INVASIVE WEED AWARENESS COALITION (IWAC)

Protecting a Rare Beauty

Since arriving in Massachusetts in 1827 on European ships, leafy spurge *(Euphorbia esula)* has destroyed natural prairies and rangeland throughout the western United States and become one of the most invasive non-native plant species in North America. Most prevalent in the Northern Great Plains, it accounts for the loss of more than 75 million grazing dollars every year. The costs to biodiversity and natural ecosystems are incalculable. Among the species affected by leafy spurge is the Western Prairie Fringed Orchid. This delicate wildflower was classified as threatened under the Endangered Species Act in 1989.

Challenge:

The second largest remaining habitat for the orchid is the Sheyenne National Grassland (SNG) of southeastern North Dakota. The orchid grows in only 1,200 of the SNG's 23,750 acres. Researchers in the Plant Sciences Department at North Dakota State University (NDSU) have worked to maximize control of leafy spurge in the SNG and protect the dwindling orchid habitat. But controlling leafy spurge is a tremendous challenge. It can reproduce by root or seed and is very aggressive. Chemical control has traditionally not been allowed near threatened species' habitat, and biological or mechanical control methods cannot individually eradicate leafy spurge.

A Western Prairie Fringed Orchid struggles to survive amid invasives.

The Western Prairie Fringed Orchid is being threatened by invasive plants such as leafy spurge.

Solution:

At NDSU, Rodney Lym, professor, and Ann Erickson, graduate research assistant, received permission to test herbicide treatments in conjunction with flea beetles in the SNG. By applying herbicide once in the fall, they helped establish a flea beetle population and saw leafy spurge infestations decline. They also closely monitored the chemical impact of the herbicide treatment on the orchid and its offspring.

Result:

The integrated herbicide and flea beetle program achieved 99 percent control of leafy spurge without damaging orchid reproduction or development. Because the herbicide allowed for further release of native, desirable prairie vegetation, the orchid is now better able to survive and is reproducing in the SNG. Using herbicide treatments in combination with biological control may be the best way to manage leafy spurge long-term in the SNG and recover the natural prairie critical to the orchid's survival.

NIWAW
NATIONAL INVASIVE WEED AWARENESS WEEK

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