Livestock are accidentally poisoned in Arkansas each year from eating toxic plants in hay and pasture forage crops.

What is a poisonous plant? It is one that causes such problems as animal sickness, skin irritation, loss of appetite, loss of weight, reduced milk production or death.

All poisonous plants do not contain the same toxin. There are at least six different classes of poisons within plants. The two largest groups are alkaloids and glycosides. Within each of the six classes are several different poisonous compounds.

Twenty-three weeds are listed in this publication. They are among the 45 most common poisonous plants in Arkansas. However, their presence on a farm does not mean that animals will be killed or even show ill effects. The reasons are that (1) animals may not eat them, (2) the plants may not contain toxic levels of the poison at the time they are eaten, (3) animals eating the plants may be immune to the poisons they contain, (4) animals may not eat the poisonous part of the plant or (5) farmers may have rendered plants nontoxic by making hay or silage of them, by diluting the material eaten with other forage or by feeding certain materials to counteract the poison.

Some plants are likely to be a greater hazard to animal health than others because they (1) are so abundant in an area, (2) contain a more deadly poison or (3) because animals seek them out for selective grazing.

Livestock losses due to poisonous plants may be reduced or eliminated by weed control, by grazing practices, by keeping tame forage stands healthy and thick, by using caution during drought periods and by diluting contaminated feed with forage known to be free of poisonous materials.

Severity of Poisoning

Some of the factors that influence the degree of hazard associated with poisonous plants are as follows:

- **Plant Species** – All plants absorb nitrates, but plants such as the sorghums, small grains, corn, turnips, rape, kochia, orchardgrass, pigweed, lambsquarter and soybeans are more likely than other plants to accumulate nitrates in toxic levels.

- **Plant Parts** – The entire plant (as in the case of johnsongrass) or only certain parts of plants (as in the case of acorns and buds of oak trees) may accumulate poisons to a lethal level.

- **Environment** – Reduced light caused by shade or cloudy weather can encourage nitrate accumulation in plants; droughts may also encourage nitrate accumulation; and frost or freezing weather may release deadly levels of prussic acid from johnsongrass.

- **Plant Age** – Poisons that occur in plants such as white snakeroot and johnsongrass are more likely to be hazardous in younger plants.

- **Form of Feed** – Johnsongrass hay is likely to be a safer form of feed than johnsongrass pasture since prussic acid dissipates from hay.
# 23 “Weeds” Most Likely to Poison Livestock in Arkansas

<table>
<thead>
<tr>
<th>Plant</th>
<th>Toxic Part of Plant</th>
<th>Animals Affected If Known</th>
<th>Symptoms</th>
<th>Type Poison</th>
<th>Notes and Treatment*</th>
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| Johnsongrass                  | All plant parts. Particularly green stunted plants, frosted plants and second growth. | Cattle, sheep, goats, horses | 1. Slow pulse  
2. Dilated pupils  
3. Labored breathing  
4. Exhaled air has almond smell  
5. Down cattle rarely recover | Glycoside  
Prussic acid | 1. Prussic acid poisoning is not likely with hay.  
2. Nitrate content is ranked from highest to lowest concentrations in plant parts as follows: roots, stems, leaves, seed. |
| Perilla Mint                  | 1. Square-stemmed annual  
2. Oval, serrated, green and purple leaves  
3. Distinct odor  
4. Problems most likely in late summer | Cattle and horses most frequently | 1. Cattle develop emphysema of lungs  
2. Open mouth breathing  
3. Tire easily  
2. Often seen around the edge of pastures.  
3. Remains green in dry periods.  
4. Can remain toxic in hay. |
| Oak                          | Primarily white oak along streams | Cattle, horses, sheep, goats | 1. Frequent urination  
2. Dry muzzle  
3. Constipation  
4. Thirst  
5. Rough hair coat | Toxic acid Pyrogallol | 1. Does kidney damage  
2. Can be eaten by most cattle without ill effect.  
3. Feed 3 pounds of a feed mix daily/head that consists of 10% slake lime (CaOH). |
| Wild Cherry or Black Cherry Tree | Wilted leaves | Cattle, sheep, goats | Glycoside Prussic acid | Poisoning is mainly from consumption of wilted leaves after tree is cut or damaged by storm. |
| **Hazardous in a Few Cases**  |                     |                           |                                                                          |             |                                                                                            |
| Redroot Pigweed              | Problems most likely after spraying with herbicide or using heavy fertility | Cattle, sheep, ruminants | Nitrate | Treat with 2% methylene blue intravenously. |
| Larkspur (several species)   | Hazardous dose: 0.7% of body weight | Cattle, horses, rabbits | Alkaloids | Sheep graze it without harm. |
|                              | 1. Young leaves most  
2. Entire plant | 1. Paralysis | Ajacine Delphinine Delphirine Delphinoidine | |
| Coffee Senna                 | Problems most likely in fall | Cattle and others; often yearlings | 1. Cattle alert, but can’t stand  
2. Coffee-colored urine  
3. Diarrhea | Nitrate | |
| Sicklepod                    | Problems most likely in fall | Cattle and others; often yearlings | 1. Cattle alert, but can’t stand  
2. Coffee-colored urine  
3. Diarrhea | Nitrate | |

*See a veterinarian for specific treatments.*
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<tr>
<td>Sesbania</td>
<td>Seeds are the most toxic plant parts.</td>
<td>Livestock</td>
<td>1. Walk stiffly</td>
<td>Saponin</td>
<td>1. Cattle may crave seed.</td>
</tr>
<tr>
<td>Woody Nightshade</td>
<td>1. Ripe berries most 2. All parts</td>
<td>Horses, cattle, goats, ducks, chickens</td>
<td>Alkaloids</td>
<td>Atropine Hydrogen cyanide</td>
<td>Death is rare in animals.</td>
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<tr>
<td>Deadly Nightshade</td>
<td>All parts</td>
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<tr>
<td>Ground Cherry</td>
<td>Unripe fruit and leaves</td>
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<td>Water Hemlock</td>
<td>1. Roots 2. All parts</td>
<td>Cattle more likely; horses, cattle, swine, sheep, goats, man</td>
<td>1. Paralysis of horse's hind legs</td>
<td>Volatile alkaoids</td>
<td>1. Lose toxin with age. 2. The most violent poisonous plant in the United States.</td>
</tr>
<tr>
<td>Pokeweed</td>
<td>1. Roots are the most poisonous part 2. Entire plant</td>
<td>Cattle, horses, swine, man</td>
<td>1. Irritated skin 2. Vomiting 3. Diarrhea</td>
<td>Acrid alkaloid Phylolactic acid</td>
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<td>Jimsonweed</td>
<td>Hazardous doses: • Man - 20 seeds  • Horses - 5-8 oz.  • Cattle - 6-12 oz.  • Sheep - 3-8 oz.</td>
<td>Cattle, horses, swine, poultry, man, dogs</td>
<td>1. Pupils dilate 2. Thirst 3. Dry, burning skin</td>
<td>Alkaloids Alcohol</td>
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| **White Snakeroot**   | Leaves, stems, green flowerheads        | Cattle, sheep, horses, man, domestic animals | 1. Trembling  
2. Slobbering  
3. Vomiting | Alcohol Glycoside | Tremetol | 1. Dry plants are slightly toxic.  
2. Poison is cumulative. |
| **Buttercup**         | Stems, leaves                          | All animals                       | 1. Death  
2. Ulcerated skin  
3. Red milk  
2. Harmless when dried.  
3. Certain plant species are more hazardous. |
| **Equisetum** (scouring rush) | Tops                                  | 1. Cattle and sheep on pasture  
2. Treat with massive thiamine dose. |
| **Hemp Dogbane**      | Green or dry leaves and tops           | Cattle, horses, sheep             | 1. Increased temperature  
2. Sweating but cold extremities  
3. Dilation of pupils  
4. Discoloration of mouth and nostrils  
5. Refusal to eat or drink | Resin Glycoside | Apocynin  
Cymarin | 1. Treat with tannic acid followed by emptying stomach.  
2. Can remain toxic in hay. |
| **Ergot**             | Hard fungal bodies found in mature seedheads | Cattle, horses, sheep             | 1. Trembling  
2. Incoordination  
3. Lameness  
4. Loss of tail or hoof  
5. Convulsions  
6. Delirious or excitable | Alkaloid | Ergotamine | 1. Found only in seedheads.  
2. More serious. when cattle graze heavily infested fields when seedheads are present.  
3. Clipping seedheads reduces problem. |

*See a veterinarian for specific treatments.

Fortunately, most (but not all) poisonous plants must be consumed in large quantities to be lethal. Also, many have an undesirable taste, and animals do not consume them in toxic levels unless they are forced to do so by a shortage of forage that occurs during drought or long winter seasons.