

## WA Columbia Basin Cultural Management Recommendations for Premier Russet – June 2010

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*Disclaimer: This may change slightly in near future as research and grower feed back increases.*

**Seed Size:** 1.5 to 3 oz      **Row Spacing:** 34 inches

**In-row seed piece spacing:** 8-10 inches for late harvest (130-160 Days After Planting).  
11-14 inches for an early harvest (110-130 DAP)

**Planting Depth:** 8 inches – top of seed piece to top of hill.  
Alternatively, 4 inches below level soil or 2 inches below furrow.

**Water management:** 75% to 85% ASM from full emergence until late bulking, reduce to 60% to 65% as vines start to senesce.

**Nutrient Management for >35 ton/A Yield:** *Nitrogen Management:* Approximately 125-150 lbs N (soil residual + applied) should be available at emergence in the root zone with 225 to 275 lbs N available to plants during the growing season. In-season N applications applied via irrigation water should start ten days after >90% plant emergence and end at approximately 100 DAP. Petioles should be collected approximately one week prior to row closure and continue until late bulking. Apply N during plant growth so that petiole NO<sub>3</sub> and soil N values fall within the ranges listed below in Table 1. Following the recommendations in Table 1, available N (including soil residual) for Premier Russet will likely total between 350 and 380 lbs/A during a typical growing season. Avoid excessive N early, non-uniform soil moisture, and planter skips, as they may contribute to hollow heart, low tuber solids and oversized tubers.

*Phosphorus, Potassium, and micros:* until further research is conducted, management should be similar to recommendations for Russet Burbank in: Lang, N.S., R.G. Stevens, R.E. Thornton, W.L. Pan, and S. Victory. 1999. Nutrient Management Guide: Central Washington Irrigated Potatoes. Washington State University Experiment Station Extension Bulletin EB1882.

**Organic Production:** Specific recommendations have not been established. However, Premier Russet was evaluated under organic management (using chicken manure) during two consecutive years and the economic yields were superior to standard cultivars such as Russet Burbank, Russet Norkotah, and Ranger Russet both years.

**Table 1.** Recommended petiole NO<sub>3</sub>-N and total soil N values (NO<sub>3</sub>-N + NH<sub>4</sub>) at 60-, 90-, and 120-days after planting (DAP) for Premier Russet.

Category	End Tuber Initiation	Mid Bulking	Late Bulking
	Mid June 60 DAP	Early July 90 DAP	Late July 120 DAP
	(ppm NO <sub>3</sub> )	ppm (NO <sub>3</sub> )	(ppm NO <sub>3</sub> )
Petioles (ppm N03)	23-26,000	17-20,000	<10,000
Soils (lbs/A N)	90-150	50	<50