



POLICY BRIEF

THE NAROVAC® ANTI-TICK VACCINE ROLLOUT





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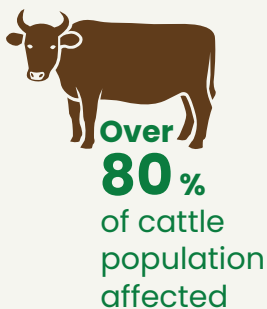
Introduction

This policy brief aims to provide information to policymakers so that they become champions in advocating for the national adoption and scale-up of the NAROVAC® Anti-tick Vaccine. This groundbreaking innovation developed by the National Agricultural Research Organisation (NARO) has been developed to combat the devastating impacts of ticks and tick-borne diseases in the livestock sector.

This policy brief outlines the burden of the problem, the vaccine's effectiveness, its safety, and strategic recommendations for national implementation.



i. What is the burden of ticks and tick-borne disease?



- Ticks infest cattle and other domestic animals, feeding on their blood and thereby transmitting tick-borne pathogens that cause deadly diseases and can lead to death.
- Over 80% of the cattle population around the globe is affected by the ticks leading to annual losses of ranging from US\$ 13.9-18.7 billion.
- Ticks cause losses through transmission of diseases, death of livestock, heavy treatment costs, acaricide costs and failure, rejected animal products due to excessive chemical use amounting to approximately US\$ 1.1 billion (UGX 3.8 trillions) annually in Uganda which keeps livestock farmers locked up in poverty.
- NARO has developed an anti- tick vaccine (NAROVAC® Anti-tick Vaccine) to mitigate this loss.



ii. What are the benefits of using the vaccine?



Reduce acaricide
application from
104 rounds
to **12 times**
a year

- The use of NAROVAC® Anti-Tick Vaccine will lead to an overall reduction in acaricide use and failure, improved animal health and well being, reduced contamination of the environment especially water and soil, and animal source foods.
- The overall integrated vaccine effectiveness was estimated at 75% – 99%, showing a strong capacity to reduce tick populations and, consequently, the risk of tick-borne diseases and associated health complications in cattle
- The application of NAROVAC® is expected to reduce acaricide application frequency from 104 rounds a year to about 12 times in a year per animal.
- The use of the NAROVAC® Anti-Tick Vaccine will enable livestock farmers to break even at a lower cost.
- The application of NAROVAC® Anti-Tick Vaccine will lead to reduced national import bill for acaricides

iii. How does the NAROVAC® Anti-Tick vaccine works?

- The NAROVAC® anti-tick vaccine when administered, triggers production of specific antibodies into the tick's blood which will then disable feeding, growth, reproduction and tick immunity activation centers of the animals..

iv. Safety issue

- Animal products such as meat and milk obtained from cattle vaccinated with NAROVAC® Anti-Tick Vaccine are safe for consumption. Findings from the clinical field trials showed no traces of the vaccine in milk, animal organs (meat), urine and dung.
- The NAROVAC® Anti-Tick Vaccine did not have any negative effects on fertility and pregnancy.
- There were no negative effects on the animal's physiological activities and clinical parameters such as body temperature, ruminal motility rate, respiratory rate and heart rate.



v. Regulatory compliance

Research and development of the NAROVAC® Anti-Tick Vaccine has been undertaken by NARO scientists since 2013. The research has gone through proof of concept, on station clinical trials and confined field trials (CFT). All these trials have been regulated by;

- a. National Drug Authority (NDA)
- b. Uganda National Council for Science and Technology (UNCST)
- c. National Biosafety Committee (NBC)
- d. Institutional Biosafety Committee (IBC)
- e. Institutional Animal Care and Use Committee (IACUC)
- f. Department of Animal Health of MAAIF
- g. Independent clinical inspectors

vi. How it's going to reach the farmers

The NAROVAC® will be distributed at a cost recovery price through the following ways:

- Through the National Veterinary Extension Service Delivery System
- Through the public private partnership

viii. Policy statement

- NARO requests that the use of NAROVAC® Anti-Tick Vaccine incorporated into the national ticks management programs
- NARO recommends support for the establishment of the public service cold chain infrastructure at zonal level and district level.

References

- Kivaria, F.M., 2006. Estimated direct economic costs associated with tick-borne diseases on cattle in Tanzania. *Trop. Anim. Health Prod.* 38, 291–299.
- Kasaija PD, Kabi F, Semakula J, Kyakuwa I, Contreras M, de la Fuente G, Rutaisire J, Mugerwa S, Gortázar C, de la Fuente J. One-year follow-up evaluation of approved Subolesin anti-tick vaccine in Uganda. *Vaccine*. 2025 Jan 12; 44:126562. doi: 10.1016/j.vaccine.2024.126562. Epub 2024 Nov 29. PMID: 39612805.

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