Reprinted with permission from: 2001 Spurgefest II Symposium Proceedings, Medora, ND. June 19-21, 2001. p. 26.

Published by: North Dakota State University, Fargo, ND.

Three-way herbicide mixture increased leafy spurge control

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Abstract:

Herbicide mixtures often provide greater control of perennial weed species than the single components alone. For example, picloram plus 2,4-D provides a 20 to 30% increase in long-term leafy spurge control compared to either herbicide applied alone. Timing of herbicide application also affects herbicide efficacy on leafy spurge. For instance imazapic fall-applied provides 80 to 90% leafy spurge control 1 yr after treatment, but only 20 to 30% control when the same treatment is applied in the spring. The purpose of this research was to evaluate long-term leafy spurge control with herbicide mixtures.

The study evaluated leafy spurge control by imazapic applied in the spring (or fall) followed by picloram plus 2,4-D in the fall (or spring), picloram plus 2,4-D applied in the spring (or fall) followed by imazapic in the fall (or spring), and all three herbicides applied tank-mixed together in the spring (or fall). The three-herbicide mixture of picloram plus 2,4-D plus imazapic applied once in the spring provided the best long-term control and averaged 98% 24 MAT (months after treatment) compared to less than 60% when the herbicides were applied alone. The same three-herbicide treatment applied in the fall only averaged 15% control 24 MAT. The best split treatments were picloram plus 2,4-D applied in the spring followed by imazapic in the fall and imazapic fall-applied followed by picloram plus 2,4-D in the spring. These treatments averaged 85 and 61% control in August of 1999 and 2000, respectively. No grass injury was observed following any of the rotational treatments.