

Chapter 5. Russet- Skinned Fresh Market Potato Variety Trial, 2006¹

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General Comments: A goal of the Russet-Skinned Fresh Market Potato Variety trial is to identify a short-season russet skinned variety that produces a marketable crop under short-day production. Successful russet varieties could be grown for processing or for the fresh market. There is no current standard for North Florida production.

Planting Information

Planting Site	PSREU - Hastings Farm, Hastings, FL
Planting Date	January 31, 2006
Vine Kill Date	April 28, 2006
Harvest Date	May 30, 2006
Season Length	87 days planting to vine kill; 119 days planting to harvest
Fertilizer Program	preplant, 100-43-86 lb/A; sidedress, 65-0-56 lb/A; (2 appl.)
Irrigation Program	seepage

Experimental Design

Number of Varieties	7 (Standard: Goldrush)
Number of Clones	1
Within Row Spacing	8 in (20 cm)
Between Row Spacing	40 in (102 cm)
Replications	4
Plot Size	16 ft (4.9 m)

Production Statistics

Early Vigor Ratings	41 days after planting
Highest Total Yield	Goldrush (331 cwt/acre or 37.1 MT/ha)
Highest Marketable Yield	Goldrush (223 cwt/acre or 25.0 MT/ha)
Best Appearance Rating	Goldrush, Amey, Belrus and Ranger Russet (7.0, good to excellent)

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Table 2. Production statistics for Russet-Skinned potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield ¹		Size							Size Class		Specific Gravity
		(cwt/A)	% of standard	C	B	A1	A2	A3	A4	A1 to A3	A2 to A3	Range (%)	
Goldrush	331	223	100	1	19	74	6	0	0	80	6	1.066	
Amey	221	178	80	1	14	84	1	0	0	85	1	1.074	
Belrus	247	153	69	1	18	78	3	0	0	81	3	1.073	
Ranger Russet	269	176	79	1	24	74	1	0	0	75	1	1.069	
Russet Burbank	300	134	60	3	45	52	0	0	0	52	0	1.066	
Russet Norkotah	193	31	14	5	57	38	0	0	0	38	0	1.058	
Umatilla Russet	283	146	65	2	40	58	0	0	0	58	0	1.070	
B2232-3	220	128	57	2	27	71	0	0	0	71	0	1.073	
<i>MSD</i> ³	55	80	ns	ns	ns	12	ns	0	0	14	ns	0.003	
<i>P Value</i>	0.0004	0.0261	0.0877	0.0666	0.0376	0.0818	-	-	-	0.0475	0.0818	0.0001	

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"

³Means separated within columns by Tukey's Studentized Range (HSD) Test.

Table 3. Plant growth and tuber characteristics of Russet-Skinned potato selections.

Clone	Plant Growth Characteristics ¹				Tuber Characteristics ²						
	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	Tuber Comments
Goldrush	96	5.5	8.8	8.3	2.0	4.0	2.0	4.0	6.0	7.0	sl. skinned
Amey	99	5.8	8.3	7.3	2.0	4.0	2.0	4.0	7.0	7.0	attractive
Belrus	96	4.3	8.8	8.0	1.0	4.0	2.0	4.0	5.0	7.0	attractive
Ranger Russet	100	5.3	9.0	7.0	1.0	5.5	4.0	4.0	4.0	7.0	attractive
Russet Burbank	96	4.8	9.0	8.0	1.0	5.0	3.0	4.0	5.0	6.0	many shapes
Russet Norkotah	70	2.0	8.0	9.0	2.0	5.0	3.0	3.0	5.0	5.0	many shapes
Umatilla Russet	100	5.3	8.8	7.8	2.0	5.0	3.0	4.0	6.0	5.0	flat and pointy
B2232-3	99	4.3	7.3	7.8	1.0	4.0	2.0	4.0	7.0	6.0	sl. flat

¹See rating system outlined in Chapter 1.²See rating system outlined in Chapter 1.

Table 4. External and internal defects of Russet-Skinned potato selections.

Clone	% External Tuber Defects					% Internal Defects ²						
	Growth Cracks	Mis-shapen	Sun-burned	Rotten & misc.	Total Culls ¹	HH	BR	CRS	IHN	L	M	H
Goldrush	0	2	0	13	15	0	0	0	0	0	0	0
Amey	0	0	0	7	7	0	0	0	0	0	0	0
Belrus	0	1	1	22	23	0	0	0	0	1	0	0
Ranger Russet	0	1	0	12	13	0	0	0	0	0	0	0
Russet Burbank	0	2	0	14	16	1	0	0	0	6	6	0
Russet Norkotah	0	1	0	59	60	0	0	0	0	0	0	0
Umatilla Russet	0	1	0	12	13	0	0	0	1	1	0	0
B2232-3	0	2	0	17	19	0	0	0	0	0	0	0
<i>MSD</i> ³	0	ns	ns	ns	ns	0	0	0	0	ns	0	0
<i>P Value</i>	-	0.0738	0.5493	0.3010	0.3027	-	-	-	-	0.4363	-	-

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

³Means separated within columns by Tukey's Studentized Range (HSD) Test.