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## **Small Acreage Management Survey**

This fall, the SAM program is conducting a landowner survey to help identify what landowners need, want, and feel about the program.

The invite to the survey has been distributed through our landowner email list, and hopefully, will gather information to guide how and what we work on in the future. If you receive this email and did not get an invitation for the survey, but would like to participate as a landowner, please let me know and I will send you a link. Please double check if you received the link in the email this newsletter came in first.

You can email your request to:  
**[kara.harders@colostate.edu](mailto:kara.harders@colostate.edu)**

The SAM program has grown considerably in the past decade since the last survey was conducted. We know the priorities of people we work with have likely grown and evolved.

We look forward to seeing responses and identifying areas for growth and improvement!

Colorado Sustainable Small Acreage News is published and edited by Kara Harders,  
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# Grazing Behavior Depends on Species, Location

By Sandra D. Smith

Agriculture & Natural Resource Educator  
Carroll County, Ohio

Grazing animals are remarkable forage harvesting machines. Livestock select, bite off and chew plants differently.

Each livestock species has a tool or set of tools that help it gather food, grind and swallow. Forage livestock producers should consider how different livestock graze when establishing their farm's rotational grazing system.

The main livestock involved in grazing forages are cows, sheep, goats and horses. Herbivores such as cattle, beef and dairy, sheep, goats and horses may get all their feed from forages.

The only differences in how much and what is consumed, result from the different digestive systems and the animal's ability to handle plant food containing celluloses and lignins.

## Different behaviors

It is important to look at how different livestock chew their food and interact with a pasture to really understand how to utilize the growth and regrowth of forage grasses. Livestock consumption issues include digestibility and palatability of grasses, their chewing habits, as well as the effects that trampling can have on forage plants. First, cows have a long and dexterous tongue that they can wrap around forage plants and pull into its mouth where it is placed between its lower jaw and a dental pad on the upper, cows only have teeth on their lower jaw.

**Continued on page 4**



# WILDFIRE WEDNESDAYS

Free virtual speaker series, every Wednesday in October, 6:00-7:30 pm

Register in advance:  
<http://bit.ly/WildfireWed>

After registering, you will receive a confirmation email containing information about joining the meeting.

Whether you live in the mountains, foothills or plains, this series will provide information on wildfire and how to manage your property to provide the best chance for limiting damage.

Every Wednesday in October there will be a free virtual webinar highlighting a relevant topic related to wildfire. Topics include fire behavior and ecology, home hardening and defensible space, fire resistant landscaping, and evacuation planning for you and your animals. Speakers are experts in their field from Colorado State University, Colorado State Forest Service, and Colorado State University Extension.

**Register in advance!**

<http://bit.ly/WildfireWed>



## Speaker Schedule

### **October 7: Fire Ecology and Behavior**

Tony Cheng PhD, Professor, Department of Forest and Rangeland Stewardship at Colorado State University and Director, Colorado Forest Restoration Institute

### **October 14: Defensible Space & Home Hardening**

Daniel Beveridge, Wildfire Mitigation Program Specialist, Colorado State Forest Service

### **October 21: Fire Resistant Landscaping**

Irene Shonle PhD, Horticulture Associate, Colorado State University Extension – El Paso County

### **October 28: Evacuation Preparedness and Animal Evacuation**

Ragan Adams DVM, Coordinator, Veterinary Extension Specialist Group College of Veterinary Medicine and Biomedical Sciences Department of Clinical Sciences, Colorado State University  
Sharon Bokan, Small Acreage Coordinator, Colorado State University Extension – Boulder County

## Grazing Behaviors continued from page 2

By swinging their heads, the cow then pulls or tears the plants and chews the food slightly, then mixes it with saliva before swallowing. Cattle normally graze for 6 to 11 hours a day usually just after dawn and just before dusk, with shorter times during the day or at night.

After the grazing period, the ruminant animal rests and ruminates, regurgitating the forage it has eaten, chewing, mixing it with more saliva and swallowing it again. Rumination time in ruminant livestock ranges 5 to 9 hours daily.

Because of the design of the cow's lips, teeth and jaw a cow cannot get closer than about 2 inches from the soil.

### Grazing around manure

Cows prefer not to eat around their own manure piles but will graze around different livestock manures. Cows are heavier livestock animals that can cause more damage to a pasture than lighter livestock such as sheep or goats.

Sheep use their lips and teeth as their harvesting tools. Their cleft lips move away from their teeth on the lower jaw and bring food in, while the upper jaw has a dental pad just like a cow.

This mouth structure allows sheep to bite plants closer to the ground and be more selective about what is eaten. Goats have teeth on their lower jaw and a strong dental pad on the upper.

The goat's upper lips are incredibly mobile and with a strong tongue, goats can selectively grab and are able to avoid thorns, etc. Goats prefer to browse on young woody trees, leaves and twigs.

### Goat behavior

Because goats browse, they make great companion animals to graze with cows or horses since they will eat the invasive plants such as multiflora rose and other brambles to help cleanup pastures.

Sheep and goats have smaller mouth parts, than cattle and horses, with which they use to nibble forage plants using a biting action. This biting action of sheep and goats allow them to be more selective and graze closer to the ground than the tearing action of cattle.

Both sheep and goats are also ruminant animals like cattle and digest their food in the same way. Sheep and goats are lighter animals and cause less damage to pasture than cattle and horses because they don't

trample and compact the soil the way heavier animals do.

Horses have both upper and lower sets of incisor teeth used for biting while the backset of molars are used for grinding food. Horses have a strong, sensitive upper lip that gathers the food and brings it to the incisors.

Horses are highly selective grazers and closely graze and bite off plants very close to the ground. Horses are more selective than cattle and tend to spot graze in pastures and paddocks.

### Horse pastures

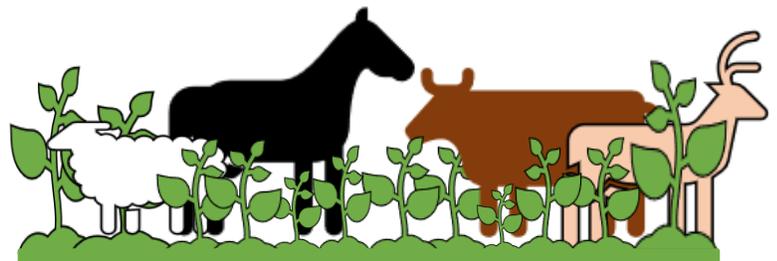
Because horses are heavier animals and have selective eating patterns, horse pastures tend to get overgrazed, trampled and eventually become unproductive. Keeping this in mind, we need to be aware that trampling by heavier livestock damages pastures of all soil types, effects their soil moisture levels, and plant species.

Due to the differences in how livestock species graze, now is the time to start planning or improving your rotational grazing system on your farm. Plan on fixing the damages done this winter by your livestock due to the weather.

Consider seeding some hardier forage plant species on your pastures and consider doing some soil testing later this spring.

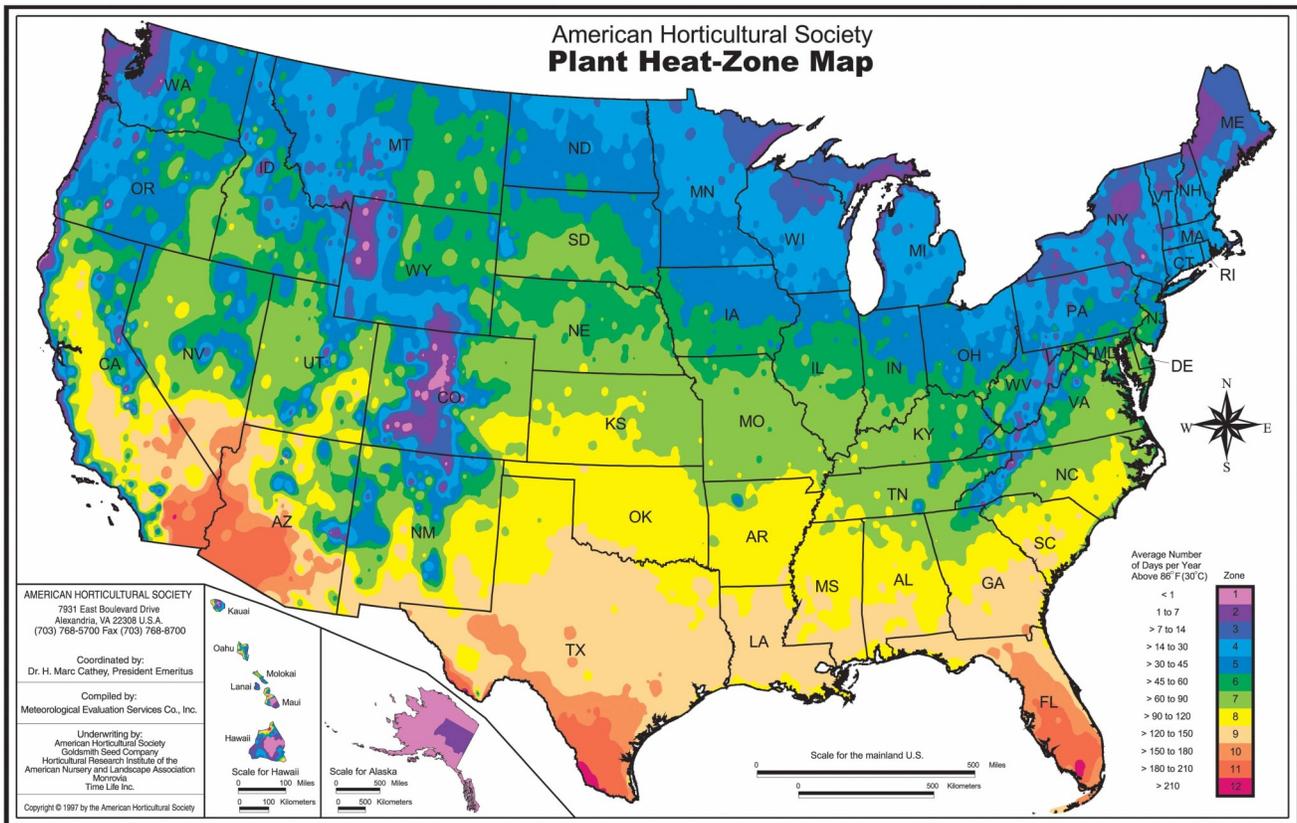
Lastly, plan for the possibility of muddy seasons by taking into account how the livestock species that you raise graze your forages.

Make sure that your rotational grazing system spends the mud season on your firmest, highest, best drained ground so that the livestock don't damage the pastures during the unpredictable winter weather and spring thaw.



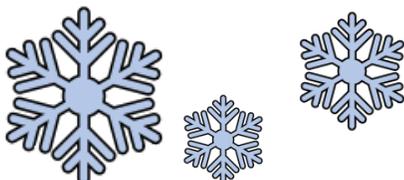
# Plant Hardiness is More than a Zone Number

By Kara Harders



If you have lived in Colorado for a while you have probably lamented (or heard people lament about) the constant influx of new residents. Colorado is a state unlike the rest. It isn't difficult to understand out why so many people find it appealing to live here: mountains, 300 days of sunshine, low humidity, all four seasons of the year, boating/rafting/kayaking, hunting/fishing, wide open spaces, the big city - I could go on but I think I've made my point.

If I had to make a list of drawbacks in Colorado it would be short – wildfires, drought, and home prices come to my mind first, but just a few weeks ago we experienced a phenomenon that is less glamorous: wacky early/late cold snaps.



While Colorado is not unique to this issue, it is among the most common places for it to happen, and it's hard on plants. It can make plant selection tricky too. Have you ever used or seen the Plant Hardiness zone map?

This map is handy for identifying plants that can grow in different areas based on the "Average Annual Extreme Minimum Temperatures." Essentially, how much cold can the plants handle. This is useful information and can help guide decisions about what to plant, where to plant it, and if you can expect it to need additional protection. What this map doesn't have is an "Areas that Experience Strange Unpredictable Temperature Swings During Odd Parts of the Year" score. I don't think there is a handy chart for that.

Continued on page 9

# Dryland Pasture Series



## Basics of Managing Dryland Pastures Along the Front Range (Recording)

Are you new to a small acreage property or looking to gain more information to help manage your property? This presentation will help you understand dryland pasture management by covering topics such as:

- ◆ How grasses grow and respond to grazing
- ◆ Appropriate grass heights
- ◆ Take half/leave half principal
- ◆ The difference between cool and warm season grasses
- ◆ Species selection for dryland pastures
- ◆ Do dryland pastures need to be fertilized
- ◆ Can dryland pastures be improved by interseeding
- ◆ The importance of rotational grazing
- ◆ Weeds—a symptom of overgrazing or a forage resource for your livestock

[https://youtu.be/7-6FNOM8\\_S0](https://youtu.be/7-6FNOM8_S0)

## Understanding Dryland Pasture Grasses (Upcoming Webinar)

Improving dryland pastures through seeding is very challenging along the Front Range of Colorado. The risk of seeding failure is high due to low and erratic precipitation. To help improve your chances of successfully getting new plants established, Joe Brummer, Associate Professor at CSU, will cover such topics as:

- ◆ Planting methods
- ◆ Drilling versus broadcasting the seed
- ◆ Interseeding versus tillage and reseeding
- ◆ When is the best time to seed dryland forages
- ◆ Differences between warm and cool season species
- ◆ Characteristics of sod-forming (rhizomatous) grasses versus bunchgrasses
- ◆ Potential drought tolerant species to consider planting
- ◆ Example species mixtures that might work along the Front Range

**When:** October 6, 2020, 7:00 to 8:00 p.m.

**Register:** <https://zoom.us/meeting/register/tJMlce6vrTluE9FdGJI3nWm78xySZWNY3KR6>

# Colorado State University Educational Resources on Potential Restoration of Wolves in Colorado

By CSU University Communications Staff

Colorado residents will vote in November on a ballot initiative that calls for the proposed reintroduction of gray wolves to the state. Proposition 107, a citizen-initiated measure, would direct the Colorado Parks and Wildlife Commission to develop and oversee a science-based plan to restore wolves to the western part of the state.

To help ensure the public is informed on this topic, Colorado State University scientists have teamed up with Extension staff to produce and publish educational materials on the possible wolf restoration.

The resources include [12 information sheets](#) on topics including wolf biology, wolves and livestock, disease, human and pet safety, big game and hunting, ecological effects and economics, and a robust list of frequently asked questions with answers.

“As Colorado’s only land-grant institution, CSU is uniquely positioned to provide science-based information on the subject,” said Kevin Crooks, professor in the Department of Fish, Wildlife and Conservation Biology and director of the new Center for Human-Carnivore Coexistence. “The educational materials have undergone extensive review by scientists within and outside CSU, including world experts on wolves.”

Crooks helped lead the development of these educational materials. The center he leads is focused on integrating science, education and outreach to

minimize conflict and facilitate coexistence between people and predators.

The center’s team has developed projects in a variety of systems where human-carnivore coexistence is proving difficult. In addition to wolves, they are tracking growing conflicts with urban black bears and coyotes, polar bears in energy fields in Alaska, lions and cattle keepers in East Africa, and ranchers in systems with predators in the United States.

Wolves already spotted in Colorado in early 2020, after the initiative was approved to be placed on the ballot, a pack of wolves was confirmed to be living in Moffat County in the northwestern part of the state. Another lone wolf was confirmed in North Park in summer 2019. These wolves likely migrated from a nearby state, perhaps Wyoming, where they were reintroduced 25 years ago.

“Science-based information provided from this team is critical to aid in policy development around wildlife and public lands,” said Ashley Stokes, associate vice president for Engagement and Extension at CSU.

Stokes said that these resources are also important for people who vote, so that they may better understand the issues surrounding potential reintroduction of wolves and the impacts on ecological systems, agricultural producers and local communities.

CSU researcher analyzing public response, media coverage, Rebecca Niemiec, assistant professor in the Department of Human Dimension of Natural Resources at CSU, recently led research studies on public perspectives and media coverage of the wolf restoration issue in Colorado.

**Wolf Resources continued on page 10**





## Fresh Growth Podcast By Western SARE

Approaches to a More Sustainable Future from Western Ag Practitioners introduces you to farmers and ranchers from around the western United States who are finding innovative sustainable practices that enrich the natural resources we all care about. These successful multi-generational operations experiment with new ideas and are making it pay. Listen in as they tell their story and provide advice for young or beginning farmers.



<https://westernsare.buzzsprout.com/>

## CSU Online Land Stewardship Short Courses

Take one or all of these self-paced online courses, developed for the Colorado-arid west soil and climatic conditions.

**Stewardship Planning**—\$40

**Soils—The Basics**—\$50

**Water—The Basics** —\$50

**Management of Forage Plants**—\$50

**Management of Invasive and Noxious Weeds**—\$50

**Emergency Preparedness**—\$50

**Management of Wildlife in Colorado**—\$50

\*Discounts for bundling classes

Each class aims to help small acreage audiences and takes 5—10 hours to complete at your own pace.

Participants will gain a better understanding of natural resources, localized land strategies, and build an effective long-term land management plan for their property.

More info and register here—

[www.online.colostate.edu/badges/land-stewardship/](http://www.online.colostate.edu/badges/land-stewardship/)



## Plant Hardiness Continued from page 5



An example is the Kiwiberry or Cold Hardy Kiwis. The University of Minnesota (in Minnesota, which according to the map, is certainly cooler than Colorado) has been researching the plant, experimenting with species and cultivars, and looking into growing practices for more than 30 years. The Kiwiberry did well enough in Minnesota they even looked into possible invasive qualities of the plant. However, when grown in Colorado, the Kiwis failed (even in high tunnels). Why is that?

A 70 degree temperature swing within 48 hours such as we experienced this September, or earlier this year, mid-April, when the temperatures got down to single digits after being in the 70's the week prior.

While the Kiwis are hardy to -20 degrees, they cannot handle the climactic whiplash

that is Colorado. They need an intercontinental climate, an area where it gets cold then stays cold; gets warm then stays warm. In the Kiwi's case, the warm spells in the late winter and early spring trick them into budding out and blooming. Experiments done in Hidden Mesa (Douglas County) revealed the late spring frosts kill not only the blossoms, but often the vines, too.

Similar problems arise in the fall when the first hard frost can happen before the plants have had time to harden off, often killing them. Even in high tunnels, the plants slowly died back to nothing, while plants such as raspberries did fine.

Try to keep in mind the effects late/early freezes can have on perennial plants. Even plants that are designed to handle the swings can suffer when they are too dramatic, and plants not designed for the shifts often don't stand a chance. To better your odds, research plants and varieties proven to do well in our special climate. For more information, click on the link to a PowerPoint by Andy Hough from Douglas county on plant hardiness specific to the front range: <https://www.douglas.co.us/documents/small-fruit-in-colorado-presentation-may-2015.pdf/>



### Wolf Resources continued from page 7

“One thing we have found from our social science research is that the public has a diversity of beliefs about the potential positive and negative impacts of wolves,” explained Niemiec. “Some of these beliefs are supported by ecological and social science research, while some of them are not. Our hope is that with these educational materials, we can facilitate more productive, science-based discussions about wolf reintroduction and management.”

John Sanderson, who directs the Center for Collaborative Conservation at CSU, helped direct the scientific review process and worked with partners to produce the educational materials.

“The topic of wolves is uniquely contentious,” Sanderson said. “If wolves are part of Colorado’s future, we need an inclusive process of creating policy and making decisions that builds trust and identifies mu-

tually acceptable solutions among people with different perspectives.”

Public surveys over the last few decades suggest support for wolf reintroduction from the majority of Colorado residents. Despite those survey results, restoring wolves in the state is a contentious topic that taps into diverse emotions and passions across various groups. And misinformation about wolves is widespread, on all sides of the issue.

CSU Extension has a goal to empower Coloradans and to address important and emerging community issues using science-based educational resources. The information sheets are also available to the public through Extension’s website.

More information on this subject can be found at <https://sites.warnercnr.colostate.edu/centerforhumancarnivorecoexistence/people-predators/>



Photo from Pixabay



Do you have a question for extension but don't know who to ask? [Try Ask an Expert!](#)

COOPERATIVE  
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Check out our Dryland Pasture Assessment to see how your pasture measures up!

<https://sam.extension.colostate.edu/wp-content/uploads/sites/2/2018/07/GrazingGuide.pdf>

Do you have a question about managing your small acreage?

Contact CSU Extension /NRCS Small Acreage Coordinator(s):

Kara Harders  
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970-219-9903  
kara.harders@colostate.edu



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