

# Poisonous Plants and Equine

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# Introduction

Poison plants can be found in almost all plant communities. Like most other species of livestock, Equine/Horses will not usually choose to consume weeds or poisonous plants when quality forages are available. They do have discriminating tastes and exhibit a preference for quality legumes and/or grasses over less desirable poisonous plants. However, horses deprived of green vegetation when confined to stalls and fed dry hay or horses restricted to marginal pastures may sample a large number of green plants and accidentally or intentionally ingest poisonous plants into their system when allowed to graze. If large enough amounts of toxic plants are ingested, serious health problems and even death can result.

In most cases, horses consume poison plants only when their pasture is overgrazed and quality forage is not available. This is because most poison plants are less palatable than quality forages. It is also possible for poisonous plants to be harvested and introduced to the horse simply as a matter of consuming its regular feeding of cured hay. Another scenario may arise when lawn clippings are fed to horses (never a good idea anyway). A surprising number of ornamental trees and shrubs that are used for landscaping are toxic to horses. Green lawn clippings, often contaminated with cuttings from ornamental plants, are very tempting to horses, especially those who have been on dry or limited feed. Horses can easily ingest toxic poisonous plants as they anxiously gulp down green grass clippings. Horse owners should talk to kind and helpful neighbors and ask them not to feed any clippings to horses because of the risks involved.

It is also well to recognize that poisonous plants are usually more concentrated in their

toxins during certain times of the growing season. Sometimes poison plants ingested in small quantities are not a problem while at other times even small quantities become lethal. Occasionally a horse will develop an appetite for certain poisonous plants and must be watched closely when grazing at home or out on the trail. Mineral deficiencies in a horse's diet may also cause them to seek out poisonous plants. A well balanced and adequately available ration will usually alleviate this problem.



## Prevention Suggestions:

It is important for horse owners to carefully survey the local plant population within their area and learn to recognize as many poisonous plants native to their geographic region as possible. This fact sheet will identify some of the more common poison plants found in Utah horse pastures, but the list is by no means complete. Persistent efforts to eliminate or control poisonous plants in the home pasture are always essential. If there are only a few plants, they can be dug out by hand and dispose of them before they spread to a larger area. If the infested area is too large, troublesome plants can be sprayed with an appropriate herbicide.

Perhaps the best defense against weed species is cultivating a healthy stand of grasses or legumes that can compete with them. This can be accomplished with proper fertilization, irrigation, controlled grazing and timely mowing. Too often, small pastures become overstocked, becoming holding pens instead of productive pastures. Mowing pastures before weeds and toxic plants head out and go to seed will significantly



Cache Valley pasture full of goatsrue

minimize their spreading. Care must also be taken when feeding harvested hays or when riding on the trail. Each county has a local Extension Agent that can help identify plants and control methods unique to your area. The USDA Poison Plant Research Lab is also on the campus of Utah State University in Logan. Researchers at that lab are a valuable resource to livestock owners and veterinarians.

## Symptoms:

Symptoms of equine poisoning are varied and diverse. Some cases may consist of slight illness and the horse's inability to perform to its fullest potential for a few days. More serious symptoms may include slobbering, tremors, incoordination, erratic behavior, convulsions or even sudden death. A common symptom, especially for light-skinned animals, is photosensitization—which consists of blisters, swelling and lesions (like severe sunburn) on the skin. Unfortunately there are other illness and conditions that may have similar symptoms. As such, if poisoning is suspected always call a veterinarian immediately. Because horses cannot vomit, other methods must be utilized to help rid the horse's digestive system of troubling plants.

# Common Utah Plants Poisonous to Equine:

## Poison Hemlock



A relatively common range or pasture plant that is often found along roadsides, fence lines, creek beds and in pastures. This plant kills a number of cattle, sheep and horses each year and is also toxic to humans. This plant is not very palatable and is unlikely to be ingested when other forage is available. However, since poison hemlock is one of the first plants to grow in the spring, horses may eat this plant in the absence of other green feeds. Early in the spring, before the plant flowers, the leaves are especially poisonous. Common symptoms of poisoning include nervous trembling, incoordination and dilated pupils. The horse may be disoriented and appear to be unaware of his surroundings. Humans are poisoned when they confuse poison hemlock roots with wild parsnips. The toxic potential of this plant diminishes significantly as the plant dries. However, the seeds (both green and mature) remain toxic. As such, small quantities of poison hemlock accidentally baled into properly cured hay prior to seed production, is not considered a high risk. The best way to prevent exposure to poison hemlock is to make every effort to eliminate it from the field. It is also wise to provide adequate quality forage to horses.



# Yellow Starthistle and Russian Knapweed



These invasive weeds are becoming more prevalent in Utah pastures and rangelands. Horses will not eat these plants unless good quality, palatable feed is gone. These plants are also toxic when dried in hay. Usually, horses must eat the plant over an extended period of time before symptoms appear. The most common symptom is the horse's inability to chew or swallow, although he/she may attempt to do so. An infected horse may chew feed only to spit it out when it cannot swallow. Owners may think the horse has something caught in its throat. The horse may also chew without having anything in its mouth and move their lips and tongue in a peculiar fashion. Drinking is difficult and the horse will often lap the water like a dog and dehydration frequently occurs. Since the ingested toxins cause damage to the brain, an infected horse may yawn frequently, roll its tongue, toss its head, hang the head low and/or push against solid objects. The prognosis for recovery once clinical signs appear is usually poor, usually resulting in euthanasia.



## Houndstongue

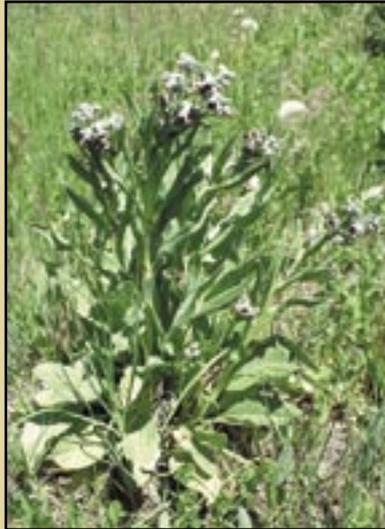


This biennial weed, often found in pastures and along roadsides, forms a rosette the first year and produces a flowering stalk the second year. The leaves

are rough and resemble a dogs tongue.

This plant is toxic, containing pyrrolizidine alkaloids that cause liver damage. This may result in jaundice, possible photosensitization (sunburn) and/or death. Houndstongue is not very palatable so horses generally do

not eat this plant in pastures, unless there is a limited amount of quality feed. However, Houndstongue is invading an increasing number of alfalfa and grass hay fields and when baled into hay, horses are less discriminating and may ingest toxic amounts of the plant. Clinical signs may not be apparent



for several months after ingestion and the effects are cumulative, even if the periods of ingestion are months apart. The syndrome of liver failure progresses rapidly over a few days to a week. Clinical signs include weight loss, weakness, sleepiness, in-coordination with a yellowish discoloration to the mucous membranes. The horse may have shown no signs, but upon being ridden may seem to tire quickly and the clinical condition deteriorate rapidly to death. Once affected, there is no effective treatment. The best prevention is to properly maintain pastures and hay fields to encourage the production of quality forages and to be sure that hay fed contains no Houndstongue.

## Locoweed



A range plant. Some years there is very little growth and other years there can be significant growth. Horses usually avoid Locoweed, but after they have

sampled it a few times, they can become habituated to it. Symptoms do not appear until horses have grazed this plant for a period of time and the most obvious signs may not appear until after the horse has stopped eating it. Common symptoms include aimless wanderings, altered gaits, tremors, weakness and erratic behavior. Horses poisoned with Locoweed may also have impaired vision and actually bump into things or try to jump imaginary objects. This cumulative effect of alkaloid poisoning may be irreversible, though mares fed good quality hay may regain their reproductive function. Some neurological damage may be permanent and horse owners should be warned that recurrent aberrant behavior may



cause the horse to become unpredictable and dangerous, especially when stressed, loaded onto trailers or forced into working conditions. Horses are very sensitive to the toxin. Sheep can be managed so as to graze locoweed intermittently, but horses should be kept away from ranges which contain it, especially during years of abundant growth. Locoweed seeds will survive in the soil for years, waiting for the right growing conditions.

## Field Horsetail



A small herbaceous perennial that prefers moist cool areas such as ditches, meadows or road sides. Like most poison plants, horsetail is most likely to be ingested when

horses have very little quality vegetation to eat. Young horses are more readily affected than mature horses. Horsetail contains several compounds, but thiaminase is the only one of clinical importance.

Thiaminase is an enzyme that breaks down thiamine, a necessary vitamin for metabolism and central nervous system function. Horses need to ingest field horsetail for several days, or even weeks, before adverse clinical signs of muscle weakness,



uncoordination, paresis, convulsions and potential death appear. Therapeutic doses of thiamine, administered under veterinary supervision, followed by subsequent vitamin administration may prove successful in overcoming the effects of poisoning. Obviously, poisoned horses should be removed from horsetail infested areas and provided access to clean, good quality feed and water.

## Yews



Yews are common small ornamental evergreen shrubs or trees that are toxic during all seasons of the year. Yews

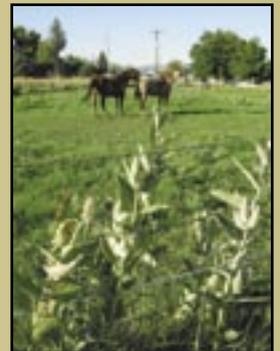
contain a cardiac depressant called taxine. Symptoms include trembling, uncoordination, collapse a slowed heart rate and cardiac failure. These symptoms may not reveal themselves for several hours of they may occur within minutes after ingesting the plant. Some dead horses have even been found with yew leaves or twigs still in their mouths. Because this toxin acts so quickly there is seldom time to initiate treatment and thus far, no know antidote is available. Most yew poisonings are the result of homeowners carelessly dumping lawn and shrub clippings into pens or pastures with curious horses. As stated earlier, horse owners should talk to kind and helpful neighbors and ask them not to feed any clippings to horses because of the risks involved.



## Milkweed



This herbaceous perennial is common along roadsides, ditch banks, in pastures and even in cultivated fields. Colonies spread by underground rootstalks that are not disturbed during tillage practices. The milky latex sap that exudes when these plants are cut or grazed is not palatable to livestock. The western whorled milkweed and labriform milkweed are the most toxic of the milkweed species. This plant is easily controlled with proper management.



## Deathcamas



This native perennial is one of the earliest plants to emerge in the spring and grows on foothills and in meadows. As such, most livestock poisonings come from

early spring grazing when other plants are still dormant. The underground scaly bulbs are often mistaken for wild onions and can cause severe illness in humans. All parts of this plant contain a poisonous alkaloid at all stages of growth. Pastures containing deathcamas should not be grazed in early spring and should be sprayed with herbicides early in the season when other plants are still dormant. After other forages become available, horses will usually not consume this toxic weed. Symptoms of poisoning include; excessive salivation, rapid breathing, weakness, staggering and convulsions. Severely poisoned animals usually die, while those less affected may recover.



## Arrowgrass



A native perennial that starts growth in early spring and

reproduces from seed and rhizomes. This plant contains hydrocyanic (prussic) acid, especially when drought or frost stressed, making it



highly toxic to horses. Symptoms include; nervousness, convulsions, respiratory failure and sudden death. Cured hay containing Arrowgrass has also been reported toxic to young stock. Supportive medical treatment may prove valuable, but death is common.

## Water Hemlock



This plant frequently grows in moist areas such as wet meadows and pastures or on the banks of ponds and streams. It resembles the taller poison hemlock plant,

though the leaves are different, and also has hollow stems with occasional purple streaking near the lower portion of the plant. Water hemlock can be easily identified by the cross-sectional chambers in tuberous roots. The knife used for cutting must be cleaned thoroughly or it can result in toxicity. All parts of the water hemlock plant contain

a toxin called cicutoxin. Young leaves, tubers and green seed are especially toxic. Some consider this to be one of the most poisonous plants in the US. Poisoning most often occurs in the spring when young, vegetative growth is eaten before most other forages are available. Cicutoxin acts

quickly as a direct stimulant to the nervous system. Clinical signs such as muscle twitching, teeth grinding, convulsive seizures and excessive salivation may appear as early as 15 minutes after ingestion. Death, resulting from respiratory distress, may



occur as early as 45 minutes after ingestion. The best way to prevent water hemlock poisoning is to consistently destroy the plants and to provide adequate quality forage early in the spring.

## Sorghum and Sudangrass



These grasses are excellent and productive livestock feeds when grown, harvested and cured correctly. When improperly managed, however, these grasses can produce difficulties such as cyanide poisoning, respiratory distress and sudden death because of inadequate oxygen exchange. Prussic acid poisoning is also a concern, especially in young rapidly growing



plants, after a hard frost, or if the grass has been trampled. Poisoning also occurs during seasons of high rainfall. There are no adequate treatments available after clinical signs appear. It is safest to avoid pasturing horses on Sorghum or Sudangrass. There are much better choices for horse feed

## Goatsrue



This tap rooted, perennial legume was intentionally introduced from the Middle East as a potential livestock forage, but was



found to be unpalatable and highly toxic. Unfortunately, it was allowed to escape and has spread primarily in irrigation water to pastures, fence lines, roadways and marshy areas. Most Goatsrue plants can be found in Cache County where an intense eradication program is underway. Unless horses are near starving, they will not eat this plant.



## Additional Poisonous Plant Resources:

“Small Pasture Management Guide for Utah”,  
Utah State University Extension AG 508

“Weeds of the West”, Western Society of  
Weed Science, P.O. Box 963, Newark, CA.

The USDA ARS Poisonous Plant Research  
Laboratory, UMC 6300, Logan, Utah 84322

[http://www.ars.usda.gov/main/site\\_main.  
htm?modecode=54-28-20-00](http://www.ars.usda.gov/main/site_main.htm?modecode=54-28-20-00)

“Plants Poisonous to Livestock and Horses”,  
Oregon State University, [http://extension.  
oregonstate.edu/linn/content1/poisonplants.  
php](http://extension.oregonstate.edu/linn/content1/poisonplants.php)

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