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# Wabai Poisoning Resolved

**DR JAPIE JACKSON & JESSE STEELE**

- In April of 1965 cattle on Wabai ranch were dying of a peculiar syndrome that included severe salivation and chewing motions. Many of the cattle could stand but did not move away readily when approached.
- The post-mortem findings included dry impactions that spanned the length of the oesophagus.

- All the cases were in similar areas with wooded granite kopjes surrounded by sandveldt.
- Considering all the clinical signs and the number of animals dying- a toxic plant was the most likely cause.
- Any suspicious plants present were collected and feed trials were conducted.
- Plants of the Genus ***Kalanchoe*** were among those found to be toxic but the evidence was not strong enough to isolate it as the culprit

- Years (1973) later the same signs were shown by cattle in Gutu East, on similar vegetation and during the dry season.
- ***Kalanchoe*** was present here too.
- In a recent series of poisonings in the same conditions, ***Kalanchoe*** was the only soft vegetation available to cattle that had browsed all the ***Dichrostachys*** within reach.

# *Kalanchoe lanceolata*



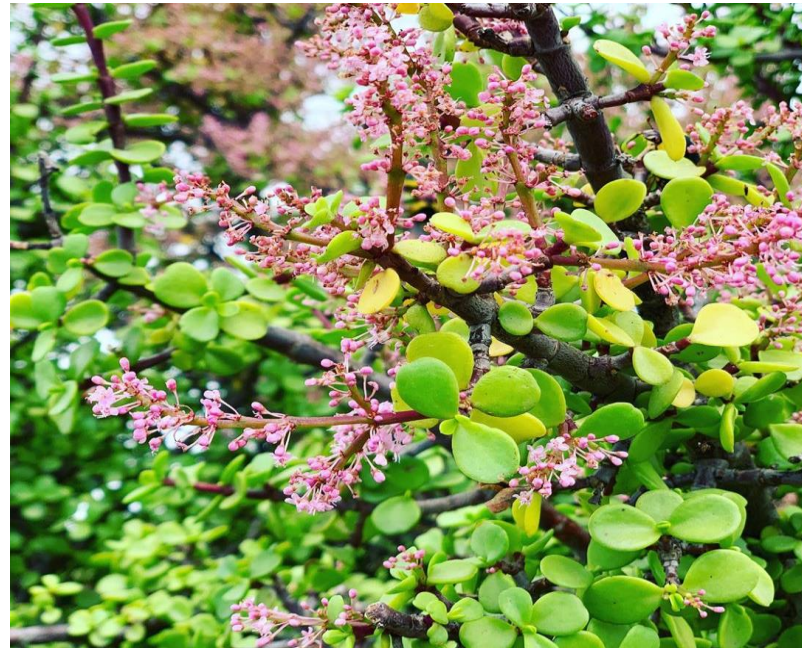
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# Crassulaceae

- **Zimbabwe:** 4 genera and 38 taxa with 43 Subspecies identified in Zimbabwe, Indigenous and naturalised
- Genus-Kalanchoe, Crassula, Cotyledon, Bryophyllum



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# Toxic Principle

- Cumulative, neurotoxic bufadienolides
- All parts of the plant are toxic even when dry
- Four systems affected- Cardiovascular system, Nervous system, Gastro-intestinal system, Respiratory system



# Susceptible Stock

- As is the case with other cardiac glycoside poisonings, newly introduced stock or naive animals are more likely to eat Kalanchoe than local animals which tend to avoid the plant
- Mainly occurs in Winter with food shortages, or during spells of summer drought (late rains)



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# Cardiovascular System

- Toxin affects the heart initially by lowering heart rate.
- This is followed by an increase in blood potassium and then an increase in heart rate along with the production of irregular beats.

# Nervous Signs

- Lagging behind
- Animal very weak, especially in hind quarters, swaying (= posterior paresis)
- Tremors and chewing
- Stumble and fall
- Recumbency



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# Gastrointestinal system

- Decrease ruminal muscular contractions
- Rumen stasis-No visible movement
- Bloat
- Diarrhoea

# Respiratory Signs

- Respiratory signs are due to heart failure, they may include:
  - difficulty breathing and respiratory depression
  - increased respiratory rate
  - apnoea

# Pathology Macroscopic

- Not specific
- Blood spots in and around the heart muscle
- Lung oedema (water in Lungs) with congestion and emphysema
- Ruminal stasis and enteritis-impacted with dry feed matter, inflamed small intestine
- Leaf remnants present in rumen content

# Pathology Microscopic

- Done by veterinary laboratory
- Send tissue blocks in 10% Formalin
- Myocardial degeneration/necrosis
- Pulmonary congestion and oedema
- Enteritis

# Diagnosis

- History -Introduction of new stock; young, naïve stock
- Presence of plant, whether it has been eaten
- Clinical signs
- Necropsy findings



# Treatment

- Activated charcoal - dose 2 g/kg per os (stomach tube)
- Minimize stress
- Anti-arrhythmic drugs – Atropine (0.05mg/kg) if bradycardia/ AV block

# Prevention

- Eradication-Herbicides -glyphosate “Round-up”
- Mechanical
- Camp off infested areas

# Other causes of acute death

## Gousiekte

*Fadogia hoblei*  
Wild olive



*Pachystigma pygmaeum*  
Hairy gousiekte



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Pavetta schumanniana-Poison Brides Bush \*Note leaf spots

# Gifblaar-*Dichapetalum cymosum*



## Indicator trees

*Burkea africana*-Wild Syringa, Mukurati

*Terminalia sericea*- Silver Cluster leaf, Mangwe

*Ochna pulcra*-Peeling-Bark Plane

# Avocado *Persea americana*



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# Ionophores

Send in feed samples



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# Thank you!!



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