



Boulder County Small Acreage Management

Winter 2010

<http://www.extension.colostate.edu/boulder/AG/smallacreage.shtml>

From the SAM Coordinator

I hope that you all had a very Happy Holiday season and that 2010 is going well for you. We are rapidly headed into the growing season. Despite the cold and snow from this winter, it will be spring before you know it. With the snow melting we are beginning to see the winter annuals poking their leaves out. Now is the time to be planning your weed management plan so you are ready when spring and summer arrive. Also, start scouting your pastures for the first green leaves. Once you see them, your animals need to be pulled out of the pastures until they are 6-8" tall.

Sharon Bokan

Small Acreage Coordinator

SAM Newsletters Online

View previous newsletters via the SAM link above.

SAM Email Listserv

If you are receiving this newsletter for the first time and are not subscribed to the boco_small_acreage@colostate.edu listserv, you may request subscription on the SAM website (linked in header above). This quarterly e-newsletter and other timely info will be distributed via this email listserv.

Subscribers may use the listserv also as a SAM info gathering mechanism. For example, you may inquire about who is available in the area supply hay, to perform swathing/baling, etc.

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Currently, there are 198 subscribers to the listserv

Snow pack and water Outlook

From the NRCS (Natural Resources Conservation Service) as of January 1, 2010, the Colorado snow pack statewide is below average at 86% of average. This is the lowest it has been since 2003. In order to reach average by spring we need to be 10% above average the remainder of the snow season. From their calculations, there is only a 20% chance of this happening.

October started out really well at 124% of normal, but November was only 41% of normal. December started to get us back in shape at 110%. Fortunately, reservoir storage is the highest it has been since 2000 at 101%. Unless we get significantly more snow we can expect streamflow in the spring to be below normal.

<ftp://ftp-fc.sc.egov.usda.gov/CO/Snow/fcst/state/monthly/borco110.pdf>

Mountain Pine Beetle

Irene Shonle, CSU Extension Gilpin County

The aerial surveys for Mountain Pine Beetles (MPB) were released in early January, and the unsurprising results are that MPBs continue to increase in Front Range Forests. In Boulder County, there are now 97,000 cumulative (since 1996) acres affected by pine beetle, with 22,000 in Ponderosa forests, and 77,000 in Lodgepole forests. Nearby counties tell a similar story. You can see new maps at <http://www.frontrangepinebeetle.org/>.

What is a small acreage landowner to do? The answer depends on whether your forests are mostly ponderosa (PP), or mostly lodgepole (LPP). Thinning and direct control (looking for and removing trees while they are still infested to prevent further spread) can be problematic in LPP forests. This is because LPPs are shallow-rooted and prone to wind throw when neighboring trees are removed. Since many of our lodgepoles along the Front Range are over 80 years old, they may be too old to benefit much from the thinning. Our LPP forests are actually not far off of their natural densities; so thinning doesn't necessarily equal "restoration," either. Finally, the beetle numbers are so high that it can be hard to keep up with removing infested trees, especially if you have over a few acres. Removing dead hazard trees, patch cutting, promoting age and species diversity, and encouraging the flourishing of aspen stands by removing competing LPPs may promote a healthier forest in the long run. For more information on LPP forests, go to: <http://csfs.colostate.edu/pages/documents/lpp-guide-LS-www.pdf>. You can protect a small number of high-value trees by spraying them; this needs to be done by the beginning of June, and should be done by a licensed applicator.

The structure of ponderosa pine forests is different from lodgepole pine forests. Our Ponderosa forests actually are overstocked due to fire suppression. Fortunately, Ponderosa pine restoration treatments, which return overstocked stands to more open and sustainable growing conditions, are also thought to reduce losses of trees to the MPB under most conditions. If you are considering restoration treatments, the treatments will have a greater effect if you act sooner rather than later, when beetle populations are likely to be much higher, and trees will have less time to respond to the treatments. For

more information on Forest Restoration Guidelines for Ponderosa Pine Forests, go to:

http://csfs.colostate.edu/pdfs/ForestRestorationGuidelines_021507.pdf.

Just how bad will the pine beetle get in the Ponderosa forests? According to Jeff Witcosky, Entomologist for the USDA Forest Service, the following generalizations appear to apply:

1. Ponderosa pine mortality is likely to be variable across the landscape, with areas of high mortality intermixed with areas of more moderate mortality.
2. Dense forests are likely to experience higher levels of mortality than open stands.
3. Larger-sized ponderosa pines (greater than 7 inches diameter at 4.5 feet above the ground) will experience the most severe losses, and smaller trees (trees 7 inches in diameter and smaller) will experience less severe losses.
4. Ponderosa pine stands adjacent to large diameter lodgepole pine stands sustaining high levels of MPB-caused mortality are likely to experience higher losses than those at a distance from beetle-infested lodgepole pine stands.

If want to practice direct control to keep the beetles from spreading, make sure to take down infested trees well before the beetles fly to new trees in the middle of July. Spring treatment options include:

1. Take the entire tree to a sort yard for disposal. Visit <http://www.peaktopeakwood.org> for information on sort yard locations.
2. Chip the entire tree and (slash, too, if there are Ips beetles in the area) to destroy the beetle. Spread the chips out in a thin layer so they will dry quickly and not attract Ips beetles.
3. Peel the bark from the trunk with a chain saw, draw knife, or Log Wizard® (a chainsaw attachment that peels logs). You can store peeled logs for firewood without a problem.

Solar treating infested trees usually is not good option in the spring, because there are often not enough hot days to kill the beetles before they fly (it takes 8 weeks to 3 months for the treatment to be effective). Burning the wood is also usually not an option, either, because it is too green when you cut in the spring. Fall is considered to be the best time to treat trees for pine beetle.

Managing Voles on Your Property

By Jennifer Cook, Small Acreage Management Coordinator, CSU Extension/NRCS

Voles, also called meadow mice, are widespread and can cause significant damage. There are 23 vole species in the United States, each occupying various habitats, from prairie to marshland to forests. Voles also use habitats created by humans, such as orchards, windbreaks, and cultivated fields. Control of voles is often necessary to reduce damage to plants and trees. This article will discuss the various methods of controlling voles on your property.

Usually in the fall and winter, voles "girdle" or eat the bark of seedlings and mature trees. This girdling can easily kill young plants and is not healthy for trees or other shrubs. Voles also love to eat succulent root systems and will burrow under plants, crops, or ground cover, building extensive tunnel systems. They can ruin lawns and eat bulbs without clear or early warning. A vole problem is often only identifiable after they have destroyed a number of plants.

The most identifiable sign of voles in Colorado is their surface runway system with numerous burrows. Runways are 1-2 inches in width and vegetation near the runway will be clipped close to the ground. Feces and small pieces of vegetation may also be found in the runways. Voles are classified as nongame mammals and can be controlled when they are causing damage. They are capable of carrying disease organism such as plague (*Yersinia pestis*) and tularemia (*Francisilla tularensis*) so use protective clothing when handling voles.

Hardware cloth cylinders can exclude voles from seedlings. Bury wire 6 inches to keep voles from burrowing under the cylinder. Large scale fencing is not effective. Eliminate weeds, groundcover, and litter in and around crops, lawns, and cultivated areas to reduce the capacity of these areas to support voles. Mow or graze lawns and pastures regularly, and clear mulch 3 feet away from bases of trees.

The following methods of control are from, *Voles, the Handbook: Prevention and Control of*

Wildlife Damage by University of Nebraska-Lincoln.

Repellants

Repellants may afford short-term protection from meadow voles. Look for repellants utilizing thiram (also a fungicide) or capsaicin (the "hot" in chilies) as the active ingredient.

Toxicants

Zinc phosphide is the most commonly used toxicant for vole control. It is available in pelleted and grain bait forms which are generally broadcast or placed by hand in runways and burrow opening. Keep in mind that zinc phosphide baits are potentially hazardous to ground feeding birds, especially waterfowl. Placing bait into burrows may reduce this hazard.

Anticoagulant baits are slow acting toxicants which take 5-15 days to work. Anticoagulant baits can be broadcast, placed by hand, or can be placed in various types of bait containers, such as water repellent paper tubes. Bait tubes protect bait from moisture, and reduce risk of other animals or small children consuming bait.

Fumigants

Fumigants usually are not effective because of the shallowness of the burrows.

Trapping

Although trapping is not a cost or labor efficient method of controlling large populations of voles, mouse traps can be used. Trap in Fall or late Winter using peanut butter-oatmeal or apple slices as bait. Place trap perpendicular to runways with the trigger end in the runway.

Predators

A wide variety of predators feed on voles, however this may not be effective in controlling large vole populations, as voles have a high reproduction potential. Females breed as early as 2 weeks of age and they breed throughout the year having 1 to 5 breeds per year.

For more information on Voles:

Internet Center for Wildlife Damage Management
<http://icwmd.org/handbook/rodents/Voles.asp>
University of California IPM program
<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7439.html>

Animal grazing habits and their effect on your pasture

Sharon Bokan, Small Acreage Coordinator

Imagine the Great Plains 200 years ago. You had an environment with many animal species utilizing the same prairie and yet not overgrazing it. If you take a look at each species that existed you will see that each had their own grazing method and plant species they preferred. Fast-forward to the present and think about how your animals grazing techniques affect the grasses and other vegetation in your pasture. They still use different techniques to get the grass or forbs in their digestive systems. Each species also each have their forage preferences. So whether you have horses, cows, llamas, alpacas, geese or sheep, understanding their grazing style can help you make the most of your pasture. If you have multiple species, you can time the grazing of each species to the advantage of the grasses much like the prairies of old.

Ducks and Geese

Both ducks and geese have serrations on the edge of their bills, which allow them to forage and graze. Like other poultry, they graze but do not chew their food. It is passed to their crop which uses pebbles they swallow to grind the forage. Geese are the better grazers and can survive strictly on a grassy pasture. Ducks tend to be more foragers and should be fed waterfowl feed in addition to whatever they can find. Geese prefer young grasses and clovers but are not fond of alfalfa or tough narrow leafed grasses. Geese can be good weeders, as they will eat horsetail, chickweed, clover, puncture vine and other weeds. Geese and ducks would do well on either a pasture that you need weeded, especially if the grasses are less desirable species

(tougher such as fescue, wheatgrasses) or a well-established pasture. They need to be kept out of pastures where you have grass seedlings.

Ruminants

Ruminants have a 4-chambered stomach (not 4 stomachs) and include cattle, sheep, and goats. Their mouths have molars in the rear and only lower incisors. Above the lower incisors is a hardened area called the “hard plate”. Pseudo ruminants also have a similar mouth set-up only they may have canine teeth but they are not used in food digestion.

Goats

Goats are ruminants like cattle and sheep. They are browsers meaning that they will eat not only grasses but also forbs such as weeds and other broadleaf plants, and also trees and shrubs. They only chew their food long enough to get it moist with saliva. The “cud/bolus” then goes into one part of their 4-part stomach to be wetted by digestive juices. They will later bring up the food and chew it “chewing their cud”. It then goes to another part of their stomach for final digestion. Since goats are browsers, they prefer the broad leaf plants and shrubs that cattle don’t normally eat. They tend to prefer leaves, twigs, and vines and also eat the tops of plants.

Sheep

Sheep are also ruminants like goats and cattle and graze in the same manner as goats. Sheep though do not have the wide range of forage as goats. They will eat grasses, broadleaf plants but not the trees and shrubs that goats will eat. Sheep prefer to eat close to the ground (a habit that initiated the sheep cattle conflict in the 1800’s). Sheep like goats can compliment cattle grazing by eating the grasses and forbs that cattle leave behind.

Cattle

Cattle are ruminants but they are strictly grass grazers, although, they can be trained to eat some broad leaf plants. They go for quantity not necessarily quality. Having your pasture well rooted is vital for cattle grazing so that they don’t pull plants out. Newly planted grasses would be most susceptible to this type of grazing.

Pseudo ruminants

Llamas and Alpacas

Llamas and alpacas are considered pseudo ruminants. They have a 3-part stomach instead of a 4-part stomach. The 3 parts function basically like the 4 part ruminant digestive system. Originating in areas of South America with sparse vegetation their digestive system is extremely efficient in converting marginal forage into needed nutrients. They like sheep and goats will feed on forbs and shrubs as well as grass.

Non ruminants

Horses

Horses are not ruminants but are considered “hind-gut fermenters”. They must fully masticate (chew) their feed, as they do not chew their cud later. Feed in a horse continues straight through the digestive system being fermented as it passes. Horses have both upper and lower incisors and can be selective in the vegetation they graze preferring tender, young grass. They also have a full set of molars to fully chew their feed. Horses are mainly grass grazers although they may check out or accidentally consume other vegetation such as alfalfa and other plants. They can also be very selective only picking out the grass specie that they prefer. If there is nothing else in the pasture but broadleaf weeds, they will consume them if that's all that's available.

A combination of specie especially sheep and cattle has the advantage of parasite reduction in both species. The parasites that infect sheep do not infect cattle and visa versa. So to reduce the parasite load and also make maximum use of your pasture you could allow your sheep in first as they prefer the finest forage, then bring in the cattle and finally horses. You could also have all three in the pasture at the same time if you have a limited numbers and each could pick their own favorite forage as long as they got along with each other.

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