Poisonous Plants

Poisonous plants are those that produce poisonous substances that harm livestock. Depending on the poison and the amount of plant material eaten, an animal may die, may be disabled permanently or may recover completely. Although poisonous plants do occur in North Dakota and western Minnesota, they are generally not a problem. If they do become a problem, it is generally a symptom of inadequate forage production resulting from low range condition, drought or a combination of the two.

Listed are the more common poisonous plants found in North Dakota and western Minnesota.

Arrowgrass.

Perennial plant found in wet meadow and wetland and saline lowland ecological sites. As long as arrowgrass has adequate moisture, it does not cause poisoning; however, when growth is stunted from lack of moisture or early frost, plants quickly become toxic due to high level of hydrocyanic or prussic acid.

Affected livestock: cattle, sheep, bison, elk and goats

Symptoms of poisoning:

- nervousness
- abnormal breathing, either rapid or slow and deep
- trembling or jerking muscles
- blue coloration of the lining of the mouth
- spasms or convulsions continuing at short intervals until respiratory failure causing death

Tip: Arrowgrass will be present even in high condition rangeland but seldom grazed if adequate forage is available.

Blue Green Algae (Cyanobacteria). Found in stagnate sloughs, dugouts and dams, sometimes causing poisoning, usually when animals drink stagnant water during hot weather in mid to late summer. Toxic cyanobacterial blooms occur because of favorable conditions including hot, sunny days and warm, nutrient-rich water. Algae blooms usually do not last long; however, affected animals rarely range far from the water source.

Affected livestock: All classes of domestic livestock, dogs, and some small wild animals.

Symptoms of poisoning:

- nervous derangement
- staggering
- tremors
- severe abdominal pain

Tip: Animals intoxicated with cyanobacteria are characterized by convulsions, incoordination, bloody diarrhea and sudden death.

Tip: There are a number of ways to determine the presence of cyanobacteria. If concentrations of cyanobacteria are suspected in a water body, walk around to the leeward side of the water body. If any dead animals such as mice, muskrats, birds, snake or fish are present, assume a poisonous condition exists.

Larkspur.

Perennial plant found on upland prairie ecological sites. All plant parts, especially the leaves, are poisonous. In North Dakota, cattle rarely feed on larkspur when good forage is available. The toxic substance is an allkaloid.

Affected livestock: Cattle, rarely sheep or horses.

Symptoms of poisoning:

- nervousness
- staggering and falling
- nausea
- excessive salivation
- frequent swallowing
- twitching of muscles
- rapid, irregular heart action
- respiratory paralysis

Locoweed and milkvetch.
Perennial plants generally found on the drier upland ecological sites. These plants are poisonous during all stages of growth and may be dangerous throughout the year. All plant parts are toxic due to an alkaloid named swainsonine. Usually, an animal must eat large amounts of plant material for two to five weeks before death occurs. In cows and ewes with acute poisoning abortion frequently occurs.

Common species include Lambert's crazyweed, two-grooved milkvetch, and tine-leaf milkvetch.

Affected livestock: cattle, horses, sheep and goats.

Symptoms of poisoning:

- loss of flesh
- irregular gait
- loss sense of direction
- nervousness
- weakness
- withdrawal from other animals
- lack of muscular control
- violent actions when disturbed

Tip: Animals ordinarily will not eat locoweed unless feed is scarce. But, some animals may prefer locoweed to good forage.

Oak.

Perennial tree found on dry uplands, woody draws and some riparian zones. Poisoning is caused by consuming young trees, mature foliage, acorns and fallen leaves. Toxic substances are oak tannins.

Affected livestock: cattle, bison, and horses

Symptoms of poisoning:

- gaunt, tucked-up appearance
- constipation, frequently followed by profuse diarrhea
- weakness
- tendency to remain near water
- reluctance to follow the herd
- emaciation
- mucus in droppings
- dark-colored urine
- collapse

Tip: Oak is most dangerous in the budding and leafing stages.

Tip: A diet containing more than 50 percent oak browse will cause sickness, with more than 75 percent of the affected animals dying.

Tip: Make sure animals are not suffering from a depraved appetite because of a lack of phosphorus.

Russian thistle, kocha, pigweed and goosefoot.

Annual introduced plants found on disturbed sites, bare areas and on areas of low range and pasture condition. These plants are potassium nitrate accumulators. Nitrate toxicity occurs at elevated levels and greatest when plants are young or stressed due to drought or frost.

Affected livestock: cattle, horses, sheep, goats and bison.

Symptoms of poisoning:

- bluish/chocolate brown mucous membranes
- rapid, difficult breathing
- noisy breathing
- rapid pulse
- salivation, bloat, tremors, staggering
- weakness, coma, death
- dark “chocolate-colored” blood

Tip: See NDSU Extension Service publication V-839, “Nitrate Poisoning of Livestock.”

Water hemlock.
Perennial plant generally found in wet meadow and wetland ecological sites and along creek bottoms. Water hemlock is probably the most poisonous plant that grows in the United States. The toxic substance is cicutoxin, a highly poisonous unsaturated alcohol. The most toxic part of the plant is the root, followed by young growth.

Affected livestock: all animals and humans.

Symptoms of poisoning:

- muscle twitching
- rapid pulse
- rapid breathing
- tremors
- convulsions
- dilation of pupils
- excessive salivation
- frothing at the mouth
- coma

Tip: Roots are exposed by grazing livestock and/or haying equipment pulling plants from the ground.

Tip: Animals seldom eat water hemlock if good forage is available.