

University of Florida Potato Variety Spotlight: 'Elkton'¹

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General Comments

'Elkton' is a white-flesh potato variety suitable for chipping directly from the field (Figures 1 and 2). 'Elkton' was selected from the USDA-ARS breeding program in Beltsville, Maryland, by Dr. Haynes in 1997. In 2003, seed of 'Elkton' was made available for field evaluation under Florida growing conditions. In 19 trials conducted between 2003 and 2012, 'Elkton' yielded 111% in comparison with 'Atlantic' (Table 1). In these trials, 'Elkton' demonstrated resistance to internal heat necrosis and hollow heart, which are common tuber physiological disorders under high-temperature growing conditions.

General Characteristics

'Elkton' has white flesh with netted light tan skin. Tubers are round to oval and medium-thick with intermediate eye depth (Figure 1). The variety has good yield potential and specific gravity slightly lower than 'Atlantic' (Tables 1, 2, and 3).

Season Length and Growth

The time from planting to harvest is approximately 95–105 days, depending on growing conditions during the season. Tuber size should be checked regularly late in the season. 'Elkton' typically shows slower initial growth compared to 'Atlantic' planted at the same time; however, during



Figure 1. Typical tuber set and internal flesh color of 'Elkton'
 Credits: Dana Fourman

vegetative development 'Elkton' shows similar plant size to 'Atlantic.'

Fertilization

University of Florida trial plots were fertilized with 200 lb/acre of N, with 50 lb/acre of N (granular) incorporated into the beds prior to planting, followed by two split side-dress fertilizer applications of 75 lb/acre of N each at emergence and at tuber initiation.

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Planting

A seed piece of 2 1/2 to 3 oz is desired for planting. Plant spacing should be 5 to 8 inches in-row with 36 to 40 inches between rows. Excessive soil moisture late in the season will degrade lenticel appearance.

Diseases and Weed Control

'Elkton' appears to be moderately resistant to early blight and verticillium wilt, but the latter still needs confirmation. 'Elkton' has shown moderate susceptibility to both foliar and tuber late blight. 'Elkton' is moderately susceptible to powdery scab, virus Y and virus S. A standard Extension-recommended disease and weed control program is described in EDIS publication CV131 [Potato Production](#) (part of the *Vegetable Production Handbook for Florida*).

Seed Source

USDA/ARS applied for Plant Variety Protection for 'Elkton' with licensing to SeedPro Inc., Crystal, Maine.



Figure 2. 'Elkton' plants during flowering stage
Credits: Dana Fourman

Table 1. Summary of production statistics and specific gravity of 'Elkton', a chipping potato variety grown at the UF/IFAS research and demonstration farm in Hastings, Florida

Year	Total Yield	Marketable Yield ¹	% of Atlantic	Size Class ²									Specific Gravity
				Distribution by Class %						Range %			
	(cwt/ac)	(cwt/ac)		C	B	A1	A2	A3	A4	A1 to A3	Culls		
2004	416.4	369.0	101	5.7	5.4	48.8	32.8	7.2	0.2	88.7	0.9	1.079	
2005	415.8	356.2	113	0.9	11.8	54.7	24.2	8.4	0.0	87.3	2.0	1.079	
2006	500.5	448.4	121	0.9	6.0	71.0	20.5	1.6	0.0	93.1	3.8	1.087	
2007	436.1	396.2	120	0.9	5.8	54.4	23.3	15.2	0.3	92.9	2.4	1.076	
2008	469.3	415.3	144	1.5	8.8	62.0	20.0	7.7	0.0	89.8	1.8	1.083	
2009	456.0	343.7	120	1.2	7.5	52.2	23.3	14.9	0.9	90.3	7.2	1.061	
2010	388.4	232.7	83	4.3	33.5	59.6	2.1	0.5	0.0	62.2	4.6	1.068	
2011	332.5	281.2	110	2.3	9.8	62.6	18.2	7.1	0.0	87.9	4.1	1.075	
2012	399.4	360.8	90	0.7	3.6	31.6	26.7	34.5	2.8	92.9	3.4	1.083	
Average	423.8	355.9	111%	2.0	10.2	55.2	21.2	10.8	0.5	87.2	3.4	1.077	

¹Marketable yield: Sum of size classes A1 to A3.
²Size classes: C= 0.5 to 1.5 inches, B = 1.5 to 1.9 inches, A1 = 1.9 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])

Table 2. Florida rating codes for potato tuber characteristics¹

Tuber Characteristics							
Rating	Vine	Internal	Skin	Skin	Tuber	Eye	Overall
Code	Maturity	Flesh Color	Color	Texture	Shape	Depth	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

¹Based on the standard NE1231 rating codes for plant and tuber characteristics.

Table 3. Vine maturity, tuber characteristics, and internal tuber defects of 'Elkton', a chipping potato variety grown at the UF/IFAS research and demonstration farm in Hastings, Florida

Year	Vine Maturity ¹	Tuber Characteristics (Ratings)						Internal Defects %			
	(vine kill)	IFC	SC	ST	TS	ED	APP	HH	BR	CRS	IHN
2003	5.9	1.8	5.8	4.8	3.5	6.8	6.2	0.0	0.0	0.0	0.0
2004	6.3	1.2	6.3	5.0	3.6	7.2	5.4	0.0	0.0	8.8	2.1
2005	n/a	1.0	5.0	4.5	4.5	6.5	5.5	0.0	0.0	0.0	0.0
2006	7.5	1.5	6.8	5.5	3.5	7.0	7.2	0.0	0.0	0.0	0.0
2007	5.8	1.7	6.2	4.9	3.0	6.9	6.3	0.0	0.0	0.0	0.3
2008	5.5	1.8	5.7	5.3	3.7	5.3	5.7	0.0	0.0	0.0	0.0
2009	6.9	1.0	6.0	5.0	4.0	6.0	6.0	1.3	0.0	0.0	1.3
2010	4.4	1.5	6.0	5.0	3.5	5.5	6.2	0.0	0.0	2.0	1.3
2011	5.5	2.0	6.0	5.0	3.0	5.0	7.0	0.0	0.0	0.0	0.0
2012	6.0	1.5	6.0	5.0	3.6	6.3	6.2	0.1	0.0	1.2	0.5
2013	5.9	1.8	5.8	4.8	3.5	6.8	6.2	0.0	0.0	0.0	0.0
Average	6.0	1.5	6.0	5.0	3.6	6.3	6.2	0.1	0.0	1.1	0.5

¹See rating system outlined in Florida Rating Code Table (Table 2).

²Percent tuber defects. HH=hollow heart, BR=brown rot, CRS=corky ring spot, IHN=internal heat necrosis.
n/a = not available