

LEAFY SPURGE CONTROL WITH TANK-MIXES OF IMAZAPIC AND SAFLUFENACIL APPLIED IN SPRING. Stevan Z. Knezevic\*, Avishek Datta, Ryan E. Rapp, Jon Scott, Leo D. Charvat, and Joseph Zawierucha. Associate Professor, Post Doctoral Research Associate, Graduate Student, and Research Technologist, Haskell Agricultural Laboratory, University of Nebraska, Concord, NE 68728; Biology Area Manager, BASF Corporation, Lincoln, NE 68523 and Biology Project Leader, BASF Corporation, RTP, NC 27709.

Leafy spurge is a serious weed problem in North America infesting over five million ha of rangeland and pasture. Imazapic is commonly used for leafy spurge control as a fall treatment only, because spring applications do not provide satisfactory control. Saflufenacil is a new herbicide being primarily developed for pre-plant and PRE broadleaf weed control in field crops and non-crop areas. Our hypothesis was that there might be synergism between imazapic and saflufenacil if applied in spring. Field experiments were conducted during spring of 2007 and 2008 with the objective to describe dose-response curves of imazapic and saflufenacil applied alone and tank-mixed. Saflufenacil rates were 0, 12.5, 25, 50, and 100 g/ha, imazapic rates were 0, 52.6, 105, and 158 g/ha. Dose-response curves based on log-logistic model were used to determine the ED<sub>90</sub> values of saflufenacil for each imazapic level. In general, none of the imazapic rates applied alone provided satisfactory leafy spurge control. Saflufenacil applied alone provided excellent leafy spurge control for only 30-90 DAT depending on the rates used, then the leafy spurge started re-growing. In contrast, the longest control of leafy spurge (400 DAT) was achieved with saflufenacil ED<sub>90</sub> rate of about 25 g/ha tank-mixed with 105 g/ha of imazapic. There was also cool season grass injury (10-30%) with 158 g/ha of imazapic, which lasted for six weeks only. Results from this study indicated that indeed there is a synergism between the two herbicides; additional studies are needed to determine the mechanism of such synergy. [sknezevic2@unl.edu](mailto:sknezevic2@unl.edu)