

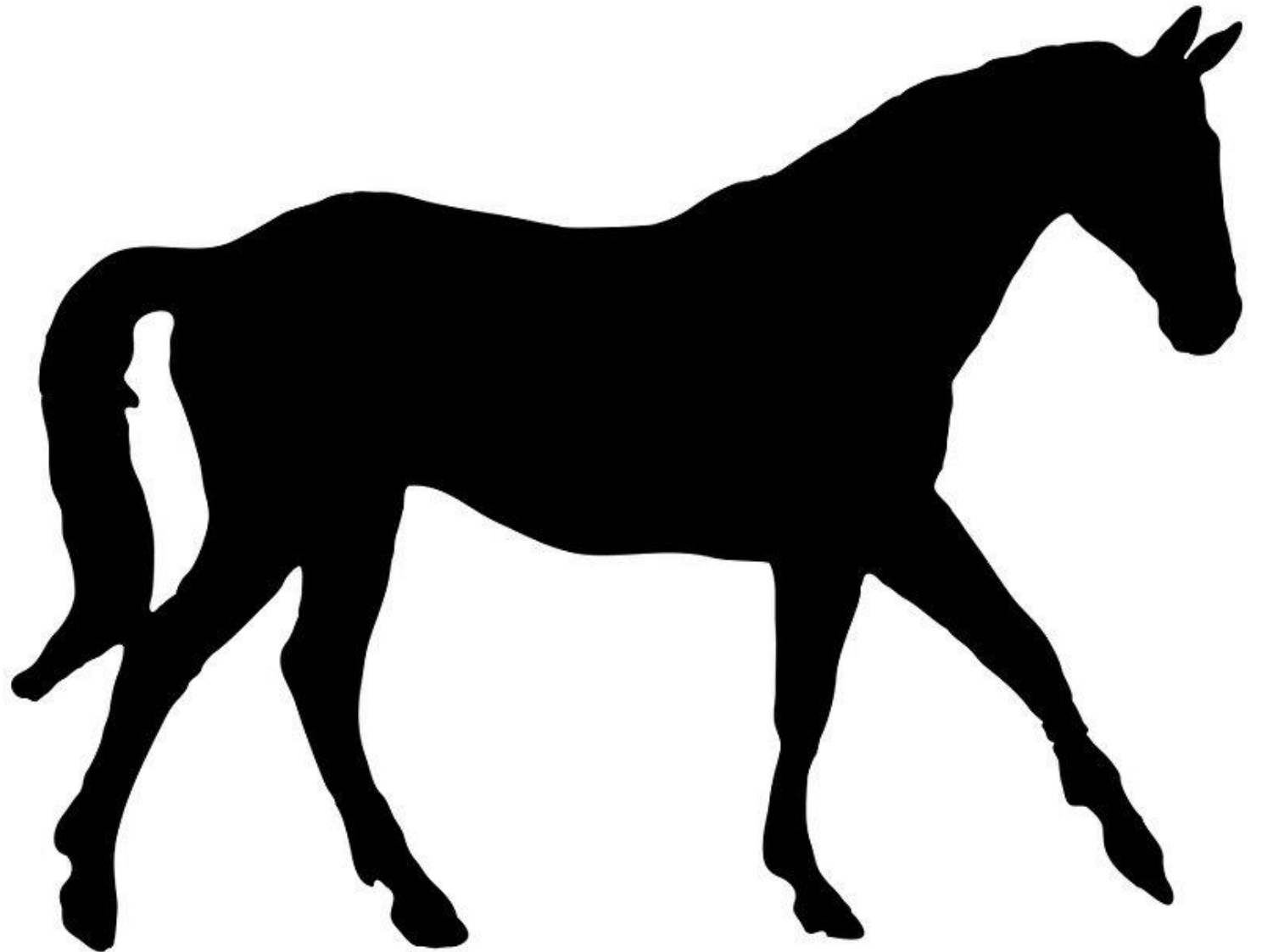
# Plants Toxic to Horses

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# Photo Credit

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All photographs from

[https://csuvth.colostate.edu/poisonous\\_plants/Plants/SearchResults](https://csuvth.colostate.edu/poisonous_plants/Plants/SearchResults)

unless noted otherwise





# Black Walnut

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- ❖ Specific toxic unknown, possibly juglone
- ❖ Bark, root, and walnuts toxic
- ❖ Shavings/sawdust causes colic, dermatitis, and laminitis
- ❖ Even small amount of shavings is dangerous
- ❖ Walnuts in field may become moldy









# Red Maple

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- ❖ High toxicity (1.5-3 pounds of leaves cause signs)
- ❖ Wilted or dried leaves
- ❖ Most common in the fall
- ❖ Difficulty breathing, dark brown urine, yellowish gums, and lethargy
- ❖ Gallic acid (toxin) destroys red blood cells causing anemia and inability to transport oxygen
- ❖ Requires intensive medical treatment (fluids, blood transfusion)





# Oak

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- ❖ Moderate toxicity
- ❖ Tannins (toxin) highest in immature leaves
- ❖ Oak buds in spring and green acorn hulls in fall also toxic
- ❖ Tannin kills surface cells of digestive tract
- ❖ Anorexia, colic, increased thirst, and kidney damage









# Cherry/Choke Cherry

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- ❖ Wilted leaves are highly toxic
- ❖ Cyanide toxin prevents oxygen from being transported in blood
- ❖ Difficulty breathing, weakness, muscle tremors, and rapid heart rate







Red



White

# Red and White Clover

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❖ *Trifolium spp.*

❖ "Slobbers"

❖ Slaframine (toxin) produced by a fungus on the clover

❖ "Black patch fungus" = *Rhizoctonia*

❖ Self-limiting; remove horse from field or hay

❖ Less common:

❖ Alsike clover and photosensitization

❖ Fungus on white and yellow clover causing bleeding disorders (moldy sweet clover hay)



Alsike



Yellow





# Buttercup

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- ❖ *Ranunculus spp.*
- ❖ Low toxicity
- ❖ Release toxic oil called protoanemonin
- ❖ Toxicity varies greatly – most toxic in young, flowering plants
- ❖ Not toxic in hay
- ❖ Can cause irritation to the lips/mouth, swelling of the face, salivation, mild colic, and diarrhea







Image from Wikipedia

# Fescue

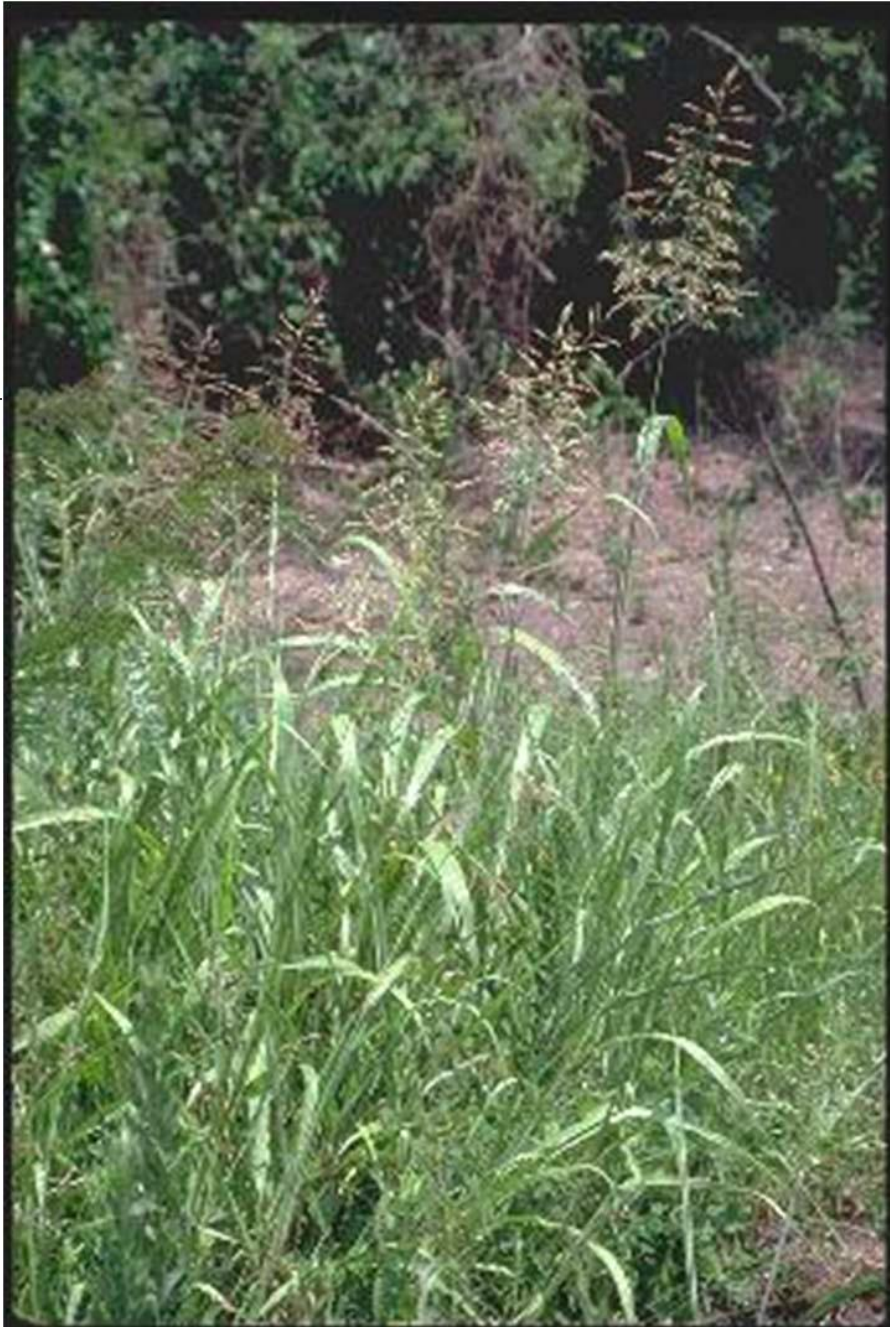
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- ❖ Endophyte-infected tall rescue (Kentucky 31) produces ergovaline toxin
- ❖ Prolonged pregnancy, abortion, and other reproductive problems if graze in last three months of pregnancy



Image from Wikipedia





# Johnsongrass

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- ❖ Drought causes high cyanide and nitrate levels
- ❖ Remains toxic in hay
- ❖ Grazing over time can result in hind leg weakness, ataxia, and urinary incontinence









# Bracken Fern

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- ❖ Low to moderate toxicity, fresh and dried in hay
- ❖ Horse may seek out plant (develop taste)
- ❖ Found in wooded areas
- ❖ Contains thiaminase which causes thiamine (vitamin B1) deficiency
- ❖ Takes 3+ weeks for signs to develop
- ❖ Depression, unsteady gait/ataxia, weakness, muscle twitching, and other neurologic signs
- ❖ Treat by removing from source and giving vitamin B1







# Poison/Water Hemlock

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- ❖ High toxicity – all parts toxic
- ❖ Neurotoxin affects both the central and peripheral nervous system
- ❖ Causes difficulty breathing, muscle tremors, weakness, incoordination, and death by respiratory paralysis
- ❖ Small amounts can cause development defects in foal of pregnant mare
- ❖ No specific treatment – supportive care if survive







# Nightshade and Horse Nettle

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❖ *Atropa belladonna*

❖ High toxicity

❖ All parts, especially berries, are toxic – even in hay

❖ Contains alkaloids, some also contain high nitrate levels

❖ Affects the digestive tract (salivation, colic, diarrhea) and central nervous system (muscle tremors, weakness, dilated pupils)



Nightshade (above)  
Horse Nettle (below)







Image from Wikipedia

# Pokeweed

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- ❖ Moderate toxicity
- ❖ All parts toxic but roots most toxic
- ❖ Contains saponins and alkaloids
- ❖ Causes salivation, colic, weakness, diarrhea, and seizures



Image from Wikipedia



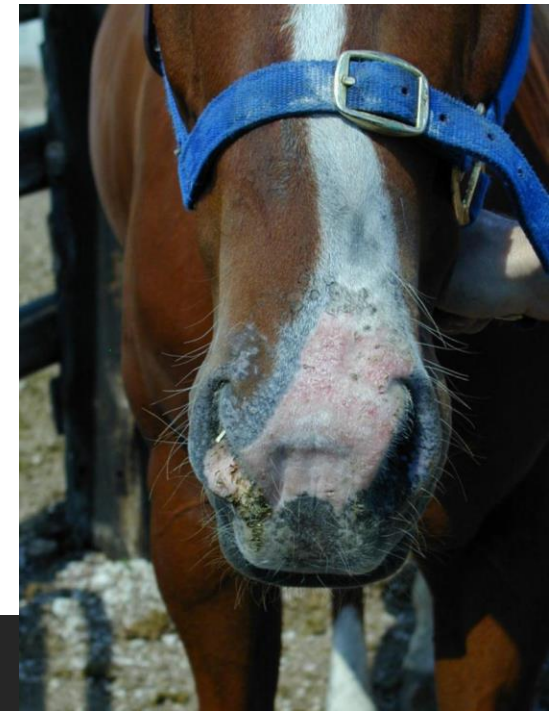




# Tansy Ragwort

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- ❖ *Senecio spp.*
- ❖ Variable toxicity depending on species of plant
- ❖ Contain pyrrolizidine alkaloids which cause liver disease
- ❖ Over time, signs of liver failure appear including decreased appetite, weight loss, photosensitization, and depression
- ❖ “Sleepy staggers”
- ❖ Remains toxic in hay



Photosensitization





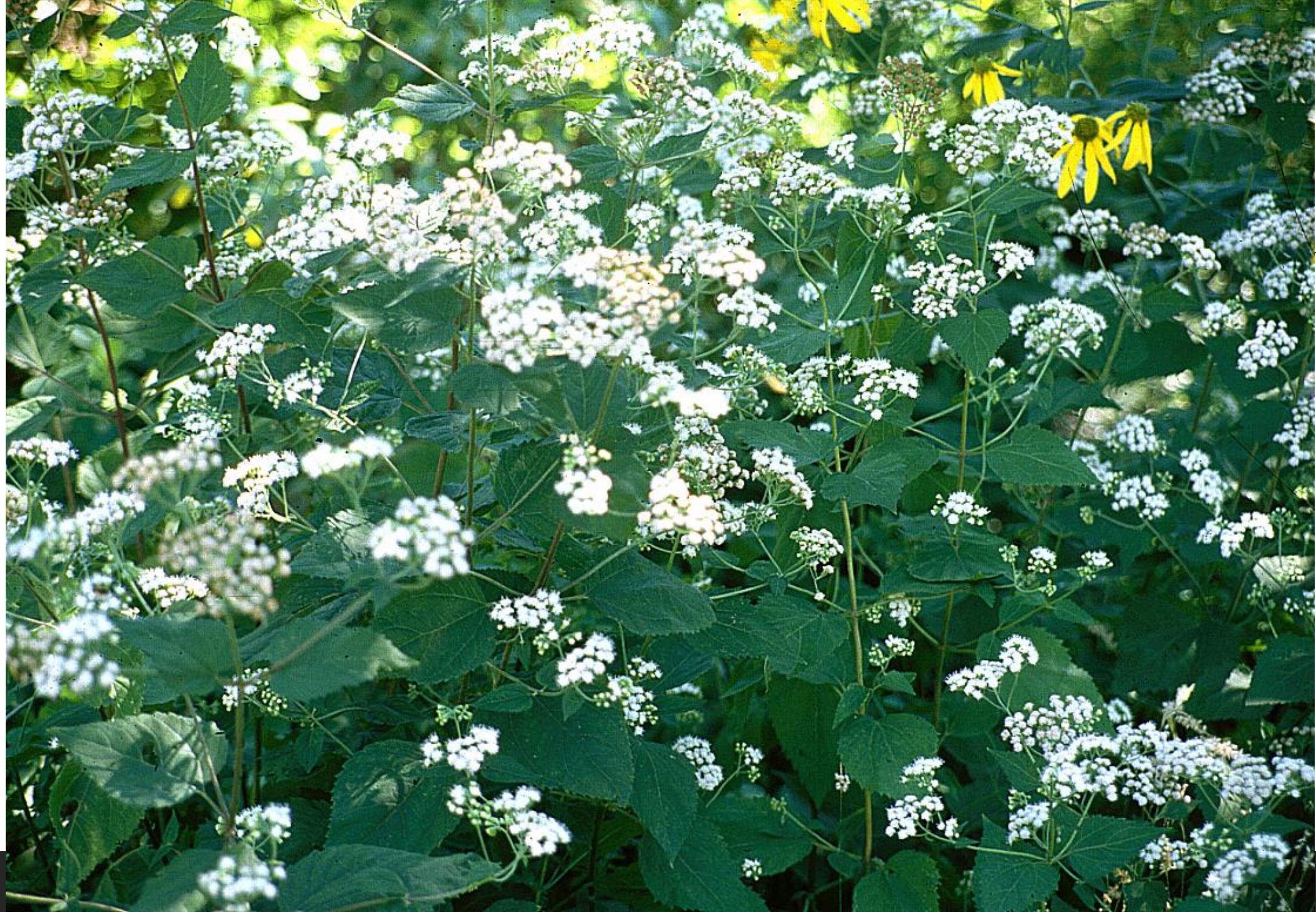
# Jimsonweed

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- ❖ High toxicity; all parts toxic, especially seeds
- ❖ Affects central nervous system; has hallucinogenic properties
- ❖ Dilated pupils, decreased gut motility, increased heart rate, and increased thirst
- ❖ Bad taste and smell – contaminated feed normally source of poisoning









# White Snakeroot

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- ❖ High toxicity
- ❖ Leaves and stems are poisonous
- ❖ Causes trembling, stiffness, ataxia, degeneration of skeletal and cardiac muscles, liver and kidney injury, and death
- ❖ Toxin causes hypoglycemia and ketoacidosis







# Milkweed

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- ❖ High toxicity
- ❖ Entire plant is poisonous
- ❖ Remains toxic in hay
- ❖ Cardiac glycosides act on  $\text{Na}^+$   $\text{K}^+$  ATPase
- ❖ Causes weakness, colic, diarrhea, irregular heart rates, seizures, breathing trouble, and death







# Oleander

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- ❖ High toxicity
- ❖ Used in landscaping
- ❖ Cardiac glycosides cause colic, irregular heart rate, and death
- ❖ Toxic even when dried









# Rhododendron and Azalea

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- ❖ High toxicity
- ❖ Common plants in landscaping
- ❖ All parts are toxic
- ❖ Glycoside toxins (grayanotoxins) cause salivation, depression, colic, bloat, diarrhea, weakness, heart arrhythmia, and death







# Foxglove

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- ❖ *Digitalis purpurea*
- ❖ High toxicity
- ❖ Cardiac glycosides cause diarrhea, colic, irregular pulse, tremors, and death
- ❖ Remains toxic in hay
- ❖ More common in northwest pastures but may be planted in gardens







# Yew

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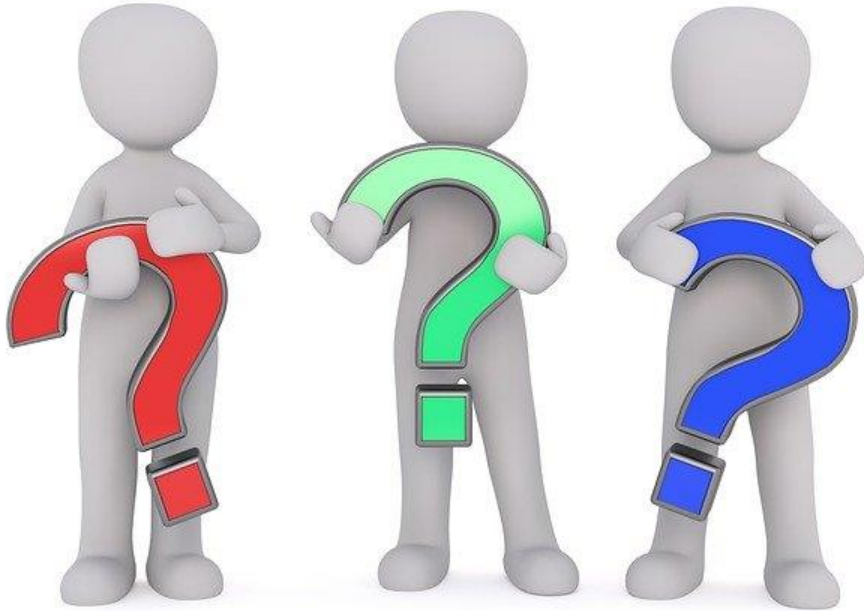
- ❖ High toxicity
- ❖ Common in landscaping
- ❖ Contains alkaloid toxins
- ❖ All parts of plant are toxic, even when dried
- ❖ Cause muscle tremors, incoordination, colic, decreased heart rate, diarrhea, trouble breathing, and death







TENNESSEE  
*Equine Hospital*



# Questions?

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[https://csuvth.colostate.edu/poisonous\\_plants/Plants/SearchResults](https://csuvth.colostate.edu/poisonous_plants/Plants/SearchResults)

<http://www.horsedvm.com/toxic.php>