

Acute Toxicity of *Nicandra physaloides* (L) Gaertn in Cattle and Mice

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Abstract:

Nicandra physaloides (L) Gaertn (Solanaceae), commonly known as the 'apple of Peru' is widely associated with livestock poisoning. The clinical signs associated with its poisoning in ruminants appear within 6 hours of ingestion and are circling, tremors of the hind limbs, tachycardia, bloat, convulsions, coma and death. However, there is no published information on the toxicology of this plant in Kenya. This study documents *Nicandra physaloides* toxicity in two different zero-grazed dairy cattle herds that were inadvertently fed on Napier grass contaminated with *Nicandra physaloides*. In addition to the case studies, the toxicity of the aqueous extracts from the different parts of *Nicandra physaloides* was studied under experimental conditions in mice. The 24 hour median lethal dose (LD₅₀) was determined after intra-peritoneal injection (i.p.) of the aqueous extracts of the plant into white Swiss mice and found to be 1820, 2580 and 3620 mg/kg body weight for the leaves, fruits and whole plant respectively. The clinical signs in mice appeared within 30 minutes of inoculation and included coat, decreased locomotor activity, increased respiratory rate, gasping for air and leaping into the air before collapsing into coma and death. There were similarities in the symptoms of the spontaneous poisoning in cattle and in the experimentally induced poisoning in mice.