

### c Plant intoxication following ingestion of seeds of *Jatropha curcas*

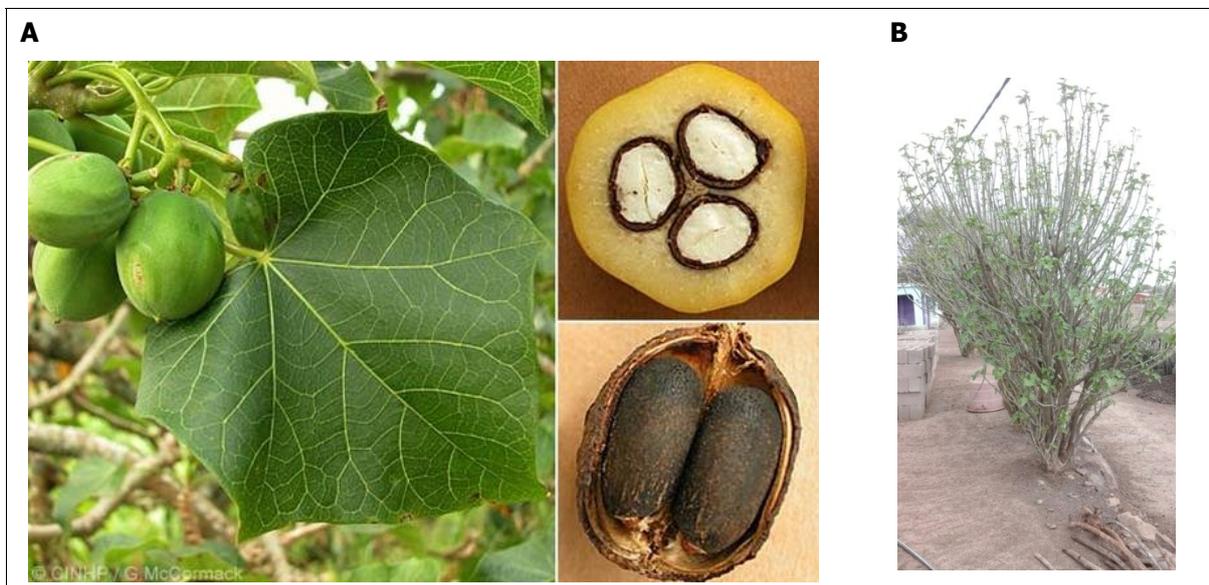
In early April 2015, nine children were admitted in Uthungulu District, KwaZulu-Natal Province, for ingesting nuts or fruit of an unknown plant. The sick children presented with cramping abdominal pains, vomiting, and diarrhoea with blood. The Environmental Health Services conducted home and site visits. The community related the children had eaten the 'nuts' of a 'diesel tree'. In 1996, three children ate the fruit or nuts of this tree and were admitted, but one child died, and that the tree had been chopped down and thrown away. However, when they went to see where the tree was discarded they found that it had grown again, with several small trees having sprouted from the discarded branches. Photographs of the tree were taken, and it was identified by a professor of Botany at the University of the Witwatersrand, Johannesburg and the Red Cross Children's Hospital Poisons Information Centre as *Jatropha curcas*.

*Jatropha curcas* is an exotic tree which can grow to 4.5 metres tall. It has thin, often greenish bark that exudes copious amounts of watery sap when cut. The tree is well known internationally as it is a candidate plant for biomass fuel production because it thrives in dry areas, requires minimal attention

and the seeds contain 15-40% oil which can be used to power a diesel engine. In Uthungulu District, the plant is often used for hedging between homesteads in semi-urban areas. Unfortunately, the seeds of this plant (Figure 5.) contain a toxin called 'curcin', a toxic protein or lectin (toxalbumin). When ingested, it causes gastro-intestinal symptoms within 30 minutes. Initially persons experience a burning sensation in the throat, followed by nausea, vomiting and diarrhoea. Vomitus and faeces may contain blood. In severe cases, haemorrhagic gastroenteritis and dehydration, along with central nervous system depression may occur. Treatment is supportive, in response to symptoms.

The Poisons Information Helpline 24 hour emergency telephone service can be reached at +27 861 555 777 in event of intoxications of all kinds.

**Source:** KwaZulu-Natal Communicable Diseases Control; Division of Public Health Surveillance and Response, NICD-NHLS; Red Cross Children's Hospital Poisons Information Centre, University of



**Figure 5A.** The seeds and leaves of *Jatropha curcas*; **Figure 5B.** *Jatropha curcas* used as a hedging plant in Uthungulu District, KZN