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## Imidazolinone herbicides for leafy spurge control in Nebraska

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Experiments were conducted to determine the effectiveness of selected imidazolinone herbicides to control leafy spurge (*Euphorbia esula* L.) in subirrigated meadows in the Nebraska sandhills. Imazapyr (ARSENAL) applied at 0.8 kg ai/ha in the spring of 1988 provided 100% control of leafy spurge 18 months following application. ARSENAL applied at this rate severely injured desirable forage grasses [smooth brome (*Bromus inermis* Leys.), redtop bent (*Agrostis stolonifera* L.), timothy (*Phleum pratense* L.), little bluestem (*Schizachyrium scoparium* (Michx.) Nash), big bluestem (*Andropogon gerardii* Vitman), and indiagrass (*Sorghastrum nutans* (L.) Nash)]. Application of ARSENAL at rates of 0.8, 0.6, and 0.3 kg ai/ha in the fall of 1988 resulted in better than 95% control of leafy spurge 12 months after treatment, but injured associated herbaceous vegetation. In contrast, Imazethapyr (PURSUIT) applied at 0.2 kg ai/ha in the fall of 1988 provided greater than 85% control of leafy spurge with no apparent injury to desirable forage grasses 8 months after treatment. Additional experiments were initiated in the spring and fall of 1989 to determine if rates of ARSENAL and PURSUIT could be reduced to 0.2 or 0.1 kg ai/ha and still provide adequate control of leafy spurge and, where ARSENAL is applied, reduce injury of desirable forages to an acceptable level.