Dallisgrass staggers
Josh Davy – UC Livestock and Range Farm Advisor
Dr. Art Neves – Willows Animal Hospital Veterinarian

Dallisgrass is one of the most common irrigated pasture grasses found in the Sacramento Valley due to its ability for abundant seed production. Dallisgrass produces seed throughout the summer months, which facilitates its rapid establishment in summer irrigated areas. Although it does not match the production and quality of common cool season grasses such as orchardgrass, ryegrass, and fescue, dallisgrass is a desirable forage grass because of its hardiness in grazing tolerance and high palatability.

Managers of dallisgrass pastures should be aware, however, of a potential toxicity to livestock and horses that can occur. The condition is called dallisgrass “staggers” and is typically expressed by muscle trembling, head tremors, an inability to control normal foot placement (staggering), and even falling down. Symptoms usually become worse when animals are excited, making it especially necessary to be cautious when moving potentially infected animals out of problem areas. Toxicity is caused by an ergot (Claviceps paspali) infection of the seedhead in mature dallisgrass. Animals become affected when they consume seedheads of dallisgrass plants that contain the ergot fungus. Livestock can develop a desire for infected seed heads and actually seek them out in a pasture.

Ergot infection of dallisgrass generally occurs when there is an exceedingly wet and/or humid period just after the seed head forms, such as an early fall rain. The fungus first infects the pistil of the seed head and then enlarges in place of the ovary. Unlike the usual flat appearance of dallisgrass seed heads, those infected with the ergot have conspicuously large sclerotium (up to ½ cm) that replace the individual seeds normally seen. These structures help the ergot fungus survive until favorable conditions again occur for it to re-infect plants. The structures can be reddish-brown or black. Infested plants also produce a sticky honey-like substance over the seedhead. Call your Veterinarian or Farm Advisor for help in identifying infected plants.

There is no medicinal treatment for dallisgrass staggers, however, animals generally recover if moved to non-infected pastures. Mowing infected seed heads can help to control the problem in pastures, however, toxicity is still possible in infected hay. Because the ergot requires specific humid conditions, the regrowth after mowing is often not infected. Early detection by checking dallisgrass seedheads for ergot infection can prevent outbreaks from occurring because cattle can be moved to alternative feed and seedheads can be mowed to prevent them from being eaten.

Other common grasses can also produce grass staggers and have similar symptoms. The most common is both annual and perennial ryegrass, though infection occurs differently between them. Perennial ryegrass causes toxicity from consuming the leaf, while annual ryegrass more closely resembles dallisgrass in have toxicity occur from consumption of the seedhead. Phalaris species such as harding grass, reed canary grass, and annual canary grass can also cause grass staggers if applicable conditions are met.

Information for this article was drawn from: Bradfor P Smith. Large Animal Internal Medicine. Edition 4. 2009. Mosby Elsevier
Picture from North Carolina State University forage website: http://www.ncsu.edu/forage/dallis.htm
WILL THIS BE A BAD YEAR FOR GRASS TETANY?

UCD VET VIEWS CALIFORNIA CATTLEMEN’S MAGAZINE JANUARY 2005
John Maas, DVM, MS Diplomate, ACVN & ACVIM
Extension Veterinarian
School of Veterinary Medicine
University of California-Davis

Depending on future rainfall, temperatures and factors we can’t always predict, cattle could be catastrophically affected by the condition known as grass tetany. This is a complex metabolic disease that usually affects lactating beef cattle in California; although, it can affect younger cattle on lush pastures, range, or wheat pastures. The underlying problem is a shortage of Magnesium (Mg) both in the cattle and in their diets. High levels of plant Potassium (K) and nitrogen (as ammonium NH4⁺) both interfere with Mg absorption by the animals. Therefore, fertilization with potash (K) and/or ammonium sulfate can increase plant growth and also increase the risk of grass tetany. The demands of lactation deplete the cow of both Mg and Calcium (Ca) and the clinical signs are caused by the combined shortage of Mg and Ca in these cattle. In addition to low Mg intake combined with higher levels of potassium and ammonia, cattle that are consuming low levels of Ca, phosphorus, and salt are at greater risk of developing grass tetany.

What might happen if we have a bad grass tetany year?

The cattle on lush feed can often be found dead with evidence that they may have struggled. This is most commonly seen as grass and dirt moved away from their feet and head where they thrashed about. If found alive, the cattle can be observed to have convulsions (tetany). Also, they can exhibit weakness, disorientation, and can become belligerent and attack people or inanimate objects (pickups and four wheelers). Signs or symptoms of grass tetany can therefore be confused with rabies, Listeriosis, BSE, or a number of other conditions that affect the brain or can cause sudden death.

How can we be sure we are dealing with grass tetany?

The diagnosis of grass tetany has been made easier by research done in the past few years. A diagnostic problem existed for some time, because many cattle are simply found dead and tissue and serum Mg levels can return to normal at or near death. However, it has been shown that the Mg concentration of fluid within the eye does not fluctuate upwards near death, so this material can be collected for many hours after death and analyzed for Mg content. The Mg concentration of this fluid can be easily interpreted to determine if the cow died of grass tetany. Your veterinarian can also collect cerebrospinal fluid (fluid found inside the brain) in cases where the eyes are not available due to predation and these samples can also be analyzed for Mg content. If live cattle are thought to be at risk for grass tetany, serum samples can be collected and analyzed for Mg. However, if grass tetany is highly suspected, you and your veterinarian should plan carefully for the collection of these blood (serum) samples, as the simple act of running the cattle through a squeeze chute can precipitate life-threatening convulsions. By either method, appropriate samples can be collected, analyzed, and accurately interpreted to decide if grass tetany is the cause of the problem.

What do I do in the face of an outbreak of grass tetany?

Immediately supplement the cattle with alfalfa hay. Alfalfa has high levels of Ca and also has quite a bit of Mg. Additionally, they will usually eat more salt when fed dry hay and this is important in an outbreak. As soon as possible, move the cattle from the offending pastures or fields. Keep them on alfalfa hay and start to arrange for supplementation to prevent future grass tetany cases before turning them back onto the lush pastures.
**What is the best treatment for grass tetany?**

Treatment of grass tetany is usually accomplished by intravenous solutions of Mg and Ca. Treatment of sick animals can be very frustrating and recovery does not occur in all cases. In addition to intravenous therapy, 2 ounces of magnesium chloride or magnesium sulfate can be given in 200 ml warm water as an enema. Your veterinarian can prepare these materials for you ahead of time for use in an emergency. The blood Mg levels will increase 20 minutes after the enema. This can be particularly helpful in cows that are down and convulsing or belligerent—easier to deal with their rear ends than their heads when they are belligerent. To prevent relapses in cows treated under range conditions it has been recommended to give oral slurries of 3 ounces of magnesium oxide plus 3 ounces of dicalcium phosphate and 1 ounce of salt in 1-2 gallons of water. Usually it is best to move cattle that have had grass tetany into a corral or other area where they can be treated again if necessary. This can be difficult, because many of these cattle are not cooperative patients. **Relapses are common!** Any treatment decisions should be carefully discussed with your veterinarian prior to implementation as individual products vary widely with respect to effectiveness and safety.

**What are the keys to prevention?**

The first aid it to know grass tetany might occur—this could be a bad year. Second, have a well-formulated supplement for the cattle prepared and in front of them when they are on lush feed. Measures that help prevent grass tetany include: (1) extra Mg in their diet, (2) extra Ca in their diet, and (3) additional salt (sodium chloride) intake. There are a number of ways this can be accomplished. Salt-mineral mixes and molasses licks or blocks are the most common methods that are successful. Two homemade recipes are listed below:

1:1 magnesium oxide:molasses (free choice—should eat 2 ounces/head/day)

1:1:1:1 magnesium oxide:salt:dicalcium phosphate:corn meal (or soybean meal, Linseed meal, etc)

Consumption of this mixture should be 4 ounces per head per day, **minimum**, mix-add more cornmeal (soybean meal, etc. if less)

The main dietary goal is to supplement 1-2 ounces of magnesium oxide (or magnesium sulfate) and 1-2 ounces of dicalcium phosphate or other calcium source (limestone) per animal per day and encourage salt consumption. Any method that will get this done is a good method. The statement that “an ounce of prevention is worth a pound of cure” certainly holds true for grass tetany.

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**Equine Influenza Hits the Valley**
Josh Davy – Livestock and Range Advisor
Dr. William Gray – Cottonwood Veterinary Clinic

Equine influenza is a highly contagious virus that has been diagnosed in multiple horses in the Northern Sacramento Valley this year. Symptoms of infection and not unlike those seen in humans infected with influenza. The incubation period for the virus is short (1-3 days) and infected horses usually show high temperatures, nasal discharge, and coughing. Horse will often appear weak and go off feed. Transmission occurs with the inhalation of the causative agent. Since the disease is easily transmitted through contact and nasal discharges, horses with the disease should be secluded to prevent infection to neighboring horses.

Generally, equine influenza is not fatal to horses that have normal immunological function. It can be fatal to donkeys and horses with depressed immune systems. Infected horses need to be rested and should recover within several weeks. If you suspect infection, contact your local veterinarian immediately for treatment advice and prevention of secondary infections such as pneumonia. Frequent vaccination is the best prevention for equine influenza. A modified live nasal vaccination is available from your veterinarian, however, booster vaccinations may be required within three to six months.
Common groundsel and fiddleneck are common plants found throughout the Sacramento Valley. Heavy infestations of each can be cyclical, which often leads to a lax in their detection and subsequent control. Both contain pyrrolizidine alkaloids that can cause liver damage in animals if they are ingested in small quantities over time, or in a single large dose. The necessary amount of plant material ingested for toxic symptoms to appear depends on animal species as well as the individual, but in general most animal species are considered susceptible to the toxins. Poisonings are rare on pasture and rangelands because the plants are not preferred and are generally avoided. However, they are more common when ingested in hay, particularly small grains (wheat, oats, and barley) where they are prevalent because they have a similar annual growth habit to small grains.

**Identification**

Common groundsel resembles a thistle and is in the same family (Asteraceae or sunflower family). Groundsel is a winter annual with no spines or thorns, has a yellow flower, and at maturity can be between two inches and two feet tall. Groundsel somewhat resembles annual sowthistle, another winter annual. They can be easily distinguished because, unlike common groundsel, annual sowthistle leaves wrap around the stem, and when broken, emits a white milky juice, where groundsel does not. In addition, the sepal-like structures surrounding the yellow flowers of common groundsel are black tipped.

Fiddleneck is an erect winter annual that grows from one to four feet tall and has very distinctive yellow to orange flowers wrapped in a coil reminiscent of its name. Though they may appear similar, fiddleneck is in a different family from groundsel (Boraginaceae or borage family), and thus the herbicides needed to control each of them can differ.

**Control**

Proper seed bed preparation in small grains can help in weed control and higher yields. Spring tillage, followed by a light fall harrowing after the first rains prevents one season of weed seed production and works to eliminate the early germinating weeds just before planting. Fertilizer strategy can increase crop production and help to outcompete weeds. For example, a starter fertilizer incorporated in the soil at planting can help stimulate early crop growth, whereas broadcasting starter fertilizer can encourage weed growth.
Identification of seedlings is the first step in controlling both fiddleneck and groundsel. Often a previous history of the fields being treated is helpful, however, each can invade where it has not previously been noticed. This has unfortunately been a common case in the last several years. Seedlings, such as those shown in the photos, are usually identifiable by the end of January.

Identifying seedling weeds is important because groundsel can be controlled with inexpensive phenoxy herbicides (e.g., MCPA, 2,4-D) used to combat mustards, where fiddleneck in small grains will require a tank mix with herbicides such as Shark® or Buctril®. Table 1 shows example herbicides and their effectiveness on groundsel and fiddleneck. The table also relates their registration status on range and small grain production. An up to date table of herbicides and their effectiveness on weeds is available at: [http://www.ipm.ucdavis.edu/](http://www.ipm.ucdavis.edu/)

<table>
<thead>
<tr>
<th>Table 1. Examples herbicides to control groundsel and fiddleneck in small grains and on rangeland</th>
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<tbody>
<tr>
<td><strong>Pre-plant (non-selective herbicides)</strong></td>
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<tr>
<td>Herbicide*</td>
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<tr>
<td>glyphosate (Roundup)</td>
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<td>paraquat**(Gramoxone)**</td>
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<table>
<thead>
<tr>
<th><strong>Post-plant (selective herbicides)</strong></th>
<th><strong>Registered</strong></th>
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<tbody>
<tr>
<td>Herbicide*</td>
<td>Common groundsel</td>
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<td>-----------------</td>
</tr>
<tr>
<td>bromoxynil (Buctril)</td>
<td>P/C+</td>
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<tr>
<td>carfentrazone (Shark)</td>
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<tr>
<td>chlorsulfuron (Glean, Telar)</td>
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<tr>
<td>MCPA Amine**</td>
<td>C</td>
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<tr>
<td>2,4-D Amine**</td>
<td>C</td>
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<tr>
<td>aminopyralid (Milestone)</td>
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information from the UC IPM website

*To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned.

**These herbicides require a restricted materials permit from your county agriculture commissioner. Check with you County agriculture department for the necessity of an operator ID and use permit reporting.

***Specific labels should be checked to determine the appropriate registrations of crops. For example, paraquat is only registered for wheat and barley. Always read and follow the label that is delivered with the product. Labels may have differing preharvest, grazing and forage restrictions. If you have questions, call your local County Ag Commissioner.

*C = Control, P = Partial control, N = No control, - = No information*
For cow-calf producers to have a product to sell annually, the cow must get pregnant, stay pregnant, and the calf has to stay alive long enough to sell. Hopefully a high percentage of cows will conceive, gestate and calve. To do this requires some level of skill, knowledge, and luck. Dr. Anderson of the University of Kentucky is coming out to California to address the reproductive physiology of getting the cow bred for the commercial producer. The reproduction theme of the meeting will continue with speakers addressing issues such as management, vaccination, supplementation, and nutrition.

**Agenda**

11:00 AM    Jerry Maltby - GCCA President and Josh Davy – Farm Advisor  
**Introduction and welcome**

11:05 AM    Dr. Les Anderson – University of Kentucky  
“What’s going on in there anyway?”

12:00 PM    LUNCH  
Courtesy of Boehringer Ingelheim Vetmedica, Inc

12:30 PM    Dr. Dan Drake – Siskiyou County Livestock Advisor  
“Measuring production and Reproduction…Easier said than done”

12:50 PM    Shane Strickler - Boehringer Ingelheim Vetmedica, Inc  
“Vaccinating correctly for reproduction”

1:15 PM    Dr. John Maas – Cooperative Extension Veterinarian  
“The effect of minerals on reproduction and supplementation”

1:40 PM    Josh Davy – UCCE Livestock and Range Advisor  
“How well does rangeland meet the nutritional requirements for reproduction?”

Please RSVP for lunch by February 24th to:  
Josh Davy  
jdavy@ucdavis.edu  
530-527-3101
**CSU, Chico Annual Beef Day & Trade Show**  
**February 20, 2010**  
*Sponsored by: CSU, Chico, YCA, CBCIA, and UCCE*

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>8:00 - 9:00</td>
<td>Registration and Trade Show ($12 – includes lunch and breaks; $8 for students)</td>
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<tr>
<td>9:00 - 9:15</td>
<td>Introductions and Welcome</td>
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<td>9:15 – 10:00</td>
<td>CCA Issues Update – <em>Matt Byrne and Dr. Tom Talbot</em></td>
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<td>10:00-10:15</td>
<td>Animal Welfare and Animal Rights – <em>Where do we go from here?</em></td>
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<td><em>Dr. Dave Daley, CSU, Chico</em></td>
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<td>10:15-10:30</td>
<td>Break - Coffee, Doughnuts and Trade Show</td>
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<td>10:30-11:15 Clearing the Air: Livestock’s Contributions to Climate Change</td>
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<td><em>Dr. Frank Mitloehner, UC Davis</em></td>
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<td>11:15-12:15</td>
<td>The Web of Life: How Behavior Connects Humans, Animals, and Landscapes</td>
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<td><em>Dr. Fred Provenza – Utah State University</em></td>
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<td>12:15-1:00</td>
<td>Tri-tip Lunch and Trade Show</td>
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<td><em>Butte County Cattlemen’s Association</em></td>
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<td>1:00-1:15</td>
<td>UCCE Update</td>
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<td><em>Glenn Nader (Yuba/Sutter/Butte) and Josh Davy (Tehama/Colusa/Glenn)</em></td>
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<td>1:15-2:45</td>
<td>The Spice of Life: How behavior and biodiversity link soil, plants, herbivores and people</td>
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<td><em>Dr. Fred Provenza, Utah State University</em></td>
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**Stockmanship and Stewardship Tour**  
*Cottonwood Livestock Auction Yard*  
**Friday February 26th, 2010**  
**Begins at 1:30 p.m.**

Take this opportunity to learn more about effective stockmanship, low stress animal handling and being a good steward of your livestock. These efforts raise value, protect the livestock industry and preserve the farming and ranching way of life.

Sponsored by: Merial, Midcontinent Livestock Supplements, the American Quarter Horse Association, Purina, Miraco Livestock Water Systems, Priefert Ranch Equipment and Tru-Test. This program is endorsed by the Livestock Market Association and NCBA and is partially funded by the Beef Check-off.

This Program begins at 1:30 p.m. (or just after the sale) and features:
- Curt Pate, Effective Stockmanship Instructor
- Matt Byrne, California Cattlemen’s Association
- Kristen Parman and Forrest Mangan, Livestock Marketing Association
Reproductive Herd Health Workshop

Shasta Livestock Auction Yard, Cottonwood

Friday February 26, 2010
Begins at 5:00 p.m.

The Beef Cattle Reproductive Health Program is sponsored by: Shasta Farm and Equipment, Hawes Farm and Ranch, Northern CA Farm Credit, Pfizer Animal Health, Cottonwood Veterinary Clinic, Shasta Livestock, Shasta County Cattlemen’s Association, and Tehama County Cattlemen’s Associations & UC Cooperative Extension

AGENDA

5:00 pm Introduction and Welcome
Chris Moreno—Tehama County Cattlemen’s President
Josh Davy and Larry Forero

5:05 pm What’s Going on in there any way?
Dr. Les Anderson, Beef Cattle Specialist, University of Kentucky

6:15 pm She’s Bred now—how do you assure she stays that way
Dr. Bill Gray, Cottonwood Veterinary Clinic and Dr. John Maas, UC Davis

6:45 pm Measuring production and Reproduction…Easier said than done
Dr. Dan Drake – Siskiyou County Farm Advisor

7:00 pm Dinner from George Wold’s Anderson FFA —No charge
sponsored by Hawes Farm and Ranch Supply, Shasta Farm and Equipment, and Pfizer Animal Health

7:30 pm Results of Irrigated Pasture Aeration Trial
Larry Forero, Shasta Co. Farm Advisor

7:45 pm Dryland hay—production and quality
Josh Davy, Tehama/Glenn/Colusa Farm Advisor

RSVP to Larry Forero or Josh Davy for Dinner by February 24, 2010

For more information, call Larry Forero at (530) 224-4900 or Josh Davy at (530) 527-3101
Sudden Death in Adult Cattle
UCD VET VIEWS CALIFORNIA CATTLEMEN’S MAGAZINE NOVEMBER 2008

John Maas, DVM, MS, DACVN, DACVIM
Extension Veterinarian
School of Veterinary Medicine
University of California, Davis

One of the most common causes of sudden death in cattle is Redwater (also called Bacillary Hemoglobinuria). Redwater is caused by a bacterium called Clostridium hemolyticum, which colonizes in the liver of susceptible cattle and produces protein toxins that in turn destroy the body's red blood cells, damages other organ systems and rapidly causes death. Redwater is uncommon in cattle less than one year of age and while young cattle possess a certain resistance to Cl hemolyticum, they can be affected and die also. The most commonly affected cattle are adults in good condition.

The disease has a short incubation period and the vast majority of affected cattle are usually found dead and bloated. If clinical signs are observed, the most common ones are anemia, rapid breathing, high fever (104-106), and urine that is dark red and foamy in appearance. The course of the disease is very rapid and most all cattle with Redwater are simply found dead and most bloat soon after death. Animals that die in this manner should be examined by your veterinarian or sent to the diagnostic laboratory to determine the cause of death so that other losses can be prevented. Your veterinarian can easily identify Redwater as the cause of death by examining the liver and your veterinarian can also take a simple impression smear of the liver to confirm the condition.

Prevention of liver fluke infestation will aid in the prevention of Redwater. However, the most important means of prevention is the routine use of vaccines (bacterins) to increase the immunity of the cattle against this disease. Animals should be vaccinated and given a booster at least once per year in areas where the disease occurs. An excellent time for the booster is in the late spring or early summer, ahead of the seasons when this disease is most common. The vaccines used to prevent Redwater do not provide long term protection, however, and exposure to a large number of organisms seems to override the protection provided by a yearly booster. In areas of high exposure cattle may have to be vaccinated every 6 months or in some instances, every 2 to 3 months. Your veterinarian can give you excellent advice about the vaccine frequency that works best in your locale.

Another disease that can easily cause sudden death in adult cattle is Anaplasmosis. This is a disease of cattle caused by Anaplasma marginale which is a rickettsia—halfway between the viruses and the bacteria. It cannot grow without living cells (like a virus) but is susceptible to tetracyclines (like bacteria). The disease, anaplasmosis, is caused when the infected cattle react to the agent and remove their own infected red blood cells. This reaction causes a severe anemia and often death. All cattle are susceptible to infection by A. marginale. Cattle of any age can become infected; however, young cattle do not become ill. Some cattle are simply found dead, while others may be found weak, anemic, and jaundiced (yellow mucous membranes).

A number of ruminants such as cattle, deer, and elk can be carriers of the anaplasmosis agent. These species can carry the agent all or most of their lives and serve as a reservoir for infection of other animals. The transfer of the agent from a carrier animal to a susceptible animal can occur by a number of routes. One of the most common ways is via ticks. In California, we have a number of ticks that transmit the anaplasmosis agent and are extremely effective at passing the agent to new, susceptible hosts. Additionally, transmission of a small amount of blood from a carrier animal to a susceptible animal can transmit anaplasmosis. So insects such as horse flies are capable of transmission. An even larger culprit in this type of transmission is man. Ear-tagging instruments, tattoo tools, needles, ear implant tools, castrating instruments, dehorning instruments, etc., can all easily transmit the agent. So we can also be important in the spread of this disease.

If the animal is a calf under the age of 12 months, virtually nothing is noticed. The calf undergoes an incubation period of about 45 to 90 days, has a very mild illness, which is rarely noticed, and becomes a
carrier for life. Cattle that become infected between 1 and 2 years of age become ill after the incubation period, with severity increasing with age. Cattle over 2 years of age become very ill and approximately 50% die unless treated. The older the animal and the better shape they are in—the sicker they get! Usually, once the cattle become infected, and if they survive, stay infected for life. They are "immune carriers"—they do not get sick; but, act a reservoir for other susceptible animals. Therefore, being an infected carrier protects the animal from becoming sick if re-infected by ticks or other means.

The best method for prevention depends on the risk of anaplasmosis in your operation. For those "valley" herds, the only real risk is introduction of carrier cattle and transfer of blood (horse flies, de-horners, tattoo instruments, castration instruments, etc.) from the new cattle to your native, susceptible animals. For foothill or mountain herds, you have to be sure incoming cattle (cows, heifers or bulls) are from anaplasmosis areas or have been vaccinated. For herds intermediate in risk, you will want to review your vaccination program with your veterinarian. Vaccines are available to help prevent this disease. In California we currently have two vaccine options. The first is a live vaccine available from Poultry Health Laboratories and is called Anavac®. It is safe and effective when given to young cattle (4 to 11 months of age). The cattle become infected with the vaccine strain of Anaplasma and are “immune carriers”. This method of preventing disease is basically a controlled infection. If this vaccine (Anavac®) is given to older cattle, they will become sick and could die, just as with the natural disease. Vaccination of mature bulls with Anavac® can cause death loss or infertility. A killed vaccine is also available in California and can be purchased from the California Cattlemen’s Association. When cattle are vaccinated with this killed product (2 doses are needed initially) they develop enough immunity to prevent illness when they become infected.

The live vaccine, Anavac® is available through Poultry Health Laboratories, in Davis, California. It must be shipped on dry ice or in liquid nitrogen. Their number is (530) 753-5881. The killed vaccine is available through California Cattlemen’s Association, at (916) 444-0845. This vaccine can be shipped via normal refrigeration.

Another cause of sudden death is Anthrax. The disease, anthrax, is caused by a bacterial species called Bacillus anthracis. The organism is a common inhabitant in alkaline soils. The anthrax bacteria compete very well in conditions that alternate between floods and droughts. The organism can multiply in wet conditions and when dry conditions come along, it forms spores, which are very resistant to environmental conditions. The spores can survive for more than 35 years in the environment, waiting for the next favorable opportunity to multiply once again. Cattle contract the disease when they ingest (eat) the spores. The grazing of abrasive forages is thought to allow penetration of the spores through the lining of the mouth. When the anthrax organism enters the blood stream and multiplies a fatal infection can occur rapidly.

When cattle become infected with the anthrax organism the disease usually proceeds rapidly. Most often, the cattle appear to be normal one day and are found dead the next. Anthrax usually occurs on the same premise on an irregular basis. Therefore, there is often a history of anthrax occurring on a ranch or at least in the general area. Often, certain fields are known to be "hot" areas for possible occurrence of anthrax. So, sudden death in animals in these areas should raise suspicion. Also, cattle with bloody diarrhea, bloody urine, and blood coming from the nose should make you very suspicious of anthrax. If an animal dies suddenly with signs such as those above, call your veterinarian and do not disturb the carcass or move the animal. Your veterinarian will take a minimal number of samples if anthrax is suspected. Usually a blood sample from the jugular vein, part of an ear, or an eye will be carefully taken and submitted to the diagnostic laboratory. It is important to not open the carcass. The anthrax organism will die out in an unopened cattle carcass in a few days. However, if the carcass is opened to the air, many billions of spores will form and these spores can survive in the environment for decades. The California Animal Health and Food Safety Laboratory will usually confirm an anthrax diagnosis within a day or two of receiving the samples or the carcass.

The live cattle at risk will be moved away from the suspected area of spore contamination. They will be fed hay or put onto irrigated pasture. The cattle will be treated with penicillin as recommended by
your veterinarian and the California Department of Food and Agriculture’s Animal Health Branch. The cattle will also be vaccinated with the anthrax vaccine. The CDFA and your county health officials will advise regarding the proper disposal of the dead animals. Usually, the dead cattle are buried and covered with quicklime.

Most ranches in California will never have to worry about anthrax or preventing anthrax. However, on premises that have a history of anthrax preventive methods must be considered. In cases where specific areas are identified as "high risk" those areas need to be avoided, particularly in the summer and fall months. Also, there is an effective vaccine for cattle and it should be given before the cattle are placed into these areas. Therefore, with vaccination of the cattle and avoiding "high risk" areas anthrax can be prevented in almost all instances.

There are two other diseases that can cause sudden death and are associated with cattle grazing on pastures. One condition is grass tetany and is seen in the winter and spring when cattle are grazing lush foothills pastures. Another condition is called “fog fever” and occurs when cattle return to hay meadows in the fall. Both conditions can cause sudden death; however, both usually affect large numbers of cattle at the same time and are usually diagnosed in rapid fashion. In both cases, if the first few deaths go undiagnosed or are ignored the delay in response can be economically devastating. Grass tetany is prevented by supplementing magnesium to cattle and fog fever is prevented by slowly acclimating cattle to hay meadows and feeding Monensin® in a supplement.

There are a host of poisonous plants that can kill cattle quickly and often with no signs beforehand. These plants include Oleander, Japanese yew, hemlock, Sudan grass, pigweed, and lamb’s quarter. Oleander and yew toxicities commonly occur when these ornamental plants are pruned and the dead plants are thrown over the fence into a pasture “for the cows”. These two plants are highly toxic and death occurs rapidly—as few as 4-6 leaves of Oleander can kill a cow. Hemlock grows around wet areas such as ditch banks and canals and can result in rapid death in adult cattle. Sudan grass hay, pigweed, and lamb’s quarter can accumulate nitrates which cause the blood of cattle to turn a dark brown (chocolate) and result in rapid death. Sudan grass and certain sorghum crops can also cause cyanide toxicity if plant conditions cause cyanide to accumulate in the plants before the cattle consume them.

So what’s the bottom line? Cattle in good shape and apparently normal that die in a short period of time shouldn’t be ignored. **There is a reason they died.** Depending on the cause of death, there may more to follow or it may be months before it happens again. If the carcass is fresh have your veterinarian start working on getting some answers, so you can take steps to prevent the problem in the future.

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**Tehama County Cattlemen’s Spring Field Day**

**March 27th 2010**

The Foor Ranch in Vina, CA

The annual Tehama County Cattlemen’s field day is scheduled for March 27th, 2010. Events start with a stock dog trial at 9:30 AM, followed by lunch by Vic Woolery of Vic’s Branding Iron. Afternoon events include a two-man stockman’s challenge, working cow horse, and a three-man calf branding. Pine Creek Cattle Company is again putting up $1,000 to the champion horse in memory of Herman Daugherty and is also sponsoring buckles to the winners of all events. Entries are $50 per dog for the stock dog competition and $25 per man for the other events. Other events include a kids calf scramble and the tradition of the “big steer” weight guessing contest. All are welcome and encouraged to attend and participate, however, you must be a member to compete in the events. For more information and contest registration visit: [http://tehamacountycattlemen.org/](http://tehamacountycattlemen.org/)
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- Stockmanship and Stewardship Tour hits Cottonwood
- Cattle Reproduction Meeting in Cottonwood
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- Tehama County Cattlemen’s Spring Field Day