Alturas Management Recommendations – Idaho

Released in 2002, Alturas is used primarily for processing, with its light russet skin limiting its use for fresh-pack; however, it has been rated highly for its culinary quality. It is notable for its high yields and solids, and cold-sweetening resistance. Weaknesses include short tuber dormancy, late maturity in areas with short growing seasons and higher water requirements than Russet Burbank.

Studies on the management of Defender 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

Optimal plant spacing for Alturas for seed production is 10 to 12 inches in 36 inch wide rows, while optimal spacing commercial production in southeast Idaho is 13 to 15 inches. Metribuzin resistance for Alturas is good at normal application rates. The critical period for weed control is prior to row closure. After that time, Alturas produces a large, vigorous vine that competes well with most mid- to late-season weeds. Alturas is resistant to Verticillium wilt and early blight. Compared to Ranger Russet and Russet Burbank, Alturas is less susceptible to corky ringspot and foliar and tuber infections of late blight. It also is more resistant to tuber net necrosis and Fusarium dry rot than Russet Burbank and is more resistant to common scab than Ranger Russet. Alturas is susceptible to potato leaf roll virus and PVX and PVY, Erwinia soft rot, Columbia root knot nematode and bacterial ring rot. Therefore, fumigation will be required in root-knot nematode infested fields.

Nutrient Management

The nitrogen requirement for Alturas is about 60-70% of Russet Burbank. In southeastern Idaho, total soil plus fertilizer N recommendations are 140 lb N/acre with a 400 cwt/acre yield potential and 165 lb N/acre with a 500 cwt/acre yield potential. In short season areas, all N should be applied pre-plant to allow tubers to mature by harvest. In longer season areas, split N applications can be used but all N should be applied before July 31 to avoid delaying tuber maturity. Planting Alturas the year after alfalfa can delay tuber maturation and can make vine kill more difficult. Continued N mineralization late into the growing season the year following the incorporation of alfalfa residue may be sufficient to delay Alturas' maturation. It is recommended that growers follow phosphorus and potassium recommendations for Russet Burbank.

Irrigation Management

Alturas' vines are large and stay green late into the growing season. As a result, irrigation requirements are 15-20% higher than Russet Burbank late in the growing season and significant yield reductions will occur if water deficits occur at that time.

Storage Management

Alturas is less susceptible to Fusarium dry rot than Russet Burbank in storage. However, it has relatively short dormancy, averaging 100 days at 42^{o}F, 90 days at 45^{o}F and 75 days at 48^{o}F, so sprout inhibitors will need to be applied early in the storage season. For best processing quality, store Alturas at 45 to 48^{o}F.