



Efficacy of Two Hydrogen Peroxide Teat Disinfectants Against *Staphylococcus aureus* and *Streptococcus agalactiae*

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ABSTRACT

The process of pre-milking udder preparation and post-milking teat disinfection are widely accepted as integral components of a successful mastitis control program. The dairy industry continues to seek efficacious alternatives to iodophore-based post-milking teat disinfectants that have the ability to achieve high efficacy of bactericidal activity while maintaining the integrity of the teat skin condition. This study aims to assess the efficacy of a new Accelerated Hydrogen Peroxide® (AHP®) teat disinfectant against a commonly used industry competitor.

BACKGROUND

With the large number of teat disinfectants available in the United States and Canada, dairy producers are faced with the decision of selecting a product that has a desirable combination of bactericidal ability and promotion of teat skin health for use in their particular herd situation.

STUDY

The purpose of this study was to evaluate the efficacy of a new 0.5% AHP based post-milking teat disinfectant in preventing new IMI under conditions of experimental challenge with *Staphylococcus aureus* and *Streptococcus agalactiae*. During the trial period, immediately following every milking, each teat was challenged by immersion (25mm) in a teat dip-cup of prepared trypticase soy broth suspension of *Strep. agalactiae* and *Staph. aureus*. After the challenge, the bacterial suspension was left to air dry on the teats. The right front and left hind teats were dipped in the test teat disinfectant (0.5% AHP), whereas the right hind and left front teats were dipped in a commercially available 0.5% hydrogen peroxide teat disinfectant as a control. Furthermore, teats were examined once weekly throughout the study period for teat skin condition, teat end roughness, and teat end thickness.

RESULTS

The study revealed that the test teat disinfectant (AHP), was equally effective as the positive control teat disinfectant, as there was no statistically significant difference among the percentage of quarters becoming infected with either challenge pathogen.

Additionally, the experimental product resulted in significantly improved teat skin health compared with the commercially available positive control. There was no significant difference in teat end thickness between the experimental and control products.

CONCLUSION

The efficacy of the experimental hydrogen peroxide based teat disinfectant and the commercially available positive control product for preventing new *Staph. aureus* and *Strep. agalactiae* IMI under experimental challenge conditions did not differ significantly. These findings suggest that the test teat disinfectant provided germicidal activity similar to that of the positive control teat disinfectant. Average teat skin condition scores were significantly improved when the experimental disinfectant was applied.

IMPLICATIONS FOR AHP

AHP has proven cleaning efficacy

- AHP has powerful surfactants, which means it disinfects while it cleans
- High efficacy means low somatic cell counts ensuring high quality milk products

AHP is topically compatible

- AHP has been tested to ensure extra emollient care for cows with delicate skin

AHP is environmentally sustainable

- AHP's active ingredient, hydrogen peroxide, breaks down into water and oxygen leaving no active residues
- AHP products have been inherently proven to be biodegradable indicating that properly maintained septic systems and/or manure pits can handle normal wastes generated from the use of AHP formulations

AHP provides the perfect balance between safety and efficacy

- AHP provides a HMIS rating of "0", the safest allowed by the EPA. Handling the product without the usual personal protective equipment means less cost and downtime

AHP has realistic contact times

- Short contact times ensure surfaces remain wet for the required contact time, providing comfort and confidence that disinfection has occurred



REFERENCE

Bashiri, Dingwell, Leslie & Vernooy (2006). Efficacy of Two Hydrogen Peroxide Teat Disinfectants Against Staphylococcus Aureus and Streptococcus agalactiae Journal of Dairy Science, Vol.89 No.9.