

The background of the slide is a photograph of two bright red mushrooms with white spots, growing on a forest floor covered in green moss and fallen leaves. The scene is dimly lit, with a soft, out-of-focus light source in the background, creating a bokeh effect. The text is overlaid on this image.

# Poisonous and Toxic Plants

*By Mason K.*

*C2 HM, C1 Eventing, C1 Dressage*

*Great Lakes Region*

*HHPC & HWPC*



# What Pony Club Says

*Taken from the Toxic Plants For Horse (study guide 1)*

The information provided is from the C and HB-A manuals along with clarifications and corrections to the manuals as posted to the USPC website.

There is a study guide on the website with an answer key to help prepare you for your C2 – HA rating. It is recommended you use both USPC manuals (2nd Edition): C-1/C-2 Intermediate Manual and HB-A Advanced Horsemanship as well as the Study Guide and Answer Key to help prepare.

*What you are expected to know:*

**As a C-2:**

- Name and describe 3 plants.
- Know the plant's name and its type (trees, shrub, weed, vine, herb).



# What Pony Club Says

*Taken from the Toxic Plants For Horse (study guide 1)*

## **As an H-B:**

- Identify a plant: know its name and type (trees, shrub, weed, vine, herb).
- Of the numerous poisoning symptoms, you need only know 3, and know when there is a need to call the vet. If ingesting or touching a plant result in death, this is vitally important information.
- Additional information that you could present is its toxicity level and the area found.
  - For example: plant X, a shrub, causes muzzle blisters, hair loss, and drooling. Additional information you could present - the plant is found in the Northeast; additional symptoms are brown urine and loose stools.



# What Pony Club Says

*Taken from the Toxic Plants For Horse (study guide 1)*

## **As an H-A:**

- Know what the H-B knows, but specific to your area as part of your pasture management.
- If there are toxic plants that are not listed in the manual and those are of most concern for you, then you may present those plants.
- Additional information could be: scientific name, additional symptoms, toxicity level, and methods to eradicate.



# From the SOP's

## *Additional information taken from the Toxic Plants For Horse (study guide 1)*

### **C-2 Standard:**

- The requirement is to name 3 toxic plants in their area and describe their appearance. Here are some ideas for descriptions: Is it a tree/bush/flower, how tall is it, what do the leaves and flowers look like, what are other unique features?

### **H-B Standard:**

- The requirement is to identify and discuss 3 randomly chosen or assigned examples/pictures of toxic plants in your area from a bank of ten to twelve samples. (A bank of plant names will be provided prior to the test.) Identify the plant by its common name. Name 3 symptoms, specific to this plant that you might see in a horse who has consumed or came into contact with the plant.
  - For example: plant X, a shrub, causes muzzle blisters, hair loss, and drooling. Additional information you could present - the plant is found in the Northeast; additional symptoms are brown urine and loose stools.

### **H-A Standard:**

- The requirement is to include in your Stable/Farm design and Management plan pictures, descriptions, and poisoning symptoms for at least 5 poisonous plants in the member's area.

## Foot & Shoeing



- [H-B Foot Structures](#)
- [Foot & Shoeing for the H-B](#)
- [Horseshoe Pictures- Can You Name Them?](#)
- **Video** - [Shoeing for the HB #1](#)
- **Video** - [Shoeing for the HB #3](#)



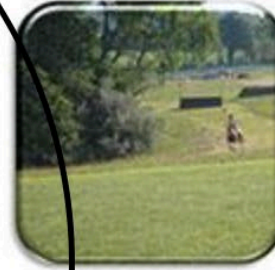
## Record Book

- [Record Book](#)
- [Record Book Progression](#)
- [Record Book Checklist](#)
- [Record Book for the H-B](#)

## Stable Management



- [List of Toxic Plants for H-B Certification](#)
- [Toxic Plant Study Guide](#)
- [Toxic Plant Study Guide Answer Key](#)
- **Quiz** - [Poisonous Plants](#)
- [Enhancement Toxic Plant Guide](#)
- [Enhancement Toxic Plant Answer Key](#)
- [Stall Bedding for the H-B](#)



## Land Conservation

- [Project Ideas](#)
- [Equine Land Conservation Resource](#)



Instruction Department

*Toxic Plants to be used at H-B Certifications*

- The listed toxic plants are found in the Intermediate and Advanced USPC Manuals (2nd ed.)
- Members and Candidates may use "An Illustrated Study Guide to Toxic Plants in the USPC Manuals to be used in certifications as study aid in identifying and describing the plants."

1. Black Nighthshade/Horse Nettle - Intermediate
2. Black Walnut - Intermediate
3. Bracken Fern - Intermediate
4. Castor Bean - Advanced
5. Chokecherry or Wild Black Cherry - Intermediate
6. Foxglove - Advanced
7. Frosted Grass/Clover or Alfalfa/Lawn Clippings - Advanced
8. Hemlock, Poison - Intermediate
9. Hemlock, Water - Intermediate
10. Horsetail - Intermediate
11. Johnson Grass - Intermediate
12. Laurel/Mountain Laurel (The Manual incorrectly lists Mountain Laurel and Rhododendron as the same) - Intermediate
13. Larkspur - Advanced
14. Locoweed - Crazyweed - Advanced - **see page 451 in Advanced Manual**
15. Lupine - Advanced
16. Ornamental Yew - Intermediate
17. Privet - Advanced
18. Ragwort (Tansy, Groundsel, Senecio) - Intermediate
19. Red Maple - Intermediate
20. Rhododendron (The Manual incorrectly lists Rhododendron and Mountain Laurel as the same) - Intermediate
21. Vetch (Hairy Crown) - Intermediate
22. Yellow Star Thistle (The Manual incorrectly lists Yellow Star Thistle and Russian Knapweed as the same) - Intermediate
23. Russian Knapweed (The Manual incorrectly lists Russian Knapweed and Yellow Star Thistle as the same) - Intermediate



Instruction Department

USPC  
Answer Key  
An Illustrated Study Guide to  
Toxic Plants  
in the USPC Manuals  
to be used in certifications

National Testing Curriculum Committee  
The United States Pony Clubs, Inc.  
2020

August 27, 2022



Instruction Department

USPC  
An Illustrated Study Guide to  
Toxic Plants  
in the USPC Manuals  
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National Testing Curriculum Committee  
United States Pony Clubs, Inc.  
2020

revised  
August 29, 2022

# What's on the HB Card

## **NUTRITION: Toxic Plants**

*On the table before you are examples of common plants that may be toxic to horses.*

*You will randomly draw or be assigned up to 3 of these plants to identify and discuss.*

**Procedure:** Candidate will answer the following questions.

- Identify the plant by its common name.
- Name 3 symptoms, specific to this plant that you might see in a horse who has consumed or came into contact with the plant.



# Toxic Plants to Know For HB Certifications

The listed toxic plants are found in the Intermediate and Advanced USPC Manuals (2nd ed.)

Members and Candidates may use " An Illustrated Study Guide to Toxic Plants in the USPC Manuals to be used in certifications as study aid in identifying and describing the plants.

1. **Black Nightshade/Horse Nettle** – Intermediate
2. **Black Walnut** - Intermediate
3. **Bracken Fern** - Intermediate
4. **Castor Bean** – Advanced
5. **Chokecherry or Wild Black Cherry** - Intermediate
6. **Foxglove** - Advanced
7. **Frosted Grass/Clover or Alfalfa/Lawn Clippings** - Advanced
8. **Hemlock, Poison** - Intermediate



# Toxic Plants to Know For HB Certifications

9. **Hemlock, Water** - Intermediate

10. **Horsetail** - Intermediate

11. **Johnson Grass** – Intermediate

12. **Laurel/Mountain Laurel** (The Manual incorrectly lists Mountain Laurel and Rhododendron as the same) – Intermediate

13. **Larkspur** - Advanced

14. **Locoweed** – Crazyweed - Advanced – see page 451 in Advanced Manual 15.

15. **Lupine** - Advanced



# Toxic Plants to Know For HB Certifications

16. **Ornamental Yew** - Intermediate
17. **Privet** - Advanced
18. **Ragwort** (Tansy, Groundsel, Senecio) - Intermediate
19. **Red Maple** - Intermediate
20. **Rhododendron** (The Manual incorrectly lists *Rhododendron* and *Mountain Laurel* as the same) – Intermediate
21. **Vetch** (Hairy Crown) – Intermediate
22. **Yellow Star Thistle** (The Manual incorrectly lists *Yellow Star Thistle* and *Russian Knapweed* as the same) - Intermediate
23. **Russian Knapweed** (The Manual incorrectly lists *Russian Knapweed* and *Yellow Star Thistle* as the same)



# Poisonous vs Toxic

Toxic “ refers to the condition of a substance and the degree to which it can cause damage to you or any other organism or system. In colloquial usage, toxic can refer to biological organisms and non-biological substances, the latter in a more allegorical context.

Poisonous “ describes substances that will disturb organisms, usually in a harmful way. Poison implies a high level of toxicity, though any substance is technically poisonous if taken in a large enough dose. Poison always refers to biological organisms.

<http://www.differencebetween.net/science/difference-between-toxic-and-poisonous/>



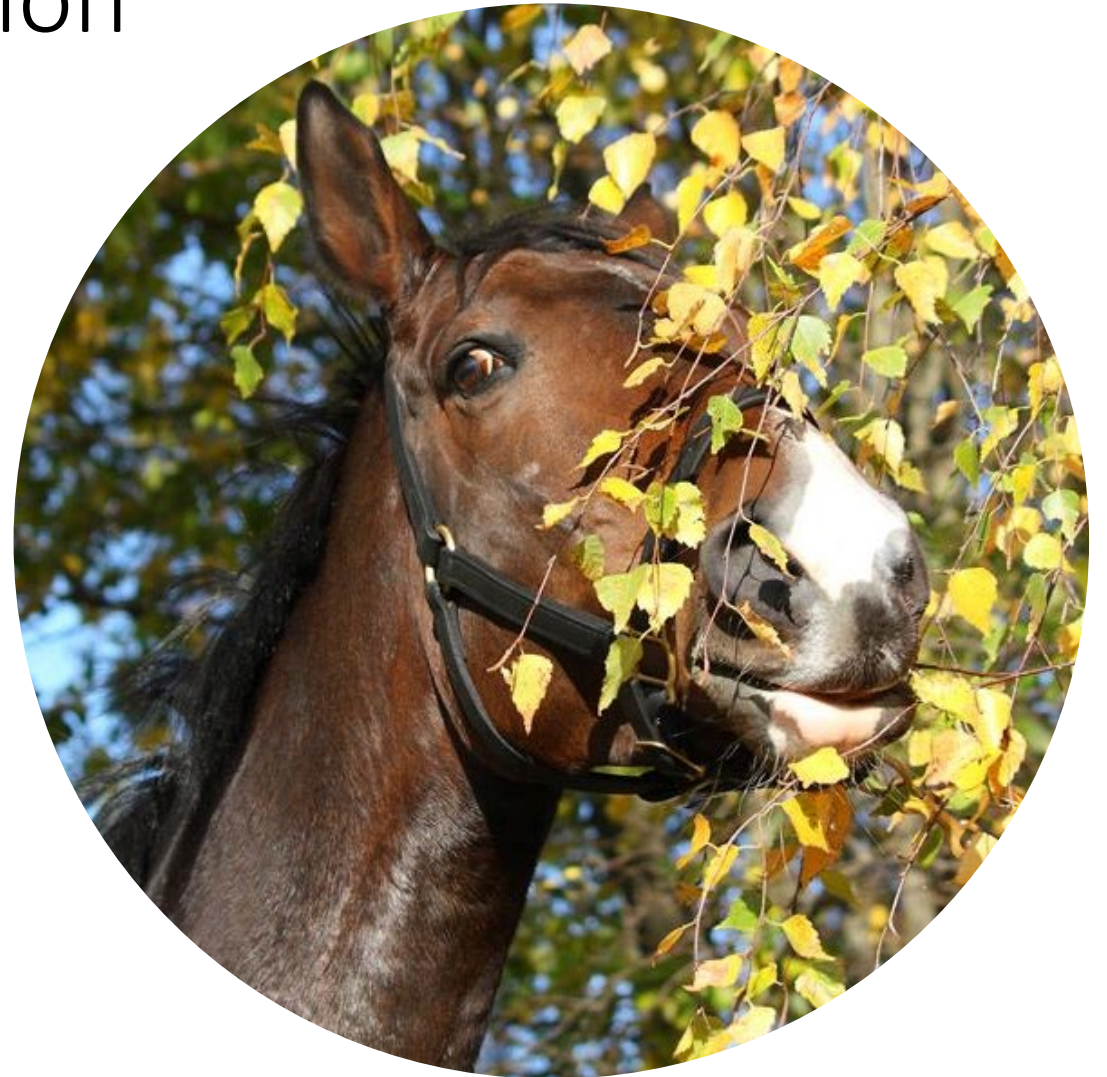
# How to Remove Poisonous Plants

- Best removed when the ground is **wet** (helps pull up the plant by the roots).
- Make sure you remove the **roots** of plant.
- **Dispose** of it so your horse will have no way of getting it (don't leave on ground).
- If **wilted**, remove immediately (wilting increases toxicity).
- **Block access** to a poisonous plant/tree, if you can't remove it (fences make happy horses).
- Use **herbicide** first when possible.



# How to Prevent Consumption of Poisonous Plants

- **Know** what decorative plants you are buying
  - Colorful ornamental plants are usually toxic.
- Routine **pasture walks**.
- **Mow** lawns and pastures frequently.
- Don't plant decorative plants **near pastures**.
- When in doubt **research** the plant.
- Avoid pastures in **wetland or wooded areas**
- **Maintain** healthy grass in pastures
  - Pay attention to over grazing, drought, change of seasons
  - Healthy pasture grass are necessary to compete with weeds
  - Fertilizer, rotate, and rest pastures.
- Make sure they have **adequate forage** (healthy grass/hay)
- **Remove** broken branches that have fallen into pastures from poisonous plants
- **Fence off** toxic trees and shrubs



# Toxicity of Plants

## Minor Toxicity

- Fescue (seasonally toxic)
- White Clover
- Red Clover

## Toxic in Large Quantities

- Frosted Grass/ Lawn Clippings
- Horsetail
- Apples



# Toxicity of Plants cont.

## Medium Toxicity

- Black Walnut
- Burdock
- Buttercup
- Jimson Weed
- Locoweed (addictive)
- Pigweed
- Pokeweed
- Rhubarb
- Tomato Plant
- Oak

## Large Toxicity

- Poison/Water Hemlock
- Ragwort
- Red Maple
- Rhododendron
- Vetch
- White Snake Root
- Black Locust
- May Apple
- Milkweed
- Foxglove







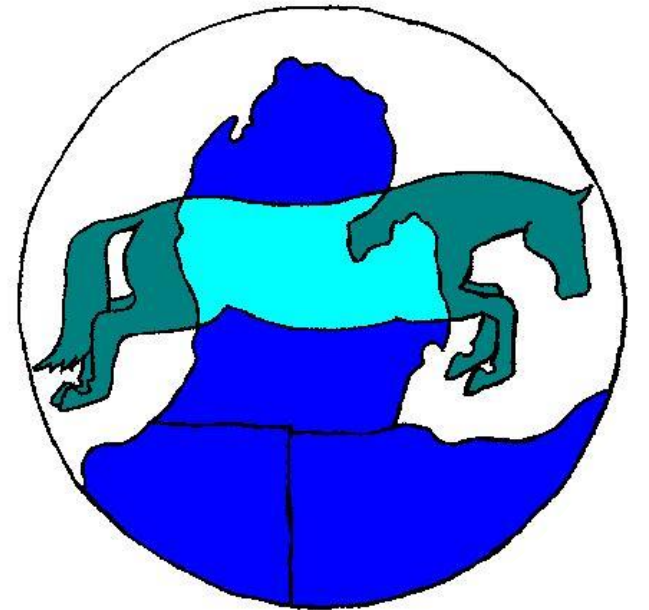
# Deadly if Eaten

- Johnson Grass
- Ornamental Yew
- Oleander (Nerium)
- Curly Dock
- Lupin  
Castor Bean
- Larkspur
- Privet
- Laurel



# Let's Keep it Regional to Start

PLANTS IN OUR REGION



# Black Walnut

*Juglans nigra*

## **Description:**

Tree up to 120 ft tall, grayish-brown, scaly bark.

## **Where it's Found:**

Eastern two thirds of the United States.

## **Toxicity:**

When it is made into shavings. Even 10% is dangerous.

## **Symptoms:**

Depression, stiff gaits, edema, warm hooves, laminitis, colic, elevated TPR.

## **Treatment:**

Call a vet and start laminitis treatment.



# Red Maple

*Acer rubrum*

## Description:

Red Maple is a tree with (veins on the outside). It has a two-winged (helicopter) seed.

## Where it's Found:

Ranges over the entire eastern United States and grows on well-drained or moist, swampy soil. It is also used in landscaping.

## Toxic parts:

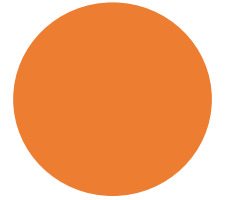
Leaves, especially when fallen, damaged, or wilted. Contains toxin has not been identified but is believed to be an oxidant due to its effect on red blood cells. Wilted or dry leaves remain toxic for about a month. Fresh and undamaged leaves are believed to be non-toxic. Ingestion of 1.5lbs is toxic and 3lbs is lethal.

## Symptoms:

Depression, lethargy, increased rate, and depth of breathing, increased heart rate, jaundice, dark brown urine, coma, and death. About 50% to 75% of horses die and/or are euthanized

## Treatment:

There is no specific treatment, and contacting a veterinarian is advised.



# Bracken/Eastern Fern

*Pteridium aquilinum*

## **Description:**

Perennial fern, triangular outline, can grow to 3ft tall.

## **Where it's Found:**

Northeast, Pacific Northwest, and Upper Midwest. Found in woodland areas (often under pine tress).

## **Toxic Parts:**

It is toxic fresh or dried in hay. Bracken Fern contains thiaminase in the leaves and stems. Dangerous because it absorbs thiamin (Vitamin B1), which is necessary to nerve function.

## **Symptoms of Poisoning:**

Uncoordinated, depression, blindness, loss of flesh, loss of appetite, weakness, staggering gait, excitability, paralyzed. If untreated death occur within days/weeks.

## **Treatment:**

Contact a vet immediately.  
Injections of thiamin can reverse damage.



# Black/Eastern Nightshade/Horsenettle

*Solanum nigrum (Americanum)*

## **Description:**

Vines with purple flowers, green, and red changing to black berries. Grows in fence rows, hedges, and pastures.

## **Where it's Found:**

Throughout the U.S.A.

## **Toxic Parts:**

Nightshade contains alkaloids that interfere with digestion by inhibiting the nervous systems and irritating the digestive system. Green berries are more toxic than red-black berries, however the leaves are the most poisonous. Small amounts are fatal (1 to 10 lbs).

## **Symptoms:**

Elevated blood pressure, increased heart rate, abdominal pain, dilation of pupils, loss of appetite, diarrhea, progressive weakness/paralysis, incoordination (unstable) and unconsciousness (coma) followed by death. Symptoms increase for 1 to 2 days resulting in either death or recovery.

## **Treatment:**

No cure, but symptoms can be alleviated.



# Chokecherry/Wild Black Cherry

*Prunus species*

## **Description:**

Shrub or tree with smooth bark that grows up to 30 feet. Showy, fragrant, flower clusters in spring. Small, deep red/marron fruit. Leaves turn purply-red in the fall

## **Where it's Found:**

Southeast, Northeast, and Midwest.

## **Toxic Parts:**

Toxicity increases when the leaves are wilted (broken branches or after frost) as it releases cyanide and makes the leaves sweet. Eating 10 to 20 pounds is fatal.

## **Symptoms:**

Quickly fatal. Symptoms of poisoning includes heavy breathing, agitation, bright red mucous membrane (lips), weakness, and rapid death.

## **Treatment:**

Contact vet immediately.



# Horsetail/Field Horsetail

*Equisetum arvense*

## **Description:**

A plant with grass-like leaves on a single, hollow, green stalk. It grows in wet marshes or meadows. Sometimes baled in hay.

## **Where it's Found:**

Midwest, Pacific Northwest, and Southwest.

## **Toxic Parts:**

All of it is toxic. Toxicity increase when consumed consistently for 30-60 days. Causes thiamine deficiency.

## **Symptoms:**

Jaundice, loss of appetite, weakness, staggered gait, excitability, paralysis

## **Treatment:**

No known treatment. Contact a vet immediately.





# Ornamental Yew

*Taxus baccata*

## **Description:**

Evergreen ornamental shrub/bush has a small, thin, pointy, sliver shaped, leaves/needles with red round berries (with and open end). This is used in landscaping.

## **Where it's Found:**

Northeast and Midwest (colder climates).

## **Toxic parts:**

Everything is toxic including the seeds, fresh and dry in hay. A mouth full can be fatal.

## **Symptoms:**

Trembling, labored breathing, irregular heartbeat, nervousness, confusion, diarrhea, convulsion, collapse, and death.

## **Treatment:**

None, no known cures (prevention is the only cure).



# Rhododendron

*Rhododendron maximum*

## **Description:**

Perennial shrubs that has tough, glossily, smooth green leaves. Large clustered flowers that are either pink, white, purple, or red.

## **Where it's Found:**

All over the U.S.A. More likely found in warm climates. Used in landscaping.

## **Toxic parts:**

Leaves and nectar are toxic. 3 ml nectar/kg body weight or 0.2% of the body weight may be toxic/lethal (just a little bit highly toxic).

## **Symptoms:**

Depression, diarrhea, muscular weakness, impaired vision, difficulty breathing, collapse, and coma

## **Treatment:**

Immediate vet attention.

Detoxic is advised. Activated charcoal should be administered repeatedly the first few days.





# Vetch

*Securigera varia*

## **Description:**

A vine like plant up to 3 ft tall, with up to seven pairs of tear drop or oblong leaflike; purple flowers.

## **Where it's Found:**

All over the U.S.A.

## **Toxicity:**

Its not commonly consumed, horse will only eat when desperate. Contains cyanide and the chance of poisoning is low but not likly. Safe if consumed in small amounts.

## **Symptoms:**

Effects growth (slowed) (in younger horse), unsteadiness, loss of appetite, difficulty breathing, and welts on skin.

## **Treatment.**

Vet attention required

# Hoary Alyssum

*Berteroa incana*

## **Description:**

Has a grayish green stem, with a typical 8 petal flower clusters, they can grow to 4 ft tall.

## **Where it's Found:**

Midwest.

## **Toxicity:**

Toxic dry or fresh. Commonly in hay. The toxic element has not been identified.

## **Symptoms:**

Swelling in the legs, fever, colic, and laminitis. It can be fatal if a horse consume 30% or more in their hay. Long term lameness issues.

## **Treatment:**

Contact vet. Long-term plan and check up are needed





# Frosted Grass & Lawn Clippings

Not poisonous but can become toxic.

**Where it's Found:**

Everywhere except Antarctica.

**Toxicity:**

Cut grass from law mowing, and wilted grass from frost ferments, and releases toxic chemicals.

**Symptoms:**

Colic

**Treatment:**

Colic treatment, can become fatal if untreated.



# Johnson Grass

*Sorghum halepense*

## **Description:**

Coarse leaved, tall grass, topped with cluster of seeds that are purply-maroon in color.

## **Where it's Found:**

All over the U.S.A.

## **Toxicity:**

Causes rapid death, toxin is unknown.

## **Symptoms:**

Respiratory difficulty, trembling, bright red mucous membranes (lips), lack of coordination (unsteady), agitation.

## **Treatment:**

Contact vet.



# Red and White Clover

*Trifolium pretense* (red)

*Trifolium repense* (white)

## **Description:**

Red clovers; usually hairy on stem and may contain an inverted watermark on the leaves. Flowers are usually purple. White clover has a white flower. The leaflets are found on separate stalk from the flower.

## **Where is it found:**

All over the USA.

## **Toxicity:**

Mild toxicity.

## **Symptoms:**

Excessive slobbers

It will not kill them, cause them to drool, lower lip may hang.

## **Treatment:**

None needed.





# Plants Not Found in Our Region You Should Know

- Oleander (commonly used in container/seasonal pots in north, a shrub in the south).
- Locoweed
- Ragwort
- Yellow Star Thistle





## More Plants You Should Know

*Commonly found in our region*

**Milkweed**- *Asclepias spp* – weak, cold, dullness, fever, rapid and weak pulse, violent convulsions, coma, and uncoordinated gait- all of US

**Rhubarb Plant** – *Rheum rhabarbarum*- jaundice, tremors, and hypersalivation- north and eastern united states

**Saint Johns Wort**- *Hypericum spp*- photosensitivity, fever, fast pulse, sensitive to cold weather, sunburn, painful lesions and ulcers.

# Other Regional Plants Worth Knowing

**Tomato Plant-** *Solanum lycopersicum* – Colic, diarrhea, weak heart rate, dilated pupils- found wherever plants are sold.

**Fescue-** *Festuca*- rapid breathing, rough hair coat, excess salivation, lameness, poor reproductive success, increased water intake- found in Midwest, Great Lakes Region, and South

**Oak-** *Quercus spp*- loss of appetite, mucus in droppings, edema in neck/abdomen, collapse, brown colored urination- found everywhere and in many species.

**Buttercup-** *Ranunculus spp*- oral irritation, decreased appetite, swollen limbs, diarrhea that can be deadly, and increased salivation- found everywhere.



# Recap of main plants

- Black Walnut
- Red Maple
- Bracken Fern/Eastern Fern
- Black Nightshade/Horsenettle/  
Eastern Nightshade
- Chokecherry/Wild Black  
Cherry
- Horsetail/Field Horsetail
- Ornamental Yew
- Rhododendron
- Vetch
- Hoary Alyssum
- Fescue
- Tomato Plant
- Oak
- Frosted Grass/Lawn  
Clippings
- Buttercup
- Milkweed
- Rhubarb Plant
- Saint Johns Wart
- Johnson Grass
- Red and White Clover
- Apple\*



# Additional Regional Plants

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- Lupine
- Castor Bean
- Larkspur
- Foxglove
- Privet
- Laurel
- White snakeroot
- Pigweed
- Curly Dock
- Jimson Weed
- May Apple
- Black Locust
- Burdock



# How to Treat Toxic Plants

## When to call your vet

- Neurological
- Signs of Laminitis
- Dehydration
- Fatigue
- Fevers
- Colic-symptoms
- Change in bodily excretions
- Skin conditions

Know the plant(s) they consumed  
(possible suspect based on area and signs)

Severity of symptoms



# How to Remove Poisonous Plants

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# THE SOP'S

## C-2 Standard:

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  - For example: plant X, a shrub, causes muzzle blisters, hair loss, and drooling. Additional information you could present - the plant is found in the Northeast; additional symptoms are brown urine and loose stools.

## H-A Standard:

- The requirement is to include in your Stable/Farm design and Management plan pictures, descriptions, and poisoning symptoms for at least 5 poisonous plants in the member's area.





# Extra Resources

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<https://hygainfeeds.com/blogs/library/has-your-horse-been-hit-with-stringhalt>

[https://www.canr.msu.edu/resources/common\\_toxins\\_in\\_equine\\_feedstuffs\\_e3061](https://www.canr.msu.edu/resources/common_toxins_in_equine_feedstuffs_e3061)

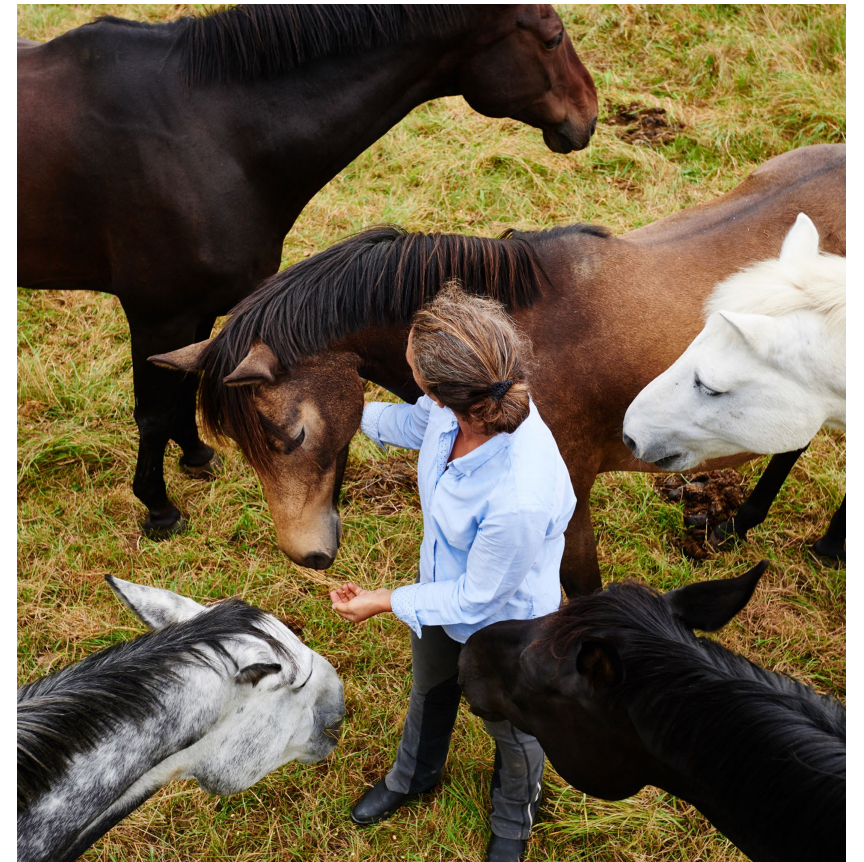
[https://www.canr.msu.edu/resources/michigan\\_trees\\_toxic\\_to\\_horses\\_donkeys\\_and\\_mules\\_e3062](https://www.canr.msu.edu/resources/michigan_trees_toxic_to_horses_donkeys_and_mules_e3062)

[https://www.canr.msu.edu/resources/toxic\\_plants\\_of\\_concern\\_in\\_pastures\\_and\\_hay\\_for\\_michigan\\_horses\\_e3060](https://www.canr.msu.edu/resources/toxic_plants_of_concern_in_pastures_and_hay_for_michigan_horses_e3060)

[https://www.canr.msu.edu/resources/ornamental\\_plants\\_toxic\\_to\\_michigan\\_horses\\_e3059](https://www.canr.msu.edu/resources/ornamental_plants_toxic_to_michigan_horses_e3059)

<https://extension.psu.edu/managing-toxic-pasture-plants>

[file:///Users/kittenfeathers/Downloads/Final%20%20USPC%20Toxic%20Plants%20%20An%20Illustrated%20Study%20Guide%20%202012%2026%2022%20edited%20\(1\).pdf](file:///Users/kittenfeathers/Downloads/Final%20%20USPC%20Toxic%20Plants%20%20An%20Illustrated%20Study%20Guide%20%202012%2026%2022%20edited%20(1).pdf)



# Questions

Work In Progress