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HS1300

University of Florida Potato Variety Trials Spotlight: 'French Fingerling'[1]

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General Comments

'French Fingerling' is a fresh potato variety that is commonly grown for the specialty potato market. Formerly known as 'Roseval'. The cultivar was selected from a progeny of a cross between 'Vale' and 'Rosa'. It was released in 1950 by SICA Bretagne Plants, a member of the National Federation of Producers of Potato Plants in France. 'French Fingerling' demonstrated adaptability to Florida growing conditions by producing high yield and good tuber characteristics. Tuber production and quality results provided in this spotlight are from the Florida Potato Variety Trials conducted at UF/IFAS Hastings Agricultural Extension Center between 2010 and 2016.

General Characteristics

'French Fingerling' plants exhibit a semi erect growth characteristic with moderate to good foliage cover. Tubers have a pink and smooth skin with light yellow flesh (Figure 1), according to Florida's rating codes for potato tuber characteristics (Table 1). The tubers are oblong to long shaped with rounded edges, and intermediate to shallow eye depth. The variety has medium to long dormancy (time required for sprout emergence). In Florida trials, 'French Fingerling' yield ranged from 127 to 199 cwt/acre with an average specific gravity of 1.056 (Tables 2 and 3). On average, 84% of the tubers exhibited a tuber size distribution between 0.5 and 1 7/8 inches (within size classes C and B, Table 2), confirming the culinary functionality of this potato variety.

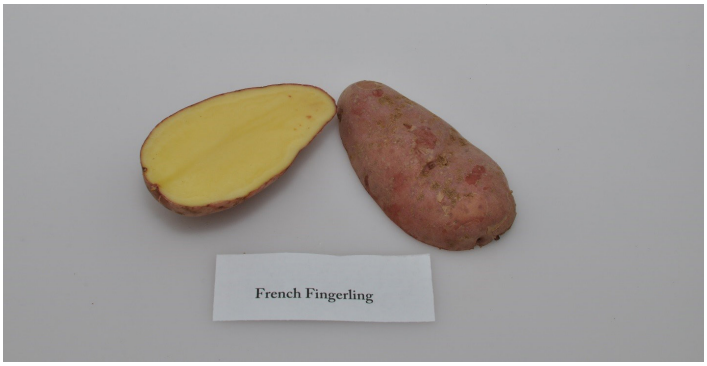

Figure 1. Typical tuber and internal flesh color of 'French Fingerling' potato variety.
Credits: Lincoln Zotarelli, UF/IFAS

Diseases

'French Fingerling' exhibited no incidence of corky ring spot, hollow heart, or brown spot. The cultivar had an 8% incidence of internal heat necrosis under Florida conditions (Table 3). The standard UF/IFAS Extension-recommended disease and weed control program described under "Potato Production" (Chapter 13 of the *Vegetable Production Handbook for Florida* http://edis.ifas.ufl.edu/cv131) should be followed.

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Season Length and Growth

'French Fingerling' is a medium to late maturing variety under Florida growing conditions. Season length was 89 days on average from planting to harvest. This depended on weather conditions during the growing season. The plants should be harvested two weeks after vine kill to improve tuber maturation and skin set. Potatoes with proper skin set maintain better skin color, lose less weight in storage, and are more resistant to bruising and soft rot. For more information about vine killing on potatoes, see *Potato Vine Killing or Desiccation* described in Zotarelli et al. (2011). Late in the season, tuber size should be checked regularly to harvest tubers with desirable marketable size. Soil moisture should be managed late in the season to avoid high soil moisture conditions that cause enlarged lenticels and delayed skin set.

Fertilization

UF/IFAS trial plots are normally fertilized with 200 to 230 lb/A of N. The first application of 100 lb/A of N (granular) is typically incorporated in the bed prior to planting, followed by one or two side dress fertilizer applications at emergence and/or at tuber initiation. Phosphorus and potassium applications follow the UF/IFAS guidelines described in Liu et al. (2016) and normally range between 45 to 100 lb/A of P_2O_5 and 170 to 235 lb/A of K_2O.

Planting

A seed piece of 2.5 to 3 oz is recommended for planting. Crop should be planted with 40 inches between rows and 8 inches between plants, at 3 to 4 inches deep. A seed rate of 2,000 to 3,000 lb/acre of seed is expected.

Other Information

For additional information on cultivation, weed and disease management see the "Potato Production" chapter of the *Vegetable Production Handbook* available at http://edis.ifas.ufl.edu/cv131.

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Table 1. Florida rating codes for potato tuber characteristics.

Tuber Characteristics[1]							
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

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

Table 2. Summary of production statistics and specific gravity of 'French Fingerling' potato variety grown at the UF/IFAS Hastings Agricultural Extension Center, Hastings, FL from 2012 to 2016.

Year	**Total Yield**	**Marketable yield**	**Size Class (Distribution by class %)**						**Culls**	**Specific Gravity**
			C	**B**	**A1**	**A2**	**A3**	**A4**		
2012	185	173	11	74	15	0	0	0	12	1.060
2013	137	127	12	62	26	0	0	0	10	1.055
2014	134	131	50	47	3	0	0	0	4	1.048
2015	151	145	18	59	23	0	0	0	6	1.052
2016	203	199	25	63	12	0	0	0	4	1.068
Average	**162**	155	**23**	**61**	**16**	**0**	**0**	**0**	**7**	**1.056**

[1] Marketable yield: Sum of size classes C to A4.
[2] Size 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])

Table 3. Yield, vine maturity, tuber characteristics, and internal tuber defects of 'French Fingerling' potato variety grown at the UF/IFAS Hastings Agricultural Extension Center, Hastings, FL from 2012 to 2016.

Year	**Vine Maturity (vine kill)**	**Tuber Characteristics[1]**						**Internal Defects**			
		Internal Flesh color	**Skin Color**	**Skin Texture**	**Tuber Shape**	**Eye Depth**	**Overall Appearance**	**Hollow Heart**	**Brown Rot**	**Corky Ring Spot**	**Internal Heat Necrosis**
2012	7	4	3	7	5	4	7	0	0	0	16
2013	7	3	3	7	5	5	7	0	0	0	0
2014	4	4	3	8	5	6	4	0	0	0	25
2015	6	3	3	9	6	7	9	0	0	0	0
2016	5	3	3	9	6	7	8	1	0	0	0
Average	**6**	**3**	**3**	**8**	**5**	**6**	**7**	**0**	**0**	**0**	**8**

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