

What do the numbers mean?

The numbers in the enclosed charts will help you, your veterinarian and your DFA field representative to interpret your bulk tank analysis report.

They can be compared to your monthly results to track the levels you are working with in your tank. All numbers are approximate. It is recommended at least three separate tank samples be considered before conclusions are reached.

If your bulk tank analysis numbers are within, or close to, the NORMAL levels, good management procedures are probably being practiced. Bacteria are read in Colony Forming Units (CFU) per milliliter of milk. When counts exceed approximately 10,000 CFU/ml, TNTC (too numerous to count) is shown on your analysis.



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references

[Laboratory Handbook on Bovine Mastitis](#)
Revised Edition 1999
National Mastitis Council
Madison, Wisconsin

Philpot, Nelson, W., Ph.D.;
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[Mastitis: Counter Attack.](#)
Babason Bros. Co., 1991.

bacterial chart

how to
interpret **bulk tank**
analysis report
bacteria counts

and what
to do about them

Detection and
Prevention
Techniques
from
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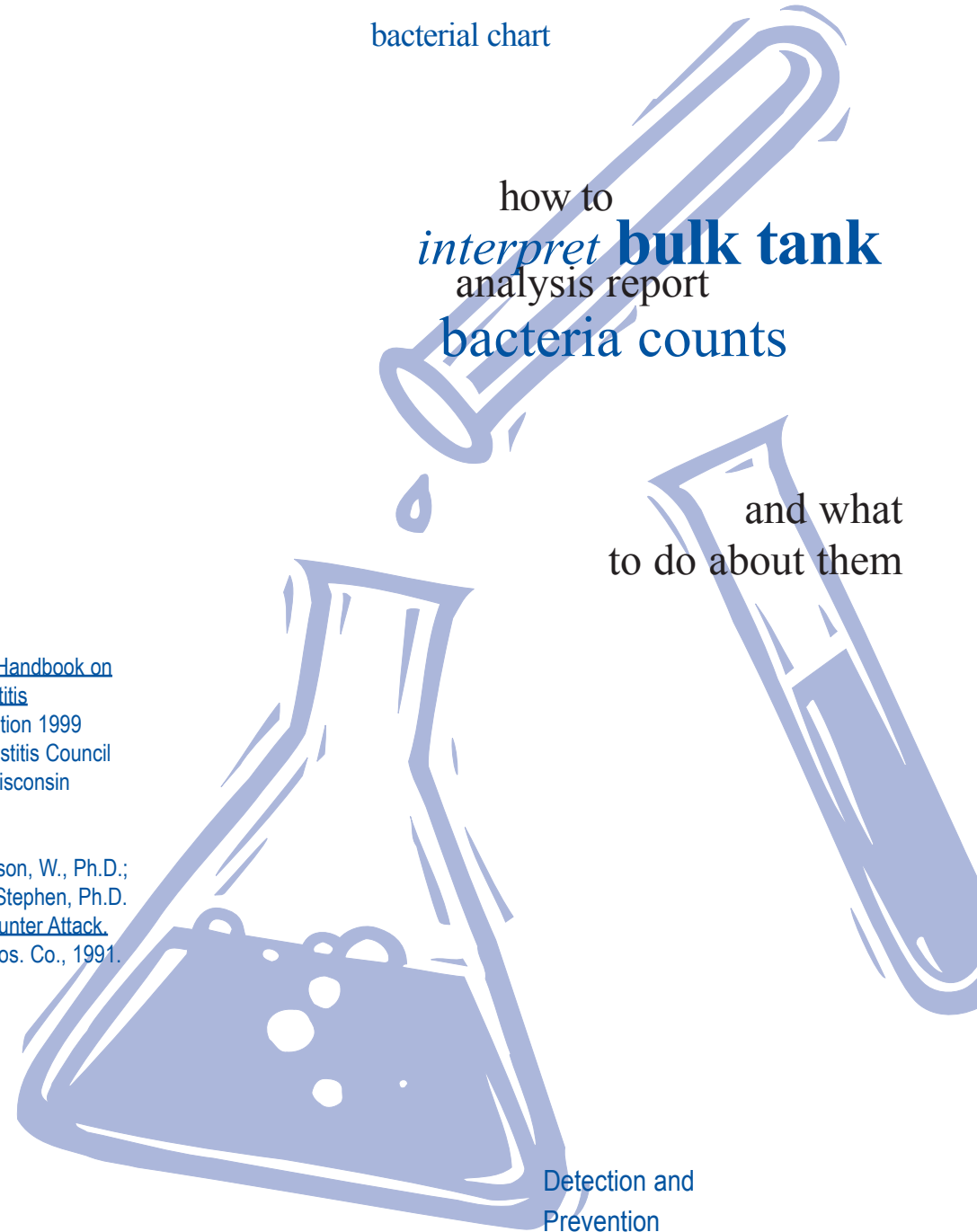


Table 1

TYPE OF BACTERIA	NORMAL LEVELS	MODERATE LEVELS	HIGH LEVELS
	NUMBER OF COLONIES ON PLATE (X100) = (CFU/ml)		
Staphylococcus aureus	0	100-500	>500
Staphylococcus sp.	1,000	1,000-2,000	>2,000
Streptococcus agalactiae	0	100-5,000	>5,000
Non-Ag Streps.	<1,000	1,000-1,500	>1,500
Coliforms	<500	500-1,000	>1,000
Misc. Organisms?* (<i>Pseudomona</i> sp., <i>Bacillus</i> sp., <i>A. pyogenes</i> , Yeast, <i>Pasteurella</i> sp., <i>Proteus</i> sp., etc.)	<500	500-1,000	>1,500

*Usually considered contamination from the environment.
Please note: this information is a *subjective* means of bulk tank culture interpretation.

Table 2 “What are the different kinds of mastitis?”

Types of mastitis-causing bacteria, their source and control methods are listed below. If your counts seem to consistently exceed the “normal” levels in any bacterial category, you may consider improving the mastitis control measures suggested. Please note that bulk tank monitoring is only one way to monitor milk quality. Consult your veterinarian when treatment is recommended.

TYPE OF BACTERIA	SOURCE	MEANS OF INFECTION	CONTROL METHODS
Staph. aureus (contagious)	Infected udder, teat lesions commonly founded on udder skin which readily colonizes the teat end.	Cow-to-cow by contaminated udder wash rag, teat cups hands, or anything that comes in contact with milk from infected cows.	Milk clean, dry teats. Use separate paper towels to wash & dry. Teat dip, dry cow teat, identify & segregate infected cows and disinfect units between milking. Antibiotics often ineffective.
Staph. sp. (refers to all Staph. other than Staph. aureus)	Normal inhabitant of skin. These organisms will not turn into <i>Staph. aureus</i> .	Poor udder prep., milking wet udders & teats.	Milk clean, dry teats, good teat dip & dry cow teat.
Strep. agalactiae (Strep. ag.) (contagious)	Infected udders. Can survive for short periods of time in environment & on hands.	Same as <i>Staph. aureus</i> .	Same as <i>Staph. aureus</i> . Except antibiotics more effective.
Strep. Non. Ag. (environmental)	Multiple locations on cow: hair lips, vagina, feces, etc. Also found in bedding, muddy lots & intestinal tracts, dirty equipment & worn rubber parts.	Environment-to-cow by wet, dirty lots & bedding, milking wet teats, poor udder prep.	Improve calving area, barn & lot sanitation. Milk clean, dry teats. Use adequately heated wash water. Often infection, self limited.
Coliforms (environmental)	Manure, bedding, especially sawdust, soil & contaminated water, dirty equipment.	Same as Strep. non. ag.	Same as Strep. non. ag. Keep cows standing for at least 30 minutes after milking.
Miscellaneous organisms (<i>Pseudonoma</i> sp., <i>Proteus</i> sp., etc.)	Contaminated water, milk hoses, bedding & manure.	Same as Strep. non. ag.	Same as Strep. non. ag.
Pasteurella sp.	Animal origin: respiratory tract, uterine & vaginal discharge.	Unknown, but probably cow-to-cow.	Care in clean udder infusion segregate infected animals. Infections usually sporadic.
Candida sp. (yeast) & molds	Yeast normally found on cows' skin & in digestive tract & environment.	Although mastitis is rare, using contaminated antibiotics may contribute.	Segregate infected cows, milk separately. Often self-eliminating in 6-8 weeks.
Prototheca sp.	Farm ponds, wet areas contaminated with feces, bedding or haylage.	Same as Strep. non. ag.	Treatment usually unsuccessful. Potential sources should be fenced off. Proper machine functions to maintain health teat ends.

Mycoplasma—Mycoplasma not included in normal bulk tank screening. See your field rep for mycoplasma screening information.