Four-Legged Spurge Whackers

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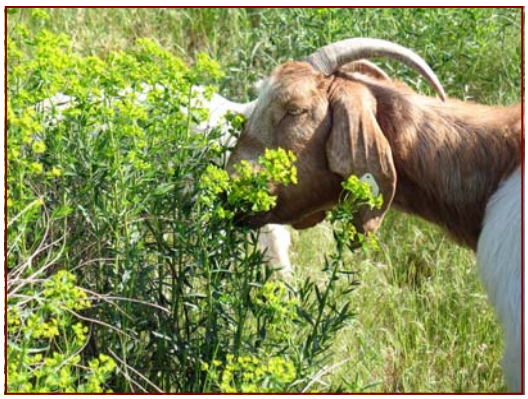
Situation

Leafy spurge is expanding on rangelands around the west, reducing grass production for cattle producers and increasing their reliance on costly herbicides for control.

Insects have been released on several sites within Lincoln County, Washington, with limited success in controlling leafy spurge. Likewise, herbicide applications have met with limited success because of:



One of Madsen's goats grazes on leafy spurge.

- rough terrain
- restrictions on aerial application of certain herbicides
- the inability to spray because of leafy spurge outbreaks next to streams

No single tool can stop the spread of leafy spurge, but an integrated approach using several options, including targeted grazing with goats that can reach remote, rough or streamside landscapes, is promising.

Farmer/Rancher Grant

Title: Leafy Spurge Management in Shrub Steppe Rangeland

Project Number: FW07-009

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Cooperators:
Kevin Hupp, Lincoln County Noxious Weed Coordinator
David Lundgren, Lincoln Conservation District Manager
Dennis Bly, rancher

Amount Funded: $10,000

The top photo shows transect 2 before grazing in May 2007, and the photo below shows transect 2 before grazing a year later.

Objectives

1. Demonstrate how goats can be used as a tool to manage noxious weeds such as leafy spurge
2. Demonstrate the opportunity for goats as an enterprise for diversifying existing livestock operations as well as creating new agriculture businesses

Actions

Goat rancher Craig Madsen, owner/operator of Healing Hooves LLC, raises 100 commercial does. Each year's kid crop joins the does for vegetation management projects for the season. Crossbred doelings are sold as breeding stock and wethers for meat. Healing Hooves has successfully completed vegetation management projects in Washington, Idaho and Oregon, although not focusing on leafy spurge before this project.

Project cooperator Dennis

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Bly, on whose land the project is being conducted, is a cattle and wheat producer who owns several thousand acres of rangeland. About 400 acres are infested with leafy spurge, as is land of adjacent landowners, providing a highly visible demonstration site.

Land EKG transects were installed May 15, 2007, at two sites within the area to be grazed. Photos were taken before and after each treatment in 2007 and 2008 and the number of leafy spurge stems counted before each treatment.

Around 260 head of goats grazed the site May 16-22, 2007, followed by a second treatment to graze leafy spurge regrowth Oct. 13-17, 2007. In 2008, goats grazed the site May 21-27 and Oct. 7-10.

The Lincoln County Noxious Weed Board released the *Aphthona* species flea beetle on the site in July 2007.

Patchy grazing by cattle.

Results

The first two years of data show variations in the response of leafy spurge to goat grazing.

Grazing appears to have increased the number of leafy spurge stems on the drier upland range site. Such a response is not unusual as rhizomatous plants tend to send out new shoots in response to grazing or mowing.

On this transect, the number of leafy spurge stems declined in all four plots. Hoops 1 and 3 have deeper soils, thus deeper moisture to enable fall regrowth. The greater regrowth and subsequent grazing may have impacted the leafy spurge more because the plants spent more energy on regrowth.

Transect 1: Upland Range

Hoop number	May 2007	May 2008	October 2008
1	12	23	8
2	49	60	35
3	0	0	0
4	16	13	4

Transect 2: Combination loamy bottom, upland range

Hoop number	May 2007	May 2008	October 2008
1	160	77	3
2	15	6	8
3	72	14	35
4	16	10	7

Site tours were conducted May 21, 2008, and Oct. 8, 2008.

Work to be completed:

- Two more grazing treatments (May and October 2009) with photos before and after grazing and stem counts before grazing
- Field tour May 2009 with goats on site
- Presentations at local producer meetings and the Washington State Weed Conference, November 2009, Yakima

Potential Benefits

While the project will continue into 2009, coordinator Madsen anticipates positive outcomes:

"This project represents an opportunity to expand the market for vegetation management services in east-central Washington by raising landowner awareness of the use of goats as an IPM tool and a compatible enterprise to complement existing cattle operations in the interest of better soil and water conservation."

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- *profitable farms and ranches*
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