

# Classic Russet Management Update

## June 2011



### Special Edition II

#### Special points of interest:

- 2011 Weather conditions
- Nutrient management
- Irrigation management.
- Harvest management
- Minimizing shatter bruise & skinning
- Fresh Pack management.

*Based on last years performance of Classic Russet for commercial potato growers and fresh packers the following has been outlined by the Tri-State research team as management recommendations to consider for this year's late season.*

#### **Weather**

For almost all of North America the season is at least 10 to 14 days behind. This has been due to an extremely cool and wet spring. In Montana and Alberta they are continuing to plant until late June. This means the current late spring conditions and slower crop development is delaying crop maturity, particularly in fields with relatively high N application rates. **Classic needs to mature in the ground with a good skin set prior to harvest.**

#### **Nutrient Management:**

Proper nitrogen management is critical for fresh pack production of Classic Russet. The **total seasonal nitrogen requirements for Classic Russet are about 30-40% less than Russet Burbank** for a given amount of yield produced.

For production in southern Idaho, total soil plus fertilizer N recommendations should range from about 150-170 lb N/acre in areas with a 400 cwt/acre yield potential, 180-200 lb N/acre with a 500 cwt/acre yield potential and 210-220 lb N/acre in areas with a 600 cwt/acre yield potential. It is important to note that these amounts include the amount of residual N in the soil prior to planting. About 65% of the fertilizer N should be applied by tuber initiation, with the remaining N applied via sprinkler irrigation prior to the last week of July.

To promote skin set, **N applications should be completed at least 30 days prior to harvest.**

Nitrogen response studies indicate that petiole nitrate levels for Classic Russet should be about 20,000 ppm at the end of tuber initiation and decrease to 12,000 to 15,000 ppm during mid-bulking and 6,000 to 8,000 ppm during late bulking.

#### **Irrigation Management:**

Classic Russet is significantly more resistant to water stress-related tuber defects than Russet Burbank. Therefore, available soil moisture (ASM) should be maintained within the range of 70 to 85% for optimal yield and quality. Plant water uptake decreases appreciably in late August, so irrigation application rates need to be adjusted according to soil moisture measurements to avoid developing excessively wet soil conditions that promote disease and enlarged lenticels. Low soil moisture (<60%ASM) conditions should be avoided during tuber maturation and harvest to minimize tuber dehydration and blackspot bruise. However, since significant amounts of shatter bruise have sometimes been observed in commercial operations when Classic Russet is well hydrated, it should be harvested with a moderate tuber hydration level.

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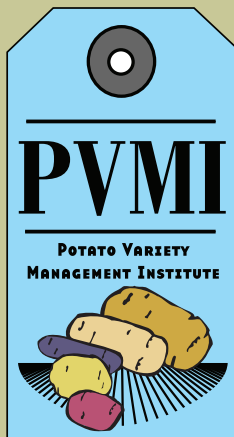
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## **Harvest Management:**

*Growers should not consider growing Classic Russet for early harvest unless they make appropriate adjustments in management to allow for adequate maturation and skin set. This includes using the moderate N rates described above, completing N applications at least 30 days prior to harvest and allowing at least 21 days after vine kill before harvesting.*

Classic Russet should be handled as gently as possible to minimize bruising and skinning. Irrigation rates should be gradually reduced during the last couple of weeks prior to vine kill to about 65% ASM to allow tuber hydration to decrease to an intermediate level during skin set. This will also minimize the potential for producing swollen, open lenticels that can provide entry points for disease organisms.

## **To minimize shatter bruise and skinning:**

- Complete N fertilizer applications at least 30 days prior to harvest.
- Tubers should be allowed to dry to a moderate moisture level (medium turgidity – not firm or well hydrated but not flaccid where the surface is easily depressed)
- Warm temperatures and moderate soil moisture facilitate dehydrating tubers
- Allow at least 21 days after vine kill prior to harvest
- If possible, irrigate a few days prior to harvest to reduce bruising from clods, etc.
- It is best to harvest tubers when pulp temperature is warm, but not greater than 60°F to minimize disease development

## **Fresh Pack Management:**

Grower experience in 2010 has shown that it is best not to pack Classic Russet out of the field, particularly when growing conditions and management practices have not allowed for adequate skin set to develop.

Growers that did have good skin set at harvest generally had fewer disease problems during packing and shipping operations than those that did not, particularly when tubers were allowed to go through the wound healing process in storage prior to packing.



Information provided by  
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