Penn State Extension

Dairy Farm Milk Quality

Why Culture?

"On- Farm" Milk culturing is a tool that is available to dairy producers to help reduce costs related to Mastitis.

What is Mastitis? Mastitis is an inflammation of the mammary gland and is prevalent in dairy herds around the world. Mastitis can be caused by a wide range of bacterial pathogens.

Cost of Mastitis to the Farm: Clinical mastitis is one of the most costly diseases affecting the dairy industry, with recent estimates suggesting each case associated with a $231-$289 loss. Producers suffer economic loss through reduced production, discarded milk, veterinarian services, culling cows, and treatment use.

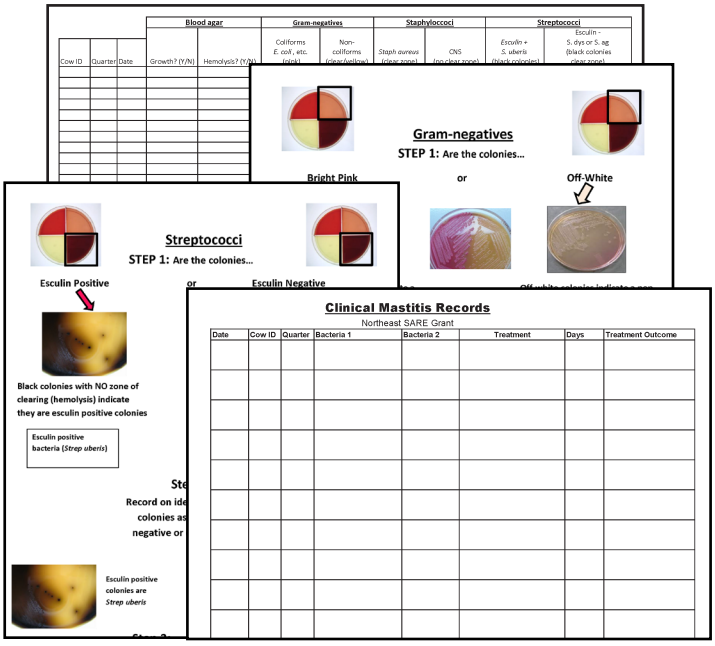
Use of Antibiotics: Mastitis is associated with the most frequent antibiotic use in dairy cows. Antibiotics are frequently used to treat clinical mastitis, however often times antibiotics are either ineffective or not needed to treat the disease. Producers that use unnecessary antibiotics lose profit due to discarded milk and can contribute to antibiotic resistance.

Additional Resources

Identification manuals

Treatment Records

http://extension.psu.edu/animals/dairy/health



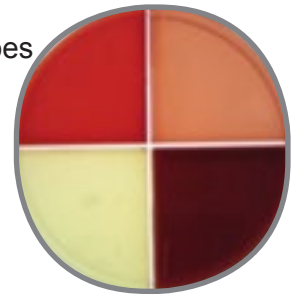
How can Milk Culturing Help? Results from one study found 10 to 40% of cultures from clinical mastitis showed no growth following culturing. Cultures that show no bacterial growth require no treatment. Are you making educated treatment decisions?

How Do I preform the Culture?

1. Collect aseptic milk sample
2. Label bottom of plate with cow ID, Quarter and date
3. Using sterile swab make a zig zag mark with milk on each quadrant of the plate
4. Incubate for 24 hrs at 95 degrees F
5. Read and record bacteria results
6. Properly dispose of infected culture plate using bleach and plastic bags

What Do I need?

- ✔ Incubator
- ✔ Thermometer
- ✔ Sterile Milk Sample Tubes
- ✔ Sterile Swabs
- ✔ Alcohol pads
- ✔ Milking gloves
- ✔ Zip Lock Baggies
- ✔ Bleach
- ✔ Paper Towels
- ✔ Teat Dip
- ✔ Sharpie Marker
- ✔ PSU Quad Plates



Where do I get the PSU Quad Plates?

PSU Veterinary Science/
Animal Diagnostics Lab
Hannah Lysczek
100 Orchard Rd
University Park, PA
Ph: 814-863-6710
Email: hrm5000@psu.edu

Costs:
Up to 20 plates - $2.50/each
21-50 plates - $2.25/each
50 or more plates - $2.00/ each

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