

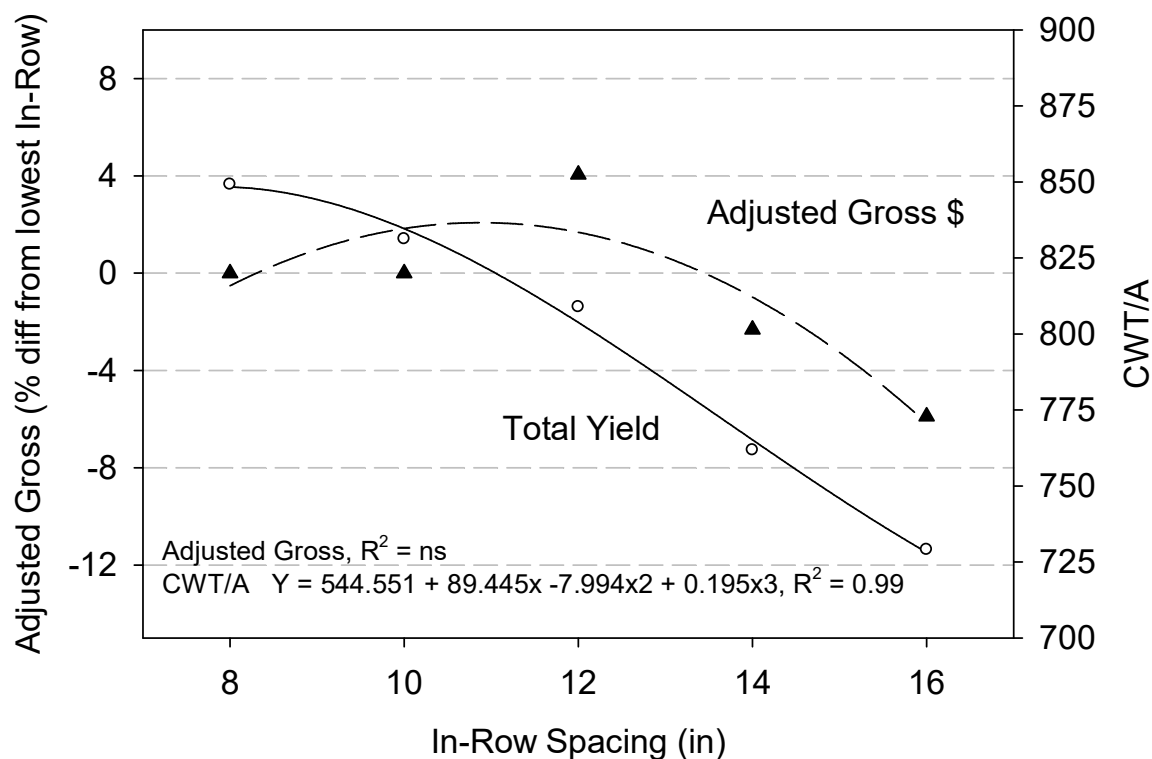
Columbia Basin of WA and OR Cultural Management Recommendations for Clearwater Russet

June 2017 MJ Pavek, K Bolding, and ZJ Holden - WSU

Disclaimer: This may change slightly in near future as research and grower feedback increases.

Columbia Basin of WA and OR: Clearwater Russet grown in the Columbia Basin typically produces tubers smaller in size than Ranger Russet and Russet Burbank. To ensure adequate tuber size and processing yield, Clearwater Russet should be planted relatively early using 1.5 to 3.0 oz seed pieces spaced between 10 and 12 inches in-row (approx. 1 inch wider than Russet Burbank) and allowed to grow > 150 days (Figure 1). Final planting depth should be 8 inches below the soil level in 34 inch-spaced rows.

Figure 1

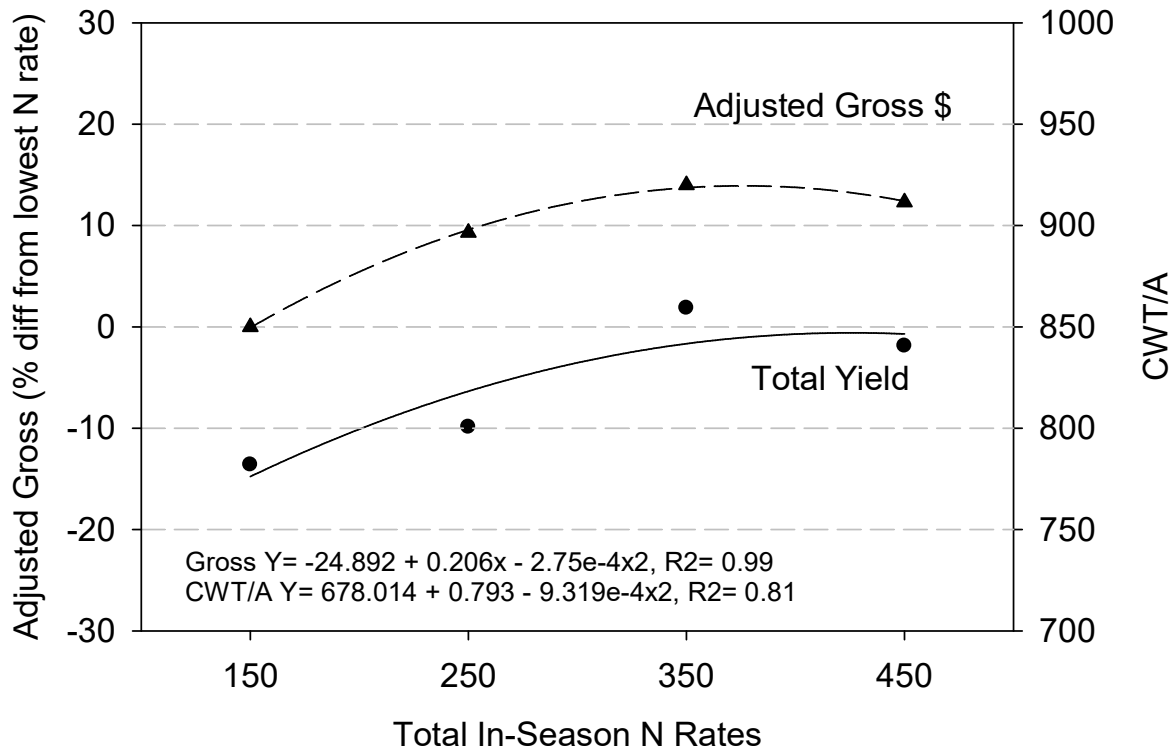


IMPORTANT: Clearwater Russet is prone to internal brown spot (IBS) and should not be grown in areas where IBS is known to be a problem.

Water management is very similar to guidelines for Russet Burbank. Available soil moisture should be maintained at 75% to 85% from full emergence until late bulking; as vines senesce, ASM should be reduced to 60% to 65%.

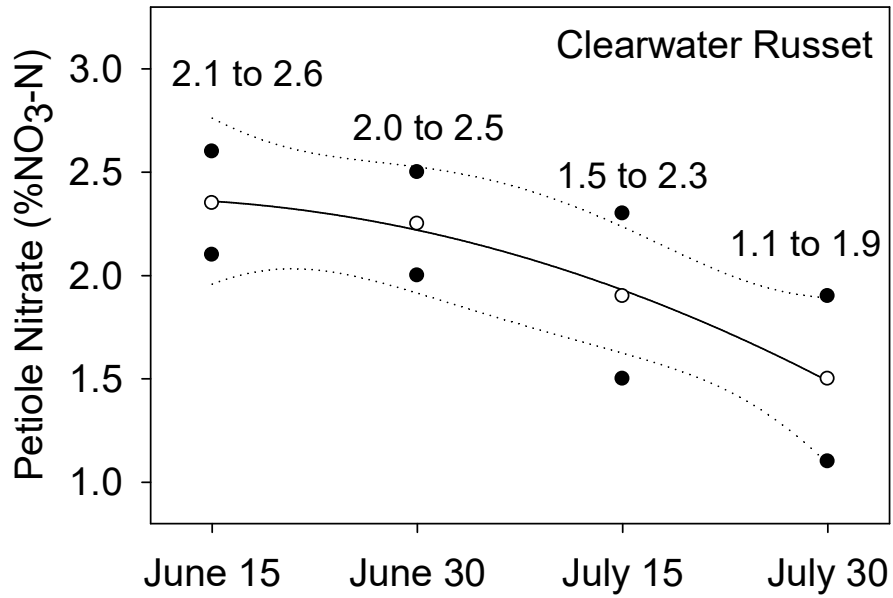
Total season nitrogen (including soil residual) for Clearwater Russet should be between 350- and 375-lbs/A in a typical growing season with approximately two-thirds applied through the irrigation water between 60 and 115 DAP. Four years of research indicate maximum economic gain is found between 350- and 375-lbs/A of nitrogen (Figure 2).

Figure 2



Pre-plant or at-planting nitrogen of 125- to 150-lbs/A of available nitrogen (soil residual + applied) in the root zone at emergence is recommended. Petiole and soils during the growing season should be used as a guide, however, growers should strive to hit the season total nitrogen target of 350- to 375-lbs/A. Petiole and soil samples should be collected prior to row closure and continue through the season until late bulking (once every 2 weeks is adequate, see figure 3 below) petiole NO₃% of 21,000 to 26,000 ppm and total soil nitrogen above 50 lbs/A should be maintained until the start of early bulking (approximately 90 DAP). Thereafter, allow depletion of soil nitrogen with a corresponding decline in petiole reading between 15,000 and 23,000 ppm at mid-bulking (approximately 115 DAP), and then between 11,000 and 19,000 ppm at late bulking (approximately 125 DAP). For nutrient recommendations other than N, growers should follow the nutrient management guidelines established for Russet Burbank (Lang et al. 1999). Specific recommendations for organic production have not been established.

Figure 3



REFERENCE: 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.