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Fall and Winter Health Problems in *Cow-Calf Herds*

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As a cow-calf herd goes into the fall season after a hot, dry summer, the entire herd may be stressed. Excessive heat, short grass and low water tanks stress cattle and make them more susceptible to diseases. Unsanitary conditions and abrupt diet changes also can lead to illness, as can other circumstances of stress. At the end of the summer, the cows are likely pulled down to a thin body condition from nursing the calves, the bulls worn out from breeding, and the calves shocked from weaning.

A pulled-down cow is at risk of contracting many types of diseases.

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When cattle are stressed, they become thin and their immune systems are suppressed. Germs that are dormant in the tissues and organs of the cattle can break out of dormancy, multiply and cause outbreaks of diseases and disorders, such as:

- Clostridiosis (clostridial blackleg group), which is a group of highly fatal muscle, liver and intestinal diseases
- Leptospirosis (lepto), a bacterial disease that can cause abortions, stillbirths and weak newborn calves as well as jaundice, high fever and usually death
- Anaplasmosis (anaplas), an infectious disease that causes anemia, weakness, fever, lack of appetite, constipation, abortion and sometimes death
- Viral and bacterial pneumonia, diseases of the lungs
- Viral and bacterial abortions, infectious diseases that cause death of the embryo or fetus
- Bacterial pyometra, a disease of the uterus
- Bacterial diarrhea, a gastroenteritis

Calves with pneumonia and gastroenteritis are common in fall after a long, hot summer.

When any one of these health problems is recognized in a stressed cow-calf herd, it can be assumed the cattle were carriers that broke with the disease even without a recent exposure to the disease agent. The diseased cattle may have been exposed and become infected several months before the time of stress precipitating the disease in the cattle with clinical symptoms.

Some cattle may become emaciated with "bottle-jaw" (a soft swelling under the jaw) and advance to a "downer" stage, becoming unable to rise. In many cases, the cattle may die.

A cow with bottle-jaw.

Producers can prevent or minimize health problems in the fall and winter by reducing the stresses caused by inadequate nutrition, sudden feeding changes and poor sanitation. Below are descriptions of common health problems in cow-calf herds during fall and winter, the causes of those problems and preventive measures.

Acorn poisoning

The howling winds of cold fronts and rainstorms often knock green acorns from oak trees in a pasture. Most cattle like the taste of acorns and tend to seek them out. But hungry cattle that consume too many green acorns will get sick. Their gastrointestinal tracts will be upset; they will develop diarrhea, become dehydrated, constipated and emaciated; and they might die.

Acorn poisoning is caused by chemicals called tannins. It generally occurs when acorns fall off trees in the immature green stage, followed by overconsumption by cattle. This usually occurs in pastures where there is not much grass left nor hay fed. Poisoning from oak tannins also can occur when cattle eat buds and young leaves of oaks (shrubs and trees) in early spring.

Sickness starts 8 to 14 days after the cattle have started eating acorns. The amount tolerated by an animal is influenced by the protein content of its diet. If the protein intake is high, the animal can consume more acorns without having poisoning symptoms.

Cattle affected by acorn poisoning have a poor appetite, appear dull, become constipated, suffer weight loss and look gaunt or "tucked up." They also may pass blood in the manure and/or bleed from the nostrils. Profuse diarrhea may follow after the constipation. Affected animals drink large amounts of water and void excessive amounts of clear urine (urine may also contain blood).

Many animals go down and cannot rise after 3 to 7 days of clinical signs of acorn poisoning. If these affected animals do not die, it may take as long as 2 to 3 weeks before they start to recover. Producers suspecting such a problem should contact a veterinarian as soon as possible.

In many cases, cows that advance to the "downer" stage may die.

To correct the protein and energy deficiencies of a stressed, thin cow herd, provide plenty of good-quality hay. When feeding hay, consider both the quantity and quality fed, and supplement it if needed with the proper amounts of protein and/or energy supplements.

Providing hay that is of poor quality—even in large amounts—might provide adequate energy, but the cattle will be deficient in protein. Providing good hay but not enough of it can improve the protein deficiency but leave the cattle lacking in energy.

Treatment is of little value in severely affected cattle. However, for the other cattle remaining on the "poor" oak tree pasture, provide supplemental feed containing hydrated lime (calcium hydroxide) and protein, which are "antidotes" for the tannins.

Mix and cube the following feed formulation for breeding cattle (4 pounds per head per day) and use it as a meal creep feed for calves (free-choice lime limits consumption like salt):

Cottonseed meal	1,040 pounds (52 percent)
Dehydrated alfalfa leaf meal	600 pounds (30 percent)
Vegetable oil	160 pounds (8 percent)
Hydrated lime	200 pounds (10 percent)

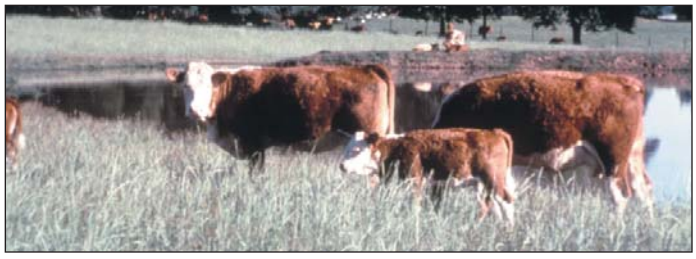
Obviously, acorn poisoning can be prevented by removing cattle from areas with oak trees when acorns have recently fallen. Reserve these pastures for grazing in late fall or winter, when the acorns have had a chance to age, turn brown and become somewhat less toxic.

No matter when the cattle are turned onto "poor" oak tree pasture, remember that they still could be affected if they eat too many acorns.

Plant poisoning

Deaths in early fall are often related to nitrate and toxic plant poisoning in a hungry herd on an overgrazed summer pasture. After fall rains stimulate the growth of grasses, hungry cattle may consume too much of the new growth and die of suffocation because of pulmonary emphysema, or "fog fever." The new growth also may be high in cyanide, which causes cattle to suddenly die, as if they suffocated.

Fog fever is a respiratory distress syndrome that may occur in adult cattle 5 to 10 days after a change from dry, sparse grazing to a relatively lush, green pasture. Problem pastures have grass and weed regrowth after rains or irrigation and provide an excess of tryptophan amino acid, which in cattle is converted to a toxic compound. The toxin produced from the tryptophan causes lung edema (an accumulation of fluids) and emphysema.



Hungry cows moved from dry to green grazing are susceptible to plant poisoning.

Cattle with mild conditions may go unnoticed and recover spontaneously within days. Cattle with severe lung edema and emphysema show extensive respiratory distress with mouth-breathing, tongue extension and drooling of saliva.

Producers should drive or handle the animals cautiously to prevent immediate deaths. Remove all cattle from the pasture concerned and handle them quietly for therapy by a veterinarian. Up to 30 percent of the severely affected cattle will die.

After 10 to 14 days, the cattle may be reintroduced gradually to the pasture over 3 weeks by feeding hay and limiting grazing time. As the forage matures, it becomes safer because the nutrients become less concentrated.

Pulmonary emphysema can best be prevented by not suddenly putting hungry adult cattle on lush pastures. Good options include:

- Moving cattle onto the new pasture before it becomes lush
- Mowing and strip-grazing
- Restricting grazing time
- Providing hay or grain

To prevent fog fever, provide sufficient, good-quality grass, hay and water.

Polio

A disorder called polio (polioencephalomalacia) commonly develops in malnourished, thin cattle that have been grazing poor pastures low in protein, consuming high levels of sulfate in grass and water and then are brought into dry-lot confinement and fed large amounts of grain concentrates or grain silages without adequate roughage. Polio can develop within a few days in cattle under these conditions. It often occurs in late summer and early fall when pastures are dry and when overgrazed and replacement heifers and weaned calves are penned for supplemental feeding.

The abrupt change in diet can cause necrosis (death of cells or tissues through injury or disease) of the brain. Thiamine levels in brain tissue may also drop, which can cause severe neurological disease.

Affected cattle, especially weanlings and yearlings, become weak and uncoordinated and go down. As the downer tries to stand, its ankles remain flexed or knuckled over. Cattle with polio often lie cow fashion (body upright with legs underneath) and just cannot get up.

To prevent permanent brain damage, producers should call in a veterinarian for treatment immed-

iately. Cattle often improve within 12 hours if they are treated early in the course of disease and do not have brain necrosis. If the cattle do not respond to thiamine treatment, either they have irreversible brain damage, or the problem has been misdiagnosed.

To prevent recurrence, feed good-quality hay be-fore a gradual return to grain, and maintain a high fiber diet.

Nasty ground in haying and loafing area can lead to soil-borne diseases in cattle.

Range ketosis

Cattle with range ketosis are malnourished and thin, on a low-carbohydrate (low-energy) diet and likely are stressed from cold weather or calving and nursing.

Symptoms include wallowing and licking with the tongue, bellowing and pressing against walls, posts and trees. The cattle become incoordinated and then go down.

Affected cattle need immediate treatment by a veterinarian to raise their blood sugar levels and improve glucose metabolism.

Grass tetany (Hypomagnesemia)

The affected cows are thin, grazing lush pasture high in nitrogen and potassium, and likely are stressed from cold, cloudy weather or calving and nursing.

Symptoms include staggers, tossing the head, bellowing and galloping before going down with convulsions.

A veterinarian is needed to treat the cattle immediately to raise the blood magnesium.

Soil-borne diseases

When a cow herd is in a winter calving season and feeds on round, hay bales, the ground can become wet, nasty and contaminated with coccidia (microorganisms that multiply in the intestinal tract) from cow manure. Nursing calves lie on these grounds and may ingest many coccidial cysts, which leads to coccidiosis, a parasitic disease of the intestinal tract.

Several health problems are associated with round bale-feeding of cows and nursing calves. For calves, these include:

- Coccidiosis (coccidial scours), an intestinal disease caused by a parasite called coccidia and resulting in diarrhea
- Cryptosporidiosis (crypto scours), caused by *Cryptosporidium parvum*, an intestinal parasite
- Viral and bacterial scours, a gastroenteritis
- Bacterial navel ill, a bacterial infection of the navel

In cows, the problems include:

- Bacterial metritis, an infection of the uterus
- Bacterial mastitis, an inflammation of the mammary gland or udder
- Bacterial foot rot, an infection causing swelling or lameness in one or more feet

To reduce the occurrences of these and other soil-borne diseases, move the haying areas periodically to maintain good environmental sanitation.

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