Walkabout (Kimberley Horse) Disease

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INTRODUCTION
Walkabout disease, which is also known as Kimberley horse disease, affects horses that graze plants of the genus Crotalaria, commonly known as rattlepods. There are 17 known species of Crotalaria in the Northern Territory (NT). However, only limited information is available on the potential toxicity of individual species on horses. Therefore, all Crotalaria plants should be considered potentially toxic to horses.

THE KNOWN TOXIC SPECIES
The following Crotalaria species are known to cause walkabout disease in horses in the NT:

- Crotalaria crispata (Kimberley horse poison)
- C. dissitiflora (grey rattlepod)
- C. novae-hollandiae
- C. ramosissima
- C. retusa (wedge-leafed rattlepod)
- C. trifoliastrum

THE CAUSE OF TOXICITY
Crotalaria plant species contain poisonous substances called pyrrolizidine alkaloids (PAs) which, when broken down to their metabolites, are toxic to the liver. Ingesting PAs has a cumulative effect on the liver. This means that even if a horse has limited, but intermittent access to plants that contain PAs, over time the cumulative liver damage will eventually cause clinical disease and subsequent death. Clinical disease may occur immediately after the ingestion of a large dose of toxic PAs, or the onset of disease may progress slowly, or it may be delayed for up to 18 months after grazing toxic plants.

Walkabout disease is a common cause of mortality in horses in the NT, where up to 50 deaths have been reported on some stations.
While cattle are susceptible to poisoning by other plant species that contain PAs, for unknown reasons, Crotalaria species do not appear to cause clinical disease in cattle.

**RISK FACTORS**

Since Crotalaria species are not very palatable, poisoning usually occurs when there is a shortage of feed, which causes horses to graze indiscriminately. Alternatively, poisoning may occur when toxic plants are accidentally incorporated with conserved fodder, such as hay. Horses are 30 to 40 times more susceptible to the disease than sheep or goats.

![Figure 6. C. crispata low growing plant](image1)

![Figure 7. C. crispata flower](image2)

**CLINICAL SIGNS**

- Anorexia (off feed)
- Weight loss
- Jaundice (gums and the whites of eyes go yellow)
- Horses become dull and depressed
- Muscle tremors, especially of the head and neck
- Frequent yawning
- Head pressing
- Urine may be copper coloured or red
- Attacks of frenzy and violent, uncontrollable galloping
- Difficult swallowing, horses often stop eating halfway through a mouthful of hay or grass
- Horses often stand with their heads held down
- Affected horses appear to be blind and may aimlessly wander, walking in circles or bumping into objects (hence the name walkabout disease)
- Horses drag their hind legs, causing the hooves to have worn tips

**DIAGNOSIS**

A presumptive diagnosis in a live horse is based on clinical signs and blood tests, plus known or suspected exposure to the toxic plants. Blood samples from horses with recent liver damage from Crotalaria poisoning will often have elevated liver enzymes, particularly one called gamma glutamyltransferase. This liver damage caused by toxic PAs.

An examination of a liver sample from a horse that has died from walkabout disease, or has been euthanized following the disease, will show distinctive changes typical of PA poisoning. Confirmation of the diagnosis requires a blood test or a test of the liver to detect metabolites of PAs. However, such tests will indicate possible poisoning only if the ingestion of the toxic substance has occurred recently. The presence of Crotalaria plants in the pasture combined with typical clinical signs and liver damage are highly suggestive of walkabout disease.
PREVENTION

Once a horse shows signs of walkabout disease there is little that can be done to stop disease progression. Therefore, prevention is the best option. During periods of feed shortage, remove horses from paddocks that contain *Crotalaria* plants and feed them good quality hay or a combination of hay and grain. If possible, remove all *Crotalaria* species from horse paddocks mechanically or by using appropriate permitted chemicals. Amino acid supplements can be used to assist horses with liver damage.

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