

RAPID SCREENING TEST FOR MASTITIS

CMT-TEST

(CALIFORNIA MASTITIS TEST)

Milk normally contains a number of living cells called somatic cells. These cells can originate from the blood or from the udder gland itself.

In a normal healthy udder, the cell count is under 250,000/ml. When the udder is damaged or irritated, i.e. wrong milking technique, faulty milk machine or presence of infection, the cell number will increase rapidly.

This makes the somatic cell count a reliable indication of udder health. Therefore milk with a high cell count indicates the cow has mastitis and you will have

- poor quality milk
- lower production
- expense of treatment

Cows with mastitis are often culled from the milking herd.

EXCEPTION: Right after calving and also when the cow is entering the dry period, you will find a uniform increase of cells in the milk from all four quarters.

The CMT test is an inexpensive and proven method of measuring somatic cell counts.

The more cells present, the more the CMT fluid will show a positive reaction.

Items needed include:

1. Test paddle with four small plates
(one for each quarter)
2. Bottle with test reagent
3. Records for a written report of results



WHEN SHOULD THE CMT-TEST BE USED?

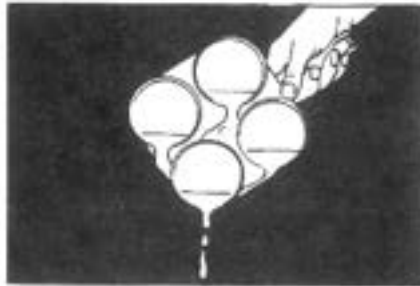
WHEN	ACTION
<p>Regular monthly checks to help find any signs of mastitis. (Results kept in booklet.)</p>	<p>Cell count changed, then start preventive treatment i.e. exam milking machinery.</p>
<p>Examination of cows with mastitis, or cows with low quality and quantity of milk.</p>	<ul style="list-style-type: none"> • Do not use infected milk • Increase or change treatment
<p>When purchasing or selling cows.</p>	<p>With a positive CMT, cows should not be either bought or sold.</p>
<p>10 - 14 days before dry period.</p>	<p>Positive cows should be treated. Cows should be dried.</p>
<p>8 days after calving.</p>	<p>Positive cows should be treated.</p>
<p>The cow's udder should be tested again after treatment.</p>	<p>If cow's udder shows positive after treatment, treatment should be re-evaluated.</p>

APPLYING THE CMT TEST

The test liquid must be protected from heat and cold and sunlight. Should it become cloudy, it can be made usable by heating slightly. The time used for each cow is about one minute, using about 12 ml. test liquid.



1. Squeeze a small amount of milk into each compartment of the test plate. Avoid frothing the milk.



2. Tip test plate to bring milk quantity to about 2 ml. Use 2 ml. line as a guide.

3. The 3 ml. test liquid is pumped into each compartment. Dosage pump gives this amount.



4. Rotate the test plate thus mixing test liquid and milk. Change in mixture indicates an increase in cell count.



5. Test plate is rinsed in water and is then re-usable.

EVALUATION OF CMT TEST RESULTS



NEGATIVE

Indicates cell count below 250,000 cells/ml. Mixture of milk and test reagent remains uniform



WEAK POSITIVE

Indicates 400,000 to 1,500,000 cells/ml. The mixture turns mucous. One can see a slight reaction in the milk and test liquid indicating some mastitis with lowered milk production.



POSITIVE

Indicates up to 800,000 to 5,000,000 cells/ml. The milk and test liquid mixture has visible slime or mucous with a large reduction in milk yield.

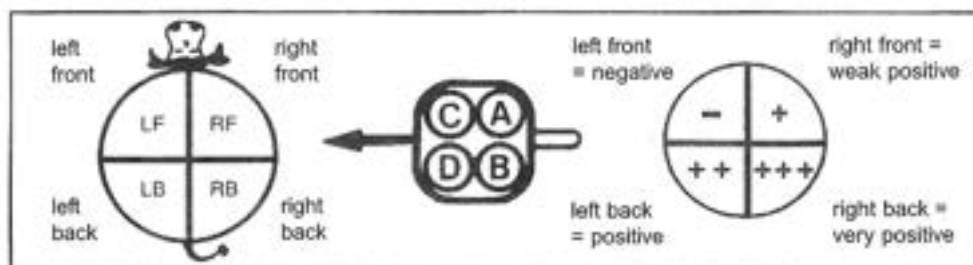


HIGH POSITIVE

The mixture turns into thick mucous, almost a jelly, and will no longer be liquid, lumps will develop. Cell content will be much increased (mostly about 5 million cells/ml.). Milk yield will decrease considerably.

If strong reactions are obvious (e.g. very thick gel-like solution), suspect a very infected quarter requiring veterinary attention. Please consult your veterinarian.

RECORDING TEST RESULTS



By keeping accurate records for each cow's quarters, we will have constant information on the state of the cow's udder health. Treatment records should also be kept in the record.

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REACTION	REACTION PICTURE	
	SHAKEN	WHEN TIPPED OUT

Negative
-



The mixture of milk and test liquid stays unchanged and can easily be shaken.

Weak Positive
+



The mixture is slightly mucous but can still be shaken.

Positive
++



With movement of the mixture an unmistakable mucous formation can be seen. It is still possible to tip a smaller portion of the mixture out.

Very Positive
+++



A jelly-like, mucous consistency is formed, and it is difficult to shake the mixture. It is no longer possible to tip any surplus liquid out.