



Summer 2016

Join Siskiyou County Cattlemen & Cooperative Extension for the

Annual Cattlemen's Tour
in Scott Valley on Saturday, August 27th



9:00 AM Introduction and Welcome – Coffee and light refreshments

First Stop: 5 Mary's Farms Operation Background and Goals

Brian Heffernan- 5 Mary's Farms

Direct Marketing

Mary Heffernan – 5 Mary's Farms

Second Stop: Bryan Morris Ranch Background and Goals

Jim Morris, Bryan-Morris Ranch

Water Storage, Efficiency & Quality

Steve Orloff, UCCE Advisor- Siskiyou County

Off-season Water Application for Groundwater Recharge

Center-Pivot Irrigation Efficiency Project

Roundup Ready Alfalfa Injury Update

Ken Tate, UC Extension Rangeland and Watershed Specialist

Post-Grazing Regulatory Action Project Update

12:30 PM Trade show & Lunch Provided by Sam & Siskiyou Co. Cattlewomen

Harold Foster Scholarship & Friend of the Industry Award

Cheryl Foster & SCCA President

UC Cooperative Extension Rangelands Update

Leslie Roche, UC Cooperative Extension Rangeland Management Specialist

California Cattlemen's Association Update

Billy Gatlin, CCA Executive Vice President

Kirk Wilber, CCA Director of Government Affairs

UCCE Livestock and Natural Resources Survey Update

Carissa Koopmann Rivers, UCCE Siskiyou County Advisor

Cattlemen of the Year Presentation & Ranch Hand of the Year Award

SCCA President

3:00PM Adjourn



John Bennett

Intermountain Ag Services



In This Issue

Annual Cattlemen's tour August 27th

Plant Toxicity: Are Your Livestock Safe?

Pink Eye: Prevention is Key

Cost Share Programs: Are You Missing Out?

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Pink Eye

Article by Amy Fousek, D.V.M.

Many cattle producers are currently dealing with cases of pink eye. An outbreak of pink eye can increase production costs time and labor necessary in treating affected animals. In addition to direct costs, the economic value of those animals is significantly diminished when sold. Typical signs of pink eye are tearing, holding the eye shut, corneal lesions and cloudy blue eyes. In severe cases, blindness and rupture of the globe are possible. Watching an eye rupture in front of you is a vivid reminder of the significance of this disease.

Environmental Factors

Several environmental factors can contribute to the susceptibility and transmission of pink eye in your herd. These factors are manageable and include face flies (act as an irritant and transmitter of bacteria), irritation from dust, wind, excessive sunlight, and plant materials like pollens, grass awns and foxtails.

Causative Agent

Moraxella bovis has historically been the causative agent for pink eye in our cattle. New research has recently identified *Moraxella boviculi* as another bacterium that is causing pink eye. *Moraxella boviculi* causes more aggressive lesions, lesions resistant to therapy and cases that can happen year round even when the face fly isn't present. It is believed that *Moraxella boviculi* is spread in the environment (dust, wind, dusty hay, etc...), and by direct contact. Another bacterium, *Mycoplasma* spp. has been cultured from pink eye cases locally but its significance has not been completely identified.

Treatment

Treatment for pink eye usually consists of administering a labeled systemic antibiotic and placement of an eye patch or suturing of the eyelids to decrease further irritation by dust, flies and sun. Talk to your veterinarian for a specific treatment protocol.

Prevention

Pink eye is a frustrating and costly disease to treat; therefore, prevention is the key. Vaccination is one way to prevent. There are commercially available vaccines to cover *Moraxella bovis* but no currently available vaccine for *Moraxella boviculi*. It is even trickier that *Moraxella boviculi* has several strain variations. A veterinarian can culture your specific cases of pink eye and have an autogenous vaccine made from your culture. Autogenous vaccines have been made in the surrounding counties and may be available to your ranch if the same strain is identified on a culture. Another angle at prevention is environmental control. Decrease face flies through ear tags, pour-on products or feed-through products. Isolate the affected cows. Conduct pasture management and prevent tall pastures.

For more information, please contact your local veterinarian or Dr. Amy Fousek at Siskiyou Veterinary Services 530-640-3628.



Image from Newport Laboratories
<http://www.newportlabs.com/pinkeye>



Image from CalAg website
<http://calag.ucanr.edu/Archive/?article=ca.v068n04b109>

Plant Toxicity: Are You Exposing Your Livestock?

It is difficult to measure the economic impacts of plant toxicity on the livestock industry due to multiple factors including the elusive nature of losses and the unpredictable nature of the plant species. Toxic weed populations vary from year to year based on management practices, amount and timing of precipitation, and temperatures. Impacts like death, cost of fence, veterinarian bills, supplemental feeding, and increased labor are easy to measure, however, other impacts such as weight loss, fetal loss, slow growth, decreased reproductive efficiency and decreased forage production per acre are harder to put a number on. Sometimes entire herds expire but more often single, or few animals will die or not be found. This makes the cause of death difficult to diagnose and prevent. (James et al. J. Range Manage. 45:3-8)

With the recent drought it has been more common to see new plant species showing up in areas that they have not regularly had a presence. Animals will generally avoid non-palatable, toxic plants; if there is nothing else to select, they will consume what is available. With that in mind, it is important to be aware of what plants are in your pasture and rangelands before turning livestock out or before planning to cut and bale hay. Baling toxic plants can be one of the most common avenues for exposure to large numbers of livestock. Timing, duration and intensity of grazing all effect livestock and their grazing behavior. Ecological health, the plant species that are present, and the species and class of livestock available will determine the best management plan for your operation.

Some Siskiyou plants of concern:

Hemlock	Oak leaves	Deathcamas
Larkspur	Ragwort	Spotted Knapweed
Locoweed	Fiddleneck	Klamath Weed
Milk Weed	Lupine	Yellow Starthistle
Whitetop	Pine Needles	Knight Shades



Steer grazing in Lupine patch

Poison
Hemlock-
Ohio State
University



Below are a few of these plants that may be easily overlooked because they are a common sight and do not generally pose a direct threat unless certain environmental circumstances occur.

Pine Needles

Pondarosa pine needle consumption can cause late term abortions in cattle. Abortions are caused by ingestion of green pine needles from the ground or directly from a tree. The toxin in the needles restricts blood flow directly to the placenta causing expulsion of the fetus within 2-21 days of ingestion (University of California Agriculture and Natural Resources publication 8398. 2011). Pine needle consumption usually occurs when other forage sources are not available. Most common clinical signs of pine needle poisoning are:

- Abortion
- Retained placenta
- Renal and neurological lesions

Oak

Every portion of the plant contains tannins and phenols at differing levels of toxicity. Most cases of Oak poisoning have been reported in cattle. Prevalence of Oak toxicity due to late spring snow storms is high because spring feed is covered by snow leaving oak buds readily available as the sole forage base for livestock. Poisoning generally occurs within 2-3 days of consumption of large amounts of new leaf growth, green acorns, and bud growth (John Maas, DVM, MS. Oak Toxicity, UC Davis Veterinary Medicine Extension. 2001). The highest level of acorn production can occur under drought conditions which negatively coincides with low forage production during a drought (Jerald D. Bausch, DVM Thomas L. Carson, DVM, MS, PhD. Oak Poisoning in Cattle. Iowa State University). Clinical signs of Oak toxicity include:

- Bloody scours
- Chronic weight loss due to impaired kidney function
- Fetal damage (acorn calf syndrome) if bred cows consume buds, acorns or leaves between 3-7 months of gestation (second trimester).

Poison Hemlock

Poison hemlock is commonly found on road edges, edges of cultivated fields, along creek beds, irrigation ditches, and in unmanaged areas. All portions of the plant are poisonous (University of California Agriculture and Natural Resources

publication 8398. 2011). Signs of a toxic level of consumption generally occur about an hour after ingestion. As little as 100-300 grams (3.5-10.6 ounces) of leaves can be deadly to sheep and 300-500 grams (10.6-17.6 ounces) in cattle. Death occurs within 3-5 hours of ingestion generally from respiratory paralysis. It is especially important not to expose cattle between 40-70 days' gestation and sheep at 30-60 days' gestation because skeletal deformities or cleft pallet may occur in offspring of animals who consumed poison hemlock during this time (Vetter et al. Food and Chemical Toxicology Volume 42, Issue 9, September 2004, Pages 1373–1382). Clinical signs include:

Tremors	Teeth grinding	Nervousness
Depression	Muscle spasms	Incoordination
Bloat	Excessive salivation	Sudden death

Larkspur

Larkspur death losses vary from year to year, which could be due to varying alkaloid levels from population to population. Populations can also vary in alkaloid levels from year to year. Therefore, pounds of larkspur needed to be fatal varies considerably from year to year and within populations. The toxin concentrations also depend on the stage of growth and species of larkspur which are all poisonous. Larkspur species are most toxic from the time of flowering until seed pod maturation and the plant remains toxic once dried out. Animals are usually found dead after 3-4 hours following exposure to the plant (University of California Agriculture and Natural Resources publication 8398. 2011). Animals will graze larkspur even when there is other desirable forage available. Cattle are highly susceptible to larkspur poisoning while sheep can withstand 4-5 times the amount that is fatal to cattle before showing clinical signs of toxicity.

- Nervousness
- Suddenly falling down
- Respiratory distress and paralysis
- Bloating may occur
- Animal may die suddenly. Excitement intensifies all signs of poisoning.



Washington State University

Livestock are attracted to larkspur because it is similar to alfalfa in digestibility and crude protein. Consumption in small infrequent amounts has no

effect on digestion. To put the toxicity levels into perspective, if plants contain only 0.2% of the most toxic alkaloid, a 1,000-lb. cow needs to eat more than 14 lbs of larkspur to be fatal. A 1,000-pound cow is expected to eat about 3% of her body weight per day, meaning that less than half of her diet must contain tall larkspur. A cow only needs to eat 3 lbs. of tall larkspur to be fatally poisoned, if plants contain 1% of the most toxic alkaloid (Panter, et al. Biochemical systematics and Ecology Volume 30 issue 2, 2002). For fatal poisoning, cattle must eat these amounts within a couple of hours, not spread out over long periods of time.

To Summarize

Timing of grazing and desirable forage availability are key in evading plant toxicity occurrences in livestock. Some plants are more toxic in certain windows during specific growth phases and others are toxic at all growth stages and even when they are dry following the growth season. It is imperative to know the potentially dangerous plants in your pastures and rangelands and to develop a grazing strategy that allows you to utilize the forage available while not losing production due to prevalence of potentially poisonous plants.

What to do if you think you may have toxic plants:

- Collect a complete sample (including stem, leaf, flower) of any suspicious plants.
- Bring samples to your local Cooperative Extension office or to the County Agriculture Commissioner for identification.

What to do if you suspect an animal is experiencing plant toxicity:

- Work with your veterinarian to determine what clinical signs the animal is exhibiting and if they are consistent with potential exposure to a toxic plant.
- If an animal dies, and you are concerned that it may be due to exposure to suspicious vegetation or hay, you can submit the carcass to a veterinary diagnostic lab 530-752-8684, UC Davis VMTH Central laboratory Receiving, Room 1033 1 Garrod Drive Davis, CA 95616, UCDVetClinicalLabs@ucdavis.edu.

You can find more information on plants at <http://www.calflora.org/> and a more specific guide addressing plants that are toxic to livestock in Northern California can be found at <http://anrcatalog.ucanr.edu/pdf/8398.pdf>.

Available Funding Programs

There are many programs available through the USDA and other resources to help support you and your conservation goals, including:

- Constructing or improving water management or irrigation structures (Agricultural Management Assistance - AMA)
- Improving resource conditions such as soil quality, water quality, water quantity, air quality, habitat quality, and energy that can help improve production quality and efficiency (Conservation Stewardship Program - CSP)
- Implementing practices, or activities, such as conservation planning including livestock watering facilities, cross fences, irrigation efficiency practices and more that help address natural resource concerns on your land (Environmental Quality Incentives Program - EQIP)

Who Can Apply for the USDA Natural Resources Conservation Service (NRCS) programs?

Owners of land in agricultural or forest production or who are engaged in livestock, agricultural or forest production on eligible leased land and that have a natural resource concern on that land may apply to participate in EQIP. Eligible land includes cropland, rangeland, pastureland, non-industrial private forestland and other farm or ranch lands.

Eligible applicants must:

- Be an agricultural producer (person, legal entity, or joint operation who has an interest in the agricultural operation, or who is engaged in agricultural production or forestry management).
- Controls or owns eligible land.
- And must comply with adjusted gross income (AGI) of less than \$900,000.

If you are interested in available programs and funding opportunities, I want to help. Give me a call at 530-842-2711, make an appointment to come in and we can talk about potential projects. For more information on NRCS visit <http://www.nrcs.usda.gov> and for Farm Service Agency (FSA) information see www.fsa.usda.gov.



*Photos provided by the Siskiyou County NRCS.

Livestock and Natural Resources Survey: Thank you to those who have completed the Livestock and Natural resources survey- if you have not yet filled it out, it's not too late! You can stop by the office to pick up a blank survey, have me e-mail it to you, or you can do the survey online at

<http://ucanr.edu/siskiyou/livestock/survey>. This survey is your opportunity to help me build a program that will serve you. I appreciate you taking the time to share your thoughts.

Sincerely,

Carissa Koopmann Rivers

Livestock and Natural Resources Advisor
Siskiyou County



Photo courtesy of David Smith, Siskiyou Daily News



SISKIYOU STOCKMAN

Livestock & Rangeland News



Siskiyou Stockman is a newsletter published by the Farm Advisor's office containing research, news, information, and meeting notices related to the areas of livestock production, irrigated pasture, range, and natural resource management.

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