



Vet Call

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Toxic plants

Cattlemen throughout history have known that some plants can be toxic to their animals. Losses from poisonous plants that cause death, long-term illness, mild to severe illness, and abortions and birth defects constitute an important economic drain to the beef industry.

In all shapes and sizes

Poisonous plants are present in all areas of North American range and pastures, although different poisonous plants predominate in different areas. Some poisonous plants are only present in a few small areas; others are fairly common over a wide geographic area. Some plants are poisonous during all phases of growth, while others are only poisonous (or more dangerous) during certain stages of growth or certain times of the year.

Most pastures contain at least some plants that can be poisonous to cattle. So the mere presence of toxic plants does not mean that a rancher will experience losses in the herd. Many poisonous plants do not taste very good to cattle; however, cattle may consume toxic plants that they would generally avoid if very little other forage is available and they are hungry. Poisonous plants can be present on a pasture for many years without negatively affecting the herd, but when conditions change, a large number of cattle can become poisoned.

In contrast, cattle appear to like the taste of some toxic plants and even prefer them to other forages. Many times, even these attractive toxic plants do not cause problems because they are present in small enough quantities in a pasture that they do not reach a toxic dose.

Some plants that are very toxic to nonruminants such as pigs and horses are less toxic to cattle because of the ability of rumen bacteria to detoxify some agents. Also, some plants seem to cause more problems for sheep than for cattle, even though they are both ruminants, because grazing patterns and management of sheep and cattle differ. Different toxic plants affect different body

systems, such as the heart, lung, liver, kidney and nervous system. Some also can pass through the placenta of a pregnant cow to cause problems with a fetus.

Body systems at risk

Plants that cause damage to the heart will generally cause a very rapid death if a large enough dose is eaten. Because these plants can act quickly, often finding one or more

dead animals is the first sign of a problem.

If animals are detected early or if the amount consumed is less than a lethal dose, cattle consuming heart-toxic plants may appear weak and depressed. And if the animal is examined by a veterinarian, a rapid or irregular heart rate may be detected.

Purple mint (or Perilla) is a common weed in some parts of the U.S. (particularly the Southeast) that can cause a type of pneumonia that arises due to damage to the walls of the air sacs in the lungs. Death can occur within 12 to 24 hours after eating a lethal dose, and affected cattle struggle to get enough air into their lungs.

Plants that can be toxic to the liver or kidney tend to not cause a rapid death, but instead a slow degeneration or chronic condition that may or may not result in death. The liver is important for many body functions and acts to detoxify a number of chemicals normally found in the body.

Consuming plants that cause damage to the liver can result in the buildup of toxins from eating grass that would normally be removed by a healthy liver. These toxins can cause the skin to become very sensitive to sunburn and can cause other signs of liver failure such as weight loss and poor performance.

Some plants are toxic to the kidney — particularly plants that accumulate tannins (such as oak trees). Cattle with kidney damage may show signs of reduced appetite, rapid weight loss and increased water intake.

Some plants are toxic to the nervous system, such as some types of ryegrass, locoweeds and water hemlock. Cattle that eat these plants may suffer from rapid death

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Locoweed



Tobacco

or longer-term weight loss and nervous system signs depending on the specific plant and the amount consumed. Signs of nervous system problems include staggering, apparent blindness, exaggerated movements and hyperexcitability.

In addition to direct effects on cattle health, abortion or the development of birth defects can occur when pregnant cattle consume certain toxic plants. Abortions caused by toxic plants are often difficult to diagnose, and the birth defects caused by some toxic plants are the same or similar to defects caused by genetic problems or viral infection. Locoweeds, tobacco, lupine and poison hemlock are known to cause birth defects in calves in certain situations when pregnant cows consume these plants.

In addition to toxic plants that grow wild in pastures, occasionally cattle are poisoned when people throw tree or brush trimmings into a pasture with the mistaken idea that the cattle will benefit from having something green to eat. Ornamental plants such as yew, oleander and lily of the valley are very toxic to cattle.

Treatment options

There are no treatments for many of the toxic plants that cattle may consume. Even in situations where an antidote is available, medical treatment of cattle poisoned by toxic plants is usually not very helpful. By the time cattle show symptoms of being sick, the damage has already been done.

If it appears that a toxic plant problem is occurring, cattle should be removed from the suspected pasture immediately. Work

with your veterinarian and a veterinary diagnostic laboratory to diagnose suspected plant poisonings. Your veterinarian can help you to develop an accurate history and timeline for the problem.

To identify the cause of losses due to poisonous plants, the pastures, drylots and feedstuffs should be inspected; both live and dead animals should be examined; and diagnostic samples of plants, blood and tissues should be properly collected and evaluated by trained diagnostic laboratory personnel.

Because treating affected cattle is not sufficient to minimize losses from toxic plants, prevention is the key to a successful management strategy. Use of herbicides to spot-kill known toxic plants may reduce risk somewhat; however, because removing all toxic plants from a range or pasture is not likely to be practical or successful, good grazing management using stocking density, fencing, water development and salt/supplement placement to maintain good pasture health will minimize the incentive for cattle to graze toxic plants.

It is important to work with veterinarians, county agents, natural resource conservation service specialists, and range specialists who can all help develop a plan to keep pastures healthy and minimize the risk of toxic plant poisonings.



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Poison hemlock

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Lily of the valley

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Oleander

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Purple Mint

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