THE NEW FOOTHILL RANCHER

...Practical Information for Foothill Livestock Producers

Dan Macon, Livestock and Natural Resources Advisor

Placer—Nevada—Sutter—Yuba Counties

July 2021

Placer County

11477 E. Avenue

(Bldg. 306, DeWitt Center)

Auburn, CA 95603

OFFICE 530-889-7385

FAX 530-889-7397

Email: ceplacer@ucanr.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@ucanr.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

Placer and Nevada UCCE Offices Reopening!

With the lifting of restrictions throughout California, and with universal access to COVID-19 vaccines, our offices will be reopening in July! The process will be somewhat gradual (as we all need to move computers and other equipment back to our offices), but we're looking forward to resuming our normal operations after nearly a year and a half! With this reopening, I'll be resuming in-person workshops and field days – stay tuned for details

More than Simply Surviving

Over the last six months, drought has once again dominated most of my thinking and many of my conversations with other ranchers. Over the last several weeks, I've given drought talks in Sierraville and Rio Vista – both of which gave me time behind the wheel to think about drought management and the new Drought Decision Support Tools we've developed for ranchers to analyze the decisions we're all making as this drought becomes more serious. And I've realized that I seem to be focused on getting through this drought, rather than on how our ranching operation might emerge from the other side of it. In other words, I've been focusing on survival rather than resiliency. Survival can be depressing (at least for me); resiliency seems far more hopeful!

Elements of Resiliency

From a ranching perspective, I think, resiliency has three elements. As long-term businesses (even multi-generational in many cases), ranches must have ***Financial Resilience***. Most of us are experiencing the added expenses and lower incomes typical of drought; resilient businesses are able to regain a sound financial footing quickly. Second, since most of our ranches are stocked with cows or ewes or goat does that fit our environments and production systems, our ranches must have ***Genetic Resilience***. The genetic base of our flock or herd needs to remain intact – we need to be able to re-stock with animals that fit our ranches. Critically, our ranches must have ***Ecological Resilience***. Just as drought is stressful for us and for our livestock, it's also stressful for our rangelands. Taking care of the land now (by focusing on balancing our stocking rate with a diminished carrying capacity, by avoiding overutilization of rangeland forages, by working to reduce the amount of bare ground that can create openings for invasive weeds) helps ensure that our rangelands can respond quickly when

(Continued on page 2)

(Continued from page 1)

"normal" weather returns. And finally - and perhaps most importantly - we need to be resilient ourselves. ***Human Resilience*** - the ability to see through the challenges posed by drought, to stay positive about the future, allows us to focus on the other elements of resilience outlined above.

Incorporating Resiliency into our Drought Strategies

As I've thought about this concept of resiliency on my long drives this month, I've realized that there are several ways I can incorporate the idea of resiliency into my drought planning. From a proactive standpoint, I can take steps to be sure I understand the economics of my ranching business. What are my financial risks? What does it cost me to run a ewe for a year under normal conditions? How much debt do I have? From a genetics perspective, I can keep records on our sheep that allow me to know which ewes (or lines of ewes) perform well in our environment. Which ewes consistently wean the most pounds of lamb(s) each year? Which ewes seem to never need deworming or treatment for foot rot? Finally, I can develop – and, more importantly, review – a 12-18-month forage calendar that allows me to adjust stocking rate based on carrying capacity. I can rest some rangeland pastures during the growing season to stockpile fall forage. I can pay attention to the perennial grasses and brush species that can provide nutrition to my sheep during the dry season.

Beyond these preparations, however, resiliency can become the filter through which I evaluate my reactive drought strategies. How much will putting our ewes on full feed impact the economic health of the business – how much hay can we afford to buy? And where and how will I feed the ewes to avoid negative impacts to next year's forage production and soil health? Conversely, if I need to cull some sheep to reduce forage demand, how will it impact the genetic base of our flock? Should I sell older, proven ewes, or keep fewer replacement ewe lambs? What are the future economic implications of breeding fewer ewes this fall? By focusing on what our operation will look like ***after*** the drought, I hope I'll make better decisions this summer.

Some Final Thoughts

Finally, I come back to something I learned in 2013-2014. Picking the right drought strategies requires difficult decisions; decisions that are made more difficult by the fact that we don't know how long the drought will last. The best time for me to have thought about the resiliency of our operation was before this current drought intensified. The second best time to think about resiliency is now! For me, at least, thinking about a positive future for our small-scale operation (in other words, thinking about how I can enhance our resiliency) feels much more positive than simply worrying about how we'll survive.

Help us Pilot-Test a New Drought Decision Support Tool

As mentioned in the previous article, I've been working with my colleague Grace Woodmansee (the new livestock and natural resources advisor in Siskiyou County) on a drought strategies decision support tool for ranchers. And we'd like your feedback!

Our Drought Strategies Decision Support Tool is designed to help producers walk through specific strategies to deal with on-the-ground conditions. This tool will guide you through developing your forage outlook for the next 12 months. It will also help you relate your reactive strategies (like weaning your calves or lambs early or selling breeding-age females) with your ranch goals and proactive drought strategies. In addition, the tool is intended to help you establish a critical date by which you will take action. Finally, we've created some simple spreadsheets (available here) to help you analyze the costs and benefits of several key strategies (like feeding hay, weaning early, or selling livestock).

During the last drought, Glenn Nader, livestock advisor emeritus for Sutter and Yuba, said, "The only way you're gonna survive a drought is to make decisions." We hope this tool will help you do so! But we need your help! We hope you'll use this tool to hone your own drought strategies. We also hope you'll give us feedback! How can we make this tool more useful? What are we missing?

If you'd like to set up an appointment to walk through this together, please contact us (gwoodmansee@ucanr.edu or dmacon@ucanr.edu). We're happy to go over it on the phone or schedule a ranch call. We look forward to hearing from you!

Managing Irrigated Pasture during Drought

While our local water agencies are still planning on full-season deliveries of irrigation water, irrigated pasture producers should start thinking about contingency plans – what happens if our season ends early? What is the best approach for keeping pastures going this year? Are there some things we can do this season to improve pasture survival for next year? Thankfully, some of my UCCE colleagues dove into this topic during the last drought. This publication is especially helpful!

First, we've noticed that the soil profile was very dry by the time we got irrigation water in mid April - and other ranchers have reported similar observations. Ranchers with flood irrigation systems were finding that it took much longer to get water to the end of the field because of these dry conditions. With our pod sprinkler system, it took us two full rotations to get the soil profile full and begin meeting plant demand. Our local irrigation district reported that these dry conditions resulted in mid-summer irrigation demand in early May!

With the possibility of water reductions, we need to evaluate the resiliency of the forage species and varieties in our pastures. Some grasses are more drought tolerant than others. At this stage, we can't really do much to shift to a more drought tolerant forage in the midst of the grazing season, but we can adjust our irrigation, fertilization, and grazing strategies to address the needs of the specific species and varieties.

Many foothill and Sacramento Valley pastures go through an annual succession of forages, with cool-season grasses and legumes like tall fescue, orchard grass, and white clover dominating early in the growing season. As temperatures warm, we tend to see more warm-season grasses like dallisgrass and bermuda. With the return of cooler temperatures and longer nights in late summer and early fall, the cool-season species often rebound. The warm-season grasses are typically more drought tolerant, as you might imagine. Of the cool-season grasses, species and variety matter. In general, tall fescue seems to be more drought tolerant than orchardgrass, although there are some drought tolerant orchardgrass varieties. Most of our clover varieties, unfortunately, don't have much drought tolerance.

So how should we manage this year? And what can we expect next year? These recommendations are largely adapted from an excellent video produced by my late UCCE colleague, Steve Orloff (click here to view the video):

1. ***Protect plant crowns:*** avoid grazing below 3" stubble height (and more residual may be better). The plant crown and stubble store sugars and carbohydrates essential for subsequent regrowth. Protecting these plants this fall increases the likelihood that they'll survive into next year.
2. ***Know your pasture plants and pasture soils:*** prioritize irrigating those fields or portions of fields that can withstand drought. Focus on keeping drought-tolerant forage plants going - the less drought-tolerant plants may need to be replanted regardless of your management. Know where your deeper soils are - in our foothill pastures, these are typically at the foot of slopes. Generally, these deeper soils can hold onto water longer.
3. ***Collect soil samples and target your fertilizer applications:*** Fall applications of potassium and phosphorous can help stimulate root growth, but it's always helpful to know your baseline fertility. Nitrogen application during drought, however, can concentrate nitrates (and be harmful to grazing livestock).
4. ***Focus on recovery periods:*** While I think it's ALWAYS critical to vary grazing rotations based on the recovery period of the pasture, drought makes this even MORE important. In short feed years, it's always tempting to come back to a field before it's fully recovered from the last graze. DON'T DO IT! Allowing plants to recover fully will enhance root growth and pasture resiliency.
5. ***Think about next year:*** If our water shuts off early, we may lose some of our clover - consider over-seeding clover just before the first fall rain. One of the more interesting ideas in the video referenced above was the possibility of planting an annual cereal crop (like triticale) before the water shuts off - and grazing in the fall and again in the spring (assuming something like "normal" winter precipitation). This is something I'll need to think through, but I'm intrigued by the idea.

(*Continued on page 4)*

(Continued from page 3)

As always, I'm available to come to your pasture to talk about these options and your specific situation. And we're hoping to do an on-ranch, in-person workshop later this summer to discuss these strategies in more detail. Feel free to contact me at dmacon@ucanr.edu or (530) 889-7385!

Getting our Ranches Ready for Fire Season

Wildfire preparations can more complicated for commercial livestock operations than for typical homeowners. In addition to creating a fire-safe space around homes, we also need to protect livestock and ranch infrastructure. Many ranches have livestock in multiple locations, and many of these leased pastures are simply pastures; there is no landlord or caretaker on site. Often, the number of livestock at a particular location may be more than can be easily evacuated in case of wildfire. Finally, access during a fire may be difficult due to law enforcement road blocks and priority for fire equipment. Here are a few of things we do to get ready for fire season.

Assessing the Threat

What is at risk in our operation? Do we have livestock in multiple locations? What is access like? At a minimum, our wildfire preparation efforts address the following:

1. Create defensible space around home(s), barns and other infrastructure.
2. Are there any access issues at any location where you have livestock? Single lane roads can be especially problematic. Do you have alternative access points?
3. If you rely on dry forage for fall grazing, are there steps you can take to protect this forage from fire? Are there potential animal health issues associated with smoke and other indirect wildfire impacts?

Developing and Implementing a Wildfire Plan

Our ranch wildfire plan has several components:

1. ***Protecting buildings, infrastructure and information:*** We remove flammable vegetation from within 100 feet of houses and other buildings. This also includes other critical infrastructure like propane tanks, wells, equipment sheds, barns and corrals. We also make sure we have protected critical legal documents and insurance information. Check CalFire's suggestions for putting together an emergency supply kit (http://www.readyforwildfire.org/Emergency-Supply-Kit/).
2. ***Protecting forage:*** Like many operations, we stock our rangeland pastures conservatively to ensure a supply of fall forage. In some areas, we try to create fuel breaks to protect this forage from wildfire through targeted grazing. Disking or grading around the perimeter of pastures, or at least adjacent to potential ignition sources, can also reduce the threat. The width of any fuel break depends on the fuel type, topography/slope, and potential flame lengths that a fire might generate.
3. ***Protecting livestock:*** We try to plan ahead for how we might move livestock out of harm's way in the event of a wildfire. That said, we have too many animals to evacuate on short notice; leaving animals in pasture (or "sheltering in place") might be our best option. Fortunately, we've never had to do this. If you need to leave animals in place, be sure they have enough feed and water for several days. Will the livestock have water if the power goes out? Be sure to take down temporary fences or other hazards that may injure livestock as the fire moves through the property. Prepare for any post-fire health problems (like respiratory infections or other injuries) as well.

(Continued on page 5)

(Continued from page 4)

4. ***Water supply:*** Water is critical for protecting our properties and for keeping livestock healthy. Do you have adequate water supplies for wetting down your buildings and facilities, or for directly fighting fire? If you have to pump water, do you have a backup system in case you lose power? Can you provide stock water if the power goes out? You may want to consider investing in a backup generator and/or additional water storage.
5. ***Escape routes:*** Ideally, we try to have at least two routes in and out of our ranch properties. In addition, we try to think about at least two alternatives for moving livestock to safety in the event of a fire - this means loading and unloading facilities, a plan for gathering livestock, and a clear understanding of the road system near your pastures. Narrow roads can be problematic for navigating with stock trailers, especially when fire equipment is also inbound.
6. ***Backup:*** Obviously, many of us can't be on hand 24 hours a day, seven days a week to respond to a fast-moving fire (especially when livestock are grazing on multiple properties). We work with friends, neighbors or colleagues to have a backup plan to evacuate or otherwise protect your livestock. Consider meeting with your neighbors to go over key livestock facilities, evacuation plans and access routes. Be sure to check in with these backup resources in the event of fire.
7. ***Communication plans:*** I try to keep phone numbers for the other ranchers in our area on my phone, and I try to keep track of who runs the cows or sheep next door. During fire season, many ranchers text or call neighbors when they see smoke. Consider formalizing these calling trees.
8. ***Situational awareness:*** During fire season, I constantly watch for smoke, especially when I hear fire equipment or aircraft. We carry a shovel or other fire tool and 5 gallons of water in our pickups and pay attention to where ranch visitors park – a catalytic converter on dry grass can be disastrous. I also check local news websites or alert services (like www.yubanet.com).

Writing Down our Plan

Even for ranching operations with few or no employees, writing down our plan can help others (spouses, neighbors, etc.) know what to do and who to contact in case of fire. Our written plan includes the locations where livestock are grazing (which suggests this plan needs to be updated as livestock are moved). Location information includes a physical address and/or map, along with the number and class of animals on site. We also include a description of potential evacuation routes (including locations of loading facilities). Are there safe zones (like dry lots or irrigated pastures) on the property or nearby where animals could be moved if evacuation isn't possible? Is there an onsite caretaker or neighbor we can call in case of emergency? Are there other ranchers who could help us? What are the numbers of livestock haulers who might be available? Click here for a template for completing your own plan!

I share a copy of this plan with other people in our operation – specifically, with my wife and kids, and my partner. This year, I'll plan on sharing this plan with our landlords, as well. Finally, we'll provide a copy (or at least a list of locations where we have livestock) to our local fire, animal control, and law enforcement agencies.

Disaster Livestock Access Pass Program in the Works for the Foothills

Over the last six months, a group of ranchers from Placer, Nevada, and Yuba Counties, along with the agricultural commissioners from each county, have been working on a disaster livestock access program for commercial ranching operations. Patterned after a program developed in Butte County, this program would coordinate with local emergency responders to provide access for livestock producers to care for animals during a disaster. Currently, the elements of the project include:

1. Who Qualifies? To qualify for a Livestock Access Pass, a ranching operation must provide the following information via an application submitted to each county agricultural department:

    a. Verification that they own a minimum of 50 head of livestock (including offspring in utero) (e.g., 25 pregnant cows or ewes), a minimum of 100 poultry, or a minimum of 50 beehives. Verification may be made through the application and/or inspection by the County Agricultural Department or UCCE.

    b. A list of locations (by APN and/or physical address) where livestock may be grazing.

    c. Certification of completion of fire safety training (see below).

2. Fire Safety Training for Ranchers: Livestock Access Pass participants will be required to complete a 4-hour training program was developed by Santa Barbara County Fire and based on the training provided by CalFire to its equipment contractors. Continuing education or re-certification would be required each year. UCCE and local fire agencies would coordinate on training delivery. Ranching operations may work with ancillary services (like veterinarians, livestock haulers, etc.) to participate in training.

3. Livestock Access Pass Cards and Certification List: Livestock Access Pass cards will be issued and current lists of pass holders will be maintained by the County Agricultural Department in each county. Each qualified operation is eligible to obtain up to three cards, provided each card holder has completed the training outlined above. Since many ranches have operations in more than one county, Placer, Nevada, and Yuba Counties will recognize the Livestock Access Pass cards issued by each county (and will share certification lists).

    Livestock Access Pass cards are applied for by and distributed to ranchers before a disaster. The application process is designed to confirm that the cardholder is a bona fide agricultural owner-operator or employee whose services are essential to providing protection for livestock. Individuals who acquire the Livestock Access Pass should be key personnel who have a working knowledge of the agricultural property, including access to irrigation systems, ranch equipment, and other essential infrastructure. They are aware of or have been trained in emergency procedures and understand that their role is to support the agricultural operation, not to fight fire or act as first responders during disaster.

    The cards do not necessarily mean the cardholder will be able to pass through road closures to get to their farm or ranch. If there is imminent danger, front-line emergency personnel are empowered to use discretion when it comes to protecting emergency crews and the public from unnecessary exposure to risk. However, in those cases when the boundaries of the closure area include agricultural land not deemed at imminent risk, the cards should allow cardholder access to agricultural property.

We're hoping to hold 4-hour training sessions in each county in late July. If you'd like more information about this program, please contact me at dmacon@ucanr.edu or (530) 889-7385.

(Continued on page 7)

(Continued from page 6)

Watch for your Foothill Agricultural Water Use Survey!

During the late summer and early fall, we will be kicking off a survey of irrigation water users in conjunction with the water agencies in Placer and Nevada Counties to objectively analyze the following questions:

1. What percentage of raw water customers of the districts serving these counties are engaged in commercial agricultural production?
2. How many acres of commercial irrigated agriculture are in production in each county?
3. What are the sources and uses (e.g., crops) of irrigation water on commercial agricultural operations in these counties?
4. What are the non-production benefits of irrigated commercial agriculture in these counties (e.g., fire hazard mitigation, wildlife habitat, groundwater recharge, etc.).
5. What are the costs associated with irrigation, and what percent of total operating costs does irrigation represent?
6. How sensitive are commercial agricultural operations to potential water price increases?

The survey will be distributed via direct mail to raw water customers of the Nevada County Irrigation District, the Placer County Water Agency, and the South Sutter Water District. If you're not a customer of any of these agencies and wish to participate in the survey, please contact me. Producers will have the option of returning an anonymous paper survey directly to UCCE or completing an anonymous online survey. The survey questions and protocols will be submitted to the UC Davis Institutional Review Board to ensure that all private data remains confidential.

The results from this survey will be shared with the management and directors of all three water agencies, with the members of the agricultural commissions from both counties, and with the boards of supervisors from both counties. The results may also be published in one or more peer reviewed publications focused on irrigated agriculture and/or agricultural economics.

A Final Word…

I can't speak for anyone else, but the last 18 months have been challenging. A pandemic, a record-setting fire year in 2020, political turmoil, and now an increasingly severe drought – crisis overload is real!

After I received my second dose of the Moderna COVID vaccine in late March, I found that the opportunity to see friends and family face-to-face helped to lighten that load. And as I found during the 2012-2016 drought, in-person drought workshops and other producer gatherings have helped, as well – just knowing that colleagues and neighbors are going through similar challenges due to the dry conditions makes them a bit easier to bear. I'm looking forward to resuming in-person workshops later this summer.

I've also realized that each of us copes with this kind of stress in our own way – and we're not always good at reaching out for help when we need it. I'll end this quarter's newsletter with a few resources developed by extension colleagues in other states:

- University of Minnesota Extension – Coping with Rural Stress: https://extension.umn.edu/rural-stress
- Montana State University Extension – Ag Producer Stress Resource Clearinghouse: https://msuextension.org/wellness/stress-management/mt_farm_stress_clearing_house/index.html

Upcoming Workshops

Late July / Early August

Disaster Livestock Access Pass Trainings

4-hour training sessions will be held in Placer, Nevada and Yuba Counties. Stay tuned for details!

September 17, 2021 (tentative)

What if it Stays Dry? Drought Tools for Commercial Ranchers

This half-day, on-ranch workshop, co-sponsored by the Nevada Irrigation District, will focus on drought management strategies, water conservation, opportunities for improving stock water distribution and improving forage quality, and information on USDA programs. Watch for details!

Late September

Beginning Farming Academy

Stay tuned for details.

The Sheep Stuff Ewe Should Know Podcast – Not Just For Sheepherders!

Be sure to check out my weekly podcast! Sheep Stuff Ewe Should Know is available on Spotify and Apple Podcasts! Co-host Ryan Mahoney of R. Emigh Livestock and I explore a variety of livestock production and business topics – everything from genetic selection to analyzing a new business opportunity. And we have some fun along the way – interviewing legendary ranchers and comparing our favorite lamb recipes! If you have a topic idea, email me at dmacon@ucanr.edu!

Follow me on social media!

@flyingmulefarm *(Sheepherder Scientist)*

@flyingmule
(be sure to check out my production-focused IGTV channel!)

FoothillSustainableRanching

Subscribe to my Ranching in the Sierra Foothills blog

How do you prefer to get information from your local

UC COOPERATIVE EXTENSION
LIVESTOCK and NATURAL RESOURCES Program?

Please take this short survey to help me better meet your information needs!

http://ucanr.edu/livestockinfosurvey

For a hard copy of the survey:
Please call (530) 889-7385
or email me at dmacon@ucanr.edu.

Thank you!