Efficacy and Safety of a Lactic Acid Based Post-Milking Teat Dip

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Introduction
* Topical disinfection of teats with iodine, before and after milking, has been long proven efficacious at reducing new intramammary infections (NMI).
* More recently, concerns of global iodine supply and higher market prices has sparked the demand for different germicidal actives in teat dips, but with equal or better efficacy than traditional iodine products.
* The goal of this study was to determine the clinical efficacy and safety of a lactic acid-based post-milking barrier teat disinfectant (LactiFenceTM) in a commercial dairy.

Materials and Methods
* Study animals: 300 cows from an 8,000 cow California Central Valley dairy.
* Type of study: split herd, non-inferiority positive-control natural exposure field trial.
* Duration of the trial: 3 months.
* Products evaluated: I2 (control barrier, 0.25% iodine, 5% emollients) vs. LactiFence™ by DeLaval (barrier, 3.5% lactic acid; 10% emollients).
* Efficacy evaluation: NMI, based on methodology previously described (Ceballos et al., 2012).
* Teat barrel condition (scale of 1-5), teat end orifice (scale of 1-4) and hyperkeratosis (scale of 1-5) were evaluated at weeks 0, 4, 8 and 12 of the study.

Results
* 5,729 quarter milk samples were collected during weeks 2 to 12. Milk was cultured from 411 I2 and 328 LactiFence™ quarters, based on SCC thresholds.
* Of the cultured samples, 47% I2 and 38% LactiFence™ were culture positive.
* 65 additional samples were obtained from clinical cases.
* The most frequently pathogen isolated was Staphylococcus sp. (65%), followed by non-salivarius Streptococcus (26%).
* LactiFence™ was not inferior to I2 (P=0.09; OR = 0.75; 95% CI = 0.53 - 1.05).
* The mean back-transformed ln SCC were 37,712 cells/mL (I2) and 29,665 cells/mL (LactiFence™) (P=0.85).

Table 1. New intramammary infections by study group (weeks 2 to 12)

Conclusions
* Environmental pathogens were responsible for ~38% NMI in both groups.
* LactiFence™ was non-inferior to the iodine based product and is considered safe in terms of teat condition.

References