



MAAIF

Ministry of Agriculture  
Animal Industry and Fisheries



# Frequently Asked Questions (FAQs) about the NAROVAC Anti-Tick Vaccine

## 1. What are ticks?

Ticks are blood-sucking parasites that attach to animals and sometimes humans. They live by feeding on the blood of their hosts. Ticks are one of the most harmful external parasites in livestock production.

## 2. Why should you be concerned about ticks?

Ticks are dangerous because they not only weaken animals by feeding on their blood but also transmit a wide range of serious diseases. Tick-borne diseases can cause severe illness and death in livestock. Some of the major diseases transmitted by ticks include:

- East Coast Fever (Theileriosis)
- Anaplasmosis
- Babesiosis (Redwater)
- Heartwater disease

These diseases reduce animal productivity (milk, meat, and hide quality), increase mortality/death rates, and cause major financial losses to farmers through treatment costs and livestock deaths.

## 3. Is natural immunity from tick bites enough to protect an animal against ticks?

No. Natural tick infestations do not stimulate production of protective antibodies against ticks.

## 4. How are ticks controlled?

Ticks are traditionally controlled through:

- Spraying or dipping animals in chemicals that kill ticks.

- Keeping grazing areas short and controlled to reduce tick habitats.
- New methods like the anti-tick vaccine offer sustainable, long-term protection by strengthening the animal's immune system against ticks

## 5. What is an anti-tick vaccine?

An anti-tick vaccine is a product developed to protect animals against ticks and support the control of ticks and tick-borne diseases, particularly in domestic animals. The National Agricultural Research Organization (NARO) has developed the country's first anti-tick vaccine, known as the **NAROVAC Anti-Tick Vaccine**.



## 6. How does the NAROVAC Anti-Tick Vaccine work?

The NAROVAC vaccine stimulates the animal's body defense system within seven days to improve its ability to fight against ticks. When a tick takes a blood from a vaccinated animal, the ticks' feeding, egg laying system are disrupted and this gradually weakens the tick to death.

## 7. What types of ticks are targeted by the NAROVAC Anti-Tick Vaccine?

The NAROVAC Anti-Tick Vaccine targets all common tick types that feed on domestic animals.

## 8. How is the NAROVAC Anti-Tick Vaccine given/ how often should we vaccinate our animals?

The vaccine must be administered by **licensed veterinarians** or para veterinarians following the schedule below to ensure correct handling and effectiveness.

### Vaccination Schedule

| Injections           | Days/ months                          | NAROVAC dosage |
|----------------------|---------------------------------------|----------------|
| 1 <sup>st</sup> Dose | Day 0                                 | 1 ml           |
| 2 <sup>nd</sup> Dose | 4 (after 30 days)                     | 1 ml           |
| 3 <sup>rd</sup> Dose | 24 (six months after the second dose) | 1 ml           |

An animal receives an initial dose and then booster doses after 30 days and another booster dose after six months, making it a total of three doses in the first year (Table 1). In the subsequent years, animals in confined grazing systems receive one shot per year while those in open grazing systems receive two shots, 6 months apart per year.

## 9. At what age should I immunize my animal?

Animals can be vaccinated starting at one months after birth

## 10. For how long does the NAROVAC Anti-Tick Vaccine protect cattle?

Our research shows that the animal is protected against ticks up to six months after the third dose in the first year of vaccination.

This means that the animal has to receive a single booster dose annually or every six months in a year depending on grazing system. Animals in confined grazing systems receive a single booster shot per year while those in open grazing systems receive two shots, six months apart annually.

## 11. When should I stop applying acaricides after vaccination?

Ticks begin responding to NAROVAC in about 5–7 days after the first vaccine dose.

Farmers can gradually reduce acaricide application 45 days after embarking on the vaccination program. Thereafter, complete acaricide withdrawal can be considered depending on the tick burden and the effectiveness of other integrated tick control approaches.

## 12. What is the site of injection?

The vaccine is given in the neck muscles as an intramuscular injection.

## 13. Does the NAROVAC Anti-Tick Vaccine require mixing/reconstitution before injecting into an animal?

No. NAROVAC is provided in ready-to-use form and does not require mixing before injecting.

## 14. Is the NAROVAC Anti-Tick Vaccine safe

Research by NARO has confirmed that NAROVAC is safe for animals, humans and the environment.

Milk, meat, and other products from vaccinated animals are safe for consumption.

There were no negative effects on fertility, pregnancy, or physiological parameters such as body temperature, digestion, respiratory rate, or heart rate.

## 15. When should I consume animal products after vaccinations?

The vaccine does not leave any harmful residues in the animal, therefore one can consume its products immediately after vaccination.

## 16. What are the benefits of using NAROVAC?

NAROVAC offers multiple benefits including;

- The NAROVAC reduces the cost of tick control through reduced chemical use and associated expenses, mortalities and improved productivity.
- Improved livestock welfare, reduced farmer stress.
- NAROVAC contributes to reduced use of toxic chemicals thereby contributing to environmental conservation
- The use of NAROVAC delays and will eliminate tick resistance
- The use of NAROVAC eliminates the risk of chemical poisoning in animals and handlers.

## 17. Does NAROVAC reduce tick infestations?

Proper use and application of NAROVAC results into a progressive reduction in tick infestation on livestock and within the environment.

## 18. Does the NAROVAC vaccine affect reproduction in animals?

No it doesn't affect reproductive or any other physiological body processes in male and female animals.

## 19. What is the shelf life of the NAROVAC Anti-Tick Vaccine

NAROVAC has a shelf life of 2 years (24 months) if stored under the recommended handling and storage cold-chain conditions of 4°C – 8°C

## 20. In case of accidental spillovers or body contact with the vaccine, what can I do?

In case of skin or body contact with the vaccine contents, thoroughly wash the area with plenty of clean water. In case of accidental injection to a human seek medical attention.

## 21. Are there any situations where an animal should not be vaccinated?

It is recommended that sick/ ill animals should not be vaccinated with NAROVAC

## 22. Can NAROVAC be used alongside other tick control measures?

Yes. NAROVAC should be integrated with other tick control methods.



## 23. What happens when a farmer continue to see ticks on his animals after vaccinating?

After vaccinating animals with NAROVAC, a farmer may still see some ticks, especially in areas where animals graze freely and tick numbers are very high. Unlike chemicals that kill ticks immediately, NAROVAC works gradually. When ticks feed on vaccinated animals, they take in antibodies that slowly weaken them, stop them from feeding and reproducing, and eventually kill them. Over time, as more ticks are affected, the number of ticks on the animals and in the environment will drop significantly. Farmers need to be patient and continue good management practices to see full results.

## 24. Did the Vaccine comply with the necessary regulatory procedures

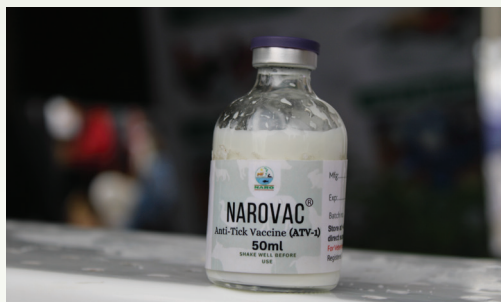
Yes. The development of NAROVAC Anti-Tick Vaccine was conducted under strict regulatory oversight by:

- The National Drug Authority (NDA)
- The Uganda National Council for Science and Technology (UNCST)
- The National Biosafety Committee (NBC)
- Institutional Biosafety Committees (IBCs)
- Institutional Animal Care and Use Committees (IACUCs)
- Department of Animal Health (MAAIF)
- Independent clinical inspectors

The necessary biosafety measures were implemented throughout the trial phases.

## 25. Where can farmers access the NAROVAC Anti-Tick Vaccine?

The vaccine will be distributed and sold to farmers at an affordable price through the National Veterinary Extension Service Delivery System and authorized public-private partnerships.



## 26. Can ticks develop resistance to NAROVAC?

Ticks may develop resistance to vaccine overtime. NARO is continuously conducting research to address any future resistance to NAROVAC that may arise to give scientific alternatives.

## 27. Will NAROVAC vaccine kill beneficial organisms?

NAROVAC vaccine is specifically designed to target tick species without harming other beneficial organisms in the environment.

## 28. Will the vaccine cause cancer in animals?

No. NAROVAC has been scientifically tested and it has shown no links to cancer, or any other health risks in animals.

## 29. Are children and babies safe around vaccinated animals?

Yes. Contact with vaccinated animals does not pose any risk to human health, including children and infants. This also extends to the animal handlers.

