



Quality Watch

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Milking Systems Performance Assurance Program

Approximately five years ago, MMPA's Milking Systems Performance Assurance Program (MSPAP) was conceived and developed. The need for the program was identified through member representatives by member request. MMPA members felt the need for an enhanced detailed milking system and milking technique evaluation to be performed on a routine basis. As a result, MMPA Member Representatives, through the leadership of Tom Herremans, developed the Milking Systems Performance Assurance Program. Due to the technical service provided through the program and the high level of training to conduct evaluations, it has taken several years to establish the current program.

The trial program was launched in January 2005, and upon evaluation, MMPA decided to proceed with the program. In 2008, MMPA's MSU Food Systems Fellowship Intern conducted a survey of members on the MSPAP to determine the level of interest and whether or not to continue and expand the program. The overwhelming response of the survey concluded that the program has value and should be expanded. Currently, MMPA has seven member representatives qualified to conduct milking system analysis. We are currently training other member representatives to become milking systems specialists. It takes a minimum of two years of intensive classroom and hands-on training to become proficient in conducting milking system analysis.

The program consists of three different evaluations:

Static Milking System Evaluation

This evaluation is conducted with the milking system in "like milk" mode. The milking system is set up to milk cows, but cows are not actually milked so that the Milking Systems Specialist can perform air flow challenges without adversely affecting the member's milk cows. A typical evaluation may include:

- Pulsator performance
- System vacuum level evaluation across various parts of the milking system
- Vacuum stability and recovery (milk cluster "fall off" test)
- Effective and manual air flow reserve
- Air usage by milking system components such as pulsators, milk cluster vents, vacuum regulators, etc. to determine whether system components are dirty or worn
- Vacuum pump performance
- Milking system leakage

Dynamic Milking System Evaluation

This evaluation is conducted during routine milking. A typical evaluation may include:

- Milk cluster (teat end) vacuum level and stability at a cow's peak milk flow to optimize milking speed while minimizing teat end trauma
- Milk cluster removal from the cow to optimize milk harvest, reduce teat end trauma and cow

discomfort, and maximize parlor throughput

- Udder prep technique and timing as it relates to automated milk cluster removal (member representatives are trained to evaluate udder prep technique and timing for those concerned about teat sanitation and parlor throughput)

CIP Evaluation

This evaluation is in two parts (bulk tank and milking system) and may include:

- Water temperature to assure effective rinses and optimize the cleaning ability of CIP cleaners
- Water amounts to assure effective cleaning without over-using water (saves on heating water and cleaner usage)
- Chemical concentrations of the detergent wash, acid rinse, and sanitize cycles to assure effective cleaning without over-using cleaning products
- Water flow, wash slug, and/or spray pattern evaluation
- Teat dip dilutions for farms purchasing teat dip concentrates

Through consultation with an MMPA Milking Systems Specialist, members can enroll in the program by signing an evaluation agreement. This agreement notes the frequency of each desired evaluation over a 12-month period. For example, a member can contract a CIP evaluation every three months only, or a static evaluation once per year with dynamic evaluations every four months and CIP evaluations every two months. The frequency

Continued on page 13

would have had this information a few years earlier.”

The Kronenmeyers are still working through the devastation caused by the BVD outbreak in their herd. They lost more than a dozen calves before they determined that BVD was present in the herd. It was at that point that they tested all the animals in the herd and culled nearly 30 more to eradicate the disease from the herd.

“We were having trouble raising calves; they were born sluggish and didn’t do well. Several died. Our vet tested one of the calves and found it was infected with BVD,” Jim explains.

Testing on the Kronenmeyer farm revealed that all the infections traced back to one 14-month-old open heifer they had purchased from another farm. The infection passed from the dams to the calves in utero. The dams were not infected because they had been vaccinated.

“Since we got rid of the PI cow and calves, we have not had any other problems,” Jim says. “We now ear-notch any new animals coming into the herd and keep them in quarantine until we get the test results back.”

The Kronenmeyers’ biosecurity measures are in line with the information presented by the MSU researchers. Through the meetings and on-farm visits, Bartlett and Grooms are working to explain the importance of testing all animals and screening any new animals before they enter the herd.

Along with identifying and removing all PI animals from a herd, the MSU researchers are also stressing the need for proper vaccination programs. Grooms says that many producers are not properly vaccinating their animals.

This can lead to the possibility of infections later on.

“We need to improve how people vaccinate their cattle,” he says. “Most producers have programs in place, but they are not good enough to prevent infections. Part of our program is targeted at teaching producers about proper handling and use of BVD vaccines.”

The MSU research team plans to continue the program over the next three years, eventually reaching more than 90 percent of the cattle in the U.P.

In addition to providing funding to support the eradication research and demonstration project, funding for Grooms’ position with an emphasis on cattle disease management was made possible by the Animal Agriculture Initiative (AAI) at MSU. The AAI was established in 1996 as part of the grass-roots-driven Revitalization of Animal Agriculture in Michigan Initiative.

Michigan’s animal agriculture research, teaching and Extension initiative housed at MSU, the AAI is a partnership between MSU, livestock producers and industry organizations, and the Michigan Department of Agriculture and governed by the AAI Coalition. Its objective is to address challenges facing Michigan animal-based agriculture through research and Extension projects.

The Michigan Animal Agriculture Initiative at MSU is vital to the health of the state’s economy. A survey commissioned by the AAI in 2007 reveals that nearly \$22.9 million in annual economic activity can be linked back to the initiative. AAI-funded research adds \$11.5 million annually to the state’s economy, and for every state tax dollar invested in the AAI, the initiative returns \$3.40 in gross state product.

Quality Watch – Continued from page 6

is determined by the member and Milking Systems Specialist when enrolling in the program and can be changed or discontinued at any time without obligation to the member.

The cost of \$100 per evaluation is assessed after the evaluation has been conducted. Static, dynamic, and CIP evaluations are stand-alone evaluations so if a member has all three evaluations performed in the same month, the member will be assessed \$300 that month. Currently, if the member purchases 100 percent of their cleaners, sanitizers and teat dips through the Member Merchandise Program, the cost of the CIP evaluation will be waived (contact the Milking Systems Specialist or the Novi office for details).

We have moved very deliberately on the program to keep field services cost down. We are now able to add more farms to the program. As more member representatives complete milking systems training, this program will be expanded to serve all members who request this service.

If you would like more information or to sign up for the program, please contact your member representative or the Novi office.

