

University of Florida Potato Variety Trials Spotlight: 'Marcy'¹

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General Comments

'Marcy' is a white-flesh and white-skinned fresh-market potato variety released from the Cornell University Potato Breeding program in 1990. The cultivar was selected from a cross between 'Atlantic' and Q155-3 (De Jong et al. 2006). In trials conducted at the University of Florida, 'Marcy' demonstrated high yield and good tuber characteristics compared to its matched commercial standards, 'Atlantic' and 'La Chipper'. After its release, 'Marcy' has been cultivated in several trials in Florida. Production and quality results provided here are from variety trials conducted by the University of Florida Hastings Agricultural and Extension Center in 2002 and from 2011 to 2014.

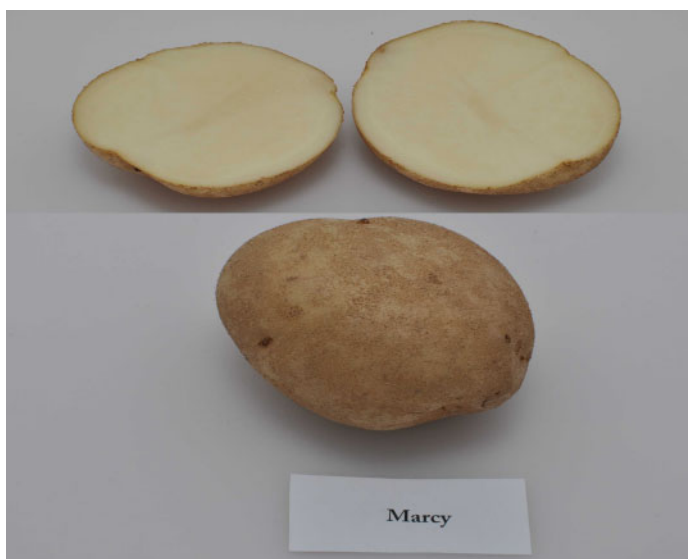


Figure 1. Typical tuber and internal flesh color of 'Marcy' potato variety. Credits: Lincoln Zotarelli

General Characteristics

'Marcy' has white skin with an oval, slightly flattened shape. In field trials, marketable yield ranged from 208 to 326 cwt/ac and on average was 12% greater than that of 'Atlantic' and 'La Chipper'. Approximately 91% of the tuber size distribution was found between the A1 and A3 size classification, which is considered marketable. The specific gravity of 'Marcy' is slightly lower than that of 'Atlantic', but this is not a limitation for the tablestock market. It has greater yield potential than other fresh-market potato varieties adapted for Florida production conditions.

Season Length and Growth

The tuber size should be closely monitored in the weeks prior to vine killing. When desired size distribution has been achieved, vines should be killed. This typically occurs about 85 to 95 days after planting depending on growing conditions during the season. The period from vine kill to harvesting varies by season; however, the plant should be given two weeks for tubers to mature and set skin. For more information on vine kill chemicals see *Potato Vine Killing or Desiccation*, <http://edis.ifas.ufl.edu/hs181>

Fertilization

During the reported trials, fertilizer was applied two or three times at planting and one or two side-dress applications, one at plant emergence and one when vines reached 6–8" in height. The cumulative season N rate applied was approximately 200 lb N/acre. The first application of 100 lb

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N/acre was applied at planting and then also at side dress (split into one or two applications). Special consideration should be given to the management of nitrogen.

Planting

Tubers should break dormancy before planting. In Florida, recommended seed pieces of 2½ to 3 oz should be planted 8 inches apart in rows spaced 40 inches apart. Closer in-row spacing reduces harvest tuber size. Excessive soil moisture late in the season degrades lenticel appearance and delays skin set.

Diseases

'Marcy' is resistant to brown rot, common scab, and race Ro1 of the golden cyst nematode. The variety is susceptible to PVX and PVY (De Jong et al. 2006), hollow heart, corky ringspot, and internal heat necrosis.

Other Information

For additional information on cultivation and management, see the Potato Production chapter of the *Vegetable Production Handbook* available at <http://edis.ifas.ufl.edu/cv131> and *Potato Vine Killing or Desiccation* available at <http://edis.ifas.ufl.edu/hs181>

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Table 1. Summary of production statistics and specific gravity of 'Marcy', a white skinned, fresh-market variety grown at the UF/IFAS Hastings Agricultural Extension Center in Hastings, FL.

Year	Total Yield	Marketable Yield ¹	% of Standard ²		Size Class (Distribution by Class %) ³							Size Class Range %	Specific Gravity
	(cwt/A)	(cwt/A)	Atlantic	La Chipper	C	B	A1	A2	A3	A4	A1 to A3		
2002	230	208	n.a.	92%	n.a.*	3	45	49	3	0	97	1.070	
2011	349	290	104%	121%	2	11	64	18	5	0	87	1.067	
2012	370	326	92%	118%	1	4	53	25	17	0	95	1.069	
2013	285	230	108%	132%	2	7	64	15	10	1	90	1.060	
2014	364	303	129%	n.a.	1	10	68	12	8	0	88	1.063	
Average	320	271	108%	116%	2	7	59	24	9	0	91	1.066	

¹Marketable yield: sum of size classes A1 to A3.

²% of standard: comparison of marketable yield between 'Marcy' and 'La Chipper' or 'Atlantic' cultivated in the same trial and year.

³Size classes: C = 0.5 to 1.5 inches, B = 1.5 to 1 7/8 inches, A1 = 1 7/8 to 2.5 inches, A2 = 2.5 to 3.25 inches, A3 = 3.25 to 4 inches, A4 >4 inches; Size distribution by class: Class (wt)/(Total Yield [wt] – Culls [wt])

n.a. = not available.

* classification = <1 7/8 inches (C and B included in this classification)

Table 2. Florida rating codes for potato tuber characteristics¹

Plant and Tuber Characteristics							
Rating Code	Vine Maturity	Internal Flesh Color	Skin Color	Skin Texture	Tuber Shape	Eye Depth	Overall Appearance
1	dead	white	purple	partial russet	round	very deep	very poor
2	+-	cream	red	heavy russet	mostly round	--	--
3	yellow and dying	light yellow	pink	moderate russet	round to oblong	deep	poor
4	+-	medium yellow	dark brown	light russet	mostly oblong	--	--
5	moderately senesced	dark yellow	brown	netted	oblong	intermediate	fair
6	+-	pink	tan	slightly netted	oblong to long	--	--
7	starting to senesce	red	buff	moderately smooth	mostly long	shallow	good
8	+-	blue	white	smooth	long	--	--
9	green and vigorous	purple	cream	very smooth	cylindrical	very shallow	excellent

¹Adapted from Hutchinson, C. M. et al. (2003), and Sisson, J.A. and G.A. Porter (2002).

Table 3. Vine maturity, tuber characteristics, and internal tuber defects of 'Marcy', a white-skinned, fresh-market potato variety grown at the UF/IFAS Hastings Agricultural Extension Center in Hastings, FL.

Year	Vine Maturity (vine kill)	Tuber Characteristics ¹						Internal Defects ²			
		IFC	SC	ST	TS	ED	APP	HH	BR	CRS	IHN
2002	4	1	5	5	3	8	5	0	0	1	0
2011	5	1	6	5	4	5	6	1	0	10	1
2012	7	2	7	5	4	4	6	0	1	0	1
2013	6	1	6	5	3	6	6	3	0	1	1
2014	2	1	6	5	3	6	6	0	0	0	0
Average	5	1	6	5	3	6	6	1	0	2	1

¹See rating system outlined in Florida Rating Code Table (Table 3); IFC, internal flesh color; SC, skin color; ST, skin texture; TS, tuber shape; ED, eye depth; APP, overall appearance.

²Percent tuber defects. HH = hollow heart, BR = brown rot, CRS = corky ring spot, IHN = internal heat necrosis.