Troubleshooting a Mastitis Problem Herd

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Do you have a herd mastitis problem? If your bulk tank SCC is 750,000 or greater, you are in danger of losing your milk market. Since mastitis can be caused by man, machine, and the cows' environment, all items must be checked to determine its cause.

Using a bulk tank report

One of the most accurate methods of diagnosing problems is with a bulk tank analysis, but before any drastic measures are taken, a second bulk tank sample should be taken -- several days apart. A sample report is included (Figure 1.) for reference only, and accompanying explanations (Table 1 and Table 2.) are provided for your use in determining the problem and how to solve it.

Table 1. This table will aid In the interpretation of your bulk tank analysis. Good management procedures are probably being practiced when results are within the normal levels. Hygiene procedures should be evaluated when results exceed these levels.

Contagious Bacteria	Normal Levels	Moderate Levels	High Levels	Control
Staphylococcus (coagulase +)	O	100-400 >	500	Teat dipping and dry cow therapy
Streptococcus agalactiae	O	100-5000 >	6000	Teat dipping and dry cow therapy
Streptococcus dysgalactiae	< 500	500-1000 >	1000	Teat dipping and dry cow therapy
Corynebactenum < bovis	500	500-1000 >	1000	Teat dipping and dry cow therapy
Mycoplasma	Negative	Positive	Positive	Teat dipping and culling

Environmental Bacteria	Normal Levels	Moderate Levels	High Levels	Control
Streptococcus uberis	< 500	500-1000 >	1000	Milk clean dry udders, pre-dip*
Coliforms	< 500	500-1000 >	1000	Milk clean dry udders pre-dip*
Misc. (Bacillus, Pseudomonas, etc.)	< 300	400-1000 >	1000	Milk clean dry udders pre-dip*
Staphylococcus (coagulase -)	500	600-1000 >	1000	Milk clean dry udders pre-dip*

Milk Quality Tests	Normal	Medium	High	Indicator of:
Lab. Pasteurized Count	< 1000	1500 >	1500	Dirty milking equipment - check wash-up procedures
Somatic Cell Count (X 1000)	200	300-400 >	500	Udder health in the herd.
Standard Plate Count	< 10,000	20-40,000	750,000	# of visible bacteria in milk sample
P.I. Count	< 10,000	20-40,000	750,000	Milk-keeping properties and sanitation on dairy.

*Remember pre-dipping has been proven only on clean, dry udders.

Table 2. Bulk tank bacterial types, with common sources and modes of spread and control therapy.			
Contagious Bacteria	Source	Means of Spread	Control
Staphylococcus (coagulase +) aureus	Infected udders, teat lesions, udder skin, etc.	Cow to cow by contaminated udder wash rags, teat cups, hands, etc.	Teat dipping and dry cow therapy.
Streptococcus agalactiae (causes high somatic cell counts)	Infected udders	Cow to cow by contaminated udder wash rags, teat cups, hands, etc.	Teat dipping and dry cow therapy.
Streptococcus dysgalatiae	Infected udders, feces,	Cow to cow by contaminated	Teat dipping and dry cow

	skin	udder wash rags, teat cups, hands, etc.	therapy cow therapy; milk clean, dry udders.
Corynebacterium bovis	Teat canal	Inhabits the teat canal. Appears in tank milk when cows are not prestripped.	Teat dipping and dry cow therapy.
Mycoplasma	Infected udders, contaminated antibiotic mixes in bottles	Cow to cow by contaminated udder wash rags, teat cups, hands, etc.	Teat dipping use commercial tubes, not Bottle mixes. Once contracted, it is not curable.

Environmental Bacteria	Source	Means of Spread	Control
Streptococcus uberis	Numerous locations on infected udders and on the cow; hair, lips, vagina, feces,etc., as well as bedding, muddy lots, etc.	Environment to cow by: wet, dirty lots and bedding;milking wet teats; poor udderpreparation	Milk clean, dry udders,pre-dippingmay help.
Coliforms	Manure, bedding, green sawdust	Environment to cow by: wet, dirty lots and bedding; milking wet teats; poor udder preparation	Milk clean,dry udders, pre-dipping may help.
Bacillus, Pseudomonas, etc.	Hoses, dirty water, milk, manure, bedding, etc.	Environment to cow by: wet, dirty lots and bedding; miking wet teats; poor udder preparation	Milk clean, dry udders, pre-dipping may help, replace wash hoses.
Staphylococcus spp.: (coagulase -)	Normal inhabitant of udder skin	Poor udder preparation, milking wet udders and teats	Milk clean, dry udders.

epidermidis, Hyicus micrococcus, etc.			

Figure 1. Record your bulk tank milk sample analysis and file for future reference.

Contagious Bacteria:		Record of Lab Results	Ideal Range
Staphyoccus			
	(Coagulase Positive)	_____	0
Streptococcus			
	agalactiae	_____	0
	dysgalactiae	_____	0 – 500
Corynebacterium		_____	0 – 500
Mycoplasma (7 day test)		_____	Negative

Environmental Bacteria:		Record of Lab Results	Ideal Range
Streptococcus uberis		_____	0 – 500
Coliforms		_____	0 – 500
Bacillus		_____	0 - 500
Other:			
	Staphyloccus (Coagulase Negative)	_____	0 – 500

Milk Quality Tests :	Record of Lab Results	Ideal Range
Lab Pasteurized Count	_____	0 - 1,000
Somatic Cell Count	_____	0 - 200,000
Standard Plate Count	_____	0 - 10,000
P. I. Count	_____	0 - 10,000

Adapted by Bray and Shearer, University of Florida