

## WA Columbia Basin Cultural Management Recommendations for TETON RUSSET

March 2013 MJ Pavek - WSU

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

**Important Considerations:** TETON RUSSET (A0008-1TE) typically produces a low tuber set (~ 1 less tuber/plant than R. Burbank and R. Norkotah) and has the potential to produce large tubers. In-row spacing and nitrogen management are crucial to produce a profit maxing tuber size profile. TETON RUSSET is an early- to mid-harvest variety and is typically finished growing about 130-140 days after planting; this is, however, dependent on the climate and planting date. Yields at 100-110 days after planting are similar or slightly higher than standard Russet Norkotah, but note that the tubers are generally 1-2 oz heavier on average if planted at the same in-row spacing as standard Russet Norkotah. Also, TETON RUSSET appears to be susceptible to shatter bruise at harvest if tubers are turgid. Allow for good skin set prior to harvest and handle this variety as gently as possible to minimize potential bruising during harvest and placement into storage. TETON RUSSET is tolerant of metribuzin applications.

**Diseases/Pests/Physiological Disorders:** Low internal and external defects, resistant to Fusarium dry rot and common scab. Moderate resistance to tuber net necrosis associated with PLRV, and corky ringspot. TETON RUSSET is susceptible to Verticillium wilt, late blight (foliar), and is moderately susceptible to PVYO, tuber late blight, soft rot, and PLRV. Teton Russet appears to be less susceptible to PVY than R. Norkotah. It is also susceptible to shatter bruise. Hollow heart was noted in ID trials and should be managed for. As TETON RUSSET plants mature, they may exhibit physiological leaf roll which causes the leaves to curl upward and become thick and leathery. Specific causes are unknown at this time, however, heat, moisture, and nutrient stress likely contributes to the condition. *In stressful environments with high heat and low moisture, tuber cracking is likely.*

**Seed Size:** 1.5 to 3 oz

**Row Spacing:** 34 inches

**Planting Depth:** 8 inches – top of seed piece to top of hill.

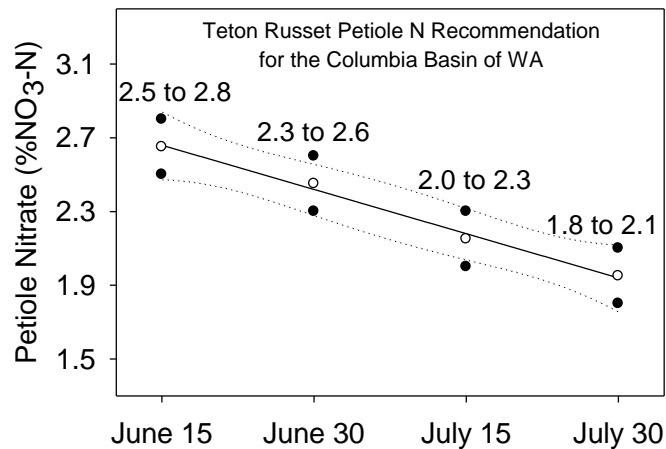
Alternatively, 4 inches below level soil or 2 inches below furrow.

### **Fresh/Process Markets: Late July to Mid-August Harvest:**

For harvest between early and late-July (~ 90-110 Days After Planting), space TETON RUSSET at 12 inches in-row. For harvest between early August to early September, plant seed pieces 10 inches apart within the row. For late July to mid-August harvest dates, fertilize with 200-250 lbs N/A, including pre-plant soil residual N. Approximately 125-150 lbs N (soil residual + applied) should be available at emergence in the root zone. Apply the remaining N throughout June via overhead irrigation. N should be applied through the irrigation water so that petiole NO<sub>3</sub> is at or above 22,000 ppm and total soil N above 50 lbs/A at 60 DAP (mid June, end of tuber initiation). At approximately 90-100 days after planting (mid-July, early bulking), petioles should be at or below 20,000 ppm and soil N should be below 50 lbs/A. Petioles should be allowed to decline at least 30 days prior to harvest with values below 12,000 ppm at late bulking (approx. 125 DAP, end of July).

### **Fresh/Process Markets: Harvest at or After Late August:**

Teton Russet has performed well under R. Burbank management for mid to late harvests. Preliminary (WA) research indicated that reducing nitrogen by 10% to 15% below R. Burbank requirements may be desirable. Ideal N petiole levels for a mid to late harvest in the Columbia Basin of Washington are (see figure below): mid-June 26,000 ppm, mid-July 21,000 ppm, early August 18,000 ppm. Petiole N levels typically run 10% to 40% higher than R. Burbank when grown under the same management. Adjust N timing and rate to deplete soil N and allow plant to mature naturally for an early harvest. To reduce shatter bruise, do not over-fertilize or over-irrigate late in the season, allow plants to mature and skins to set for at least 10 days prior to harvest.



### **Water management:**

Irrigate similar to Russet Burbank. Maintain ASM between 65%-85% from full emergence until late bulking (mid-July, August), reduce to 60%-65% as vines start to senesce. Avoid excessive soil moisture from mid to late bulking.

### **Nutrient Management other than Nitrogen:**

Nutrients should be maintained similar to the Russet Burbank recommendations 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, research has suggested that Teton Russet is efficient with Nitrogen and as a result will likely do well under organic production.