



featured

Weed warriors

By Rachel Mealor

Dennis and Beth Shorma bought 160 acres east of Baggs in south-central Wyoming along the Little Snake River back in winter 2005.

Their property resides on about one mile of river front, which provides great habitat but also an excellent means of weed seed dispersal.

When they bought their place, identifying most plant species, including invasive weeds, was difficult. It was not until the spring of 2006 they realized they had weed problems. Dennis and Beth desired both the property's aesthetics and potential productivity of the land; it provides excellent wildlife habitat for deer, elk, and numerous bird species. As Dennis says, "The deer and elk have set up a permanent post office box in the area." Unfortunately, noxious weeds can decrease habitat value for wildlife and livestock, creating a potential problem for grazing the property unless weeds are managed.

Leafy Spurge Scourge

The land had previously experienced little active management, and only a few horses grazed the property year-round. When the Shormas started to explore the area, they discovered the luscious green plants in the early spring soon turned to numerous yellow seed pods just waiting to burst and spread like they had in years past. Leafy spurge (*Euphorbia*

esula) was present on 20 to 30 acres of their property. There were also small areas of other noxious weeds such as Canada thistle (*Cirsium arvense*), dalmatian toadflax (*Linaria dalmatica*), and houndstongue (*Cynoglossum officinale*). Beth and Dennis consulted family members with range management experience, and soon they realized they had much work to do and needed to begin managing

these weeds before they spread further.

Their goal was to continue to see the wildlife in the area, but they learned that, to do so, they had to manage weeds to keep grazing sustainable. In addition to the uplands, there are approximately 40 acres of irrigated hay fields on the property, which were relatively weed-free. Dennis and Beth agreed keeping weeds out of the hay



Dennis and Beth Shorma

landowners

purge their spurge

meadow was also a high priority.

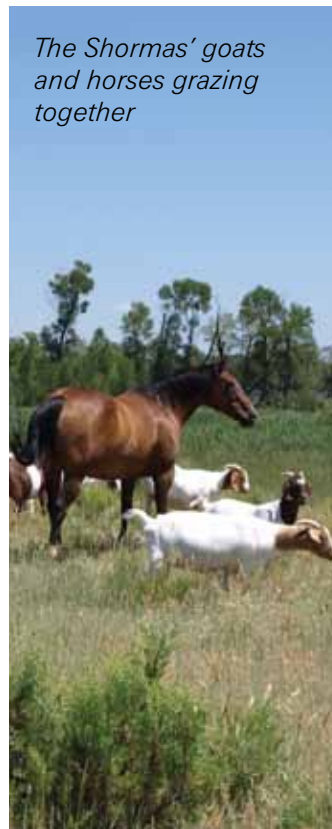
Determining Specific Weeds and Locations

With the help of family members and their local weed and pest control district staff members, the Shormas began gathering information about species and locations of weeds on their property to determine the best strategy for control. They soon realized eradicating all the weeds may not be possible, and they would have to work to manage them over time. Once noxious weeds become established, they become difficult to eradicate. Leafy spurge is a weed that has a deep, persistent tap root, spreads both vegetatively and by seeds, and is highly competitive, making substantial stands very hard to eliminate. Dennis and Beth sat down with experts and made a management plan that detailed their goals and priorities for the property, focusing on noxious weeds.

Their initial control efforts included hand pulling

The Shormas decided to focus their control program on leafy spurge using an integrated approach that includes grazing and herbicide treatments.

small patches of dalmatian toadflax and houndstongue. That appeared to work. Each year, they continue to watch for those species returning, and, if sighted, they pull immediately. Leafy spurge was not going to go away so easily. Due to the rapid spread of leafy spurge, and since it is the most prevalent weed on the property, the Shormas decided to focus their control program on leafy spurge using an integrated approach that includes grazing and herbicide treatments.



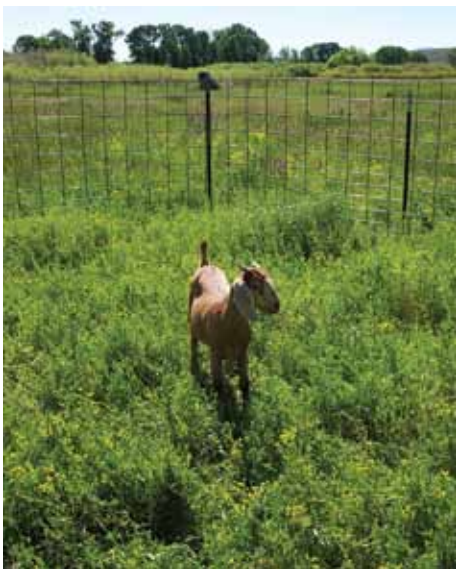
The Shormas' goats and horses grazing together

The Shormas cooperated with the local Natural Resources Conservation Service to cross fence their property, which improves the ability to control when and where animals graze for weed management. They now have six pastures instead of two. They were advised to use goats as a grazing tool, followed by

cattle. Compared to sheep and cattle, goats' dietary preference tends toward shrubs and forbs rather than grasses, making them good candidates for eliminating weeds. After fences were complete, they were ready to begin their targeted grazing approach to weed management.

An Integrated Approach

The Shormas' integrated weed management strategy is designed to stress target weeds multiple times throughout the growing season. Each spring, leafy spurge is sprayed with 2,4-D. This initial spray is intended to weaken the plants by causing them to utilize additional carbohydrates from their root systems to re-initiate shoot growth. 2,4-D, when applied correctly, is a chemical that affects broadleaf species while doing little damage to grasses. The label on the chemical suggests waiting 30 days before allowing livestock to graze treated areas.



Area heavily infested with leafy spurge; photo taken in 2005



The same area after targeted grazing and herbicide treatments; photo taken in 2008



Leafy spurge by the river; photo taken in 2005



The same area after three years of integrated weed management; photo taken in 2008

Beth enrolled in a class provided by the weed and pest district and obtained a private pesticide applicator's license for spraying chemicals on their property.

She explains, "Carbon County weed and pest has an excellent cost-share program; they pay for 80 percent of the herbicide, leaving us with only 20 percent of the cost. With the price of chemicals as high as they are, that is a great deal for landowners."

Information about Wyoming county weed and pest control districts is available online at www.wyo-weed.org/addresses.html.

After the spring spraying, the goats are placed in leafy spurge patches in hopes of further weakening the weeds. In heavily infested areas and because they only have nine goats, the Shormas designed smaller areas (using either hog panels or electric fencing) to get a greater utilization of the leafy spurge. Goats have the ability to travel long distances in a relatively short time period and get out of fences easily. Fortunately, the Shormas' small herd is bonded to a pair of semiretired saddle horses, which makes keeping them where

they want and moving them from pasture to pasture easier.

In the past, Dennis and Beth have leased some of their pastures to cattle producers in the area. After the goats are finished grazing the leafy spurge, cattle are brought in to utilize pasture grasses. In the fall, after the cattle have rotated through the pastures, the Shormas go back to leafy spurge infestations and spray them with 2,4-D a second time. They were told much more progress can be made on leafy spurge control if sprayed a few times a year.

Beth remembers the first time they talked with the county weed and pest district and how hard it was for spray crews to treat an area more than once a year. "The weed and pest crews seem to have such a large amount of area to cover in one year; the results are much greater if landowners spray their own property as well. Not only can the landowners spray more often, but they know exactly where the weed patches are on their property," notes Beth.

Don't Get Discouraged

A common source of frustration for many is the lack of immediate, highly visible results. "It was discouraging the first year when we did not



One of the Shormas' hay fields being raked

Learning to identify unwanted plants around the home, farm, or ranch will be much easier with a book published by the Western Society of Weed Science and cosponsored by Cooperative Extension of the United States. *Weeds of the West* is a comprehensive publication that can help identify weeds that compete with native plants and horticultural and agricultural crops as well as those that can poison livestock and people. The 628-page book has approximately 1,200 color photographs and costs \$26.50, plus \$5 for shipping and handling if ordered from the University of Wyoming Cooperative Extension Service (UW CES).

Information about the book is available by going to the UW CES Publications Web site at www.uwyo.edu/cessupport/agpubs/Search_Start.asp. Type "Weeds of the West" in the Publication Title field, and click Search. Double click on the title. A printable order form is available by clicking on the Request Hard Copy link. For more information, e-mail cespubs@uwyo.edu, or call (307) 766-2115. The Wyoming Weed Identification Site, <http://ces.uwyo.edu/WYOWEED/wyoweed.htm>, contains photographs and also lists weeds by name.

see much impact to the leafy spurge plants. It took about three years before we really started seeing a difference using our approach," Dennis says. A decrease in the density of the infestation was documented by photographing the same infestation year after year (see photos page 12).

The county weed and pest district also recommended the couple's property to DuPont for a potential research site. DuPont contacted them about setting up experimental plots on their property to assist in a research project to evaluate a potential product for leafy spurge control. The plots were established in the summer of 2007.

Beth says, "The representative from DuPont has been great. He has

taught us about chemicals, and we get to be involved in an innovative experiment that, hopefully, results in a better herbicide for controlling leafy spurge."

Dennis and Beth may have gotten more than they bargained for with the purchase of their property; however, with this experience they have had the opportunity to work with many great people and learn a lot about the management of noxious weeds.

Their integrated management approach seems to be working at present, but only continued effort and time will determine if their approach is successful at maintaining high-quality wildlife habitat and agricultural benefits.

For information on developing an integrated approach for leafy spurge control, go to www.team.ars.usda.gov/. For additional information and contacts regarding the Carbon County Weed and Pest Control District, go to www.carboncountyweed.com/. For information about obtaining a private or commercial pesticide applicator license, go to www.uwyo.edu/plants/wyopest/wyoprog.htm, and scroll down the page.

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