



# Palisade Russet

Fresh & Processing with Late Blight Resistance and Low Sugar Ends

- Medium-late maturity
- High specific gravity
- High disease resistance
- Low sugar ends
- AWN86514-2 x  
X A86102-6

## DISEASE

Verticillium	mod susceptible
Common Scab	mod susceptible
PVY	mod resistant
PLRV Foliar	very susceptible
PLRV Net Necrosis	resistant
Late Blight Foliar	resistant
Late Blight Tuber	resistant
Dry Rot	resistant
Soft Rot	mod resistant
Early Blight	resistant

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**Palisade Russet**, A97066-42LB is notable for having resistance to foliar and tuber late blight caused by *Phytophthora infestans*, as well as Verticillium wilt, black dot, and pink rot, and has a moderate level of resistance to tuber net necrosis, PVY, and early blight of both the foliage and tuber.

**Palisade Russet** has higher specific gravities (tuber starch content) in western production regions of the U.S. then is generally accepted by the western processing industry. However, in potato production regions with inherently low specific gravities, **Palisade Russet** has potential as a processing cultivar. In addition, the disease resistances of Palisade Russet make it a good candidate for organic production, or for use by growers seeking reduced pesticide inputs.

**Palisade Russet** has a medium-large, erect vine with white flowers and medium-late maturity. It produces oblong tubers with brown, lightly russeted skin and white flesh. The eyes are intermediate in depth and number and are evenly distributed. Palisade Russet is similar to Russet Burbank with a low set of medium-sized tubers. Tuber dormancy is between that of Russet Burbank (long dormancy) and Ranger Russet (medium dormancy).

**Palisade Russet**, evaluated over a five year period in trials conducted in Idaho, Oregon, and Washington, had total yields that were slightly lower than those for **Ranger Russet** and **Russet Burbank**, but yields of U.S. No. 1 of **Palisade Russet** consistently exceeded those of the both other varieties at all locations.

In 22 trials grown in Idaho, Oregon, and Washington, average specific gravity and percent solids for *Palisade Russet* was consistently higher than that of *Ranger Russet* or *Russet Burbank*. *Palisade Russet* produced similar fry color out of 45°F storage, and the average percent sugar ends for *Palisade Russet* was consistently, substantially lower ( $\leq 8\%$ ) than percentages observed for either *Ranger Russet* or *Russet Burbank*.

*Palisade Russet* has a lower incidence of growth cracks, secondary growth, blackspot bruise and hollow heart than *Russet Burbank* particularly under high stress conditions. Its susceptibility to blackspot bruise has been lower than *Ranger Russet*, but it has exhibited similar susceptibility to growth cracks, second growth and hollow heart. *Palisade Russet* tubers had higher glucose concentrations and lower sucrose and vitamin C concentrations than either *Ranger Russet* or *Russet Burbank*. Protein concentrations for *Palisade Russet* were similar to *Ranger Russet*.

#### Weaknesses

The percent of potatoes with at least 5% dry rot was significantly higher for *Palisade Russet* with an incidence of *Fusarium* rot (94%) compared to *Russet Burbank* (71%) on inoculated controlled trials. On the basis of these results, additional care during harvest and handling is recommended for *Palisade Russet* to mitigate wounding that allows for entry and infection of tubers by *Fusarium*. *Palisade Russet* is also susceptible to blackspot bruise.

#### Storage Considerations

Tuber dormancy length of *Palisade Russet* is approximately 40 days shorter than *Russet Burbank* when held at storage temperatures ranging from 42° to 48°F. Treatment for sprout inhibition with chlorpropham (CIPC) should be made after wound healing, but within the first 2 months of storage if storing at relatively warmer temperatures of 45° to 48°F. Following nine months of storage at temperatures of 42° to 48°F, *Palisade Russet* displayed significantly greater tuber shrinkage or percent weight loss than *Russet Burbank*, averaging 2.9% greater shrinkage. Storage temperature recommendations for fresh market use of *Palisade Russet* are from 42° to 45°. *Palisade Russet* can be successfully stored for fresh market up to 9 months with minimal degradation in quality and in the absence of problematic disease development within the storage.

	Total Yield	U.S. No 1s >12oz	Tuber Size	Specific Gravity	Hollow Heart	Blackspot <sup>4</sup> Bruise	Fry <sup>5</sup> 40° F	Fry <sup>5</sup> 45° F	
	cwt/A	---%----	oz.		%				
Idaho <sup>1</sup>									
Palisade Russet	426	77	30	8.6	1.100	3	1.7	3.4	0.8
Russet Burbank	480	57	16	6.8	1.078	6	2.6	3.8	0.9
Oregon <sup>2</sup>									
Palisade Russet	745	81	27	8.4	1.098	0			
Russet Burbank	804	59	13	7.3	1.084	1			
Washington <sup>3</sup>									
Palisade Russet	573	83	28	7.6	1.094	1			
Russet Burbank	592	76	18	6.8	1.079	5			

<sup>1</sup> 7 Trials grown in Idaho, 2005-2009, at Aberdeen and Kimberly.

<sup>2</sup> 6 Trials grown in Oregon, 2006-2009, at Hermiston, Klamath Falls, Malheur.

<sup>3</sup> 6 Trials grown in Washington, 2006-2009, at Othello.

<sup>4</sup> Blackspot evaluation using abrasive peel method, rated 1-5 where 1 = susceptible, 5 = resistant.

<sup>5</sup> Fry scores rated using the USDA 0-4 scale where 0 = light, 4 = dark. Tubers stored 2-4 months at 40 or 45° F.

The information contained within this flyer was supplied by researchers of the Northwest Potato Variety Development Program and their collaborators.