

## Snack Food Association Potato Variety Trial, 2001

### General Comments:

The goal of the Snack Food Association Potato Variety Trial is to find a chip potato that has better quality and production characteristics than Atlantic.

SFA varieties were planted in single row plots approximately 250 ft long. Four 20 foot sections of each row were harvested and graded. Wise Foods chipped and graded the samples within 72 hours of harvest.

<b>Planting Site:</b>	Hastings REC, Yelvington Farm
<b>Planting Date:</b>	February 16, 2001
<b>Harvest Date:</b>	June 4, 2001
<b>Season Length:</b>	108 days
<b>Replications:</b>	0
<b>Plot Size:</b>	4 x 20 ft
<b>Row Spacing:</b>	8 inches in-row, 40 inches between-row
<b>Fertilizer:</b>	preplant, 168-24-144 lb/A; sidedress, 98-14-84 lb/A
<b>Number of Varieties:Clones:</b>	3:9
<b>Early Plant Size (Early Vigor):</b>	39 days after planting
<b>Highest Total Yield:</b>	Atlantic (410 cwt/acre)
<b>Highest Marketable Yield:</b>	W1431 (374 cwt/acre)
<b>Best Overall Tuber Appearance:</b>	NY120 (5.7), AF1424-7 (5.7)

### Specific Comments:

**Atlantic.** This is the standard chip potato grown in Florida. It was used in this trial for comparison with all other varieties and clones. Total and marketable yield were 410 and 335 cwt/acre, respectively. Potato tuber skin color was tan with a slightly netted texture. Tuber flesh color was white to cream. Tubers were rated as round to oblong with intermediate to shallow eyes. Overall external tuber appearance was noted as fair. Early plant size was rated between 4 to 6 inches. Plant maturity at harvest was scored as yellow and dying to completely dead. Scab was noted on tubers when harvested. Average specific gravity for Atlantic tubers was 1.078. The Agron reading was 55 with 4% external defects. Chips were noted as "fairly bright".

**La Chipper.** Total and marketable yield were 266 and 244 cwt/acre, respectively. Potato tuber skin color was tan to smooth with a moderately smooth texture. Tuber flesh color was white. Tubers were rated as round to oblong with deep to intermediate eyes. Overall external tuber appearance was noted as fair. Early plant size was rated between 6 to 8 inches. Plant maturity at harvest was rated as completely dead. Scab was noted on tubers when harvested. Average specific gravity for La Chipper tubers was 1.070. The Agron reading was 54 with 1% external defects. Chips were noted as "dark golden".

**Snowden.** Total and marketable yield were 315 and 286 cwt/acre, respectively. Potato tuber skin color was tan with a slightly netted texture. Tuber flesh color was white. Tubers were rated as round to oblong with intermediate eyes. Overall external tuber appearance was scored as fair to good. Early plant size was between 8 to 10 inches. Plant maturity at harvest was scored as moderately mature to yellow and dying. Scab and large lenticels were noted on tubers when harvested. Average specific gravity for Snowden tubers was 1.079. The Agron reading was 57 with 3% external defects.

**AF1424-7.** Total and marketable yield were 204 and 177 cwt/acre, respectively. Potato tuber skin color was buff to white with a slightly netted texture. Tuber flesh color was white. Tubers were rated as round to oblong with intermediate to shallow eyes. Overall external tuber appearance was noted as fair to good. Early plant size was rated between 8 to 10 inches. Plant maturity at harvest was scored as completely dead.

Scab and large lenticels were noted on tubers when harvested. Average specific gravity for AF1424-7 tubers was 1.077. The Agtron reading was 62 with 7% external defects. Chips were noted as “nice”.

**AF1775-2.** Total and marketable yield were 373 and 177 cwt/acre, respectively. Potato tuber skin color was tan to buff with a moderately smooth texture. Tuber flesh color was white. Tubers were rated as round to oblong with intermediate to shallow eyes. Overall external tuber appearance was noted as fair to good. Early plant size was rated as 2 inches or less. Plant maturity at harvest was scored as yellow and dying. Scab was noted on tubers when harvested. Average specific gravity for AF1775-2 tubers was 1.075. The Agtron reading was 58 with 2% external defects.

**B0766-3.** Total and marketable yield were 336 and 293 cwt/acre, respectively. Potato tuber skin color was buff with a slightly netted texture. Tuber flesh color was white. Tubers were rated as round to oblong with intermediate to shallow eyes. Overall external tuber appearance was noted as fair to good. Early plant size was rated between 4 to 6 inches. Plant maturity at harvest was scored as yellow and dying to completely dead. Scab was noted on tubers when harvested. Average specific gravity for B0766-3 tubers was 1.070. The Agtron reading was 58 with no defects.

**NDTX4930-5W.** Total and marketable yield were 333 and 276 cwt/acre, respectively. Potato tuber skin color was tan to buff with a moderately smooth texture. Tuber flesh color was white. Tubers were rated as round to oblong with intermediate to shallow eyes. Overall external tuber appearance was noted as fair. Early plant size was rated between 6 to 8 inches. Plant maturity at harvest was scored as completely dead. Large lenticels were noted on tubers when harvested. Average specific gravity for NDTX4930-5W tubers was 1.068. The Agtron reading was 54 with 1% external defects. Chips were noted as “good appearance”.

**NY120.** Total and marketable yield were 297 and 273 cwt/acre, respectively. Potato tuber skin color was brown to tan with a netted to slightly netted texture. Tuber flesh color was white. Tubers were rated as mostly round to round/oblong with intermediate to shallow eyes. Overall external tuber appearance was noted as fair to good. Early plant size was rated between 8 to 10 inches. Plant maturity at harvest was rated as yellow and dying to completely dead. Scab was noted on tubers when harvested. Average specific gravity for NY120 tubers was 1.077. The Agtron reading was 48 with 1% internal defects. Chips were noted as “dark golden”.

**MSA091-1.** Total and marketable yield were 301 and 263 cwt/acre, respectively. Potato tuber skin color was buff with a moderately smooth texture. Tuber flesh color was white. Tubers were rated as mostly round to round/oblong with intermediate to shallow eyes. Overall external tuber appearance was noted as fair. Early plant size was rated between 8 to 10 inches. Plant maturity at harvest was scored as completely dead. Tubers were noted as misshapen when harvested. Average specific gravity for MSA091-1 tubers was 1.076. The Agtron reading was 53 with 13% internal defects.

**MSG227-2.** Total and marketable yield were 295 and 257 cwt/acre, respectively. Potato tuber skin color was brown with a slightly netted to netted texture. Tuber flesh color was white. Tubers were rated as mostly oblong with intermediate to shallow eyes. Overall external tuber appearance was noted as fair. Early plant size was rated between 4 to 6 inches. Plant maturity at harvest was scored as completely dead. Scab was noted on tubers when harvested. Average specific gravity for MSG227-2 tubers was 1.071. The Agtron reading was 57 with 3% internal and 3% external defects. Chips were noted as having an “oblong appearance”.

**W1355-1.** Total and marketable yield were 170 and 152 cwt/acre, respectively. Potato tuber skin color was tan to buff with a slightly netted texture. Tuber flesh color was white. Tubers were rated as round to oblong with intermediate to shallow eyes. Overall external tuber appearance was noted as fair. Early plant size was between 6 to 8 inches. Plant maturity at harvest was rated as yellow and dying to completely dead. Average specific gravity for W1355-1 tubers was 1.079. The Agtron reading was 51 with 1% internal defects.

**W1431.** Total and marketable yield were 374 and 356 cwt/acre, respectively. Potato tuber skin color was buff with a slightly netted to moderately smooth texture. Tuber flesh color was white. Tubers were rated

as mostly oblong with intermediate to shallow eyes. Overall external tuber appearance was noted as poor to fair. Early plant size was rated between 4 to 6 inches. Plant maturity at harvest was scored as yellow and dying to completely dead. Tubers were noted as misshapen when harvested. Average specific gravity for W1431 tubers was 1.074. The Agtron reading was 52 with 2% external defects. Chips were noted as “dark golden”.

Florida Table 13. Snack Food Association Trial. Yield, marketable yield, percentage of yield by grade, size distribution and specific gravity of chipping potato clones grown at Hastings, FL. - 2001.

Clone	Total Yield (cwt/A)	Marketable Yield <sup>1</sup>		Size Distribution by Class (%) <sup>2</sup>					Size Distribution (%)		% culls	Specific Gravity
		(cwt/A)	percent of standard	1	2	3	4	5	2 to 4	3 to 4		
<b>Season-108 days</b>												
Atlantic	410	335	100	2	29	39	30	0	98	69	16	1.078
LaChipper	266	244	73	4	44	42	10	0	96	52	4	1.070
Snowden	315	286	85	3	39	41	15	2	95	56	9	1.079
AF1424-7	204	177	53	9	54	33	4	0	91	37	8	1.077
AF1775-2	373	353	105	1	23	37	39	0	99	75	4	1.075
B0766-3	336	293	87	4	30	34	32	1	95	66	2	1.070
NDTX4930-5W	333	276	82	5	56	37	2	0	95	39	5	1.068
NY120	297	273	81	4	49	41	6	0	96	47	5	1.077
MSA091-1	301	263	79	4	52	43	1	0	96	44	4	1.076
MSG227-2	295	257	77	9	74	17	0	0	91	17	13	1.071
W1355-1	170	152	45	6	62	31	0	0	94	31	5	1.079
W1431	374	356	106	3	44	45	8	0	97	53	4	1.074
Average	306	272										1.074

Planted on Feb.16, 2001, fertilizer rate was 168-24-144/A plus 98-14-84/A sidedressed, harvested on June 4, 2001.

<sup>1</sup> - Marketable Yield: size classes 2 to 4

<sup>2</sup> - 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"

Florida Table 14. Snack Food Association Trial. Yield, vine maturity, tuber characteristics, and internal defects of chipping potato clones grown at Hastings, FL - 2001.

Clone	Total Yield (cwt/A)	Marketable Yield (cwt/A)	Vine Maturity <sup>1</sup>	Tuber Characteristics <sup>1</sup>						Internal Defects <sup>2</sup>			
				IFC	SC	ST	TS	ED	APP	HH	BR	CRS	INT
Atlantic	410	335	2.0	1.3	6.0	6.0	3.3	6.3	5.0	1	0	0	3
LaChipper	266	244	1.0	1.0	6.7	7.0	3.7	4.7	5.0	0	0	0	0
Snowden	315	286	3.5	1.0	6.0	6.0	3.3	5.0	5.3	0	0	0	1
AF1424-7	204	177	1.0	1.0	7.3	6.7	3.0	6.3	5.7	0	0	0	0
AF1775-2	373	353	3.0	1.0	6.7	7.0	3.3	6.0	5.3	0	0	0	4
B0766-3	336	293	1.5	1.0	7.0	6.0	3.0	6.3	5.3	0	0	0	0
NDTX4930-5W	333	276	1.0	1.0	6.7	7.0	3.3	6.3	5.0	0	0	0	0
NY120	297	273	1.5	1.0	5.3	5.7	2.7	6.3	5.7	0	0	0	0
MSA091-1	301	263	1.0	1.0	7.0	7.0	2.7	6.0	5.0	0	0	0	1
MSG227-2	295	257	1.0	1.0	5.0	5.7	4.0	6.3	5.0	0	0	0	0
W1355-1	170	152	2.0	1.0	6.3	6.0	3.0	6.0	5.0	0	0	1	0
W1431	374	356	1.5	1.0	7.0	6.7	4.0	5.7	4.7	1	0	0	0

<sup>1</sup> - See rating system outlined in Florida Rating Code Table.

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

