

CHAPTER 5. RUSSET-SKINNED FRESH MARKET POTATO VARIETY TRIAL, 2006

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)

Table 12. Production statistics for Russet-Skinned potato selections.

Clone	Total Yield (cwt/A)	Marketable Yield ¹		Size Distribution by Class (%) ²						Size Class Range (%)		Specific Gravity
		(cwt/A)	% of standard	C	B	A1	A2	A3	A4	A1 to A3	A2 to A3	
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	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 13. Plant growth and tuber characteristics of Russet-Skinned potato selections.

Clone	Plant Growth Characteristics ¹				Tuber Characteristics ²						Tuber Comments
	% Stand	Early Vigor	Vine Type	Vine Maturity	IFC	SC	ST	TS	ED	APP	
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

¹ See rating system outlined in Table 1 (page 8).

² See rating system outlined in Table 2 (page 9).

Table 14. 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	Brown Center		
						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.