

LIVESTOCK POISONING PLANTS OF WHATCOM COUNTY PASTURES



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Poison hemlock (*Conium maculatum*)

Introduction

This guide has been designed to help landowners identify some common plants in Whatcom County which are potentially poisonous to livestock. While this booklet is not intended to be a complete guide to poisonous plants, it does provide some basic information for the land and livestock owner. Plants which are currently listed on the **Washington State Noxious Weed List** are indicated on the pages by a green side bar.

The **Signs/Symptoms** listed on the following pages are those that are most likely to be observed. Symptoms may vary greatly depending on the quantity of plants eaten and the time taken to eat the plants. The toxicity of a plant may also change during the growing season. In addition, different animals or species may respond differently to the toxins.

For example, sheep may be more susceptible to lupine poisoning than cattle and horses. Cherry is more toxic after a freeze or wilting. The alkaloids of tansy ragwort accumulate in the liver and the animal slowly weakens over time, while the symptoms of poison hemlock appear quickly as the nervous system is attacked.

Some plants remain toxic after being dried. Animals can become ill by eating weed-contaminated hay or feed. This type of poisoning is more difficult to control, and often results in new weeds spreading on your property. Reasonable handling of your feed areas and careful inspection of imported hay will help prevent some problems.

In general, pastures which are wisely managed have few undesirable plants. Animals with good feed and forage available to them will usually avoid eating toxic plants. Be sure to watch your animals for unusual changes in behavior. If you suspect a poisoning, consult a veterinarian as soon as possible.



Everlasting-Pea (*Lathyrus latifolius*)



COMMON LIVESTOCK POISONING PLANTS OF WHATCOM COUNTY PASTURES

BRACKEN FERN

Pteridium aquilinum

Description: Bracken fern, or western bracken, is a wide-ranging native plant that grows in shaded woodlands, upland pastures, and recently cleared or burned land. It is a large fern up to 4 feet in height. The broad triangle-shaped leaves grow in groups of three. Rusty spores are found on the undersides of the leaves. It dies back each fall.



Toxicity Rating: Low

Toxic Parts: The spores, leaves, and the roots contain a cumulative poison. The toxin remains in the plant after drying.



Signs/Symptoms: Bracken fern poisonings are rare. Horses develop the signs of bracken fern poisoning over a 2 to 4 week period. Considerable quantities of fern must be eaten, either in the fresh state or as hay. A disease called "fern staggers" results. Signs include a staggering gait, twitching muscles, a weak, fast pulse and convulsions. Death occurs several days to weeks after the onset of

symptoms. Cattle, sheep, goats, and pigs can also suffer from bracken poisoning and can cause blindness.

BUTTERCUP

Ranunculus sp

Description: There are two types of buttercup which are weedy in north-west Washington. Creeping buttercup (*Ranunculus repens*) has bright yellow flowers with 5 to 10 petals. The green leaves have dark markings across the top. It is a creeping, low growing plant. Tall buttercup, (*Ranunculus acris*) grows up to 3 feet tall. The flowers have five shiny, yellow petals, which are 1/2 inch long. The leaves are toothed and deeply divided. Both buttercups are native to Europe. They are most often found in moist pastures and meadows. Buttercups generally bloom from April to June.



Toxicity Rating: Low

Toxic Part: The juice of the entire plant contains the toxin ranunculin.



Signs/Symptoms: When buttercup is eaten by livestock, it irritates the mouth and intestinal tract. This can result in blisters and ulcers. All livestock can be affected. When the plant occurs in dry hay it is harmless. Unfortunately, moving contaminated

hay is a common way of spreading plants to other sites.

Animals will avoid buttercup when there is dependable alternative forage, but this allows the plant to seed and spread freely. Eventually it can overrun a pasture. Avoid overgrazing.

CHERRY

Prunus sp.

Description: A variety of plants in the rose family, of which cherry is a member, are known to cause livestock poisoning. These include apricots, peaches, plums, sweet cherries, sour cherries, and chokecherries. Cherry is a shrub or small tree with finely toothed, alternately placed leaves. The creamy-white flower clusters bloom in the spring and the red cherry-like fruits are seen in midsummer.



Toxicity Rating: Low/Moderate

Toxic Part: The seed or pit of the fruit, twigs and leaves are toxic. Wild and cultivated cherries contain the toxin. Sudden wilting or freezing concentrates the toxin in the leaves. The leaves of the plant are most toxic early in the growing season and again in early fall.

Signs/Symptoms: Livestock which eat a large amount of the leaves over a short time may die without exhibiting symptoms. When smaller amounts are consumed by livestock their symptoms may include, breathlessness, convulsions, suffocation, and a bright red bloody discharge from the nose and mouth. Prompt treatment by a veterinarian can result in almost immediate recovery.

Although horses rarely eat cherry, cattle, sheep, and even deer relish the leaves. Keep hungry animals away from areas where cherry is common. Remove any downed branches which have fallen due to pruning or wind damage.

COMMON GROUNDSEL*Senecio vulgaris*

Description: Common groundsel is a summer or winter annual, possibly a biennial. It has hollow stems and grows 6 to 18 inches tall. It has deeply lobed leaves and yellow, tubular flowers borne in clusters at the end of the stalks. Seeds are produced in a small dandelion-like puffball. Common groundsel usually flowers from spring into the fall, but can flower year-round during mild winters. It generally has a small taproot, with small, secondary, fibrous roots. Common groundsel grows best during cool, moist weather.



Toxicity Rating: Moderate

Toxic Part: All parts of the plant, both fresh and dried, are poisonous to livestock.



Signs/Symptoms: Common groundsel contains the same alkaloid found in tansy ragwort. Irreversible liver damage and the same symptoms observed in tansy ragwort poisoning occur with common groundsel. Most poisoning occurs by feeding livestock contaminated hay. Some animals may not die from poisoning, but will remain in poor shape. Cattle and horses are more seriously affected than goats and sheep.

FIELD HORSETAIL

Equisetum sp.

Description: Probably no county in the state is without some species of horsetail or scouring rush. This plant is related to ferns. It spreads quickly with creeping roots, especially in wetlands. It invades pastures and croplands from infested stream banks and ditches. The round stems of horsetails are grooved and hollow. The branches are whorled. Plants are typically evident in the spring through late summer, though some species are evergreen.

Toxicity Rating: Low

Toxic Part: The entire plant is toxic.

Horsetail contains a toxin, also in bracken fern, which interferes with vitamin B1 metabolism.

Signs/Symptoms: In horses, watch for loss of coordination, slow pulse, arched back, trembling, and lying down. Convulsions and coma usually precede death. Cattle and sheep are not as susceptible.



Because horsetail is not palatable to animals, it is generally avoided. Poisoning typically occurs when plants are included in hay. Hay that contains at least 20% horsetail may produce symptoms in horses in 2-5 weeks. Horsetail is a difficult plant to control once it is established.

FOXGLOVE

Digitalis purpurea

Description: Introduced from Europe, this biennial plant is found along roadsides, in fields and forest edges at low elevations. It is also cultivated as a garden ornamental. The first year of growth will produce a low growing mound of leaves. The leaves are egg-shaped, softly hairy with finely toothed edges. A long stem with flowers is produced in the second year. The purple to white flowers are tubular, growing on stalks from about 1-5 feet tall.

Toxicity Rating: High

Toxic Part: Flowers, leaves, seeds, both fresh and dried, contain cardiac glycosides. Heart medicines, Digitalis and Digoxin, are derived from this plant.



Signs/Symptoms: Rapid breathing, irregular heartbeat, diarrhea, convulsions. Poisonings of livestock from this plant are infrequent as it is fairly unpalatable. Poisonings can occur when animals eat contaminated hay. When poisonings do occur, they are dramatic and severe and often result in death. Foxglove is poisonous to both humans and animals.

LUPINE

Lupinus sp.

Description: This hardy perennial in the Pea (legume) family is often grown as a garden ornamental. Many species of lupine occur in Washington State, most of which are native.

Leaves are palmately divided with 10-20 leaflets. Plants are upright and can reach heights of up 3 feet or more. Blue to purple flowers are most common, but there are pink, white and yellow flowers also.

Toxicity Rating: Moderate/High

Toxic Part: Leaves, seeds and fruit contain quinolizidine alkaloids. The plant is also toxic when dried.

Signs/Symptoms: Excitement, head pressing, difficult breathing, loss of coordination, salivation, seizures.



Lupine is toxic to all livestock, but sheep are especially susceptible. Fatalities may occur when less than 1% of the animal's body weight is eaten. Cows that have eaten lupine within the first 40-70 days of pregnancy may produce deformed calves. This is known as "crooked calf syndrome". Not all species of lupine are toxic or cause birth defects.

NIGHTSHADES

Solanum sp.

Description: Bittersweet Nightshade (*Solanum dulcamara*) is a woody, trailing perennial vine with small purple and yellow flowers which are star-shaped. Showy berries are green to red. Another nightshade common in our area is Hoe (or Hairy) Nightshade (*Solanum physalifolium*). It is a tap-rooted annual, growing upright (0.5-2.0 ft) and covered in soft hairs. Flowers are white and yellow. Smooth, round berries are green to brown.

Toxicity Rating: Low/ Moderate

Toxic Part: All parts are toxic, especially the leaves and green berries, in both species. Neither is considered very palatable.

Signs/Symptoms: Loss of coordination, weakness, diarrhea, excessive salivation, slowed heart rate, labored breathing, dilated pupils. There are many members of the nightshade family, all with varying degrees of toxicity. Deadly Nightshade (*Atropa belladonna*) is uncommon here, very poisonous, and is often confused with Bittersweet Nightshade.



Photo by WA State Noxious Weed Control Board



Photos by Tim Miller, Washington State University

POISON HEMLOCK

Conium maculatum

Description: Introduced from Europe as a garden ornamental, poison hemlock has since become widespread along pasture borders, roadsides, waterways, croplands, and gravel pits. The plant resembles other plants in the parsley family, like wild carrot, to which it is related. Unlike the hairy-leaved wild carrot, the hollow stems of poison hemlock are **smooth and hairless and have purple streaks and blotches** (shown below). The umbrella-shaped clusters of flowers are lacy and white. Flowering is from May to September.



Toxicity Rating: High

Toxic Part: All parts of the plant, especially the roots, seeds, and early spring leaves, are poisonous to humans and livestock. The toxin remains in the plant after drying.



Signs/Symptoms: Some signs of poisoning include nervous trembling, salivation, clumsiness, pupil dilation, a rapid, weak pulse, and difficult breathing. Death can occur within hours. In cattle, ingestion of non-fatal amounts of hemlock in the first trimester of pregnancy can cause birth defects. Since the fresh leaves have a nauseating taste and odor, they are usually avoided by livestock.

SPURGE LAUREL

Daphne laureola

Description: This evergreen shrub grows up to 3-4 feet tall. Whorls of dark green, shiny, leathery leaves grow at the ends of the branches. The small yellow-green flowers appear in late winter to early spring, with oval, black berries produced in early summer. Birds are the primary means of dispersal and spread of this plant. Spurge laurel is slow-growing and deeply tap-rooted.



Toxicity Rating: Moderate

Toxic Part: All parts of the plant are poisonous to humans and animals, especially dogs and cats. The sap can cause severe skin and eye irritation. Poisoning usually occurs with the berries. The toxin remains in the plant after drying.



Signs/Symptoms: Burning lesions in the mouth, diarrhea, vomiting, stupor, weakness, convulsions.

While livestock poisoning has been rare, it should be noted that this plant is spreading quickly in the Pacific Northwest, so livestock may encounter it more frequently.

As with many landscape plants,

trimmings from Spurge Laurel should never be left in areas where animals have access to them.

ST. JOHN'S-WORT*Hypericum perforatum*

Description: St. John's-wort is a European species which is now widely established throughout the United States. It grows in orchards, meadows, pastures, along roadsides, and other sites where the ground is not tilled every year. The yellow flowers have 5-7 petals that appear in early summer. When held up to the light, the oval leaves appear to be covered by tiny pin pricks. Stems are 1 to 3 feet high. In late fall, the plant turns a rusty brown and remains standing all winter. This plant is sometimes confused with tansy ragwort.



Toxicity Rating: Moderate



Toxic Part: The entire plant, especially the leaves and flowers contain the toxin, hypericin. Hay containing dry St. John's-wort can cause poisoning in winter.

Signs/Symptoms: Once in the bloodstream, the toxin causes white-skinned animals to become sensitive to the sun. Over time, animals will exhibit symptoms of blistering, hair loss, difficult breathing, rapid pulse, foaming at the mouth, weight loss, and blindness. At the first signs of poisoning, move affected animals out of direct sun and provide plenty of feed and water. Both livestock and humans can be affected.

TANSY RAGWORT

Senecio jacobaea

Description: In the Northwest, tansy ragwort is a major livestock poisoning plant that grows in pastures and along roadsides. It blooms from July through September. The daisy-like yellow flowers produce seeds which are transported by wind, water, and animals. The leaves are deeply cut, giving it a ragged appearance. The plant can reach six feet in height. It can be distinguished from other plants by counting the yellow petals on the flowers – usually 13 per flower.



Toxicity Rating: Moderate/High

Toxic Part:: The entire plant is toxic. Higher levels of toxin may occur in the flowers. The toxin remains in the plant after drying.

Signs/Symptoms: Tansy ragwort toxins will build up in livestock and lead to liver damage. Poisoned animals may become easily agitated, have loss of appetite, chew on fences and dirt, become weak, and have a staggering gait. Some animals may not die, but will remain in poor shape. **This condition is not reversible.** Cattle and horses are more seriously affected than goats and sheep. Poisoning often occurs by feeding livestock contaminated hay. This is also a common way of spreading the weed. Animals can also be affected by this plant in the spring when young plants are mixed with the desirable grass forage.



WESTERN WATER-HEMLOCK

Cicuta douglasii

Description: Native to the Pacific Northwest, this highly poisonous plant is found in wet pastures, meadows, and along streams. The plant grows from 2 to 8 feet tall. It has small, white flowers that grow in clusters like tiny umbrellas. A distinctive feature is the chambered root (shown below in cross-section). The plant begins growth in early spring. It flowers from spring to early summer.



Toxicity Rating: High

Toxic Part: All parts of the plant are **extremely poisonous** to humans and animals. A piece of root the size of a walnut is enough to kill a mature cow.

Signs/Symptoms: Poisoned animals display muscle twitching, a rapid pulse, frothing at the mouth, violent convulsions, coma and death. The onset of symptoms is rapid and death can occur in as little as one hour.

Animals will seldom eat water-hemlock when good forage is available. Unfortunately, the plant may appear early in the spring before grass is



available. Severe losses may occur when roots become exposed and are eaten by animals. It is best to keep animals away from known infestations until the plants are removed. **Be very cautious when handling this plant and wash hands and tools afterward as it is also very poisonous to humans.**

Landscape Plants to Avoid Planting Near Pastures

This list is not all-inclusive, but highlights some commonly used landscape plants for this area.

Trees/Shrubs/Vines

Boxwood, Oak species, Red Maple, English Laurel, English Ivy*, Ponderosa Pine, Black or Honey Locust, Mountain Laurel, Serviceberry, Rhododendrons, Azaleas, Mountain Ash, Spurge Laurel*, Domestic plum, cherry or peach, Golden Chain Tree (*Laburnum*), Nandina, English Holly, Black Walnut, Clematis, Hawthorn (*Crataegus*), Pyracantha, Cotoneaster, Snowberry, Japanese Pieris, Yew, Elderberry, Swamp Laurel (*Kalmia sp.*), Horse Chestnut, Wisteria, Daphne, Hydrangea, Virginia Creeper, Trumpet Creeper.

Herbaceous Plants

Lily-of-the-Valley, Narcissus/Daffodils, Autumn Crocus, Bleeding Heart, Rhubarb, Castor Bean, Larkspur, Perennial (Everlasting) Pea, Foxglove, Monkshood, Yellow Flag Iris*, Lupine, Mole Plant, Nightshades, Chrysanthemum, Common Tansy*, Oriental Poppy, Star-of-Bethlehem, Snowdrops, Donkeytail Spurge*.

**indicates plants currently listed on the Washington State Noxious Weed List*



Bleeding Heart (*Dicentra spectabilis*)

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- Lincoln Co. Noxious Weed Board. *Plants Poisonous to Horses and Livestock*,

Web Sites:

Canadian Poisonous Plants Information System:

www.cbif.gc.ca/pls/pp/poison?p_x=px

Colorado State University Guide to Poisonous Plants:

www.vth.colostate.edu/poisonous_plants/report/search.cfm

Cornell University Poisonous Plants Home Page:

www.ansci.cornell.edu/plants/index.html

Equines and Toxic Plants:

www.cnr.uidaho.edu/range/toxicplants_horses/Toxic%20Plant%20Database.html

Ontario: Weeds Poisonous to Grazing Livestock:

www.omafra.gov.on.ca/english/livestock/dairy/facts/poisonousweeds.htm

University of Pennsylvania Poisonous Plants Home Page:

cal.vet.upenn.edu/projects/poison/index.html

University of Vermont Extension:

www.uvm.edu/pss/vtcrops/articles/VTPoisonousPlants.pdf

IF YOU THINK YOUR ANIMALS ARE EXHIBITING SYMPTOMS OF POISONING...

- **Contact a veterinarian immediately**
- **Collect full samples—including flowers, leaves and roots—of the suspect plants.**

If you suspect that you have poisonous plants on your property and need more information, please contact the Noxious Weed Program for a site inspection and/or to get the plants identified:

360-715-7470

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Yellow Flag Iris (*Iris pseudacorus*)



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