

Western Dairy News

For the West, About the West, From the West

A collaborative effort of Dairy Specialists from



Knowledge to Go Places



How to Avoid a Contagious Mastitis Outbreak Following the Introduction of New Cattle

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By now you've probably heard at least one horror story about a dairy that purchased cattle with some type of contagious mastitis (*Mycoplasma*, *Staph aureus*, or *Strep agalactiae*). The purpose of this article is to share with producers our suggestions for avoiding a contagious mastitis outbreak situation following the purchase of cattle. You may have already purchased one of these pathogens, in which case reading this article can help you to prevent the spread within your herd.

It is seldom possible to sample individual purchased cattle prior to shipment, so we often rely upon a single bulk tank sample from the herd of origin to make decisions about the udder health of cows to be shipped. One must consider the performance of milk cultures, however. False positive tests are uncommon: usually a positive result is truly indicating that infected cows exist within the herd. Positive cow samples will identify animals that are contagious, allowing us to exclude them from the purchase package or to segregate them as soon as they arrive. Positive bulk tank results will alert us to the problem and allow us to make decisions up front about the herd. The problem with **both** of these testing methods is that they are plagued by false negative results. Careful interpretation of negative results is necessary because of the possibility that the negative result is not representing "the Truth" for the following reasons:

- 1) If you do not visit the farm and collect the bulk tank sample yourself, you will be unsure of exactly which cows are represented in the sample.
- 2) A single sample is not sensitive enough to detect infected cows if the dilution factor in the tank is too great.
- 3) Shedding of contagious organisms is not predictable, and infected cows may not be shedding sufficient numbers of bacteria to be detected in the tank on one given day.
- 4) Lab quality will vary, so that some labs could miss a positive result if very few organisms are present on the plate.
- 5) Dry cows and mastitis cows that may be infected will not be represented in the bulk tank.

Based on our experience, it is almost certain that if you have been in the dairy business long enough you will purchase a contagious mastitis organism, regardless of your pre-purchase sampling requirements. Once you realize this fact, **what will you do** before bringing one more load of

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Texas Begins Environmental Certification Program

Joe Pope, Erath Co. Texas Extension Agent

What supporting evidence would you have if someone were to challenge your permit or your right to dairy from an environmental standpoint? It is extremely important for you to have documentation outside of your own required records to prove that you are an environmentally friendly producer.

The Agricultural Producer Certification Options Program (APCO) began last year in Texas as one way of documenting environmental efforts. There are three phases to APCO. The first phase is an on-farm assessment conducted by independent auditors. The second phase is the development and implementation of a Certified Nutrient Management Plan (CNMP). The final phase is an audit to evaluate all aspects of the environmental stewardship program including the implementation of the CNMP's. After a dairy successfully completes all three phases, it is certified. Recertification audits are then conducted annually.

Fifteen pilot dairies have completed their initial assessment, and the comments from them have been very positive. Additional dairies are continuing to sign up for APCO and are currently going through the initial assessment.

In order for you to understand what these outside assessors have documented as strengths and challenges on these dairies, I am including a list of both. As you read through these, you will see most of the challenges are management related, and can easily be addressed with very minimal expense.

Texas Dairy Top 10 Environmental Strengths

1. Records of land application are kept.
2. Regular soil testing is conducted.
3. Good records are kept of the facility's operation and maintenance.
4. Carcasses are picked up in a timely fashion for rendering.
5. Regular manure testing is conducted.
6. Lagoon water level staff is in place with appropriate markings.
7. Producer keeps records of manure containment inspections.
8. Mortality management area (pick-up, storage, or treatment) is screened from view.
9. Buildings are well-managed with good interior maintenance.
10. Lots are scraped frequently.

Texas Dairy Top 10 Environmental Challenges

1. Operation does not have an emergency action plan.
2. Water from the on-site drinking water well is not tested periodically for the presence and concentration of manure constituents.
3. Sharps are not disposed of appropriately.
4. Operation has no nutrient management plan and/or manure management plan.
5. Excessive solids may be accumulating in the manure storages.
6. Leachate is present around silage.

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cattle to your facility? In addition, **what can you do** if you have already (unknowingly) purchased a contagious pathogen? We recommend the following:

- 1) Collect as much information about the source herds as possible before purchase, and avoid herds with history of high SCC (>250,000) or presence of *Mycoplasma* or *Strep ag.*
- 2) Culture all milking cows as soon as possible following arrival, and culture every purchased heifer at calving.
- 3) Avoid commingling purchased cows with the resident herd if possible until culture results are reported (often 7-10 days for *Mycoplasma*). If you must mix cows, try to minimize any potential spread of mastitis by combining the new cows with just one corral of late lactation animals (or whichever pen gets milked just before wash-up).
- 4) Culture the bulk tank, string samples, and hospital pen milk samples on a weekly basis. After 4-6 weeks, if all samples are negative for *Mycoplasma*, the sampling frequency can be reduced to every other week or monthly. Monthly string sampling should be continued for at least 1 year after the expansion. Monthly or weekly samples of hospital milk should be continued indefinitely for most large herds because of the dilution factor.
- 5) Culture all fresh and mastitis cows indefinitely until your herd veterinarian agrees that the threat of contagious pathogens is minimal.
- 6) Train milkers and hospital employees in proper hygiene and milking technique. This includes education about the contagious nature of certain bacteria, and the fact that not all contagious cows will have abnormal milk. They should realize that all milk is considered as potentially dangerous with regard to the spread of mastitis between cows. Milkers that take care of hospital cows should be trained in how to properly disinfect machines between cows if more than one cow will be milked with the same milking unit.
- 7) Have a plan or flow chart for personnel to follow when positive results on the tank, string samples, or individual cows are received from the lab. The best person to help with this plan should be your herd veterinarian. The worst thing that can happen is for a positive result to arrive via fax or email and be met with passive inactivity. In this case you have wasted time and money, and the failure to take immediate action may result in an epidemic of contagious mastitis.

It is very important to pay attention to the milking order when new cows arrive. If a few of the new cows are shedding contagious mastitis organisms while we are waiting for lab results, the machines, milkers, and environment could become contaminated just prior to milking of the hospital pen. Cows in the hospital, which often include early fresh cows, are typically the most susceptible to contracting mastitis, and could potentially become infected if machines are not disinfected properly. **We recommend disinfecting the machines and the floor, and require milkers to change gloves and wash aprons prior to entry of hospital cows.**

In our experience, good milking procedures and treatment procedures in the hospital pen are often overlooked. In a herd that has few contagious pathogens and/or does not routinely purchase animals, this may never become a noticeable problem. In herds that have purchased cattle, however, sooner or later a cow with contagious mastitis will show up in the hospital and spend from 5 days to 3 weeks there as a potential source of new infections. For this reason, we recommend that you review your hospital pen milking and treatment procedures to ensure that the spread of contagious organisms will be minimized.

Avoiding an outbreak of contagious mastitis requires a “multiple hurdles” approach. No single test and no single procedure is sufficient to avoid this calamity. Multiple testing steps are required to assure a good surveillance system. Multiple hygiene, handling, and management procedures are required to minimize spread of these pathogens. Combining a good surveillance with appropriate milking procedures will help you avoid outbreaks and assure high quality milk production. The effort is worth it.

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7. Lots have excessive manure accumulations.
8. Access (human or scavenger) to the mortality management area is not controlled (fencing or sealed container).
9. Grading of the production site does not prevent ponding.
10. Used equipment, construction debris, tall weeds, or other trash is scattered or piled up around the site.

High Risk Challenges

There were only a few “high risk” challenges identified. High risks are defined as: if left alone these conditions pose an imminent threat or result in a negative impact on/to human health, environment, and/or the public’s perception of the industry. Both assessors must agree on the high risk classification. High risk challenges need only appear once to be put into this category. There is no ranking at this point.

These high risk challenges include:

1. Settling basin improperly maintained and solids spilling outside of the containment area.
2. Burial area located outside of the containment area and carcasses not covered.
3. Land application equipment is leaking allowing waste spillage outside of containment area
4. Animal health consumables were disposed of in the manure storage.
5. Mortality area is not well sited in relation to milking parlor and commodity storage area.
6. Mortality management area is not screened from public view. (The fact that this also appeared as a strength, means that a majority of producers are screening mortalities. Because this is a high-risk concern for the program, if one producer does not do this task, it will appear on the high risk list as a challenge.)

Although the APCO program was initially designed specifically for Texas, the list of strengths and challenges can be used for a quick check-up for dairies anywhere in the country.

If you would like to know more about the APCO Program, or if you would like to sign up to participate, you may contact my office (254-965-1460) or Dr. George Alston, Project Coordinator, at 254-485-3201.

Find us on the internet:

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