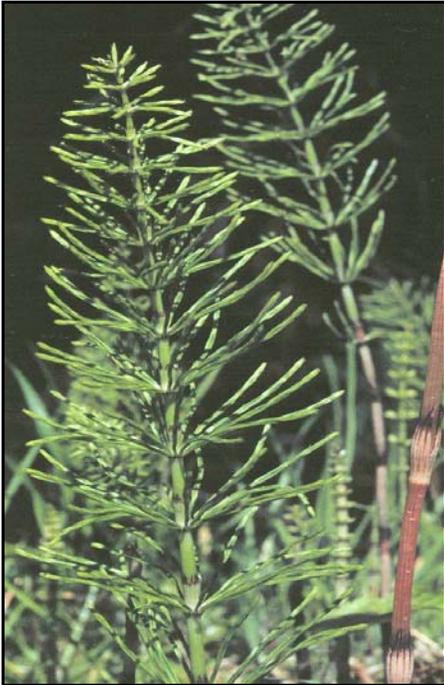


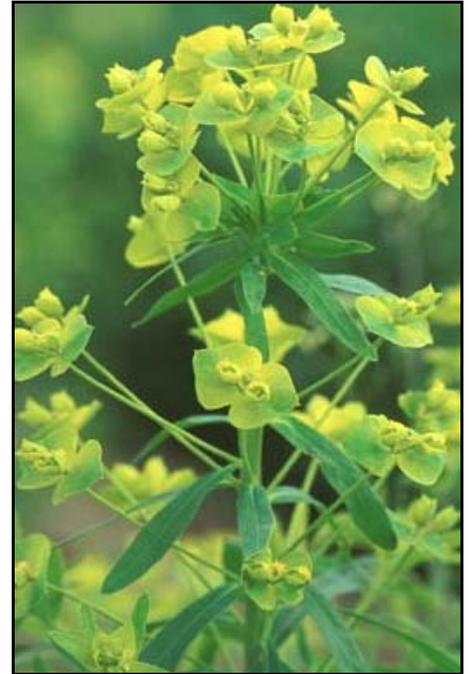
A GUIDE TO PLANTS THAT ARE POISONOUS TO HORSES AND LIVESTOCK



Field Horsetail



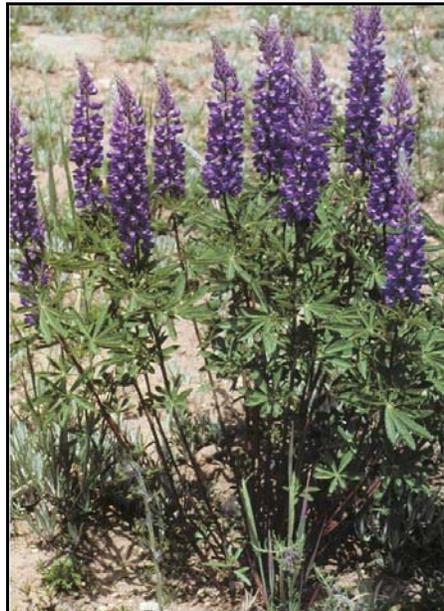
Yellow Starthistle



Leafy Spurge



Kochia



Wyeth Lupine



Common Cocklebur

Spokane County Noxious Weed Control Board

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PLANTS THAT ARE TOXIC TO HORSES AND LIVESTOCK

The following is a guide of several plants that can be found growing in Spokane County and the Pacific Northwest that are poisonous to horses and livestock. To protect your animals from poisoning, learn to identify the poisonous plants that grow in your pasture or rangeland.

Prevention is the best medicine, ensure that your horses and livestock have adequate hay and/or healthy pasture to graze, provide adequate water and avoid overgrazing.

Most poisonous plants have an unpleasant taste that animals avoid if they have anything else to eat. However, if they have no choice but to eat these plants, they might develop a taste for them.

Watch for unusual behavior in your animals. If you suspect a poisoning, consult a veterinarian as soon as possible. Be sure to collect samples of the plants you suspect caused the poisoning for positive identification.

The symptoms listed in the following pages are those that are most likely to be observed, however, not all symptoms will be seen in all cases. Signs of poisoning may vary greatly, depending on the dosage and the time taken to consume the dose. Also, individual animals respond differently to poison.

This handout does not contain a complete list of plants that are toxic to animals in Spokane County or in the Pacific Northwest. Please refer to the references listed below for more information.

REFERENCES:

1. Weeds of the West, 9th Edition, 2000.
2. Toxic Plants of North America, 1st Edition, 2001.
3. Western Washington Poisonous Plants Database;
www.horsesforcleanwater.com
4. Indiana Plants Poisonous to Livestock and Pets;
www.vet.purdue.edu
5. Cornell University Poisonous Plants Collection;
www.ansci.cornell.edu
6. War on Weeds, Noxious Weeds found in Montana;
www.mtwow.org

THE FOLLOWING PLANTS HAVE A HIGH TOXICITY RATING

CASTORBEAN (*Ricinus communis*)

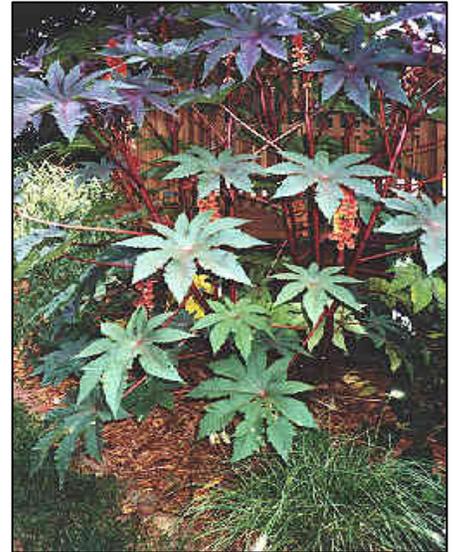
Toxicity rating: High. Death is likely with consumption of small amounts.

Toxins: Phytotoxin ricin; ricinine and irritant oil. The seeds are the primary source, but the rest of the plant may be considered to be slightly toxic as well.

Animals affected: All animals, including humans, may be affected.

Signs: Stomach irritation, diarrhea, abdominal pain, increased heart rate, profuse sweating, collapse, convulsions, death. The seed is only toxic if the outer shell is broken or chewed open. Seeds swallowed intact usually pass without incident. Signs of toxicity may not manifest for 18 – 24 hours after ingestion.

Description of plant: A stout, robust shrub-like plant with reddish-purple stems that can reach 12 inches in height. It has large, palmate leaves with 5 – 22 serrated leaf margins. Long, purple stems are attached near the centers of the leaf blades. Greenish-white or reddish-brown flowers are produced in narrow, upright clusters. The spiny fruit contains 3 seeds that are often reddish and are said to resemble well-fed ticks.



COAST FIDDLENECK (*Amsinckia intermedia*)

Toxicity rating: High

Toxins: Pyrrolizidine alkaloids. All parts of plant, especially the seeds.

Animals affected: All animals.

Signs: Liver damage, fibrosis, depression, incoordination, death. Accumulated levels of nitrates are potentially toxic to cattle, but probably not horses. Toxins can be passed on in the milk of lactating animals and alkaloids can be transferred through the placenta to the baby.

Description of plant: An erect annual weed with bristly or hairy stems 1 to 2 ½ feet tall with alternate leaves that are hairy and ovate. The leaves of a newly emerging plant are covered with little “blisters”. Yellow flowers are arranged on one side of a “fiddleneck” shaped axis.



COMMON COCKLEBUR (*Xanthium strumarium*)

Picture on cover

Toxicity rating: High

Toxins: Glycoside, carboxyatractyloside, sesquiterpene lactones

The seeds and seedlings contain the highest quantity of toxin, yet the whole plant can be considered toxic. The seed burs can cause mechanical damage.

Animals affected: All animals; cattle, swine, sheep and poultry are more at risk than horses or pets.

Signs: Gastrointestinal irritation, weakness, breathing difficulty, hypoglycemia, cardiac abnormalities, death. Liver damage may result from toxins and death is likely if 0.75% of body weight is ingested.

Description of plant: An annual that grows 2 - 4 ft tall with an erect stem that is branched, ridged, spotted and rough. Leaves are triangular or heart-shaped and are rough on both sides. Flowers are small and the fruit is a hard, oval, prickly bur that contains 2 brown seeds.



COMMON GROUNDSEL (*Senecio vulgaris*):

Toxins: Pyrrolizidine alkaloids (same as found in Tansy Ragwort)

Animals affected: Horses are most sensitive, followed by cattle, hogs and chickens.

Signs: Lethargy, liver lesions, weakness, staggering, death. Liver damage is permanent. Large amounts of groundsel can kill an animal in a few weeks or less.

Description of plant: An annual (sometimes biennial) noxious weed that grows 6 to 18 inches tall and has coarse, alternate leaves and yellow flowers. It is usually one of the first plants to grow in the spring.



DEATH CAMAS (*Zigadenus venenosus*)

Toxicity rating: High

Toxins: Steroidal, glycosidal alkaloids. All parts of the plant are toxic throughout the year; however poisoning occurs most often in the spring when death camas is abundant.

Animals affected: Sheep are poisoned more frequently than cattle and horses.

Signs: Salivation, weakness, respiratory difficulty, nausea, convulsions, coma, death. Respiratory problems occur in sheep after eating ½ to 2 pounds.

Death Camas continued:

The bulbs are less accessible to livestock, but they are reported to cause severe illness and death in humans who confuse it for wild onion.

Description of plant: A native perennial with scaly, underground bulbs that emerge in early spring. Plants have 5 – 6 thick, basal leaves with a grass-like appearance. Plants can reach 2 feet tall and have white to yellowish flowers.

FOXGLOVE (*Digitalis purpurea*)

Toxicity rating: High

Toxins: Digitoxin and cardiac glycosides. The whole plant is toxic. Ingestion of this plant can be fatal at any time during the life of the plant.

Animals affected: All animals.

Signs: Dizziness, vomiting, irregular heartbeat, delirium, hallucinations, convulsions, sudden death. Because of the unpalatable nature of the plant, poisoning is infrequent, when it does occur it is often severe and dramatic.

Description of plant: A biennial plant, whose basal rosette has soft, hairy, toothed, ovate shaped leaves. Second year growth produces flowering stems 3 – 6 feet tall with spikes that have purple to white spotted, thimble-like flowers that hang down and last about 6 days. First year growth can be mistaken for Comfrey.



There are several plants that are considered "**Nitrate-Accumulating**" plants. The effects of nitrate poisoning result largely from oxygen starvation or simply, suffocation. Plants differ in their ability to accumulate nitrate. The soil type, the availability of nitrogen present in the soil, various environmental factors and chemical or physical plant damage influence the amount of nitrate. For example, drought conditions, frost or the treatment of nitrate-accumulating plants with 2,4-D may cause plants to accumulate excessive amounts of nitrate. Animals that eat 0.05% of their body weight can be poisoned. Cows seem to be the most susceptible and poisoning usually occurs due to infested hay and when there is a high consumption rate. Some plants to watch out for include:

Corn
Nightshades
Russian Thistle

Kochia
Oat Hay
Sorghum/Sudan

Lambsquarter
Pigweeds

LOW LARKSPUR (*Delphinium nuttallianum*)

Toxicity rating: High

Toxins: Delphinine alkaloids, cardiac glycosides. All parts of the plant are toxic; new growth and seeds contain the highest concentration of toxicity.

Animals affected: Primarily cattle; losses are rare in sheep and horses.

Signs: Nervousness, weakness, salivation, nausea, bloating, rapid heart rate, death. Excitement and physical exercise after ingesting large amounts can intensify all signs of poisoning. Cattle seem to be attracted to larkspur and are lethally poisoned after eating 0.7% of their body weight in an hour.

Description of plant: A simple, rarely branched perennial that grows up to 20 inches in height with tuberous roots. Leaves are deeply divided into finger-like lobes. Large, flowers are blue-purple or sometimes pale blue or white with prominent spurs.



PIGWEEED (*Amaranthus retroflexus*)

Toxicity rating: High

Toxins: Nephrotoxin that causes kidney failure; soluble oxalates and is capable of accumulating nitrates.

Animals affected: Cattle and swine; goats and sheep

Signs: Breathing problems, trembling, weakness, abortions, coma, death. Animals need to consume pigweed in fairly significant quantities over several days before signs appear.

Description of plant: A large, coarse, annual with red stems and oval, wavy-margined, alternate leaves. The green, inconspicuous flowers are in short, compact clusters along with green spines.



POISON HEMLOCK (*Conium maculatum*):

Toxicity rating: High

Toxins: Coniine and gamma-coniine. All parts of the plant are poisonous; the toxicity increases throughout the growing season, the roots become toxic only later in the year.

Poison Hemlock continued:

Animals affected: All animals.

Signs: Nervousness, trembling, incoordination, depression, coma, death, birth defects.

Consumption of Poison Hemlock can cause respiratory failure in less than 3 hours. Animals show signs within 2 hours. A lethal dose for a horse is 4 - 5 pounds of leaves; cattle may be poisoned with 1 - 2 pounds and sheep with a half pound or less.

Description of plant: A biennial noxious weed that grows 3 to 8 ft tall and has a smooth, purple-spotted stem and triangular, finely divided leaves. Leaves and roots have a parsnip-like odor. White flowers arranged in umbrella-like clusters open in early summer.



PINE NEEDLES (*Pinus ponderosa*)

Toxicity rating: High

Toxins: Isocupressic acid

Animals affected: Primarily cattle, sheep can also be affected

Signs: Abortion, indigestion, high doses may develop renal and neurological disease. Abortions generally occur between 48 hours and 2 weeks after exposure to pine needles. Dosage is highly variable, some cows are sensitive and a small amount of needles may induce an abortion.



TANSY RAGWORT (*Senecio jacobaea*)

Toxicity rating: High

Toxins: Pyrrolizidine alkaloids. Generally unpalatable to livestock, it is only eaten if there is no other food source. Toxic when fresh or in dry hay.

Animals affected: All animals, especially cattle and horses.

Signs: Lethargy, diarrhea, weakness, crustiness around eyes/nose, watery eyes, irreversible liver damage. Cattle may develop a pig-like odor. Animals eating 5 % or more of their diet of pre-bloom tansy for a period of 20 days can expect to die within 6 months.

Description of plant: A biennial or short-lived perennial noxious weed. The sturdy plant can grow 1 - 6 feet tall, with single or multiple stems with yellow flower heads. Flowers give off an unpleasant "weedy" odor.



Russian Knapweed

Russian Knapweed and Yellow Starthistle (*pictured on the front cover*) can cause a neurological disease called nigropallidal encephalomalacia, better known as "**Chewing Disease**". The effects of the toxins are cumulative and horses will not eat these plants unless it is the only forage available.

Chewing Disease can eventually cause death by starvation

WESTERN WATERHEMLOCK (*Cicuta douglasii*)

Toxicity rating: High

Toxins: Cicutoxin. The root contains the highest concentration of poison, but the whole plant can be considered toxic. This is one of the most toxic plants in the United States. Animals have been poisoned by drinking water that had been contaminated with trampled water hemlock roots, humans are poisoned when this plant is mistaken for water-parsnip.

Animals affected: All animals, including humans

Signs: Nervousness, breathing difficulties, tremors, collapse, sudden death. As little as 8 ounces can kill a horse. Signs will develop within minutes of ingestion, death can occur in 30 minutes. If the animal survives 4 to 6 hours, they may recover but could suffer permanent damage to the heart.

Description of plant: A perennial native plant with erect stems that grows up to 7 feet tall. Stems are smooth, purple-striped and hollow. A yellow liquid exudes from cut stems and roots. Leaves are toothed and white flowers bloom in late spring or early summer in umbrella-like clusters. It grows primarily along streambanks and irrigation canals, but likes pastures or untilled areas. The cut root to the right shows the chambers that are a distinct characteristic.



Animals that are allowed to graze potato fields after a freeze/thaw or feed on spoiled potatoes in the spring can be poisoned. The toxin solanin causes paralysis of the throat, constipation and even death. Besides potatoes, solanine is also found in nightshades, tomatoes and buffalobur.

WYETH LUPINE (*Lupinus wyethii*)

Picture on cover

Toxicity rating: High

Toxins: Poisonous alkaloids; D-lupinine. All parts of the plant are toxic, especially pods with seeds.

Animals affected: All animals are susceptible, primarily sheep

Signs: Spasms, cerebral excitement, breathing problems, behavioral changes, birth defects, death. Sheep seem to be the most susceptible, death can occur when they have eaten as little as 0.25% of their body weight. Cows that eat these plants in the first 40 – 70 days of pregnancy can have deformed calves, a condition known as crooked calf syndrome.

Description of plant: A perennial plant that reproduces by seed. Stems are upright and branched, often forming large showy clumps up to 18 inches in height. Flowers range from white to purple forming on elongated spikes and leaflets and stems are covered with fine hairs. Palmate leaves are composed of 6 – 8 leaflets.

THESE PLANTS HAVE A MODERATE TOXICITY RATING:

BRACKENFERN (*Pteridium aquilinum*)

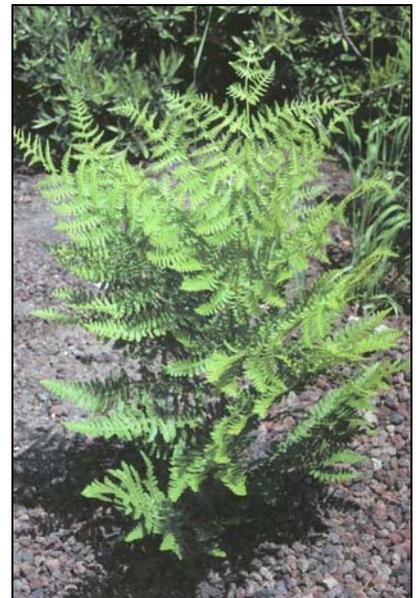
Toxicity rating: Moderate

Toxins: Thiaminase and ptaquiloside. All parts of the plant are toxic, especially the roots. Thiaminase causes Vitamin B1 deficiency in horses and swine, leading to degeneration of peripheral nerves; ptaquiloside affects the bone marrow in cattle, sheep and goats.

Animals affected: Cattle, sheep, goats, horses, swine

Signs: In horses and swine: weight loss, weakness, abnormal heart rate, inability to rise, death. In ruminants: bruising, hemorrhaging, breathing difficulties, weight loss, death. Brackenfern is not considered palatable, but horses will eat it if no other forage is available, and may acquire a taste for it. It is toxic when 20% or more of the diet contains brackenfern. Cattle show signs after grazing on it for 1 to 2 months.

Description of plant: A perennial fern that can grow 1 ½ to 6 feet tall, with creeping rhizomes. Fronds are leathery and hairy on the underside. Brown spores are along the undersurface of each frond.



FIELD HORSETAIL / SCOURINGRUSH (*Equisetum spp.*)

Picture on cover

Toxicity rating: Moderate for most animals, high toxicity in horses

Toxins: Thiaminase. All parts of the plant are toxic, both fresh and dried. Hay containing this weed may be more poisonous than fresh plants in the field.

Animals affected: Horses, other animals can be affected.

Signs: Weight loss, weakness, gait abnormalities, abnormal heart rate, inability to rise, death. Horses suffer from Vitamin B1 deficiency, causing degeneration of peripheral nerves.

Description of plants: Both are tenacious perennial plants with stiff, hollow stems that are round and jointed. Scouringrush appears in early spring as a tan shoot, developing into cane-like shoots that grow 1 to 6 feet tall; stems have a terminal spore-producing cone on the end. Field horsetail has green shoots that bear pine needle-like branches that look like a horse's tail.

HOARY ALYSSUM (*Berteroa incana*)

Toxicity rating: Moderate

Toxins: The toxin or the toxic dose has not yet been identified, but horses become intoxicated after eating green or dried plants.

Animals affected: Horses

Signs: Early manifestations of intoxication are laminitis and limb edema, which cause lameness. Signs include stiffness, fever, diarrhea, intravascular hemolysis and hypovolemic shock. Premature parturition or abortion may occur if pregnant. The mucosa of the stomach and small intestine may be ulcerated with small areas of hemorrhage.

Description of plant: An annual, biennial or short-lived perennial reproducing by seed. Plant grows to 3 feet; stems are gray-green, hairy with many branches near the top. Leaves are oblong, gray-green and covered with rough hairs. Flowers are white with four deeply divided petals.



HOUNDSTOUNGUE (*Cynoglossum officinale*)

Toxicity rating: Moderate

Toxins: Pyrrolizidine alkaloids. All parts of the plant are toxic, most poisonous in the rosette stage.

Animals affected: Horses and cattle

Signs: Weight loss, jaundice, diarrhea, photosensitivity of non-pigmented skin. Horses and cattle are most susceptible; sheep seem to be tolerant. The alkaloids have a cumulative effect on the liver and can induce fatal poisoning once 5 – 10% of an animal's body weight has been consumed.



Houndstongue continued:

Description of plant: A biennial growing 1 to 4 feet tall and reproducing by seed. The heavy “tongue” shaped leaves are alternate up the stem and are about 4 – 12 inches long. The leaves are hairy and rough and feel like a dog’s tongue. The flowers are reddish-purple and borne at the end of the stem. Seedpods are covered with barbs that enable them to stick to animals, clothing, etc.

LEAFY SPURGE (*Euphorbia esula*)

Picture on cover

Toxicity rating: Moderate

Toxins: White, latex sap that has co-carcinogenic factors that can increase the cancer-causing properties of other substances. All parts of the plant are toxic.

Animals affected: Any animal consuming spurge exclusively, or that come into contact with the sap. Humans that come in contact with the sap can experience severe skin irritations as well as temporary blindness (seldom permanent) if sap gets in their eyes.

Signs: Gastrointestinal irritation, dermal and ocular irritation, weakness. Prolonged exposure to skin (legs and head primarily) will cause irritation, redness, swelling and salivation and head shaking if the oral mucosa is affected. Blistering and open sores are possible from exposure to the sap.

Description of plant: A perennial noxious weed that grows up to 3 feet tall and reproduces vigorously by rootstalks and seed. Leaves are alternate and stems are thickly clustered. Flowers are yellowish-green, small and arranged in numerous small clusters, paired with heart-shaped, green bracts.

LOCOWEEDS (*Astragalus / Oxytropis spp.*)

Toxicity rating: Moderate

Toxins: Glucosides, Selenium from soil.
Plants are poisonous throughout the growing season, even after they have matured and dried.

Animals affected: Cattle, sheep, horses

Signs: Depression, dull eyes, nervousness, abortions, inability to eat or drink, may become violent. As little as 2 pounds can cause acute poisoning in cattle within a few hours after being eaten.

Description of plants: Both are perennials. *Astragalus* (Twogrooved milkvetch) is an upright herb growing up to 30 inches. Stems are dark purple with hairy leaflets. Flowers are purple and clustered near the end of the branches. *Oxytropis* (Silky crazyweed) is a herbaceous legume that can reach 12 inches tall. Leaves are covered with fine hairs giving it a whitish-gray appearance; flowers are white and borne on a leafless stalk emerging from the center of the plant, forming a spike-like cluster.

MILKWEEDS (*Asclepias spp.*)

Toxicity rating: Moderate

Toxins: Cardenolides and resinoids. Leaves and other above ground parts of the plant are poisonous, Milkweed may cause losses at any time, but it is most dangerous during the active growing season.

Animals affected: Sheep and cattle, occasionally horses. Most livestock losses are a result of hungry animals being concentrated around Milkweed-infested corrals, bed grounds and driveways. Poisoning may occur if animals are fed hay containing large amounts of Milkweed.

Signs: Depression, weakness, difficulty breathing, violent spasms, bloating, gastroenteritis. An average size sheep that eats 30 – 100 grams of green leaves is likely to die of poisoning.

Description of plant: There are several milkweeds, the most toxic being Labriform milkweed. Other species in order of toxicity are: western whorled milkweed, woollypod milkweed and Mexican whorled milkweed. Refer to one of the references listed on page 1 for more information on these weeds.

THESE PLANTS HAVE A LOW TOXICITY RATING:

BUTTERCUPS (*Ranunculus spp.*)

Toxicity rating: Low to Moderate

Toxins: Ranunculan. The juice of the entire plant contains the toxins.

Animals affected: All animals, primarily cattle and sheep.

Signs: Blisters and ulcers in mouth, in an infested pasture, milk cows can eat enough to taint their milk.

Description of plant: There are several buttercups found in northwest Washington, the most common being Creeping Buttercup, Tall Buttercup and Bur Buttercup. Please refer to one of the references listed on page 1 for more information on these plants.

DOWNY BROME (*Bromus tectorum*)

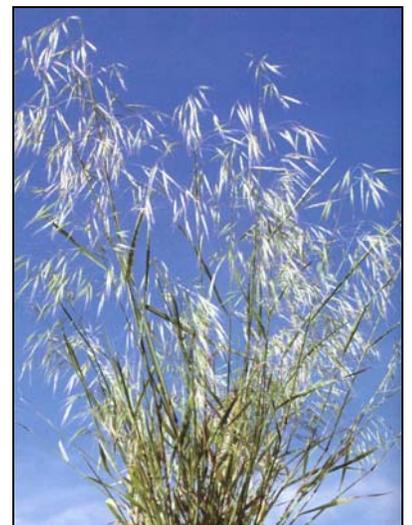
Toxicity rating: Low

Toxins: Large, coarse awns cause mechanical injury to mouth, eyes, noses

Animals affected: Grazing animals

Signs: Sores and infections to mouth, throat, intestines; weight loss.

Description of plant: An annual growing 4 to 30 inches tall, reproducing by seed. Leaf sheaths and flat blades are densely covered with soft hair. The seed head is dense, slender, drooping and often purple with nodding spikelets. Also known as cheatgrass.



MAYWEED CHAMOMILE (*Anthemis cotula*)

Toxicity rating: Low

Toxins: Irritant substances that affect the skin and mucous membranes of grazing livestock. It can impart a strong flavor to the milk of dairy animals.

Animals affected: All grazing animals

Signs: Skin rash and soreness and blistering of the mouth and lips.

Description of plant: It is an annual, bushy, branched plant that grows from ½ to 2 feet tall with narrow, divided leaves. Flowers resemble those of a daisy, approximately ¾ inch in diameter.

Animals will most likely avoid this plant because of its strong odor and bad taste. This plant is also referred to as dog fennel.



ST. JOHNSWORT (*Hypericum perforatum*)

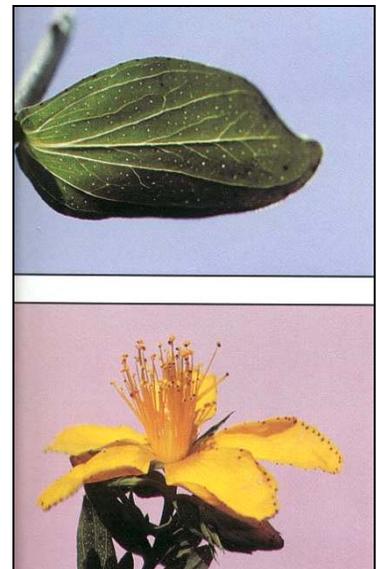
Toxicity rating: Low to moderate

Toxins: Hypericin. All parts of the plant are toxic

Animals affected: Most animals are susceptible

Signs: Sunburn, skin slough, eye irritation, inflammation of non-pigmented skin. Hypericin is a pigment that when absorbed by the body and activated by sunlight can result in a condition where white or light-skinned animals become seriously sunburned under normal exposure to sunlight. Animals must consume the plants for 4 to 5 days before clinical signs are noted.

Description of plant: A perennial noxious weed that reproduces by seeds or short runners. Stems are 1 to 3 feet high, erect with numerous branches that are rust-colored and woody at the base. Leaves are opposite, clasping the stem and oval shaped. Tiny, transparent dots are visible in the leaves when held up to the light. Flowers are bright yellow and have 5 petals with minute black dots around the edges.



Avoid planting these trees in or near your pastures: Black locust, Black walnut, Buckeye oak, Oleander, Red maple, Russian olive and Avocado. Instead, opt for aspens, cedars, cottonwoods, poplars and spruces.

Also, do not plant ornamentals such as yew shrubs, azaleas, chokecherry or boxwoods around the perimeters or anywhere your horse or livestock can reach them. Also, do not feed your animals clippings from these plants.

PLANT FAMILIES TO BE CAUTIOUS OF:

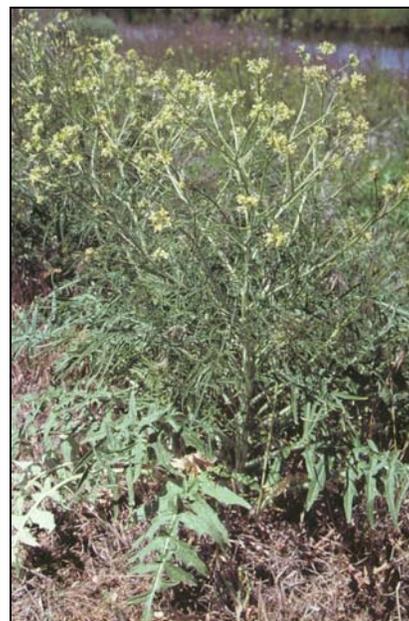
THE MUSTARD FAMILY:

Consumption of mustard plants by mares has caused a condition called Congenital Hypothyroid Dysmaturity Syndrome in foals. Signs of this condition include:

1. Abnormally long pregnancy
2. Foals commonly born with facial and lower jaw deformities
3. Deformities of the limbs

This syndrome occurs most often in mares that are bred late and fed hay that is contaminated with mustard, or when pastured in early spring in fields that contain mustard plants, such as Blue Mustard, Tumble Mustard, Flixweed, Shepherd's-purse and Hoary Alyssum (*see pg. 9*).

The syndrome appears to be caused by ingestion of certain mustards during late pregnancy. The chemicals are broken down into compounds that act on the thyroid gland. Make sure that hay is free of mustards and keep mares that are late in pregnancy off pastures that contain Mustard.



Tumble Mustard

NIGHTSHADE FAMILY:

There are several plants in the nightshade family that are toxic, including:

1. Black Henbane
2. Bittersweet Nightshade
3. Hairy Nightshade
4. Cutleaf Nightshade
5. Jimsonweed

They contain a complex of glycoalkaloids and are highly toxic to cattle, sheep, horses, swine and poultry. People have been poisoned after eating the berries of night-shade plants. Please refer to a plant reference guide or visit one of the websites listed on page 1 of this handout for more information on this large family of toxic plants.



Bittersweet Nightshade

Applying Herbicides to Pastures:

Always read the product label regarding grazing restrictions before making an herbicide application. Herbicides often increase the palatability of plants by affecting the sugar content. Avoid grazing treated areas until plants have dried.

Toxicity Facts:

- Drought increases plant toxicities. Plants growing under stress produce stronger toxins. High-strength toxins require less energy to produce than lower-strength toxins.
- The curing process in hay does **not** dilute the toxicity in most plants.
- A plant may be more toxic during one part of the season than another.
- It is often the dosage that makes a particular plant poisonous.

BUYER BEWARE!

What to look for when buying hay:

1. Good hay looks and smells appealing – to you and your horse.
2. Hay should smell fresh, be bright green in color and free of weeds.
3. There should be no sign of dust or mold. Hay that was baled too wet will mold and a horse that breathes mold spores can develop permanent lung damage.
4. Hay that is freshly baled will be warm and dry feeling when you stick your hand into it.
5. Hot hay may mean there is too much moisture and hay that is heating excessively can combust and should not be stored in a barn or fed to horses.
6. The seed heads should be closed and the leaves intact. Broken leaves indicate that hay was baled too dry and will be less nutritious.
7. Hay that is yellow or brown has been rained on or sun-bleached. In either case, the nutritional quality will be lower.

Information provided from www.horses.about.com

Certified Weed Free Hay:

In 2008, the Washington State Noxious Weed Control Board implemented a pilot program to certify hay and straw. It is called the Washington Wilderness Hay and Mulch program (WWHAM).

This program was developed to coincide with the US Forest Service's order [36 CFR 261.58(t)] requiring that all commercially processed feed pellets and/or certified weed-free straw and feed be required within all wilderness areas and adjacent trailheads in all US Forest Service lands.

There are several growers in the state of Washington that sell certified weed free hay. For more information on this program and where to purchase certified products, check the WA State Noxious Weed Control Board's website at: www.nwcb.wa.gov.

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