Developing a Milk Quality Program for a Dairy Herd

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Introduction
- Mastitis incurs greatest cost of any disease on dairies
- Port-Haven Dairy’s Mycoplasma outbreak and less than ideal somatic cell count levels called for new mastitis treatment and prevention program

Objective
- Create a milk quality profile of 230 cow herd
- Develop focused prevention and treatment program for prevalent mastitis organisms
- Establish immediate and long term udder health goals

Materials and Methods
Herd Sampling
- Monthly DHIA SCC data used to select cows requiring further evaluation
- Following CMT paddle testing of individual quarters, aseptic milk samples taken from CMT+ (high SCC) quarters and clinical mastitis cases
- Milk samples cultured on sheep blood agar, incubated for 48 hours
- Organisms analyzed visually, identified with subsequent tests
- Antibiotic sensitivity test ran for organisms found

Mycoplasma Sampling
- Composite milk samples from each fresh cow cultured on mycoplasma agar

Further Evaluation
- Visual evaluation of barn environment, milking procedures
- Teat end scoring of entire milking herd

Results
- Staphylococcus aureus
  - 8 positive
- Environmental Species
  - 6 Streptococcus
  - 3 E. coli positive
  - 1 yeast positive
  - 30 Skin staph
- Mycoplasma
  - 0 positive

Sample of Herd Culture Results

Staph aureus Culture
Scoring Teat Ends
High Group Lactating Barn

Somatic Cell Count Data Used to Isolate Problem Cows

New Infections Chronic Infections

No Infection Cured Infections

CMT Paddle Testing Collecting Milk Sample Swabbing Blood Agar

Teat End Scoring System

Degree of hyperkeratosis or callousing

0
1
2
3
4
none smooth ring rough ring cracked rough ring

Barn Environment
- 67 square feet/lactating cow
- Sawdust Compost Bed-Pac
- Stirred 2x/day

Antibiotic Sensitivity
- Figure 1

Environmental Species

- Strep
- E. coli positive
- Cell count levels called for mastitis treatment and prevention program

Conclusion
- Immediate Herd Goal: eliminate mycoplasma threats, enhance milking practices, keep bulk tank SCC below 300,000
- Long-term Herd Goal: increase square footage per cow to decrease environmental organisms and SCC
- Environmental Streptococcus and skin Staphylococcus prevalent mastitis organisms in herd
- Cull or treat Staph aureus cows Pursue, Spectramast, or Cefa-lak 5-8 days
- Test bulk tank sample for mycoplasma, cull myco positive cows
- Maintain consistent, proper milking procedures and clean, dry barn environment

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