Sampling a Truckload of Stratified Raw Milk

Changes in the way milk is harvested and transported have created sampling challenges. The use of much larger and much longer truck trailers along with direct load harvesting of milk have created a situation which makes obtaining a representative sample quite difficult.

Most people in the dairy industry would agree that milk that has been in the truck for more than 3 hours will stratify even if the truck is moving. Studies by dairy processors on the east coast and in the Midwest have shown that the butterfat and SCC may be as much as 25% higher from a dip (top) sample than from a syringe sample (bottom). When the milk arrives at the processing plant, it is stratified and accurate sampling is not possible.

Agitation of the milk is not desirable because the oxygen can increase the growth rate of the bacteria and increase the oxidation of milk fat.

QMI proposes a solution to these problems. Using the QMI Aseptic Sampling Elbow and a QMI Composite Sampling Bag, samples can be taken at the farm for direct load harvesting.

This method has been approved in FDA Memorandum M-I-06-6 Inline Sampling (May 15, 2006).

For trucks arriving at the plant, the QMI Aseptic Sampler positioned after the pump along with a QMI Composite Sampling Bag obtains a representative sample.

At this point, the sample cannot be used for regulatory purposes. However, it is an accurate method of obtaining a sample for component analysis.

To learn more about this method of accurate sampling of stratified milk, please contact QMI.

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Data provided by Bob Gilchrist, AgriMark