

Reprinted with permission from: 2001 Spurgefest II Symposium Proceedings, Medora, ND. June 19-21, 2001. p. 16.

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

Evaluation of diflufenzopyr applied with quinclorac and dicamba for leafy spurge (*Euphorbia esula* L.) control

KENNETH J. DEIBERT* and RODNEY G. LYM¹

¹*Kenneth J. Deibert and Rodney G. Lym, Graduate Research Assistant and Professor, Plant Sciences Department, North Dakota State University, Fargo, ND 58105. *Presenter.*

Abstract:

Chemical control of leafy spurge continues to be the most common and effective method used. Picloram plus 2,4-D has historically been the standard herbicide treatment for leafy spurge. Preliminary research found that diflufenzopyr applied with auxin herbicides could dramatically increase leafy spurge control compared to auxin herbicides alone. The purpose of this research is to evaluate quinclorac applied alone or with diflufenzopyr for leafy spurge control and herbage production. Quinclorac is an auxin herbicide registered in non-cropland and fallow for control of annual grass, broadleaf, and some perennial weeds including leafy spurge. Diflufenzopyr is an auxin transport inhibitor that inhibits the flow of indoleacetic acid (IAA) and other synthetic auxin-like compounds within the plant. Currently, diflufenzopyr is not available to land managers alone; however, diflufenzopyr is included in a premix with dicamba. The premix consists of a 2.5:1 ratio of dicamba plus diflufenzopyr and is registered for corn and non-cropland weed control. Quinclorac, diflufenzopyr, and dicamba plus diflufenzopyr (premix) were applied either alone or together for leafy spurge control in a series of field and greenhouse experiments. Field treatments were applied to dense stands (approximately 20 plants/m²) of leafy spurge at two locations. Studies included an application timing experiment, which compared spring and fall applied treatments and an herbicide rate experiment that will help determine optimum treatment rates. A greenhouse experiment was established to evaluate grass injury from the various herbicide treatments on four warm-season and six cool-season perennial grass species.