



# GOATS SERIOUS BIO-CONTROLLERS OF WEEDS —

## BUT MANAGEMENT IS KEY

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Goats are very effective weed management tools as long as stocking density, monitoring, herding, fencing, predator control, and economics are taken into consideration.

Goats tend to select forbs (flowering plants) and woody species as a food source if allowed to choose. They tend to leave grass species uneaten, leaving them for ground cover and other herbivores. Their droppings are scattered randomly across the landscape, cycling nutrients back into the soil.

Organizing the appropriate stocking density and monitoring and control of grazing goats is important to effectively manage weeds on a site.

### **Stocking Density Considerations**

Stocking density is the number of animals grazing per acre. Demonstration and research

trials across Wyoming, Colorado, Nebraska, and South Dakota have found a good target stock density for goats is 75 to 100 goats/acre/day with monitoring to know when the goats reach the goal. In most cases, grazing managers do not want to move fencing too often, so placing 400-500 goats on a 5- to 10-acre paddock to effectively control weeds works well.

Depending on the specific weed characteristics, a manager may need to rotate back across each paddock several times over a growing season or over several years. Low densities of goats per acre tend to allow goats to more selectively eat, and so reduce, weed control efficiency. Larger bands of goats require more handling and include shipping factors but provide faster and more significant impacts and returns.

Goat bands of mixed sexes and ages provide some value-added

returns. In addition to replacing as much as \$300/acre in weed control herbicides, if weeds are green, the goats will naturally breed, gestate, and produce kids (baby goats) that will also begin eating weeds at the age of about 12 weeks (and then they are trained).

Providing suitable amounts of weed forage for goats is crucial to meeting their nutritional needs. UW Extension educators from local offices can help identify weeds, set control thresholds, develop monitoring documentation, and establish a grazing plan based on the physiology of the weeds.

### **Grazing Management Integral for Success**

A manager using goats for weed control must organize and implement a monitoring program that clearly documents starting weed levels,

progress made, and when to move the four-legged weed controls.

When the desired weed impact is reached, a manager must move the goat band to a new target area or the grazing may affect valuable plant species, including tree species, plants that support pollinators, and grasses. If trying to control or affect woody plants or tree sprouts, holding goats on that area may be a management objective.

In south-central Colorado, goat browsing on bark was used successfully to affect and remove mountain

mahogany, buckbrush, and Russian olive seedlings.

Be very cautious of allowing goat bands access to hayfields, yards, and gardens unless you have protected your "special" plants and checked to ensure no plants will poison or bloat (alfalfa is lush and damp, so goats might easily overeat) the goats.

Producers in one project in Colorado got young goats started on target plants by spraying a mixture of molasses and water on the target weeds in the first paddock.

When weed season ends,

knowing where the goats are going to be held and maintained is important. Some managers sell their bands and buy new bands each spring. Others have collaborators that move the band to where weed growth continues through winter.

And still others hold and feed the goat band in a sacrifice pasture (called this since once held there the selectivity of the goat band drops and they browse on pretty much everything).

This last option includes feed costs, which are similar to sheep in captivity, estimated as 2 percent of the body weight in dry matter intake per day. This equates to 2.5 pounds of forage per day – 75 pounds per month or – 300 pounds for a 120-day hold over. With 400 goats, this would equal 50-60 tons of hay at \$70-130 per ton.

## Using goats for weed control requires learning curve

Controlling a goat band requires learning about herding, fencing, and controlling predation. In the best scenario, due to goats' mischievous nature, having a herder watch the goats, monitor impacts, and control movements is the most effective.

Market value of a herder (unless it's you every day) is presently about \$1,600 per month plus housing, groceries, and equipment. Fences can be used to keep goats focused in the target area using a three-wire electric fence that can be easily set up, moved, and erected ahead of the goats in a short period of time.

Fences must be significantly more aggressive and more expensive if used as a herding alternative.

A significant number of goats in a band will attract predators, including coyotes, bears, mountain lions, and raptors. This will be part of daily life if using goats for weed control. The goats, herder(s), and you will need protection, especially in the early mornings, evenings, and nighttime.

Projects in Colorado demonstrated that holding a goat band in an aggressively fenced (four to five hot wires) can reduce predation risk by as much as 80 percent, but some predators will still overcome the fence and return repeatedly for prey. The use of guardian animals (donkeys and dogs) has provided some protection, but managers are encouraged to have protection measures on them when visiting the band (usually firearms, companion dogs, and pepper spray).

Just remember your "weed machines" are also "predator magnets."

## Production Decisions

If you chose to wean the kids, you can sell them or move them to additional weed sites for no extra investment costs. Female goats usually give birth to one kid the first time and then one to five in consecutive years depending on individual, condition, and breed. It is not unusual to buy 400 goats for a project and be able to replace death losses and still market 400-450 goats each year while retaining your herd.

Some operators also select does with production capability and harvest goat milk, making cheese and yogurt in addition to the milk, which is low fat (but milking requires additional labor).

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