

Plants poisonous to cattle on the NSW North Coast

Introduction

Vaccination, effective drenching and good farm management can prevent the majority of cattle diseases on the NSW north coast. After parasites and clostridial disease, such as blackleg, plant poisonings are the most common cause of death in local cattle. Good farm management should recognise and remove toxic plants.

Each year many cattle die as a result of plant poisoning and many more have permanent damage to organs such as liver or kidneys. Some cattle will never thrive and others are sick for a variable period before recovering. Some cows may also abort, and lactating cows may dry up.

This brochure provides advice on how to prevent plant poisonings of cattle on the North Coast of NSW by:

- Recognising the main toxic plants
- Understanding the conditions under which poisoning is more likely
- Controlling poisonous plants by: healthy pastures that outcompete weeds, selective herbicides and mechanical removal
- Seeking early veterinary and botanical advice when poisonous plants are suspected

The plants and the syndromes they cause

Poisonous plants contain a toxic substance that can damage animals and result in a variety of disease syndromes.

Some plants are more toxic than others and some plants are only toxic under certain conditions (e.g. when young shoots are rapidly growing or after herbicide application). With some poisonous plants eating only a small amount of the plant on a single day could cause death (e.g. oleander)

while in others long-term exposure is needed for disease (e.g. fireweed).



Plant poisoning is nationally important to Australia, with approximately one thousand species of plants known to be toxic to livestock. Many of these plants are weeds that should be eradicated. However, under certain intensive conditions, even valuable grazing pasture species, such as Kikuyu, can be toxic.

The type of disease syndromes caused by poisonous plants can include sudden death, diarrhoea, illthrift, sunburn, bleeding, neurological disease or respiratory disease.

Bracken fern, red lantana, fireweed, green cestrum, kikuyu, mother of millions, poison peach and black bean are the common names of plants that frequently cause poisoning on the north coast of NSW. Some other plant poisonings include

cyanide from sorghum; nitrate/nitrite from ryegrass or oats, oxalate from setaria; paspalum staggers (ergotism), oleander, red cotton bush and boobialla. Blue green algae toxicity can occur from water sources.

The table on pages 3-6 groups some of the main plants growing in north eastern NSW based on the clinical syndromes they cause in cattle. Many other plants could potentially be toxic.

Conditions under which poisoning is common

1. Hungry stock (after yarding, trucking or lack of feed) during winter and spring
2. Stock have uncontrolled access to "scrub"
3. Normal routine of stock is disturbed putting them under some stress
4. Introduced young stock
5. Grazing of hungry stock on young, lush actively growing feed
6. Rain falling after drought
7. High soil nitrate levels, with lush green feed and cloudy weather
8. Cyanide containing plants, such as sorghum, when there is light drizzly rain.

Diagnosing plant poisonings

If you observe disease in your livestock an early diagnosis by a veterinarian can prevent costly losses. A veterinarian can examine stock, take blood and undertake post mortems to see if a plant poisoning is involved or if other disease such as infections, metabolic disturbances, genetic defects or chemical poisoning has occurred.

Seeking further advice

If you are uncertain of the identity of a plant or want assistance to control weeds you can seek assistance from your local weed Authority, botanist or agronomist. For further information on disease caused by poisonous plants consult with your private or LHPA veterinarian.

The North Coast LHPA offers a free diagnostic service to their ratepayers for herd problems. For advice on how to improve your pasture, and help prevent weeds, you can seek assistance from a district or private agronomist. The contact details for a number of agencies are provided below:

Livestock Health and Pest Authority

- 79 Conway Street Lismore
 - Phone: (02) 6621 2317
- 147 Barker Street Casino
 - Phone: (02) 6662 6012
- 24-26 Mulgi Drive South Grafton
 - Phone: (02) 6642 3699
- Web: www.lhpa.org.au

NSW DPI- Beef Officer and Agronomist

- 134 Barker St Casino
 - Phone 02 6662 2288

Far North Coast Weeds

- 218-238 Molesworth street Lismore
 - Phone: (02) 6623 3833
- *Ballina, Byron, Kyogle, Lismore, Richmond Valley and Tweed Council*
- Web: www.fncw.nsw.gov.au

Clarence Valley Weeds Authority

- P.O. Box 171 Maclean 2463
 - Phone: (02) 6643 3820
 - *Grafton, Maclean and Pristine Waters*

What is a noxious weed?

A noxious weed is any weed that is declared noxious under the Noxious Weeds Act 1993. Classes of noxious weeds include:

Class One	Plants that pose a potentially serious threat to primary production or the environment and are not present in the State or are present only to a limited extent. The plant must be eradicated from the land and the land must be kept free of the plant. The weeds are also 'notifiable' and a range of restrictions on their sale and movement exist.
Class Two	Plants that pose a potentially serious threat to primary production or the environment of a region to which the order applies and are not present in the region or are present only to a limited extent. The plant must be eradicated from the land and the land must be kept free of the plant. The weeds are also "notifiable" and a range of restrictions on their sale and movement exist.
Class Three	Plants that pose a potentially serious threat to primary production or the environment of a region to which the order applies, are not widely distributed in the area and are likely to spread in the area or to another area. The plant must be fully and continuously suppressed and destroyed.
Class Four	Plants that pose a potentially serious threat to primary production, the environment or human health, are widely distributed in an area to which the order applies and are likely to spread in the area or to another area. The growth and spread of the plant must be controlled according to the measures specified in a management plan published by the local control authority.
Class Five	Plants that are likely, by their sale or the sale of their seeds or movement within the State or an area of the State, to spread in the State or outside the State.

Obligations and Penalties

- The law requires that the landholders and/or occupiers of land must control noxious weeds on land under their control
- Local Weed Control Authorities aim to co-operate with landholders and occupiers to achieve acceptable standards of weed control depending on the weed category and the significance of that weed to the particular area
- Local Weed Authorities can resort to legal action and the imposition of fines if occupiers avoid their responsibilities under the Act

Plants causing sudden death

Weed	General Comments	Symptoms
<p>Mother of Millions</p> 	<ul style="list-style-type: none"> - A very toxic plant causing death by heart failure. - Do not tolerate any level of infestation - Is a succulent with clusters of red flowers in July and August - Poisoning usually occurs when the plant is in flower and stock are hungry 	<ul style="list-style-type: none"> - Sudden death - Bowed head and abdominal tuck - Groaning - Difficulties breathing - Bloat; diarrhoea with mucus and/or blood staining - Weakness in the hind quarters - Note may just see diarrhoea initially
<p>Green Cestrum</p> 	<ul style="list-style-type: none"> - A very toxic plant causing death by liver damage - Do not tolerate any level of infestation - Is a shrub with clusters of yellow flowers in winter - Declared Class 3 noxious weed 	<ul style="list-style-type: none"> - Sudden death - Abdominal pain - Alternating depression and mania - Ataxia; convulsions; paralysis; coma
<p>Poison Peach</p> 	<ul style="list-style-type: none"> - Toxin affects the liver - The signs are common to other diseases. Look for evidence that cattle have browsed the plant 	<ul style="list-style-type: none"> - Dullness - Anorexia - Tremors - Laying down - Drooping head and ears - Coma - Death
<p>Oleander</p> 	<ul style="list-style-type: none"> - An ornamental, flowering plant offering attractive blossoms in hues of white, red and pink - All parts of the plant are toxic. However, clippings/pruning's account for most deaths as they are more palatable. The heart is damaged. - Do not leave clippings in the paddock. 	<ul style="list-style-type: none"> - Diarrhoea - Progressive paralysis - Irregular heart rate - Death

Plants causing sudden death cont.

Weed	General Comments	Symptoms
<p>Boobialla</p> 	<ul style="list-style-type: none"> - Death from liver failure within days of eating - A shrub growing to several metres high 	<ul style="list-style-type: none"> - Soft swelling under the jaw - Drowsy, depressed - Arched back, laboured breathing - Jaundice and photosensitisation - Haemorrhage - Death
<p>Red Head Cotton bush</p> 	<ul style="list-style-type: none"> - Produces red and gold flowers - The flowers are the most toxic part of plant - Usually not eaten unless cattle are very hungry 	<ul style="list-style-type: none"> - Diarrhoea with blood - Laboured breathing - Irregular heart rate - Death
<p>Setaria</p> 	<ul style="list-style-type: none"> - Cattle that have not grazed setaria for a few weeks should be gradually accustomed to lush, potentially hazardous setaria pastures 	<ul style="list-style-type: none"> - Toxic levels of oxalate can cause a sudden drop in blood calcium (acute hypocalcaemia), which can result in coma and death - Kidney failure can occur in chronic cases
<p>Grain Sorghum</p> 	<ul style="list-style-type: none"> - Some species of sorghum can contain levels of hydrogen cyanide and nitrates lethal to grazing animals in the early stages of the plants growth. Stressed plants, even at later stages of growth, can also contain toxic levels of cyanide - Do not allow cattle access to young stressed plants or those less than 75cm. Feed other feed first to hungry animals - Do not make hay from sorghum crops considered unsafe to graze 	<p>Symptoms due to cyanide poisoning:</p> <ul style="list-style-type: none"> - Staggering - Twitching - Collapse - Death with bright red blood

Plants causing sudden death cont.

Weed	General Comments	Symptoms
<p>Oats, ryegrass and other grass</p> 	<ul style="list-style-type: none"> - Nitrate poisoning can occur if some grass types eaten by livestock have accumulated too much nitrate. - A common cause for this is when soil nitrate is high but the grass is not actively growing. This is more likely to be on cloudy or cold days or after herbicide application. - If cattle are only fed lush actively growing grass a condition called grass tetany can occur. Clover in pasture prevents this. 	<p>Nitrate poisoning (brown blood):</p> <ul style="list-style-type: none"> - Salivation - Severe abdominal pain - Bloat - Muscle tremors - Forced rapid breathing - In-coordination - Convulsions - Violent struggling - Weakness - Recumbency - Coma - Death <p>Grass Tetany (low magnesium)</p> <ul style="list-style-type: none"> - Down, muscle spasms and excitement - Aggressive - Usually find the cattle dead
<p>Kikuyu</p> 	<ul style="list-style-type: none"> - Sporadic cases occurring between February and June in lush kikuyu after a long dry spell - Ensuring cattle have access to roughage and other pasture species may reduce the risk 	<ul style="list-style-type: none"> - Bloat, but with little gas - Excess salivation and slobbering - Sham drinking (playing with its water source but not consuming much), burying nostrils and mouth in the water - Increased breathing - Dehydration - May progress to staggering, become recumbent and eventual death due to cardiac arrest
<p>Blue-green algae</p> 	<ul style="list-style-type: none"> - Also known as cyanobacteria, capable of causing sudden death when large amounts are ingested - Tends to grow on the surfaces of farm ponds during the summer season. Looks like green paint slick. - Keep cattle away from suspect water. Water testing can be done. 	<ul style="list-style-type: none"> - Muscle tremors - Paddling - Shortness of breath - Watery or bloody diarrhoea - Blue mucous membranes (cyanosis) - Convulsions, becoming comatose, and death usually 4-24 hours following ingestion. - Animals that survive may develop photosensitization.

Plants causing ill-thrift and death

Weed	General Comments	Symptoms
<p>Fireweed</p> 	<ul style="list-style-type: none"> - Pyrrolizidine alkaloid-poisoning (liver/kidney toxin) - Poisoning occurs over a long period of time even though signs appear suddenly - Drought, spraying and high temperatures increase toxicity of the plant 	<ul style="list-style-type: none"> - Depression and weight loss - Rectal prolapse - following diarrhoea and straining to defecate - Inco-ordination - Sometimes jaundice - Occasionally photosensitisation (shade seeking behaviour)

Plants causing sunburnt skin

Weed	General Comments	Symptoms
<p>Lantana (Red flowered)</p> 	<ul style="list-style-type: none"> - The red lantana strain is toxic - Sick cattle should be kept in the shade, have access to plenty of water and may require veterinary attention - Declared Class 3 noxious weed 	<ul style="list-style-type: none"> - Photosensitisation - Jaundice - Reddening and inflammation of unpigmented (white) skin - Muzzle may become inflamed/ulcerated - Swelling of ears and eyelids if unpigmented - Dehydration - Avoid sunlight - Stop eating - Sluggish, weak and depressed
<p>St John's Wort</p> 	<ul style="list-style-type: none"> - The plant readily invades unimproved, overgrazed pastures - Declared Class 4 noxious weed 	<ul style="list-style-type: none"> - Photosensitivity, inflammation of the unpigmented portion of the skin - Affected area becomes sore and reddened and may peel - Tongue and mouth may be affected - Hyposensitivity (heat and cold stress) - Infertility
Plants causing diarrhoea- many can do this, these are some examples		
Weed	General Comments	Symptoms
<p>Black bean</p> 	<ul style="list-style-type: none"> - Toxicity only occurs with persistent consumption of large numbers of ripe seeds, most likely under drought conditions 	<ul style="list-style-type: none"> - Scouring - Possible death
<p>Coffee senna</p> 	<ul style="list-style-type: none"> - All parts of the plant are toxic, especially the seeds 	<ul style="list-style-type: none"> - Decreased muscle tone - Weakness - Slow or odd gait - Anorexia - Diarrhoea - Red urine

Plants causing bleeding and death

Weed	General Comments	Symptoms
<p>Bracken fern</p> 	<ul style="list-style-type: none"> - Deaths are usually associated with slashing which encourages cattle, particularly weaners to eat the fresh fronds 	<ul style="list-style-type: none"> - Clotting defects and possible death from haemorrhages

Other plants that cause neurological signs (many already listed also do)

Weed	General Comments	Symptoms
<p>Paspalum (ergot)</p> 	<ul style="list-style-type: none"> - Ergots are a dried part of a fungus that can be on some plants. On paspalum you can sometimes see a hard black ergot which can be toxic. - Frequent grazing or topping of pastures prone to ergot infestation during the summer months reduces flower-head production and helps control the disease 	<ul style="list-style-type: none"> - Animals display continuous trembling of the large muscle groups; movements are jerky and uncoordinated - If they attempt to run, the animals fall over in awkward positions - Affected animals may be aggressive and dangerous to approach or handle - After prolonged exposure, condition is lost and complete paralysis can occur
<p>Zamia (burrawong)</p> 	<ul style="list-style-type: none"> - The seeds and young fronds appear to be quite palatable and are readily eaten, especially when other feed is scarce - These are also the most toxic parts of the plant 	<ul style="list-style-type: none"> - After eating the young leaves (generally more than 14 days), the animal loses condition in the hindquarters, staggers and eventually falls - Seeds are toxic - Jaundice and diarrhoea may also occur
<p>Grass tree/Back boys (<i>Xanthorrhoea</i> spp.)</p> 	<ul style="list-style-type: none"> - Not normally eaten - Side effects can be reversed in 2-3 weeks in most cases by denying access to the flowering plant 	<ul style="list-style-type: none"> - In-coordination - Fall easily, have difficulty rising - Urinary incontinence - Weight loss - Constant sideways lurching of hindquarters