

GemStar Russet Management Recommendations – Idaho

Released in 2004, GemStar Russet is a dual-purpose variety suitable for processing and fresh-pack usage. It has high U.S. No. 1 yields with very attractive tubers having higher concentrations of Vitamin C and protein than many other potato cultivars. GemStar Russet is cold-sweetening resistant making it exceptional for use in processing.

Studies on the management of GemStar Russet were conducted primarily in southeastern Idaho and the results of these studies provide growers in Idaho and other regions with information that may be useful in developing management guidelines for their locale.

Seed and Pest Management

GemStar Russet has relatively few, apically positioned eyes and therefore it is important to avoid using large seed tubers to prevent blind seed pieces. Dry rot potential should be determined on all seed and an effective fungicide should be used when appropriate. Optimal plant spacing in 36 inch wide rows is 8-11 inches and seed should be planted at or near optimal soil temperatures to minimize soft rot problems. GemStar Russet is resistant to Metribuzin at normal application rates. Soils infested with root-knot nematodes should be fumigated. It is resistant to PVX, common and powdery scab, and soft rot, and has moderate resistance to Verticillium wilt, net necrosis, and corky ringspot. It is very susceptible to PVY and dry rot.

Nutrient Management

Maximum yields have been obtained with about 75-85% of the nitrogen required for Russet Burbank. This would be equivalent to a total of about 180-200 lb N/acre of soil plus fertilizer N in southeastern Idaho and about 220-240 lb N/acre in south central Idaho. About 1/3 of the seasonal N should be applied at or prior to planting with the remainder applied during tuber bulking. Optimal petiole nitrate concentrations are similar to those for Russet Burbank.

Irrigation Management

GemStar Russet is very drought tolerant and produces good yields with 20-25% less water than Russet Burbank. The optimal range for available soil moisture is about 60-75% ASM.

Hollow Heart Management

The use of management techniques to minimize hollow heart is critical with GemStar Russet. When hollow heart does develop, it is late in the season when tubers are near full size and bulking rapidly. Closer plant spacing (8-9 inches) and a reduction in water application to about 75% of ET during the last 3-4 weeks of the growing season can help to minimize hollow heart.

Storage Management

GemStar Russet has shorter dormancy than Russet Burbank, which is somewhat offset by the fact that it can be stored a few degrees colder than Russet Burbank without a negative impact on processing or culinary quality. Dormancy ranges from about 150 days at 42°F, to 100 days at 45-48°F. For processing, it should be stored at 45°F, unless mottling is a concern, then 48°F is preferable. In the absence of dry rot, it can be stored for up to 12 months for processing or tablestock uses. Sprout inhibitors will have to be applied after about 2-4 months.