

Survey on best practices in preventing adulteration of fluid milk with sanitizers

In 2022 there were two separate incidents of fluid milk adulterated with sanitizer being released into market. Historical information shows that similar incidents have happened in the past. Milk Quality Improvement Program is asking for your help in identifying some of the best practices for preventing adulteration of fluid milk with sanitizer. We identified two steps in the production/processing flow where sanitizer could be introduced into the final product: (i) Raw milk received already adulterated with a sanitizer or adulterated in the raw milk silo, (ii) Milk adulterated during pasteurization, storage in p-tanks, or during filling. The following ?? questions are focusing on best practices for preventing or detecting adulteration in these two steps.

1. What procedures do you have in place to prevent adulterated raw milk from being processed into final product? *(Mark all that applies and mark if procedure is documented or not)*

Procedure:	Is it documented?	
	YES	NO
<input type="checkbox"/> Checking the weight or density (example by using lactometer) of received raw milk.		
<input type="checkbox"/> Testing the freezing point of received raw milk using a cryoscope.		
<input type="checkbox"/> Checking the pH of the received raw milk.		
<input type="checkbox"/> Visual inspection of the raw milk silo to verify that it is empty before it is filled with raw milk.		
<input type="checkbox"/> Sensory evaluation of raw milk (example by smelling the raw milk)		
<input type="checkbox"/> Other, please explain:		

2. What procedures do you have in place to prevent adulteration of final product or detect potential adulteration if it occurs? *(Mark all that applies and mark if procedure is documented or not)*

Procedure:	Is it documented?	
	YES	NO
<input type="checkbox"/> Visual inspection of the p-tank to verify that it is empty before it is filled with pasteurized milk.		
<input type="checkbox"/> Visual inspection of the filler bowl to verify that it is empty before it is filled with pasteurized milk.		
<input type="checkbox"/> Pushing the water/sanitizer with the product and observing when translucent flow turns into white product flow.		
<input type="checkbox"/> Checking the density (example by using lactometer) of the final product.		
<input type="checkbox"/> Testing the freezing point of the final product using a cryoscope.		
<input type="checkbox"/> Checking the pH of the final product.		
<input type="checkbox"/> Sensory evaluation (taste/ smell) of the final product.		
<input type="checkbox"/> Other, please explain:		

3. How often are the instruments used to test raw milk or pasteurized milk for adulteration calibrated?
(Mark all that applies)

- Lactometer: daily weekly monthly yearly Instrument not used
- Cryoscope: daily weekly monthly yearly Instrument not used
- pH meter: daily weekly monthly yearly Instrument not used
- Other instruments, please specify:
- _____ daily weekly monthly yearly Instrument not used
- _____ daily weekly monthly yearly Instrument not used

4. What are the sanitizers and concentrations you are using for sanitizing raw milk silos, p-tanks, lines and fillers? (Mark all that applies and enter the final concentration in ppm (parts per million) that you use to sanitize this equipment).

Sanitizer:	Final concentration used (ppm)
<input type="checkbox"/> Chlorine compounds	
<input type="checkbox"/> Peroxyacetic acid (PAA)	
<input type="checkbox"/> Quaternary ammonium compounds (QUATS)	
<input type="checkbox"/> Hot water/Steam sanitization	Not applicable
<input type="checkbox"/> Other, please explain:	

5. Do you keep the lines and/or filler bowls flooded with sanitizer or other solutions between production days?

- Yes
- No

If yes, what is the solution you are using to keep the lines flooded?

- Sanitizer
- Water
- Other, please specify: _____

6. Do you discard any units of product at the start of filling; for example, some processors would discard first 24 units filled and consider units that follow as sellable units.

- Yes
- No

If yes, how many units do you discarded at the start of filling: _____

7. If you are performing sensory evaluation at any point to make sure the final product is not adulterated with sanitizer:

7a. Who is performing this sensory evaluation?

- Filler operator

- Lab staff
- Quality manager
- Other, please specify: _____

7b. *What is the location where the sensory evaluation takes place?*

- Next to the filler
- Not next to the filler, but still in the processing room
- In the lab
- Elsewhere, please specify: _____

7c. Do people that perform the sensory evaluation avoid eating, drinking, and smoking before performing the sensory evaluation?

- Yes
- No

If yes, how long do they avoid eating, drinking and smoking: _____

7d. Do people that perform the sensory evaluation receive any formal training in sensory analysis?

- Yes
- No

If yes, how often: once every 6 months every year every few year