

**T**here's a new movement gaining momentum among rangeland managers. It's called targeted grazing, and it has the potential to help combat invasive weeds, reduce fuel loads for fire risk, and restore rangelands and forests.

Obviously there's nothing new about livestock grazing, but Karen Launchbaugh, chair of the University of Idaho's Rangeland Ecology Department, says, "We are using grazing in a new way that offers an ecologically friendly aspect to help restore landscapes."

She explains that targeted grazing is "the application of a specific kind of livestock to accomplish defined vegetation goals." Put another way, Launchbaugh says to think of it as taking a butter knife and turning it into a scalpel.

"Targeted grazing is transforming grazing into something that can really be directed on the landscape," she says.

Applications include using livestock grazing to:

- ▶ reduce weeds in crop systems, rangelands and forests;
- ▶ control herbaceous biomass in tree crops;
- ▶ reduce fire fuel loads;
- ▶ help manage watershed characteristics;
- ▶ improve wildlife habitat; and
- ▶ help restore wildlands.

### Weeds as feed

The fastest-growing example of targeted grazing is the use of livestock — particularly sheep and goats — as a means to manage weeds.

"I'm excited about putting this new twist on grazing," Launchbaugh says. "Targeted grazing can be highly effective to improve pasture quality without pesticides ... and we are converting weeds into saleable product." She adds that it is

environmentally friendly, a sustainable form of weed control, and oftentimes more feasible, too.

She reports there are now numerous producers using sheep and goats to successfully graze leafy spurge, cheatgrass, juniper and other weedy species.

New research training cows to eat specific

A new twist on an age-old tactic.

# Targeted Grazing

by Kindra Gordon

weeds is also showing promise. Kathy Voth, a land management researcher and consultant, has conducted trials in Montana and California, teaching cattle to eat everything from leafy spurge and spotted knapweed to Italian thistle. She says with a little training, it is possible to get cattle to eat just about any type of forage. (For more about Voth's methods see "Training cows to eat weeds.")

Of these weed management success stories, John Walker, director of the Texas A&M University Agricultural Research and Extension Center at San Angelo, believes this is just the beginning. "Weeds are here to stay," he says, "and we need to learn to manage them. Weeds are often nutritious and can be a feed source. Livestock producers just need to think differently."

### Targeted tactics

"Thinking differently" is the first step in applying targeted grazing principles. Launchbaugh and Walker explain that with this strategy, producers need to shift their focus from meat and livestock products to managing plant communities.

The two key principles to targeted grazing include:

- 1) the type of animal, and
- 2) timing of grazing.

The first principle — type of animal — requires land managers to evaluate the kind of

livestock they are grazing and to determine which type may be best-suited to the vegetation challenge they are trying to address.

"Kind of livestock is the most important element for controlling invasive species with targeted grazing," Walker says.

He and Launchbaugh point out that different types of livestock have certain preferences. Cattle prefer grass, sheep select forbs and goats prefer shrubs. Likewise, sheep and goats are also better able to tolerate steep slopes for grazing compared to cattle.

Based on that knowledge, Walker says in order to control weeds and brush on rangelands, they need to be grazed by the animals that prefer forbs and shrubs. To his point, he relates how sheep numbers have decreased during the past decade while weeds have taken over millions of acres — Walker believes there is some correlation.

Walker recognizes that many ranchers don't want to raise sheep, but he believes to get weed infestations under control in the U.S. it is necessary.

"Today, weeds are the



Leafy spurge



Spotted knapweed



Italian thistle

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greatest biological disaster the country is experiencing. Back in the Dust Bowl of the 30s the Soil Conservation Service was created to stop erosion and change the way we managed the land. We need to make a change again," he says of the need for more sheep and goats on grazing lands.

"In my mind, we've ignored the fact that multiple classes of livestock can make a difference in managing rangelands."

Along with the species of animal, the age and experience of the animal can also be tweaked to get them to graze specific plants, Launchbaugh says.

For instance, if livestock are exposed to range plants at a young age, they are more apt to try a variety of plants. Research has also shown that animals learn from their mothers and peers what plants to eat. Thus, Launchbaugh says, if you have a herd with a few animals that have been trained to eat a certain weed or shrub, they'll likely train the rest of the herd.

Regarding timing, Launchbaugh says you want to match grazing to the time when the plants you are trying to control [weeds or brush] are most susceptible to grazing while still offering some palatability. She says for many weeds this is usually

at flowering or seed-set, and she points out that after seed-set it is more difficult to kill the plant.

She explains that because many weeds are early maturing, they've already set seed before many pastures are grazed, which has allowed them to survive and thrive. Thus, changing the timing of grazing and confining animals to a specific area to help knock weeds back can be a useful grazing tactic.

### Putting it to use

John and Jocelyn Haskell, range consultants based near Woodruff, Utah, are using targeted grazing to help restore the 15,000-acre Hardware Ranch, a wildlife management area owned by the Utah Division of Wildlife Resources. The area has been used to winter elk and deer since the 1940s and has been managed with a preservation mentality — meaning very little has been done to the land.

Today, 60 years later, the woody species that have been grazed every year by the elk and deer have been nearly lost, and the grass, which was minimally grazed through the

decades, is taking over.

Traditional  
mechanical and  
chemical

restoration on the site was expensive and not well-suited to the steep, rocky terrain. So the Haskells are using cattle to graze the grass at a high intensity and frequency to help the brush come back.

John says, "The mentality to put a fence around range and forest land and lock it up is not working. Cows are the solution to this problem . . . We are being paid to graze."

He adds, "We are seeing the dawn of a new era. We are losing 10,000 acres at a time [to weeds]. We need to find animals that want to do what we need them to do . . . Prescriptive grazing can be an ecologically effective, cost-competitive tool for restoration."

He believes cows, sheep and goats — and possibly llamas, alpacas, and even pigs for mechanical brush control — could be used more with targeted grazing applications in the future.

Likewise, Launchbaugh and Walker believe targeted grazing is a "powerful tool" for managing landscapes in the years ahead, especially in the restoration and rehabilitation of lands.

But Launchbaugh cautions that applying targeted grazing is part art and part science, and land managers need to understand the target and the goal.

Without the proper knowledge there is the risk that non-target species can be damaged. Moreover, there can be costs associated with targeted grazing, such as fencing, water, herders, and possibly reduced animal production. "These concerns are manageable," she adds.

Additionally, Launchbaugh points out that land management through grazing is an ongoing process. "This has a long time frame and always requires some maintenance," she says. "But it's not just about weeds. It's about the long-term sustainability of the land."



### Training cows to eat weeds

Range researcher and consultant Kathy Voth believes cows can be trained to eat just about any plant. She knows, because for the last four years she has trained cattle in Montana and California to eat everything from leafy spurge and spotted knapweed to the very spiny Italian thistle.

Voth says with a few simple steps during the span of five days, producers can train their cattle to eat weeds.

The process begins with a few head of cattle in a drylot, where the animals are periodically given a wide variety of unfamiliar but nutritious foods to encourage them to try new things. Specifically, each morning for four days Voth and her team spent an hour picking newly sprouted weeds, mixing them with a familiar flavor (like molasses or corn) and serving them to the project herd. After four or five days of experience with each weed, the cows went to pasture and continued to eat the target weeds throughout the summer, mixing them with other grasses and forbs.

She emphasizes that this process of training animals to try new forages is not the same as starving animals into eating weeds. She points out that starving animals reduces weight gain and decreases profits — as well as makes an animal less likely to try other new plants.

Voth says the training process works because many weeds are actually nutritious. She reports that weeds like Canada thistle, leafy spurge and spotted knapweed are similar in nutrition to alfalfa.

For greater success in training animals to eat weeds, Voth suggests working with younger animals because they are more likely to try new things. Also, females are a good choice to train because they can pass food-selection habits to their young.

She adds that it is not necessary to train your whole herd. Research shows experienced animals will teach inexperienced herdmates.

Voth is a consultant, researcher and educator in sustainable land management. Visit her web site at [www.livestockforlandscapes.com](http://www.livestockforlandscapes.com).

**Editor's Note:** A new handbook on targeted grazing as a tool for weed management is now available. The guide includes 18 chapters and represents a compilation of the latest research on harnessing livestock to graze targeted vegetation in ways that improve the function and appearance of a wide variety of landscapes. The handbook was created through funding from the National Sheep Industry Association and the American Sheep Industry Association (ASI). It is available online at [www.cnr.uidaho.edu/rx-grazing/Handbook.htm](http://www.cnr.uidaho.edu/rx-grazing/Handbook.htm). Printed copies of the handbook are available through ASI ([info@sheepusa.org](mailto:info@sheepusa.org)) for \$25.