

CHAPTER 11. USPB/SNACK FOOD ASSOCIATION POTATO VARIETY TRIAL, 2006

General Comments

A goal of the Snack Food Association trial is to identify a short-season processing potato variety with better production and quality characteristics than Atlantic, the current standard. Chip quality was determined by personnel at Utz Quality Foods.

Planting Information

Planting Site	PSREU - Hastings Farm, Hastings, FL
Planting Date	February 1, 2006
Harvest Date	May 22, 2006
Season Length	110 days
Fertilizer Program	preplant, 100-43-86 lb/A; sidedress, 65-0-56 lb/A (2 appl.)
Irrigation Program	seepage

Experimental Design

Number of Varieties	3 (Standard: Atlantic)
Number of Clones	9
Within Row Spacing	Approx. 8 in (20.3 cm)
Between Row Spacing	40 in (102 cm)
Replications	1
Plot Size	Single 250 ft row (76.2 m) planted for each variety. Four, 20 ft (6.1 m) plots harvested from each row to determine production and quality statistics.

Production Statistics

Early Vigor Ratings	41 days after planting.
Highest Total Yield	MSJ316-A (454 cwt/acre or 50.9 MT/ha)
Highest Marketable Yield	NY132 (394 cwt/acre or 44.1 MT/ha)
Highest Specific Gravity	Atlantic, AF2211-9, and MSJ147-1 (1.090)

Table 28. Production statistics for USPB/SFA Chipping potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield ¹		Size Distribution by Class (%) ²						Size Class Range (%)		Specific Gravity
		(cwt/A)	% of standard	C	B	A1	A2	A3	A4	A1 to A3	A2 to A3	
Atlantic	363	327	100	1	6	72	21	0	0	93	21	1.090
Snowden	353	303	93	1	11	75	13	0	0	89	13	1.082
Beacon Chipper	366	310	95	1	8	76	15	0	0	91	15	1.088
A91814-5	370	287	88	1	17	77	5	0	0	82	5	1.082
AF2211-9	353	306	94	1	7	63	28	0	0	92	29	1.090
CO95051-7W	345	286	88	1	13	83	4	0	0	86	4	1.082
MSJ147-1	356	317	97	1	9	78	12	0	0	90	12	1.090
MSJ316-A	454	381	117	2	11	81	6	0	0	87	6	1.075
MSJ461-1	373	281	86	2	19	71	8	0	0	79	8	1.078
NY132	449	394	121	1	8	77	14	0	0	91	14	1.088
W2133-1	413	358	110	1	9	65	24	1	0	90	25	1.082
W2324-1	404	359	110	1	6	55	32	7	0	94	39	1.081
Average	383	326		1	10	73	15	1	0	89	16	1.084

¹Marketable Yield: size classes A1 to A3.

²Size classes: C = .5 to 1.5" , B = 1.5 to 1 7/8", A1 = 1 7/8 to 2.5", A2 = 2.5 to 3.25", A3 = 3.25 to 4", A4 = >4"

Table 29. Plant growth and tuber characteristics of USPB/SFA Chipping potato selections.

Clone	Plant Growth Characteristics ¹				Tuber Characteristics ²						Chip Rating ³	
	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	1-5	Tuber Comments
Atlantic	111	5.3	8-9	7.0	2.0	6.0	5.0	3.0	6.0	6.0	65.0	some scab
Snowden	83	7.3	8-9	3.0	2.0	6.0	5.0	3.0	4.0	7.0	65.8	nice appearance
Beacon Chipper	100	5.5	8	6.0	1.0	6.0	5.0	4.0	6.0	5.0	67.0	some scab
A91814-5	84	6.8	9	6.0	2.0	7.0	6.0	4.0	5.0	4.0	64.2	flat tubers
AF2211-9	93	5.0	8-9	6.0	2.0	6.0	6.0	2.0	6.0	5.0	63.8	mostly round shape
CO95051-7W	83	6.0	8	5.0	2.0	6.0	6.0	3.0	6.0	4.0	67.6	scab
MSJ147-1	96	5.5	9	7.0	2.0	7.0	6.0	4.0	7.0	5.0	70.0	some flat tubers
MSJ316-A	87	6.5	9	4.5	2.0	7.0	6.0	4.0	7.0	5.0	64.8	some lenticels
MSJ461-1	89	6.8	6-9	1.5	2.0	6.0	6.0	4.0	7.0	5.0	63.9	some lenticels
NY132	76	8.8	6-9	7.0	2.0	7.0	5.0	4.0	5.0	5.0	67.6	some flat tubers
W2133-1	78	9.0	6-9	1.5	2.0	6.0	5.0	4.0	6.0	6.0	63.2	flat tubers
W2324-1	73	8.5	6-9	4.0	1.0	6.0	5.0	4.0	4.0	6.0	64.1	many shapes

¹ See rating system outlined in Table 1 (page 8).

² See rating system outlined in Table 2 (page 9).

³ For rating scale, see general potato variety production information in Chapter 1. (page 5)

Table 30. External and internal defects of USPB/SFA Chipping potato selections.

Clone	% External Tuber Defects					% Internal Defects ²						
	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls ¹	HH	BR	CRS	IHN	Brown Center		
						L	M	H				
Atlantic	1	0	2	0	4	0	0	0	0	0	0	0
Snowden	0	0	2	1	3	0	0	0	1	1	0	0
Beacon Chipper	0	0	2	5	7	0	0	0	0	0	0	0
A91814-5	0	1	3	2	5	0	0	0	0	0	0	0
AF2211-9	1	0	2	2	6	1	0	0	3	6	0	0
CO95051-7W	0	0	2	2	4	0	0	0	0	1	0	0
MSJ147-1	0	0	0	1	1	0	0	0	0	0	0	0
MSJ316-A	0	0	2	2	4	0	0	10	14	3	1	0
MSJ461-1	0	0	2	3	5	0	0	0	0	0	0	0
NY132	0	0	2	2	4	0	0	0	0	9	3	0
W2133-1	0	0	3	1	4	0	0	0	0	0	0	0
W2324-1	0	1	1	3	5	0	0	0	0	0	0	0

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

²Percent tubers; HH, hollow heart; BR, brown rot; CRS, corky ring spot; IHN, internal heat necrosis.

Brown Center: L = Light, M = Moderate, H = Heavy