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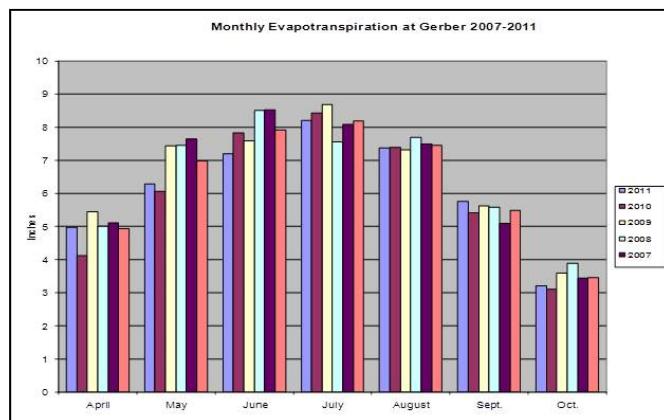
Managing Irrigated Pasture in a Short Water Year

Larry Forero, UCCE Shasta, Farm Advisor

The current lack of precipitation and poor snow pack have many irrigated pasture producers wondering how much water they may have for the coming season. Ranches that rely on streams for summer water are expecting much lower flows than normal this season. Water purveyors are beginning to notify irrigators to expect reduced water for the coming season. While summer is a long way off and we may receive additional precipitation, it makes sense to think about how to manage irrigated pastures in a short water year. Here are a couple of thoughts:



1. If you think you will have irrigation water early in the season, think about applying fertilizer this spring. Local data shows an increase in production of about 1700 lbs per acre (dry matter) response from 200 lbs of urea. The additional forage comes early in the season making forage management key. To use this additional forage effectively, some level of grazing management must be applied (strip graze, use temporary electric fence, etc).
2. This is a year to make sure water is controlled. Maintain the system-clean the ditches, fix outlets and pull checks.
3. Irrigate pastures based on what the plants need. Go to the California Irrigation Management Information System (CIMIS) station nearest your operation. (www.cimis.water.ca.gov) to get this information. Recall that plant water requirement is highest in June, July and August.
4. Irrigate the acreage that you have water to irrigate. If you typically irrigate 50 acres and only have enough water to irrigate 25 fully, irrigate the 25 acres. Limit grazing on the unirrigated land.
5. Leaving a stubble height of 4" will help assure plants will survive. If you run out of water, stopping grazing once this level is reached will help plants (Dallisgrass and Fescue) survive the summer and regrow when water can be applied.



Watch Your Cattle Around Oak Trees

Excerpted From KILLER OAK TREES, Cattlemen's Magazine, 2008
Dr. John Maas

Oak trees have responded to the extremely dry conditions by producing prodigious amounts of acorns. This is a natural response of the oak trees to the stress of drought. There are more acorns on the ground than we have had for many years. Acorns can be toxic to cattle. Most of our While disease problems from to ingestion of acorns or oak leaves are not an everyday problem; when problems do occur they can be catastrophic.

Do all oak trees contain toxic materials?

There are more than 50 common species of oak trees in California and all contain some levels of the chemicals that can cause problems in cattle. The buds, young leaves, and fresh acorns have the highest level of toxins. There is considerable variation in the concentration of toxins in the plant tissues and is dependent on (1) the species of oak trees, (2) the season of the year, and (3) the climate of the year in question. The chemical toxins in question are tannins and phenols, which are naturally contained in the plant material, but vary in concentration based on the variables listed above.

How do the toxins affect the cattle?

The gastrointestinal tract (mouth, esophagus, rumen, and intestines) is damaged by direct contact with the toxins. This results in ulcers, bleeding, and perforation in some cases. If the cattle live long enough, bloody diarrhea or dark diarrhea is seen. Also, in the rumen, some of the tannins are converted to other chemicals (gallic acid and pyrogallols) that are absorbed into the blood stream, travel to the kidneys where they cause severe damage. This kidney damage results in renal failure, which can cause more deaths. Younger cattle (less than 400 pounds) are usually more severely affected than older cattle.

What do the affected cattle look like?

Symptoms usually appear shortly after cattle eat 50% or more of their diet as oak (leaves, buds, acorns). Some animals may simply be found dead. A day or two after eating oak leaves or buds, bloody or dark diarrhea may be noticed. As kidney failure progresses, fluid may accumulate around the anus or vulva. Throughout the course of clinical disease, the cattle appear weak, listless, and have no appetite.

What are the most important risk factors that can lead to oak toxicity?

The presence of large numbers of acorns when forage is scarce is one of the main risks. Wind, hail, or snowstorms can cause large numbers of acorns or limbs with leaves and buds to drop so that cattle can gain easy access to these potentially toxic materials. California outbreaks have been worse in the late winter and early spring when oak buds and small leaves are present in large numbers and a wet snowstorm occurs. The wet snow breaks branches and limbs which fall to the ground. The snow also covers the available grass and this leaves the cattle very hungry. This leads to consumption of these very toxic buds and young leaves because it is the only feed available. Likewise, this year with the large acorn crop and dry conditions with very little grass, the consumption of acorns has been very high in some herds.

What is the acorn calf syndrome?

The acorn calf syndrome is completely different from the problems seen due to oak toxicity from ingestion of acorns, leaves, and/or buds. Acorn calves are congenitally malformed calves. The syndrome is associated with poor feed conditions during the second trimester of

pregnancy (3rd -7th month of pregnancy). The exact cause is not known but seems to occur more often following falls with large numbers of acorns. These calves have very short legs, abnormal hooves, and misshapen heads (either short noses or long narrow heads). The acorn calves look like dwarfs in most instances. Occasionally, more than 10% of the calves in a herd can be acorn calves.

How do you treat cattle with oak toxicity?

Successful treatment of affected animals usually requires fluid therapy, antibiotics, and supportive care. Your veterinarian should be consulted and a treatment protocol set up to increase the odds of success and to provide the most relief for the cattle. The antibiotics help prevent secondary pneumonia and abscessation of the bowel. Fluid therapy will be necessary for many cattle to survive and must be planned with your veterinarian. Ready access to water and good quality grass hay will be very important parts of providing adequate nursing care.

How can oak toxicity be prevented?

Oak toxicity can be prevented by supplementing the cattle with hay or other supplemental feed when forage conditions are poor and acorns are abundant. Likewise, when late snowstorms cover the grass and knock down oak limbs with large amounts of buds and young leaves, be sure to start hay supplementation immediately. DO NOT wait until cattle get sick or die. The delay of only a day or two can result in many more deaths and ill cattle. If cattle are in conditions where toxicity is a longer term possibility work with your veterinarian on the development of a supplement to reduce incidence of sickness.

New Perennial Grass Tested for Sacramento Valley Foothill Rangeland

Josh Davy, UC Farm Advisor Tehama/Glenn/Colusa Counties

Multi-year testing has shown great promise in the use of a new perennial grass for dryland range. The variety is called 'Flecha' fescue. Unlike most fescues planted in irrigated pasture flecha is completely summer dormant and would not be used for irrigated pastures. It greens up with the first fall rains and remains green until fully senescing from mid June to early July depending on spring rainfall. During early summer it becomes fully dormant and will remain so until fall. It also differs from traditional fescues such as 'Fawn' tall fescue by being much finer leaved. Once established it has proven palatable, drought resistant, grazing tolerant, and very productive.



There is no perfect plant, all have their drawbacks. For example, annual ryegrass produces a lot of feed and is easy to establish, but doesn't reseed itself well in subsequent years. The drawback for this plant is the establishment phase. Flecha fescue is very slow to establish the first year. It requires good seed placement and complete weed control for establishment success. Discing and other intensive ground preparation is usually not necessary. The ideal step by step plan for obtaining good weed control and establishing a dryland pasture of flecha fescue would be:

1. Spray the desired planting area in March or April the spring before planting.
2. Let the first fall rain germinate the planting area.
3. Plant flecha fescue at 5 lbs/acre using a no-till drill.
4. Apply broadleaf weed control the spring after planting.

Additionally, it doesn't tolerate grazing for the first year of the establishing period. These factors require careful consideration before trying to establish this plant because cutting any corners will lead to establishment failure. It is however, capable of establishing on very dry years if weed control and seed placement are adequately addressed.

Once established, it is usually wise to defer grazing in May to allow the plant to build root reserves for summer dormancy. The dryland pasture can be heavily grazed in the summer and early fall if desired. In the fall persistence is helped if the plants are allowed to grow for a while after their initial green up. Moderately grazing from late fall through spring and then again in the summer are advised and will not negatively affect the planted stand density.

Flecha fescue is marketed by PGG seeds. Most seed venders are able to order the seed through various distributors in California and Oregon. Currently, flecha fescue is free of endophyte infection in the US. The seed cost varies yearly from \$2 to around \$5.50 per pound.



SRA Fees Boost Funding for CAL FIRE's VMP Program

Dawn Pedersen, CAL FIRE

The CAL FIRE Tehama-Glenn Unit has a new State Responsibility Area (SRA) Vegetation Management (VM) Forester named Dawn Pedersen. Her duties include implementation the SRA Vegetation Management Program (VMP). The VMP was designed to be a cost sharing program between private landowners and CAL FIRE to reduce fire-prone vegetation. Through prescribed burns, manual cutting of brush as well as mechanical means of modifying vegetation, VMP projects reduce the risk of large damaging wildfires and improve the growing conditions for native plant and wildlife species. A prescribed burn site can also act as a fire break slowing or stopping the spread of a wildfire: and firefighters will utilize these previously burned areas as safety zones while fighting wildfires.

The Tehama Glenn Unit has had an active VMP program for many years. Many local communities have benefited from these VMP projects and some now have some shaded fuel breaks located along strategic ingress and egress routes. In addition to hazardous fuel reduction benefits, local ranchers have seen a reduction in exotic weeds such as barbed goat grass, medusa head and star thistle and are benefiting from improved wildlife habitat as a result of prescribed burns. CAL FIRE has been fortunate to have access to local ranches for the purpose of conducting field training exercises designed to train Heavy Equipment Operators and assist with maintaining their skills during non-fire season. Firefighters and conservation camp inmate fire crews are also provided with live fire scenarios to train and prepare for the next fire season during VMP projects and prescribed burns.

The new state Fire Prevention Fee legislation has created new opportunities to apply funding for this valuable program in both private and public lands in the State Responsibility Area (SRA). New fire prevention alternatives and project ideas are being developed and projects are being designed to directly benefit the landowners and communities in SRA. The Department expects the program to be fully staffed and with approved fire prevention projects funded and ready to be implemented within 1-2 years.

For more information on local programs contact Dawn Pedersen at 530 528-5116.

Managing Cattle During Drought: Destocking and Early Weaning

Morgan Doran, UCCE Livestock Advisor Solano/Yolo/Napa Counties

Destocking.

For some producers, drought response actions started last winter and spring by culling cows more aggressively and selling calves earlier than in normal years. Those practices may have to continue this year, and perhaps even more aggressively. Every producer has their own cow culling criteria that are used every year, but this year producers may have to go beyond the normal criteria in order to further reduce their herd size. Cow culling should be based on productivity and a common practice is to remove non-productive cows from the herd. If a cow is open, it's off to the auction, but sometimes they are given a second chance. And what about the low-producing cows? This is a time when you can't afford to feed cows that are not producing at an adequate level. Giving cows a second chance and keeping those cows that wean smaller calves are practices that compromise the health and productivity of your higher producing cows, your entire herd and your ability to survive this drought.

A study conducted at the UC Sierra Foothill Research and Extension Center showed that some production parameters, especially weaning weight of calves, decline when beef cows reach 10 years of age (Renquist et al., 2006). Pregnancy rate declined dramatically in 10-year-old cows primarily because they were unable to maintain sufficient body condition at the time of breeding. The results of this study provide a baseline cow-age culling criteria. The drought situation will likely require more aggressive culling criteria, such as getting rid of all cows over 8 years of age, selling all open cows, and keeping fewer if any replacement heifers. Even further destocking decisions may be necessary. Luckily cattle prices remain strong, which provides another good incentive to cull aggressively and retain few replacement heifers.



Good health and performance records of your cows help you make better and more objective decisions in general, and during a drought this information is especially critical when making severe culling decisions.

Early Weaning.

Weaning calves earlier than normal is another effective strategy to survive a drought (early weaning can occur between 80 and 120 days of age). Cows experience their highest nutritional demand when lactating, September-December for fall calving cows and February-May for spring calving cows. Under the current drought conditions, producers with fall-calving herds have likely been feeding supplemental hay and protein in order to maintain adequate body condition, which is especially important at breeding time. The multiple nutrient demands of lactating to raise a calf and sustaining body condition of fall-calving cows for breeding can be challenging under normal condition, but is even more difficult during years like this. The sooner a calf is weaned, the sooner the cow can dedicate energy to restoring her body condition instead of milk production.

Cows that are nursing their first or second calf have an even greater nutritional demand because their bodies are still growing, which requires energy and protein levels above that of mature cows. If early weaning your entire calf crop is difficult to implement, consider a partial or step-wise implementation strategy starting with your youngest cows.

Weaning is stressful on calves and early weaning can be more severe, but there are some steps you can take to minimize additional stresses and create a smoother transition and a better rebound. Early weaned calves will require a high quality diet or diet supplement in order to sustain an adequate growth rate. About two weeks prior to early weaning, introduce calves to the post-weaning supplemental diet so that they can gradually adjust to the new feedstuffs. This will allow the rumen microbial populations to shift to the new diet, improve diet consumption once

weaning has occurred and help sustain growth rates. Creep feeding calves is one option if you have the equipment to restrict feed access by cows. Providing the post-weaning diet to cow/calf pairs is another option and may encourage more rapid consumption of the diet by the calves as they observe and learn from their moms. If possible, try limiting early weaning to only those calves that are readily eating forage and other feeds, otherwise calves may require milk replacement or suffer a long-term setback in growth and development. Before and after early weaning limit other stresses on the calves by avoiding vaccinations, branding, castration and other activities that can be postponed until a later time when calves have recovered from weaning stresses.

Destocking and early weaning are strategies that focus your limited resources, mainly feed and forage, on the breeding stock you wish to maintain based on strictly selected traits and performance criteria. Having a drought management plan in place ahead of time that guides decisions during a drought will help you implement these strategies while minimizing negative impacts on your long-term ranch goals. Destocking decisions made in haste can have devastating consequences, requiring several years to correct. And don't forget that destocking can have tax implications that should be factored into the overall equation.

Renquist, B.J., J.W. Oltjen, R.D. Sainz and C.C. Calvert. 2006. Effects of age on body condition and production parameters of multiparous beef cows. *Journal of Animal Science*. 84(7):1890-1895.

Check for Vitamin A Deficiency

Dr. Rob Moeller - California Animal Health and Food Safety Laboratory

Josh Davy - UC Farm Advisor

The drought this year has led to many concerns on finding feed for livestock. One easily missed nutrient that is generally not a concern for California winter annual rangeland is vitamin A. Usually vitamin A is plentiful as carotene in green plants, which cattle are able to convert to vitamin A. Cattle grazing green feed can store vitamin A for extended periods of time in the liver, but with the current year's drought these reserves could possibly be depleted if cattle are not able to graze green forages. This is a particular problem in growing/pregnant heifers. Post mortem submissions to UC's California Animal Health and Food Safety Laboratory have found cases of vitamin A deficiency this year, making awareness of this issue important. If your cattle have had limited access to green forages this year, this could be a concern.

The most common problem we see with vitamin A deficiency is in fetuses and new born calves. Deficient fetuses are often aborted at near term, may be small for their size or born alive but weak, and fail to thrive and die. Some surviving animals will be blind. In some ways, these fetuses/calves have similar symptoms as to what we see in foothill abortions or other bacterial infections. In young growing animals, we may see edema of the limbs and brisket, poor skeletal development, blindness, night blindness and possibly other nervous disorders. Adult animals may appear normal but the vitamin A's effect on the uterus may cause issues with getting the animals bred leading to decrease conception rates or repeat breeding.

Correction of vitamin A deficiencies can be tricky with supplement feeds and mineral mixes because the vitamin A provided may not last very long once exposed to sunlight. For highly deficient cattle an injection will help some, but will not completely cure the deficiency at hand. Good quality hay, corn, and silage does provide carotene for vitamin A conversion, but low quality or two year old cutting hays or as in this year's pasture conditions, dry pastures with little green vegetation may lack ample carotene. Vitamin supplementation in a feed or mineral mix is a good way to get carotene to the animal and make it quickly available for use in the animal. However, care should always be taken to ensure that the supplement is not exposed to direct sunlight or heat for long periods of time because Vitamin A can be deactivated quickly.

Serum blood samples are the easiest way to assess vitamin A levels. Sampling a handful of representative cattle (particularly pregnant replacement heifers) within the herd is adequate for determining if a problem may occur. Testing runs about \$35 a sample. Your local veterinarian can assist in determining your possible needs for vitamin A testing. Contact information for testing labs is below:

CAHFS – Davis
620 W. Health Sciences Dr
Davis, CA 95616
Phone: 530-752-8700

CAHFS – Tulare
18830 Road 112
Tulare, CA 93274
Phone: 559-688-7543

CAHFS-San Bernardino
105 W Central Avenue
San Bernardino, CA 92408
Phone: 909-383-4287

Winter Livestock Meeting



Shasta Livestock Auction Yard, Cottonwood, CA

Friday February 21, 2014

5:00 p.m. - 8:30 p.m.

Brought to you by : Hawes Farm and Ranch, Golden State Farm Credit, Zoetis (old Pfizer Animal Health), Cottonwood Veterinary Clinic, Shasta Farm and Equipment, Shasta Livestock, Shasta And Tehama County Cattlemen's Associations & UC Cooperative Extension

AGENDA

5:01 pm GMO Feeds-Facts and Fiction
Allison Van Eenennaam, UCCE Biotechnology Specialist

5:45pm Foothill Abortion
Dr. Jeff Stott, UC Davis School of Veterinary Medicine

6:30 pm Alternative Feeds
Josh Davy and Larry Forero

6:55 pm Early Weaning and Drought Vaccination Program
Bill Gray, DVM, Cottonwood Veterinary Clinic

7:15 pm Dinner from the Branding Iron Restaurant courtesy of :
Zoetis, Hawes Farm & Ranch Supply, Shasta Farm & Equipment, and Golden State Farm Credit

7:45 pm Strategies to Supplement Selenium
Josh Davy, UCCE Tehama/Glenn/Colusa Counties

8:15 pm Efficiency of Wild Flood Irrigated Pasture System
Larry Forero, UCCE Shasta/Trinity Counties

Winter Livestock Meeting—Friday, February 21, 2014 - 5:00 p.m. to 8:30 p.m. Shasta Livestock Auction Yard, Cottonwood, CA.

Name _____

Telephone _____

Address _____

Street

State

Zipcode

Number Attending _____

Email _____

Mail this form to UCCE Shasta, 1851 Hartnell Avenue, Redding, CA 96002 or UCCE Tehama, 1754 Walnut Street, Red Bluff, CA 96080

Please return the RSVP to Larry Forero or Josh Davy by February 19, 2014 so we can get an accurate count for dinner. Thank you! For more information, call Larry Forero at (530) 224-4900 or Josh Davy at (530) 527-3101



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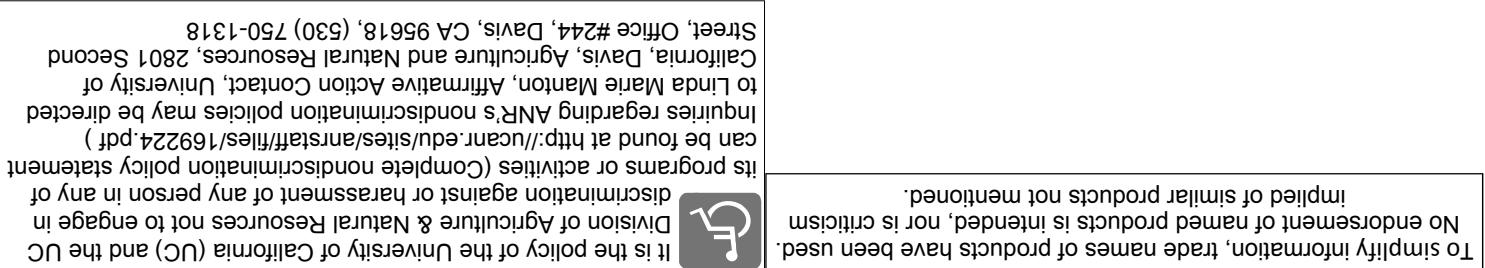


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- Winter Livestock Meeting Flyer and Registration Form: February 21, 2014
- Managing Cattle During Drought: Destocking and Early Weaning
- SRA Fees Boost Funding For CAL FIRE's VMP Program
- New Perennial Grass Tested For Sacramento Valley Foothill Rangeland
- Watch Your Cattle Around Oak Trees
- Managing Irrigated Pasture in a Short Water Year

In this issue...

Northern California Ranch Update is a newsletter published by the Shasta County Farm Advisors office containing range, and natural resource management. Northern California Ranch Update is a newsletter published by the Shasta County Farm Advisors office containing research, news, information, and meeting notices related to the areas of livestock production, irrigated pasture, range, and natural resource management.