

DEALING WITH DROUGHT

Toxic Plants Pose Livestock Threat During Drought

Toxic range plants can become a serious threat to livestock during a drought, warns North Dakota State University (NDSU) Extension rangeland management specialist Kevin Sedivec.

A few of these toxic plants are very deadly. They can kill an animal in less than a day.

Most toxic plants found in pastures are unpalatable, which means livestock won't eat them under normal conditions, Sedivec says. However, during a drought, the more palatable forages mature and dry up early, making the poisonous plants more available for livestock to eat. The toxic plants often have root systems that can reach water deep in the ground, so they stay green longer, which makes them doubly attractive to livestock.

Also, producers inadvertently may help toxic plants poison livestock. In drought conditions, producers need forage, so they hay around sloughs. But wetlands are where plants with the highest toxicity grow, Sedivec says.

So far, within North Dakota, toxic plants pose the greatest danger in south-central and west-central regions, areas that are extremely dry this year.

The state has about a dozen broadleaf plant species that are toxic to livestock. The worst are:

• **Water hemlock.** It's found throughout the state and is one of the most poisonous

plants in the United States. It's found in wetland areas. The root and bottom part of the plant are the most toxic. Livestock can die within an hour of eating even a small amount.

• **Arrowgrass.** It is found in southeastern North Dakota and grows best in soil covered with water. It mainly affects cattle and sheep. The leaves, which contain hydrocyanic acid, are the most toxic part.

• **Locoweed.** It grows throughout the state. It is slightly more palatable than other toxic plants, so livestock are more likely to eat it. The plant affects horses more than cattle. It also poisons sheep and goats. It can cause death, but it will more likely cause birth defects in livestock.

• **Lupine.** It's found in southwestern and western North Dakota in sagebrush and aspen areas. It causes birth defects. Sheep are particularly susceptible to it.

• **Chokecherry.** It grows throughout the state in areas where moisture is plentiful. Livestock will eat the leaves and twigs, but the animals must consume a large quantity before they're poisoned. This plant also contains hydrocyanic acid.

Sedivec says an even more common danger during droughts is nitrate poisoning from certain range weeds that accumulate large concentrations of nitrate in dry conditions (see "Potential High for Nitrate and Prussic Acid Poisoning," page 274). While nitrate is usually not toxic to animals,

it can cause problems such as abortions and death at high levels.

Three types of broadleaf weeds — lamb's-quarter, kochia and goosefoot — are the primary concern.

"They are extremely common in pastureland throughout the state," Sedivec says.

These weeds also are somewhat palatable to livestock. Cattle deaths occur from nitrate poisoning during every drought, he says.

During drought, Sedivec advises livestock producers to:

- ▶ Minimize overgrazing to limit the livestock's contact with toxic plants. To minimize overgrazing, wean young livestock early and use a rotational grazing system to lessen the effects on any one pasture. If necessary, find additional pasture or supplement the livestock feed. If overgrazing is the only option, check pastures for toxic plants and try to keep livestock away from them.
- ▶ Try to avoid toxic plants when haying wetland areas.
- ▶ Contact your veterinarian if you have a sick or dead animal.
- ▶ Take advantage of the FeedList, an NDSU database listing producers with feed to sell, at www.ag.ndsu.nodak.edu/feedlist.

Editor's Note: Article provided by NDSU Extension.

BeefTalk: Grazing plan eliminates need for panic button

Around mid-June to early July, Mother Nature usually kicks summer into gear. The first noticeable symptom in the upper Great Plains is an increase in temperature and a decrease in moisture.

Determining if a drought is in progress or whether one is simply experiencing good haying weather is a thin line. A concern, however, surfaces that livestock feed may be in short supply. Panic may be too harsh of a word, but some producers do panic.

Before the panic button is pushed, some simple principles need to be noted. If a grazing system is not in place, now is the time for action.

Go see a grazing specialist and get a plan started. The North Dakota State University (NDSU) Extension service or Natural Resources Conservation Service (NRCS), located in almost every county in the country, could help a producer get started.

A decade of poor grazing management will take several grazing seasons to correct so that normal production can occur. Operations that have effective grazing systems in place are in a position to manage through dry times as well as wet times without upsetting the focused direction of the ranch operation.

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Visit www.angusjournal.com/drought for more information about dealing with drought.

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Potential High for Nitrate and Prussic Acid Poisoning

There is concern for the potential of high nitrates and prussic acid levels in drought areas of North and South Dakota, according to Duane Berglund, North Dakota State University (NDSU) Extension agronomist. Drought increases the potential of nitrate accumulation in forage plants or certain crops harvested for hay. Also, those plants that tend to contain prussic acid will have higher, more dangerous levels during drought conditions.

Crop plants known to accumulate nitrates include oats as hay, straw or stubble; corn as silage or stalks that are grazed; immature barley; wheat as pasture or hay; pearl or proso millets; flax; and the Sudan-sorghum complex of forages.

Forage crops known to cause prussic acid poisoning include Sudan grass, forage sorghum-Sudans, and sorghum varieties or hybrids and crosses. Piper Sudan grass (an old variety) possesses the least amount of poisoning potential when compared with

the Sudan grass hybrids and sorghum-Sudan grass crosses. Forage sorghum hybrids have the greatest potential for prussic acid content and poisoning potential.

"In corn, nitrates accumulate in the lower portion of the plant when stresses reduce the crop yield to less than the supplied nitrogen fertility level," Berglund explains, "Nitrates are responsible for lethal silo gas and interfere with the blood's ability to carry oxygen when fed to animals. When chopping stressed corn plants, a 12-inch stubble should be left. If it rains, allow three days before resuming chopping. Plants that recover from stress situations eventually will convert nitrates to a nontoxic form," Berglund says.

Prussic acid accumulates in sorghum and Sudan grass that grows rapidly following stress. Poisoning occurs when animals graze young sorghum plants, drought-stunted plants or frost-damaged plants. Sorghum plants are poisonous after

a frost that kills the tops (but not the crown) or when new growth begins following a rain. When new shoots develop after a light frost, cattle should not be allowed to graze.

"Weeds consumed as forages under drought conditions also can be another source for nitrate poisoning," Berglund says. "The species that can accumulate dangerous levels of nitrates are: Canada thistle, curly dock, jimsonweed, kochia, lamb's-quarter, various nightshades, redroot pigweed, smartweed, Russian thistle and wild sunflowers. Producers need to closely monitor livestock that may be feeding on these weeds during drought conditions."

Other drought-related resources can be found at www.ag.ndsu.edu/drought/.

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Editor's Note: Article provided by NDSU Extension.

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A basic principle of grazing management calls for 30 pounds (lb.) of dry matter (DM) per day for a 1,200-lb. cow-calf pair. A similar amount is destined to end up in a haystack somewhere for every day the 1,200-lb. cow needs to be fed when confined.

Granted, these are basic numbers that have a significant cushion for waste and some carryover. Larger cows need more and smaller cows need less, but if a producer can find six months of grazing, then six 1,000-lb. bales should get baled up and hauled home to provide a feed base for the nongrazing months, and adequate acres need to be available during the grazing period.

How many acres does it take? Producers can find the answer to that question by visiting a range specialist familiar with their local landscape. For producers stocking 1,200-lb. cows in southwestern North Dakota on lowlands, 1.43 acres per animal a month is needed under good range conditions. That figure goes all the way up to 6.88 acres per animal per month in pastures that are in fair, but dry, range condition, according to Lee Manske, Dickinson Research Extension Center range specialist.

Upland landscapes in good range condition could be stocked at 2.29 acres per animal a month with 1,200-lb. cows. These generic

stocking rates equate to just less than 14 grazing acres per cow. In addition, six acres are needed for hay, provided 1,000 lb. of hay is harvested from each acre.

In a normal year, 2,000 productive acres would support 100 mother cows and their calves until weaning and allow producers to get a good night's sleep. If you travel east, by the time you get out of North Dakota, you could very easily be closer to 1,300 acres, and if you travel farther west or to drier climates in general, the acre requirement is going to go up.

None of us have a direct line to Mother Nature. Even Mother Nature simply averages the good with the bad and goes on from year to year. But in these years, where it appears to be drying out, take a quick count of your acres and your cattle. Figure out what type of land you are grazing, and what your typical hay yields are going to be, and get a good estimate of the weight of your cows.

If the numbers start to add up to more than what the books are telling you, a survival plan needs to be put in place, which means the producer sells cows or buys hay. Don't panic. Assess your operation first, seek out good advice, develop a plan and stick to it.

— by Kris Ringwall, NDSU beef specialist

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