

Suggested Full-Season Nitrogen Rates and Associated Petiole NO₃-N Values for Twelve Potato Varieties when Grown in the Columbia Basin of Washington and Oregon

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We recommend applying pre-plant or at-planting nitrogen so there is 125- to 150-lbs/A of available N (soil residual N + applied) in the root zone at emergence. Petiole and soils during the growing season should be used as a guide, however, **growers should strive to hit the season total N targets** (Table 1). Petiole and soil samples should be collected prior to row closure and continue through the season until late bulking (once every 2 weeks is adequate). Soil N should be at or below 50 lbs/A by mid-July and plants kept healthy via “spoon-feeding” of nitrogen. With low soil N and the cessation of N applications prior to mid-August, plants will be able to adequately mature during August and September.

Table 1. Full-season nitrogen rates and associated petioles values for twelve potato varieties. These rates and values were those that maximized grower return for each variety following three years of research. Growers should strive to hit the full-season target rates.

Variety	Full-Season Nitrogen Target Rate*	Petiole Nitrate Target Concentrations			
		June 15	June 30	July 15	July 30
<u>Process Market Recommendations</u>		-----% NO ₃ -N-----			
Alpine Russet	370	2.9	2.3	2.0	1.7
Alturas	360	2.6	3.0	2.2	1.5
Classic Russet	360	2.7	2.5	2.3	2.0
Clearwater Russet	375	2.4	2.3	1.9	1.5
Mountain Gem Russet	340	2.6	2.3	2.0	1.8
Owyhee Russet	325	2.8	2.5	2.1	1.7
Payette Russet	425	2.5	2.8	2.2	1.6
Ranger Russet	360	2.8	2.6	2.4	2.3
Russet Burbank	350	2.6	2.2	2.0	1.7
Sage Russet	375	3.1	2.8	2.6	2.4
Teton Russet	350	2.7	2.5	2.2	2.0
Umatilla Russet	400	3.0	2.8	2.5	2.1
<u>Fresh Market Recommendations</u>					
Classic Russet	330	2.7	2.3	2.0	1.8
Mountain Gem Russet	300	2.6	2.1	1.8	1.6
Teton Russet	325	2.7	2.3	2.0	1.8

*Soil residual N + applied fertilizer)

For nutrient recommendations other than N and P, growers should follow the nutrient management guidelines established for Russet Burbank (Lang et al. 1999).