



**AABP GUIDELINES FOR PRACTICING VETERINARIANS
PROVIDING MILK QUALITY AND MASTITIS CONTROL
PROGRAM SERVICES TO DAIRY CATTLE**

**GUIDELINES FOR THE
NOVICE MILK QUALITY
SERVICE PROVIDER**

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A. MONITORING UDDER HEALTH

1. SCREENING TEST INFORMATION

a. Body of Knowledge Necessary

- Understand goals, regulatory requirements and producer financial incentives associated with Bulk Tank Somatic Cell Counts.
- Understand the relationship between linear score and somatic cell count and how to interpret a threshold used to define subclinical mastitis in individual animals.
- Understand how total bacterial counts are used to regulate milk quality.

b. Capabilities Needed

- Ability to retrieve and interpret milk quality tests from individual animals and co-mingled milk.
- Ability to interpret individual animal infection status based on individual cow SCC data.
- Be able to explain to a dairy producer the rationale and interpretation of bulk tank milk cultures.

2. MILK QUALITY REGULATIONS

a. Body of Knowledge Necessary

- Understand what requirements and regulations exist for salable milk in the U.S. or Canada.
- Access to resources and information regarding applicable regulations for production of milk such as the Pasteurized Milk Ordinance (PMO).



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- Familiarity with applicable organic program regulations.

b. Capabilities Needed

- Network with local processor representatives, and state/federal agencies in your practice area.

3. INDIVIDUAL FARM GOAL SETTING

a. Body of Knowledge Necessary

- Understand how milk quality goals lead to enhanced animal welfare, increased efficiency and increased farm profitability
- Ability to contribute as a team member in specific, measurable, achievable, relevant and time-bound (SMART) milk quality goal implementation.

b. Capabilities Needed

- Ability to connect with owner/manager/decision maker.
- Access and understanding of available farm milk quality records.
- Ability to develop a team of appropriate advisors/experts.
- Ability to effectively communicate with milking technicians and other farm workers who impact milk quality.

B. MASTITIS DETECTION AND DIAGNOSIS

a. Body of Knowledge Necessary

- Be able to define mastitis, and able to differentiate between clinical or subclinical case presentations and definitions of inflammation versus intramammary infection.
- Ability to differentiate the severity of clinical mastitis between mild (severity 1), moderate (severity 2) and severe (severity 3).
- Knowledge of what a California Mastitis

Test (CMT) is used for, the supplies needed to perform one, and proper test technique.

- Knowledge of aseptic techniques for milk sample collection and culturing.
- Understanding of NMC procedures for mastitis microbiology.
- Knowledge of when to submit individual samples vs. co-mingled milk samples.
- Understanding of requirements for proper storage of aseptically collected milk samples.
- Knowledge of options for on-farm culture set-ups and their pros and cons compared to using a milk quality laboratory.
- Knowledge of how mastitis events, culture events, and culture results should be recorded in herd management record system.

b. Capabilities Needed

- Ability to perform and interpret a CMT.
- Ability to aseptically collect a milk sample and submit to a milk quality laboratory for culture.
- Ability to perform a complete physical examination to identify clinical signs of mastitis including performing severity scoring.
- Ability to perform and instruct clients on aseptic collection of milk.
 - Quarter samples
 - Composite samples
 - Co-mingled milk samples from on-farm storage containers such as bulk tanks, milk silos, or tankers
- Be able to hand strip and assess clinical appearance of milk from individual quarters.



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C. TREATMENT OF MASTITIS**1. DRY COWS****a. Body of Knowledge Necessary**

- Understand risk factors associated with the development of new intramammary infections (NIMI) during the dry period.
- Understand pharmacology of approved intramammary antibiotics labeled for use in dry cows.
- Knowledge of milk and meat withholding times after application of dry cow antibiotics.
- Familiarity with internal and external teat sealants available for use in dry cows.

b. Capabilities Needed

- Be able to ensure hygienic administration of intramammary products.
- Ability to assess if blanket or selective dry cow therapy is recommended.
- Ability to educate clients about timing and methods of dry cow therapy.
- Ability to aseptically infuse antibiotics into mammary gland quarters.
- Ability to advise about appropriate storage and labeling of dry cow antibiotics between uses and during use.
- Ability to properly administer and remove teat sealants.
- Ability to record and identify treated cows to reduce risks of residues in meat and milk.

2. LACTATING COWS**a. Body of Knowledge Necessary**

- Be aware of approved antibiotic products available to your clients.
- Understand proper on-farm storage and on-farm labeling regulations for approved mastitis treatments.

- Understand when and how to provide supportive care to ill cows in accordance with appropriate regulatory guidelines for extra-label drug usage.

b. Capabilities Needed

- Be able to train farm workers and farmers on aseptic techniques necessary to administer IMM antibiotics.
- Advise farmers on prevention of residues
- Perform and be able to train farm workers on common treatment techniques.
- Complete appropriate documents keeping clients compliant with quality assurance programs (such as FARM or ProAction) in which they participate.

3. RECORD KEEPING AND PREVENTION OF ANTIBIOTIC RESIDUES IN MILK AND MEAT**a. Body of Knowledge Necessary**

- Be knowledgeable of treatment record requirements.
- Understand applicable regulatory requirements necessary to maintain a valid veterinarian-client-patient relationship (VCPR).
- Knowledge of milk and meat withholding periods for approved drugs.
- Capabilities of milk and meat residue tests for detection of antibiotic residues.
- Knowledge of requirements of milk and meat quality assurance programs (such as FARM [U.S.] or ProAction [Canada]).
- Understand and apply appropriate regulatory requirements for prescription and extra-label usage of drugs.
- Awareness of how to access the Food Animal Residue Avoidance Databank (FARAD) database.



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- Understand recording codes used in various dairy management software.

b. Capabilities Needed

- Ability to coach farm workers on proper identification and recording of all treated animals.
- Ability to inspect on-farm drug storage for regulatory compliance.
- Ability to train farm personnel on how to use and interpret drug residue tests.

D. PREVENTION OF MASTITIS

1. THE COW AND HER ENVIRONMENT

a. Body of Knowledge Necessary

- Understand the disease process of intramammary infections in cattle.
- Understand the role of the cow's immune system in protecting the mammary gland from infection.
- Be familiar with appropriate housing and space requirements for replacement, lactating and dry cows.
- Understand the role of pre- and post-milking teat sanitizing in relation to environmental risk factors.
- Knowledge of standardized hygiene scoring of cows.
- Working knowledge of AABP recommendations regarding mastitis vaccination programs.

b. Capabilities Needed

- Ability to recommend appropriate housing, bedding, and space requirements for various classes of dairy animals to minimize environmental exposure to mastitis pathogens.
- Interpret cow environment and make recommendations for best management

practices for hygiene suitable for bedding and/or stall type/pack barns.

- Ability to perform standardized hygiene scoring on a representative sample of cows in the herd.
- Ability to assess dairy housing cleanliness
- Assess the environment where dry cow products are administered.

2. THE MILKING ROUTINE

a. Body of Knowledge Necessary

- Describe the proper steps to prepare one cow for machine milking and their rationale.
- Understand the physiology of milk let-down.
- Familiarity with the application and removal of milking units both manually and with automatic milking systems.
- Familiarity with available pre- and post-milking teat disinfection options.

b. Capabilities Needed

- Ability to teach good milking management practices to promote quality milk products
- Ability to assess and evaluate effectiveness of the milking routines or automatic milking system.

3. THE MILKING EQUIPMENT

a. Body of Knowledge Necessary

- Understand the basic layout and components of the milking system and how milk flows from the teat cup to the on-farm storage.
- Understand the basic process of how system vacuum is created, how it is controlled, and how it is measured in a system.
- Understand the role of effective pulsation cycles to maintain teat health.
- Role of milking equipment as a source of



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abnormal milk quality factors and as a means of spread of mastitis pathogens.

- Be aware of the impact of proper equipment function and maintenance on teat health.

b. Capabilities Needed

- Be able to perform a visual inspection of key components of a milking system.
- Explain to milk harvest technicians how a milking system operates and the basic

principles involved in the machine harvesting of milk.

- Assess cow behavior during the milking process, observe for flinching, stepping, or kicking that may be related to milking equipment performance.
- Evaluate teat tissue health and recognize abnormal teat health conditions associated with milking equipment function.

