

## The Search for New Potato Cultivars

Where do new potato cultivars come from? How long does it take to develop a new cultivar? The answers to these questions can be found at Colorado State University's San Luis Valley Research Center.

Each year hundreds of crosses are made between different kinds of potatoes. This produces true potato seed, which is similar to but smaller than a tomato seed. When these seeds are planted in the greenhouse, they grow into potato plants that produce small tubers. These potatoes are all genetically different. That is, they may differ in shape, color, cooking qualities, and other important characteristics from their parents.

Each year approximately 80,000 of these small seedling tubers are produced in the greenhouse for eventual planting in the field for evaluation as potential new potato cultivars. About 800 pass the first-year tests and are evaluated a second year. As each successive year of field and quality testing takes place, fewer selections survive. Generally, after eight years of testing, up to six selections may remain to be grower and market tested for at least another three years. A total of 14 or more years usually elapse from the time the cross is made to when a name is given to the survivors of the many tests. For each cultivar that is named and released, approximately 200,000 seedling tubers are grown.

Since 1975 there have been 23 potatoes named by the CSU Potato Breeding and Selection Program in the San Luis Valley of Colorado. Market classes represented are russets, reds, specialties, and chippers. Russet cultivars include: Centennial Russet, Ute Russet, Russet Nugget, Keystone Russet, Silverton Russet, Rio Grande Russet, Canela Russet, Mesa Russet, Crestone Russet, Mercury Russet, and Fortress Russet. Red cultivars include: Sangre, Colorado Rose, and Rio Colorado. Specialty cultivars include: Mountain Rose, Purple Majesty, Masquerade, Red Luna, and Crimson King. The sole chipper named is Chipeta.

Centennial Russet was named for Colorado's centennial year. Ute Russet was named for one of the many Native American tribes that resided in Colorado. Russet Nugget's name describes its potatoes which have a high dry matter content and light golden flesh color. Keystone Russet was named after the late 1800's historic mining town, Keystone, Colorado, so named by a man from Pennsylvania who traveled to the area in search of gold. Silverton Russet was named after the 1874 historic mining town, Silverton, Colorado, supposedly named for the abundant supplies of silver mined in the area. Rio Grande Russet's name represents the major water source (Rio Grande River) for the fertile, high altitude San Luis Valley. Canela Russet was named for its cinnamon-colored russet skin. Mesa Russet was named after the many scenic mesas throughout areas of Colorado. Crestone Needle and Crestone Peak, located in the Rockies of southern Colorado, were the inspiration for the name of Crestone Russet. The early maturing Mercury Russet was named for the Roman God Mercury described as clever and fast on his feet.

The name of the mountain range that borders the east side of the San Luis Valley was chosen for Sangre, a red cultivar. "Sangre" also means blood in Spanish. Colorado Rose and Rio Colorado were named as namesakes for the state of Colorado, which is of Spanish origin, meaning "colored red".

Specialty potatoes come in various skin and/or flesh colors or shapes atypical of those commonly produced and sold. The first foray into developing specialty cultivars was the naming of Mountain Rose and Purple Majesty. Mountain Rose aptly describes this red skin, light red flesh cultivar. Purple Majesty name was inspired by the original lyrics for the song 'America the Beautiful' written by Katherine Lee Bates in 1893 atop Pikes Peak, which provided a majestic view of the Great Plains. Masquerade, a bicolor purple and white skinned yellow-fleshed cultivar, was named for the masked appearance created by the skin coloring. The name for Red Luna (red skin/yellow flesh) were inspired during the last few days of the waxing Hunter's moon in October.

Chipeta, a cultivar used for the production of potato chips, is a Ute Indian word meaning "white singing bird". "Chipeta" was also the wife of the famous Ute Chief Ouray.

Currently, there are numerous additional selections undergoing grower and market evaluation. Will one of these selections receive a name and be successful? Only time will tell!