



Optimize Cream Sampling to Help Ensure Accurate Butterfat Measurement

Why is representative sampling critical for accuracy and consistency in butterfat verification?

Study conducted at a cream plant in Ireland.

“Representative sampling for butterfat verification using the QualiTru sampling system helped reduce variability in butterfat testing results, providing more reliable data.”



Applications and Product Guide

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CHALLENGE

A cream plant in Ireland struggled with inconsistent and unreliable data related to butterfat testing. The cream was sampled prior to unloading with a variety of sampling methods that were dependent upon the type of tanker used. Samples were dipped from the top, taken from sample taps on the body of the tanker, or from sample taps on the discharge pipework. The variabilities in sampling methods and testing data led to questions regarding sample integrity and whether co-op members received accurate butterfat payments.



SOLUTION

The plant installed a QualiTru system for direct sampling, providing a continuous flow for collecting representative or composite samples of cream during the entire load discharge time. The composite samples were then used to test the percentage of butterfat and compared to the results from cream samples collected by dipper or from taps on the side of the tanker trucks from eleven tanker loads.

RESULTS

Eight of the eleven loads had a higher percentage of butterfat with the composite samples than the initial butterfat readings using the other sampling procedures. One load did not show any difference. The maximum difference was a 1% increase with the composite sample.

When using representative sampling for butterfat verification, most loads had a butterfat increase between 0.33-0.5% when compared to the other sample results. While this butterfat percentage per load variance is small, the cumulative financial impact is significant. In this small study, the calculated advantage for the farmers would be approximately 50,000 euros or \$50,000 annually.

Date	Load ID	Sample method	Initial % BF	Composite sampler % BF	Initial vs comp
22/10/2019	MCL1007	Dip	43	43.33	0.33
	SRT342	Dip	44.5	44.33	-0.17
23/10/2019	SDT1	Dip	39	39.33	0.33
	1008	Dip	39	39	0
	16	Dip	43	44	1
05/11/2019	16	Dip	43	42	-1
	SDT18	Dip	39.5	40	0.5
	grove	Dip	38	38.33	0.33
08/11/2019	SRT347	Tank body tap	39	39.33	0.33
	1030	Tank body tap	39	39.33	0.33

Composite Sample Comparison Chart

BENEFITS

Representative sampling for butterfat verification using the QualiTru sampling system helped reduce variability in butterfat testing results, providing more reliable data. Overall, the comparisons indicate that this sampling method results in more accurate and reliable butterfat data ensuring the plant is better equipped to negotiate butterfat payment agreements with co-op members.