

infection is known to have occurred in the field. The incidence of storage diseases can be minimized by reducing tuber skinning and bruising during handling

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 conducted for two years at Aberdeen, Idaho, 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 to 6,000 to 8,000 ppm during late bulking.

Phosphorus, potassium, and micronutrient requirements have not been established for Classic Russet. It is recommended that growers follow local nutrient management recommendations for Russet Burbank until new guidelines for Classic Russet become available. However, since phosphorus is important for enhancing crop maturity, growers should make sure adequate phosphorus is available for their crop.

Irrigation management

Seasonal irrigation requirements of Classic Russet are similar to those of Russet Burbank, although Classic Russet is significantly more resistant to tuber defects caused by water stress. 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 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. To accomplish this, 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.

Harvest management

Growers should not consider growing Classic Russet for early harvest unless appropriate adjustments in management are made to allow for adequate maturation and skin set. Adjustments include 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.

Harvest operations should also be optimized to minimize bruising and skinning as follows:

- Complete N fertilizer applications at least 30 days prior to harvest.
- Allow soils to dry to a moderate moisture level of about 65% ASM during vine kill and maturation so that tubers are at medium turgidity (tubers are not firm or well hydrated but not acid, where the surface is easily depressed).
- 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.
- Harvest tubers when pulp temperature is warm but, to minimize disease development, not greater than 60 °F.
- Operate all chains and conveyors at speeds that fill the chains to capacity with soil and tubers and

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