The BovLine©

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NMC edition

Highlights from the 46th Annual Meeting

The NMC meeting is one of two meetings that I make efforts to attend each year. In order to keep my Texas Veterinary License, I am required to attend 20 hours of continuing education each year. The two meetings I always attend, the NMC and AABP, are where I feel like I can get the most value for my time and money.

Although there is no licensing agency for you as a dairy farmer that requires continuing education, you owe yourself the opportunity of further education. The NMC is an organization to consider joining. Membership is comprised of dairy farmers, university staff, industry employees and veterinarians. The mission statement is the following: "Provide a forum for education and global exchange of information on milk quality, mastitis and relevant research. Communicate that information to the dairy industry enabling it to control mastitis and improve milk quality."

Whatever the organization may be, not all information comes by way of sitting and listening. I learn a lot from "hallway" time—meeting new people and learning about things they are doing.

I've attached the index of papers presented, if you would like copies of the papers contact me.

Paper by Breg Keefe, et al., Univ Prince Edward Island

Consumer Acceptance of Fluid Milk After Raw Milk Selection Using Bulk Tank Bacteriologic and SCC Criteria

Raw milk quality can influence post-pasteurization milk quality through a variety of mechanisms. Some bacteria found in raw milk may survive pasteurization and could have direct influence on shelf-life through post-pasteurization bacterial growth. Additionally, lipolytic and proteolytic enzymes, which alter milk flavor post-pasteurization, may be liberated by these spore forming bacteria or from bacteria destroyed in pasteurization. Finally, milk with high SCC, has a higher level of inflammatory compounds, including plasmin, which survive pasteurization and can influence shelf life. As a result, many processors offer premium payments for milk of lower bacteria and somatic cell counts. While all this information indicates potential mechanisms for raw milk quality to influence consumer product quality, there is very little direct evidence of an association between raw milk quality and consumer acceptance of fluid milk products.

Amalgamated Dairies Limited (ADL) is a producer-owned cooperative of 230 of the 235 dairy producers in Prince Edward Island, Canada. The cooperative produces a variety of milk products including fluid milk, cheeses, ice cream, butter and evaporated milk. As part of a research program directed at identifying the critical on-farm determinants of raw milk quality, ADL began to receive biweekly total bacteria counts, laboratory pasteurization counts, preliminary incubation counts and coliform counts, as well as weekly somatic cell counts on all herds.

ADL tracked consumer complaint data related to fluid milk quality between the dates of January 2003 and September 2006. Beginning in March of 2005, ADL had enough data on their herds to begin to offer a quality incentive program with approximately 40-50 percent of the producers qualifying. At this time, a separate pick-up route was scheduled and the high quality milk was placed on a designated route and directed toward fluid milk production. The remaining milk, also on a designated route, was further processed into other dairy products.

The percent of consumer complaints during the time of milk sorting compared to the time prior to the procedure dropped by 58 percent ($P<0.05$). There was an apparent 48 percent reduction ($P=0.06$) in the number of complaints related to shelf life. ADL was not willing to provide the incident numbers, only percents.

The results of this field trial validate the experimental data that suggest that milk of lower bacteria count and SCC results in a superior fluid milk product, with greater shelf life. Their goal is not to continue the segregation of milk for designated fluid production, but to begin to identify the critical control points that result in improved consumer acceptance of milk products.

Quality does count. What we do on the farm can directly relate to the consumer experience. With fluid milk consumption decreasing, we cannot afford negative consumer experiences with our product. - AMD

Comparison of Systemic and Intramammary Dry Cow Treatment

Paper by G. Andres Contreras, et al., Mich St. Univ

The non-lactating period is an important time for the udder health in that infections can be either acquired or cleared. Intramammary dry cow therapy is routinely used. The inclusion of systemic antibiotics with intramammary therapy in a previous study gave better cure rates during the dry period. The use of tylosin administered in the dry period has been proposed due to its penetration to the udder tissue. A large commercial dairy farm in Michigan compared three treatments: 1)cephapirin intramammary (Tomorrow, Fort Dodge); 2) tylosin (Tylan, Elanco) intramuscular; 3) cepharpirin intramammary and tylosin intramuscular. All treatments received teat sealant (Orbeseal, Pfizer). Bacteria cure rates for Gram-positive infections was greater for the combination of intramammary and systemic antibiotics than with intramammary antibiotic only. There was no difference between intramammary and systemic antibiotics and systemic antibiotic only or between systemic antibiotic only and intramammary antibiotic only.

Product	#Cures / # Cases—Cure Ratio	Cure %
Tomorrow IMM	40/70	57% a
Tylan IM	58/84	69% ab
Tomorrow IMM + Tylan IM	45/56	80% b

If you feel like your dry cow program could benefit from this approach, please discuss this with me. This is an extra-label use of Tylan. I will need to add this to your prescription and ensure the product properly labeled. - AMD

Prevalence and Etiology of Subclinical Intramammary Infections in Fresh Cows

Paper by Alfonso Lago, et al., Univ MN

The dairy industry recognizes the importance of intramammary infections (IMI) that occur during the dry period and persist into the next lactation. Identifying and eliminating subclinical IMI present at the time of calving could result in milk quality, cow health and production benefits throughout the future lactation. This study summarized the results of the collection of milk from fresh cows in 11 US and Canadian herds.

An infection in a quarter was defined as the isolation of 1 or 2 bacteria types isolated from a milk sample. Samples with 3 or more bacteria types was considered contaminated. An animal was considered infected if 1 or more quarters were infected.

Seventy-two percent of all cows were infected at calving in at least one quarter. Remarkable is that the percentage of the first lactation animals infected was 10 percent higher than that of mature cows. The pattern was present in 9 of the 11 herds. Thirty-seven percent of the quarters from all cows were infected. The parity difference was again seen with heifers having 43 percent of infected quarters compared to 30 percent of cows. Infected cows had an average of 2 infected quarters. The percent of cows having infected quarters was 39, 28, 22 and 11 with respect to 1, 2, 3 and 4 infected quarters.

The high prevalence of IMI in heifers and cows and quarters at parturition suggests that, although important advances have been made to prevent and control dry cow IMI, there is still a significant opportunity for new management tools to be implemented to further reduce IMI at calving. This study will continue to report on the efficacy and cost-benefit of using CMT and culture methods to identify and strategically treat subclinical IMI in fresh cows.

Evaluation of the Method of Infusion of OrbeSeal at Drying Off On the Persistency of the Product After Calving

Paper by Cynthia Miltenburg, et al., Univ of Guelph

Dry cow management during the dry period is an important aspect of maintaining udder health. Orbeseal (Pfizer) is an internal teat sealer that functions as in inert physical barrier in the teat cistern. Research has demonstrated that Orbeseal prevents new intramammary infections in the dry period and reduces the incidence of clinical mastitis in the subsequent lactation.

Concern exists related to the extended persistence of the device after calving and the accumulation of Orbeseal particles in milking equipment. Pfizer mounted an educational effort on proper administration techniques but no formal paper examined the effect of administration techniques. A recent study examined particle recovery in the early postpartum period. It was found that the majority of Orbeseal was discharged by the initial hand stripping, and there was a rapid decline in the particles recovered over the first three days postpartum. Yet, flecks of material were found in subsequent milkings. This study found that there was no difference in rapid verses slow administration; both methods kept the base of the teat occluded during administration. The interesting points in this trial were that a technique to centrifuge milk was initiated so that Orbeseal particles would separate to the bottom and that particles were still recovered 10-16 days in milk. Equally interesting was that 100 percent of the Orbeseal was never recovered; rather the largest amount of Orbeseal recovered was around 50 percent.