

# An Integrated Approach Helps Battle Leafy Spurge in Nebraska Rangelands



**L**eafty spurge (*Euphorbia esula*) is a non-native, perennial and invasive plant, and a registered noxious weed in 15 states, including Nebraska. Livestock will not eat it, and if it takes over completely, rangeland animals eventually run out of grazing areas. It crowds out native vegetation and has the potential to totally overrun Nebraska's invaluable, grassy rangelands. It has invaded more than 40,000 acres of private and public property in Sheridan County, Nebraska.



Using flea beetles and herbicide treatments has helped restore Nebraska rangelands.

## Challenge:

Because all leafy spurge roots live deep within the soil, it can lie dormant, and then re-emerge, even years after a plant appears to have perished. It also reproduces in two different ways – by shooting root rhizomes below ground and seeds above ground. When dispersed, seeds can travel up to 15 feet, making new sprouts difficult to contain. The aggressive characteristics of this plant have made it extra difficult to control, and while landowners tried using herbicides alone to remove leafy spurge in the past, they were unsuccessful and began to explore using integrated control methods.

## Solution:

In 1995, Nebraska weed management professionals heard about a tiny *Aphthona lasartosa* flea beetle that was eating leafy spurge and had become an effective bio-control agent. These bugs were reducing leafy spurge infestation levels, and in the long-term, preventing new infestations from appearing in parts of Montana and North Dakota. This news prompted Nebraska Weed Control Superintendents and field staff from the Nebraska Department of Agriculture to trek to North Dakota and harvest flea beetles to bring back to

Nebraska, where they were released on multiple properties in Sheridan County. In some areas, leafy spurge covered more than 50 percent of a landowner's property.

In addition to releasing the beetles for bio-control, Sheridan County also began using a herbicide to help curb the spread of leafy spurge. As part of an integrated vegetation management plan (IVM), the herbicide application cycle fit perfectly with the flea beetle life cycle.

## Result:

Through the use of flea beetles and herbicide, nearly 100 percent of leafy spurge has been removed from infested properties, improving habitat for turkey and other wildlife species. Combining multiple methods of control allowed for the best method to work at the right time in the plant's life cycle, and it prevented leafy spurge from developing immunity to any of the prescribed treatments. Nebraska county weed superintendents envision using a similar approach to address other invasive species challenges in Nebraska.



### Learn More:

Kristi Paul  
(308) 327-5629  
kossweed@gpcom.net

### NIWAW Information:

Gina Ramos, Bureau of Land Management (BLM)  
(202) 452-5084  
gina\_ramos@blm.gov

Lee Van Wychen, Ph.D.  
National and Regional Weed Science Societies  
(202) 408-5388  
lee.vanwychen@weedsocieties.org

To learn from other success stories, visit [www.weedcenter.org](http://www.weedcenter.org) and [www.nawma.org](http://www.nawma.org). For more weeds information, visit [www.blm.gov](http://www.blm.gov)