CLSolutions, LLC

Phenol based Teat Dip Publications:

- Phenol and phenolic compounds […] have a wide spectrum of antibacterial activity against both Gram-positive and Gram–negative pathogens, including *Mycobacterium bovis*, as well as viruses.
- The results of the study indicate that the experimental teat disinfectant that contained a phenolic combination was effective in preventing new Intra-Mammary Infections (IMI's) caused by *S. uberis, S. Aureus,* coagulase negative *Staphylococcus* species, and *C. Bovis.* Under the conditions of this trial, no chapping or irritation of the teats was observed.

Oliver, S.P., Lewis, M.J., Gillespie, B.E., Ivey, S.J., Coleman, L.H., Almeida, R.A., Fang, W., and K. Lamar. 1999. *Evaluation of a Postmilking Teat Disinfectant Containing a Phenolic Combination for the Prevention of Mastitis in Lactating Dairy Cows.* National Mastitis Council Annual Meeting Proceedings.

- A 0.5% iodine solution showed 2.2 log reduction for S. aureus; 1.1% phenol/phenate.
- A 1.0% iodine solution showed 2.8 log reduction for S. aureus; 1.6% phenol/phenate.
- Beltsville (n=185) and Clarksville (n=100) studies were conducted.
- The incidence of new intermammary infections and clinical mastitis was similar in both groups and with both treatments.

Peters, R.R., Komaragiri, S., Paape, M.J., and L.W. Douglass. 2000. Evaluation of 1.6% *Phenol as a Premilking and Postmilking Teat Dip in Preventing New Bovine Intramamary Infections.* J Dairy Sci. 83:1750-1757.

- Premilking and postmilking teat disinfections with the phenolic combination were significantly more effective in preventing new intermammary infection than was postmilking teat disinfection only.

Oliver, S.P., Lewis, M.J., Gillespie, B.E., Ivey, S.J., Almeida, R.A., Luther, D.A., Johnson, D.L., Lamar, K.C., Moorehead, H.D., and H.H. Dowlen. 2001. *Efficacy of a New Premilking Teat Disinfectant Containing a Phenolic Combination for the Prevention of Mastitis.* J Dairy Sci. 84:1545-1549.

- The concept of teat disinfection after milking dates back to 1916, when dilute pine oil was used in an effort to reduce the spread of *Strep. agalactiae.* At present, there is no U.S. regulatory agency that requires efficacy testing prior to marketing a teat dip product.
- The review paper provides a nice summary of current actives used in pre- and postmilking dips.

Nickerson, S.C. 2001. *Choosing the Best Teat Dip for Mastitis Control and Milk Quality.* NMC-PDPW Milk Quality Conference Proceedings. 43.

- A Patent covers phenol and phenol derivate-based teat dips. Assignee: Sporicidin Company, Rockville, MD.
- Phenol is considered non-toxic and safe at relatively low concentrations as demonstrated by its use in FDA approved over-the-counter drug applications such as throat sprays.

Schattner, R.I. United States Patent No. 6,586,477 B1. 2003.

---

continued on next page...

CLSolutions, LLC
7031 North 16th Street,
Omaha, NE 68112
www.CLSag.com

CLSolutions, LLC

Phenol based Teat Dip Publications cont...

- The EPA has determined that exposure to phenol in drinking water at a concentration of 6 ppM for up to 10 days is not expected to cause any adverse effects in a child. The EPA has determined that a lifetime exposure to 2 ppM phenol in drinking water is not expected to cause any adverse effects.
- The FDA has determined that the phenol concentration in bottled drinking water should not exceed 1 ppB.

Public Health Statement, Phenol CAS # 108-95-2. 2008. Agency for Toxic Substances and Disease Registry, Div. of Toxicology and Environmental Medicine, Dept. Health and Human Services, Public Health Service.

- The National Mastitis subcommittee provided a summary table of current peer review papers.

NMC subcommittee report: *Summary of Peer-Reviewed Publications on Efficacy of Premilking and Postmilking Teat Disinfectants* Published Since 1980. 2008. National Mastitis Council (NMC) Annual Meeting Proceedings. 258-272.

Additional reading

Gibson, H., Sinclair, L.A., Brizuela, C.M., Worton, H.L., and R.G. Protheroe. 2008. Effectiveness of selected premilking teat-cleaning regimes in reducing teat microbial load on commercial dairy farms. Letters in Applied Microbiology. 295-300.

Ingawa, K.H., Adkinson, R.W., and R.H. Gough. 1992. Evaluation of a Gel Teat Cleaning and Sanitizing Compound for Premilking Hygiene. J Dairy Sci. 75:1224-1232.

CLSolutions, LLC
7031 North 16th Street,
Omaha, NE 68112
www.CLSag.com