

Early Fresh Potato Variety Trial, 2001

General Comments:

Potato clones in this trial are new to the variety evaluation program. At this stage, seed supplies are usually limited. To maintain a replicated trial with a small seed lot, plot length is reduced to eight feet. This is a mixed trial with round white, red, and russet varieties.

Planting Site:	Hastings REC, Yelvington Farm
Planting Date:	February 15, 2001
Harvest Date:	May 29, 2001
Season Length:	103 days
Replications:	4
Plot Size:	8 ft
Row Spacing:	12 inches in-row, 40 inches between-row
Fertilizer:	preplant, 168-24-144 lb/A; sidedress, 98-14-84 lb/A
Number of Varieties:Clones:	6:14
Early Plant Size (Early Vigor):	39 days after planting
Highest Total Yield:	Kennebec (460 cwt/acre)
Highest Marketable Yield:	Snowden (401 cwt/acre)
Best Overall Tuber Appearance:	AF2215-3 (5.5), B2029-1 (5.5), B2035-11 (5.5)

Specific Comments:

La Chipper (MFX). La Chipper was used as a standard in this trial for comparison with all other varieties and clones. Total and marketable yield were 357 and 321 cwt/acre, respectively. Potato tuber skin color was tan to buff with a netted to slightly netted texture. Tuber flesh color was white to cream. Tuber shape was rated as round to oblong with an eye depth of intermediate to shallow. Overall external tuber appearance was noted as fair. Early plant size was rated between 2 to 4 inches. Plant type at full flower was rated as spreading with a good canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for La Chipper tubers was 1.066.

Kennebec (MFX). Total and marketable yield were 460 and 400 cwt/acre, respectively. Potato tuber skin color was buff to white with a netted to slightly netted texture. Tuber flesh color was white. Tuber shape was rated as mostly oblong to oblong with an eye depth of intermediate to shallow. Overall external tuber appearance was noted as poor. Early plant size was rated between 2 to 4 inches. Plant type at full flower was scored as spreading to upright with a fair canopy. Plant maturity at harvest was rated as moderately mature to yellow and dying. Average specific gravity for Kennebec tubers was 1.068.

Sebago (MFX). Total and marketable yield were 276 and 229 cwt/acre, respectively. Potato tuber skin color was tan to buff with a netted to slightly netted texture. Tuber flesh color was white to cream. Tuber shape was rated as mostly oblong with an eye depth of intermediate to shallow. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 4 to 6 inches. Plant type at full flower was scored as spreading to upright with a good canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for Sebago tubers was 1.061.

Snowden (MFX). Total and marketable yield were 440 and 401 cwt/acre, respectively. Potato tuber skin color was brown to tan with a russet to netted texture. Tuber flesh color was white to cream. Tuber shape was rated as mostly round to round to oblong with an eye depth of intermediate to shallow. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 4 to 6 inches. Plant type at full flower was scored as upright with a good canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for Snowden tubers was 1.083.

Ware's Pride (MFX). Total and marketable yield were 303 and 256 cwt/acre, respectively. Potato tuber skin color was red to pink with a slightly netted texture. Tuber flesh color was white. Tuber shape was rated as mostly round to round to oblong with an eye depth of intermediate. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 4 to 6 inches. Plant type at full flower was scored as decumbent with a good canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for Ware's Pride tubers was 1.059.

AF2138-1 (UM). Total and marketable yield were 114 and 246 cwt/acre, respectively. Potato tuber skin color was purple with a russet to netted texture. Tuber flesh color was mottled purple. Tuber shape was rated as mostly round to round to oblong with an eye depth of intermediate. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 2 to 4 inches. Plant type at full flower was scored as spreading with a poor canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for AF2138-1 tubers was 1.083.

AF2215-3 (UM). Total and marketable yield were 206 and 174 cwt/acre, respectively. Potato tuber skin color was tan to buff with a netted texture. Tuber flesh color was cream. Tuber shape was rated as mostly round to round to oblong with an eye depth of shallow to very shallow. Overall external tuber appearance was noted as fair to good. Early plant size was rated between 2 to 4 inches. Plant type at full flower was scored as spreading with a fair canopy. Plant maturity at harvest was rated as completely dead. Average specific gravity for AF2215-3 tubers was 1.070.

AF2219-1 (UM). Total and marketable yield were 163 and 141 cwt/acre, respectively. Potato tuber skin color was tan to buff with a netted to slightly netted texture. Tuber flesh color was white to cream flesh. Tuber shape was rated as mostly round to round to oblong with an eye depth of shallow. Overall external tuber appearance was noted as fair. Early plant size was rated as not emerged. Plant type at full flower was scored as spreading with a fair canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for AF2219-1 tubers was 1.070.

AF2268-2 (UM). Total and marketable yield were 299 and 247 cwt/acre, respectively. Potato tuber skin color was tan to buff with a netted texture. Tuber flesh color was white to cream. Tuber shape was rated as round to oblong with an eye depth of intermediate to shallow. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 6 to 8 inches. Plant type at full flower was scored as upright with a fair canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for AF2268-2 tubers was 1.077.

AF2271-5 (UM). Total and marketable yield were 180 and 163 cwt/acre, respectively. Potato tuber skin color was tan to buff with a netted to slightly netted texture. Tuber flesh color was white to cream. Tuber shape was rated as mostly oblong with an eye depth of shallow to very shallow. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 2 to 4 inches. Plant type at full flower was scored as upright with a fair canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for AF2271-5 tubers was 1.081.

AF2271-6 (UM). Total and marketable yield were 238 and 165 cwt/acre, respectively. Potato tuber skin color was tan to buff with a netted texture. Tuber flesh color was white. Tuber shape was rated as mostly oblong with an eye depth of intermediate to shallow. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 2 to 4 inches. Plant type at full flower was scored as upright with a fair canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for AF2271-6 tubers was 1.068.

ARSW97-4290-1 (UM). Total and marketable yield were 231 and 203 cwt/acre, respectively. Potato tuber skin color was purple with a netted to slightly netted texture. Tuber flesh color was white. Tuber shape was rated as round to oblong to mostly oblong with an eye depth of deep to intermediate. Overall external tuber appearance was noted as poor. Early plant size was rated between 4 to 6 inches. Plant type at full flower was scored as spreading with a fair to good canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for ARSW97-4290-1 tubers was 1.062.

ARSW97-4297-1 (UM). Total and marketable yield were 357 and 253 cwt/acre, respectively. Potato tuber skin color was tan with a russet to netted texture. Tuber flesh color was white. Tuber shape was rated as round to oblong to mostly oblong with an eye depth of intermediate. Overall external tuber appearance was noted as poor. Early plant size was rated between 2 to 4 inches. Plant type at full flower was scored as decumbent with a fair canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for ARSW97-4297-1 tubers was 1.080. This clone was spaced at 6" to reduce tuber size.

B1975-2 (USDA). Total and marketable yield were 205 and 149 cwt/acre, respectively. Potato tuber skin color was tan to buff with a netted texture. Tuber flesh was cream to white. Tuber shape was rated as mostly oblong with an eye depth of shallow. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 2 to 4 inches. Plant type at full flower was scored as decumbent with a good canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for B1975-2 tubers was 1.077.

B2021-3 (USDA). Total and marketable yield were 263 and 203 cwt/acre, respectively. Potato tuber skin color was red with a slightly netted to moderately smooth texture. Tuber flesh was light yellow. Tuber shape was rated as oblong to mostly oblong with an eye depth of deep to intermediate. Overall external tuber appearance was rated as poor to fair. Early plant size was rated between 6 to 8 inches. Plant type at full flower was rated as decumbent with a fair canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for B2021-3 tubers was 1.078.

B2024-26 (USDA). Total and marketable yield were 301 and 259 cwt/acre, respectively. Potato tuber skin color was tan to buff with a russet to netted texture. Tuber flesh was cream to light yellow. Tuber shape was rated as oblong to mostly oblong with an eye depth of intermediate to shallow. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 2 to 4 inches. Plant type at full flower was scored as upright with a fair canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for B2024-26 tubers was 1.072.

B2029-1 (USDA). Total and marketable yield were 122 and 109 cwt/acre, respectively. Potato tuber skin color was tan with a netted to slightly netted texture. Tuber flesh was light yellow. Tuber shape was rated as mostly oblong with an eye depth of intermediate to shallow. Overall external tuber appearance was noted as fair to good. Early plant size was rated between 2 to 4 inches. Plant type at full flower was scored as upright with a fair canopy. Plant maturity at harvest was rated as completely dead. Average specific gravity for B2029-1 tubers was 1.067.

B2035-11 (USDA). Total and marketable yield were 177 and 144 cwt/acre, respectively. Potato tuber skin color was brown with a moderately russet texture. Tuber flesh was white. Tuber shape was rated as oblong to long with an eye depth of intermediate to shallow. Overall external tuber appearance was noted as fair to good. Early plant size was rated between 2 to 4 inches. Plant type at full flower was scored as spreading with a fair to good canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for B2035-11 tubers was 1.072.

B2204-9 (USDA). Total and marketable yield were 327 and 291 cwt/acre, respectively. Potato tuber skin color was tan to buff with a russet to netted texture. Tuber flesh was white. Tuber shape was rated as mostly round with an eye depth of intermediate to shallow. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 4 to 6 inches. Plant type at full flower was scored as spreading with a fair canopy. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for B2204-9 tubers was 1.076.

Florida Table 1. Early Fresh Market Potato Variety Trial. Yield, marketable yield, percentage of yield by grade, size distribution and specific gravity of early fresh market potato clones grown at Hastings, FL. - 2001.

Clone	Total Yield (cwt/A)	Marketable Yield ¹		Size Distribution by Class (%) ²					Size Distribution (%)		Specific Gravity
		(cwt/A)	percent of standard	1	2	3	4	5	2 to 4	3 to 4	
Season-103 days											
LaChipper	357	321	100	3	35	35	25	2	96	60	1.066
Atlantic	418	388	121	2	28	38	32	0	98	70	1.078
Kennebec	460	400	103	2	35	30	28	5	93	58	1.068
Sebago	276	229	59	6	40	21	33	0	94	54	1.061
Snowden	440	401	103	2	25	36	35	2	96	71	1.083
Ware's Pride	303	256	66	9	41	34	16	0	91	50	1.059
AF2138-1	114	246	63	31	67	2	0	0	69	2	1.083
AF2215-3	206	174	45	3	41	47	10	0	97	56	1.070
AF2219-1	163	141	36	7	60	31	2	0	93	33	1.070
AF2268-2	299	247	64	5	45	27	24	0	95	51	1.077
AF2271-5	180	163	42	5	75	14	6	0	95	20	1.081
AF2271-6	238	165	42	3	38	24	36	0	97	60	1.068
ARSW97-4290-1	231	203	52	7	54	30	9	0	93	39	1.062
ARSW97-4297-1	357	253	65	15	74	6	5	0	85	11	1.080
B1975-2	205	149	38	18	71	11	0	0	82	11	1.077

Florida Table 1 (cont'd). Early Fresh Market Potato Variety Trial. Yield, marketable yield, percentage of yield by grade, size distribution and specific gravity of early fresh market potato clones grown at Hastings, FL. - 2001.

Clone	Total Yield (cwt/A)	Marketable Yield ¹		Size Distribution by Class (%) ²					Size Distribution (%)		Specific Gravity
		(cwt/A)	percent of standard	1	2	3	4	5	2 to 4	3 to 4	
B2021-3	263	203	52	19	77	4	0	0	81	4	1.068
B2024-26	301	259	67	2	26	36	30	6	92	66	1.072
B2029-1	122	109	28	8	71	17	4	0	92	21	1.067
B2035-11	177	144	37	5	72	15	9	0	95	23	1.072
B2204-9	327	291	75	6	50	27	17	0	94	44	1.076
<i>LSD</i> ³	74	73		13	44	48	54	<i>ns</i>	10.5	17	0.007
<i>P Value</i>	0.0001	0.0001		0.0001	0.0001	0.0001	0.0001	0.6397	0.0001	0.0001	0.0001

Planted on Feb.15, 2001, fertilizer rate was 168-24-144/A plus 98-14-84/A sidedressed, harvested on May 29, 2001

¹ - Marketable Yield: size classes 2 to 4

² - Size classes: 1 = <1 7/8", 2 = 1 7/8 to 2.5", 3 = 2.5 to 3.25", 4 = 3.25 to 4", 5 = >4"

³ - Means separated within columns by Waller-Duncan's *k*-ratio t test.

Florida Table 2. Early Fresh Market Potato Variety Trial. Yield, vine maturity, tuber characteristics, and internal defects of early fresh market potato clones grown at Hastings, FL - 2001.

Clone	Total Yield (cwt/A)	Marketable Yield (cwt/A)	Vine Maturity ¹	Tuber Characteristics ¹						Internal Defects ²			
				IFC	SC	ST	TS	ED	APP	HH	BR	CRS	INT
LaChipper	357	321	2.0	1.5	6.5	6.5	3.0	6.0	5.0	0	0	0	0
Atlantic	418	388	2.4	2.0	6.0	5.5	3.0	6.0	4.0	5	0	0	15
Kennebec	460	400	4.8	1.0	7.5	6.5	4.5	6.0	3.0	0	0	0	0
Sebago	276	229	2.5	1.5	6.5	6.0	4.5	6.0	3.5	0	0	0	0
Snowden	440	401	3.3	1.5	5.5	5.5	2.5	6.0	4.5	5	0	0	0
Ware's Pride	303	256	1.8	1.0	2.5	7.0	2.5	5.0	3.5	0	0	0	0
AF2138-1	114	246	1.3	9-0	1.0	5.5	2.5	5.0	4.0	0	0	0	5
AF2215-3	206	174	1.1	2.0	6.5	6.0	2.5	7.5	5.5	0	0	0	0
AF2219-1	163	141	1.5	1.5	6.5	6.5	2.5	7.0	5.0	0	0	0	0
AF2268-2	299	247	2.0	1.5	6.5	6.0	3.0	6.5	4.5	0	0	0	0
AF2271-5	180	163	2.0	1.5	6.5	6.5	4.0	7.5	4.5	0	0	0	0
AF2271-6	238	165	1.6	1.0	7.0	6.0	4.0	6.5	4.0	0	0	0	0
ARSW97-4290-1	231	203	1.8	1.0	1.0	6.5	3.5	4.5	3.0	0	0	0	0
ARSW97-4297-1	357	253	1.9	1.0	6.0	5.5	3.5	5.0	3.0	0	0	0	0
B1975-2	205	149	2.0	1.5	6.5	6.0	4.0	7.0	4.5	0	0	0	5
B2021-3	263	203	1.4	3.0	2.0	7.5	4.5	4.5	4.5	0	0	0	0
B2024-26	301	259	2.8	2.5	6.5	5.5	4.5	5.5	3.5	30	0	0	0
B2029-1	122	109	1.0	3.0	6.0	6.5	4.0	6.0	5.5	0	15	0	0
B2035-11	177	144	1.5	1.0	5.0	3.0	5.5	5.5	5.5	0	0	0	0
B2204-9	327	291	1.5	1.0	6.5	5.5	3.0	6.0	4.5	10	0	0	0

¹ - See rating system outlined in Florida Rating Code Table.

² - Percent of tubers showing defects. HH = hollow heart, BR = brown rot, CRS = corky ring spot, INT = internal browning.