

Acorn poisoning as a potential threat to animals

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The acorn is the nut of oak trees (genera *Quercus* and *Lithocarpus*) that can be found in the Northern Hemisphere. They are a valuable source of food for many animals (birds, rats, squirrels, pigs), but can pose health risks when consumed in large quantities. This nut contains gallotannin. When ingested, gallotannin is broken down into gallic acid and tannic acid. Tannic acid is toxic and can cause ulcers in the mouth, esophagus, and intestines, and damage to the liver and kidneys. Animals that consume acorns as part of their diets (wild boars, deer, bears, birds and squirrels) have some defence mechanisms against this toxin such as waiting to consume them until enough groundwater has percolated through the acorns to leach the tannins or buffering the acorns with other foods. Some animals metabolize tannins better than others. Acorns can be particularly toxic to cattle, horses and dogs, and fatal to all species when consumed in large quantities due to kidney failure. Animals with acorn poisoning may begin showing symptoms within hours or even several days after eating acorns. Symptoms include vomiting, diarrhoea, cramping, abdominal tenderness, depression, rapid weight loss, loss of appetite, tiredness and dehydration. There is no specific treatment for acorn poisoning, with prevention being key. Limiting access to fields with many oak trees to domestic animals during the fall is one measure. Diagnosis is based on clinical findings, necropsy, history, and histopathologic examination of the kidneys. Due to climate change, the weather has become increasingly dry throughout the year and forest fires are common, meaning that during autumn often the only food available in some regions is acorns, leading to a silent killing of animals due to lack of resources. It is important that farmers and veterinarians are aware so that they can offer faster and more effective treatment.
