Florida Potato Variety Trial Report, 2022

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Photograph

Cover photo: Pam Solano.

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Table of Contents

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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, 2021. Potato beds were fumigated with Telone II C35, 7.7 gal/A (1,3-dichloropropene 63.4%, and chloropicrin 34.7%) in December 2021. 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 were removed 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 2022 growing season were rated as very good. The total precipitation between planting and harvest was 15.88" which was concentrated during middle stages of plant growth and early tuber bulking (Table 33). Overall air temperatures were within the favorable range for crop development and tuber bulking for the season (Table 34). Minimum air temperatures were slightly lower than normal and there were three freeze events during 2022.

Production

There were no major changes to the production system in 2022.

Figure 1. Potato Variety Program Evaluation Flowchart.

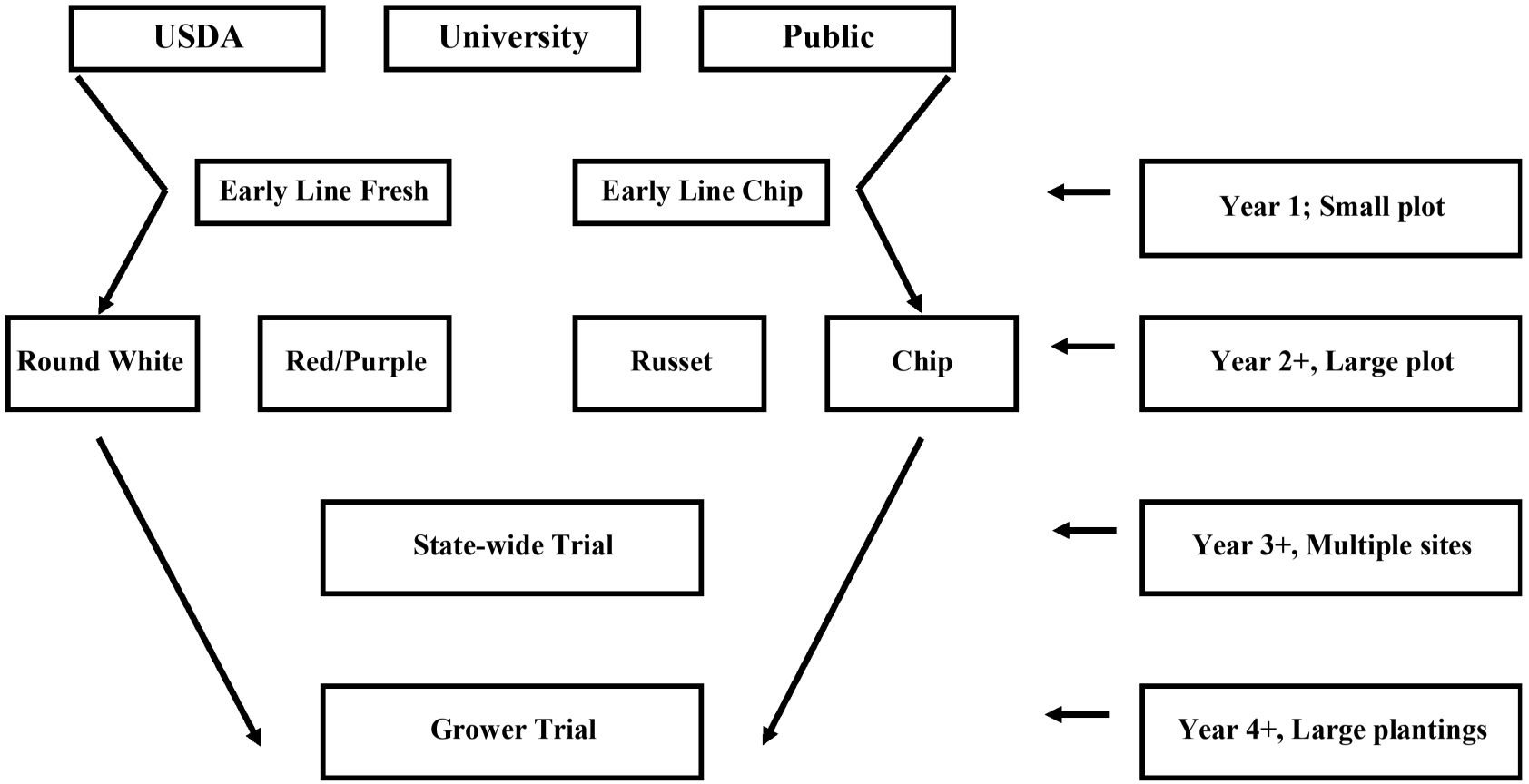

Table 1. Plant growth characteristics.

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

Adapted from Sisson and Porter, 2002.

Table 2. External and Internal Potato Tuber Characteristics.

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

Adapted from Sisson and Porter, 2002.

Chapter 2. USDA 2nd Year Potato Variety Trial

General Comments

A goal of the 2nd year USDA trial is to continue evaluating new clones for production potential in Florida. The entries in this trial were selected from an early generation clone trial conducted in 2021.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	January 31, 2022
Vine Kill Date	N/A
Harvest Date	May 18, 2022
Season Length	107 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/acre granular); Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/acre liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	6 (Standard: Atlantic)
Number of Clones	14
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	43 DAP
Highest Total Yield	Snowden (524 cwt/acre or 58.7 T/ha)
Highest Marketable Yield	Atlantic, Peter Wilcox (336 cwt/acre or 37.7 T/ha)
Best Appearance Rating	BNC1109-1, BNC1113-1, BNC1163-2, BNC1165-2, BNC1165-3 (9, excellent)

Table 3. Production statistics for the 2022 USDA 2nd Year Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Season–107 days												
BNC1106-1	411	289	97	10	12	30	47	0	0	77	47	1.087
BNC1109-1	245	68	23	41	31	28	0	0	0	28	0	1.070
BNC1110-1	214	139	47	22	14	39	26	0	0	65	26	1.082
BNC1111-1	287	272	92	2	3	28	67	0	0	95	67	1.071
BNC1111-2	251	157	53	14	20	46	19	0	0	65	19	1.082
BNC1113-1	242	174	58	11	15	27	46	0	0	74	46	1.067
BNC1118-1	134	37	13	37	30	33	0	0	0	33	0	1.073
Red LaSoda	328	269	91	4	6	24	66	0	0	90	66	1.064
BNC1140-1	142	83	28	12	26	53	9	0	0	63	9	1.074
BNC1147-1	120	6	2	80	16	5	0	0	0	5	0	1.054
BNC1160-1	406	294	99	9	15	37	39	0	0	76	39	1.074
BNC1163-2	312	240	81	5	9	41	46	0	0	86	46	1.064
BNC1165-1	192	34	11	38	41	17	3	0	0	21	3	1.040
BNC1165-2	213	75	25	28	34	26	12	0	0	37	12	1.079
BNC1165-3	141	76	26	20	26	54	0	0	0	54	0	1.041
Atlantic	410	336	113	3	5	9	82	0	0	92	82	1.084
Harley Blackwell (B0564-8)	289	246	83	5	6	26	63	0	0	88	63	1.073
Snowden	524	294	99	37	5	21	37	0	0	58	37	1.080
Peter Wilcox (B1816-5)	406	336	113	3	14	33	50	0	0	83	50	1.071
Atlantic	294	258	87	2	5	19	74	0	0	93	74	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 4. Plant growth and tuber characteristics for the 2022 USDA 2nd Year Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
BNC1106-1	100	8	9	8						7	1
BNC1109-1	100	8	9	7						9	3
BNC1110-1	100	7	9	6						7	3
BNC1111-1	75	9	9	8						7	1
BNC1111-2	100	9	9	8						6	3
BNC1113-1	100	8	9	7						9	2
BNC1118-1	75	8	9	5						7	3
Red LaSoda	100	6	9	6						7	3
BNC1140-1	100	7	9	5						8	3
BNC1147-1	100	8	6	5						7	3
BNC1160-1	100	8	9	6						7	3
BNC1163-2	88	6	9	6						9	2
BNC1165-1	100	9	6	5						8	3
BNC1165-2	88	7	9	7						9	3
BNC1165-3	100	7	9	6						9	3
Atlantic	100	7	9	9						7	-
Harley Blackwell (B0564-8)	88	7	9	8						7	2
Snowden	88	8	9	8						8	3
Peter Wilcox (B1816-5)	100	6	9	8						8	1
Atlantic	100	7	9	9						6	-

[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 5. External and internal defects for the 2022 USDA 2nd Year 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
BNC1106-1	0	0	0	9	9	0	0	0	0
BNC1109-1	0	0	0	0	0	0	0	0	0
BNC1110-1	0	0	0	0	0	0	0	0	0
BNC1111-1	0	0	0	0	0	0	0	0	0
BNC1111-2	4	0	0	0	4	0	0	0	0
BNC1113-1	0	0	0	3	3	0	0	0	0
BNC1118-1	11	0	0	5	16	0	0	0	0
Red LaSoda	4	0	0	4	9	0	0	10	0
BNC1140-1	7	0	0	0	7	0	0	0	0
BNC1147-1	0	0	0	0	0	0	0	0	0
BNC1160-1	0	0	0	5	5	0	0	20	0
BNC1163-2	6	0	0	5	11	0	0	0	0
BNC1165-1	14	0	0	0	14	0	0	0	0
BNC1165-2	3	0	0	2	5	0	0	0	0
BNC1165-3	0	0	0	0	0	0	0	0	0
Atlantic	11	0	0	0	11	0	0	0	0
Harley Blackwell (B0564-8)	2	0	1	0	4	0	0	0	0
Snowden	2	0	0	2	3	0	0	10	0
Peter Wilcox (B1816-5)	0	0	0	0	0	0	0	0	0
Atlantic	5	0	0	0	5	0	0	10	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 3. 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, 2022
Vine Kill Date	May 10, 2022
Harvest Date	May 26, 2022
Season Length	85 days planting to vine kill; 101 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/acre granular); Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/acre liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	17 (Standard: Dark Red Norland)
Number of Clones	7
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	40 in (1.0 m)
Replications	3
Plot Size	20 ft (6.1 m)

Production Statistics

Early Vigor Ratings	41 DAP
Highest Total Yield	Almera (286 cwt/acre or 32.1 T/ha)
Highest Marketable Yield	Almera (177 cwt/acre or 19.8 T/ha)
Best Appearance Rating	NC981-01, Agata, Almera, Malou, PSS13/041/26, Chieftain, Dark Red Norland, French Fingerling, Natascha, Strawberry Paw (9, excellent)

Table 6. Production statistics for the 2022 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–85 days												
King Russet	182	58	56	13	25	52	10	0	0	62	10	1.068
Lilly	265	98	94	6	19	41	35	0	0	76	35	1.059
NC708-3	218	104	100	16	33	39	12	0	0	51	12	1.076
NC980-11	216	94	90	28	28	37	7	0	0	44	7	1.077
NC981-01	265	168	161	14	21	46	19	0	0	65	19	1.079
Agata	191	104	100	12	28	50	10	0	0	60	10	1.057
Almera	286	177	170	8	11	39	33	8	0	81	41	1.060
Malou	275	143	138	12	30	44	15	0	0	59	15	1.065
PSS09/118/6	231	86	83	15	27	49	10	0	0	59	10	1.055
PSS13/041/26	167	69	66	24	33	34	8	0	0	43	8	1.073
COTX15083-1R	131	58	56	14	27	38	20	0	0	58	20	1.061
AORTX09037-1W/Y	194	87	83	13	25	38	24	0	0	62	24	1.074
All Blue	164	42	40	34	40	26	1	0	0	27	1	1.071
Chieftain	248	149	143	14	10	44	32	0	0	76	32	1.064
Dark Red Norland	156	104	100	11	14	44	31	0	0	75	31	1.066
French Fingerling	126	32	31	41	34	25	1	0	0	26	1	1.074
Goldrush	189	69	67	11	20	55	14	0	0	69	14	1.065
Lamoka (NY139)	190	128	123	5	7	35	52	0	0	87	52	1.076
Natascha	166	85	82	16	20	42	22	0	0	65	22	1.063
Peter Wilcox (B1816-5)	232	150	144	11	20	41	29	0	0	70	29	1.072
Strawberry Paw (NY136)	210	82	78	7	11	26	54	2	0	82	56	1.063
Satina	253	135	130	6	9	36	45	4	0	85	49	1.054
Strawberry Paw (NY136)	208	97	93	5	9	27	60	0	0	86	60	1.065
Yukon Gold	177	123	118	5	6	41	47	1	0	89	48	1.078
MSD[3]	96	76		17	19	25	25	ns	ns	25	27	0.009
P Value	<0.0001	<0.0001		<0.0001	<0.0001	0.0006	<0.0001	0.3818	-	<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 7. Plant growth and tuber characteristics for the 2022 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
King Russet	59	6	9	9	1	8	9	4	9	7
Lilly	97	8	9	9	3	8	9	3	9	7
NC708-3	89	7	9	8	3	8	9	6	8	7
NC980-11	94	8	8	7	1	8	9	3	6	8
NC981-01	99	9	8	5	1	2	9	1	7	9
Agata	88	7	9	7	3	8	9	3	8	9
Almera	94	7	9	8	3	8	9	6	9	9
Malou	99	9	9	8	3	8	9	5	7	9
PSS09/118/6	87	7	9	8	3	8	9	6	9	8
PSS13/041/26	87	5	9	9	1	2	9	3	9	9
COTX15083-1R	89	5	9	9	1	2	8	1	7	8
AORTX09037-1W/Y	98	6	9	8	3	8	9	3	8	7
All Blue	90	6	9	8	9	1	8	6	7	6
Chieftain	81	6	9	9	1	2	9	3	7	9
Dark Red Norland	82	7	9	7	1	2	9	3	7	9
French Fingerling	91	7	9	8	3	3	9	8	6	9
Goldrush	94	8	9	8	1	5	4	8	8	8
Lamoka (NY139)	77	6	9	9	1	8	8	3	7	7
Natascha	67	6	9	8	4	8	9	3	7	9
Peter Wilcox (B1816-5)	72	7	9	9	3	1	9	3	9	7
Strawberry Paw (NY136)	78	7	9	9	1	2	9	3	8	9
Satina	90	8	9	9	3	8	9	3	6	8
Strawberry Paw (NY136)	77	6	9	8	1	2	9	3	8	9
Yukon Gold	86	7	9	9	3	8	9	3	7	8

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

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

Table 8. External and internal defects for the 2022 Fresh Market, Red, and Purple Variety 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
King Russet	0	10	0	34	45	0	0	0	0
Lilly	0	0	0	51	51	0	0	0	0
NC708-3	0	0	0	8	8	3	0	0	0
NC980-11	0	0	0	1	1	0	0	0	0
NC981-01	0	0	0	3	3	0	0	0	0
Agata	0	0	0	9	9	0	0	0	0
Almera	2	0	0	21	23	0	0	0	0
Malou	0	0	0	11	11	0	0	0	0
PSS09/118/6	0	2	1	33	35	3	0	0	0
PSS13/041/26	0	0	1	8	9	3	0	0	0
COTX15083-1R	0	0	0	22	22	0	0	0	0
AORTX09037-1W/Y	3	0	1	24	28	0	0	0	0
All Blue	1	0	0	4	5	0	0	0	0
Chieftain	0	0	1	17	18	0	0	0	0
Dark Red Norland	0	0	0	11	11	0	0	0	0
French Fingerling	0	0	0	4	4	0	0	7	0
Goldrush	1	1	0	45	46	0	0	0	0
Lamoka (NY139)	0	0	0	22	22	0	0	0	0
Natascha	0	0	1	19	20	0	0	0	0
Peter Wilcox (B1816-5)	0	1	0	6	7	7	0	0	3
Strawberry Paw (NY136)	3	0	1	47	52	0	0	0	3
Satina	0	1	0	36	37	0	0	0	0
Strawberry Paw (NY136)	0	0	1	45	46	0	0	0	0
Yukon Gold	0	0	2	20	22	0	0	0	0
MSD[3]	4	2	ns	25	24	ns	ns	ns	ns
P Value	0.0195	<0.0001	0.4619	<0.0001	<0.0001	0.6305	-	0.4839	0.5558

[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 4. University of Maine Advanced Selection Potato Variety Trial

General Comments

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

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	February 14, 2022
Vine Kill Date	May 10, 2022
Harvest Date	June 2, 2022
Season Length	85 days planting to vine kill; 108 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/acre granular); Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/acre liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	4 (Standard: Atlantic)
Number of Clones	47
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)

Production Statistics

Early Vigor Ratings	41 DAP
Highest Total Yield	WAF14096-5 (295 cwt/acre or 33.1 T/ha)
Highest Marketable Yield	WAF14096-5 (214 cwt/acre or 24.0 T/ha)
Best Appearance Rating	Yukon Gold, AF6526-7, AF6555-2, AF6601-2, WAF17042-7, AF6692-1 (9, excellent)

Table 9. Production statistics for the 2022 University of Maine Advanced Selection Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Season–85 days												
Atlantic	196	147	100	4	4	40	51	0	0	92	51	1.082
Harley Blackwell (B0564-8)	153	105	71	7	15	30	47	0	0	78	47	1.075
Snowden	243	198	135	3	9	33	55	0	0	88	55	1.080
Yukon Gold	152	94	64	4	11	23	58	4	0	85	62	1.080
AF5280-5	112	77	52	7	8	34	51	0	0	85	51	1.078
AF5973-3	199	126	86	11	21	33	34	0	0	68	34	1.080
AF6165-9	170	118	80	3	11	42	44	0	0	87	44	1.081
AF6194-4	194	132	90	5	16	36	44	0	0	80	44	1.079
AF6200-4	132	80	54	3	9	33	53	1	0	87	54	1.080
AF6200-7	159	124	84	4	9	44	43	0	0	87	43	1.085
AF6206-5	272	184	125	3	9	38	50	0	0	88	50	1.084
AF6289-2	172	99	67	17	22	50	11	0	0	62	11	1.061
AF6298-2	168	83	56	19	27	34	21	0	0	55	21	1.074
AF6340-6	164	101	69	7	16	54	14	8	0	77	23	1.073
AF6377-13	106	36	24	20	36	37	7	0	0	44	7	1.082
AF6522-1	220	96	65	24	30	38	8	0	0	46	8	1.079
AF6526-7	183	138	94	5	8	29	58	1	0	88	59	1.079
AF6550-2	239	168	114	5	12	50	33	0	0	83	33	1.082
AF6551-4	185	133	90	2	9	24	63	2	0	89	65	1.058
AF6552-2	219	155	105	7	15	32	46	0	0	78	46	1.080
AF6555-2	215	148	100	6	15	36	42	1	0	79	43	1.077
AF6565-8	281	206	140	6	13	37	44	1	0	82	45	1.078
AF6567-4	187	131	89	2	13	28	56	1	0	85	57	1.078
AF6601-2	174	118	80	8	19	36	37	0	0	73	37	1.083
AAF11546-3	195	127	86	10	19	46	25	0	0	71	25	1.058
AAF11611-2	206	96	65	19	28	45	8	0	0	53	8	1.065
AAF12139-1	204	102	69	9	33	52	6	0	0	58	6	1.068
COAF15129-3	130	60	40	17	27	35	21	0	0	56	21	1.057
NDAF13296Y-4	173	137	93	4	8	36	52	0	0	88	52	1.070
NDAF1489-4	152	90	61	14	22	43	21	0	0	64	21	1.061

Table 9 (cont'd). Production statistics for the 2022 University of Maine Advanced Selection Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
NDAF141Y-3	152	92	62	9	21	51	18	0	0	69	18	1.068
NDAF14113Y-3	89	44	30	14	22	48	16	0	0	64	16	1.067
WAF14096-5	295	214	146	7	13	26	54	0	0	80	54	1.066
WAF15184-4	198	137	93	6	15	39	39	0	0	78	39	1.075
WAF16107-2	147	103	70	6	12	40	42	0	0	83	42	1.077
WAF16220-4	182	116	78	5	11	29	55	0	0	84	55	1.083
AF6286-1	171	122	83	10	17	53	20	0	0	73	20	1.063
AF6541-3	171	117	79	7	14	35	43	0	0	78	43	1.075
AF6566-1	131	80	54	9	15	51	26	0	0	76	26	1.075
AF6575-6	212	105	71	15	33	40	12	0	0	52	12	1.074
AF6664-9	99	64	43	10	13	22	51	5	0	77	56	1.072
AF6717-1	228	153	104	8	14	24	54	0	0	78	54	1.069
AF6735-2	170	133	90	7	11	33	49	0	0	82	49	1.063
AF6743-6	165	74	50	19	32	33	17	0	0	49	17	1.085
WAF17042-7	188	127	86	8	15	38	39	0	0	77	39	1.073
NDAF14188-5	218	161	109	6	11	44	39	0	0	83	39	1.077
AF6692-1	74	47	32	8	13	41	38	0	0	79	38	1.066
AF6694-8	175	103	70	14	19	52	14	0	0	67	14	1.066
AF6705-2	50	26	18	14	19	49	18	0	0	68	18	1.062
NDAF14280CB-1	114	54	37	9	18	30	41	2	0	73	43	1.068
AF6693-1	153	89	61	11	22	42	25	0	0	66	25	1.069
MSD[3]	47	36		5	7	11	11	ns	ns	9	12	0.010
P Value	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	0.5210	-	<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 10. Plant growth and tuber characteristics for the 2022 University of Maine Advanced Selection Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Atlantic	91	8	9	9						8	-
Harley Blackwell (B0564-8)	84	8	9	8						7	2
Snowden	91	7	9	9						8	1
Yukon Gold	80	6	9	9						9	3
AF5280-5	88	8	9	8						8	3
AF5973-3	91	6	9	9						8	2
AF6165-9	97	9	9	9						6	2
AF6194-4	83	5	9	9						6	2
AF6200-4	93	7	9	9						7	4
AF6200-7	86	7	9	9						8	2
AF6206-5	96	9	9	8						6	3
AF6289-2	97	8	9	6						6	2
AF6298-2	93	6	9	8						8	2
AF6340-6	88	6	9	8						6	3
AF6377-13	91	5	9	8						8	3
AF6522-1	92	8	8	8						7	2
AF6526-7	88	6	9	8						9	2
AF6550-2	92	9	9	8						8	2
AF6551-4	83	5	9	9						6	2
AF6552-2	93	8	9	9						7	1
AF6555-2	93	7	9	9						9	2
AF6565-8	94	7	9	8						7	2
AF6567-4	92	8	8	9						7	2
AF6601-2	93	7	9	8						9	2
AAF11546-3	98	7	9	7						6	1
AAF11611-2	92	4	9	9						8	3
AAF12139-1	90	5	9	9						7	3
COAF15129-3	72	5	9	8						6	3
NDAF13296Y-4	94	6	9	8						8	3
NDAF1489-4	95	9	8	7						6	2

Table 10 (cont'd). Plant growth and tuber characteristics for the 2022 University of Maine Advanced Selection Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
NDAF141Y-3	88	7	9	9						7	3
NDAF14113Y-3	90	8	9	8						7	4
WAF14096-5	90	9	8	8						6	1
WAF15184-4	91	7	9	9						8	3
WAF16107-2	82	6	9	9						7	2
WAF16220-4	93	8	9	9						6	2
AF6286-1	83	6	9	8						7	2
AF6541-3	95	6	9	8						7	2
AF6566-1	83	4	9	9						8	4
AF6575-6	94	8	9	8						7	2
AF6664-9	43	4	9	9						8	3
AF6717-1	92	7	9	8						6	3
AF6735-2	71	6	9	9						8	2
AF6743-6	90	5	9	9						7	3
WAF17042-7	81	6	9	9						9	3
NDAF14188-5	73	7	9	9						6	2
AF6692-1	88	7	9	8						9	4
AF6694-8	94	8	9	8						6	3
AF6705-2	89	6	9	9						7	4
NDAF14280CB-1	79	6	9	9						6	4
AF6693-1	92	7	9	8						8	3

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

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

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

Table 11. External and internal defects for the 2022 University of Maine Advanced Selection 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	2	1	0	15	18	3	0	3	0
Harley Blackwell (B0564-8)	0	0	1	10	11	3	3	8	0
Snowden	0	0	1	7	7	0	0	0	0
Yukon Gold	1	1	0	26	27	5	0	5	0
AF5280-5	0	0	0	23	23	0	0	0	3
AF5973-3	1	2	0	4	6	5	0	0	0
AF6165-9	0	5	0	14	19	15	0	3	3
AF6194-4	2	1	0	11	14	5	0	0	0
AF6200-4	0	0	0	34	34	0	0	0	0
AF6200-7	1	0	0	11	11	0	0	0	0
AF6206-5	2	1	0	20	23	0	3	10	0
AF6289-2	0	0	0	7	7	0	0	0	0
AF6298-2	0	0	1	8	9	0	0	3	3
AF6340-6	0	0	0	19	19	0	0	0	0
AF6377-13	4	8	0	12	24	3	0	0	0
AF6522-1	0	1	0	4	5	0	0	0	0
AF6526-7	0	2	1	11	14	0	0	0	0
AF6550-2	6	1	0	6	13	0	0	0	0
AF6551-4	1	1	1	16	19	0	0	0	0
AF6552-2	0	0	2	7	9	0	0	0	0
AF6555-2	0	0	0	13	14	0	0	0	0
AF6565-8	0	0	1	10	11	0	0	0	0
AF6567-4	0	0	1	18	19	3	0	0	0
AF6601-2	0	0	0	5	5	0	0	0	0
AAF11546-3	0	0	0	9	9	0	0	0	0
AAF11611-2	0	1	0	11	12	0	0	0	0
AAF12139-1	1	0	0	12	13	0	0	0	0
COAF15129-3	2	0	1	19	22	3	0	0	0
NDAF13296Y-4	0	0	0	11	11	0	0	5	0
NDAF1489-4	0	0	0	8	8	0	0	0	0

Table 11 (cont'd). External and internal defects for the 2022 University of Maine Advanced Selection 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
NDAF141Y-3	1	1	0	13	15	0	0	0	0
NDAF14113Y-3	1	1	0	27	29	0	0	5	0
WAF14096-5	0	0	0	9	9	0	0	0	0
WAF15184-4	0	0	0	12	13	0	0	15	0
WAF16107-2	0	0	0	16	16	5	0	0	0
WAF16220-4	1	0	1	22	24	3	0	0	0
AF6286-1	0	1	0	1	2	3	0	3	0
AF6541-3	1	0	0	12	12	0	0	0	0
AF6566-1	0	7	0	13	20	0	0	0	0
AF6575-6	0	0	0	7	7	0	0	0	0
AF6664-9	0	2	0	14	16	15	0	0	3
AF6717-1	0	1	1	12	13	0	0	5	0
AF6735-2	0	0	0	6	7	0	0	5	0
AF6743-6	0	0	0	12	13	0	0	3	0
WAF17042-7	0	0	0	16	16	15	0	0	0
NDAF14188-5	0	0	0	10	11	0	0	0	0
AF6692-1	0	0	0	20	20	0	0	0	0
AF6694-8	0	0	0	11	16	0	0	8	0
AF6705-2	7	0	0	20	27	0	0	0	0
NDAF14280CB-1	0	2	1	45	48	0	0	0	0
AF6693-1	0	1	1	11	12	0	0	0	0
MSD[3]	3	6	ns	10	9	5	ns	8	ns
P Value	<0.0001	0.0315	0.7671	<0.0001	<0.0001	<0.0001	0.4846	0.0009	0.5560

[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 Waller-Duncan K-ratio t Test.

Chapter 5. University of Maine Early Line Potato Variety Trial

General Comments

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

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	February 15, 2022
Vine Kill Date	May 10, 2022
Harvest Date	May 23, 2022
Season Length	84 days planting to vine kill; 97 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/acre granular); Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/acre liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	6 (Standard: Red LaSoda)
Number of Clones	51
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	40 DAP
Highest Total Yield	AF6963-8 (504 cwt/acre or 56.5 T/ha)
Highest Marketable Yield	AF6978-1 (392 cwt/acre or 43.9 T/ha)
Best Appearance Rating	Red LaSoda, Natascha, AF6881-4, AF6952-6, AF6955-1, AF6957-10, AF6868-6, AF6903-3, AF6965-5 (9, excellent)

Table 12. Production statistics for the 2022 University of Maine Early Line Variety Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Season–84 days												
Red LaSoda	193	135	100	7	7	25	61	0	0	86	61	1.063
Peter Wilcox (B1816-5)	273	181	134	7	23	31	39	0	0	70	39	1.071
Natascha	288	173	128	8	26	39	27	0	0	66	27	1.057
Satina	263	130	96	5	11	23	57	4	0	84	61	1.053
Dark Red Norland	218	144	107	8	14	33	45	0	0	78	45	1.056
All Blue	196	61	45	24	44	29	3	0	0	32	3	1.067
AF6867-1	284	185	137	9	17	32	43	0	0	75	43	1.085
AF6871-4	342	175	129	3	9	34	54	0	0	88	54	1.075
AF6871-14	85	44	32	8	8	48	36	0	0	84	36	1.071
AF6872-11	238	159	118	6	15	45	34	0	0	79	34	1.074
AF6876-18	193	117	86	5	17	38	41	0	0	79	41	1.082
AF6877-12	90	43	32	13	9	51	27	0	0	78	27	1.071
AF6878-15	164	74	55	4	13	38	45	0	0	83	45	1.076
AF6878-18	240	136	100	6	9	44	41	0	0	85	41	1.080
AF6878-22	426	346	256	2	6	42	49	0	0	92	49	1.077
AF6880-9	411	328	243	3	6	29	62	0	0	91	62	1.074
AF6881-4	237	124	92	23	23	34	20	0	0	54	20	1.072
AF6883-4	222	130	96	10	25	37	29	0	0	65	29	1.084
AF6883-8	188	121	89	4	10	44	42	0	0	86	42	1.079
AF6883-15	263	176	130	8	15	25	52	0	0	77	52	1.083
AF6886-3	296	212	156	3	7	39	51	0	0	90	51	1.068
AF6888-9	290	182	135	7	13	28	49	3	0	80	52	1.065
AF6888-15	290	199	147	3	27	18	52	0	0	70	52	1.074
AF6892-6	322	258	191	6	4	49	41	0	0	90	41	1.078
AF6894-5	106	61	45	17	17	28	38	0	0	67	38	1.087
AF6894-12	301	228	169	4	8	32	55	0	0	87	55	1.074
AF6896-1	343	257	190	4	16	49	31	0	0	80	31	1.081
AF6898-1	316	232	172	9	15	44	32	0	0	76	32	1.082
AF6901-8	340	253	187	4	11	33	52	0	0	84	52	1.075
AF6907-15	200	147	109	4	12	36	48	0	0	84	48	1.083

Table 12 (cont'd). Production statistics for the 2022 University of Maine Early Line Variety Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
AF6908-2	178	88	65	13	21	50	16	0	0	66	16	1.086
AF6908-7	255	165	122	7	20	48	25	0	0	73	25	1.083
AF6911-4	338	222	164	7	19	38	36	0	0	74	36	1.071
AF6926-8	311	232	171	2	8	32	57	0	0	89	57	1.073
AF6951-8	324	239	177	2	5	23	70	0	0	93	70	1.068
AF6952-6	213	136	100	11	15	27	48	0	0	74	48	1.067
AF6955-1	254	187	138	4	12	33	49	2	0	84	51	1.052
AF6956-8	217	136	100	6	8	30	55	0	0	86	55	1.075
AF6957-10	251	173	128	9	13	47	31	0	0	78	31	1.071
AF6978-1	490	392	290	5	9	41	46	0	0	87	46	1.072
AF6979-3	260	197	146	6	9	27	56	2	0	85	58	1.073
AF6980-1	342	179	132	22	23	36	19	0	0	55	19	1.076
AF6981-4	280	122	90	18	29	32	21	0	0	54	21	1.071
NDAF1710Y-1	343	200	148	9	13	45	32	0	0	77	32	1.064
AF6868-6	311	173	128	11	26	44	19	0	0	64	19	1.079
AF6889-4	411	348	257	3	6	22	22	47	0	91	69	1.069
AF6903-3	307	227	168	7	13	43	35	1	0	80	37	1.071
AF6930-1	261	155	115	11	18	51	21	0	0	72	21	1.060
AF6932-4	246	164	122	8	16	42	34	0	0	76	34	1.064
AF6932-6	160	54	40	13	31	28	28	0	0	56	28	1.062
AF6938-4	162	57	42	14	10	51	25	0	0	76	25	1.057
AF6942-5	256	113	83	21	23	26	30	0	0	56	30	1.067
AF6963-1	198	117	86	15	15	60	9	0	0	70	9	1.074
AF6963-8	504	326	241	3	20	23	54	0	0	77	54	1.070
AF6965-5	348	234	173	5	12	32	49	2	0	83	51	1.070
AF6969-3	338	173	128	3	7	7	80	3	0	91	84	1.065
NDAF1727Y-1	273	172	127	7	9	26	49	9	0	84	58	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 13. Plant growth and tuber characteristics for the 2022 University of Maine Early Line Variety Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Red LaSoda	75	8	9	8						9	-
Peter Wilcox (B1816-5)	79	8	9	8						7	1
Natascha	92	9	9	8						9	1
Satina	96	8	9	7						8	3
Dark Red Norland	96	8	9	6						7	2
All Blue	92	8	9	7						6	3
AF6867-1	96	8	9	8						6	3
AF6871-4	96	8	9	9						7	4
AF6871-14	100	9	6	8						7	4
AF6872-11	88	5	9	9						8	3
AF6876-18	96	7	9	8						7	2
AF6877-12	88	7	9	8						6	4
AF6878-15	92	8	9	7						8	4
AF6878-18	96	8	9	8						7	3
AF6878-22	100	8	9	9						7	2
AF6880-9	100	8	9	9						7	2
AF6881-4	100	9	6	7						9	3
AF6883-4	100	7	9	8						7	2
AF6883-8	96	8	9	8						6	3
AF6883-15	88	9	9	8						6	2
AF6886-3	96	7	9	9						7	3
AF6888-9	100	7	9	9						6	3
AF6888-15	92	8	9	8						8	3
AF6892-6	88	8	6	8						7	3
AF6894-5	92	8	9	8						7	3
AF6894-12	100	6	9	9						6	3
AF6896-1	96	9	9	8						8	1
AF6898-1	96	9	6	6						6	1
AF6901-8	88	7	9	9						7	2
AF6907-15	92	9	9	6						8	3

Table 13 (cont'd). Plant growth and tuber characteristics for the 2022 University of Maine Early Line Variety Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
AF6908-2	100	9	9	8						6	3
AF6908-7	92	7	9	7						8	2
AF6911-4	96	8	9	9						7	3
AF6926-8	100	8	9	8						8	2
AF6951-8	92	6	9	9						6	2
AF6952-6	38	5	9	9						9	3
AF6955-1	100	6	9	9						9	2
AF6956-8	83	9	9	6						8	2
AF6957-10	96	8	9	8						9	2
AF6978-1	100	9	9	8						8	1
AF6979-3	96	8	9	7						8	2
AF6980-1	100	9	9	5						7	1
AF6981-4	100	7	9	8						8	2
NDAF1710Y-1	96	9	9	8						8	2
AF6868-6	100	9	9	8						9	2
AF6889-4	92	9	9	8						8	3
AF6903-3	100	9	9	8						9	1
AF6930-1	96	7	9	7						6	2
AF6932-4	100	9	9	6						7	2
AF6932-6	96	9	9	4						7	4
AF6938-4	92	7	9	6						7	4
AF6942-5	96	9	9	5						6	3
AF6963-1	96	8	9	7						6	2
AF6963-8	92	8	9	8						8	2
AF6965-5	100	6	9	8						9	2
AF6969-3	100	7	9	8						8	3
NDAF1727Y-1	96	7	9	6						8	2

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

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

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

Table 14. External and internal defects for the 2022 University of Maine Early Line Variety 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
Red LaSoda	0	0	0	19	19	0	0	10	0
Peter Wilcox (B1816-5)	0	0	0	6	6	0	0	0	0
Natascha	0	0	0	9	9	0	0	0	0
Satina	0	0	0	41	41	0	0	0	0
Dark Red Norland	0	0	0	15	15	0	0	0	0
All Blue	0	0	0	2	2	0	0	0	0
AF6867-1	0	0	0	13	13	0	0	20	0
AF6871-4	0	0	0	42	42	0	0	20	0
AF6871-14	0	0	0	39	39	0	0	10	0
AF6872-11	0	0	0	16	16	0	20	10	0
AF6876-18	0	0	0	23	23	0	0	0	0
AF6877-12	0	0	0	39	39	0	0	10	0
AF6878-15	0	0	0	46	46	0	0	20	0
AF6878-18	0	0	0	34	34	0	0	0	0
AF6878-22	0	0	0	11	11	0	0	0	0
AF6880-9	0	0	0	12	12	0	0	0	0
AF6881-4	0	0	0	4	4	0	0	20	0
AF6883-4	0	0	0	10	10	0	0	0	0
AF6883-8	0	0	0	25	25	0	0	10	0
AF6883-15	0	0	0	13	13	0	0	0	0
AF6886-3	0	0	0	21	21	0	0	10	0
AF6888-9	0	0	0	21	21	0	0	20	0
AF6888-15	0	0	0	3	3	0	0	10	0
AF6892-6	0	0	0	12	12	0	0	10	0
AF6894-5	0	0	0	14	14	0	0	0	0
AF6894-12	0	0	0	13	13	10	0	0	0
AF6896-1	0	0	0	6	6	0	0	0	0
AF6898-1	0	0	0	3	3	0	0	0	0
AF6901-8	0	0	0	12	12	0	0	0	0
AF6907-15	0	0	0	12	12	0	0	20	0

Table 14 (cont'd). External and internal defects for the 2022 University of Maine Early Line Variety 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
AF6908-2	0	0	0	26	26	0	0	0	0
AF6908-7	0	0	0	11	11	0	0	0	0
AF6911-4	0	0	0	11	11	0	0	10	0
AF6926-8	0	0	0	16	16	0	0	0	0
AF6951-8	0	0	0	20	20	0	0	0	0
AF6952-6	0	0	0	14	14	0	10	0	0
AF6955-1	0	0	0	13	13	0	0	0	0
AF6956-8	0	0	0	27	27	0	0	0	0
AF6957-10	0	0	0	12	12	0	0	0	0
AF6978-1	0	0	0	8	8	0	0	0	0
AF6979-3	0	0	0	11	11	0	0	0	0
AF6980-1	0	0	0	4	4	0	0	0	0
AF6981-4	0	0	0	19	19	0	0	0	0
NDAF1710Y-1	0	0	0	25	25	0	0	0	0
AF6868-6	0	0	0	13	13	0	0	0	0
AF6889-4	0	0	0	7	7	0	0	20	0
AF6903-3	0	0	0	8	8	0	0	0	0
AF6930-1	0	0	0	17	17	0	0	0	0
AF6932-4	0	0	0	11	11	0	0	0	0
AF6932-6	0	0	0	40	40	0	0	30	0
AF6938-4	0	0	0	54	54	0	0	0	0
AF6942-5	0	0	0	22	22	0	0	0	0
AF6963-1	0	0	0	16	16	0	0	0	0
AF6963-8	0	0	0	16	16	0	0	0	0
AF6965-5	0	0	0	19	19	0	0	0	0
AF6969-3	0	0	0	44	44	0	0	0	0
NDAF1727Y-1	0	0	0	25	25	0	0	0	0

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

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

Chapter 6. University of Maine Early Generation Red and Specialty Potato Variety Trial

General Comments

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

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	February 15, 2022
Vine Kill Date	May 10, 2022
Harvest Date	May 23, 2022
Season Length	84 days planting to vine kill; 97 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/acre granular); Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/acre liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	9 (Standard: Dark Red Norland instead of Red LaSoda)
Number of Clones	45
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	40 DAP
Highest Total Yield	NDAF1825Y-3 (702 cwt/acre or 78.7 T/ha)
Highest Marketable Yield	Snowden (425 cwt/acre or 47.6 T/ha)
Best Appearance Rating	Atlantic, Natascha, AF7092-2, AF7106-5, AF7108-3, AF7151-3, AF7154-2, AF7166-1, AF7182-4, COAF18053-1, AAF12211-2, NDAF17119-4, NDAF17137-7, NDAF17139-5, NDAF17140-3, AF7123-3 (9, excellent)

Table 15. Production statistics for the 2022 University of Maine Early Generation Red and Specialty Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
Season–84 days												
Red LaSoda	201	85	73	8	18	3	71	0	0	74	71	1.064
Atlantic	204	134	116	7	22	47	24	0	0	71	24	1.052
Peter Wilcox (B1816-5)	393	197	169	15	33	32	21	0	0	53	21	1.066
Natascha	174	144	124	0	17	37	45	0	0	83	45	1.056
Satina	441	330	284	0	6	21	63	10	0	94	73	1.053
Snowden	551	425	365	5	12	31	51	0	0	82	51	1.076
Dark Red Norland	249	116	100	14	19	50	17	0	0	67	17	1.059
All Blue	309	86	74	28	45	28	0	0	0	28	0	1.069
Chieftain	461	334	288	5	11	43	41	0	0	85	41	1.066
AF7090-9	494	320	276	6	7	48	40	0	0	87	40	1.064
AF7092-2	398	290	250	8	17	57	18	0	0	76	18	1.074
AF7094-1	469	243	209	23	22	43	12	0	0	55	12	1.079
AF7095-2	436	243	209	17	26	28	30	0	0	58	30	1.076
AF7095-4	476	350	301	6	10	31	47	6	0	85	53	1.065
AF7095-6	322	212	182	6	7	57	30	0	0	86	30	1.067
AF7096-1	197	87	75	24	21	50	5	0	0	55	5	1.076
AF7098-4	300	64	55	28	50	19	2	0	0	21	2	1.066
AF7103-6	259	156	134	11	20	31	38	0	0	69	38	1.068
AF7106-5	200	85	73	23	31	35	10	0	0	45	10	1.075
AF7108-3	176	102	88	9	26	47	18	0	0	65	18	1.067
AF7108-10	242	143	123	3	19	24	54	0	0	77	54	1.064
AF7111-4	379	257	221	12	16	45	26	0	0	72	26	1.063
AF7151-3	516	418	359	3	3	5	84	5	0	94	89	1.081
AF7154-1	458	314	270	12	15	34	39	0	0	73	39	1.075
AF7154-2	360	194	167	14	24	31	32	0	0	62	32	1.080
AF7166-1	418	187	161	4	19	51	26	0	0	77	26	1.058
AF7170-9dup1	346	265	228	7	13	18	62	0	0	80	62	1.077
AF7170-9dup2	369	233	200	6	17	35	42	0	0	77	42	1.075
AF7175-1	524	389	335	5	8	26	61	0	0	88	61	1.080
AF7175-2	351	234	202	9	9	33	48	0	0	82	48	1.081

Table 15 (cont'd). Production statistics for the 2022 University of Maine Early Generation Red and Specialty Trial potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield[1] (cwt/A)	Marketable Yield[1] % of standard	Size Distribution by Class (%)[2] C	B	A1	A2	A3	A4	Size Class Range (%) A1 to A3	Size Class Range (%) A2 to A3	Specific Gravity
AF7175-4	416	314	270	7	12	14	67	0	0	80	67	1.072
AF7182-4	346	247	212	8	17	13	63	0	0	75	63	1.063
COAF18042-2	264	100	86	32	26	38	4	0	0	42	4	1.062
COAF18053-1	342	142	122	25	8	17	50	0	0	67	50	1.065
COAFG18192-1	457	242	208	9	17	56	18	0	0	73	18	1.073
AAF12211-2	354	214	184	9	8	25	58	0	0	83	58	1.060
AAF15338-5	389	270	232	2	12	10	77	0	0	86	77	1.059
NDAF17119-4	321	183	157	11	22	36	26	5	0	67	31	1.064
NDAF17137-7	328	230	198	12	12	38	38	0	0	75	38	1.073
NDAF17139-5	456	319	275	8	14	28	50	0	0	79	50	1.065
NDAF17140-3	439	324	278	12	10	51	27	0	0	78	27	1.068
NDAF17153-1	262	83	72	21	46	30	4	0	0	33	4	1.073
NDAF1821Y-2	.	.	.	.	.	.	.	.	.	.	.	.
NDAF1821Y-3	302	257	222	6	7	31	56	0	0	87	56	1.064
NDAF1825Y-1	383	199	171	8	7	23	62	0	0	85	62	1.062
NDAF1825Y-3	702	424	365	4	5	36	54	0	0	90	54	1.058
AF7093-1	358	210	181	7	10	28	55	0	0	83	55	1.074
AF7123-2	350	268	231	6	7	33	53	0	0	87	53	1.062
AF7123-3	572	361	310	8	12	22	50	8	0	80	58	1.060
AF7123-4	325	47	41	35	41	13	10	0	0	23	10	1.067
AF7160-1	475	335	288	5	11	34	50	0	0	84	50	1.081
AF7160-2	395	328	282	8	4	39	48	0	0	87	48	1.069
NDAF17155-2	354	290	249	6	8	53	34	0	0	87	34	1.074
NDAF17155-6	325	242	208	14	12	44	30	0	0	74	30	1.064

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

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

Table 16. Plant growth and tuber characteristics for the 2022 University of Maine Early Generation Red and Specialty Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Red LaSoda	75	8	9	8						7	4
Atlantic	88	8	9	7						9	1
Peter Wilcox (B1816-5)	100	9	6	7						7	1
Natascha	100	9	9	7						9	1
Satina	88	9	9	8						8	2
Snowden	100	9	9	7						7	1
Dark Red Norland	100	9	9	3						6	-
All Blue	100	9	6	7						8	2
Chieftain	100	9	9	8						6	2
AF7090-9	100	9	6	7						8	2
AF7092-2	100	9	6	7						9	1
AF7094-1	100	9	9	8						8	2
AF7095-2	100	9	6	5						7	1
AF7095-4	75	9	6	9						7	3
AF7095-6	100	9	9	9						8	3
AF7096-1	100	8	9	7						8	3
AF7098-4	100	9	6	5						8	2
AF7103-6	100	8	9	7						7	2
AF7106-5	100	8	9	7						9	2
AF7108-3	100	8	9	8						9	2
AF7108-10	88	7	9	6						8	2
AF7111-4	100	8	9	8						7	1
AF7151-3	88	9	9	8						9	2
AF7154-1	88	9	6	8						8	3
AF7154-2	100	9	9	7						9	2
AF7166-1	100	6	9	8						9	3
AF7170-9dup1	100	9	9	8						7	1
AF7170-9dup2	100	9	9	8						7	2
AF7175-1	100	9	9	8						8	2
AF7175-2	100	9	9	8						8	2

Table 16 (cont'd). Plant growth and tuber characteristics for the 2022 University of Maine Early Generation Red and Specialty Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
AF7175-4	100	9	9	8						7	1
AF7182-4	88	9	9	8						9	1
COAF18042-2	75	8	9	6						8	1
COAF18053-1	100	8	9	8						9	3
COAFG18192-1	88	9	9	8						8	2
AAF12211-2	100	9	9	8						9	2
AAF15338-5	100	9	9	7						6	2
NDAF17119-4	100	9	9	5						9	2
NDAF17137-7	100	9	6	7						9	1
NDAF17139-5	100	8	9	8						9	2
NDAF17140-3	88	9	9	8						9	1
NDAF17153-1	100	9	9	4						8	2
NDAF1821Y-2	100	8	9	8						.	.
NDAF1821Y-3	100	8	9	7						7	1
NDAF1825Y-1	100	9	9	8						7	3
NDAF1825Y-3	100	9	9	5						7	3
AF7093-1	100	9	9	8						7	2
AF7123-2	100	8	9	8						8	2
AF7123-3	100	9	9	8						9	2
AF7123-4	100	8	9	4						8	4
AF7160-1	100	9	9	7						7	3
AF7160-2	100	9	9	7						8	1
NDAF17155-2	100	9	9	6						7	1
NDAF17155-6	100	9	9	5						8	1

[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 17. External and internal defects for the 2022 University of Maine Early Generation Red and Specialty 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
Red LaSoda	0	0	0	43	43	0	20	40	0
Atlantic	0	0	0	8	8	0	0	0	0
Peter Wilcox (B1816-5)	0	3	0	2	5	0	0	0	0
Natascha	0	0	0	0	0	0	0	0	0
Satina	0	0	0	20	20	0	0	0	0
Snowden	0	0	0	6	6	0	0	0	0
Dark Red Norland	0	0	0	30	30	0	0	0	0
All Blue	0	0	0	0	0	0	0	0	0
Chieftain	0	0	0	14	14	0	0	0	0
AF7090-9	0	0	0	26	26	0	0	0	0
AF7092-2	0	0	0	3	3	0	0	0	0
AF7094-1	0	0	0	6	6	0	0	0	10
AF7095-2	0	0	0	3	3	0	0	0	0
AF7095-4	0	0	0	13	13	10	0	0	0
AF7095-6	0	0	0	24	24	0	0	10	10
AF7096-1	0	0	0	20	20	0	0	0	0
AF7098-4	0	0	0	0	0	0	0	0	0
AF7103-6	0	0	0	13	13	0	0	0	0
AF7106-5	0	0	0	6	6	0	0	0	0
AF7108-3	0	0	0	11	11	0	0	0	0
AF7108-10	0	0	0	24	24	0	0	0	0
AF7111-4	0	0	0	5	5	0	0	0	0
AF7151-3	0	0	0	14	14	0	0	0	0
AF7154-1	0	0	0	6	6	0	0	10	0
AF7154-2	0	0	0	13	13	0	0	0	0
AF7166-1	0	0	0	42	42	0	0	0	0
AF7170-9dup1	0	0	0	5	5	0	0	0	0
AF7170-9dup2	0	0	0	18	18	0	0	0	0
AF7175-1	0	0	0	15	15	0	0	0	0
AF7175-2	0	0	0	18	18	0	0	0	0

Table 17 (cont'd). External and internal defects for the 2022 University of Maine Early Generation Red and Specialty 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
AF7175-4	0	0	0	6	6	0	0	0	0
AF7182-4	0	0	0	6	6	0	0	0	0
COAF18042-2	0	3	0	6	9	0	0	0	0
COAF18053-1	0	0	0	38	38	0	0	0	0
COAFG18192-1	0	0	0	28	28	0	0	0	0
AAF12211-2	0	0	0	27	27	0	0	0	0
AAF15338-5	0	0	0	20	20	0	0	0	0
NDAF17119-4	0	0	0	15	15	0	0	0	0
NDAF17137-7	0	0	0	7	7	0	0	0	0
NDAF17139-5	0	0	0	11	11	0	0	0	0
NDAF17140-3	0	0	0	6	6	0	0	0	0
NDAF17153-1	0	0	0	4	4	0	0	0	0
NDAF1821Y-2	.	.	.	.	.	.	.	.	.
NDAF1821Y-3	0	0	0	2	2	0	0	0	0
NDAF1825Y-1	0	0	0	39	39	0	0	0	0
NDAF1825Y-3	0	0	0	33	33	0	0	0	0
AF7093-1	0	0	0	29	29	0	0	0	0
AF7123-2	0	0	0	12	12	0	0	0	0
AF7123-3	0	0	0	21	21	0	0	0	0
AF7123-4	0	0	0	38	38	0	0	0	0
AF7160-1	0	0	0	16	16	10	0	0	0
AF7160-2	0	0	0	5	5	0	0	0	0
NDAF17155-2	0	0	0	6	6	0	0	0	0
NDAF17155-6	0	0	0	0	0	0	0	0	0

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

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

Chapter 7. University of Maine Early Generation Round White and USDA 60 Hill Potato Variety Trial

General Comments

The University of Maine early generation round whites give us an opportunity to look at these newest breeding clones for the first time. The USDA 60 Hill BNC and B clones that are normally part of the chipping trial were included in this trial. 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 9, 2022
Vine Kill Date	N/A
Harvest Date	May 25, 2022
Season Length	105 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/acre granular); Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/acre liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	9 (Standard: Atlantic instead of LaChipper)
Number of Clones	100
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	44 DAP
Highest Total Yield	AF7183-2 (736 cwt/acre or 82.5 T/ha)
Highest Marketable Yield	AF7183-2 (678 cwt/acre or 76.0 T/ha)
Best Appearance Rating	AF7095-7, AF7143-2, AF7149-2, AF7170-12, AF7172-1, AF7172-3, AF7173-1, AF7173-7, AF7182-6, COAF18053-3, AAF12219-1, NDAF17137-5, BNC981-1, BNC990-2, B3451-8, B3455-1, B3463-4, B3471-1 (9, excellent)

Table 18. Production statistics for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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												
Red LaSoda	508	455	111	3	4	24	65	5	0	94	70	1.065
Atlantic	433	411	100	1	4	22	68	5	0	95	73	1.089
Peter Wilcox (B1816-5)	561	446	108	8	12	39	41	0	0	79	41	1.067
Natascha	489	365	89	7	14	44	35	0	0	79	35	1.069
Satina	586	519	126	3	8	23	58	7	0	89	65	1.055
Snowden	454	364	89	4	14	27	52	3	0	82	55	1.086
Dark Red Norland	292	228	55	7	12	26	56	0	0	82	56	1.065
All Blue	441	142	34	20	42	31	7	0	0	38	7	1.066
Katahdin	481	394	96	5	7	29	59	0	0	88	59	1.068
AF7095-7	277	161	39	16	22	46	16	0	0	62	16	1.084
AF7112-1	431	308	75	15	14	38	34	0	0	71	34	1.078
AF7114-1	305	203	50	15	19	43	23	0	0	67	23	1.083
AF7114-2	281	193	47	14	17	26	43	0	0	69	43	1.082
AF7114-4	520	458	111	4	7	26	63	0	0	89	63	1.074
AF7114-10	394	296	72	8	16	32	39	4	0	76	44	1.074
AF7114-12	451	333	81	14	8	36	34	4	4	74	38	1.085
AF7114-15	375	297	72	7	9	41	44	0	0	84	44	1.085
AF7115-1	309	252	61	7	8	30	55	0	0	85	55	1.079
AF7128-1	328	293	71	4	7	36	53	0	0	89	53	1.089
AF7128-4	507	463	113	2	3	16	79	0	0	95	79	1.075
AF7129-1	321	148	36	24	30	29	17	0	0	46	17	1.089
AF7129-2	425	328	80	9	14	44	34	0	0	77	34	1.085
AF7130-3	502	385	94	8	16	23	54	0	0	77	54	1.081
AF7130-6	524	381	93	5	8	22	65	0	0	87	65	1.083
AF7131-2	499	416	101	4	12	21	60	5	0	85	64	1.080
AF7139-4	291	245	60	7	5	39	50	0	0	88	50	1.081
AF7140-1	432	361	88	5	6	31	51	6	0	88	57	1.080
AF7140-3	443	404	98	5	4	26	65	0	0	91	65	1.085
AF7140-4	378	330	80	5	8	40	47	0	0	87	47	1.074
AF7142-1	423	277	67	11	10	50	28	0	0	79	28	1.072

Table 18 (cont'd). Production statistics for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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
AF7142-5	231	122	30	17	26	30	27	0	0	58	27	1.085
AF7143-2	351	271	66	4	16	42	38	0	0	79	38	1.077
AF7145-2	268	229	56	11	2	88	0	0	0	88	0	1.087
AF7145-3	449	329	80	7	3	20	65	5	0	90	70	1.075
AF7146-1	460	330	80	9	16	29	46	0	0	75	46	1.081
AF7146-3	451	421	103	2	4	10	78	5	0	93	84	1.076
AF7147-1	671	558	136	3	5	19	73	0	0	92	73	1.089
AF7147-3	619	484	118	5	5	33	58	0	0	91	58	1.068
AF7149-2	470	419	102	4	7	18	68	3	0	89	71	1.078
AF7149-5	401	347	84	2	4	8	79	6	0	93	85	1.070
AF7151-2	506	381	93	9	8	15	68	0	0	83	68	1.090
AF7153-4	464	412	100	8	3	24	64	0	0	89	64	1.078
AF7156-1	352	292	71	7	8	37	49	0	0	86	49	1.073
AF7156-4	271	235	57	4	9	43	44	0	0	87	44	1.079
AF7157-4	512	451	110	1	2	62	10	25	0	97	35	1.074
AF7157-7	459	376	92	4	9	30	57	0	0	88	57	1.078
AF7159-1	619	449	109	6	13	37	44	0	0	81	44	1.076
AF7159-2	542	451	110	4	2	3	16	64	11	83	80	1.084
AF7162-2	499	468	114	2	4	18	70	5	0	94	75	1.080
AF7162-3	615	487	118	7	14	30	46	3	0	79	49	1.077
AF7162-5	519	466	113	2	6	27	65	0	0	92	65	1.070
AF7167-2	481	395	96	6	9	46	39	0	0	85	39	1.075
AF7167-3	345	263	64	9	10	17	64	0	0	81	64	1.081
AF7170-3	349	226	55	12	20	40	23	5	0	68	28	1.076
AF7170-7	456	328	80	11	12	26	51	0	0	77	51	1.086
AF7170-8	351	249	61	10	19	34	36	0	0	71	36	1.086
AF7170-12	430	391	95	5	2	7	81	5	0	93	86	1.087
AF7171-4	258	202	49	9	10	26	55	0	0	81	55	1.083
AF7172-1	425	369	90	5	8	38	48	0	0	87	48	1.078
AF7172-2	554	495	120	2	7	24	58	8	0	90	66	1.072

Table 18 (cont'd). Production statistics for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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
AF7172-3	394	357	87	3	6	37	54	0	0	91	54	1.074
AF7173-1	421	359	87	4	10	34	51	0	0	85	51	1.070
AF7173-3	.	.	.	.	.	.	.	.	.	.	.	.
AF7173-6	327	282	69	4	8	48	39	0	0	88	39	1.094
AF7173-7	473	416	101	2	5	25	67	0	0	92	67	1.085
AF7174-3	363	262	64	11	17	38	34	0	0	72	34	1.081
AF7174-5	426	245	60	20	22	32	26	0	0	58	26	1.075
AF7176-3	418	367	89	4	5	13	58	19	0	91	77	1.068
AF7178-3	615	406	99	6	11	31	52	0	0	83	52	1.077
AF7178-4	467	407	99	3	10	27	56	4	0	87	60	1.067
AF7179-2	399	325	79	4	11	45	40	0	0	85	40	1.079
AF7179-6	481	404	98	8	6	11	66	10	0	86	76	1.073
AF7179-8	363	289	70	10	10	44	36	0	0	81	36	1.084
AF7180-1	392	338	82	6	7	51	37	0	0	87	37	1.071
AF7180-2	496	417	101	4	12	43	41	0	0	84	41	1.077
AF7181-2	470	368	90	7	14	38	41	0	0	79	41	1.074
AF7181-3	442	337	82	5	17	41	37	0	0	78	37	1.090
AF7181-6	484	417	101	5	9	15	71	0	0	86	71	1.053
AF7182-2	501	380	93	2	4	17	73	3	0	94	77	1.069
AF7182-6	501	481	117	2	3	29	67	0	0	96	67	1.077
AF7183-2	736	678	165	4	3	27	66	0	0	94	66	1.077
COAF18053-3	502	389	95	9	11	41	39	0	0	80	39	1.089
COAF18189-1	.	.	.	.	.	.	.	.	.	.	.	.
AAF12219-1	208	142	35	17	14	58	11	0	0	68	11	1.070
AAF12227-1	506	291	71	14	27	47	12	0	0	58	12	1.070
NDAF17137-5	707	494	120	8	17	33	34	8	0	75	42	1.088
NDAF17139-2	444	362	88	7	6	30	57	0	0	87	57	1.087
NDAF1819-1	219	153	37	7	14	20	59	0	0	79	59	1.077
NDAF1819-3	386	208	51	18	27	50	5	0	0	55	5	1.077
NDAF1830B-3	292	218	53	10	10	30	50	0	0	80	50	1.073

Table 18 (cont'd). Production statistics for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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
NDAF1831B-7	235	154	37	10	21	40	29	0	0	68	29	1.080
AF7116-1	258	118	29	25	25	38	12	0	0	50	12	1.093
AF7137-4	276	134	33	12	32	39	17	0	0	56	17	1.084
AF7148-4	236	126	31	8	9	4	79	0	0	83	79	1.073
BNC973-7	469	324	79	8	20	28	44	0	0	73	44	1.081
BNC974-1	409	338	82	4	11	23	42	20	0	85	63	1.076
BNC981-1	220	151	37	11	14	40	34	0	0	74	34	1.077
BNC990-2	222	67	16	26	43	27	4	0	0	31	4	1.064
B3451-7	367	231	56	20	14	32	33	0	0	66	33	1.095
B3451-8	385	175	42	25	26	34	15	0	0	49	15	1.087
B3455-1	365	219	53	18	18	46	18	0	0	65	18	1.086
B3463-4	197	84	21	11	30	35	24	0	0	60	24	1.071
B3465-3	232	124	30	23	16	41	20	0	0	62	20	1.072
B3465-4	385	249	61	8	20	26	46	0	0	72	46	1.070
B3471-1	333	91	22	32	39	23	6	0	0	29	6	1.085
B3479-2	364	214	52	16	21	37	25	0	0	62	25	1.083
B3480-6	524	262	64	19	29	30	23	0	0	52	23	1.076
B3480-15	518	355	86	12	17	28	43	0	0	71	43	1.093
B3481-1	375	315	77	3	5	28	63	0	0	92	63	1.080

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

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

Table 19. Plant growth and tuber characteristics for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Red LaSoda	100	8	9	7						8	1
Atlantic	88	9	9	9						6	-
Peter Wilcox (B1816-5)	100	9	9	8						7	1
Natascha	88	7	9	9						8	1
Satina	100	9	9	8						5	1
Snowden	100	9	9	8						7	1
Dark Red Norland	100	7	9	8						8	2
All Blue	100	9	9	8						6	3
Katahdin	100	6	9	9						6	2
AF7095-7	100	8	9	7						9	3
AF7112-1	88	8	9	8						8	2
AF7114-1	100	9	9	6						7	3
AF7114-2	88	8	9	8						6	3
AF7114-4	100	9	9	7						8	2
AF7114-10	100	9	6	7						8	3
AF7114-12	88	9	6	8						5	2
AF7114-15	88	8	9	9						7	2
AF7115-1	100	9	9	7						8	2
AF7128-1	100	8	9	9						6	3
AF7128-4	88	8	6	8						3	1
AF7129-1	100	8	9	7						6	3
AF7129-2	100	9	9	7						7	2
AF7130-3	100	8	9	8						7	1
AF7130-6	75	9	9	9						7	2
AF7131-2	100	8	9	9						7	1
AF7139-4	88	8	9	9						6	3
AF7140-1	88	8	9	9						7	1
AF7140-3	100	8	9	9						6	3
AF7140-4	100	7	9	8						8	2
AF7142-1	100	5	9	9						6	3

Table 19 (cont'd). Plant growth and tuber characteristics for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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
AF7142-5	100	6	9	7						7	3
AF7143-2	88	8	9	9						9	2
AF7145-2	100	8	9	8						7	2
AF7145-3	100	8	9	9						8	2
AF7146-1	100	7	9	9						7	2
AF7146-3	100	8	9	8						8	1
AF7147-1	100	9	9	9						8	3
AF7147-3	100	9	9	8						6	3
AF7149-2	100	9	9	8						9	1
AF7149-5	100	8	9	8						8	2
AF7151-2	100	9	6	9						8	2
AF7153-4	100	9	9	7						7	1
AF7156-1	88	8	9	9						7	2
AF7156-4	88	7	9	9						6	2
AF7157-4	100	7	9	8						7	3
AF7157-7	100	9	9	9						7	1
AF7159-1	88	8	9	9						8	2
AF7159-2	88	8	9	9						8	1
AF7162-2	75	8	9	9						7	3
AF7162-3	100	9	9	7						7	1
AF7162-5	100	8	9	8						6	3
AF7167-2	100	8	9	7						6	3
AF7167-3	75	8	9	7						8	2
AF7170-3	75	8	9	8						7	2
AF7170-7	100	9	9	8						6	2
AF7170-8	100	8	9	7						6	2
AF7170-12	100	7	9	8						9	2
AF7171-4	88	8	9	7						7	3
AF7172-1	100	8	9	7						9	1
AF7172-2	100	8	9	8						8	3

Table 19 (cont'd). Plant growth and tuber characteristics for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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
AF7172-3	88	9	9	7						9	1
AF7173-1	88	8	9	8						9	1
AF7173-3	88	8	9	7						.	.
AF7173-6	88	5	9	9						8	2
AF7173-7	88	8	9	8						9	1
AF7174-3	88	8	9	8						7	2
AF7174-5	88	8	9	8						8	2
AF7176-3	75	8	9	8						7	3
AF7178-3	100	8	9	8						8	3
AF7178-4	100	9	9	7						6	1
AF7179-2	100	8	9	8						7	2
AF7179-6	88	8	9	8						8	1
AF7179-8	75	7	9	8						7	3
AF7180-1	88	7	9	8						6	2
AF7180-2	100	8	9	9						6	1
AF7181-2	100	8	9	7						6	1
AF7181-3	100	8	9	8						6	2
AF7181-6	100	7	9	9						5	3
AF7182-2	100	8	9	9						8	3
AF7182-6	88	8	9	9						9	1
AF7183-2	88	8	9	9						7	1
COAF18053-3	88	7	9	9						9	1
COAF18189-1	88	8	9	9						.	.
AAF12219-1	88	9	9	8						9	3
AAF12227-1	88	9	9	9						8	2
NDAF17137-5	100	9	9	7						9	1
NDAF17139-2	100	8	9	9						8	1
NDAF1819-1	100	8	9	9						7	3
NDAF1819-3	100	8	9	9						8	3
NDAF1830B-3	100	9	9	9						7	3

Table 19 (cont'd). Plant growth and tuber characteristics for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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
NDAF1831B-7	100	8	9	8						8	3
AF7116-1	100	6	9	8						8	3
AF7137-4	100	8	9	7						7	3
AF7148-4	63	7	9	9						8	4
BNC973-7	100	7	9	9						7	2
BNC974-1	88	9	9	5						7	2
BNC981-1	100	8	9	7						9	3
BNC990-2	100	9	9	4						9	3
B3451-7	100	9	9	7						7	2
B3451-8	100	9	9	6						9	3
B3455-1	100	9	9	8						9	3
B3463-4	100	9	9	5						9	4
B3465-3	100	9	9	5						7	3
B3465-4	100	9	9	7						7	3
B3471-1	100	9	9	7						9	3
B3479-2	100	9	9	8						5	3
B3480-6	100	9	9	6						6	2
B3480-15	100	9	9	6						7	1
B3481-1	100	8	9	9						7	2

[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. External and internal defects for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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
Red LaSoda	0	3	0	1	4	0	0	0	0
Atlantic	0	0	0	0	0	0	0	0	0
Peter Wilcox (B1816-5)	0	0	0	0	0	0	0	0	0
Natascha	0	0	3	2	6	0	0	0	0
Satina	0	0	0	0	0	0	0	0	0
Snowden	0	0	2	0	2	0	0	0	0
Dark Red Norland	0	0	0	5	5	0	0	0	0
All Blue	13	0	0	2	15	0	0	0	0
Katahdin	0	0	5	2	7	10	0	0	0
AF7095-7	0	0	0	6	6	0	0	0	0
AF7112-1	0	0	0	0	0	0	0	0	0
AF7114-1	0	0	0	0	0	0	0	0	0
AF7114-2	0	0	0	0	0	0	0	0	0
AF7114-4	0	0	1	0	1	10	0	0	0
AF7114-10	0	0	1	0	1	10	0	0	0
AF7114-12	0	0	0	0	0	0	0	0	0
AF7114-15	0	0	6	0	6	0	0	0	0
AF7115-1	0	0	0	4	4	0	0	0	0
AF7128-1	0	0	0	0	0	0	0	40	0
AF7128-4	3	0	0	1	4	0	0	0	0
AF7129-1	0	0	0	0	0	0	0	0	10
AF7129-2	0	0	0	0	0	0	0	0	0
AF7130-3	0	0	0	0	0	0	0	0	0
AF7130-6	0	5	0	12	17	0	0	0	0
AF7131-2	0	0	0	2	2	0	0	0	0
AF7139-4	0	0	0	5	5	0	0	20	0
AF7140-1	0	0	0	5	5	0	0	0	0
AF7140-3	0	0	0	0	0	20	0	0	0
AF7140-4	0	0	0	0	0	0	0	0	0
AF7142-1	17	0	0	0	17	0	0	0	0

Table 20 (cont'd). External and internal defects for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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
AF7142-5	2	0	0	7	9	0	0	0	0
AF7143-2	0	0	0	3	3	0	0	0	0
AF7145-2	0	0	0	3	3	0	0	0	0
AF7145-3	0	11	0	7	19	0	0	0	0
AF7146-1	0	0	0	5	5	0	0	0	0
AF7146-3	0	0	0	0	0	0	0	0	0
AF7147-1	2	0	0	8	10	40	0	0	0
AF7147-3	9	0	0	5	14	30	0	0	0
AF7149-2	0	0	0	0	0	0	0	0	0
AF7149-5	0	0	0	7	7	0	0	0	0
AF7151-2	0	0	0	10	10	0	0	0	0
AF7153-4	0	0	0	0	0	0	0	0	0
AF7156-1	0	0	2	2	3	0	0	0	0
AF7156-4	0	0	0	0	0	0	0	0	0
AF7157-4	0	2	0	7	9	0	0	10	0
AF7157-7	0	0	1	6	7	0	0	0	0
AF7159-1	0	8	0	2	10	0	0	0	0
AF7159-2	0	0	0	0	0	0	0	0	0
AF7162-2	0	0	0	0	0	0	0	20	0
AF7162-3	0	0	0	0	0	0	0	0	0
AF7162-5	0	0	0	2	2	0	0	20	0
AF7167-2	0	0	0	4	4	0	0	10	0
AF7167-3	0	0	0	6	6	0	0	0	0
AF7170-3	0	0	0	5	5	0	0	0	0
AF7170-7	0	0	0	7	7	0	0	0	0
AF7170-8	0	0	0	0	0	0	0	0	0
AF7170-12	0	0	0	2	2	10	0	10	10
AF7171-4	0	0	0	3	3	0	0	0	0
AF7172-1	0	0	0	0	0	0	0	0	0
AF7172-2	0	0	0	1	1	0	0	10	0

Table 20 (cont'd). External and internal defects for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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
AF7172-3	0	0	0	0	0	0	0	0	0
AF7173-1	0	0	0	0	0	0	0	0	0
AF7173-3	.	.	.	.	.	.	.	.	.
AF7173-6	0	0	0	1	1	0	0	0	0
AF7173-7	0	0	0	5	5	0	0	0	0
AF7174-3	0	0	0	0	0	0	0	0	0
AF7174-5	0	0	0	0	0	0	0	0	0
AF7176-3	0	0	0	3	3	30	0	0	0
AF7178-3	0	0	0	20	38	0	0	0	0
AF7178-4	0	0	0	0	0	0	0	0	0
AF7179-2	2	0	0	3	4	0	0	0	0
AF7179-6	0	0	0	2	2	0	0	0	0
AF7179-8	0	0	1	0	1	30	0	0	0
AF7180-1	0	0	0	1	1	0	0	0	0
AF7180-2	0	0	0	0	0	0	0	0	0
AF7181-2	0	0	0	1	1	0	0	0	0
AF7181-3	0	0	0	2	2	0	0	0	0
AF7181-6	0	0	0	0	0	80	0	0	0
AF7182-2	10	0	0	9	19	10	0	0	0
AF7182-6	0	0	0	0	0	0	0	0	0
AF7183-2	2	0	0	0	2	0	0	0	0
COAF18053-3	0	0	0	3	3	0	0	0	0
COAF18189-1	.	.	.	.	.	.	.	.	.
AAF12219-1	0	0	0	0	0	0	0	0	0
AAF12227-1	0	0	0	1	1	0	0	0	0
NDAF17137-5	7	0	0	0	7	0	0	0	0
NDAF17139-2	4	0	0	2	6	0	0	0	0
NDAF1819-1	0	0	0	11	11	0	0	0	0
NDAF1819-3	0	0	0	2	2	0	0	0	0
NDAF1830B-3	0	0	0	6	6	0	0	0	0

Table 20 (cont'd). External and internal defects for the 2022 University of Maine Early Generation Round Whites and USDA 60 Hills 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
NDAF1831B-7	0	0	0	4	4	0	0	0	0
AF7116-1	0	0	0	9	9	0	0	0	0
AF7137-4	0	0	0	13	13	0	0	0	0
AF7148-4	15	0	0	21	36	0	0	10	0
BNC973-7	0	0	0	5	5	0	0	0	0
BNC974-1	0	0	0	3	3	0	0	0	0
BNC981-1	0	0	0	8	8	0	0	0	0
BNC990-2	3	0	0	0	3	0	0	0	0
B3451-7	0	0	0	4	4	0	0	0	0
B3451-8	0	0	0	8	8	0	0	0	10
B3455-1	0	0	0	7	7	10	0	0	0
B3463-4	0	0	0	28	28	0	0	0	0
B3465-3	0	0	0	13	13	0	0	0	0
B3465-4	0	0	0	10	10	0	0	0	0
B3471-1	0	0	0	6	6	0	0	0	0
B3479-2	0	0	0	6	6	0	0	0	0
B3480-6	0	0	0	4	4	0	0	0	0
B3480-15	0	0	0	4	4	0	0	0	0
B3481-1	5	0	0	3	8	0	0	0	0

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

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

Chapter 8. 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 10, 2022
Vine Kill Date	N/A
Harvest Date	May 24, 2022
Season Length	103 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/acre granular); Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/acre liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	4 (Standard: Atlantic)
Number of Clones	170
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 (3.0 m)

Production Statistics

Early Vigor Ratings	43 DAP
Highest Total Yield	NYT7-5 (587 cwt/acre or 65.8 T/ha)
Highest Marketable Yield	NYT3-3 (484 cwt/acre or 54.3 T/ha)
Highest Specific Gravity	TX18042-1Ru (1.098)

Table 21. Production statistics for the 2022 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–103 days												
Atlantic	415	344	100	7	9	31	53	0	0	85	54	1.089
Lamoka	392	308	90	8	11	44	37	0	0	81	37	1.078
Atlantic	383	322	93	6	8	26	59	1	0	86	60	1.087
Snowden	432	366	106	4	10	24	62	1	0	87	63	1.083
Tier 1 = 1 rep												
AC13125-4W	388	291	84	9	14	33	44	0	0	77	44	1.075
AC13125-5W	379	278	81	7	18	33	43	0	0	76	43	1.074
A16150-1C	365	329	95	2	3	9	74	11	0	95	85	1.077
COA17197-3	377	255	74	10	17	29	45	0	0	74	45	1.070
B3012-1	310	172	50	19	23	46	12	0	0	58	12	1.084
B3296-3	409	372	108	3	6	38	50	3	0	91	53	1.083
B3306-2	205	114	33	12	26	41	21	0	0	62	21	1.088
B3317-1	335	264	77	5	14	38	43	0	0	81	43	1.077
B3379-6	371	266	77	10	15	25	49	0	0	74	49	1.094
B3381-4	315	172	50	15	27	24	32	3	0	58	34	1.087
BNC549-1	367	223	65	17	21	44	18	0	0	62	18	1.085
BNC726-5	341	218	63	11	21	38	30	0	0	68	30	1.092
BNC742-2	375	311	90	7	9	33	52	0	0	85	52	1.082
AF6543-2	267	189	55	13	14	38	35	0	0	73	35	1.089
AF6618-2	389	313	91	6	10	26	58	0	0	84	58	1.093
AF6652-3	393	303	88	6	11	22	61	0	0	84	61	1.083
AF6655-1	392	319	93	4	12	22	60	2	0	84	62	1.082
AF6664-8	399	353	103	4	3	22	64	7	0	93	71	1.074
AF6665-3	451	348	101	5	15	43	37	0	0	81	37	1.073
AF6668-3	334	247	72	8	13	40	39	0	0	79	39	1.084
AF6669-10	253	180	52	12	17	34	37	0	0	71	37	1.087
AF6671-10	376	344	100	4	4	20	72	0	0	92	72	1.091
AF6675-1	555	375	109	9	22	37	31	0	0	68	31	1.084
AF6680-2	359	223	65	10	17	55	18	0	0	73	18	1.084
AF6684-9	385	313	91	4	10	26	59	0	0	86	59	1.072

Table 21 (cont'd). Production statistics for the 2022 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
AF6687-3	274	155	45	14	29	44	9	3	0	57	12	1.091
WAF17045-2	249	168	49	11	17	32	40	0	0	72	40	1.084
WAF17049-2	379	331	96	6	3	18	72	0	0	91	72	1.090
MSDD042-1	236	194	56	6	12	30	52	0	0	82	52	1.082
MSDD084-19	402	368	107	2	6	29	62	0	0	91	62	1.072
MSDD114-10	457	392	114	6	7	16	71	0	0	88	71	1.057
MSDD244-05	360	297	86	3	14	43	39	0	0	82	39	1.084
MSDD244-15	379	321	93	4	10	42	43	0	0	86	43	1.079
MSDD247-07	341	298	87	3	6	46	45	0	0	91	45	1.091
MSDD247-11	320	202	59	9	27	35	29	0	0	64	29	1.097
MSDD372-15	453	363	105	6	9	29	52	3	0	85	56	1.085
MSDD376-4	516	446	130	5	7	29	57	2	0	88	59	1.089
MSEE016-10	388	226	66	12	30	40	18	0	0	59	18	1.092
MSEE018-2	441	320	93	10	17	40	33	0	0	74	33	1.087
MSEE031-3	244	152	44	13	25	52	10	0	0	62	10	1.087
MSEE035-4	347	298	87	5	7	31	57	0	0	88	57	1.088
MSEE157-1	187	101	29	17	29	39	16	0	0	55	16	1.087
MSEE182-3	266	135	39	19	31	48	3	0	0	51	3	1.081
MSEE207-2	381	267	78	6	22	25	45	1	0	72	47	1.074
MSEE255-1	263	169	49	4	6	21	69	0	0	90	69	1.074
MSFF007-2	321	239	69	11	14	37	38	0	0	76	38	1.081
MSFF022-2	235	182	53	9	10	31	50	0	0	81	50	1.083
MSFF035-2	417	314	91	9	15	29	47	0	0	76	47	1.093
MSFF036-1	476	422	123	3	8	22	66	0	0	89	66	1.072
MSFF037-17	240	142	41	20	21	48	11	0	0	59	11	1.090
MSFF038-3	313	237	69	10	8	51	32	0	0	83	32	1.081
MSFF050-1	367	317	92	3	11	32	54	0	0	86	54	1.081
MSFF058-1	326	280	82	2	8	34	55	0	0	90	55	1.075
MSFF061-1	197	113	33	8	34	19	39	0	0	58	39	1.089
MSFF073-3	222	166	48	6	10	44	40	0	0	84	40	1.084

Table 21 (cont'd). Production statistics for the 2022 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
MSFF077-4	371	344	100	2	5	25	67	0	0	93	67	1.080
MSFF079-16	336	281	82	4	11	22	63	0	0	85	63	1.081
MSFF206-1	467	387	113	5	11	30	54	0	0	84	54	1.081
MSFF217-1	.	.	.	.	.	.	.	.	.	.	.	.
MSFF292-1	220	130	38	14	26	32	28	0	0	60	28	1.088
MSFF303-3	549	354	103	17	18	40	25	0	0	65	25	1.068
MSFF335-1RR	325	260	76	7	10	32	51	0	0	83	51	1.083
MN18TX17748-2	342	185	54	15	29	41	15	0	0	56	15	1.076
MN18W17037-33	466	411	120	3	7	29	57	3	0	90	60	1.089
MN18W17043-2	466	393	114	6	7	41	46	0	0	87	46	1.085
MN18W17043-3	321	286	83	2	7	29	58	3	0	91	62	1.083
MN18W17043-17	341	283	82	6	11	34	49	0	0	83	49	1.083
MN18W17065-4	301	219	64	5	20	24	50	0	0	74	50	1.090
NC890-4	410	341	99	4	7	19	67	3	0	89	70	1.089
NC933-09	357	307	89	5	7	37	51	0	0	87	51	1.084
NC977-04	262	182	53	11	17	52	20	0	0	72	20	1.075
NCB3404-A	346	245	71	10	17	27	46	0	0	73	46	1.087
NCT13-06	251	192	56	12	12	46	31	0	0	77	31	1.078
AFND6901-3	378	301	87	4	11	44	42	0	0	85	42	1.082
ND1734-4	238	96	28	31	29	34	6	0	0	40	6	1.077
ND1735-8	323	218	63	11	17	33	39	0	0	72	39	1.069
ND1737-6	167	49	14	32	37	28	2	0	0	30	2	1.076
ND1752-13	180	66	19	26	37	28	8	0	0	37	8	1.085
ND1752-17	253	131	38	19	29	41	10	0	0	52	10	1.075
ND1776-8	364	223	65	16	23	25	36	0	0	61	36	1.082
ND1776-10	246	147	43	15	25	24	36	0	0	60	36	1.078
ND1776-11	193	104	30	17	28	44	11	0	0	55	11	1.084
ND1779-4	223	148	43	6	25	34	35	0	0	69	35	1.087
ND1780-2	216	123	36	11	32	43	14	0	0	57	14	1.076
ND1789-1	287	152	44	14	29	33	24	0	0	56	24	1.087

Table 21 (cont'd). Production statistics for the 2022 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
ND1790-4	272	209	61	12	12	33	44	0	0	77	44	1.074
TXND18031-1	299	213	62	12	15	38	33	2	0	73	35	1.082
NYT3-3	579	484	141	3	5	19	74	0	0	92	74	1.086
NYT7-5	587	383	111	14	20	28	36	1	0	66	38	1.079
NYT11-3	359	291	85	5	14	39	42	0	0	81	42	1.084
NYT19-1	488	426	124	3	8	26	63	0	0	89	63	1.089
NYT19-3	219	135	39	12	18	30	40	0	0	70	40	1.081
NYT22-1	511	444	129	2	7	26	65	0	0	91	65	1.080
NYT104-2	411	329	96	6	14	33	45	3	0	80	48	1.079
NYT105-2	191	87	25	19	34	35	11	0	0	46	11	1.070
NYT105-6	362	325	94	4	3	78	14	0	0	93	14	1.095
AOR15304-7	450	363	105	5	7	39	47	2	0	88	48	1.083
AOR16159-2	418	327	95	4	11	41	45	0	0	85	45	1.091
AOR16159-4	459	382	111	5	9	20	66	0	0	86	66	1.079
AOR16164-1	405	326	95	7	13	24	57	0	0	80	57	1.080
COOR17160-3	400	217	63	19	24	33	25	0	0	58	25	1.082
COOR17161-3	269	155	45	17	25	39	18	0	0	58	18	1.077
COTX17286-6W	335	282	82	5	10	42	43	0	0	85	43	1.077
COTX17288-1W	446	341	99	7	15	29	49	0	0	77	49	1.082
COTX17288-3W	453	353	103	7	8	32	53	0	0	85	53	1.079
COTX17288-4W	464	414	120	5	4	11	77	3	0	91	80	1.070
TX18042-1Ru	316	189	55	17	22	41	20	0	0	61	20	1.098
TX18170-4W	234	145	42	12	23	41	23	0	0	64	23	1.077
W17AF6670-1	331	270	78	7	10	44	39	0	0	83	39	1.083
W17AF6685-2	305	123	36	19	39	37	5	0	0	42	5	1.085
W17037-3	406	248	72	15	21	32	32	0	0	64	32	1.082
W17039-7	356	215	63	16	21	50	14	0	0	64	14	1.089
W17039-31	383	244	71	14	21	34	30	0	0	65	30	1.092
W17043-37	443	369	107	4	12	27	55	2	0	84	57	1.078
W17049-10	363	193	56	12	35	39	14	0	0	53	14	1.088

Table 21 (cont'd). Production statistics for the 2022 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
W17060-9	415	274	80	13	20	41	25	0	0	67	25	1.089
W17065-11	458	331	96	7	18	44	31	0	0	75	31	1.089
W17066-34	266	215	62	7	6	36	50	0	0	87	50	1.092
W17067-1	444	183	53	23	34	33	9	0	0	42	9	1.082
Tier 2 = 2 reps												
MSAA260-03	288	225	66	6	13	32	49	0	0	81	49	1.085
MSAA324-04	410	334	97	6	12	37	45	0	0	83	45	1.081
MSAFB635-15	255	172	50	11	22	38	28	0	0	66	28	1.087
MSBB626-11	454	376	109	3	6	27	61	4	0	91	64	1.081
A13125-3C	449	401	116	4	4	15	72	6	0	93	78	1.074
AF6165-9	452	324	94	9	15	40	36	0	0	76	36	1.088
AF6200-4	318	258	75	3	7	54	35	0	0	90	35	1.094
AF6200-7	333	279	81	5	9	37	48	1	0	86	49	1.095
AF6206-5	459	388	113	4	11	30	55	0	0	85	55	1.084
AF6526-7	333	251	73	8	14	32	45	1	0	79	47	1.091
AF6552-2	473	395	115	5	9	31	55	0	0	87	55	1.077
AF6565-8	511	442	128	3	8	30	56	2	0	89	58	1.082
AF6567-4	434	384	112	2	6	32	59	1	0	93	61	1.086
AF6601-2	387	290	84	5	17	30	48	0	0	78	48	1.093
WAF15184-4	360	275	80	7	14	30	50	0	0	80	50	1.087
WAF16107-2	404	322	94	6	7	40	47	0	0	87	47	1.091
WAF16220-4	428	355	103	5	9	35	49	2	0	86	51	1.087
MSAA252-7	418	364	106	3	7	15	72	2	0	90	74	1.078
MSAA254-4	429	380	110	4	8	23	61	4	0	88	65	1.083
MSAA328-4	301	254	74	3	11	25	60	0	0	86	60	1.083
MSBB060-1	412	373	108	2	6	18	71	3	0	92	73	1.074
MSBB121-1	274	212	62	8	15	41	35	2	0	77	36	1.080
MSBB230-2	393	261	76	18	21	26	32	3	0	60	35	1.076
MSCC129-2	456	425	123	3	4	18	75	0	0	94	75	1.077
MSDD219-02	217	124	36	14	26	44	16	0	0	60	16	1.081

Table 21 (cont'd). Production statistics for the 2022 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
NC821-30	468	329	96	8	11	29	52	0	0	81	52	1.084
NC821-41	357	268	78	7	15	26	51	1	0	78	52	1.082
NCB3401-1	236	195	57	7	13	30	49	2	0	80	51	1.082
ND14138AB-9	304	226	66	11	13	31	43	1	0	76	44	1.080
ND14247CAB-15	357	140	41	20	34	39	7	0	0	46	7	1.083
NY174 (NYQ106-4)	499	400	116	6	8	32	55	0	0	87	55	1.088
NY175 (NYQ29-2)	470	360	105	7	16	45	32	0	0	78	32	1.086
NY176 (NYR107-4)	427	344	100	5	13	46	36	0	0	82	36	1.090
NY177 (NYR107-6)	451	316	92	11	16	45	29	0	0	73	29	1.084
NYR1-7	499	422	123	3	9	37	50	0	0	88	50	1.080
NYS4-3	399	312	91	7	11	31	49	1	0	82	50	1.085
NYS9-8	410	309	90	7	15	29	46	2	0	78	48	1.084
NYS18-4	402	245	71	11	25	37	27	0	0	64	27	1.087
AOR13124-6	.	.	.	.	.	.	.	.	.	.	.	.
COOR13270-2	333	229	66	9	21	36	33	0	0	69	33	1.079
COOR16014-3	.	.	.	.	.	.	.	.	.	.	.	.
OR16E.R.2.1435	.	.	.	.	.	.	.	.	.	.	.	.
COTX16054-1W	177	147	43	5	20	30	45	0	0	75	45	1.079
NDTX14247CAB-1W	162	113	33	10	20	51	19	0	0	69	19	1.089
NDTX14247CAB-2W	195	109	32	20	24	43	13	0	0	57	13	1.083
NDTX14263BC-3W	261	152	44	14	26	43	18	0	0	61	18	1.088
TX17846-1W	193	97	28	25	25	39	11	0	0	50	11	1.080
W15NYR11-13	439	331	96	7	12	37	44	0	0	81	44	1.082
W15125-4	423	352	102	5	10	26	59	0	0	85	59	1.084
W15200-3	316	200	58	12	25	36	27	0	0	62	27	1.082
W16219-8	349	272	79	4	11	37	47	1	0	84	47	1.087

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

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

Table 22. Plant growth and tuber characteristics for the 2022 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	95	9	8	8	1	7	7	3	8	7	1.0	0	1
Lamoka	98	9	9	8	1	8	8	3	8	7	1.0	1	1
Atlantic	100	8	9	9	1	6	7	3	9	7	1.0	0	1
Snowden	92	9	9	9	1	7	8	2	7	7	1.1	1	1
Tier 1 = 1 rep													
AC13125-4W	100	9	9	8	1	8	9	3	9	9	1.0	1	3
AC13125-5W	100	9	9	6	1	8	9	3	8	9	1.0	0	2
A16150-1C	93	9	6	7	1	7	7	2	7	6	1.0	1	1
COA17197-3	87	9	6	7	1	8	8	1	9	9	1.0	0	2
B3012-1	100	9	6	6	1	7	7	3	7	6	1.0	2	3
B3296-3	100	9	6	8	1	8	8	2	7	8	1.0	0	1
B3306-2	87	9	9	6	3	8	8	3	9	9	1.0	3	3
B3317-1	100	6	9	8	1	8	8	3	9	7	1.0	1	2
B3379-6	93	9	9	7	1	7	9	2	7	6	1.0	0	3
B3381-4	100	9	6	7	3	6	7	2	8	8	1.0	1	3
BNC549-1	100	9	6	7	1	8	9	3	8	7	1.0	1	2
BNC726-5	100	9	9	8	1	7	7	2	7	7	1.0	2	2
BNC742-2	100	8	6	6	1	8	9	3	7	7	1.0	0	1
AF6543-2	80	8	9	9	1	6	7	2	8	7	1.0	0	2
AF6618-2	93	9	9	9	1	7	7	2	6	7	1.0	0	1
AF6652-3	80	6	9	9	1	7	7	2	7	7	1.0	0	1
AF6655-1	100	6	9	9	1	7	7	3	8	8	1.0	1	1
AF6664-8	87	8	9	8	1	8	9	3	7	8	1.0	0	1
AF6665-3	100	9	9	9	1	6	7	3	8	8	1.0	3	2
AF6668-3	100	8	9	8	1	8	8	2	8	8	1.0	2	2
AF6669-10	100	7	9	9	1	8	8	2	6	8	1.0	0	3
AF6671-10	100	7	9	9	1	8	7	2	7	7	1.0	1	1
AF6675-1	100	6	9	9	1	7	7	3	7	7	1.0	0	1
AF6680-2	100	7	9	8	1	8	9	2	7	7	1.0	0	3
AF6684-9	93	6	9	9	1	6	6	2	7	8	1.0	0	2

Table 22 (cont'd). Plant growth and tuber characteristics for the 2022 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
AF6687-3	93	6	9	9	1	8	9	2	8	7	1.0	0	3
WAF17045-2	87	8	9	8	1	6	7	1	6	8	1.0	0	3
WAF17049-2	93	5	9	9	1	7	7	3	8	7	1.0	1	1
MSDD042-1	93	7	9	8	1	8	8	3	8	7	1.0	0	2
MSDD084-19	93	9	9	8	1	6	7	3	9	8	1.0	0	1
MSDD114-10	100	9	9	8	1	6	7	3	9	9	1.0	0	1
MSDD244-05	93	8	9	9	1	7	7	2	8	7	1.0	0	1
MSDD244-15	100	9	9	8	1	6	7	2	7	7	1.0	0	1
MSDD247-07	87	8	9	9	1	6	7	2	8	6	1.0	0	1
MSDD247-11	93	9	9	8	1	6	7	3	9	9	1.0	1	2
MSDD372-15	100	9	9	9	1	7	7	2	6	6	1.0	0	1
MSDD376-4	100	9	9	9	1	6	7	2	8	7	1.0	1	1
MSEE016-10	80	8	9	9	1	6	7	3	9	6	1.0	0	2
MSEE018-2	100	9	9	9	1	7	7	3	9	8	1.0	1	1
MSEE031-3	100	9	9	5	1	8	8	2	7	7	1.0	1	3
MSEE035-4	100	9	9	9	1	6	8	2	8	7	1.5	0	1
MSEE157-1	87	8	9	8	1	8	8	3	6	6	1.0	0	3
MSEE182-3	100	9	6	8	1	6	6	3	7	9	1.0	0	4
MSEE207-2	100	9	6	8	1	6	7	2	8	8	1.0	0	2
MSEE255-1	73	8	9	8	1	6	7	2	6	6	1.0	0	4
MSFF007-2	87	9	6	8	1	7	7	3	9	6	1.0	0	2
MSFF022-2	73	7	9	8	1	8	8	2	8	8	1.0	0	3
MSFF035-2	93	8	9	8	1	8	7	1	7	9	1.0	0	1
MSFF036-1	93	9	9	8	1	8	8	2	7	8	1.0	0	1
MSFF037-17	100	8	9	7	1	7	7	2	7	7	1.0	0	3
MSFF038-3	100	9	9	7	1	6	7	2	7	8	1.0	0	2
MSFF050-1	100	9	9	8	1	8	8	2	9	7	1.0	0	1
MSFF058-1	93	8	9	9	1	6	6	2	8	7	1.0	1	2
MSFF061-1	67	8	9	9	1	6	7	3	8	6	1.0	0	3
MSFF073-3	87	8	6	7	1	6	7	3	9	8	1.0	2	3

Table 22 (cont'd). Plant growth and tuber characteristics for the 2022 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
MSFF077-4	100	9	6	8	1	6	7	3	8	7	1.0	1	3
MSFF079-16	100	9	6	8	1	6	7	2	7	8	1.0	0	2
MSFF206-1	93	9	6	8	1	6	7	2	6	8	1.0	1	1
MSFF217-1	100	9	6	7	.	.	.	.	.	.	.	.	.
MSFF292-1	80	8	9	8	1	6	7	1	8	8	1.0	0	3
MSFF303-3	100	9	6	9	1	6	7	3	8	6	1.0	0	1
MSFF335-1RR	100	8	9	7	1	8	8	3	9	7	1.0	0	2
MN18TX17748-2	93	8	9	7	3	7	8	2	7	8	1.0	1	3
MN18W17037-33	100	9	6	9	1	6	7	3	6	8	1.0	0	1
MN18W17043-2	100	9	9	9	1	6	7	2	7	7	1.0	0	1
MN18W17043-3	93	9	9	8	1	6	7	2	7	7	1.0	1	2
MN18W17043-17	93	8	9	9	1	7	8	2	9	8	1.0	0	2
MN18W17065-4	93	9	9	7	1	8	8	3	7	8	1.0	0	2
NC890-4	93	8	6	8	1	6	7	3	7	7	1.0	2	1
NC933-09	93	8	9	7	1	7	7	2	6	6	1.0	0	1
NC977-04	100	7	6	7	1	8	9	3	9	9	1.0	0	4
NCB3404-A	100	9	6	9	1	7	7	2	7	7	1.0	0	2
NCT13-06	100	9	9	9	1	8	9	1	8	8	1.0	0	2
AFND6901-3	100	9	6	8	1	8	8	2	9	7	1.0	1	2
ND1734-4	100	9	6	5	1	8	9	1	7	7	1.0	1	3
ND1735-8	93	9	6	7	1	8	9	3	9	6	1.0	2	2
ND1737-6	93	8	6	6	1	8	9	1	7	7	1.0	0	3
ND1752-13	93	7	9	6	1	8	9	1	8	8	1.0	0	3
ND1752-17	100	9	6	7	1	7	8	2	8	7	1.0	1	3
ND1776-8	100	9	6	8	1	8	8	2	8	9	1.0	0	2
ND1776-10	80	8	9	8	1	8	9	3	7	9	1.0	1	3
ND1776-11	80	8	9	7	1	8	9	1	8	9	1.0	1	3
ND1779-4	60	7	9	8	1	6	7	3	8	8	1.0	0	3
ND1780-2	100	9	6	5	1	8	8	3	9	9	1.0	0	4
ND1789-1	100	9	9	7	1	8	9	2	8	8	1.0	1	3

Table 22 (cont'd). Plant growth and tuber characteristics for the 2022 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
ND1790-4	100	7	9	8	1	8	8	3	9	9	1.0	0	2
TXND18031-1	100	8	6	8	1	8	9	2	7	6	1.0	0	2
NYT3-3	93	8	9	7	1	8	7	2	7	8	1.0	0	2
NYT7-5	100	5	9	8	1	8	8	2	7	7	1.0	2	1
NYT11-3	87	7	9	9	1	7	7	3	7	7	1.0	0	1
NYT19-1	93	9	6	7	1	6	7	2	8	7	1.0	2	1
NYT19-3	93	9	9	9	1	8	8	3	8	7	1.0	0	3
NYT22-1	100	9	9	9	1	8	8	2	8	8	1.0	0	1
NYT104-2	53	5	9	9	1	6	6	2	9	8	1.0	0	1
NYT105-2	7	2	9	9	1	7	8	1	9	8	1.0	0	3
NYT105-6	93	8	9	7	1	7	8	2	8	7	1.0	0	3
AOR15304-7	100	9	6	8	1	8	9	2	8	6	1.0	1	1
AOR16159-2	100	9	9	7	1	8	8	3	7	7	1.0	1	1
AOR16159-4	100	9	9	9	1	8	8	1	9	7	1.0	0	1
AOR16164-1	80	9	9	8	1	8	8	2	8	6	1.0	2	1
COOR17160-3	80	8	9	9	1	7	8	3	9	7	1.0	1	2
COOR17161-3	93	9	6	6	1	8	9	2	6	8	1.0	1	3
COTX17286-6W	87	8	9	9	1	8	9	3	8	7	1.0	0	2
COTX17288-1W	80	7	9	9	1	6	7	2	8	8	1.0	0	1
COTX17288-3W	87	9	6	8	1	8	7	2	6	7	1.0	2	1
COTX17288-4W	93	8	6	9	1	7	8	2	6	6	1.0	0	3
TX18042-1Ru	100	8	9	7	1	7	8	3	8	7	1.0	1	2
TX18170-4W	93	8	9	8	1	8	9	3	7	7	1.0	1	3
W17AF6670-1	93	9	6	7	1	6	7	3	8	7	1.0	0	2
W17AF6685-2	100	8	9	8	1	7	8	2	7	8	1.0	1	3
W17037-3	100	9	9	7	1	6	7	2	8	8	1.0	1	2
W17039-7	100	9	6	7	1	8	8	1	9	8	1.0	1	2
W17039-31	93	9	9	9	1	7	7	2	7	7	1.0	1	2
W17043-37	100	9	6	9	1	6	7	2	8	8	1.0	1	1
W17049-10	93	9	6	7	1	8	9	1	8	8	1.0	0	2

Table 22 (cont'd). Plant growth and tuber characteristics for the 2022 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
W17060-9	100	9	6	8	1	7	7	3	7	8	1.0	0	2
W17065-11	100	9	9	9	1	6	7	3	9	7	1.0	0	1
W17066-34	93	9	9	8	1	6	7	3	9	8	1.0	0	2
W17067-1	93	9	9	8	1	6	7	3	9	7	1.0	0	3
Tier 2 = 2 reps													
MSAA260-03	100	9	9	8	1	8	8	3	8	7	1.0	0	2
MSAA324-04	90	9	9	8	1	8	8	2	8	7	1.0	0	1
MSAFB635-15	93	7	9	9	1	7	7	2	9	9	1.0	0	2
MSBB626-11	97	9	9	9	1	8	9	2	6	8	1.0	1	2
A13125-3C	90	8	9	9	2	8	9	3	8	6	1.0	1	1
AF6165-9	93	9	8	9	1	8	8	3	8	6	1.0	1	1
AF6200-4	100	9	9	8	1	8	8	2	8	7	1.0	0	2
AF6200-7	100	9	9	8	1	6	7	3	9	9	1.0	1	2
AF6206-5	100	9	8	9	1	7	7	3	8	8	1.0	2	1
AF6526-7	90	9	9	8	1	8	9	2	7	8	1.0	0	2
AF6552-2	93	9	9	9	1	8	8	2	8	7	1.0	1	1
AF6565-8	97	9	9	9	1	6	8	3	8	8	1.3	1	2
AF6567-4	93	9	8	9	1	7	8	3	6	7	1.0	1	2
AF6601-2	100	9	9	8	2	8	7	3	8	7	1.0	0	1
WAF15184-4	100	9	9	8	1	6	7	2	9	8	1.0	0	2
WAF16107-2	93	9	9	9	1	7	8	3	9	7	1.0	1	1
WAF16220-4	97	9	9	8	1	8	8	3	7	7	1.0	1	1
MSAA252-7	100	9	9	9	1	7	8	3	8	6	1.3	1	1
MSAA254-4	90	9	9	9	2	8	8	3	8	8	1.0	0	1
MSAA328-4	93	9	9	9	1	7	7	2	8	8	1.0	0	2
MSBB060-1	97	9	9	8	1	7	7	2	8	7	1.0	0	1
MSBB121-1	100	8	9	8	1	6	7	2	8	8	1.0	0	2
MSBB230-2	90	8	9	9	4	5	9	3	8	7	1.5	2	2
MSCC129-2	97	8	9	8	1	8	8	3	8	8	1.0	1	1
MSDD219-02	87	8	9	7	1	6	7	3	9	9	1.0	2	3

Table 22 (cont'd). Plant growth and tuber characteristics for the 2022 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
NC821-30	90	9	6	8	1	6	7	2	8	8	1.0	2	2
NC821-41	93	9	6	8	1	7	7	2	7	7	1.0	2	2
NCB3401-1	80	6	9	9	1	8	9	1	8	9	1.0	0	2
ND14138AB-9	97	9	9	7	1	8	9	2	8	8	1.0	0	2
ND14247CAB-15	90	9	8	8	1	8	8	2	8	8	1.0	1	3
NY174 (NYQ106-4)	93	8	9	9	1	7	7	3	8	7	1.0	1	1
NY175 (NYQ29-2)	97	9	9	9	1	8	8	3	8	9	1.0	0	1
NY176 (NYR107-4)	100	9	9	8	1	8	8	3	9	8	1.0	0	2
NY177 (NYR107-6)	87	6	9	9	1	7	8	3	8	7	1.0	0	2
NYR1-7	97	9	9	9	1	7	7	3	8	7	1.0	1	1
NYS4-3	90	7	9	9	1	8	8	3	9	7	1.0	1	1
NYS9-8	87	8	9	8	1	8	8	2	8	7	1.0	0	1
NYS18-4	100	9	9	9	1	6	7	3	9	7	1.0	1	2
AOR13124-6	90	5	9	9	.	.	.	.	.	.	.	.	.
COOR13270-2	93	9	9	8	1	8	9	3	8	7	1.0	2	2
COOR16014-3	100	9	9	8	.	.	.	.	.	.	.	.	.
OR16E.R.2.1435	100	9	9	8	.	.	.	.	.	.	.	.	.
COTX16054-1W	67	7	9	9	1	8	8	3	7	8	1.0	1	2
NDTX14247CAB-1W	73	7	9	8	1	7	8	2	8	8	1.0	1	3
NDTX14247CAB-2W	70	8	9	8	1	8	8	2	9	8	1.0	0	3
NDTX14263BC-3W	77	7	9	8	1	8	9	1	8	7	1.0	1	3
TX17846-1W	93	8	9	7	1	8	9	3	8	9	1.0	1	3
W15NYR11-13	100	9	8	8	1	7	8	3	8	8	1.0	0	2
W15125-4	100	9	6	8	1	6	6	3	8	8	1.0	2	1
W15200-3	100	9	8	8	1	8	8	3	9	8	1.0	2	2
W16219-8	100	8	9	9	1	6	7	2	8	7	1.0	0	2

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

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

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

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

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

Table 23. External and internal defects for the 2022 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	0	0	0	2	2	0	0	0	0
Lamoka	0	0	0	3	3	0	0	0	0
Atlantic	1	0	0	2	2	0	2	0	0
Snowden	0	0	0	3	3	0	0	0	0
Tier 1 = 1 rep									
AC13125-4W	1	0	0	1	2	0	0	15	0
AC13125-5W	0	0	0	4	4	0	0	0	0
A16150-1C	0	0	0	5	5	0	0	0	0
COA17197-3	0	0	0	8	8	0	0	0	0
B3012-1	0	0	0	3	3	0	0	0	0
B3296-3	0	0	0	0	0	0	0	0	0
B3306-2	0	0	0	10	10	0	0	0	0
B3317-1	0	0	0	3	3	0	0	0	0
B3379-6	0	0	0	4	4	0	0	0	0
B3381-4	0	0	0	6	6	0	0	0	0
BNC549-1	2	0	0	1	3	0	0	0	0
BNC726-5	0	0	0	6	6	0	0	0	0
BNC742-2	0	0	0	2	2	0	0	0	0
AF6543-2	0	0	1	1	2	0	0	0	0
AF6618-2	0	0	1	3	5	0	0	0	0
AF6652-3	2	0	0	6	8	0	0	0	0
AF6655-1	0	0	0	3	3	0	0	0	0
AF6664-8	0	0	0	5	5	0	0	0	0
AF6665-3	0	0	0	5	5	0	0	0	0
AF6668-3	0	0	0	6	6	0	0	0	0
AF6669-10	0	0	0	0	0	0	0	0	0
AF6671-10	0	0	0	1	1	0	0	0	0
AF6675-1	0	0	0	1	1	0	0	0	0
AF6680-2	0	0	0	15	15	0	0	0	0
AF6684-9	0	0	5	0	5	0	0	0	0

Table 23 (cont'd). External and internal defects for the 2022 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
AF6687-3	0	0	0	0	1	0	0	0	0
WAF17045-2	0	0	0	6	6	0	0	0	0
WAF17049-2	0	0	0	4	4	0	0	0	0
MSDD042-1	0	0	0	0	0	0	0	0	0
MSDD084-19	0	0	0	0	0	0	0	0	0
MSDD114-10	0	0	0	2	2	0	0	0	0
MSDD244-05	0	0	0	0	0	0	0	0	0
MSDD244-15	1	0	0	0	1	0	0	0	0
MSDD247-07	2	0	0	1	4	0	0	0	0
MSDD247-11	0	0	0	1	1	0	0	0	0
MSDD372-15	0	0	0	5	5	0	0	0	0
MSDD376-4	0	0	0	2	2	0	0	0	0
MSEE016-10	0	0	0	1	1	0	0	0	0
MSEE018-2	0	0	0	2	2	0	0	0	0
MSEE031-3	0	0	0	0	0	0	0	0	0
MSEE035-4	0	0	0	2	2	0	0	0	0
MSEE157-1	0	0	0	1	1	0	0	0	0
MSEE182-3	0	0	0	0	0	0	0	8	0
MSEE207-2	0	0	0	3	3	0	0	0	0
MSEE255-1	25	0	0	4	29	0	0	0	0
MSFF007-2	0	0	0	2	2	0	0	0	0
MSFF022-2	3	0	0	1	4	0	0	0	0
MSFF035-2	0	0	1	0	1	0	0	0	0
MSFF036-1	0	0	0	0	0	0	0	0	0
MSFF037-17	0	0	0	0	0	0	0	0	0
MSFF038-3	1	0	0	7	9	0	0	0	0
MSFF050-1	0	0	0	0	0	0	0	0	0
MSFF058-1	0	0	0	4	4	0	0	0	0
MSFF061-1	0	0	0	1	1	0	0	0	0
MSFF073-3	0	0	0	11	11	0	0	0	0

Table 23 (cont'd). External and internal defects for the 2022 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
MSFF077-4	0	0	0	0	0	0	0	0	0
MSFF079-16	0	0	0	1	1	0	0	0	0
MSFF206-1	0	0	1	1	2	0	0	0	0
MSFF217-1	.	.	.	.	.	.	.	.	.
MSFF292-1	0	0	0	1	1	0	0	0	0
MSFF303-3	0	0	0	1	1	0	0	0	0
MSFF335-1RR	0	0	0	4	4	0	0	0	0
MN18TX17748-2	1	0	0	3	3	0	0	0	0
MN18W17037-33	0	0	0	1	1	0	0	0	0
MN18W17043-2	0	0	0	3	3	0	0	0	0
MN18W17043-3	0	0	0	2	2	0	0	0	0
MN18W17043-17	0	0	0	0	0	0	0	0	0
MN18W17065-4	1	0	0	1	2	0	0	0	0
NC890-4	3	0	0	4	7	0	0	0	0
NC933-09	0	0	0	1	1	0	0	0	0
NC977-04	0	0	0	4	4	23	0	0	0
NCB3404-A	0	0	0	3	3	0	0	0	0
NCT13-06	0	0	0	0	0	8	0	0	0
AFND6901-3	0	0	0	6	6	0	0	0	8
ND1734-4	0	0	0	0	0	0	0	0	0
ND1735-8	4	0	0	3	7	0	0	0	0
ND1737-6	0	0	0	3	3	0	0	0	0
ND1752-13	0	0	0	0	0	0	0	0	0
ND1752-17	0	0	0	0	0	0	0	0	0
ND1776-8	0	0	0	0	0	0	0	0	0
ND1776-10	0	0	0	0	0	0	0	0	0
ND1776-11	0	2	0	0	2	0	0	0	0
ND1779-4	2	0	0	1	3	0	0	0	0
ND1780-2	0	0	0	0	0	0	0	31	0
ND1789-1	0	0	0	6	6	0	0	0	0

Table 23 (cont'd). External and internal defects for the 2022 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
ND1790-4	0	0	0	0	0	0	0	0	0
TXND18031-1	1	0	0	1	2	0	0	0	0
NYT3-3	0	0	0	10	10	0	8	0	0
NYT7-5	0	0	0	1	1	0	0	0	0
NYT11-3	0	0	0	0	0	0	0	0	0
NYT19-1	0	0	0	3	3	0	0	0	0
NYT19-3	6	0	0	7	12	0	0	0	0
NYT22-1	0	0	0	4	4	0	0	0	0
NYT104-2	0	0	0	0	0	0	0	0	0
NYT105-2	0	0	0	1	1	0	0	0	8
NYT105-6	0	0	0	3	3	0	0	31	0
AOR15304-7	0	0	0	8	8	0	0	0	0
AOR16159-2	2	0	0	6	8	0	0	0	0
AOR16159-4	1	0	0	2	3	0	0	0	0
AOR16164-1	0	0	0	0	0	0	0	0	0
COOR17160-3	5	0	0	1	6	0	0	0	0
COOR17161-3	0	0	0	0	0	0	0	0	0
COTX17286-6W	0	0	1	0	1	0	0	0	0
COTX17288-1W	0	0	0	1	1	0	0	0	0
COTX17288-3W	0	3	0	6	8	0	0	0	0
COTX17288-4W	0	0	0	2	2	23	0	0	0
TX18042-1Ru	0	0	0	1	1	0	0	0	0
TX18170-4W	0	0	0	3	3	0	0	0	0
W17AF6670-1	0	0	0	1	1	0	0	0	0
W17AF6685-2	0	0	0	4	4	0	0	0	0
W17037-3	0	0	0	4	4	0	0	0	0
W17039-7	0	0	0	5	5	0	0	0	0
W17039-31	0	0	0	1	1	0	0	0	0
W17043-37	0	0	0	1	1	0	0	0	0
W17049-10	0	0	0	0	0	0	0	0	0

Table 23 (cont'd). External and internal defects for the 2022 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
W17060-9	0	0	0	1	1	0	0	0	0
W17065-11	1	0	0	2	3	0	0	0	0
W17066-34	4	0	0	3	7	0	0	0	0
W17067-1	0	0	0	3	3	0	9	0	0
Tier 2 = 2 reps									
MSAA260-03	1	0	0	2	3	0	0	0	4
MSAA324-04	0	0	0	2	2	0	0	0	0
MSAFB635-15	0	0	0	1	1	0	0	0	0
MSBB626-11	0	0	0	7	7	0	0	0	0
A13125-3C	2	0	0	2	4	0	0	0	0
AF6165-9	0	0	0	6	6	0	0	0	0
AF6200-4	1	0	1	8	10	0	0	0	0
AF6200-7	1	0	0	1	2	0	0	0	0
AF6206-5	0	0	0	1	1	0	0	0	0
AF6526-7	2	0	0	2	4	0	0	0	0
AF6552-2	0	0	0	4	4	0	0	0	0
AF6565-8	0	0	0	2	2	0	0	0	0
AF6567-4	0	0	0	5	5	0	0	4	0
AF6601-2	0	0	0	4	4	0	0	0	0
WAF15184-4	2	0	1	2	4	0	0	0	0
WAF16107-2	0	0	0	8	8	0	0	0	0
WAF16220-4	3	0	0	1	4	0	0	0	0
MSAA252-7	0	0	0	2	3	0	0	0	0
MSAA254-4	0	0	0	0	0	0	0	0	0
MSAA328-4	0	0	0	2	2	0	0	0	0
MSBB060-1	0	0	0	1	1	0	0	0	0
MSBB121-1	0	0	0	1	1	0	0	0	0
MSBB230-2	0	0	0	2	2	0	0	0	0
MSCC129-2	0	0	0	0	0	0	0	0	0
MSDD219-02	0	0	0	3	3	0	0	0	0

Table 23 (cont'd). External and internal defects for the 2022 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
NC821-30	0	0	0	11	11	0	4	0	0
NC821-41	0	0	0	3	4	4	0	0	0
NCB3401-1	0	0	0	1	1	0	0	0	0
ND14138AB-9	0	0	0	2	2	0	0	0	0
ND14247CAB-15	0	0	0	13	13	0	0	0	0
NY174 (NYQ106-4)	2	0	0	5	7	0	0	0	0
NY175 (NYQ29-2)	0	0	0	1	1	0	0	0	0
NY176 (NYR107-4)	0	0	0	2	2	0	0	4	0
NY177 (NYR107-6)	0	0	0	5	5	0	0	0	4
NYR1-7	0	0	0	3	3	0	0	0	0
NYS4-3	2	0	1	2	5	0	0	0	0
NYS9-8	0	0	0	3	3	0	4	0	0
NYS18-4	2	0	0	2	4	0	0	4	0
AOR13124-6	.	.	.	.	.	.	.	.	.
COOR13270-2	0	0	0	1	1	0	0	0	4
COOR16014-3	.	.	.	.	.	.	.	.	.
OR16E.R.2.1435	.	.	.	.	.	.	.	.	.
COTX16054-1W	0	0	0	0	0	0	0	0	0
NDTX14247CAB-1W	7	0	0	0	7	0	0	0	0
NDTX14247CAB-2W	0	0	0	8	8	0	0	0	0
NDTX14263BC-3W	0	0	0	4	4	0	0	0	0
TX17846-1W	0	0	0	1	1	0	0	0	0
W15NYR11-13	1	0	0	6	6	0	0	0	0
W15125-4	0	0	0	2	2	0	0	0	0
W15200-3	0	0	0	4	4	0	0	0	0
W16219-8	0	0	0	8	8	0	0	0	0

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

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

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 10, 2022
Vine Kill Date	N/A
Harvest Date	May 31, 2022
Season Length	110 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/acre granular); Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/acre liquid)
Irrigation Program	Seepage

Experimental Design

Number of Varieties	17 (Standard: Atlantic)
Number of Clones	21
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	43 DAP
Highest Total Yield	NYOR14Q9-5 (439 cwt/acre or 49.2 T/ha)
Highest Marketable Yield	NYOR14Q9-5 (356 cwt/acre or 39.9 T/ha)
Highest Specific Gravity	B3379-2 (1.092)

Table 24. Production statistics for the 2022 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–110 days												
BNC182-5	378	304	154	5	10	22	59	5	0	85	64	1.077
BNC811-15	337	236	119	7	17	38	37	0	0	75	38	1.086
BNC811-33	253	175	88	6	16	34	44	0	0	78	44	1.083
BNC815-7	323	218	110	10	16	43	30	0	0	73	30	1.082
BNC816-3	200	103	52	15	30	33	22	0	0	55	22	1.080
BNC833-2	196	71	36	25	39	31	5	0	0	36	5	1.069
BNC839-5	272	194	98	5	12	25	59	0	0	83	59	1.067
B3379-2	293	162	82	16	27	37	21	0	0	58	21	1.092
B3403-6	345	242	122	8	20	27	44	1	0	72	45	1.086
BNC559-1	309	243	122	4	10	62	24	0	0	86	24	1.076
B2152-17	154	63	32	24	35	36	5	0	0	41	5	1.075
B2869-29	204	123	62	13	26	49	12	0	0	61	12	1.087
BNC916-3	223	138	70	10	25	58	7	0	0	65	7	1.088
BNC917-2	292	203	102	8	21	49	23	0	0	71	23	1.066
Atlantic	260	198	100	3	5	40	52	0	0	92	52	1.087
Chieftain	282	203	103	5	11	57	27	0	0	84	27	1.071
Chippewa	252	178	90	9	13	58	20	0	0	78	20	1.078
Dark Red Norland	165	104	53	10	21	47	22	0	0	69	22	1.062
Elkton (B1992-106)	278	192	97	3	7	24	66	1	0	90	67	1.080
Green Mountain	280	174	88	14	18	50	18	0	0	68	18	1.086
Harley Blackwell (B0564-8)	196	139	70	7	17	31	44	1	0	76	45	1.082
Katahdin	255	192	97	5	11	63	21	0	0	84	21	1.075
Kennebec	362	269	136	6	11	52	31	0	0	83	31	1.077
Peter Wilcox (B1816-5)	222	139	70	9	23	39	28	0	0	68	28	1.078
Snowden	333	245	123	7	16	40	37	0	0	77	37	1.085
Superior	194	120	61	10	25	57	8	0	0	65	8	1.080
Yukon Gold	250	184	93	3	6	29	61	1	0	91	61	1.082
Huron Chipper (MSW485-2)	371	233	117	12	23	39	26	0	0	64	26	1.083
MSAA260-03	223	165	83	5	12	31	51	1	0	83	52	1.083
MSAA324-04	303	219	111	6	13	39	42	0	0	81	42	1.082

Table 24 (cont'd). Production statistics for the 2022 Potatoes USA National Chip Processing Trial potato selections.

	Total Yield	Marketable Yield[1]		Size Distribution by Class (%)[2]						Size Class Range (%)		Specific
Clone	(cwt/A)	(cwt/A)	% of standard	C	B	A1	A2	A3	A4	A1 to A3	A2 to A3	Gravity
Sinatra	341	261	132	5	16	54	25	0	0	78	25	1.080
COOR13270-2	242	169	85	7	17	39	37	0	0	76	37	1.083
NYOR14Q9-5	439	356	180	2	5	21	69	3	0	93	72	1.078
NYOR14Q9-9	369	288	145	5	12	41	42	0	0	83	42	1.085
COTX08063-2Ru	195	104	53	15	29	44	13	0	0	57	13	1.087
COTX08322-10Ru	223	146	74	8	23	48	21	0	0	69	21	1.073
Reveille Russet	252	172	87	8	14	42	36	0	0	78	36	1.073
Vanguard Russet	228	159	80	5	20	46	29	0	0	75	29	1.072
MSD[3]	103	100		8	13	18	21	3	ns	17	22	0.014
P Value	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0001	<0.0001

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

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

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

Table 25. Plant growth and tuber characteristics for the 2022 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
BNC182-5	98	9	7	8	1	7	7	2	9	7	1
BNC811-15	93	8	9	8	1	7	7	3	8	8	2
BNC811-33	96	9	9	8	1	7	8	2	8	8	2
BNC815-7	96	9	8	8	1	8	8	3	9	7	1
BNC816-3	98	9	9	6	1	6	6	3	8	8	3
BNC833-2	93	8	8	6	9	1	8	3	9	6	2
BNC839-5	90	8	9	8	1	2	9	1	8	9	2
B3379-2	98	9	9	9	1	8	8	1	9	8	2
B3403-6	95	9	6	8	1	6	7	2	7	7	1
BNC559-1	96	8	9	8	1	1	9	5	7	8	1
B2152-17	97	8	9	6	3	2	9	3	9	8	3
B2869-29	96	9	8	6	1	8	9	2	7	8	2
BNC916-3	95	9	9	7	1	1	9	3	8	6	3
BNC917-2	90	8	9	7	3	1	8	6	7	6	1
Atlantic	76	9	9	8	1	6	6	3	8	7	-
Chieftain	95	8	9	8	1	2	9	3	7	6	2
Chippewa	99	8	8	6	1	8	8	3	7	7	2
Dark Red Norland	95	8	9	6	1	2	8	3	6	7	3
Elkton (B1992-106)	95	8	9	9	1	6	6	3	8	7	2
Green Mountain	95	9	8	7	1	8	8	3	6	7	2
Harley Blackwell (B0564-8)	95	9	9	7	1	7	7	1	8	7	2
Katahdin	92	8	9	8	1	8	9	3	7	8	2
Kennebec	92	8	9	9	1	8	9	4	6	6	2
Peter Wilcox (B1816-5)	90	9	8	7	3	1	9	3	7	7	2
Snowden	98	9	8	7	1	6	7	2	6	7	2
Superior	97	8	9	7	1	8	8	3	7	7	2
Yukon Gold	88	8	9	9	3	8	8	3	9	6	2
Huron Chipper (MSW485-2)	96	9	8	8	1	8	8	2	8	8	1
MSAA260-03	88	9	9	7	1	8	8	2	8	7	2
MSAA324-04	90	9	9	9	1	8	8	3	8	7	3

Table 25 (cont'd). Plant growth and tuber characteristics for the 2022 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	Merit
Sinatra	94	8	9	9	1	8	8	3	8	8	1
COOR13270-2	92	8	9	8	1	8	8	3	8	7	1
NYOR14Q9-5	99	8	9	9	1	8	9	2	7	8	2
NYOR14Q9-9	94	9	8	8	1	8	8	3	8	7	1
COTX08063-2Ru	89	7	9	7	1	6	6	6	7	9	3
COTX08322-10Ru	86	8	9	7	1	5	4	6	8	7	2
Reveille Russet	89	7	9	9	1	5	4	6	8	8	2
Vanguard Russet	91	7	9	7	1	6	4	6	9	9	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 26. External and internal defects for the 2022 USDA Chipping 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
BNC182-5	0	0	0	5	6	0	0	0	0
BNC811-15	0	0	0	6	6	0	0	5	0
BNC811-33	1	0	0	9	11	0	0	0	0
BNC815-7	0	0	1	8	9	0	0	0	0
BNC816-3	1	0	0	3	4	0	0	0	0
BNC833-2	0	0	0	0	0	0	3	0	0
BNC839-5	0	0	0	14	14	0	0	0	0
B3379-2	0	1	1	2	4	0	0	0	3
B3403-6	0	0	0	3	4	0	0	0	0
BNC559-1	0	0	0	9	9	0	0	0	0
B2152-17	0	0	0	3	3	0	0	0	0
B2869-29	0	1	0	2	3	0	0	0	0
BNC916-3	0	0	0	6	6	0	15	0	0
BNC917-2	0	0	1	2	4	0	0	0	0
Atlantic	1	1	0	15	17	0	0	3	0
Chieftain	1	0	0	12	14	0	3	0	0
Chippewa	1	0	0	8	10	0	0	3	0
Dark Red Norland	0	0	0	8	8	3	0	2	0
Elkton (B1992-106)	1	1	1	22	25	0	0	0	0
Green Mountain	0	1	0	8	9	0	0	8	0
Harley Blackwell (B0564-8)	0	0	0	6	6	0	0	0	0
Katahdin	0	0	0	10	11	0	0	0	0
Kennebec	2	3	0	6	11	3	0	0	0
Peter Wilcox (B1816-5)	0	0	0	7	7	0	5	0	0
Snowden	0	1	0	3	5	0	0	2	0
Superior	0	1	0	4	6	0	0	3	3
Yukon Gold	0	1	0	19	20	0	3	3	0
Huron Chipper (MSW485-2)	0	1	1	2	3	0	0	0	0
MSAA260-03	0	1	1	11	12	0	0	0	0
MSAA324-04	0	0	1	10	10	0	0	10	0

Table 26 (cont'd). External and internal defects for the 2022 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
Sinatra	0	0	0	3	3	0	0	0	0
COOR13270-2	0	0	0	6	7	0	0	0	0
NYOR14Q9-5	0	0	0	13	13	0	3	3	0
NYOR14Q9-9	0	0	0	6	6	0	3	0	0
COTX08063-2Ru	2	1	0	5	8	0	0	0	0
COTX08322-10Ru	1	1	0	4	5	0	0	3	0
Reveille Russet	1	1	0	11	13	0	3	0	0
Vanguard Russet	0	0	0	6	6	0	0	0	0
MSD[3]	3	ns	ns	14	13	ns	11	ns	ns
P Value	0.0478	0.1639	0.1559	<0.0001	<0.0001	0.5357	0.0195	0.2650	0.5357

[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 10. 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 2, 2022
Vine Kill Date	N/A
Harvest Date	May 23, 2022
Season Length	110 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/acre granular); Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/acre liquid)
Irrigation Program	seepage

Experimental Design

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

Production Statistics

Early Vigor Ratings	44 DAP
Highest Total Yield	W15125-4 (369 cwt/acre or 41.4 T/ha)
Highest Marketable Yield	W15125-4 (285 cwt/acre or 32.0 T/ha)
Highest Specific Gravity	MSAFB635-15 (1.089)

Table 27. Production statistics for the 2022 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–110 days												
MSAFB635-15	238	172	62	8	19	41	31	0	0	73	31	1.089
MSZ242-13	300	232	84	6	12	32	49	1	0	81	49	1.088
NY168	252	156	56	11	23	43	22	0	0	65	22	1.086
W15125-4	369	285	103	8	11	31	49	1	0	81	50	1.087
Atlantic	353	278	100	6	11	29	48	6	0	83	54	1.088
Snowden	317	256	92	5	11	41	43	0	0	83	43	1.083
MSD[3]	42	48		4	7	8	12	ns	ns	9	12	0.005
P Value	<0.0001	<0.0001		0.0001	<0.0001	<0.0001	<0.0001	0.3985	-	<0.0001	<0.0001	0.0269

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

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

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

Table 28. Plant growth and tuber characteristics for the 2022 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
MSAFB635-15	95	7	9	9	3	6	7	2	8	7	2
MSZ242-13	96	8	9	8	1	6	7	2	7	7	2
NY168	87	7	9	7	1	8	8	3	8	7	2
W15125-4	95	9	9	8	1	6	6	2	8	8	1
Atlantic	98	8	9	9	1	7	7	3	7	7	1
Snowden	97	8	9	8	1	6	7	2	7	8	1

[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 29. External and internal defects for the 2022 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
MSAFB635-15	0	0	0	1	1	0	0	0	0
MSZ242-13	0	0	0	4	5	0	1	0	0
NY168	0	0	0	5	5	0	0	0	0
W15125-4	0	0	0	5	5	0	0	0	0
Atlantic	0	0	0	5	5	1	0	1	1
Snowden	0	0	0	3	3	0	0	0	0
MSD[3]	ns	ns	ns	3	3	ns	ns	ns	ns
P Value	0.2197	0.4321	0.3633	0.0052	0.0033	0.4321	0.4321	0.4321	0.4321

[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 11. NE1731 Regional Project Potato Variety Trial

General Comments

The NE1731 regional project trial is a multi-state potato evaluation program developed to identify and evaluate new and advanced potato clones. The production, adaptation, and performance stability of new potato clones are documented under a wide range of geographic, climatic, soil, and cultural conditions. The University of Maine produces and supplies all cooperators with similar seed.

Planting Information

Planting Site	Hastings AEC Research Farm, Hastings, FL
Planting Date	January 31, 2022
Vine Kill Date	N/A
Harvest Date	May 18, 2022
Season Length	107 days planting to harvest
Fertilizer Program	Pre-plant, 4-8-4 (50 N 100 P 50 K lb/acre granular); Side-dress, 8-0-8 (100 N 100 K emergence, 50 N 50 K layby lb/acre liquid)
Irrigation Program	seepage

Experimental Design

Number of Varieties	13 (Standard: Atlantic)
Number of Clones	26
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	43 DAP
Highest Total Yield	Atlantic (426 cwt/acre or 47.8 T/ha)
Highest Marketable Yield	Atlantic (384 cwt/acre or 43.1 T/ha)
Highest Specific Gravity	Atlantic, MSAFB635-15, NY163 (1.087)
Best Appearance Rating	Katahdin, AAF10596-1, AF5071-2, AF5280-5, AF5762-8, AF5931-1, AF5933-4, CO10098-5W/Y, CO15205-4R, NY163 (9, excellent)

Table 30. Production statistics for the 2022 University of Maine NE1731 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–107 days												
Harley Blackwell (B0564-8)	238	190	50	6	12	23	60	0	0	83	60	1.077
Atlantic	426	384	100	2	5	22	71	0	0	93	71	1.087
Chieftain	351	277	72	5	13	51	31	0	0	82	31	1.071
Dark Red Norland	230	164	43	11	17	42	31	0	0	72	31	1.059
Katahdin	327	275	72	6	9	57	28	0	0	85	28	1.064
Kennebec	327	277	72	4	7	44	45	0	0	89	45	1.078
Lakeview Russet	332	283	74	4	6	37	53	1	0	91	54	1.072
Russet Burbank	258	151	39	13	24	45	18	0	0	64	18	1.077
Russet Norkotah	298	228	59	8	13	48	31	0	0	79	31	1.068
Shepody	302	222	58	9	16	61	14	0	0	75	14	1.084
Snowden	377	310	81	4	13	30	53	0	0	83	53	1.078
Superior	256	147	38	6	14	62	19	0	0	80	19	1.080
Yukon Gold	262	202	53	6	10	30	53	2	0	84	54	1.075
AAF10596-1	312	222	58	7	20	47	25	0	0	73	25	1.084
AF5071-2	239	97	25	23	36	40	1	0	0	41	1	1.075
AF5280-5	333	275	72	5	10	34	50	0	0	85	50	1.063
AF5406-7	354	276	72	6	14	67	13	0	0	80	13	1.072
AF5521-1	328	288	75	3	6	38	52	0	0	91	52	1.085
AF5707-1	320	232	60	7	18	58	17	0	0	75	17	1.076
AF5735-8	377	308	80	4	13	65	18	0	0	83	18	1.068
AF5750-16	324	181	47	14	26	51	8	0	0	59	8	1.076
AF5762-8	319	230	60	6	18	63	12	0	0	75	12	1.083
AF5819-2	215	109	29	16	25	31	28	0	0	59	28	1.072
AF5931-1	316	244	64	9	13	41	35	1	0	78	36	1.076
AF5933-4	417	348	91	4	10	32	54	0	0	86	54	1.086
AF6075-8	308	234	61	7	15	55	24	0	0	78	24	1.070
AF6194-4	288	254	66	2	6	17	75	0	0	92	75	1.081
AF6289-2	206	106	28	18	30	49	3	0	0	52	3	1.064
AF6338-6	337	236	62	8	21	61	10	0	0	72	10	1.076
CO10098-5W/Y	147	37	10	47	27	23	2	0	0	26	2	1.082

Table 30 (cont'd). Production statistics for the 2022 University of Maine NE1731 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
CO15205-4R	229	86	22	25	36	31	7	0	0	39	7	1.069
CO15211-1R	154	59	15	32	34	28	6	0	0	34	6	1.065
MSAFB609-12	251	151	39	14	25	45	16	0	0	62	16	1.085
MSAFB635-15	285	184	48	11	24	36	29	0	0	65	29	1.087
NDAF113476CB-3	227	145	38	10	22	57	11	0	0	68	11	1.077
NDAF113484B-1	270	175	46	10	20	43	27	0	0	70	27	1.064
NY163	233	167	44	11	17	46	26	0	0	72	26	1.087
NY165	369	263	68	7	20	50	22	0	0	73	22	1.075
NY171	297	208	54	10	19	56	15	0	0	71	15	1.067
MSD[3]	111	112		10	14	21	21	ns	ns	19	21	0.015
P Value	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	0.6037	-	<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 31. Plant growth and tuber characteristics for the 2022 University of Maine NE1731 Variety Trial potato selections.

	Plant Growth Characteristics[1]				Tuber Characteristics[2]						
Clone	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Merit
Harley Blackwell (B0564-8)	90	8	9	8	1	8	9	2	8	7	3
Atlantic	97	8	9	9	1	6	6	2	9	7	-
Chieftain	99	6	9	8	1	2	9	3	7	8	3
Dark Red Norland	100	8	9	7	1	2	8	3	7	7	3
Katahdin	98	7	9	8	1	8	9	3	7	9	2
Kennebec	90	5	9	9	1	7	7	4	8	6	3
Lakeview Russet	96	7	9	9	1	7	8	8	7	8	2
Russet Burbank	97	6	9	8	1	5	4	6	8	7	3
Russet Norkotah	93	5	9	9	1	5	4	6	8	7	3
Shepody	98	7	9	7	1	8	9	6	8	7	3
Snowden	99	7	9	8	1	6	7	2	6	6	3
Superior	95	7	9	8	1	8	7	3	7	7	4
Yukon Gold	93	5	9	8	3	7	9	3	8	8	3
AAF10596-1	97	7	9	7	1	6	7	8	8	9	2
AF5071-2	97	8	9	6	1	6	6	8	9	9	3
AF5280-5	96	9	9	8	1	8	9	3	6	9	3
AF5406-7	95	7	9	8	1	5	4	8	8	8	2
AF5521-1	91	5	9	9	1	6	7	6	8	8	2
AF5707-1	95	7	9	9	1	5	4	6	8	7	2
AF5735-8	41	4	9	9	1	5	4	6	8	8	2
AF5750-16	96	5	9	8	1	8	9	8	8	8	3
AF5762-8	96	6	9	9	1	5	4	8	9	9	2
AF5819-2	97	8	9	6	1	8	9	2	9	7	3
AF5931-1	93	8	9	8	1	8	8	3	7	9	2
AF5933-4	94	7	9	9	1	7	7	1	9	9	1
AF6075-8	98	8	9	7	1	6	6	6	6	6	2
AF6194-4	92	6	9	9	1	7	8	3	8	6	2
AF6289-2	97	8	9	6	1	2	8	3	7	8	3
AF6338-6	97	8	9	7	1	5	4	8	9	8	3
CO10098-5W/Y	96	6	9	7	4	7	7	3	9	9	3

Table 31 (cont'd). Plant growth and tuber characteristics for the 2022 University of Maine NE1731 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
CO15205-4R	99	6	9	6	1	2	9	3	7	9	3
CO15211-1R	97	8	9	5	1	2	9	1	9	8	3
MSAFB609-12	100	7	9	8	1	8	8	3	8	7	3
MSAFB635-15	97	7	9	9	1	6	7	2	9	6	3
NDAF113476CB-3	95	6	9	8	1	5	4	8	8	8	3
NDAF113484B-1	96	7	9	8	1	2	9	3	6	8	3
NY163	83	6	9	8	1	8	9	3	8	9	3
NY165	97	8	9	7	1	8	7	3	9	8	2
NY171	90	6	9	8	1	8	9	8	8	7	3

[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 32. External and internal defects for the 2022 University of Maine NE1731 Variety 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
Harley Blackwell (B0564-8)	1	0	0	3	4	0	0	0	0
Atlantic	1	0	1	1	3	0	0	0	0
Chieftain	1	0	0	2	3	0	0	5	0
Dark Red Norland	0	0	0	1	2	0	0	3	0
Katahdin	1	0	0	1	1	0	0	0	0
Kennebec	2	0	0	3	5	0	0	8	0
Lakeview Russet	0	0	1	4	6	0	0	3	0
Russet Burbank	4	3	0	1	8	0	0	5	0
Russet Norkotah	0	0	0	4	4	0	0	8	0
Shepody	0	0	0	2	2	0	0	10	0
Snowden	1	0	0	0	1	0	0	5	0
Superior	1	0	0	3	4	0	0	15	0
Yukon Gold	1	0	0	10	11	0	0	8	0
AAF10596-1	1	0	0	1	2	0	0	0	0
AF5071-2	0	0	0	0	1	0	0	0	0
AF5280-5	0	0	0	2	3	0	0	8	0
AF5406-7	1	0	0	1	2	0	0	0	0
AF5521-1	1	0	0	3	4	0	0	0	0
AF5707-1	1	0	0	3	4	0	0	0	0
AF5735-8	0	0	0	2	2	0	0	0	0
AF5750-16	1	0	0	3	5	0	0	0	0
AF5762-8	1	0	0	4	4	0	0	0	0
AF5819-2	0	0	0	15	15	0	0	0	0
AF5931-1	1	0	0	1	2	0	0	0	0
AF5933-4	0	0	0	2	3	0	0	0	0
AF6075-8	1	0	0	2	3	0	0	3	0
AF6194-4	2	0	0	2	4	0	0	3	0
AF6289-2	1	0	0	1	3	0	0	5	0
AF6338-6	1	0	0	1	2	0	0	5	0
CO10098-5W/Y	0	0	0	1	1	0	0	0	0

Table 32 (cont'd). External and internal defects for the 2022 University of Maine NE1731 Variety 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
CO15205-4R	0	0	0	2	2	0	0	0	0
CO15211-1R	0	0	0	1	2	0	0	0	0
MSAFB609-12	1	1	0	1	2	0	0	0	0
MSAFB635-15	2	0	0	1	3	0	0	3	0
NDAF113476CB-3	4	0	1	3	7	0	0	0	0
NDAF113484B-1	0	0	0	7	8	0	0	5	0
NY163	0	0	0	0	1	0	0	0	0
NY165	0	0	0	2	2	0	0	0	0
NY171	0	0	0	1	1	0	0	5	0
MSD[3]	4	1	ns	7	9	ns	ns	ns	ns
P Value	0.0113	<0.0001	0.0739	<0.0001	<0.0001	-	-	0.2871	-

[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 Waller-Duncan K-ratio t Test.

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 33. Daily rainfall amounts (in) at the UF/IFAS Hastings AEC Research Farm between Jan. 1 and Jun. 17, 2022.

Day	January	February	March	April	May	June
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	1.00	0.00	0.00
3	0.00	0.00	0.00	0.01	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.13	0.00	0.05	0.10	0.90
6	0.00	0.19	0.00	0.56	0.21	0.65
7	0.00	0.00	0.00	0.31	0.33	0.01
8	0.00	0.38	0.23	0.00	0.00	0.00
9	0.00	0.00	0.31	0.00	0.00	0.00
10	0.00	0.00	0.45	0.00	0.00	0.14
11	0.00	0.00	n/a	0.00	0.00	0.44
12	0.00	0.00	n/a	0.00	0.00	0.04
13	0.00	0.07	n/a	0.00	0.00	0.00
14	0.00	0.00	n/a	0.01	0.00	0.00
15	0.00	0.00	0.45	0.00	0.15	0.00
16	0.52	0.00	1.26	0.00	0.06	0.00
17	0.00	0.00	0.00	1.72	0.00	0.00
18	0.00	0.00	0.04	0.09	0.00	-
19	0.00	0.00	0.00	0.00	0.00	-
20	0.00	0.00	0.10	0.00	0.11	-
21	0.01	0.00	0.00	0.00	1.71	-
22	0.01	0.00	0.00	0.00	0.01	-
23	0.00	0.00	0.02	0.00	0.00	-
24	0.00	0.00	0.83	0.00	0.00	-
25	0.17	0.00	0.01	0.00	0.00	-
26	0.11	0.00	0.00	0.00	0.01	-
27	0.03	0.00	0.00	0.04	0.66	-
28	0.04	0.33	0.00	0.00	0.00	-
29	0.01	-	0.00	0.00	0.00	-
30	0.00	-	0.00	0.00	0.00	-
31	0.00	-	0.86	-	0.00	-
Total	0.90	1.10	4.56	3.79	3.35	2.18

Table 34. Daily maximum and minimum air temperatures (°F) at the UF/IFAS Hastings AEC Research Farm between Jan. 1 and Jun. 17, 2022.

	January		February		March		April		May		June	
Day	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	81	63	69	36	70	49	78	62	83	59	84	65
2	81	62	75	43	75	44	74	58	84	62	87	63
3	71	46	78	51	80	42	77	57	84	66	89	65
4	68	45	81	61	80	45	78	52	88	66	83	69
5	72	55	66	49	78	58	86	60	91	64	84	68
6	69	47	55	50	80	53	82	63	90	67	85	69
7	65	45	53	44	84	56	81	66	85	68	87	68
8	72	43	49	47	84	66	70	56	83	61	91	70
9	79	54	61	40	83	66	66	47	74	59	92	72
10	69	51	65	34	66	62	73	39	76	54	88	72
11	63	44	72	39	n/a	n/a	78	43	77	56	89	72
12	68	50	75	49	n/a	n/a	82	55	77	58	88	70
13	68	52	67	50	n/a	n/a	82	58	80	60	90	72
14	64	42	60	37	n/a	n/a	82	63	85	59	92	72
15	69	38	67	34	71	32	79	66	86	63	92	70
16	64	50	72	48	78	63	83	61	88	63	91	72
17	58	41	80	56	78	58	86	65	89	65	91	69
18	58	34	81	66	86	53	81	67	89	68	-	-
19	68	36	70	44	85	61	70	53	90	66	-	-
20	74	44	71	40	72	50	73	50	87	68	-	-
21	61	50	75	49	74	45	74	63	85	69	-	-
22	50	39	78	52	78	54	75	61	88	67	-	-
23	49	34	81	57	82	67	77	57	88	72	-	-
24	60	29	81	57	70	61	79	60	86	70	-	-
25	60	44	84	57	72	55	81	59	84	68	-	-
26	59	49	76	55	73	47	84	60	85	69	-	-
27	58	52	82	60	74	51	83	62	84	70	-	-
28	60	50	61	54	81	52	78	63	87	68	-	-
29	49	34			79	53	77	56	86	67	-	-
30	55	26	-	-	83	58	80	60	85	69	-	-
31	67	33	-	-	79	65	-	-	83	68	-	-
Avg.	65	45	71	49	78	54	78	58	85	65	88	69