

Cinnatube®

Dry Cow Teat Sealant

Effective | Proven | Safe | Organic + Conventional

What is Cinnatube

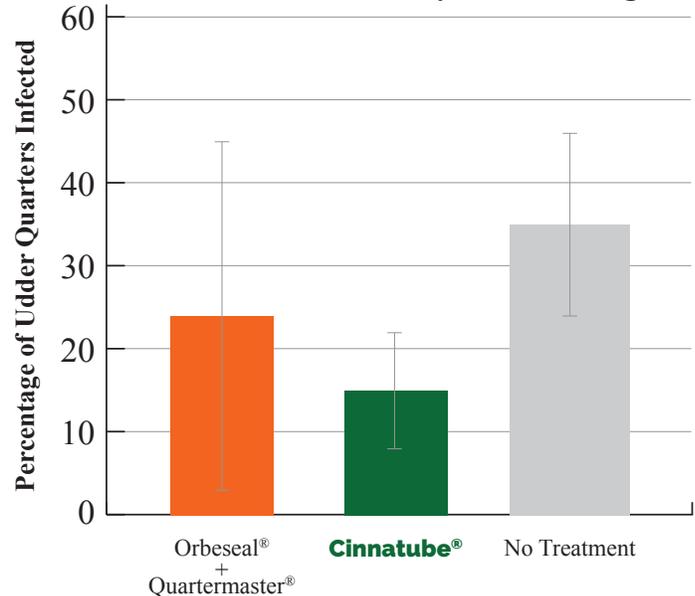
Cinnatube is a natural, non-antibiotic intramammary teat sealant for dairy cows, designed to be used at dry-off. Its viscous paste formula mimics the cow's natural keratin plug, creating a physical barrier that helps prevent bacteria from entering the udder via the teat canal—the primary cause of mastitis.

Cinnatube teat sealant has been found to be as effective as the conventional combination of both a bismuth subnitrate teat sealant and antibiotic [1]. The NMC acknowledges that “every time an animal is exposed to antibiotics, there is some selection of resistant microorganisms, and the use of antibiotics should therefore be minimized as much as possible.” Cinnatube provides a dry cow solution with no drawbacks.

Benefits of Cinnatube

- **Proven effective** time and time again in USA and UK research over 20 years.
- **Convenient single infusion efficacy:** Clinical research—including USDA/SARE-funded trials and studies at North Carolina State University—**found one dose of Cinnatube to be as effective as the traditional two-dose antibiotic/sealant combination (Orbeseal® plus Quartermaster®) in preventing new infections during the dry period.**
- **Non antibiotic & organic-friendly:** Composed entirely of GRAS (Generally Regarded as Safe) listed ingredients and OMRI-approved, making it suitable for organic herds.
- **No milk or meat withdrawal:** Ingredients are all GRAS, there is no withdrawal period when used as instructed.
- **Easy removal:** Easily stripped at calving, will not clog milk filters.
- **No black spot in cheese – No soiled milk receivers**
- Complies with the PMO (exempt from 15r).
- Helps lower the contribution of the dairy industry to the development of antibiotic-resistant bacteria.

Proportion of Quarters With New Infections at 3 to 5 Days Post-calving^[1]



Easy To Use

1. After the final milking (dry-off), each teat is cleaned and disinfected.
2. A Cinnatube syringe containing 9 mL of paste is infused into each teat.
3. The paste forms a physical barrier similar to the natural keratin plug.
4. At calving, manually strip and resume normal milking.

Note: Consult insert for full instructions



The ONLY teat sealant permitted in NOP

“It is a pleasure to see cows freshening without a problem.”

— D. Miller Jr.

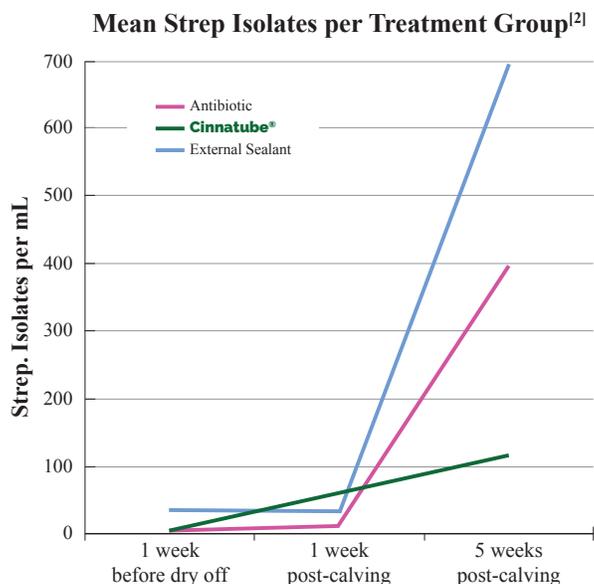
Research & Recognition

Research shows that a single infusion of Cinnatube is as effective as conventional two-infusion antibiotic and sealant combinations (Orbeseal® plus Quartermaster®) in preventing new infections during the dry period. Cinnatube does not require milk withdrawal and is easy to remove from the teat at the end of the dry period. Cinnatube is made entirely from components listed as GRAS. Cinnatube is OMRI listed for use in organic production.

- An independent study [1,2], with no sponsor bias, showed **“Efficacy...similar to that of conventional therapy... no apparent adverse effects.” 14 ± 7% new infection rate at 3 to 5 days post-calving with Cinnatube vs. 23 ± 20% with the conventional gold standard sealant system [Quartermaster® (penicillin-dihydro- streptomycin; Zoetis, Inc) infused first, followed by Orbeseal® (bismuth subnitrate; Zoetis, Inc)].** Journal of Veterinary Dairy Science 97.6 (2014): 3509-3522, Mullen, Anderson, and Washburn: *“Effect of 2 herbal intramammary products on milk quantity and quality compared with conventional and no dry cow therapy.”*
- European trials [3] also reported significant maintenance of low Streptococcus counts, supporting Cinnatube as a viable antibiotic alternative.

The lead researcher emphasized, “Cinnatube is a more advantageous dry cow therapy than the conventional antibiotic plus teat sealant therapy because, in this trial, **Cinnatube had no negative effect on SCC, had a similar cure rate to conventional therapy, and had a lower new infection rate than conventional therapy.**” They also found, “the difference in milk production from the lactation preceding treatment to the lactation following treatment was not significantly different among treatments, but Cinnatube-treated cows had higher milk production in the lactation following treatment whereas conventional-treated cows had lower milk production. Cinnatube has no apparent negative effects on milk production as compared with conventional or no dry cow therapy.”

It was found [2] that cows treated with Cinnatube had similar SCC after calving to the cows receiving the antibiotic or external sealant treatments. Cinnatube significantly reduced the amount of Streptococcus spp. isolates ($P < 0.001$) at week 5 compared with external teat sealant or antibiotic therapy. The University of Aberdeen study [2] concluded that Cinnatube appears to be an alternative to antibiotics for use as dry cow therapy, due to its ability to prevent infections with Streptococcus spp. from occurring up to 5 weeks after calving as compared to conventional antibiotics therapy. It is proposed that since Streptococci are biofilm-forming, the very notable, and extended, influence of Cinnatube in suppressing Streptococcus spp. isolates over antibiotic can be credited to Cinnatube's ability to disrupt biofilm formation and propagation.



Conclusion

Cinnatube is a strong alternative to the traditional sealant plus antibiotic-based dry cow approach, especially considering the global push to reduce antibiotic use in livestock due to resistance concerns.

[1] Mullen, K. A. E., K. L. Anderson, and S. P. Washburn. "Effect of 2 herbal intramammary products on milk quantity and quality compared with conventional and no dry cow therapy." Journal of dairy science 97.6 (2014): 3509-3522.

[2] Green, E. K. S., J. F. Robertson, and E. J. Allan. 2003. The Effect of Different Dry Cow Therapy Treatments on Milk Quality in a Dairy Herd Undergoing Organic Conversion. Proceedings of the British Mastitis Conference p. 127-129.

[3] Mullen, K. A. E. 2013. Evaluation of Herbal Oils in Various Preparations for Treating Mastitis in Dairy Cattle. PhD Dissertation. North Carolina State Univ., Raleigh.

[4] Dufour, Simon, et al. "Non-antimicrobial approaches at drying-off for treating and preventing intramammary infections in dairy cows. Part 1. Meta-analyses of efficacy of using an internal teat sealant without a concomitant antimicrobial treatment." Animal health research reviews 20.1 (2019): 86-97.