

## CALIFORNIA MASTITIS TEST (CMT)

### 1. PURPOSE

---

The California Mastitis Test (CMT) is a diagnostic tool to aid in the quick diagnosis of mastitis in dairy cows, and for an udder health management program.

The CMT is performed to;

- Detect the presence of subclinical infections at the beginning of or during lactation as part of an udder health management program.
- Additional diagnostics for cows with clinical signs of Mastitis.

### 2. RESPONSIBILITY

---

- 2.1 Trained full time and casual staff
- 2.2 Lead Technician, Dairy Herd Manager
- 2.3 Veterinarian

### 3. GENERAL

---

- 3.1 The CMT will only trigger a visible reaction with a concentration of 400,000 cells/ml or more.
- 3.2 Mastitic milk tends to gel when tested by the CMT procedure. The degree of gelling indicates the presence and severity of mastitis. The change in colour indicates the pH variation of the milk and therefore, the level of inflammation.
- 3.3 If CMT shows a positive mastitis reaction, as determined by consulting the chart in this document, consult with the Lead Technician so that the nature of treatment can be determined.

### 4. MATERIAL

---

- 4.1 Stripping cup
- 4.2 CMT paddle
- 4.3 Reagent
- 4.4 Gloves

### 5. PROCEDURES

---

- 5.1 Wear Gloves.
- 5.2 Prepare the cow for milking as per [SOP DC-605: Preparing Cow for Milking](#).

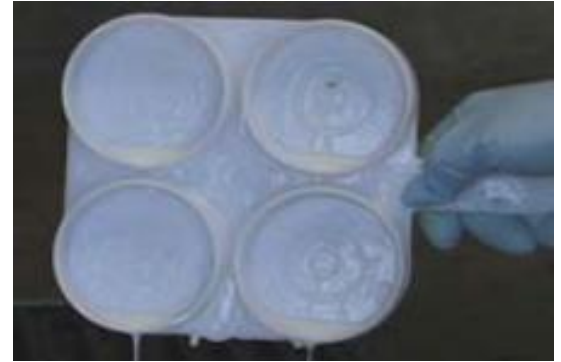
5.3 Collecting milk into the CMT paddle:

- 5.3.1 After discarding the first stream of milk, draw the next milk into the shallow cups on the paddle, keeping the quarters separate.
- 5.3.2 Always assume the same position when holding the paddle under the udder to keep track of the quarters when interpreting results.



**CALIFORNIA MASTITIS TEST (CMT)****5.4 Drain Excess milk:**

- 5.4.1 The ideal amount of milk is that which remains in the cup when the paddle is tilted to an almost vertical position, as shown.

**5.5 Add an equal amount of the reacting solution.**

- 5.5.1 Form pools of milk in cups, as shown, by tilting paddle.  
5.5.2 Squirt test solution over milk. Avoid making bubbles.  
5.5.3 Proportion of solution to milk should be at least one to one.





**5.6 Mix the reagent and milk:**

- 5.6.1 Gently rotate the paddle in horizontal plane, swirling the mixture for 10-30 seconds.  
5.6.2 Positive reactions occur and can be graded during this rotary motion.

**5.7 Refer to **Interpretation of Results** on page 3.**

## CALIFORNIA MASTITIS TEST (CMT)

### 6. INTERPRETATION OF RESULTS

	Score	Meaning	Description of reaction	Individual Quarter Sample	Bucket Milk Sample
	N	<b>Negative</b>	Mixture remains liquid. No slime or gel form. It can drip out of the paddle well.	No Mastitis	No Mastitis
	T	<b>Trace</b>	Mixture becomes slimy or gel like. It's seen to best advantage by tipping paddle back and forth, observing mixture as it flows over the bottom of cups.	Trace of mastitis	Mastitis in one or more quarters
	1	<b>Weak Positive</b>	Mixture distinctly forms a gel.	Mastitis	Define mastitis - Check quarters
	2	<b>Distinct Positive</b>	Mixture thickens immediately, tends to form jelly. Swirling cup moves mixture in toward center exposing outer edges of the cup.	Mastitis	Serious Mastitis – Check quarters

- Record the CMT results in the log book.
- Report any positive results to the lead technician or dairy herd supervisor. Positive quarters will be sampled and cultured by trained staff. Refer to [SOP DC-616: Milk Culturing](#).
- Milk the cow as per [SOP DC-609: Milking Pail Cows in Tie Stall](#) and [DC-610: Milking Pail Cow in Box Stall](#).

### 1 REFERENCES

Canadian Bovine Mastitis Research Network. *The California Mastitis Test (CMT)*. Retrieved from [http://www.medvet.umontreal.ca/rcrmb/dynamiques/PDF\\_AN/Toolbox/Factsheets/CMTProENG.pdf](http://www.medvet.umontreal.ca/rcrmb/dynamiques/PDF_AN/Toolbox/Factsheets/CMTProENG.pdf)

Rhinehart Developpement Corp.: Dairy Research Product, Inc. *Original CMT California Test*. Retrieved from <http://www.syrvetcanada.ca/img/product/description/instruction%20bilingue%20CMT.pdf>

#### Document Status and Revision History

DATE	PREVIOUS VERSION	NEW VERSION
7-Feb-2018	Revision# 01 (New)	MAC Campus FACC approved