0	0	72	30	1.089
W17043-37	351	228	78	18	16	35	31	0	0	66	31	1.085
NY177	329	206	71	17	17	42	23	0	0	65	23	1.094
Atlantic	372	292	100	9	11	36	43	1	0	80	44	1.088
Snowden	237	156	53	13	21	42	25	0	0	66	25	1.089
MSD[3]	108	101		9	7	10	17	ns	ns	14	16	0.006
P Value	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	0.0865	-	<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 43. Plant growth and tuber characteristics for the 2024 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	Merit
AF6200-4	91	8	9	8	1	7	7	2	7	7	3
AF6206-3	89	7	9	8	1	8	8	3	7	8	3
AF6206-5	87	8	9	8	1	7	8	3	8	6	2
MSBB058-1	90	8	9	7	1	6	7	2	8	8	3
NC470-3	93	9	9	9	1	6	7	3	9	9	1
ND13220C-3	93	9	8	8	1	7	8	3	9	8	2
W17AF6670-1	93	8	8	7	1	6	8	2	9	7	2
W17043-37	92	9	8	8	1	6	7	3	9	7	2
NY177	86	8	9	7	1	7	8	3	9	7	2
Atlantic	91	9	8	8	1	6	7	2	8	7	2
Snowden	90	9	9	7	1	6	7	2	7	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 44. External and internal defects for the 2024 Potatoes USA SNAC Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF6200-4	0	0	1	4	5	0	0	0	0
AF6206-3	0	0	1	2	3	0	0	0	0
AF6206-5	3	0	1	3	7	0	0	0	0
MSBB058-1	0	0	1	2	3	0	0	8	0
NC470-3	0	0	2	1	2	3	0	0	1
ND13220C-3	0	0	0	1	2	0	0	0	0
W17AF6670-1	0	0	0	1	2	0	0	0	0
W17043-37	0	0	0	1	2	0	0	0	1
NY177	0	0	1	4	5	0	0	0	0
Atlantic	0	0	0	2	2	0	0	3	1
Snowden	0	0	0	1	2	0	0	0	0
MSD[3]	1	ns	1	2	3	4	ns	7	ns
P Value	<0.0001	0.3141	0.0004	<0.0001	<0.0001	0.0280	-	0.0152	0.6140

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

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

Chapter 9. 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 13, 2024
Vine Kill Date	N/A
Harvest Date	May 22, 2024
Season Length	99 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	Seepage

Experimental Design

Number of Varieties	11 (Standard: Atlantic)
Number of Clones	55
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.0 m)
Replications	4
Plot Size	16 ft (4.9 m)

Production Statistics

Early Vigor Ratings	42 DAP
Highest Total Yield	Atlantic (291 cwt/A or 32.6 T/ha)
Highest Marketable Yield	Atlantic (193 cwt/A or 21.6 T/ha)
Highest Specific Gravity	AF7114-12 (1.088)

Table 45. Production statistics for the 2024 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
Season–99 days												
Sinatra	221	79	50	45	24	20	11	0	0	31	11	1.081
MI-1	144	24	15	61	22	13	5	0	0	17	5	1.080
MI-2	199	39	25	52	27	19	2	0	0	21	2	1.074
Atlantic	197	119	76	19	17	23	41	1	0	64	41	1.077
NC1030-77	195	78	50	39	21	21	19	0	0	40	19	1.079
Atlantic	291	193	124	17	14	25	44	1	0	69	45	1.071
Snowden	188	94	60	27	22	29	22	0	0	51	22	1.080
AF5933-4	187	102	65	24	24	31	22	0	0	52	22	1.081
AF6200-4	119	42	27	33	31	17	18	0	0	35	18	1.080
AF6200-7	172	65	42	34	26	27	13	0	0	41	13	1.080
AF6206-3	193	88	56	21	29	22	27	0	0	50	27	1.079
AF6206-5	175	68	44	34	24	28	13	0	0	41	13	1.079
AF6565-8	178	93	59	24	25	28	23	0	0	51	23	1.076
AF6601-2	146	58	37	32	30	22	16	0	0	38	16	1.080
B3296-3	198	128	82	16	18	24	42	0	0	66	42	1.084
B3403-6	207	90	57	33	24	20	24	0	0	44	24	1.077
Bliss (NY163)	133	81	52	16	23	32	29	0	0	61	29	1.069
NY174	179	112	72	18	19	34	29	0	0	63	29	1.077
NY177	157	70	45	33	26	24	16	0	0	40	16	1.086
NY179	231	131	84	17	25	28	30	0	0	58	30	1.071
NY180	139	77	49	31	22	34	14	0	0	48	14	1.078
NY181	159	33	21	55	28	14	4	0	0	17	4	1.083
AF6550-2	182	85	55	32	22	27	20	0	0	47	20	1.083
AF6652-3	230	145	93	19	18	22	41	0	0	63	41	1.080
AF6671-10	92	23	15	51	22	20	7	0	0	27	7	1.078
AF6896-1	222	115	74	23	21	29	28	0	0	56	28	1.083
AF6978-1	220	118	75	23	20	32	24	0	0	56	24	1.072
AF6894-12	154	62	40	33	22	28	17	0	0	46	17	1.073
AF7114-12	226	136	87	22	18	23	37	0	0	60	37	1.088
AF7114-15	170	48	31	46	25	21	8	0	0	29	8	1.080

Table 45 (cont'd). Production statistics for the 2024 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
AF7153-4	207	121	78	24	18	26	31	0	0	57	32	1.079
AF7172-3	228	118	75	21	27	25	27	0	0	52	27	1.081
AF7173-7	111	55	35	26	25	26	23	0	0	49	23	1.072
AF7182-6	194	109	70	21	23	31	25	0	0	56	25	1.073
AF7183-2	229	90	58	40	15	26	18	0	0	44	18	1.068
NDAF17137-5	150	75	48	27	20	31	21	0	0	52	21	1.076
B20NC1111-1	173	116	74	16	15	28	40	0	0	69	40	1.068
BNC182-5	281	161	103	22	17	20	41	0	0	61	41	1.073
BNC811-15	127	43	28	36	30	14	20	0	0	34	20	1.078
BNC816-3	132	48	31	38	24	20	18	0	0	38	18	1.079
B3379-2	149	45	29	42	28	18	12	0	0	30	12	1.087
B3403-6	250	95	61	36	26	17	21	0	0	38	21	1.081
B2869-29	121	39	25	43	23	20	14	0	0	34	14	1.082
BNC973-7	197	114	73	19	21	23	37	0	0	60	37	1.071
BNC974-1	139	88	56	17	18	30	35	0	0	65	35	1.068
B3471-1	181	52	33	45	28	18	9	0	0	27	9	1.077
B3480-15	122	52	33	33	25	29	13	0	0	41	13	1.078
BNC549-1	162	41	26	50	23	18	9	0	0	27	9	1.075
B3296-3	238	117	75	27	18	21	33	0	0	55	34	1.084
BNC726-5	160	65	42	34	25	30	11	0	0	42	11	1.077
BNC742-2	108	39	25	40	23	15	22	0	0	37	22	1.082
B3379-6	184	72	46	30	30	18	22	0	0	40	22	1.086
BNC811-15	120	44	28	36	28	15	21	0	0	36	21	1.075
BNC816-3	114	35	22	44	27	18	11	0	0	28	11	1.074
B3379-2	103	37	24	39	25	25	11	0	0	37	11	1.078
B3403-6	205	113	72	22	22	20	37	0	0	56	37	1.078
BNC974-1	121	52	33	25	23	26	26	0	0	52	26	1.071
B3451-8	90	25	16	43	31	18	8	0	0	26	8	1.077
B3471-1	103	39	25	33	28	25	14	0	0	38	14	1.074
B3480-15	166	65	41	39	22	19	19	0	0	38	19	1.079

Table 45 (cont'd). Production statistics for the 2024 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
Chippewa	157	56	36	43	24	25	8	0	0	33	8	1.073
Harley Blackwell (B0564-8)	140	60	38	32	23	20	25	0	0	45	25	1.072
Katahdin	149	56	36	36	25	31	8	0	0	39	8	1.073
Kennebec	160	55	35	37	25	28	10	0	0	38	10	1.075
Snowden	121	53	34	34	22	26	18	0	0	44	18	1.080
Superior	97	27	17	49	25	19	7	0	0	26	7	1.075
MSD[3]	61	45		12	10	12	11	ns	ns	14	11	0.009
P Value	<0.0001	<0.0001		<0.0001	0.0002	<0.0001	<0.0001	0.4865	-	<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 46. Plant growth and tuber characteristics for the 2024 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
Sinatra	82	7	9	7	1	8	8	2	8	6	3
MI-1	98	7	9	6	4	7	8	3	9	7	3
MI-2	91	6	9	8	3	7	9	3	9	8	3
Atlantic	93	6	9	8	5	6	7	2	8	7	-
NC1030-77	96	7	9	6	1	7	8	3	9	6	3
Atlantic	98	8	9	8	1	6	7	3	7	7	-
Snowden	95	7	9	7	1	6	7	2	8	7	2
AF5933-4	95	5	9	8	1	9	8	2	8	8	2
AF6200-4	92	6	9	7	1	7	8	3	7	7	3
AF6200-7	98	7	9	7	1	6	7	3	9	8	3
AF6206-3	93	5	9	8	1	6	8	2	8	8	3
AF6206-5	96	7	9	7	1	7	8	2	8	7	3
AF6565-8	90	6	9	7	.	.	.	.	.	.	2
AF6601-2	96	7	9	6	1	9	8	2	9	8	3
B3296-3	92	5	9	8	1	8	8	3	9	6	2
B3403-6	88	9	7	7	1	6	8	2	8	7	2
Bliss (NY163)	78	4	9	9	1	6	9	2	8	8	3
NY174	89	5	9	8	1	6	7	2	8	8	2
NY177	88	5	9	8	1	9	8	2	9	8	2
NY179	94	7	9	8	1	9	8	3	8	8	2
NY180	91	6	9	7	1	8	8	2	8	8	3
NY181	98	6	9	8	1	6	8	2	8	8	3
AF6550-2	89	6	9	7	2	9	9	2	9	8	2
AF6652-3	94	6	9	8	1	9	8	2	9	7	1
AF6671-10	95	6	9	7	1	7	8	2	7	7	3
AF6896-1	92	7	9	8	1	6	7	3	8	8	2
AF6978-1	97	6	9	9	1	6	8	3	8	7	2
AF6894-12	88	5	9	8	1	9	8	2	8	8	3
AF7114-12	96	7	9	8	1	8	8	2	9	6	1
AF7114-15	98	6	9	6	1	8	8	1	8	6	3

Table 46 (cont'd). Plant growth and tuber characteristics for the 2024 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
AF7153-4	90	7	9	7	1	6	8	2	7	7	2
AF7172-3	93	7	9	7	1	9	8	2	8	8	2
AF7173-7	51	4	9	9	1	7	8	3	8	9	2
AF7182-6	84	5	9	8	1	7	8	1	9	8	2
AF7183-2	83	6	9	8	1	9	8	2	8	7	3
NDAF17137-5	86	6	9	8	1	9	8	2	8	8	3
B20NC1111-1	86	7	9	8	1	8	8	3	9	7	2
BNC182-5	94	7	9	8	1	9	8	2	8	8	2
BNC811-15	88	5	9	8	2	9	8	2	9	7	2
BNC816-3	91	6	9	6	1	6	8	3	9	5	3
B3379-2	86	6	9	8	1	6	8	2	9	8	2
B3403-6	85	8	8	7	1	6	7	2	8	6	2
B2869-29	93	7	9	5	1	7	8	2	8	8	3
BNC973-7	54	3	9	9	1	9	8	2	8	8	2
BNC974-1	89	6	9	7	2	6	8	3	8	6	2
B3471-1	86	7	9	7	1	8	8	1	8	9	3
B3480-15	88	6	9	7	1	6	8	2	9	8	3
BNC549-1	91	7	9	7	1	6	8	3	9	8	3
B3296-3	93	7	9	8	1	8	9	3	7	6	2
BNC726-5	96	5	9	7	1	9	8	2	8	6	3
BNC742-2	96	7	9	4	1	9	8	3	9	8	2
B3379-6	95	8	9	6	1	7	8	1	9	7	3
BNC811-15	84	5	9	8	1	6	8	2	8	8	2
BNC816-3	89	7	9	6	1	7	8	2	7	7	3
B3379-2	89	5	9	8	1	.	.	.	.	.	2
B3403-6	91	5	9	9	2	6	8	2	7	5	2
BNC974-1	61	6	9	6	2	6	8	2	8	8	4
B3451-8	84	5	9	8	4	9	9	2	9	7	3
B3471-1	83	6	9	7	1	6	9	3	7	8	2
B3480-15	96	8	9	6	2	6	8	2	8	8	2

Table 46 (cont'd). Plant growth and tuber characteristics for the 2024 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
Chippewa	93	6	9	6	1	8	8	2	7	7	2
Harley Blackwell (B0564-8)	76	6	9	8	1	8	8	2	8	7	3
Katahdin	90	5	9	8	1	8	8	3	9	7	3
Kennebec	84	6	9	8	1	9	9	2	8	8	3
Snowden	95	6	9	7	1	6	8	2	8	8	2
Superior	93	6	9	5	1	6	8	2	8	6	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 47. External and internal defects for the 2024 USDA Chipping Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Sinatra	0	0	0	9	9	0	0	0	0
MI-1	0	0	0	4	4	0	0	0	0
MI-2	0	0	1	2	3	0	0	0	0
Atlantic	1	0	1	6	8	23	0	3	5
NC1030-77	0	0	0	1	1	0	0	0	0
Atlantic	0	0	0	7	7	25	8	10	0
Snowden	1	0	1	3	4	0	0	0	0
AF5933-4	0	0	0	1	1	0	0	3	0
AF6200-4	0	0	0	3	3	0	0	0	0
AF6200-7	0	0	0	6	6	0	0	0	0
AF6206-3	0	0	1	8	10	0	0	0	0
AF6206-5	0	0	0	8	8	0	0	0	0
AF6565-8	0	0	0	1	1	0	3	0	0
AF6601-2	0	0	0	2	2	0	0	0	0
B3296-3	0	0	1	1	2	0	0	0	0
B3403-6	0	0	1	4	5	0	0	0	0
Bliss (NY163)	0	0	0	2	2	0	0	0	0
NY174	0	0	0	2	2	0	0	0	0
NY177	0	0	0	3	3	0	3	0	0
NY179	1	0	0	2	3	0	0	0	0
NY180	0	0	0	1	1	0	0	0	0
NY181	0	0	0	2	2	0	0	0	0
AF6550-2	0	0	0	0	1	0	0	0	0
AF6652-3	0	0	0	2	2	3	0	0	0
AF6671-10	0	0	0	9	9	0	0	0	0
AF6896-1	2	0	1	5	8	0	0	0	0
AF6978-1	0	0	0	5	5	0	0	0	0
AF6894-12	0	0	0	13	13	0	0	0	0
AF7114-12	1	0	0	2	3	0	0	0	0
AF7114-15	0	0	0	3	3	0	0	0	0

Table 47 (cont'd). External and internal defects for the 2024 USDA Chipping Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF7153-4	0	0	1	3	5	0	0	5	3
AF7172-3	0	0	0	4	4	0	0	0	0
AF7173-7	0	0	2	5	6	3	3	0	0
AF7182-6	0	0	0	2	3	0	0	0	3
AF7183-2	0	0	0	10	10	0	0	0	0
NDAF17137-5	0	0	0	4	4	5	0	0	0
B20NC1111-1	0	0	0	7	7	10	0	3	8
BNC182-5	1	0	0	7	8	8	0	0	0
BNC811-15	0	0	0	2	2	0	0	0	3
BNC816-3	0	0	0	4	5	0	0	0	0
B3379-2	0	0	0	8	8	0	0	0	3
B3403-6	0	0	0	4	4	0	0	0	0
B2869-29	0	0	0	5	6	0	0	0	0
BNC973-7	0	0	0	14	14	0	0	0	0
BNC974-1	0	2	0	2	4	0	0	0	0
B3471-1	0	0	0	1	2	0	0	0	0
B3480-15	0	0	0	1	1	0	0	0	0
BNC549-1	0	0	0	6	8	7	0	0	0
B3296-3	0	0	2	8	11	0	0	0	5
BNC726-5	1	0	0	1	2	5	3	3	3
BNC742-2	1	0	0	0	1	0	3	0	0
B3379-6	1	0	0	4	5	0	0	0	0
BNC811-15	0	0	0	2	2	0	3	0	3
BNC816-3	1	0	0	0	1	0	0	0	0
B3379-2	0	0	0	3	3	3	0	0	0
B3403-6	2	0	0	3	5	0	0	0	0
BNC974-1	0	8	0	8	16	0	0	10	0
B3451-8	1	0	0	2	3	0	0	0	0
B3471-1	0	0	0	3	3	3	0	0	0
B3480-15	1	0	0	4	5	3	0	0	0

Table 47 (cont'd). External and internal defects for the 2024 USDA Chipping Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Chippewa	0	0	0	5	5	3	0	0	0
Harley Blackwell (B0564-8)	0	0	0	11	11	0	0	0	0
Katahdin	0	0	0	5	5	0	0	0	0
Kennebec	0	0	1	8	9	0	0	0	0
Snowden	0	0	1	0	1	3	0	0	0
Superior	0	0	0	5	5	3	0	0	0
MSD[3]	2	2	ns	5	6	7	4	ns	ns
P Value	0.0366	<0.0001	0.1959	<0.0001	<0.0001	<0.0001	0.0202	0.2393	0.4820

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

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

Chapter 10. 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 14, 2024
Vine Kill Date	May 15, 2024
Harvest Date	May 23, 2024
Season Length	91 days planting to vine kill
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	27 (Standard: Red LaSoda)
Number of Clones	55
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.0 m)
Replications	4
Plot Size	16 ft (4.9 m)

Production Statistics

Early Vigor Ratings	41 DAP
Highest Total Yield	AF6566-1 (543 cwt/A or 60.9 T/ha)
Highest Marketable Yield	AF6566-1 (468 cwt/A or 52.5 T/ha)
Best Appearance Rating	Jule, Marta, Natalia, HZM 11-3908, French Fingerling, Natascha, Soraya, AAF11546-3, BNC839-5, Georgina, Malou, Montana, NDAF1821Y-3, BNC981-1 (9, excellent)

Table 48. Production statistics for the 2024 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–91 days												
Allison	421	273	92	13	19	35	33	0	0	68	33	1.062
Jule	336	33	11	64	27	8	2	0	0	9	2	1.063
Marta	314	82	28	36	38	23	3	0	0	26	3	1.058
Natalia	305	204	69	13	20	37	30	0	0	67	30	1.052
HZA 13-1486	322	182	61	19	22	39	20	0	0	59	20	1.058
HZD 09-9222	383	287	97	7	12	37	44	0	0	81	44	1.059
HZD 10-4026	429	109	37	44	31	17	8	0	0	25	8	1.060
HZD 11-2987	357	77	26	51	28	20	2	0	0	21	2	1.067
HZM 11-3775	375	185	62	20	29	25	26	0	0	51	26	1.056
HZM 11-3908	317	202	68	10	24	36	30	0	0	66	30	1.057
VDW 11-1368	426	215	72	22	27	25	27	0	0	51	27	1.063
Adirondack Blue	307	222	75	8	15	36	41	0	0	77	41	1.066
All Blue	262	59	20	34	44	19	4	0	0	23	4	1.072
French Fingerling	244	74	25	34	35	28	3	0	0	31	3	1.065
Golden Globe	318	246	83	9	12	23	57	0	0	80	57	1.065
Goldrush	274	202	68	9	15	36	39	0	0	76	39	1.067
Lamoka (NY139)	412	357	120	4	6	24	65	1	0	89	66	1.074
Natascha	355	260	88	9	16	41	33	0	0	75	33	1.060
Red LaSoda	349	297	100	5	4	22	67	3	0	92	70	1.065
Satina	423	359	121	6	7	24	63	1	0	88	63	1.057
Soraya	421	350	118	5	9	23	62	0	0	85	62	1.057
Strawberry Paw (NY136)	409	308	104	9	13	22	56	0	0	78	56	1.067
Chieftain	452	364	123	8	8	28	56	0	0	84	56	1.062
Dark Red Norland	288	202	68	11	14	29	45	0	0	74	45	1.061
Katahdin	424	350	118	7	8	35	49	1	0	85	50	1.066
Kennebec	433	366	123	6	8	47	39	0	0	86	39	1.072
Superior	307	256	86	5	10	29	55	0	0	85	55	1.080
Yukon Gold	309	252	85	6	6	23	65	0	0	88	65	1.070
AAF11546-3	248	115	39	24	26	39	11	0	0	50	11	1.057
BNC559-1	353	295	99	5	8	39	49	0	0	87	49	1.068

Table 48 (cont'd). Production statistics for the 2024 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
BNC833-2	309	211	71	12	19	39	31	0	0	70	31	1.069
BNC839-5	254	180	61	11	16	15	58	0	0	73	58	1.064
BNC917-2	305	234	79	7	11	31	51	0	0	81	51	1.060
BNC981-1	271	166	56	13	21	35	31	0	0	66	31	1.073
CO10098-5W/Y	172	53	18	35	33	26	6	0	0	32	6	1.082
CO15211-1R	284	165	56	17	23	28	32	0	0	60	32	1.066
NCB2607-3	312	226	76	10	16	23	51	1	0	75	51	1.067
NDAF12238Y-2	346	260	88	9	11	26	54	0	0	80	54	1.069
Georgina	505	413	139	5	8	21	64	1	0	86	66	1.054
Malou	366	233	78	15	20	32	33	0	0	65	33	1.064
Montana	375	249	84	12	20	42	26	0	0	69	26	1.055
PSS16/330/4	265	157	53	18	18	34	29	0	0	63	29	1.060
PSS16/B363/15	444	294	99	15	19	37	30	0	0	66	30	1.058
PSS17/77/24	307	191	64	14	22	35	29	0	0	64	29	1.067
PSS19/0012/16	260	133	45	23	25	29	23	0	0	52	23	1.051
PSS19/0024/57	363	227	76	14	20	20	45	0	0	65	45	1.061
AF5280-5	389	315	106	6	8	12	71	3	0	86	74	1.062
AF5819-2	348	235	79	15	17	29	39	0	0	68	39	1.068
NDAF113484B-1	409	346	116	4	8	20	68	0	0	88	68	1.062
AF6551-4	307	253	85	4	6	15	74	0	0	90	75	1.066
AF6868-6	383	228	77	22	16	27	35	0	0	62	35	1.079
AAF11546-3	354	189	64	21	24	38	17	0	0	55	17	1.057
AF5412-3	290	202	68	11	17	35	37	0	0	73	37	1.059
AF6566-1	543	468	158	5	6	19	70	0	0	89	70	1.076
AF6575-6	308	120	41	34	28	26	12	0	0	38	12	1.068
AF6889-4	403	341	115	5	8	15	72	0	0	87	72	1.075
AF6903-3	475	351	118	11	14	36	38	0	0	75	39	1.075
AF6969-3	348	297	100	5	6	18	68	3	0	89	71	1.069
NDAF1489-4	358	218	73	17	21	41	20	0	0	61	20	1.060
WAF14096-5	411	272	92	14	19	24	44	0	0	67	44	1.067

Table 48 (cont'd). Production statistics for the 2024 Fresh Market, Red, and Purple Variety 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
AF7095-7	399	271	91	15	17	36	32	0	0	68	32	1.071
AF7174-3	270	207	70	8	14	33	45	0	0	78	45	1.066
AF7090-9	414	296	100	9	16	24	51	0	0	75	51	1.062
AF7095-4	462	358	121	10	11	37	42	0	0	79	42	1.068
AF7108-3	324	189	64	16	24	26	33	0	0	59	33	1.069
AF7111-4	494	320	108	15	20	34	32	0	0	66	32	1.069
AF7175-1	449	294	99	16	17	19	47	0	0	66	48	1.071
AAF15338-5	450	378	127	5	7	17	70	1	0	88	71	1.055
NDAF1821Y-3	446	369	124	5	10	22	63	0	0	85	63	1.066
AF7093-1	332	221	74	15	13	19	52	0	0	71	53	1.068
B20NC1160-1	350	192	65	21	24	29	26	0	0	55	26	1.069
B20NC1163-2	257	192	65	8	13	32	47	0	0	79	47	1.065
BNC833-2	316	186	63	19	21	35	25	0	0	60	25	1.065
BNC839-5	209	131	44	13	21	20	45	0	0	66	45	1.064
BNC559-1	382	306	103	5	10	40	44	0	0	85	44	1.062
Little Ruby (B2152-17)	218	103	35	29	23	36	13	0	0	49	13	1.069
BNC917-2	330	216	73	10	19	32	38	0	0	70	38	1.061
BD1505-4	80	3	1	87	9	1	3	0	0	5	3	1.085
BNC981-1	324	219	74	12	18	31	40	0	0	70	40	1.069
B3451-8	237	118	40	26	23	27	24	0	0	51	24	1.081
Little Ruby (B2152-17)	279	138	46	26	25	36	13	0	0	49	13	1.067
Peter Wilcox (B1816-5)	290	208	70	11	15	22	52	0	0	74	52	1.068
MSD[3]	84	65		6	6	7	9	1	ns	9	9	0.005
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 Waller-Duncan K-ratio t Test.

Table 49. Plant growth and tuber characteristics for the 2024 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	Merit
Allison	98	9	8	7	1	9	8	3	8	7	2
Jule	97	8	9	8	4	9	9	3	9	9	3
Marta	85	6	9	8	2	9	8	3	9	9	3
Natalia	86	8	8	7	1	9	9	3	9	9	2
HZA 13-1486	98	9	8	7	1	2	8	3	8	7	2
HZD 09-9222	99	9	8	5	1	2	9	3	9	8	1
HZD 10-4026	97	8	7	8	3	9	8	3	8	8	3
HZD 11-2987	98	9	8	7	2	3	9	3	8	8	3
HZM 11-3775	95	8	7	6	1	2	9	3	8	8	2
HZM 11-3908	96	7	9	7	1	2	9	3	9	9	2
VDW 11-1368	99	9	8	7	1	8	9	2	8	8	2
Adirondack Blue	95	7	9	7	9	1	8	3	7	7	2
All Blue	99	7	9	7	9	1	8	3	7	8	3
French Fingerling	97	9	9	7	2	3	9	4	9	9	3
Golden Globe	96	9	8	7	3	9	9	2	8	8	2
Goldrush	92	7	9	8	1	5	4	3	8	7	2
Lamoka (NY139)	93	9	8	8	1	7	8	2	8	6	1
Natascha	89	8	9	8	4	6	9	3	8	9	1
Red LaSoda	96	8	9	7	1	2	8	2	7	7	-
Satina	90	9	9	8	2	9	8	2	8	8	1
Soraya	98	9	8	7	3	9	7	3	9	9	1
Strawberry Paw (NY136)	93	9	9	7	1	2	8	2	8	8	1
Chieftain	86	9	9	8	1	2	8	2	7	6	1
Dark Red Norland	93	8	9	6	1	2	9	2	8	7	2
Katahdin	96	8	9	8	1	7	8	2	8	7	1
Kennebec	93	9	9	7	1	7	8	3	8	6	1
Superior	95	8	9	7	1	9	8	2	7	7	1
Yukon Gold	90	9	9	6	2	6	9	2	9	8	1
AAF11546-3	97	9	8	5	1	2	9	3	9	9	3
BNC559-1	97	8	9	8	1	1	9	3	8	8	1

Table 49 (cont'd). Plant growth and tuber characteristics for the 2024 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	Merit
BNC833-2	94	6	9	8	9	1	8	3	8	8	2
BNC839-5	94	7	9	8	1	2	9	2	8	9	2
BNC917-2	92	7	9	7	1	1	8	3	8	8	3
BNC981-1	96	8	9	6	1	2	7	2	8	7	2
CO10098-5W/Y	85	8	9	8	4	6	8	2	8	8	3
CO15211-1R	99	8	9	4	1	2	8	2	9	8	2
NCB2607-3	93	8	9	7	1	2	9	2	8	8	2
NDAF12238Y-2	95	7	8	7	1	2	9	2	8	7	2
Georgina	96	9	8	8	3	9	9	2	8	9	2
Malou	97	9	7	6	2	9	9	2	8	9	2
Montana	92	8	9	8	5	9	9	3	9	9	2
PSS16/330/4	89	9	9	6	1	2	7	2	9	7	3
PSS16/B363/15	97	8	8	8	1	2	9	3	7	7	1
PSS17/77/24	99	9	7	6	2	9	9	2	8	8	2
PSS19/0012/16	98	8	8	5	3	9	9	2	8	8	3
PSS19/0024/57	97	9	6	7	4	9	8	2	8	8	3
AF5280-5	96	8	8	7	1	9	8	2	8	7	2
AF5819-2	100	9	8	6	1	7	9	2	7	8	2
NDAF113484B-1	96	9	9	8	1	2	9	2	8	8	1
AF6551-4	86	8	9	8	1	7	8	2	8	8	1
AF6868-6	95	9	8	7	1	9	8	3	8	7	3
AAF11546-3	99	9	8	6	1	2	9	3	9	9	2
AF5412-3	94	7	9	8	9	1	8	3	8	8	2
AF6566-1	94	8	9	8	1	9	8	2	8	7	1
AF6575-6	97	9	8	5	2	1	8	3	8	8	3
AF6889-4	91	9	9	8	2	6	9	2	9	8	2
AF6903-3	94	9	7	7	1	6	8	3	8	7	1
AF6969-3	90	9	9	8	1	7	8	2	8	7	2
NDAF1489-4	97	9	6	5	3	9	8	3	7	8	2
WAF14096-5	99	9	7	8	3	9	8	3	9	8	1

Table 49 (cont'd). Plant growth and tuber characteristics for the 2024 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	Merit
AF7095-7	98	9	8	7	1	9	8	3	8	7	1
AF7174-3	95	7	9	8	1	7	8	2	8	8	2
AF7090-9	97	7	9	8	1	2	8	2	8	7	2
AF7095-4	96	9	9	8	2	9	8	2	8	8	2
AF7108-3	93	8	9	7	1	2	9	2	8	8	2
AF7111-4	93	8	9	8	2	9	9	2	7	8	1
AF7175-1	100	9	7	8	2	9	8	2	9	8	1
AAF15338-5	98	8	9	7	1	2	9	2	8	8	1
NDAF1821Y-3	93	7	9	8	1	2	8	3	8	9	2
AF7093-1	96	9	8	7	1	2	9	2	7	8	2
B20NC1160-1	98	9	8	5	6	9	8	2	8	7	3
B20NC1163-2	95	9	8	6	2	9	8	3	8	8	2
BNC833-2	95	8	9	6	9	1	8	3	8	8	2
BNC839-5	90	6	9	8	1	2	8	2	8	8	3
BNC559-1	98	8	9	8	1	1	8	3	8	7	2
Little Ruby (B2152-17)	98	7	9	5	2	2	9	2	8	8	3
BNC917-2	99	9	9	6	1	1	8	3	8	8	2
BD1505-4	93	5	9	8	5	6	8	3	8	8	3
BNC981-1	98	8	9	7	1	2	8	2	9	9	2
B3451-8	96	9	9	7	2	7	9	2	9	8	3
Little Ruby (B2152-17)	99	8	9	6	1	2	8	2	8	7	3
Peter Wilcox (B1816-5)	90	9	8	7	4	1	8	3	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.

Table 50. External and internal defects for the 2024 Fresh Market, Red, and Purple Variety Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Allison	0	0	0	5	5	0	13	3	0
Jule	0	0	0	0	0	0	0	0	0
Marta	0	0	0	2	2	0	0	0	0
Natalia	0	0	0	2	2	0	0	3	0
HZA 13-1486	0	0	0	3	3	0	0	0	0
HZD 09-9222	0	0	0	7	7	3	0	0	0
HZD 10-4026	0	0	0	1	1	0	0	0	0
HZD 11-2987	0	0	0	1	1	0	0	0	0
HZM 11-3775	0	0	0	3	3	0	0	0	0
HZM 11-3908	0	0	0	2	3	0	0	0	0
VDW 11-1368	0	0	0	1	1	0	0	0	0
Adirondack Blue	0	0	1	5	6	0	0	0	0
All Blue	0	0	0	2	2	0	0	0	0
French Fingerling	0	0	0	5	5	0	0	3	0
Golden Globe	0	0	0	3	3	0	0	0	0
Goldrush	0	0	0	3	3	0	0	0	0
Lamoka (NY139)	1	0	0	2	3	0	0	0	0
Natascha	1	0	0	2	2	0	0	0	0
Red LaSoda	0	0	2	5	7	0	0	0	0
Satina	0	0	0	3	3	0	0	0	0
Soraya	0	0	0	2	3	0	0	0	0
Strawberry Paw (NY136)	0	0	0	3	4	0	3	0	0
Chieftain	0	0	0	4	5	0	0	0	0
Dark Red Norland	0	0	0	6	6	0	0	0	0
Katahdin	0	0	0	2	3	0	0	0	0
Kennebec	1	0	0	1	2	0	0	0	0
Superior	0	0	0	1	2	0	0	0	0
Yukon Gold	0	1	0	6	8	0	0	0	0
AAF11546-3	0	0	0	8	8	0	0	0	0
BNC559-1	0	0	1	4	4	0	0	0	0

Table 50 (cont'd). External and internal defects for the 2024 Fresh Market, Red, and Purple Variety Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
BNC833-2	0	0	0	1	1	0	0	0	0
BNC839-5	0	0	0	4	4	0	0	0	0
BNC917-2	0	0	1	4	6	0	0	5	0
BNC981-1	0	0	0	6	6	0	0	0	0
CO10098-5W/Y	0	0	0	0	1	0	5	0	0
CO15211-1R	0	0	0	4	4	0	0	0	0
NCB2607-3	0	0	0	3	3	0	0	0	0
NDAF12238Y-2	0	0	0	7	7	0	10	0	0
Georgina	0	1	2	3	5	0	5	0	0
Malou	0	0	0	3	3	0	0	0	0
Montana	0	0	0	3	4	0	0	0	0
PSS16/330/4	0	0	0	6	6	0	0	0	0
PSS16/B363/15	0	0	0	0	0	0	0	0	0
PSS17/77/24	0	0	0	3	4	0	0	0	0
PSS19/0012/16	0	0	0	6	6	0	0	0	0
PSS19/0024/57	0	0	0	4	5	0	0	15	0
AF5280-5	1	2	0	4	8	5	13	0	0
AF5819-2	0	0	0	2	2	0	0	0	0
NDAF113484B-1	0	0	0	4	4	0	0	0	0
AF6551-4	0	0	0	9	9	0	0	0	0
AF6868-6	0	0	0	2	3	0	0	8	0
AAF11546-3	0	0	0	6	6	0	0	0	0
AF5412-3	0	1	0	2	3	0	0	0	0
AF6566-1	0	0	0	3	3	0	0	0	0
AF6575-6	0	0	0	2	2	0	0	0	0
AF6889-4	1	0	0	2	3	0	5	3	0
AF6903-3	0	0	0	1	1	0	0	0	0
AF6969-3	0	0	0	3	3	3	5	0	0
NDAF1489-4	0	0	0	1	1	0	0	0	0
WAF14096-5	0	0	0	2	2	0	0	0	0

Table 50 (cont'd). External and internal defects for the 2024 Fresh Market, Red, and Purple Variety Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
AF7095-7	0	0	0	1	1	0	0	0	0
AF7174-3	0	0	0	2	2	0	0	0	0
AF7090-9	0	0	0	5	5	0	13	3	0
AF7095-4	0	0	1	1	2	5	0	0	0
AF7108-3	0	0	0	2	2	0	0	0	0
AF7111-4	0	0	1	1	1	0	0	0	0
AF7175-1	0	0	0	1	2	0	0	0	0
AAF15338-5	0	0	0	4	4	0	0	0	0
NDAF1821Y-3	0	0	0	3	3	0	20	0	0
AF7093-1	0	0	0	7	7	0	0	0	0
B20NC1160-1	0	0	0	1	1	0	0	13	0
B20NC1163-2	0	2	0	3	5	0	0	0	0
BNC833-2	0	0	0	1	1	0	0	0	0
BNC839-5	0	0	0	7	7	0	0	0	0
BNC559-1	0	1	0	4	5	0	0	5	0
Little Ruby (B2152-17)	0	0	0	2	2	0	0	0	0
BNC917-2	0	0	0	7	7	0	0	0	0
BD1505-4	0	0	1	0	1	0	0	0	0
BNC981-1	0	0	0	6	6	0	0	0	0
B3451-8	0	0	0	2	2	0	0	0	0
Little Ruby (B2152-17)	0	0	0	1	1	0	0	0	0
Peter Wilcox (B1816-5)	0	0	0	3	3	0	0	0	0
MSD[3]	1	2	ns	4	5	ns	ns	ns	ns
P Value	<0.0001	0.0123	0.0722	<0.0001	<0.0001	0.5724	0.2224	0.1078	-

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

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

Chapter 11. Russet Potato Variety Trial

General Comments

The russet trial gives us an opportunity to look at these clones for production potential in Florida.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	February 13, 2024
Vine Kill Date	N/A
Harvest Date	May 28, 2024
Season Length	105 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	6 (Standard: Russet Burbank)
Number of Clones	24
Within Row Spacing	10 in (25.4 cm)
Between Row Spacing	40 in (1.0 m)
Replications	4
Plot Size	20 ft (6.1 m)

Production Statistics

Early Vigor Ratings	42 DAP
Highest Total Yield	AAF15180-3 (200 cwt/A or 22.4 T/ha)
Highest Marketable Yield	AF5735-8 (77 cwt/A or 8.6 T/ha)
Highest Specific Gravity	NDAF1791-1 (1.084)
Best Appearance Rating	Russet Burbank, AF5762-8, COTX08063-2Ru, Vanguard Russet, AAF15180-3 (8, very good)

Table 51. Production statistics for the 2024 Russet 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–105 days												
HZA 13-156	138	26	74	50	32	17	2	0	0	19	2	1.070
Caribou Russet (AF3362-1)	130	44	127	30	17	20	33	0	0	53	33	1.063
Lakeview Russet	149	74	212	28	19	34	19	0	0	52	19	1.071
Russet Burbank	158	35	100	48	26	20	6	0	0	26	6	1.070
Russet Norkotah	104	23	67	39	33	25	4	0	0	28	4	1.059
Shepody	116	26	75	52	23	22	3	0	0	25	3	1.073
AAF10596-1	131	36	105	47	23	20	10	0	0	29	10	1.079
AF5521-1	110	32	91	38	30	24	8	0	0	32	8	1.072
AF5707-1	149	64	186	25	19	30	26	0	0	56	26	1.071
AF5735-8	113	50	143	24	18	30	28	0	0	58	28	1.068
AF5750-16	117	31	90	42	31	21	6	0	0	27	6	1.072
AF5762-8	151	49	142	42	20	27	11	0	0	38	11	1.077
AF6075-8	171	65	188	37	21	21	20	0	0	42	20	1.068
AF6340-6	106	30	88	37	26	20	16	0	0	37	16	1.059
AF6377-10	68	20	59	42	22	22	14	0	0	36	14	1.061
AF6377-12	149	36	105	42	31	18	9	0	0	27	9	1.068
COTX08063-2Ru	118	47	135	39	24	24	12	0	0	37	12	1.079
Vanguard Russet	150	51	148	35	29	21	15	0	0	36	15	1.057
AF5521-1	126	70	203	25	23	31	22	0	0	53	22	1.071
AF5735-8	139	77	222	16	22	45	17	0	0	61	17	1.071
AF6340-6	139	66	191	22	24	34	20	0	0	54	20	1.061
AF6377-10	103	37	107	37	20	20	23	0	0	43	23	1.069
AF6377-12	145	48	139	37	25	23	15	0	0	38	15	1.069
AF6814-1	131	31	88	51	20	21	7	0	0	29	7	1.071
AAF15180-3	200	59	170	41	24	23	11	0	0	34	11	1.071
AAF16069-2	114	43	123	37	24	30	10	0	0	40	10	1.067
COAF16090-14	96	29	83	45	22	21	12	0	0	33	12	1.062
NDAF1791-1	157	39	113	47	26	19	8	0	0	27	8	1.084
NDAF1791-6	111	37	106	33	32	20	14	0	0	34	14	1.074
AF5762-8	132	36	105	41	28	23	8	0	0	31	8	1.075
MSD[3]	89	55		27	15	20	22	ns	ns	28	22	0.013
P Value	0.0005	0.0006		<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 52. Plant growth and tuber characteristics for the 2024 Russet 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
HZA 13-156	94	6	9	7	1	6	4	3	8	5	2
Caribou Russet (AF3362-1)	89	6	9	8	1	5	3	3	8	4	3
Lakeview Russet	57	5	9	9	1	6	6	4	7	7	2
Russet Burbank	94	5	9	8	1	6	4	3	8	8	-
Russet Norkotah	73	4	9	9	1	5	4	3	8	7	2
Shepody	97	5	9	8	1	9	8	3	9	7	2
AAF10596-1	96	5	9	8	1	6	6	3	8	7	2
AF5521-1	90	5	9	8	1	6	6	3	8	7	2
AF5707-1	78	5	9	9	1	6	5	3	9	7	2
AF5735-8	39	4	9	9	1	6	6	4	9	7	2
AF5750-16	82	4	9	9	1	9	8	4	8	7	1
AF5762-8	92	6	9	9	1	5	4	4	9	8	2
AF6075-8	96	6	9	8	1	6	6	4	9	7	2
AF6340-6	69	4	9	9	1	6	6	3	8	4	2
AF6377-10	1	1	9	9	1	5	3	4	8	4	3
AF6377-12	82	5	9	9	1	6	4	3	8	4	2
COTX08063-2Ru	81	5	9	9	1	6	4	4	9	8	2
Vanguard Russet	86	5	9	8	1	6	4	3	9	8	1
AF5521-1	79	5	9	8	1	6	4	4	8	5	2
AF5735-8	55	3	9	9	1	6	4	3	9	7	2
AF6340-6	70	4	9	9	1	6	4	4	8	7	2
AF6377-10	6	2	9	9	1	6	3	3	9	7	3
AF6377-12	88	4	9	9	1	5	4	3	9	5	2
AF6814-1	79	4	9	9	1	6	4	4	9	6	2
AAF15180-3	95	6	9	8	1	6	8	4	8	8	2
AAF16069-2	67	4	9	9	1	5	4	3	9	7	2
COAF16090-14	53	5	9	9	1	6	3	4	7	7	3
NDAF1791-1	91	5	9	8	1	5	3	3	8	7	2
NDAF1791-6	79	5	9	9	1	6	4	4	9	7	1
AF5762-8	90	5	9	9	1	5	4	3	8	7	2

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 24 for 20 ft plot, 10 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 53. External and internal defects for the 2024 Russet Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
HZA 13-156	0	0	0	4	4	0	0	0	0
Caribou Russet (AF3362-1)	1	0	3	30	34	0	3	0	5
Lakeview Russet	0	0	5	8	13	5	3	0	5
Russet Burbank	0	0	13	7	20	0	0	0	5
Russet Norkotah	0	0	3	16	18	0	0	0	3
Shepody	0	0	1	20	21	0	3	0	0
AAF10596-1	0	0	3	13	16	0	0	0	0
AF5521-1	0	0	4	8	12	3	0	0	5
AF5707-1	0	0	1	20	21	0	3	3	3
AF5735-8	0	0	18	8	26	7	0	0	3
AF5750-16	0	0	0	7	7	0	0	0	0
AF5762-8	0	0	7	9	16	0	0	0	0
AF6075-8	0	0	4	8	11	3	0	0	0
AF6340-6	0	0	4	17	21	3	0	0	3
AF6377-10	0	1	2	16	19	0	17	5	3
AF6377-12	0	0	10	7	17	3	3	0	5
COTX08063-2Ru	0	0	4	6	10	5	0	3	3
Vanguard Russet	3	0	0	3	6	0	0	0	0
AF5521-1	0	0	1	5	6	0	0	8	3
AF5735-8	0	0	6	9	16	0	0	0	3
AF6340-6	0	0	4	9	13	3	0	0	5
AF6377-10	0	0	3	17	19	0	23	0	15
AF6377-12	0	0	2	10	13	0	3	0	5
AF6814-1	0	0	10	16	26	5	0	0	0
AAF15180-3	0	0	2	13	16	0	0	0	0
AAF16069-2	1	0	3	7	11	3	0	0	3
COAF16090-14	0	2	9	12	24	8	0	0	0
NDAF1791-1	0	0	6	7	13	0	0	0	0
NDAF1791-6	0	0	2	5	7	0	0	0	0
AF5762-8	0	0	5	11	16	0	0	0	0
MSD[3]	ns	ns	13	18	18	ns	ns	ns	ns
P Value	0.5004	0.0556	0.0002	<0.0001	<0.0001	0.5774	0.2737	0.5633	0.2357

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

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

Chapter 12. Real Potatoes Variety Spacing Trials

General Comments

Most of the seed for these trials were provided by Real Potatoes. The white and yellow clones were tested at 2 different spacings.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	February 21, 2024
Vine Kill Date	May 15, 2024
Harvest Date	May 28, 2024
Season Length	84 days planting to vine kill
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	whites: 7, yellows: 9
Number of Clones	whites: 1, yellows: 1
Within Row Spacing	9 in (22.9 cm) and 11 in (27.9 cm)
Between Row Spacing	40 in (1.0 m)
Replications	2
Plot Size	15 ft (4.6 m)

Production Statistics

Early Vigor Ratings	40 DAP
Highest Total Yield	whites: 9” 05 6556.1 (598 cwt/A or 67.0 T/ha), yellows: 9” Christel (431 cwt/A or 48.3 T/ha)
Highest Marketable Yield	whites: 9” 05 6556.1 (455 cwt/A or 51.0 T/ha), yellows: 11” Tyson (351 cwt/A or 39.4 T/ha)
Best Appearance Rating	N/A

Table 54. Production statistics for the 2024 Real Potatoes White Trial potato selections.

		Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Size Distribution by Class (%)[2]						Size Class Range (%)		Specific Gravity
				C	B	A1	A2	A3	A4	A1 to A3	A2 to A3	
Season–84 days												
Spacing												
9		453	317	12	15	36	36	0	0	73	36	1.058
11		380	284	10	12	35	42	1	0	78	43	1.058
MSD[3]		17	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
P Value		0.0120	0.1605	0.6772	0.0656	0.4665	0.1920	0.5000	-	0.2678	0.1282	0.1560
Variety												
05 6556.1		564	444	7	12	32	48	1	0	81	49	1.049
Alliston		203	128	15	18	43	23	0	0	66	23	1.065
Ashley		385	301	7	11	39	43	0	0	82	43	1.064
Cleo		471	327	13	11	21	53	1	0	76	54	1.057
Foxy		476	323	12	16	45	27	0	0	72	27	1.057
Sifra - control		436	305	10	15	35	40	0	0	74	40	1.061
Volare - control		445	368	6	5	26	63	0	0	89	63	1.053
Yelda		349	208	18	20	45	16	0	0	61	16	1.060
MSD[3]		130	151	8	9	14	22	ns	ns	16	21	0.005
P Value		<0.0001	0.0002	0.0007	0.0009	0.0002	<0.0001	0.3230	-	0.0006	<0.0001	<0.0001
S x V												
9	05 6556.1	598	455	8	14	31	48	0	0	78	48	1.049
9	Alliston	211	126	15	23	45	17	0	0	62	17	1.067
9	Ashley	433	340	7	11	43	40	0	0	82	40	1.064
9	Cleo	485	311	14	12	22	51	0	0	73	51	1.057
9	Foxy	497	311	14	19	45	21	0	0	67	21	1.059
9	Sifra - control	499	346	11	16	35	38	0	0	73	38	1.059
9	Volare - control	523	437	5	6	25	64	0	0	88	64	1.051
9	Yelda	375	211	21	21	46	13	0	0	58	13	1.059
11	05 6556.1	530	433	6	10	34	48	1	0	84	50	1.049
11	Alliston	195	130	16	13	41	30	0	0	71	30	1.063
11	Ashley	338	262	8	10	35	47	0	0	82	47	1.065
11	Cleo	456	344	12	10	21	55	2	0	78	57	1.058
11	Foxy	455	335	10	13	45	33	0	0	78	33	1.054
11	Sifra - control	374	264	10	15	34	41	0	0	75	41	1.064
11	Volare - control	367	298	7	4	26	62	1	0	89	63	1.055
11	Yelda	322	206	16	19	45	20	0	0	65	20	1.061
LSD[4]		ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.004
P Value		0.5337	0.4728	0.7536	0.6796	0.9108	0.9204	0.6658	-	0.9081	0.9376	0.0131

[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.

[4]Means separated within columns by Fisher's Least Significant Difference (LSD) Test.

Table 55. Plant growth characteristics for the 2024 Real Potatoes White Trial potato selections.

		Plant Growth Characteristics[1]			
		% Stand	Early Vigor	Vine Type	Vine Maturity
Spacing					
9		100	9	8	7
11		100	9	8	7
Variety					
05 6556.1		100	8	9	8
Alliston		97	9	7	3
Ashley		100	9	9	8
Cleo		100	9	6	8
Foxy		100	8	9	8
Sifra - control		100	9	8	8
Volare - control		100	9	8	5
Yelda		100	9	7	7
S x V					
9	05 6556.1	100	9	9	8
9	Alliston	98	9	8	3
9	Ashley	100	9	9	8
9	Cleo	100	9	6	8
9	Foxy	100	8	9	8
9	Sifra - control	100	9	8	8
9	Volare - control	100	9	8	5
9	Yelda	100	9	6	7
11	05 6556.1	100	8	9	8
11	Alliston	97	9	6	4
11	Ashley	100	8	9	8
11	Cleo	100	9	6	8
11	Foxy	100	9	9	8
11	Sifra - control	100	9	8	8
11	Volare - control	100	9	8	6
11	Yelda	100	9	8	8

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 20 and 16 for 15 ft plot, 9 and 11 in spacing respectively. Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

Table 56. External and internal defects for the 2024 Real Potatoes White Trial potato selections.

		% External Tuber Defects					% Internal Defects[2]			
		Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Spacing										
9		1	0	0	5	6	0	0	0	0
11		1	0	0	4	5	0	2	0	0
MSD[3]		ns	ns	ns	ns	ns	ns	ns	ns	ns
P Value		0.9097	-	0.5000	0.1772	0.4028	-	0.5000	-	-
Variety										
05 6556.1		0	0	0	2	3	0	0	0	0
Alliston		0	0	0	6	6	0	0	0	0
Ashley		2	0	0	4	6	0	0	0	0
Cleo		1	0	0	8	9	0	0	0	0
Foxy		4	0	0	1	6	0	0	0	0
Sifra - control		1	0	0	5	6	0	0	0	0
Volare - control		1	0	0	7	8	0	5	0	0
Yelda		1	0	0	2	3	0	3	0	0
MSD[3]		3	ns	ns	5	5	ns	ns	ns	ns
P Value		0.0121	-	0.4706	0.0017	0.0053	-	0.4706	-	-
S x V										
9	05 6556.1	1	0	0	2	3	0	0	0	0
9	Alliston	0	0	0	5	5	0	0	0	0
9	Ashley	2	0	0	4	6	0	0	0	0
9	Cleo	0	0	0	13	13	0	0	0	0
9	Foxy	5	0	0	1	6	0	0	0	0
9	Sifra - control	1	0	0	4	5	0	0	0	0
9	Volare - control	0	0	0	6	6	0	0	0	0
9	Yelda	2	0	0	2	3	0	0	0	0
11	05 6556.1	0	0	0	2	3	0	0	0	0
11	Alliston	0	0	0	6	6	0	0	0	0
11	Ashley	2	0	0	3	5	0	0	0	0
11	Cleo	2	0	0	3	4	0	0	0	0
11	Foxy	3	0	0	2	5	0	0	0	0
11	Sifra - control	0	0	0	6	6	0	0	0	0
11	Volare - control	1	0	0	8	9	0	10	0	0
11	Yelda	0	0	0	2	3	0	5	0	0
LSD[4]		ns	ns	ns	4	7	ns	ns	ns	ns
P Value		0.7096	-	0.4706	0.0060	0.0135	-	0.4706	-	-

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

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

[4]Means separated within columns by Fisher's Least Significant Difference (LSD) Test.

Table 57. Production statistics for the 2024 Real Potatoes Yellow Trial potato selections.

		Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Size Distribution by Class (%)[2]						Size Class Range (%)		Specific Gravity
				C	B	A1	A2	A3	A4	A1 to A3	A2 to A3	
Season–84 days												
Spacing												
9		325	199	18	21	32	29	0	0	61	29	1.058
11		311	207	16	19	33	31	0	0	64	32	1.056
MSD[3]		ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
P Value		0.5267	0.8069	0.7736	0.4280	0.4365	0.6560	0.5000	-	0.6073	0.6450	0.0760
Variety												
Actrice - control		256	134	24	24	32	20	0	0	53	20	1.054
Bernice		304	217	10	16	35	38	0	0	73	38	1.058
Christel		385	316	7	9	46	39	0	0	84	39	1.058
Columba - control		284	176	15	22	36	26	0	0	63	26	1.049
Decibel		297	122	33	29	28	11	0	0	39	11	1.059
RP582-98		283	106	29	34	25	13	0	0	37	13	1.063
Satina - control		408	296	12	15	29	45	0	0	73	45	1.054
Sensation		267	167	14	22	47	18	0	0	64	18	1.056
Tyson		403	335	6	9	18	66	2	0	86	68	1.061
Vanilla		295	159	23	23	30	24	0	0	54	24	1.058
MSD[3]		104	109	11	10	19	16	ns	ns	17	15	0.007
P Value		0.0001	<0.0001	<0.0001	<0.0001	0.0009	<0.0001	0.4742	-	<0.0001	<0.0001	0.0002
S x V												
9	Actrice - control	254	113	30	25	30	15	0	0	45	15	1.056
9	Bernice	298	207	10	17	35	39	0	0	74	39	1.058
9	Christel	431	340	8	11	44	37	0	0	81	37	1.057
9	Columba - control	311	201	14	20	38	28	0	0	66	28	1.052
9	Decibel	293	107	33	30	23	14	0	0	37	14	1.060
9	RP582-98	317	114	27	38	22	13	0	0	36	13	1.062
9	Satina - control	398	292	10	14	28	48	0	0	76	48	1.055
9	Sensation	250	149	14	24	51	12	0	0	62	12	1.057
9	Tyson	397	318	7	10	21	61	0	0	82	61	1.063
9	Vanilla	302	146	26	26	30	18	0	0	48	18	1.057
11	Actrice - control	257	154	18	22	35	25	0	0	60	25	1.053
11	Bernice	310	228	11	16	35	38	0	0	73	38	1.058
11	Christel	339	293	6	7	47	40	0	0	87	40	1.058
11	Columba - control	258	150	17	24	34	25	0	0	59	25	1.047
11	Decibel	300	137	32	28	33	8	0	0	40	8	1.058
11	RP582-98	248	98	31	30	27	12	0	0	39	12	1.064
11	Satina - control	419	299	13	16	29	42	0	0	71	42	1.054
11	Sensation	284	186	13	20	43	24	0	0	67	24	1.055
11	Tyson	409	351	4	7	15	71	3	0	89	74	1.058
11	Vanilla	288	172	20	20	30	30	0	0	60	30	1.059
LSD[4]		ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
P Value		0.4285	0.7488	0.3166	0.7030	0.8768	0.2485	0.4742	-	0.4929	0.1709	0.6090

[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.

[4]Means separated within columns by Fisher's Least Significant Difference (LSD) Test.

Table 58. Plant growth characteristics for the 2024 Real Potatoes Yellow Trial potato selections.

		Plant Growth Characteristics[1]			
		% Stand	Early Vigor	Vine Type	Vine Maturity
Spacing					
9		98	9	7	6
11		100	9	8	6
Variety					
Actrice - control		96	9	7	3
Bernice		100	9	7	6
Christel		98	9	9	6
Columba - control		100	9	7	4
Decibel		97	9	6	6
RP582-98		100	9	7	6
Satina - control		100	9	8	6
Sensation		99	8	8	7
Tyson		98	9	7	7
Vanilla		100	9	8	7
S x V					
9	Actrice - control	93	9	8	3
9	Bernice	100	9	6	6
9	Christel	95	9	9	6
9	Columba - control	100	9	6	5
9	Decibel	98	9	6	6
9	RP582-98	100	9	6	6
9	Satina - control	100	9	8	7
9	Sensation	98	8	8	7
9	Tyson	95	9	8	7
9	Vanilla	100	9	8	7
11	Actrice - control	100	9	6	4
11	Bernice	100	9	8	5
11	Christel	100	9	9	6
11	Columba - control	100	9	8	4
11	Decibel	97	9	6	6
11	RP582-98	100	9	8	6
11	Satina - control	100	9	9	6
11	Sensation	100	8	9	7
11	Tyson	100	9	6	7
11	Vanilla	100	9	8	7

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was 20 and 16 for 15 ft plot, 9 and 11 in spacing respectively.
Early Vigor, Vine Type, Vine Maturity: see rating system outlined in Table 1.

Table 59. External and internal defects for the 2024 Real Potatoes Yellow Trial potato selections.

		% External Tuber Defects					% Internal Defects[2]			
		Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
Spacing										
9		0	0	0	3	3	0	0	0	0
11		0	0	0	2	2	0	0	0	1
MSD[3]		ns	ns	ns	ns	1	ns	ns	ns	ns
P Value		0.3440	0.5000	0.2952	0.0903	0.0335	-	-	-	0.5000
Variety										
Actrice - control		0	0	0	1	1	0	0	0	0
Bernice		0	0	0	4	4	0	0	0	0
Christel		0	0	0	2	2	0	0	0	0
Columba - control		0	0	0	3	3	0	0	0	0
Decibel		0	0	0	2	2	0	0	0	0
RP582-98		0	0	0	2	2	0	0	0	3
Satina - control		0	0	0	3	3	0	0	0	0
Sensation		0	0	0	3	3	0	0	0	0
Tyson		1	0	0	2	4	0	0	0	0
Vanilla		0	0	0	2	2	0	0	0	0
MSD[3]		ns	ns	ns	ns	ns	ns	ns	ns	ns
P Value		0.1597	0.4742	0.1428	0.6330	0.6802	-	-	-	0.4742
S x V										
9	Actrice - control	0	0	0	1	1	0	0	0	0
9	Bernice	0	0	0	7	7	0	0	0	0
9	Christel	0	0	1	2	3	0	0	0	0
9	Columba - control	0	0	0	3	3	0	0	0	0
9	Decibel	0	0	0	2	2	0	0	0	0
9	RP582-98	0	0	0	1	1	0	0	0	0
9	Satina - control	0	0	0	3	3	0	0	0	0
9	Sensation	0	0	0	5	5	0	0	0	0
9	Tyson	0	0	1	3	4	0	0	0	0
9	Vanilla	0	0	0	2	2	0	0	0	0
11	Actrice - control	0	0	0	1	1	0	0	0	0
11	Bernice	0	0	0	1	1	0	0	0	0
11	Christel	0	0	0	1	1	0	0	0	0
11	Columba - control	0	0	0	3	3	0	0	0	0
11	Decibel	0	0	0	2	2	0	0	0	0
11	RP582-98	0	0	0	2	2	0	0	0	5
11	Satina - control	0	0	0	2	3	0	0	0	0
11	Sensation	0	0	0	2	2	0	0	0	0
11	Tyson	3	1	0	1	4	0	0	0	0
11	Vanilla	0	0	0	2	2	0	0	0	0
LSD[4]		ns	ns	ns	ns	ns	ns	ns	ns	ns
P Value		0.0982	0.4742	0.1428	0.6129	0.6972	-	-	-	0.4742

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

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

[4]Means separated within columns by Fisher's Least Significant Difference (LSD) Test.

Chapter 13. Observation Russet, Chip, And Fresh Market Potato Variety Trial

General Comments

The observation trial gives us an opportunity to look at these clones for production potential in Florida.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	Russet: February 21 & 22, 2024, Chip: February 22, 2024, Fresh: February 21, 2024
Vine Kill Date	Russet: N/A, Chip: N/A, Fresh: February 15, 2024
Harvest Date	Russet: June 5, 2024, Chip: May 29, 2024, Fresh: May 29, 2024
Season Length	Russet: 105 & 104 days planting to harvest; Chip: 97 days planting to harvest, Fresh: 84 days planting to vine kill
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/A granular), Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/A liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	Russet: 0, Chip: 2, Fresh: 1
Number of Clones	Russet: 7, Chip: 0, Fresh: 3
Within Row Spacing	Russet: 10 in (25.4 cm), Chip: 8 in (20.3 cm), Fresh: 8 in (20.3 cm) except Allison 11 in (27.9 cm)
Between Row Spacing	40 in (1.0 m)
Replications	4
Plot Size	20 ft (6.1 m)

Production Statistics

Early Vigor Ratings	N/A
Highest Total Yield	Russet: AF6340-6 (366 cwt/A or 41.0 T/ha), Chip: Snowden (304 cwt/A or 34.1 T/ha), Fresh: Allison (434 cwt/A or 48.7 T/ha)
Highest Marketable Yield	Russet: AF6340-6 (251 cwt/A or 28.1 T/ha), Chip: Snowden (203 cwt/A or 22.8 T/ha), Fresh: AF5280-5 (268 cwt/A or 30.0 T/ha)
Highest Specific Gravity	Russet: AF5762-8 (1.078), Chip: Harley Blackwell (1.074), Fresh: Allison (1.060)
Best Appearance Rating	Russet: AF6377-10, AF6377-12, COAF16090-14 (9, excellent), Chip: N/A, Fresh: N/A

Table 60. Production statistics for the 2024 Observation Russet, Chip, and Fresh Market 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–104 days	RUSSET											
AF5521-1	195	139		11	19	37	33	0	0	71	33	1.077
AF5735-8	148	59		31	29	34	6	0	0	40	6	1.065
AF5762-8	228	151		10	24	50	15	0	0	66	15	1.078
Season–97 days	CHIP											
Harley Blackwell (B0564-8)	255	162		12	17	25	46	0	0	71	46	1.074
Snowden	304	203		10	18	31	41	0	0	72	41	1.073
Season–84 days	FRESH											
Allison	434	241		15	27	36	22	0	0	58	22	1.060
AF5280-5	362	268		6	12	23	59	0	0	82	59	1.054
AF5819-2	230	153		12	19	33	36	0	0	69	36	1.059
AAF11546-3	251	138		14	19	40	27	0	0	67	27	1.045
Season–105 days	RUSSET											
AF6340-6	366	251		9	23	37	32	0	0	68	32	1.063
AF6377-10	173	144		6	11	35	48	0	0	83	48	1.072
AF6377-12	346	224		11	24	38	27	0	0	64	27	1.074
COAF16090-14	265	190		10	18	33	39	0	0	72	39	1.063

[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 61. Plant growth and tuber characteristics for the 2024 Observation Russet, Chip, and Fresh Market 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
	RUSSET										
AF5521-1					1	6	7	4	7	7	
AF5735-8											
AF5762-8					1	5	4	6	8	8	
	CHIP										
Harley Blackwell (B0564-8)											
Snowden											
	FRESH										
Allison											
AF5280-5											
AF5819-2											
AAF11546-3											
	RUSSET										
AF6340-6					1	7	7	6	6	6	
AF6377-10					1	6	4	6	9	9	
AF6377-12					1	5	4	6	9	9	
COAF16090-14					1	6	4	6	8	9	

[1]Percent Stand: final stand / number of seeds planted per plot * 100 where number of seeds was dependent on 20 ft plot, 8-11 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 62. External and internal defects for the 2024 Observation Russet, Chip, and Fresh Market Trial potato selections.

	% External Tuber Defects					% Internal Defects[2]			
Clone	Sun-burned	Growth Cracks	Mis-shapen	Rotten & misc.	Total Culls[1]	HH	CRS	IHN	BC
	RUSSET								
AF5521-1	0	0	0	0	0	0	3	3	3
AF5735-8	0	0	0	0	0	0	0	0	0
AF5762-8	0	0	0	0	0	0	0	0	0
	CHIP								
Harley Blackwell (B0564-8)	0	0	0	11	11	0	0	0	0
Snowden	0	0	0	8	8	0	0	0	0
	FRESH								
Allison	0	0	0	4	4	0	0	0	0
AF5280-5	1	0	0	9	9	3	0	0	0
AF5819-2	0	0	0	4	4	0	0	0	0
AAF11546-3	0	0	0	17	17	0	0	0	0
	RUSSET								
AF6340-6	0	0	0	0	0	0	0	0	0
AF6377-10	0	0	0	0	0	0	0	0	0
AF6377-12	0	0	0	0	0	0	0	0	0
COAF16090-14	0	0	0	0	0	0	0	0	0

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

[2]Percent tubers hollow heart (HH), corky ringspot (CRS), internal heat necrosis (IHN), brown center (BC).

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 63. Daily rainfall amounts (in) at the UF/IFAS Hastings AEC Research Farm between Jan. 15 and Jun. 15, 2024.

Day	January	February	March	April	May	June
1	-	0.00	0.06	0.00	0.00	0.00
2	-	0.00	0.01	0.00	0.00	0.00
3	-	0.00	0.64	1.38	0.00	0.00
4	-	0.13	0.00	0.07	0.00	0.00
5	-	0.01	0.00	0.00	0.00	0.00
6	-	0.00	0.09	0.00	0.00	0.29
7	-	0.00	0.00	0.00	0.00	0.00
8	-	0.00	0.00	0.00	0.00	0.00
9	-	0.00	0.06	0.00	0.00	0.00
10	-	0.00	0.03	0.00	0.03	0.00
11	-	0.00	0.00	0.15	0.22	0.00
12	-	0.34	0.00	0.00	0.00	0.00
13	-	0.00	0.00	0.00	0.43	0.00
14	-	0.00	0.00	0.00	0.11	0.00
15	0.00	0.00	0.00	0.00	0.05	0.00
16	1.93	0.00	0.00	0.00	0.00	-
17	0.00	0.59	0.00	0.00	0.00	-
18	0.11	1.36	0.09	0.00	0.00	-
19	0.01	0.19	0.00	0.00	0.00	-
20	0.00	0.00	0.00	0.00	0.08	-
21	0.00	0.00	0.00	0.01	0.09	-
22	0.00	0.00	0.17	0.00	0.00	-
23	0.00	0.11	0.11	0.00	0.00	-
24	0.00	0.00	0.00	0.00	0.00	-
25	0.00	0.00	0.00	0.00	0.14	-
26	0.00	0.00	0.00	0.00	0.01	-
27	0.00	0.00	0.00	0.22	0.00	-
28	0.00	0.00	0.34	0.00	0.00	-
29	0.00	0.00	0.00	0.00	0.00	-
30	0.00		0.00	0.00	0.00	-
31	0.00		0.00		0.00	
Total	2.05	2.73	1.60	1.83	1.16	0.29

Table 64. Daily maximum and minimum air temperatures (°F) at the UF/IFAS Hastings AEC Research Farm between Jan. 15 and Jun. 15, 2024.

	January		February		March		April		May		June	
Day	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	-	-	68	41	79	61	83	55	86	62	85	62
2	-	-	70	46	78	64	84	61	87	65	86	62
3	-	-	72	41	76	63	77	64	86	62	87	65
4	-	-	72	53	76	59	73	56	84	62	89	65
5	-	-	66	48	77	62	75	49	87	64	91	66
6	-	-	64	50	79	66	68	50	87	66	95	71
7	-	-	60	44	78	59	71	44	90	65	95	71
8	-	-	69	44	79	61	76	49	93	69	94	74
9	-	-	76	49	86	71	79	54	96	71	97	76
10	-	-	77	52	74	58	81	60	87	70	95	69
11	-	-	83	61	65	45	80	68	85	67	92	73
12	-	-	80	59	77	44	80	58	81	61	90	74
13	-	-	68	49	80	54	78	47	82	65	91	75
14	-	-	65	41	81	49	83	48	88	71	90	74
15	73	44	72	47	87	54	84	57	85	73	92	71
16	73	52	74	50	84	64	83	53	91	69	-	-
17	52	36	64	57	84	67	85	55	87	66	-	-
18	64	40	59	52	74	66	87	64	92	68	-	-
19	70	50	63	44	65	42	90	62	91	70	-	-
20	53	38	65	40	74	37	91	65	82	68	-	-
21	50	34	64	43	79	41	89	64	84	62	-	-
22	67	45	73	39	73	64	71	53	86	65	-	-
23	73	59	74	47	78	60	73	48	89	63	-	-
24	78	64	71	53	67	57	80	48	91	67	-	-
25	83	62	70	44	76	58	84	52	93	68	-	-
26	83	66	75	41	82	64	82	58	92	69	-	-
27	83	63	78	47	77	67	79	64	94	69	-	-
28	72	54	83	55	76	58	79	62	93	72	-	-
29	63	45	66	60	71	50	83	57	93	68	-	-
30	67	41			79	46	83	62	90	63	-	-
31	68	43			80	50			87	65	-	-
Avg.	69	49	70	48	77	57	80	56	88	67	91	70