



THE REAL COST OF OUTDATED RAW MILK SAMPLING TECHNIQUES

As early as 1933 the Milk Industry Foundation's *Laboratory Manual for Methods of Analysis of Milk and Its Products* stressed the challenges of collecting accurate samples due to inconsistent agitation. The publication went so far as to break out the considerable cost to dairies of improper agitation to encourage extending agitation times.

Eighty four years later, many businesses are still faced with this problem. While gone are the days of 10-gallon milk cans, some farmers and milk haulers are still using dippers and agitation to gather samples for testing of everything from butterfat content to milk quality and potential contamination. Unfortunately, the challenges of dipper sampling experienced in 1933 have not only not gone away, but today have been magnified to expose farmers and haulers to much

more serious risks of financial losses and regulatory violations.

The modern solution to today's sampling needs.

The value of representative samples for the dairy industry can't be overstated. Inconsistent results indicate a problem, but without a reliable sampling process identifying the cause of the variations, it basically comes down to guessing, which is a dangerous way to run a business.

It's also no secret that farmers get paid based on sample quality. Inconsistent or incorrect butterfat content and quality testing can have a devastating effect on a business's bottom line.

As Lindsey Dimond, Idaho Manager of Member Services

for Dairy Farmers of America stated, *"If dippers are not properly maintained and sanitized before each location's use you can easily taint a sample or even worse literally contaminate the entire production."*

Thirty five years ago QualiTru Sampling Systems, then known as QMI, identified the need for accurate, aseptic sampling for the dairy industry. The resulting QualiTru sanitary port and septa combination made getting reliable samples for testing a simple process.

Today, QualiTru's on-going commitment to the science of accurate sampling has turned what was once an unreliable process into one that consistently delivers truly representative samples in every stage of the dairy





industry, including on dairy farms, milk tanker trucks and dairy processing plants.

One of the key features of the QualiTru Sampling System is that it is a closed system. The system consists of stainless steel sanitary ports that can be attached anywhere in the process, including milk lines, silos, tanks and tanker trucks. This ability to use the sanitary ports throughout the process provides statistically identical results because the same sampling technique is used.

The next component is the sterile septa that are placed within the sanitary ports. The septa are made from food-grade material and are available in seven- or twelve-channel configurations. The QualiTru TruStream septa feature a label over the channels so it is easy to identify the ones that have been used. This prevents the reuse of channels and virtually eliminates the risk of external contamination.

QualiTru's latest development is a new 12-channel septum that is a single-piece unit with a permanent, thermal aluminum label making it stronger and even more secure from outside contaminants. The new aluminum label also makes it even easier to clearly see which channels have been used.

The final part of the QualiTru Sampling System is the sterile, disposable collection units with insertion needle and tubing

attached. These are available in a variety of bag sizes for every sampling need.

The latest collection unit inno-

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vation from QualiTru is the new TruDraw Single Sampler. As the name implies, the TruDraw is a sterile container with an attached needle designed for drawing a single sample at a time. The configuration of the TruDraw Single

Sampler allows samples to be drawn and the needle removed, leaving you with a sealed container for storage or shipping to a testing facility. The TruDraw also offers a tamper-evident feature and provides easy sample tracking for added security.

After Ole Johnson, an owner of Dairy Ventures, a 2800-head dairy farm in Kansas converted his operation to the QualiTru Sampling System he said *"We just don't see the sampling errors we used to. From my point of view, QualiTru is the only way we can get the sample accuracy we rely on."*

Removing doubt from direct load sampling.

As more and more dairies convert to direct load systems, the QualiTru Sampling Systems become even more integral and convenient for accurate sampling.

The QualiTru TruStream Sampling System can be installed in various locations, such as after the receiver, after the balance tank, near the sock filter or chiller. These multiple locations provide the operator with a fast and easy way to locate and isolate any problem.

Steve Murphy of the Dairy Practices Council said, *"Having the ability to strategically place QualiTru sampling ports to isolate sections of a dairy processing stream is very important from the standpoint of trouble-shooting microbial problems. Utilizing appropriate laboratory tests,*



these strategic “line samples” can be critical in identifying potential contamination sources so they can be dealt with quickly and effectively.”

A peristaltic pump utilized with the TruStream system will continually draw a measured amount of samples throughout the process. Because you are getting a true representative sample of the entire load, there is no need to agitate the load to get a clear picture of the milk quality.

This approach also mitigates the risk of cross contamination that is inherent in dipper sampling, because the entire TruStream sampling system is a closed sterile system.

Reducing employee and hauler risk.

For decades, the most used tank and trailer procedure for sampling required a person to climb up a ladder and insert a dipper to gather a sample. This approach has many downsides.

The first is the challenge of keeping the testing equipment free from contaminants. Sanitizing the dipper before each use is vital, yet the number of variables to accomplish this can seem almost insurmountable. Is the sanitizing solution kept consistently at the right strength? Is the time in the solution for proper sanitation adhered to every time? Is the dipper stored or transported in a sterile fashion?

The next challenge involves a combination of sample integrity, product exposure and worker safety. Safely climbing a ladder while carrying a dipper and vial makes maintaining aseptic practices virtually impossible. Once the top of the tank or trailer is reached, the entire load is then exposed to possible contamination by both the dipper and the surrounding environment when the access hatch is opened.



Having employees off the ground for this function obviously adds the risk of injury through falls. To understand the inherent financial and employee health ramifications as it relates to businesses, you only have to look at the Occupational Safety and Health Administration (OSHA) top 2017 violations. For the sixth year in a row, fall protection general requirements were the top violation. These violations resulted in more than 6,000 citations being issued. The risk of falls is naturally increased for haulers when you take into consideration that they are often sampling outdoors during inclement weather.

Finally, improper agitation of tanks or trailers can result in stratification leading to incorrect results and reduced payments based on erroneous butterfat content readings.

The QualiTru Sampling Systems virtually eliminate all these challenges through better design and the benefits of being a closed system. With the sanitary port and septa feature, the entire load is never exposed to outside contamination. Additionally, the sampling location of the QualiTru port is placed at ground level on tanks, silos and trailers. This placement removes the need to climb ladders, thus removing the risk of accidental falls.

Bob Fradette, Transportation Coordinator for Agri-Mark for over 30 years, had this to say about QualiTru Sampling Systems, “One of our biggest goals is to keep drivers from having to climb up trucks and the QualiTru Sampling Systems keep them on the ground. Another benefit we’ve seen is that sampling in this fashion reduces wait time at processing plants. Both of these things are of real value to us.”



Sampling integrity, security and safety is of paramount importance.

As the dairy industry continues to adapt to new regulations, safety requirements and quality expectations, the sampling technology of the past is no longer a viable solution. Today’s sampling technology needs to combine ease-of-use, reliability and repeatability for dairy farms and processing plants to compete and thrive in today’s heavily regulated and competitive marketplace.

Mark Schwab, president of QualiTru Sampling Systems, clearly defined his company’s commitment by saying, “For decades, very little has changed in how liquid samples are taken. Today, food safety is a primary concern for processing facilities, regulators and consumers. QualiTru Sampling Systems is improving liquid sampling through innovations that make the sampling process simpler, more accurate and brings real accountability to the sampling process.”

Mr. Schwab’s statement is proven by QualiTru’s ongoing investment in research and development to answer the needs of liquid processors. The company’s scientific approach to creating innovative sampling tools and techniques has made them a leader in the liquid sampling field and has brought true accountability to sampling throughout the dairy industry.

QualiTru sampling products are FDA approved and 3A Certified and are available worldwide. ■



SCIENCE MEET SAMPLING

TRUDRAW
SINGLE SAMPLER

New TruDraw Single Sampler virtually eliminates the risk of external contamination.

TRUSTREAM12

New 12-channel septa featuring added strength, simplicity and accuracy.



THE FUTURE OF LIQUID SAMPLING

3-A Sanitary Standard Certified

