



Oak

Quercus spp.

There are 39 species and many varieties of oak in Texas. They range from shrubs about 3 feet tall to very large trees.

The leaves, usually deciduous and stemmed, are alternate, and with or without toothed margins or deep lobes.

The fruit is one seeded, enclosed in a shell forming a nut or acorn, and is seated in a cup that envelopes the whole nut or covers only its base.

Distribution and habitat

Several species of oak are found in each of the vegetational areas of Texas and about 500 species are across the Northern Hemisphere. Their habitat ranges from dry rocky slopes to wet bottomland to heavy sands. Most species are specific to a certain habitat type. Regions: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

Toxic agent

The toxins in oak are complex compounds called gallotannins. These compounds are toxic to cattle, sheep, goats, horses and dogs. The free toxin is present in hazardous concentrations in the buds, flowers, young stems and acorns, but mature leaves are not toxic.

Most poisoning by shrubby species (shinnery) occurs in the

spring when livestock consume many young leaves, buds, stems and/or flowers. Poisoning from large trees is most often the result of livestock consuming a large amount of acorns in the fall and early winter. However, there are cases each year in which cattle consume the young leaves from tall trees blown down during a wind or hailstorm.

As little as 6 percent of an animal's body weight of dry plant material may be enough to cause oak poisoning.

All species of oak should be considered as potentially toxic, but live oak and white oak are seldom involved.

Livestock signs

Signs of poisoning usually are seen a week or more after animals consume a lethal dose and include:

- Depression
- Constipation with blood
- Rough hair coat
- Abdominal pain
- Frequent urination, then no urination

Some cows will have subcutaneous edema between the rear legs above the udder. Many have a bloody froth from the nose after they have been handled.

Horses and dogs may die from liver failure after a brief period of depression.

Integrated management strategies

Oak poisoning can be prevented by offering supplemental ruminant feed (4 pounds per head per day) containing 10 percent hydrated lime, 6 percent fat, 30 percent alfalfa and 54 percent cottonseed meal starting before the buds are set in the spring. The same feed has helped prevent acorn poisoning, but does not work as well because the acorns are available for a longer period.

Prevention is best accomplished by moving cattle out of pastures severely infested with shinnery for about a month in the spring when buds are present. Sheep and goats are only poisoned when oak makes up the majority of their diet. Make other forage or browse available, especially in drought, to prevent poisoning.

Shinnery oak can be controlled with a broadcast treatment of Spike 20P® applied at 0.75 to 2.0 lb. a.i./acre, with the actual rate depending upon species. Individual plants may be controlled with Velpar L® applied at a rate of 4 ml per inch of stem diameter.

