THE NEW FOOTHILL RANCHER

...Practical Information for Livestock Producers

Dan Macon, Livestock and Natural Resources Advisor

Placer—Nevada—Sutter—Yuba Counties

APRIL 2019

Placer County

11477 E. Avenue

(Bldg. 306, DeWitt Center)

Auburn, CA 95603

OFFICE 530-889-7385

FAX 530-889-7397

Email: ceplacer@ucdavis.edu

Days: Monday - Friday

Hours: 8 - 5

Nevada County

255 So. Auburn Street

(Veterans Memorial Bldg.)

Grass Valley, CA 95945

OFFICE 530-273-4563

FAX 530-273 4769

Email: cenevada@ucdavis.edu

Days: Tuesday & Thursday

Hours: 8 - 12 12:30 - 4:30

Sutter-Yuba Counties

142A Garden Highway

Yuba City, CA 95991

OFFICE 530- 822-7515

FAX 530-673-5368

E-mail: sutteryuba@ucanr.edu

WEB SITE:

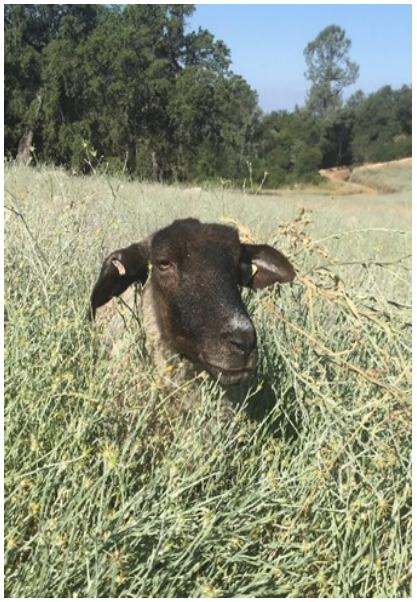
ucanr.edu/sites/livestock

Thinking About Hiring a Targeted Grazing Contractor?

Targeted grazing using sheep, goats, or cattle (or combinations of two or more species) can be an effective way to manage vegetation for a variety of goals. Given the ever-present threat of wildfire in the summer and fall months in the Sierra foothills and Sacramento Valley, many landowners and land managers are considering hiring targeted grazing contractors to help manage wildfire fuel loads.

Using ruminants to manage fuel loads through targeted grazing offers a number of important advantages:

- Targeted grazing can be a cost-effective alternative for reducing fine and ladder fuels over large and rugged landscapes that may be inaccessible for equipment or hand crews.
- Targeted grazing is especially effective at maintaining fuel reduction treatments like shaded fuel breaks.
- Unlike many treatment methods, targeted grazing actually removes fuel from the landscape - the wildfire fuels are removed by the grazing/browsing livestock.
- Targeted grazing contractors can often provide all necessary infrastructure (fencing, livestock water, predator protection, etc.).



By managing the type and number of animals, the duration of grazing, the season and frequency of grazing, and the spatial distribution of livestock, targeted grazing can help landowners and managers achieve a variety of land management goals.

Where is Targeted Grazing Effective?

Well-managed targeted grazing can be used to address site-specific landscape goals. For example, targeted grazing can impact specific invasive weeds (like yellow starthistle, medusahead or Himalayan blackberries). By controlling competing vegetation at critical times, targeted grazing can enhance habitat restoration efforts. ***Finally, targeted grazing can reduce fine fuels and ladder fuels to reduce wildfire danger in a variety of environments.***

Typically, targeted grazing is a cost-effective vegetation management alternative where other options are ineffective. Specifically, targeted grazing can be more cost effective on landscapes that are too steep, rocky or remote for conventional vegetation management (like mowing or chemical treatment), or in the urban-wildland interface where burning is not an option.

Continued on page 2

Continued from page 1

Managing Animal Impacts

Grazing livestock have three basic impacts on the landscape. They consume vegetation through grazing, they trample vegetation (which can facilitate the breakdown of plant carbon in the soil and modify wildfire fuel profiles), and they transfer nutrients through defecation and urination. Targeted grazing uses all three impacts to accomplish specific vegetation management goals.

Targeted grazing contractors also have a solid understanding of the growth characteristics and vulnerabilities of specific target vegetation. For example, grazing yellow starthistle with sheep or goats during the bolt stage (April to June, usually), can dramatically reduce seed production. Browsing Himalayan blackberries in the fall as the plants are going dormant can stress root systems at a key period, reducing vigor the following year

Timing of targeted grazing for fuel reduction is also important. To reduce the potential for re-growth, fuel reduction grazing should be done after the last spring rain. Since the nutritional quality of annual grasslands typically declines rapidly at this time of year, targeted grazers may need to provide supplemental nutrition to ensure appropriate impact to targeted vegetation. In some instances, cattle may be the most appropriate species for particular projects; small ruminants may be better suited in other cases.

Why Pay Someone to Graze? Isn't Free Grass Enough?!

Targeted grazing is a very different business model than simply grazing for livestock production. Effective targeted grazing focuses on impacting target vegetation at exactly the right time for specific landscape or vegetation goals. Traditional livestock production, on the other hand, focuses on putting weight on animals or increasing reproductive success. Traditional livestock operations generate income from the sale of animals and animal products; these operations focus on body condition and the nutritional status of the animals at specific production stages. Targeted grazers generate income from vegetation management services; these operations may accept a drop in body condition or reproductive success to achieve desired impacts to low quality forage as long as this service is paid for.

Unlike equipment, which can be parked when not in use, livestock must be fed before they arrive on your property and after they leave. Part of the service that targeted grazing companies provide is the logistical planning necessary to keep their livestock "employed" throughout the grazing season.

Goals are Important!

Realistic landowner and land manager goals are important for successful targeted grazing applications. Targeted grazing is often a long-term approach that addresses prior problems. For example, invasive weeds may be symptomatic of a long-term lack of management. A single targeted grazing project is unlikely to address these long-term symptoms; a multi-year approach will likely be necessary to improve ecological function and reduce the weed seedbank. Recognizing this, many targeted grazing contractors will reduce their annual per acre charges in exchange for multi-year contracts.

Expectations are also important. Landowners who expect a uniform appearance to land treated with grazing (as if the land had been mowed) will likely be disappointed; grazing often leaves a patchy appearance on the landscape. Furthermore, grazing does not often provide the immediate visual effects of chemical treatment, mastication, or mowing. Vegetation treated with herbicide, for example, often shows immediate impact; grazing is a long-term management technique.

Finally, as indicated above, timing is critical. If targeted grazing occurs too early in the season, soil moisture may be sufficient for the targeted vegetation to re-grow. On the other hand, the palatability of annual grasses and weed species may decline as these plants mature. Contractors often provide supplemental nutrition and other management techniques to impact this lower quality forage at the optimal time.

Continued to page 3

Continued from page 2

What to look for in a Targeted Grazing Contractor

Targeted grazing companies are service providers. Consequently, experience, responsiveness, and attention to detail are critical. Consumers should look for companies with experience in grazing projects in similar environments and situations. Ask potential contractors about their experience level – and ask for references.

Targeted grazing may not be the least costly vegetation management option (compared to mowing or herbicide treatment). As outlined above, targeted grazing is often the best alternative where other treatments aren't possible.

Most targeted grazing contractors will provide an estimate on a per acre basis, allowing consumers to compare targeted grazing to other vegetation management options. In addition, contractors will provide an estimate of the project start date and duration. These estimates can be somewhat uncertain depending on year-to-year changes in vegetation quantity and nutritional quality. There are a variety of factors that impact the cost of a particular targeted grazing project, including:

- Relative ease (or difficulty) of setting up infrastructure, including loading and unloading facilities. Projects in steep or difficult-to-access terrain require more labor (and, therefore, are typically costlier).
- Access to livestock water. Easily accessible water can make the project less costly; projects without access to water may require the contractor to haul water to the livestock.
- Other risks, like vandalism, toxic plants, or proximity to high-value landscaping may increase the cost.
- Multi-year contracts are typically cheaper on a per acre basis. Livestock and targeted grazing staff become more accustomed to a particular property (and therefore more efficient) if the contract is for multiple years.
- Headache factors – like free-roaming pet dogs or neighbors who object to livestock or livestock guardian dogs – can increase the cost of a project.

Landowners and managers should contact targeted grazing contractors well in advance of the desired project start date. Targeted grazing contractors are busiest during the spring and early summer months; scheduling these jobs typically occurs in during the prior fall and winter.

Final Thoughts

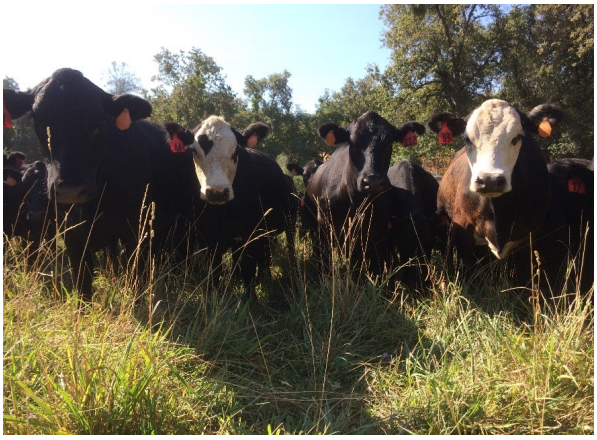
Targeted grazing can be a highly effective way to reduce fuel loads, control invasive weeds, and manage ecologically sensitive landscapes. Livestock be an economical and eco-friendly way to manage vegetation on landscapes where equipment is impractical. For more information, click on the Targeted Grazing page on my website (https://ucanr.edu/sites/Livestock/Targeted_Grazing/).

Want to list your Targeted Grazing Business?

Contact me at dmacon@ucanr.edu

Marketing Your Calves

Dr. Tina Saitone is a Cooperative Extension Specialist focused on livestock and rangeland economics in the Department of Agricultural and Resource Economics at UC Davis. She spoke recently at our 2019 Cattlemen's Symposium in Pleasant Grove on the topic cattle marketing and value-added management programs.



Dr. Saitone utilizes data from Western Video Market's (WVM) satellite video auctions to evaluate premiums paid for specific value-added and marketing programs.

In 2017, she analyzed data from the sale of more than 286,000 head of cattle marketed during 13 video-based auctions.

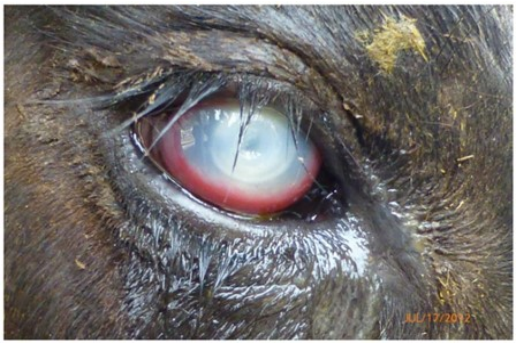
Sales of calves (450-650 lbs) were evaluated separately from sales of yearlings (750-950 lbs). To summarize her results:

- Lots of heifer-only and mixed loads (steers and heifers) are discounted relative to steer-only lots:
- The further cattle are from the Midwest, the greater the discount;
- Calves weaned 30 days or more sold at a premium of $5.56/cwt in 2017;
- Cattle marketed as organic, age and source verified, and natural earned premiums in 2017; and
- Vaccine programs and Global Animal Partnership did not generate premiums for ranchers in 2017.

For more information on Dr. Saitone's research, go to https://livestockecon.ucdavis.edu/. Data from 2018 WVM sales will be posted soon.

Preventing Pinkeye

As most cattle producers in the foothills and Sacramento Valley know, pinkeye can be a significant problem in the late spring and summer months. According to Dr. Gaby Maier, Extension Specialist in Beef Cattle Health at the UC Davis School of Veterinary Medicine, pinkeye can be caused by bacterial infection (typically spread by face flies), mechanical damage (from foxtails, dust, or face flies), or other risk factors (including copper and selenium deficiency).



Prevention is critical to minimizing pinkeye problems. Fly control is crucial – according to Dr. Maier, research indicates that the best face fly control is achieved using fly tags with permethrin alone or in combination with pour on Ivermectin. Ivermectin alone is not effective at controlling face flies.

Cows and calves should have fly tags, and the tags should be removed in the fall to reduce resistance. Weed control can also be an important preventive measure. Annual grasses like foxtail and ripgut brome can cause mechanical damage to the eye. Managing these weeds in an extensive rangeland setting can be difficult; small infestations can be managed by mowing, herbicide application, or timely grazing. Ensuring proper copper and selenium levels through mineral mixes and/or boluses is also critical. Finally, producers should wear rubber gloves when treating pinkeye to avoid spreading infection between animals. There are also a variety of commercially available vaccines on the market. Dr. Maier recommends starting with a commercial *Moraxella bovis* bacterin. Following label directions (including the timing of a booster if required) is critical. Your vaccination program should begin at least four weeks before you expect to see the first cases. Following label withdrawal periods (which can be as long as 60 days) is also critical. Finally, autogenous vaccines may be helpful in managing ranch-specific pinkeye organisms. Work with your veterinarian on any vaccination program.

Integrated Predator Management

Thanks to a grant from the Renewable Resources Extension Act, UC Cooperative Extension hosted a series of field days on livestock protection tools during the last week of March. These field days, which were held in most of the Northern California counties that have established wolf packs or transient wolves, featured demonstrations of a variety of livestock protection tools (including livestock guardian dogs, turbo fladry, electric fencing systems, FoxLight™ night predator deterrents, GPS collars, and trail cameras). We also had three outstanding speakers at each field day: Cat Urbigkit, a rancher and author from western Wyoming; George Edwards, executive direct of the Montana Livestock Loss Board; and local wildlife specialists from USDA Wildlife Services.

From my perspective, there were a number of important takeaways from these workshops. First, protecting our livestock from predators (regardless of the type of predator) takes an integrated and adaptive approach. Some of these "tools" work most of the time; none of the tools work all of the time. As predators become habituated to particular tools (like fladry or FoxLights™), we need to change our approach. This might mean simply moving the tool to another location – or it could mean using a new combination of tools.

George Edwards talked about how Montana established and continues to fund a producer compensation program. Ranchers who suffer predation losses to gray wolves, grizzly bears, or mountain lions, can receive market-price compensation if these losses are confirmed by Wildlife Services. The Board also helps ranchers try prevention tools (like fladry, livestock guardian dogs, and others). "These tools aren't cheap," George told us, "so we think it's important for our agency to help ranchers try them out before spending their own money." For more information about the Montana Livestock Loss Board, go to : http://liv.mt.gov/Attached-Agency-Boards/Livestock-Loss-Board.

Cat Urbigkit, who runs several bands of sheep as well as a cow-calf operation amongst wolves and grizzly bears in western Wyoming, provided a realistic and helpful overview of the capabilities of livestock guardian dogs. Her dogs are very effective, but she still sometimes loses livestock – and even dogs – to predators. In her book, *Brave and Loyal* (which I highly recommend), she writes, "There is no perfect model for how to raise effective livestock guardians. Just because one producer uses a certain system doesn't mean that system is superior – it's what works for that producer. While it may be tempting to pass judgement on those using different techniques, it's best to simply realize that individual producers can and should do what works best for them. Dogs are highly adaptable to a variety of conditions, as should be their human owners." For me, this sums up the bigger point about integrated predator management systems. The approach that works for me won't work everywhere; indeed, it might not even work for my neighbor!

As part of this project, we have created fact sheets on livestock guardian dogs, turbo fladry, electric fencing, trail cameras, and carcass disposal. I'll have links on my website by mid-April (https://ucanr.edu/sites/placernevadasmallfarms/Livestock/Livestock_and_Predators/).

We'll also post additional information and videos on the UC Rangelands Livestock-Predator Interactions Information Hub at http://rangelands.ucdavis.edu/predator-hub/).

Nevada Irrigation District Proposes Irrigation Water Rate Increase

Every 5 years, the Nevada Irrigation District (which serves portions of western Nevada County and northwestern Placer County) reviews its operations and system requirements to ensure that customer charges reflect current costs. You can read the complete 2019 Cost of Service Study at https://nidwater.com/cost-of-service-study-2019/.

To summarize the outcomes of the current study, NID proposes to raise raw water (that is, irrigation water) rates by 32 percent over the next 5 years. In addition, because the district lost money due to customer conservation efforts during the last drought, NID is proposing additional rate increases during declared drought conditions.

Proposition 218 requires voter approval for rate increases. Accordingly, NID has established a process to allow customers to protest the proposed rate increase. According to the NID website (http://nidwater.com), "if the District receives written protests representing a majority of the affected parcels, the proposed rate increase will not be implemented." A written protest must be mailed or delivered to NID prior to the conclusion of a public hearing on April 24, 2019. All written protests must contain:

1. A description of the property (such as address and/or parcel number sufficient to identify the property.
2. A signature of the property owner or tenant.
3. If the protest is submitted by someone whose name is not listed on the water bill or on the last equalized county assessment roll for property ownership, written evidence should be provided that the protest is submitted by a tenant of property owner.

Written protests should be mailed to:

Nevada Irrigation District
Attn: Customer Service
1036 W. Main St.
Grass Valley, CA 95945

If you have questions, contact NID at (530) 273-6185.

Speaking of Irrigation Season…

While it may be difficult to imagine with all of the precipitation we've received this winter, irrigation season is just around the corner. Most of the water districts in the foothills will begin delivering water around April 15 - and six months of moving water through irrigated pasture will begin for many of us! Here are a few tips to help make this coming irrigation season run smoothly!

First, we should schedule irrigation (or design our systems) to provide the right amount of water at the right time to meet plant needs. These obviously change as we go through the irrigation season. Plant and soil water demand, ideally, should determine the quantity of water applied and the frequency of irrigation. This will help improve forage quality, reduce runoff and increase water use efficiency. But how do we know what the plant and soil water demand is?

One of the easiest ways to determine this is simply to learn to assess soil moisture by feel. The Natural Resources Conservation Service has a great pamphlet entitled *Estimating Soil Moisture by Feel and Appearance* (https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_051845.pdf). If you'd rather have a hard copy of the pamphlet (it's even printed on waterproof paper), we have copies at the office!

Finally, if you'd like to know exactly what's happening in your pastures, I can install a WaterMark moisture sensor on your operation. These sensors can help you track the effectiveness of your existing irrigation system and adjust the quantity of water applied and the frequency of application. Call the office if you'd like to schedule an appointment! You can reach me at dmacon@ucanr.edu or (530) 889-7385.

Mark your calendar for Saturday, May 4 - I'll be co-hosting an irrigated pasture workshop with the Nevada Irrigation District and the Nevada County Resource Conservation District in Penn Valley from 8 a.m. - 11:30 a.m. - Stay tuned! Participants must pre-register – contact Kaycee Strong at (530)273-6185 ext. 244 or at strongk@nidwater.com.

UC Davis School of Veterinary Medicine Kicks Off Leptospirosis Study

While Leptospirosis is a bacterial infection that can occurs worldwide, it is more common in tropical and sub-tropical areas. For example, Leptospirosis is a relatively frequent disease in Mexico. In California, Leptospirosis is an emergent disease, which could be explained (at least in part) by our changing climate. Leptospirosis is caused by spiral-shaped bacteria that can cause damage to the liver, kidneys, and other organs of animals and humans. Cases usually occur in the summer and fall; large outbreaks have occurred after flooding. Leptospirosis is not spread from person to person, but from animals to humans through the urine of infected animals, which gets into soil or water. Humans and animals can become infected through direct contact with this contaminated soil or water, where the bacteria can survive for some months. The bacteria can also enter through cuts in the skin, through the mucous membranes or through drinking water.

In cattle, sheep, goats and swine, symptoms of Leptospirosis may include fever and reproductive problems (e.g., abortions). In humans, symptoms can range from mild to severe (including flu-like illness, weakness, vomiting, mental confusion, jaundice, and stiff neck). Most people who become infected have no symptoms or may confuse their symptoms with a simple cold. Unfortunately, some people may develop more significant problems from Leptospirosis.

Vaccines are currently available for livestock and dogs – these vaccines can help prevent disease severity but may not completely prevent infection. We can protect our own health by preventing and controlling infection in our livestock. In addition, rodents can be a reservoir of the disease, so rodent control is important. Don't handle urine, blood, or tissues from infected animals – wear protective clothing, especially gloves! And always wash up after handling animals!

As you might imagine, Leptospirosis is primarily an occupational disease in humans – in other words, those of us who work directly with animals, contaminated soil, or stagnant water can be at greater risk. Half of California cattle herds have been estimated to be infected with Leptospira, which can be a threat to livestock producers and ranch employees. Active epidemiological surveillance has been repeatedly recommended, but surprisingly, no studies on Leptospirosis have been conducted in California agriculture workers. As a result, the Center for Health and the Environment at UC Davis is studying the prevalence of the disease in farmers and ranchers, farm workers, and veterinarians. This study will help researchers better understand the main exposure factors. The Center is looking for volunteers to participate in the study.

You can participate if you are:

- At least 18 years old;
- A rancher, ranch worker, or veterinarian; or
- Working in agriculture, or in close contact with livestock.

You must not have been sick during the last five weeks.

If you decide to participate in the study, researchers will ask some questions about your occupation and work history. You will also be asked to provide a blood sample. The questionnaire and the blood draw will take about 30 minutes. After you have answered the questions and a professional has taken your blood sample in a health facility, you will receive $60 in compensation. The survey and blood collection are completely anonymous.

If you are interested in participating or want more information (in English or Spanish), contact:

Center for Health and the Environment – UC Davis
Alvaro Medel
(530) 761-6380
amedelherrero@ucdavis.edu

Continued from page 7

Ranching in a Drying Climate

California rangelands are expected to experience a substantially drier and more variable climate over the coming decades, with periodic high-rainfall years unable to counteract this long-term drying trend. This progressively drying climate is expected to pose major challenges to ranching and rangeland management across the state.

On May 15, 2019, the UC Sierra Foothill Research and Extension Center (http://sfrec.ucanr.edu/) will host a workshop entitled ***"Ranching and range management in a drying climate"*** focused on addressing these key challenges.

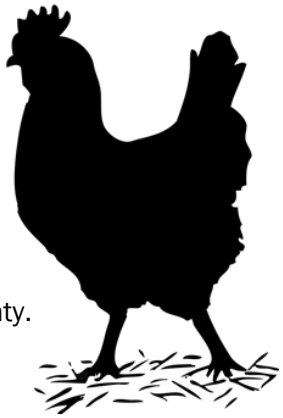
This workshop will bring together rangeland and livestock researchers from UC and UC Cooperative Extension, as well as agency scientists, to explore how rangeland resources may be impacted by a drying climate and key steps that can be taken in animal health, livestock production, and soil management to mitigate these potential impacts. A new generation of climate data, data visualization, and decision support-tools to support long-term planning also will be presented.

The registration ($25/person, including lunch) and the full agenda can be found at http://sfrec.ucanr.edu/. For questions, contact Megan Osbourn at (530) 639-8800.

Virulent Newcastle Disease Update

From Dr. Annette Jones, State Veterinarian

California Department of Food and Agriculture



Since May 2018, an outbreak of virulent Newcastle disease (VND) has had a devastating impact on backyard bird populations in four Southern California counties: Los Angeles, Riverside, San Bernardino and Ventura. The virus has also been found in three commercial facilities in Riverside County. In March 2019, a case of VND was confirmed in Alameda County. As a result, nearly 500,000 backyard and commercial birds have been euthanized.

Virulent Newcastle disease is a highly contagious respiratory virus in poultry that is nearly always fatal. The only way to stop the spread of the virus and eradicate the disease is to euthanize infected birds, and all birds within highly infected areas. The primary way in which the disease spreads is by seemingly healthy birds being moved. Clinical signs of virulent Newcastle disease include; sudden death and increased death loss in the flock; sneezing; gasping for air; nasal discharge; coughing; greenish, watery diarrhea; decreased activity; tremors; drooping wings; twisting of the head and neck; circling; complete stiffness; and swelling around the eyes and neck. For more information, please visit: https://www.cdfa.ca.gov/ahfss/Animal_Health/newcastle_disease_info.html.

Foothill and Sacramento Valley poultry producers should take steps now to prevent VND by establishing a farm-level biosecurity plan. For more information on the critical elements of a plan, go to the UC Cooperative Extension Poultry website at https://ucanr.edu/sites/poultry/.

Spring Workshops Calendar

April 2019	
April 26-27	***Beginning Farming Academy*** - *Auburn, CA* - This is a 2-day intensive introduction to starting a small commercial farm or ranch. If you are considering starting a small ag operation in the foothills, you should attend the Academy. Learn about assessing your resources and choosing products, the basics of market-driven farming, and economic tools. You will finish with an action plan for jump-starting your operation. This workshop does **not** address production practices. It is focused on marketing, business, and economic planning for profitable small farms. Local expert farmers and ranchers and UCCE Farm Advisors will help you refine your plans for your farm or ranch. The Academy runs from 8 AM to 8 PM on Friday, and 8 AM to 5 PM on Saturday. Meal cost for the two days is $85. The class is limited to 15 prospective producers. Apply at: http://ucanr.edu/survey/survey.cfm?surveynumber=26798
May 2019	
May 04	**Irrigated Pasture Basics** - *Penn Valley, CA* Co-sponsored by the Nevada Irrigation District and the Nevada County Resource Conservatory District, this FREE workshop will focus on soil management, irrigation systems, and pasture management. Participants must pre-register – contact Kaycee Strong at (530) 273-6185 ext. 244 or strongk@nidwater.com.
May 11	***Shepherd Skills Workshop: Wool Handling and Shearing Management*** - *Auburn, CA* Learn how to set up and manage a small-to-medium-sized shearing facility for small flocks. Participants will learn about sheep handling, shearing preparation, wool handling, and wool marketing. (Note: this is not a shearing school). Cost: $5.00/person Register at: http://ucanr.edu/woolhandling&shearingmanagement
May 15	**Ranching and Range Management in a Drying Climate** - *UC Sierra Foothill Research and Extension Center, Browns Valley, CA)* This day-long workshop will include presentations on managing soils and forage, decision tools and strategies for managing livestock during drought, and climate data and visualization tools to support on-ranch planning. Cost: $25/person (includes lunch). Register at: http://sfrec.ucanr.edu/?calitem=445275&g=62869
May 17-18	**California Sheep and Goat Grazing School** - *Shone Farm Santa Rosa Community College* This 2-day, hands-on grazing school provides participants with practical, field-based experience in applying the principles of managed grazing on rangelands. Participants will learn to estimate carrying capacity and graze periods, as well as develop grazing plans and monitoring systems. For more information, go to: http://cesonoma.ucanr.edu/?calitem=446449

Spring Workshops Calendar

June 2019	
June 30 (Tentative)	***Sierra Foothill Wool Pool*** *- Auburn, CA* Do you have wool you'd like to sell? Don't know where to take it?! Bring it to the 3rd Annual Sierra Foothills Wool Pool in Auburn. A representative from Roswell Wool will be on hand to receive your wool! Register at: http://ucanr.edu/sfwoolpool