

Chapter 7. Statewide White-Skinned Potato Variety Trials, 2006¹

C.M. Hutchinson and Doug Gergela²

General Comments: A goal of the statewide potato variety trial is to identify advanced potato selections for Florida production. Established varieties were included to provide a baseline for comparison.

Planting Information

Florida Statewide White Potato Trial (Tables 17 and 18).	PSREU - Hastings Farm (PSREU), One Site in Bunnell, One Site in Hastings, and Two Sites in Immokalee (1 and 2)
Planting Dates	PSREU (2/1/06), Bunnell (1/25/06), Hastings (1/26/06), and Immokalee 1 and 2 (11/30/05)
Harvest Dates	PSREU (5/18/06), Bunnell (5/9/06), Hastings (5/8/06), and Immokalee 1 and 2 (3/28/06)
Season Length	PSREU (86), Bunnell (104), Hastings (102), Immokalee 1(101), and Immokalee 2 (101)
Fertilizer Program	Grower standard practices for all sites except PSREU, which is similar to the White Variety Trial (Chapter 3).
Irrigation Program	seepage

Experimental Design

Number of Sites	5
Number of Selections	8
Within Row Spacing	8 in (20.3 cm)
Between Row Spacing	38-42 in (96.5-106.6 cm)
Replications	4 at each site
Plot Size	16 ft (4.9 m) single row

Production Statistics- Based over all sites

Highest Total Yield	Carrera (456 cwt/acre or 51.1 MT/ha)
Highest Marketable Yield	LaChipper (339 cwt/acre or 38.0 MT/ha)

-
- This document is HS1091, one of a series of the Horticultural Sciences Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original publication date March 21, 2007. Visit the EDIS Web Site at <http://edis.ifas.ufl.edu>.
 - Chad M. Hutchinson, Associate professor, Doug Gergela, Sr. Biological Scientist, Horticultural Sciences Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.

The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication does not signify our approval to the exclusion of other products of suitable composition. All chemicals should be used in accordance with directions on the manufacturer's label. Use pesticides safely. Read and follow directions on the manufacturer's label.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. U.S. Department of Agriculture, Cooperative Extension Service, University of Florida, IFAS, Florida A. & M. University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Larry Arrington, Dean

Table 2. Production statistics for Statewide White-Skinned potato selections grown at various sites in Florida..

Clone	Total		Marketable							Size							Size Class		Specific Gravity
	Yield (cwt/A)	Yield ¹ (cwt/A)	C	B	Distribution by Class (%) ²					A3	A4	Range (%)		A1 to A3	A2 to A3				
					A1	A2	A3	A4	A5			A6							
LaChipper																			
PSREU-Hastings	398	339	1	10	75	14	0	0	0	0	89	14	89	14	1.069				
Hastings	392	344	1	8	56	19	15	1	1	90	34	90	34	1.071					
Bunnell	326	280	1	12	70	10	7	0	0	87	17	87	17	1.069					
Immokalee 1	383	299	1	15	63	15	6	0	0	84	21	84	21	1.067					
Immokalee 2	248	137	4	37	56	3	0	0	0	59	3	59	3	1.065					
Adora																			
PSREU-Hastings	327	221	1	26	72	1	0	0	0	73	1	73	1	1.062					
Hastings	306	265	1	11	66	22	1	0	0	89	23	89	23	1.065					
Bunnell	290	246	1	10	83	6	0	0	0	89	6	89	6	1.060					
Immokalee 1	190	114	3	31	64	2	0	0	0	66	2	66	2	1.065					
Immokalee 2	109	58	4	40	56	0	0	0	0	56	0	56	0	1.058					
Ambra																			
PSREU-Hastings	373	267	1	12	81	6	0	0	0	87	6	87	6	1.054					
Hastings	333	289	1	9	73	17	1	0	0	90	17	90	17	1.060					
Bunnell	298	260	0	10	82	8	0	0	0	89	8	89	8	1.055					
Immokalee 1	272	196	2	22	68	8	0	0	0	76	8	76	8	1.063					
Immokalee 2	210	70	7	56	37	0	0	0	0	37	0	37	0	1.056					
Andover																			
PSREU-Hastings	268	228	1	8	88	3	0	0	0	91	3	91	3	1.075					
Hastings	279	243	1	11	69	18	1	0	0	88	19	88	19	1.075					
Bunnell	278	248	0	10	89	1	0	0	0	90	1	90	1	1.074					
Atlantic																			
PSREU-Hastings	341	298	1	6	79	14	0	0	0	93	14	93	14	1.077					
Hastings	354	300	1	11	57	24	7	0	0	88	31	88	31	1.081					
Bunnell	331	288	1	11	70	16	2	0	0	88	18	88	18	1.087					
Carrera																			
PSREU-Hastings	456	336	1	13	79	7	0	0	0	86	7	86	7	1.057					
Hastings	264	210	1	8	49	29	13	0	0	91	42	91	42	1.058					

Table 2. Production statistics for Statewide White-Skinned potato selections grown at various sites in Florida...

Clone	Total		Marketable							Size							Size Class	
	Yield (cwt/A)	Yield ¹ (cwt/A)	C	B	Distribution by Class (%) ²			A3	A4	Range (%)			Specific Gravity					
					A1	A2	A3			A1 to A3	A2 to A3							
Bunnell	348	292	1	12	81	7	0	0	0	88	7	1.060						
Fabula																		
PSREU-Hastings	412	334	0	8	82	10	0	0	0	92	10	1.054						
Hastings	241	211	0	8	68	21	3	0	0	91	24	1.060						
Bunnell	303	230	1	20	73	4	1	0	0	79	5	1.062						
Immokalee 1	136	73	5	34	60	1	0	0	0	61	1	1.057						
Immokalee 2	94	45	3	43	55	0	0	0	0	55	0	1.053						
Snowden																		
PSREU-Hastings	267	229	1	8	76	15	0	0	0	91	15	1.076						
Hastings	295	247	1	14	73	11	1	0	0	85	12	1.078						
Bunnell	299	229	1	22	70	5	1	0	0	77	6	1.081						
Snowbird																		
Immokalee 1	338	275	1	11	67	16	6	0	0	88	21	1.075						
Immokalee 2	191	100	6	38	56	0	0	0	0	56	0	1.073						
Superior																		
PSREU-Hastings	358	301	1	8	85	7	0	0	0	91	7	1.073						
Hastings	169	150	0	9	65	25	0	0	0	90	25	1.075						
Bunnell	261	214	1	16	78	4	0	0	0	83	4	1.073						
Yukon Gold																		
PSREU-Hastings	369	312	1	8	75	16	0	0	0	92	16	1.076						
Hastings	317	267	1	11	62	22	3	0	0	88	25	1.070						
Bunnell	295	242	1	14	76	9	1	0	0	85	10	1.070						
Immokalee 1	259	200	2	18	66	14	0	0	0	80	14	1.087						
Immokalee 2	196	106	3	39	57	1	0	0	0	58	1	1.082						
B1870-3																		
Immokalee 1	306	181	2	35	62	0	0	0	0	62	0	1.077						
Immokalee 2	237	69	8	62	30	0	0	0	0	30	0	1.073						

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 3. External and internal defects of Statewide White-Skinned potato selections grown at various sites in Florida.

Clone	% Size Distribution of External Tuber Defects						% Internal Defects ²						
	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls ¹	HH	BR	CRS	IHN	L	M	H	
LaChipper													
PSREU-Hastings	0	0	1	2	4	0	0	0	0	0	0	0	
Hastings	0	0	3	0	3	0	0	0	0	0	0	0	
Bunnell	0	0	1	0	1	0	0	0	0	0	0	0	
Immokalee 1	0	2	4	1	7	0	0	0	0	0	0	0	
Immokalee 2	0	2	3	1	6	0	0	0	0	0	0	0	
Adora													
PSREU-Hastings	0	0	2	6	8	0	0	0	0	0	0	0	
Hastings	1	0	0	1	2	0	0	0	0	0	0	0	
Bunnell	0	2	1	1	5	0	0	0	0	1	0	0	
Immokalee 1	1	8	0	0	9	0	0	0	0	0	0	0	
Immokalee 2	0	3	0	3	6	0	0	0	0	0	0	0	
Ambra													
PSREU-Hastings	0	0	4	14	18	0	0	0	0	0	0	0	
Hastings	0	0	3	1	4	0	0	0	0	0	0	0	
Bunnell	0	0	0	3	3	0	0	0	0	0	0	0	
Immokalee 1	0	1	3	1	5	0	0	0	0	0	0	0	
Immokalee 2	0	2	4	5	10	0	0	0	0	0	0	0	
Andover													
PSREU-Hastings	0	0	0	7	7	0	0	0	0	0	0	0	
Hastings	0	0	1	0	1	0	0	0	0	0	0	0	
Bunnell	0	0	0	1	1	0	0	0	0	0	0	0	
Atlantic													
SREU-Hastings	0	0	3	3	6	0	0	0	0	0	0	0	
Hastings	0	0	3	1	4	0	0	0	0	1	0	0	
Bunnell	0	1	1	0	2	1	0	0	0	10	0	1	
Carrera													
PSREU-Hastings	0	1	3	10	15	0	0	0	7	1	0	0	
Hastings	0	2	11	1	15	0	0	0	0	0	0	0	
Bunnell	0	1	1	2	4	0	0	0	6	0	0	0	

Table 3. External and internal defects of Statewide White-Skinned potato selections grown at various sites in Florida.

Clone	% Size Distribution of External Tuber Defects						% Internal Defects ²					
	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls ¹	HH	BR	CRS	IHN	L	M	H
Fabula												
PSREU-Hastings	0	0	3	9	12	0	0	0	0	0	0	0
Hastings	0	1	0	1	3	0	0	0	0	0	0	0
Bunnell	0	3	0	1	4	0	0	0	0	0	0	0
Immokalee 1	0	12	1	0	13	0	0	0	0	0	0	0
Immokalee 2	0	7	1	3	11	0	0	0	0	0	0	0
Snowden												
PSREU-Hastings	0	0	6	0	6	0	0	0	0	0	0	0
Hastings	0	0	1	1	2	0	0	0	0	0	0	0
Bunnell	0	0	0	0	1	0	0	0	0	0	0	0
Snowbird												
Immokalee 1	0	2	5	0	8	0	0	0	15	2	0	0
Immokalee 2	0	1	5	1	6	2	0	0	0	0	0	0
Superior												
PSREU-Hastings	0	0	0	8	8	0	0	0	0	0	0	0
Hastings	0	0	1	0	1	0	0	0	0	0	0	0
Bunnell	0	0	0	1	2	0	0	0	0	6	0	0
Yukon Gold												
PSREU-Hastings	0	3	4	1	8	1	0	0	1	1	0	0
Hastings	0	3	1	0	4	0	0	0	0	0	0	0
Bunnell	0	1	2	1	4	0	0	0	0	0	0	1
Immokalee 1	0	3	1	0	4	5	0	0	2	3	0	0
Immokalee 2	0	5	2	1	8	0	0	0	0	2	0	0
B1870-3												
Immokalee 1	0	5	0	0	5	0	0	0	0	0	0	0
Immokalee 2	0	1	1	0	2	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