

Prototheca mastitis

Description:

1. An achlorophytic colorless algae that causes an **untreatable** mastitis. Udder infections are chronic, **clinical, and subclinical**, and cause high somatic cell counts (SCC).
2. **Contagious** through milk and manure: once a critical number of infections exists in a herd, infected cows become the main source of transmission during milking and in bedding.
3. Cows cultured positive should be **culled** to protect the rest of the herd.
4. **Prototheca** is spread from cow to cow through: **1. Milk:** on milkers hands, milking equipment, and bedding. **2. Manure:** contaminated bedding and recycled bedding.

Detection:

1. Dairies should routinely submit milk samples from **bulk tanks** and cows with **clinical mastitis** to the Valley Veterinarians milk quality lab.
2. **Prototheca** is detected on blood agar plates used to screen clinical cows for all mastitis agents except *Mycoplasma*.
3. All bulk tanks and string samples are plated on special **Prototheca** isolation agar in addition to blood agar and *Mycoplasma* isolation agar.
4. Response to bulk tanks culturing positive to **Prototheca**: **1. Speciation** at a specialty lab: *Prototheca zopfii* genotype 2 is the most common species in outbreaks. **2. String** samples for the dairy are cultured.
5. Next it must be decided by the lab and the dairy whether the herd has a **Prototheca** problem:
 1. Clinical mastitis cows are being found positive for **Prototheca**.
 2. The herd has a high SCC in the absence of positives: clinicals and subclinicals are being missed.

Control:

1. In an outbreak, **all cows in positive strings must be cultured**, and positive cows culled. The **infected cows with abnormal milk and normal milk** are the main source of transmission.
2. The milk barn must set up protocols to control contagious mastitis:
 1. **Single-use paper towels** to wipe off teat dip before each milking.
 2. The proper use of effective teat dips.
 3. Milkers wear **gloves** and clean them with iodine sanitizer in **drop hoses**. (Between every single cow when milking the hospital.)
 4. Every quarter is treated at dry-off.
 5. **Effective CIP** after every milk shift to ensure contagious mastitis is removed from the liners: all **LPC** counts should be **<100**.