Ironwood poisoning in the Northern Territory

Introduction

Consumption of leaves and bark from the northern ironwood tree (*Erythrophleum chlorostachyum*) is a common cause of stock death. Ironwood grows in the Top End of the Northern Territory and is characterised by its distinctive, rounded, mid-green leaves, rough bark and excellent resistance to termites. All grazing stock are susceptible, including cattle, buffalo, goats, camels, deer, horses, donkeys and sheep.

Many deaths occur soon after naive animals arrive in the Top End and enter a paddock containing unfamiliar vegetation. Of particular risk are paddocks containing ironwood 'suckers' or regrowth, which occurs around the base of fire-damaged or poisoned trees and in disturbed ground where small ironwood trees have been damaged but not killed.

A common scenario is deaths in young animals during mustering along laneways where suckers have regrown after a grader has been through. Stock poisoning usually occurs during the dry season, when green feed is lacking and only scarce amounts of dry grass are available alongside plenty of green ironwood suckers. Hungry stock that have travelled long distances and then entered a paddock without hand-feeding first are particularly at risk, because of their hunger and lack of previous exposure to ironwood. Eating hay containing ironwood leaves also causes poisoning.

Plant identification

Figure 1: Mature ironwood tree; ironwood 'suckers' or regrowth that occurs after disturbance to the ground or an attempt to kill a tree; ironwood leaf

Clinical signs

It appears that a very small quantity of leaves (less than 100g) can kill cattle and horses. A lesser amount (one or 2 leaves) can kill sheep and goats. The symptoms are severe colic (stomach pain), sunken eyes, loss of appetite, recumbency and death within 24 to 48 hours. Bloodstained scours may occur in some animals. Some animals have difficulty breathing and die suddenly owing to the effects of the toxin on the heart muscle.

Poisoning is uncommon in locally bred livestock. However, there are instances where problems arise. For example, newly weaned kids (goats) appear to be susceptible to ironwood poisoning during the dry season, when the doe is no longer present. Goats are particularly susceptible due to their adventurous feeding habits.

At Beatrice Hill Research Farm in the 1990s, ironwood poisoning occurred in a group of buffalo reared on a floodplain where no northern ironwood grows. In following wet season, a number of buffalo died from ironwood poisoning and a few survived. The cause was probably a branch blown down in a storm. The buffalo had no previous exposure to the tree and were susceptible. The surviving buffalo experienced debilitation for a long period, with heavily bloodstained faeces.

Post mortem, findings include large haemorrhages on the surface of the heart muscle, ironwood leaf portions in the rumen and inflammation of the stomach and the small intestines.

Producing ironwood-free hay

Stock losses occur if animals eat hay containing ironwood leaves. This is particularly important for hay producers in the north, who send hay to different regions of the Territory and risk liability for stock losses through ironwood poisoning. There are several different strategies for producing ironwood-free hay.

Remove suckers

Ensure that the hay mower operator stops the tractor and removes ironwood suckers from the path of the mower or from the windrow immediately after cutting. Preferably, they should ensure the complete removal of leaves from the paddock, or stack them so that there is no likelihood that they will be raked or baled up from a windrow. If there are too many ironwood leaves in the paddock for this to be feasible, do not bale the grass in the paddock. Carry a small hand mattock, tomahawk or axe and a large bag or container to collect and dispose of ironwood leaves from the paddock.

Foliage spray

Before haymaking time, kill ironwood suckers using a spot spray. A small hand-spray unit, ute-pack, or quad bike spray are convenient options, depending on the number of suckers and the size of paddocks. Contact your local rural supplies merchant to discuss the most suitable herbicide for ironwood.

Remove mature ironwood trees from pasture

To eliminate heavy suckering after clearing native vegetation, it is advisable to poison existing large ironwood trees before land clearing, so that there are no live roots from trees to start new suckers. The only other alternative is heavy blade ploughing and thorough stick raking to remove the sucker sources. This requires a significant investment in machinery and fuel.

Ongoing vigilance

Ironwood suckers can be particularly thick in newly cleared areas and along graded laneways. Ironwood roots left in the ground in damp conditions can quickly regenerate roots and shoot new leaf suckers above ground.

It is best to eliminate new suckers immediately after haymaking, because many emerge over the next few months after grass cutting and are more visible during the dry. They are also more susceptible to herbicides when actively regrowing after grass cutting or grading. It may take several years to get an area to a stage where suckers no longer regenerate. Persistence is required.

Hay producers should be particularly vigilant to avoid ironwood contamination in their product.

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