Toxic Plants and the Common Caprine

Unlike the public's vision of a goat, the cast iron-stomached beast that can eat everything from a tin can to plastic wrapping, there are many things that can kill a goat. Some poison plants are ingested by accident, while browsing, but a major reason for the toxic poisoning of goats comes as a result of starvation.

As with all nutritional toxicology, it is the size of the dose, and the poison present in the plant that will determine whether the animal lives or dies. This web page is devoted to the caprine species, and too many of the plants out there that can kill them. It gives a fairly comprehensive list of plants commonly found in areas with goats, but it is not complete.

This list comes from an old Dairy Goat Management book that I had kicking around at home, and may be incomplete. For a more comprehensive, and more scientific list, consult Mary Smith, and David Sherman's *Goat Medicine*.

[Alkaloids] [Cyanogenic] [Photosensitizing] [Saponins] [Tannins] [All Others]
Click on the following link for further information on the plants listed below

Alkaloid Containing Plants:

- Aconite
- Allspice
- Black Snake Root
- Bloodroot
- Blue Cohosh
- Boxwood
- Celandine
- Common Poppy
- Crotalaria
- Crow Poison
- Death Camas
- Dicentra
- False Hellebore
- False Jessamine
- Fume Wort
- Hellebore
- Hemp
- Horse Nettle
- Indian Hemp
- Indian Poke
- Jimson Weed
- Larkspur
- Lobelia
- Lupines
- Marjiuana
- Monkshood
- Moonseed
- Nightshade
- Pink Death Camas
- Posion Darnel
- Poison Hemlock
- Poison Rye Grass
- Rattleweed
- Rock Poppy
- Senecio
- Spider Lily
- Spotted Cowbane
- Spotted Water Hemlock
- Stagger Grass
- Staggerweed
- Sweet Shrub

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- Thorn Apple
- Varebells
- Wild Parsnip
- Wolfs-Bane
- Yellow Jessamine

Cyanogenics (plus a few that aren't...):

Cyanogens are glycosides that contain both a sugar, and a cyanide-containing aglycone. They can be hydrolyzed by enzymatic action releasing HCN (Hydrogen cyanide), which is a very potent toxin. This in turn inhibits the terminal respiratory enzyme, cytochrome oxidase.

- Arrow Grass
- Black Locust
- Blue Cohosh
- Broomcarn
- Buckeye
- Cherry
- Choke Cherry
- Corn Cockle
- Dogbane
- Elderberry
- Hemp
- Horse Nettle
- Indian Hemp
- Ivy
- Johnson Grass
- Kafir
- Laurel
- Leucothoe
- Lily of the Valley
- Maleberry
- Marijuana
- Milkweed
- Milo
- Nightshade
- Oleander
- Rhododendron
- Sevenbark
- Silver
- Sneezewood
- Sorghum
- Stagger Brush
- Sudan Grass
- Velvet Grass
- White Snakeroot
- Wild Black Cherry
- Wild Hydrangea

Photosensitizing:

Photosensitivity describes an abnormal sensitivity to light, and may result as an inability of cells to repair themselves when exposed to UV light. Complications may result in production of metabolites throughout the body.

- Buckwheat
- Goat Weed
- Klamath Weed
- Lantana
- Rape
- St. John's Wort

Saponins:

Saponins are naturally occurring glycosides whose active portions are soluble in water and produce foam (reducing the surface tension of water). The name comes from Saponaria,

soapwort, the root of which has been used as a soap (Latin sapo, soap). The chemical composition of some saponins is very similar to that of hormones, their aglycones being choline steroids. Some saponins contain a triterpenoid aglycone. Their structure is very similar to that of cardiac glycosides. Bitter taste (triterpenoid aglycones contain glucuronic acid in place of sugar and are detectable by sweet taste: liquorice). Saponins cause growth depression in poultry and swine; bloat in ruminants. Aglycones increasing the permeability of membranes can cause haemolysis by destroying the membranes of red blood-cells, thus releasing hemoglobin. This hemolytic activity of saponins varies considerably from plant to plant. Protoplasts are also affected. Cholesterin inactivates saponosides in humans, only our mucus membranes are badly affected. Used in sneezing powder and as an emetic -> irritate the membranes of respiratory and digestive tracts, this local irritant effect is helpful in pectoral syrups and tisanes to facilitate expectoration. Many plants containing saponosides are diuretic. In humans, the effect disappears within a week following the neutralizing action of cholesterin. Some saponins (e.g. those in oats and spinach) increase and accelerate the body's ability to absorb some active compounds e.g. calcium and silicon assisting in digestion.

- Bagpod
- Coffee Weed
- Purple Sesban
- Rattlebox
- Soapwort

Tannins:

- Oaks

All Other Toxic Plants:

These plants all have different properties that make them toxic in their own way. They may not even kill the goats, but they cause mechanical injury or problems with resins. So for all others, here is the list:

- Clover
- Cocklebur
- Downy Broome Grass
- Sand Bur
- Squirrel Tail Grass
- Inkberry
- Poke Weed
- Pine Trees
- Ponderosa Pine Needles
- Baneberry
- Buttercups
- Crowfoot
- Ground Ivy
- Lobelia
- Snakeberry
- Spurge
- White Cohosh

This web page was created by an undergraduate student at Cornell University for the AS625 class.