

The BovLine

From the desk of Angela M. Daniels, DVM Circle H Animal Health LLC/CattleLac Services LLC

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Special NMC edition

This is our first special addition newsletter...

We will publish special addition newsletters in addition to our regular quarterly newsletters. This first special edition is to highlight presentations made at this years' NMC meeting. As announced at the meeting, NMC will no longer be an acronym for the National Mastitis Council. Rather, with 25% of the membership being international, it has truly grown to become an international organization. So the organization is simply NMC—A global organization for mastitis control and milk quality.

The next interesting tidbit is that the most recent push from the NMC and other organizations to lower the PMO SCC limit from 800,000 to 400,000 was defeated. However since the defeat, industry support is building and very soon the U.S. SCC standards are sure to be equal to those of the European Union thus helping U.S. milk more competitive in global markets.

“Quote of the meeting

“A stronger partnership between milk producers and processors to equitably share the costs and benefits of improved milk quality provides an opportunity for expanded marketing and increased dairy product consumption”

Dave Barbano, Cornell

Highlights from the pre-conf symposium: Lactation Mastitis Therapy & its Role in Mastitis Control and Milk Quality

Lactation Therapy & Milk Quality—Pamela Ruegg, Univ Wis: The current dogma regarding treatment of gram positive mastitis is that treatment for Strep ag is both effective at reducing bulk tank SCC and increasing subsequent milk production. In contrast, treatment of Staph aureus infections is neither effective or cost effective. Studies have shown a strong relationship between duration of Staph aureus infection and treatment response, with shorter durations responding more favorably (35% cure for chronic >4 wks duration and 70% cure for acute <2 wks duration); number of quarters infected and treatment response (fewer quarters per cow infected have better responses). The proportion of infections caused by Strep ag and Staph aureus are declining as the percent caused by environmental Streps is increasing. Studies suggest a spontaneous cure rate of nearly 50% but nontreatment of clinicals may lead to relapses later in lactation. There are many unintended consequences of failing to treat gram positive mastitis. Univ of Wis revisited the issue of treating subclinical mastitis. Milk yields were highest in cows that had a spontaneous cure followed by those that were treated and responded followed by those still infected

and not treated followed by those treated and still infected. Although a small trail, this does not support treatment of subclinical gram positive mastitis.

Physiologic Approach to Antibiotic Therapy—Know the Cow, Bug & Drug—Ron Erskine, Mich State: He wrote a good review of the 3 treatment targets of mastitis (milk & milk producing tissues, deep mammary tissue and the entire cow). A review of pharmacokinetic properties of good mammary antibiotic therapy was reviewed. Drugs like penicillin, sulfonamides, aminoglycosides and early-generation cephalosporins to not penetrate the mammary gland when given systemically.

Beyond Antibiotics—What can We Do? - Dawn Morin, Univ of Ill: This paper reviewed the things we are already doing on dairies including fluid therapy, NSAID's, and reviewed some therapies not warranted like massage, hydrotherapy, intramammary infusion of fluids, vitamin injections and homeopathic treatments. One take-home point regarding fluid therapy: A 600kg cow that is mildly dehydrated at 6% needs 36L of fluids to correct the deficit. The use of hypertonic fluids requires a lower fluid dose because its use ability to pull fluid into the blood stream. Administer 4-5mL/kg IV rapidly (<4min). Then administer 5 gallons of water orally via a pump. Skipping this step results in a more severe dehydration.

Reprints



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We have included an index from the NMC proceedings from the 2004 meeting held Jan 31 to Feb 4th in Charlotte, NC. If you would like full reprints of any articles of interest, contact us and we will fax, email or mail these to you! The NMC also prints quality materials for reference and employee training purposes. Materials that are for sale are listed on the NMC website. These materials are priced less for NMC members, so we are willing to order these for you to save you a dime. The newest publication is entitled “Troubleshooting Cleaning Problems in Milking Systems” and includes a five part checklist and documentation that would be a good exercise for management to review on a regular basis as part of a critical control point (CCP) for quality milk production plan.

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Highlights from:

Managing Herd Level Risks

Use of Petrifilm for Mastitis Diagnosis & Treatment Protocols—Pamela Ruegg Univ of Wis: Have you considered adding an on-farm lab? A new tool makes on-farm labs more feasible. The 3M Company has a sample-ready selective culture media marketed for rapid bacteriological isolation and enumeration from food products. Films are available for aerobic, coliforms, and Staph. The Staph films use disks that turn Staph aureus colonies pink for positive identification. Do they work? Trials at the Univ of Wis show a 98% specificity. Additionally, treatment costs on a farm treating presumed gram positive mastitis were \$264 compared to \$90 when a culture and treat protocol was utilized. 100 cases of mastitis resulted in 19.7 days out of the tank, used 33.3 tubes per case, treated 87% of cases and cost \$264 in drugs and milk discard per case versus 7.8, 5.3, 33% and \$90 in 267 cases first cultured using the protocol to the right. The cost of the films is low, I'm checking prices.

Cow-side Mastitis Tests—Possibilities & Limitations—Joern Hamann, Germany: A very thorough paper but my primary interest was the following. He states that it seems very likely that the application of the CMT used during the first days after calving offers the economically supported chance to identify quarters which should be treated. Allen Britten, a vet from WA later gave the benchmark of <16% of fresh heifers & cows should have scores of 3 and up. This protocol is a potential way to lower clinical mastitis rates and herd SCC's.

Cont from bottom Winter Conditions & Teat End health: Why & What to Do—Leo Timms, ISU: I'm somewhat biased but this is a must read paper. In multiple "winter teat dip trials" he found no magic bullet. So rather than spending money on products that will not prevent cracked teat ends, he outlines practical management tools to help prevent and minimize teat end problems which can lead to mastitis.

Highlights from: Managing Risks at the Quarter Level

Dry Period Length: How Short is Long Enough? Kermit Bachman, Univ of FL: He first provides a good history of how the industry arrived at the traditional 60 day dry period. This was a long-standing dogma that went unquestioned for years. He thoroughly outlines the benefits and pitfalls of a 30 day dry period. Research from FL, AZ, WS, CA is on-going but lends itself to a few points of consensus. First, a dry period is needed. Second 30 days looks most reasonable. Next, the gains in this practice are in additional milk yield in the current lactation by milking an additional 30 days which offset the loss in the next lactation due to lower milk curves. The average milk yield loss in the subsequent lactation when moving from 60 to 30 days dry is 0.3 to 6% depending on the trial. Impacts of the milk loss are less with BST usage.

Managing the Cow Environment for Improved Animal Health & Milk Quality—Mike Brouk K State: Most of you have or are adding sprinklers to assist in cooling cows during heat stress periods. K State offers these strategies: 1. Our dry climate allows us to utilize evaporative cooling effectively due to low humidity. 2. Consider the cooling mechanism of the cow, evaporation from the body of a cow is effective. 3. If the environmental temperature exceeds the body temperature of the cow, modification of the air with evaporative cooling may be necessary in conjunction with soaking systems. 4. Increase soaking frequency at feedlane as temperature increases. Soaking will require 0.35 gallon of water per headlock (it takes 1# of water to evaporate 1000 BTU). To achieve this, run water once every 15 minutes when temperatures are 72-82 degrees, once every 10 minutes when temperatures are 83-88 degrees and every 5 minutes when temperatures are above 88 degrees. 5. Provide supplemental airflow of 6-7 mph over feedlanes and 3-3.5 mph over freestalls. Use a large bore nozzle that produces large droplets to effectively wet the cows. Mister nozzles create a mist which does not wet cows as efficiently and actually adds humidity to the air. From my experience, the mister nozzles will easily plug with sand particles in the water, so add filters to the input supply. It is necessary to clean filters with a bleach solution frequently to discourage algae growth.

