

## Crestone Russet

(Clonal Designation: CO99053-3RU)

**Parentage:** AC91014-2 x Silverton Russet

**Developer(s):** Colorado State University

**Plant Variety Protection:** Yes

### Incentives for Production

- ★ Yield potential
- ★ High percentage of US #1 tubers
- ★ Good tuber size profile
- ★ Processing potential
- ★ Resistant to internal and external grade defects

### General Characteristics

**Usage:** Dual purpose with fresh and processing potential

**Plant:** Large vine size, semi-erect plants with white flowers

**Maturity:** Medium-late (later than Russet Norkotah)

**Tubers:** Long tubers with a russet skin and white flesh. Tubers are moderately resistant to hollow heart, and resistant to second growth, blackspot bruise, and shatter bruise.

**Yield Potential:** High (avg. 501 cwt/acre) and a high percentage of US No. 1 tubers (avg. 89%, 447 cwt/acre)

**Specific Gravity:** High (avg. 1.089)

**Tuber Dormancy:** 94 days at 45F (similar to Rio Grande Russet and Russet Norkotah)

### Field Management

Pre-cut seed to a size of 2.5 to 3.5 oz. and allow to suberize before planting.

To obtain maximum marketable size tubers, seed tubers should be planted at in-row spacing of 13 inches, and between row spacing of 34 inches.

Available nitrogen (N) (residual soil N + well water N + applied N) rate required for optimum tuber yield and quality should be between 160-170 lb. N/A. This recommendation does not include nitrate nitrogen mineralization from previous crop stubble and from soil organic matter.



### Field Management (continued)

For optimum tuber yield and quality, apply 30-40% of the required seasonal N pre-plant or at planting.

Begin in-season N application after tuber formation. Apply the remaining seasonal N requirement in split applications after tuber formation. In-season N application should be completed by the end of July in the San Luis Valley. Finishing N application earlier in the season is preferred.

Vines should be killed at approximately 110 days after planting to allow tubers to mature and to avoid tuber skinning and bruising at harvest.

### Storage Considerations

Storage studies indicate that Crestone Russet has potential for long-term storage with minimal pressure bruising when harvested and stored properly.

### Nutritional Characteristics

Acrylamide levels in Crestone Russet are similar to most other russet cultivars. Asparagine which is responsible for acrylamide formation is higher than other russet cultivars.

Reducing sugars are at a medium level, which is slightly higher than other russet checks.

### **Disease Considerations**

Crestone Russet is susceptible to PLRV and PVY. Based on field observations, it appears to be more susceptible to the PVY<sup>N</sup> serotypes such as PVY<sup>N:O</sup> and PVY<sup>NTN</sup> rather than the PVY<sup>O</sup> strains. Spread of these serotypes in the field may be high under the right circumstances. Crestone Russet is susceptible to bacterial ring rot with typical symptoms easily expressing within a 90 days after planting (60-70 DAP) window and demonstrates all symptoms. Tubers are susceptible to symptoms, but generally not in high numbers.

Crestone Russet is very resistant to powdery scab with no tuber symptoms and extremely low levels of root galling. Tubers are susceptible to *Fusarium* dry rot and moderately resistant to *Pectobacterium atrosepticum*, both seed piece decay and blackleg. Tubers are moderately resistant to pink rot.

Results from the 2009-2011 Western Regional Trials indicated that Crestone Russet had no notable weaknesses and had resistance to early blight (both foliar and tuber lesion development).