DOWNLOAD PDF BACTOSCAN AND TOTAL BACTERIAL COUNT (TBC)

Chapter 1 : Bactoscan issues in dairy farm | CID LINES

Bactoscan and total bacterial count (TBC). This chapter describes the sources of bacteria in milk (mastitis organisms, environmental contamination, and dirty milking equipment), compares total bacterial count (TBC) testing with Bactoscan and shows how bulk tank analysis of milk can help to identify the cause of high Bactoscan counts.

How to take a bulk milk sample Bulk milk samples should be taken from a well agitated tank a few minutes at least and into a sterile pot. Depending on the type of bulk milk tank on the farm, the sample may be taken either through the lid at the top of the tank or via the milk outlet at the bottom where the tanker usually collects the milk. If the latter is done, since this is a part of the tank regularly accessed, it is particularly prone to the build up on of bacteria near the outlet. Therefore, it is important that milk is allowed to run through first to clear any bacteria present. Clean gloves should always be worn. Compared to taking an individual milk sample from a cow with mastitis, bulk milk samples are much more prone to bacterial overgrowth which can significantly affect the interpretation of the results. It is crucial that samples are kept cool immediately after being taken. This should involve the use of ice packs and an insulated box, especially if the sample has to be posted to the laboratory. This can be requested when the laboratory takes their weekly sample for milk fat, protein, somatic cell count SCC and Bactoscan tests. In fact, they can be asked to do it only if the Bactoscan is raised to a certain level in order to maximise the chance of getting a satisfactory result. Alternatively samples can be frozen on the farm when a Bactoscan reading is due. If the Bactoscan comes back high, then a bulk milk bacteriology can be performed. Some bacteria will die off due to the freezing but if the Bactoscan is suitably high, this is unlikely to significantly affect the interpretation of the result. Interpretation A variety of tests are performed as part of a standard bulk milk bacteriology assessment. Targets depend on the individual laboratory and will be provided with any results given. The Bactoscan is superseding this method of counting bacteria in milk, which is a more rapid, and accurate technique that will also count bacteria that tend to multiply at lower temperatures Psychrotrophs â€" see below. Thermoduric count or Laboratory Pasteurisation Count LPC Thermoduric bacteria can withstand high temperatures and high levels are associated with a problem with the parlour washing. Psychrotrophs count Psychrotrophs are a type of bacteria that come from the environment and grow under bulk tank refrigeration temperatures. They will inevitably grow to high levels if held at cold temperatures for prolonged periods, but they will tend to be raised when either there is a poor milk cooling or a dirty environment. Pseudomonads count Pseudomonads come from the environment but are not of non-enteric origin. Coliform count The coliform count is reflective of the degree of faecal contamination of the teat and udder and therefore of parlour hygiene. High levels will be seen when the environment is poorly maintained in combination with minimal pre-milking teat preparation. Detection of significant pathogens Targets are available for most of the commonly found causes of subclinical mastitis S. Limitations Despite its usefulness, there are several limitations to bulk milk bacteriology that must be considered. The main consideration, which should form part of any interpretation, is that a bulk milk sample is only a snapshot in time. The sample taken today may be completely different to the one taken yesterday. This can be very frustrating! It may so happen that the day you take the sample, cows are particularly clean or dirty which can give a particularly low or high level of certain bacteria that may not be consistent with other parts of your investigation. Alternatively, cows with subclinical mastitis due to S. Therefore the optimal way to analyse bulk milk bacteriology is to not over-interpret one result or rely on the result for your diagnosis. It should only be seen as an adjunct to a more thorough investigation of the presenting problem. Therefore repeated samples may need to be taken and the farmer should be warned of this possibility. References and further reading Biggs, A. Mastitis in Cattle, 1st Edition. The Crowood Press Ltd. Mastitis Control in Dairy Herds, 2nd Edition.

Chapter 2 : Bulk Milk Bacteriology - WikiVet English

This chapter describes the sources of bacteria in milk (mastitis organisms, environmental contamination, and dirty milking equipment), compares total bacterial count (TBC) testing with Bactoscan and shows how bulk tank analysis of milk can help to identify the cause of high Bactoscan counts.

Other names for this test are the raw count or the total bacteria count TBC. There are several approved ways of conducting the Standard Plate Count, but the time and temperature conditions used for this test are standardized. The reason for running an SPC is to determine how many bacteria are present in the farm bulk tank. However, test results show bacteria in the sample when it was received at the lab. If the sample is contaminated or mishandled, bacterial numbers will increase between the bulk tank and the lab. The sample will then fail to accurately reflect the tank count. A sample for SPC is placed on growth media and incubated at 90 degrees F Under these conditions, all bacteria rapidly grow in the presence of adequate food to form visible colonies. After 48 hours, visible bacteria colonies are counted. Bacteria counts in raw milk should be compared to appropriate benchmark numbers. This includes all of the typical mastitis pathogens including Strep agalactiae, Staph aureus, Strep non-ag species and most other mastitis causing bacteria. Species that are shed from infected quarters cause elevated bacterial counts in raw milk. Strep bacteria tend to be released in very large numbers and can create elevated bulk tank SPC counts. Staph aureus is not normally released in large quantities into raw milk so it is not likely to elevate the SPC. Coliforms normally are not shed in large numbers into raw milk, plus cows with a serious case of coliform mastitis are typically diverted from the tank. Cold conditions significantly reduce the growth rate of most mastitis-causing bacteria. Therefore, keeping milk very cold at all times is the best way of minimizing growth. Any milk cooling problems will also increase the SPC. Common environmental bacteria may also cause elevated bulk tank bacteria counts. These bacteria can enter the milking system via dirt, contaminated water or manure. Fall-offs, liner slips or careless rinsing of the milking cluster can carry contamination into the system. Dirty milking systems provide a place for any of these bacteria to lodge, grow and develop into large numbers. The bacterial buildup may be transferred to the tank as fresh milk passes over it and becomes inoculated. Dirty pipelines, unwashed zones in the milk handling system, long milking times hrs , no sanitizing, etc. When these occur, the tank SPC can rise. Preliminary Incubation Count PI Count Sometimes, in spite of a milking system that appears clean and few mastitis cases, there is still a milk quality problem. How can this happen? Certain bacterial groups are capable of growing under cool or cold conditions. These bacteria are termed psychrotrophic bacteria. While they may not grow rapidly under these conditions, they are able to grow. Psychrotrophic bacteria are typically from sources outside the cow such as dirt, manure and contaminated water. Because they are exposed to a wide variety of ambient conditions, they are able grow in both cool and warm conditions. As these bacteria grow in stored bulk tank milk, they have only one food source available to them- cold raw MILK! They produce enzymes that break down milk components to provide their food. These enzymes remain in the milk and can survive pasteurization conditions that destroy the bacteria. Such milk may develop problems post pasteurization, such as reduced shelf life and off-flavors. How do you find psychrotophic bacteria? Not easily because their numbers may be quite low initially. The most common method involves growth conditions that provide extra time and cool temperatures to try and nurture them along. If present, their numbers will increase and when finally counted, using the SPC procedure, they will produce an elevated bacteria count. This is the basis of the preliminary incubation count or PI count. The milk sample from the farm tank is handled normally and brought to the lab. This temperature and time period allows psychrotrophic bacteria to increase significantly in numbers but limits or stops growth of any other bacteria that require warmer temperatures. During this pre-incubation, the number of total bacteria in the sample may increase substantially. After the 18 hours of pre-incubation, the sample is then tested with the SPC procedure to determine the total number of bacteria present. The count is then compared to the SPC where no pre-incubation was used. PI counts generally are higher than the SPC. If both are low, all is well. When the PI is significantly higher X than the SPC, it is likely that soil-borne bacteria, which grow well in cool temperatures, have entered the milk. Water

contaminated with Pseudomonas species is often the source. Failure to cool milk adequately and quickly during and after milking provides favorable conditions for these bacteria to grow. Old, cracked rubber tubing, especially around milk inlet locations, is a place where these bacteria may collect and build up. Between milkings, bacteria in soil films on equipment surfaces may continue to grow and cause PI problems. Sanitizing all system components prior to milking will kill most bacteria while failure to sanitize will allow them to go directly into the bulk tank and create problems. Use of acid sanitizers as the last step of the cleanup procedure can help reduce problems. The sanitizer kills the bacteria while the acid condition limits bacterial growth for extended periods. The PI count is not a mandatory procedure. Processors use it to evaluate raw milk supplies to determine if producers are shipping milk that may be contaminated with these cold tolerant bacteria. Many processors have also based their bacteria standards for bonus payments on the PI test. The key to minimizing PI counts is to manage all aspects of milk production on the farm limiting the introduction of bacteria into milk. This includes overall cow cleanliness, teat cleanliness and sanitization, cleanliness of the total milk handling system, adequate bulk tank cooling capacity, and effective cleaning and sanitization of the milking system. PI counts should be low and similar to the SPC. As a general guide, the PI counts should stay less than 50, and be no more than times the SPC. Herds with good milking hygiene and mastitis control should find this an achievable goal. The sample is then tested with the SPC procedure and after 48 hours the count is made. Most bacteria in raw milk are killed by pasteurization, including all typical mastitis organisms, but certain species may survive in small numbers. These are the thermodurics and they are a concern in all milk products, including cheese, yogurt or fresh milk. Thermodurics have developed mechanisms to resist heat and other lethal agents such as sanitizers. Most of these bacteria have an ability to create a protective form called a spore that is very tough to kill. The spores end up in finished products and begin growing and damaging the milk product. The most effective way to minimize the LPC count is to prevent contamination of the milk with thermoduric bacteria. This means clean cows and clean equipment. Thermoduric bacteria are common in soil and fermented feedstuffs. When cattle are exposed to contaminated material, thermoduric bacteria get on their teats. Poor udder sanitization will allow problems to develop. Milkstone buildups in the system may protect some of these bacteria and allow them to multiply in the raw milk. The LPC test is a good estimate of both cow and system cleanliness. Bacteria Species Evaluation An additional helpful, and often necessary, step in milk quality evaluation involves determining the actual species of bacteria present. Some milk processors automatically do this if the SPC of a sample is above a certain level. This evaluation determines the predominant bacteria species so corrective action is focused at the correct target s. Coliform Counts This test is run by plating a milk sample on special growth media that selects for coliform species of bacteria. Coliforms are fecal bacteria but are also found commonly in the environment. Coliform bacteria can cause mastitis; however, mastitic cows are generally not the cause of elevated coliform counts in the bulk tank. Another possibility is that the claw was somehow soiled with manure during use. Counts that get significantly higher than this suggest dirty equipment and cleaning practices need to be evaluated. Strep ag Cows infected with Strep agalactia typically shed huge numbers of bacteria into raw milk, elevating the SPC significantly, especially during clinical outbreaks. Since the interior of the udder is the only place this bacterium is found in any quantity, its presence in bulk milk at any level indicates infected cows. It is not coming from mud, manure or bedding because it needs the internal environment of the udder to survive. Many dairy farms have completely eliminated Strep ag, but herd expansions and purchased dairy cattle can lead to reinfection. When Strep ag appears in a herd previously free of the problem, the source is infected cows. Have cows been purchased without a background check? This is a common way for it to enter. Environmental streps Strep non-ag species When differential counts indicate high numbers of Strep non-ag species it may represent several different issues. Cows infected with Strep non-ag species can shed large numbers of organisms into raw milk and cause a big increase in the SPC. PI counts may also be elevated if the species involved flourish in cool conditions. Strep non-ag species thrive in the environment of the cow. They can be found in bedding, manure and on various body sites. The teat and teat ends may develop buildups of these bacteria between milkings if cows lay in wet, contaminated areas. Such conditions often exist in summer under shades and shade trees.

Chapter 3 : Finding the root cause of high Bactoscan counts

As many producers well know, a high Bactoscan or total bacteria count (TBC) can lead to financial loss, increased possibility of mastitis and poor milk quality. High Bactoscan counts can be lowered, though, through proper management and regular check-ups.

The total bacterial count gives us clues about the quality of the milk cleanliness. Delivering results in just minutes, BactoScan allows farmers or milk testing laboratories to take action fast to preserve and enhance milk quality. The analysis of milk is done automatically. The BactoScan is a modular system and includes a conveyor, and a system that helps identify samples by a simple barcode. Instrumentul realizeaza analiza NTG pentru lapte de vaca, capra, oaie, bivolita. The somatic cell count is a parameter that indicates the health of the animals udder. If one or more nipples are infected because of bacteria entering the nipple through the sphincter or because of small lesions caused by milking , the number of somatic cells in milk will be higher than the admitted average. What are the physical and chemical properties? Fat, Urea, protein,casein, lactose, non fat solids and pH are extremely important for receiving good payment for your milk. These parameters can also help with maintenance and foraging of the animals. Freezing point added water The freezing point is a physiological constant of milk and it is a variable because it is affected by feed, breed, time of lactation, species, the moment of milking, etc. The samples are pipetted into small tubes which are transferred to special stands. The cryoscope than takes the probes from the stand automatically model 4C3 or it is fed to the cryoscope manually model 4D3. When the sample hits freezing point the cryoscope delivers the result. Inhibitors are substances which may be present in milk which have the effect, even in small quantities, of inhibiting micro-organisms bacteriostatic effect , or of killing them bactericide effect. Inhibitors are frequently the cause of reject produce, especially in the manufacturing of fermented milk products, and are thus the cause of considerable financial losses in the dairy industry. Such inhibitors include, in particular, veterinary medicines, certain ingredients in animal feed, cleaning fluids and disinfectants, and natural inhibitors. These cavities contain a mixture of nutrients, test bacteria Geobac. The probes are pipetted into the wells and in aprox. Through the time of incubation the bacteria devides itself and reduces the Brilliant Black from blue to yellow. This test is for cow, goat ,buffalo and sheep milk. Physical and chemical properties of forage and feed Physical and chemical properties of feed can be determined using NIR systems Near Infrared Specroscopy. This instrument delivers results for forage and feed samples within minutes, allowing the costumer to obtain results quicker than by the use of classic methodology. The sample is inserted in the instrument, and with the help of infrared rays the parameters are determined according to the quantity of light absorbed by each component. Information flow The results are transited to customers in maximum 24 to 36 hours from the time the samples have reached the laboratory. Results are transmited through e-mail, fax, SMS, post. The results can be used for: Calculating the final price of milk Improvement of herd management.

Chapter 4 : Mastitis Control in Dairy Herds

BactoScanâ„¢ FC+ is the only rapid method approved for bacteria count in raw milk by EURL/Microval in Europe and NCIMS/FDA in the US. Comprehensive software meets Good Laboratory Practice and standardisation tools make it easy to monitor instrument performance.

Beyond this stage of milk production, microbial contamination can generally occur from three main sources Bramley and McKinnon, The health and hygiene of the cow, the environment in which the cow is housed and milked, and the procedures used in cleaning and sanitizing the milking and storage equipment are all key in influencing the level of microbial contamination of raw milk. Equally important are the temperature and length of time of storage, which allow microbial contaminants to multiply and increase in numbers. All these factors will influence the total bacteria count or Standard Plate Count SPC and the types of bacteria present in bulk raw milk. Please check this link first if you are interested in organic or specialty dairy production Microbial Contamination from within the Udder Raw milk as it leaves the udder of healthy cows normally contains very low numbers of microorganisms and generally will contain less than 1, total bacteria per ml Kurweil, In healthy cows, the teat cistern, teat canal, and the teat apex may be colonized by a variety of microorganisms although microbial contamination from within the udder of healthy animals is not considered to contribute significantly to the total numbers of microorganisms in the bulk milk or to the potential increase in bacterial numbers during refrigerated storage. Natural flora of the cow generally have little influence on SPCs. While the healthy udder should contribute very little to the total bacteria count of bulk milk, a cow with mastitis has the potential to shed large numbers of microorganisms into the milk supply. The influence of mastitis on the total bacteria count of bulk milk depends on the strain of infecting microorganism s , the stage of infection, and the percentage of the herd infected. Infected cows have the potential to shed in excess of bacteria per ml. Mastitis organisms found to most often influence the total bulk milk count are Streptococcus spp. Detection of implied pathogens does not necessarily indicate that they originated from cows with mastitis. An increase in SCC can sometimes serve as supportive evidence that a mastitis bacterium may have caused an increase in the bulk milk bacteria count. This seems to hold true more for Streptococcus spp. Correlations of somatic cell responses and environmental mastitis organisms, including coliform bacteria, streptococci, and certain coagulase-negative Staphylococcus spp. Their presence in bulk tank milks is considered strong evidence that they originated from infected cows Gonzalez et al. In general, the direct influence of natural inhabitants as contaminants in the total bulk milk count is considered to be small, and most of these organisms do not grow competitively in milk. Of more importance is the contribution of microorganisms from teats soiled with manure, mud, feeds, or bedding. Teats and udders of cows inevitably become soiled while they are lying in stalls or when allowed in muddy barnyards. Used bedding has been shown to harbor large numbers of microorganisms. Organisms associated with bedding materials that contaminate the surface of teats and udders include streptococci, staphylococci, spore-formers, coliforms, and other Gram-negative bacteria. Both thermoduric bacteria that survive pasteurization and psychrotrophic bacteria that grow under refrigeration strains of bacteria are commonly found on teat surfaces Bramley and McKinnon, indicating that contamination from the exterior of the udder can influence Lab Pasteurization Counts LPCs and Preliminary Incubation Counts PICs. The influence of dirty cows on total bacteria counts depends on the extent of soiling of the teat surface and the wash procedures used immediately before milking. Milking heavily soiled cows could potentially result in bulk milk counts exceeding per ml. Several studies have investigated premilking udder hygiene techniques in relation to the bacteria count of milk Bramley and McKinnon, ; Galton et al. Generally, thorough cleaning of the teat with a sanitizing solution spray, wet towel, or dip followed by thorough drying with a clean towel is effective in reducing the numbers of microorganisms in milk contributed from soiled teats. Counts of coliform bacteria, although highly associated with manure, barnyard mud, and used bedding, were relatively low in these studies, even for the untreated cows, suggesting that higher coliform counts in bulk milk are more likely to occur due to other factors i. Influence of Equipment Cleaning and Sanitizing Procedures The degree of cleanliness of the milking system probably influences the total bulk milk bacteria

count as much as, if not more than, any other factor Olson and Mocquat, Milk residue left on equipment contact surfaces supports the growth of a variety of microorganisms. Organisms considered to be natural inhabitants of the teat canal, apex, and skin are not thought to grow significantly on soiled milk contact surfaces or during refrigerated storage of milk. This generally holds true for organisms associated with contagious mastitis i. In general, environmental contaminants i. Cleaning and sanitizing procedures can influence the degree and type of microbial growth on milk contact surfaces by leaving behind milk residues that support growth as well as by setting up conditions that might select for specific microbial groups. If milk residue is left behind i. Old cracked rubber parts are also associated with higher levels of thermoduric bacteria. Significant buildup of these organisms to a point where they influence the total bulk tank count may take several days to weeks Thomas et al. Effective use of chlorine or iodine sanitizers has been associated with reduced levels of psychrotrophic bacteria that cause high PICs Jackson and Clegg, Psychrotrophic bacteria tend to be present in higher count milk and are often associated with occasional neglect of proper cleaning or sanitizing procedures Olson and Mocquat, ; Thomas et al. Milk Storage Temperature and Time Refrigeration storage, while preventing the growth of non-psychrotrophic bacteria, will select for psychrotrophic microorganisms that enter the milk from soiled cows, dirty equipment, and the environment. Minimizing the level of milk contamination from these sources will help prevent psychrotrophs from growing to significant levels in the bulk tank during the storage period on the farm or at the dairy plant. In general, these organisms are not thermoduric and will not survive pasteurization. The longer raw milk is held before processing legally up to five days , the greater the chance that psychrotrophs will increase in numbers. Holding milk near the PMO legal limit of 7. Under conditions of poor cooling with temperatures greater than 7. Although incidents of poor cooling still occur, this defect is not as common as when milk was held and transported in cans. Streptococci have historically been associated with poor cooling of milk, appearing as pairs or chains of cocci spherical bacteria on microscopic examination of milk smears Atherton and Dodge, These bacteria will increase the acidity of milk. Although poor cooling conditions allow growth of bacteria that normally will not grow in properly refrigerated milk, they will not prevent typical psychrotrophic strains from growing. The types of bacteria that grow and become significant will depend on the initial microflora of the milk Bramley and McKinnon, Summary Microbial contamination of raw milk can occur from a variety of microorganisms from a variety of sources. Because of this, determining the cause of bacterial defects is not always straightforward. Although there is often one source of bacteria that cause high bulk tank counts, high bacteria counts can also result from a combination of factors i. In some cases, selective plating procedures or bacterial culturing may be useful in identifying the source of high bacteria counts on the farm. Milk Under the Microscope. Vermont Extension Service, University of Vermont. Sources of Streptococcus uberis in the dairy herd I. Isolation from bovine feces and from straw bedding of cattle. The effect of udder infection on the bacterial flora of the bulk milk of ten dairy herds. The microbiology of raw milk. In Dairy Microbiology, Vol. Elsevier Science Publishers, London. A study of mastitis bacteria and herd management practices to identify their relationship to high somatic cell counts in bulk tank milk. Effects of premilking udder preparation on bacterial counts, sediment and iodine residue in milk. Multiplication of bacteria during farm storage. International Dairy Federation Bulletin, Document Relationship between mastitis pathogen numbers in bulk tank milk and bovine udder infections. Bacterial counts in bedding materials used on nine commercial dairies. Effect of preliminary incubation on the microflora of raw bulk tank milk with observ. Effect of mastitis-related bacteria on the total bacteria counts of bulk milk supplies. Total count and microflora of freshly drawn milk. Standard Methods for the Examination of Dairy Products, 15th ed. Thermoduric and psychrotrophic organisms on poorly cleaned milking plants and farm bulk tanks. The effect of udder preparation before milking and contamination from the milking plant on the bacterial numbers in bulk milk of eight dairy herds. Milk and Milk Products. In Microbial Ecology of Foods. Contamination of milk from the milking environment. International Dairy Federation Bulletin, Doc. Department of Health and Human Services. Food and Drug Administration. The microflora of bulk collected milk-part 1. The microflora of poorly cleansed farm dairy equipment. The microflora of the udder. Growth of environmental mastitis pathogens in various bedding materials.

DOWNLOAD PDF BACTOSCAN AND TOTAL BACTERIAL COUNT (TBC)

Chapter 5 : Mastitis Control in Dairy Herds - Roger William Blowey, Peter Edmondson - Google Books

- An uncompromising approach to milk analysis What is TBC? The total bacterial count gives us clues about the quality of the milk (cleanliness).It indicates if the hygiene of the utensils used in milking as well as the hygiene of the cow's udder and the conditions in which the milk was deposited until analysis.

As many producers well know, a high Bactoscan or total bacteria count TBC can lead to financial loss, increased possibility of mastitis and poor milk quality. High Bactoscan counts can be lowered, though, through proper management and regular check-ups. Advertising The sources of bacteria in milk There are three main sources of bacteria in milk: Contamination can occur in one of two ways: Organisms that originate from the udder Milk from cows with clinical mastitis should not enter the bulk tank, as infected milk can increase bulk tank Bactoscan considerably. For this reason, good mastitis detection is a must. Milk from cows with subclinical mastitis, however, will enter the bulk tank unless, of course, the farmer chooses to withhold it. The only reason to do so would be because the cow in question is known to have high cell counts. Herds with low cell counts and low levels of clinical mastitis will contribute minimal amounts of mastitis bacteria to the bulk tank. Again, good mastitis detection is a must. A high coliform count indicates that teat preparation needs to be improved. Environmental contamination For the most part, environmental contamination is caused by poor environmental conditions. Cows living in unclean environments often have dirty udders and teats. To avoid bacterial contamination, good udder and teat preparation is extremely important. On top of that, milking units should be thoroughly disinfected. Similarly, disinfected milking equipment should be attached to clean, dry teats. Environmental conditions need improvement. To avoid contamination, use a pre-dip solution and keep cows in clean, dry and well-bedded accommodations. Dirty milking equipment As most producers know, inadequately cleaned milking equipment can lead to raised Bactoscan. Problems can occur as a result of poor wash-up routines. After milking, all equipment should be properly cleaned. Also, the bulk tank should be cleaned after emptying. Poor refrigeration has been known to cause problems as well. Milk is commonly cooled using plate coolers and hear exchangers. Sometimes, though, these systems fail. Minor failures that go unnoticed can lead to big problems. A regular, thorough analysis of all milking equipment will help to avoid these types of problems. Other common problems include, but are not limited to: ACR flow meters that have been contaminated with milk deposits Water boilers set to the wrong temperature Maintaining temperature throughout the wash cycle Unclean milking units Deteriorating silicone tubing Low chemical levels in automatic wash systems Most new parlours make it very easy to open pipes for examination such as the butterfly clips on this milk transfer line. M2-magazine provided three herd case studies in its February issue. In each case, high Bactoscan and somatic cell counts were found and analysed for their causes. In each case, it was found that the bacterial outbreak was caused by one or more of the following factors: However, once the root of the problem was uncovered, bacterial counts returned to normal proving that, with a little work, the bacterial outbreaks are manageable. To order m2-magazine online, please visit:

Chapter 6 : Bacteria analysis with BactoScanâ„¢ â€“ Fundatia pentru controlul calitatii laptelui

toCount (Bentley) for the determination of the total bacterial count (TBC) in raw milk with an alternative method has led, in a few decades, to an impressive improvement in laboratory performances for this parameter.

Chapter 7 : Bactoscan and total bacterial count (TBC).

TBC (Total Bacterial Count) or TVC (Total Viable Count) The TBC is the total number of colony forming units from 1 ml of milk measured using a standard microbiological laboratory technique. Bacteria have to be living to be detected and so this measure may also be called the Total Viable Count (TVC).

Chapter 8 : Bulk tank bacteria concerns - www.nxgvision.com

meration of total bacteria counts (TBC) are widely In Ontario, Canada, Bactoscan flow cytometry (BsnFC; Foss Electric, HillerÃ¸d, Denmark) is the official anchor method for TBC in raw cow milk.

Chapter 9 : BactoScan FC+ world renowned milk bacteria analyser for raw milk

THE total bacterial count (TBC) of bulk milk is an important measure of milk quality. Since , dairy farmers have been paid a bonus for milk containing less than 20, bacteria per ml.