

## Q&A with Bethany Deshpande, CEO of SomaDetect applying Sensor Technology and AI Techniques to the Dairy Industry and Measuring Every Major Compound in Raw Milk allowing Farmers to Improve Quality and Herd Health



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**Interview conducted by:**  
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**CEOCFO:** *Your site proclaims, “Make better milk.” How is SomaDetect able to do that?*

**Dr. Deshpande:** SomaDetect measures every major compound of interest from raw milk. We are able to flag issues in the earliest possible stages and communicate to dairy farmers the information they need to improve their milk quality and herd health.

**CEOCFO:** *How are you doing so?*

**Dr. Deshpande:** SomaDetect is a light scattering application combined with machine learning and artificial intelligence algorithms in order to measure key compounds. We measure things like fat and protein that are important components of milk, somatic cells, which are indicators of disease in the animals, progesterone, which is used to manage reproductive status and trace antibiotics, which is a contaminant in milk.

**CEOCFO:** *What is typically being measured now and what is the procedure used without SomaDetect?*

**Dr. Deshpande:** The things that are measured are fat protein as well as somatic cell counts. They are mainly measured by taking samples from individual cows, sending those samples to a lab facility, running the samples in the lab and then the farmer will receive a report back a few days later about these indicators. That is how it is mainly done across farms in both Canada and the US.

**CEOCFO:** *How is it done with SomaDetect?*

**Dr. Deshpande:** With SomaDetect, instead of taking samples or having to do any manipulation, milk flows to our sensors system and is analyzed in real time, and farmers, using their phone or computer, have direct access to these indicators and are able to then also see trends over time. One of the key things in the industry is that by using a lab-based measurement, it is not feasible to track these compounds on a daily or even weekly basis. Most farmers do not receive more than one data point every six weeks. Instead, with SomaDetect, we are able to look at trends from every cow at every milking and that means we can see illnesses as they develop, see any nutritional issues that might arise and so on and so forth.

**CEOCFO:** *Would you explain how it is done with the sensors in place?*

**Dr. Deshpande:** There are three different types of milking systems that are most common: One is a tie-stall system, that is an older system that is still widely used but it has sort of come out of fashion in recent years. The other two common