

New Ideas for An Old Problem

Causes of mastitis can be divided into two general categories: contagious bacteria and environmental bacteria. Contagious organisms generally like to live in the udder and are easily spread from cow to cow whereas the environmental bacteria like to live in the “outside world” like bedding, mud, and manure.

Many dairies have adopted practices that effectively control the contagious germs but a lack of attention in this area invariably leads to high levels in the herd leading to increased numbers of clinical cases, increased culling and increased bulk tank SCC's and bacteria counts. A brief review of current knowledge of contagious mastitis may be helpful to tighten up control practices on your farm.

- Three main contagious organisms: Staph. aureus, Strep. agalactiae, and Mycoplasma sp.
- These organisms survive in the udder and become chronically infected, low-grade mastitis cases. The bacteria multiply in the udder and are shed in very high numbers in the milk. They are spread to other cows during milking via the machine, milker's hands, contaminated towels or other carriers.
- Staph aureus and Mycoplasma can be spread to calves' udders from feeding contaminated mastitis milk.
- Flies can spread Staph aureus and is common in fresh heifers coming in from the pasture.
- Staph aureus can thrive on teat skin and can become a serious issue in the face of poor skin condition, like cracked, chapped skin in the winter.
- Mycoplasma can also cause respiratory infections and can be spread from the lungs to udders either through direct contact or through the blood.
- Mycoplasma outbreaks have been associated with intra-mammary (IMM) therapy which was unsanitary, unorthodox, from multiple dose vials, or with extra-label products such as dexamethazone, penicillin G, or Naxcel. IMM treatment should be with single use tubes that are manufactured and labeled for IMM therapy, partial insertion, following thorough alcohol scrubbing of the teat end. NO EXCEPTIONS!

Identification of contagious organisms by culturing milk is the cornerstone of control programs. In order to intervene with good management, infected cows must be identified. This can involve bulk tank cultures which identify if contagious infections are present in the cows milked into the tank. Since these organisms are often shed in huge numbers, a single infected cow in a herd of 1000 can cause a bulk tank to test positive. This is not always the case and sometimes string cultures are necessary to divide the herd into sub-groups to find a shedding cow.

Individual cows may also be tested for a number of reasons: all mastitis cases, newly purchased animals, fresh cows, fresh heifers, elevated SCC cows.

Occasionally in severe outbreaks, herd cultures are used to determine the infection status of every cow. This is done most often in crisis situations and is very labor intensive and costly.

CONTROL STRATEGIES

- Effective teat dipping, primarily post-milking.
- Careful forestripping cows to stimulate milk let down and ID mastitis cases. Without this step, many early mastitis cases are overlooked.
- Milkers should wear nitrile gloves and keep them clean.
- Use one towel per cow.
- POST-DIP! (not post-spray!) Use a proven product, such as 1% iodine, with good skin conditioner levels.
- Dry cow therapy is recommended. In exceptionally well-managed herds with very low infection rates, or in organic herds producers do survive without it.
- Either do not purchase replacement animals or be very careful when you do and screen all incoming animals.
- Identify, tag or leg band, and segregate all Staph aureus cows so they can either be milked last or with a designated unit.
- Mycoplasma is often best controlled by aggressive vigilance and culling positives when they are found before they infect others.
- Routine cultures of bulk tanks, fresh pens, hospital pens, and mastitis cows are required to avoid a major outbreak. Many large outbreaks were not sudden, they simply were not identified until the problem was large.
- Do not feed mastitis/waste milk to calves without first pasteurizing it.