

FRESH FARMS CO-OP LLC RAW MILK PRODUCTION STANDARDS

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These standards were established with input from several sources, including local milk producers with excellent safety records, materials published from the Raw Milk Association of Colorado, the Idaho Department of Agriculture, and the Raw Milk Production Handbook by Tim Wightman.

Establishing standards for producing raw milk is essential for consumer safety, producer liability, and the forward movement of the raw milk industry nationwide. These standards are the basic practices and procedures that producers follow or meet who offer raw milk products for distribution through Fresh Farms Co-op LLC:

Milking Preparation:

- a) The immediate surroundings of the milking area should be kept in a clean, dry, and neat condition to prevent breeding of flies and rodents.
- b) Milking should take place indoors, in a well-lighted environment free of dirt, mud, or accumulated manure. Other animals such as chickens, pigs, ducks, birds or dogs should not be allowed in the milking area.
- c) The milking floor must be a surface that is non-absorbent, usually concrete or treated wood. Dirt and untreated wood absorb and transmit pathogens, and are not suitable for a milking area.
- d) Milking floor should be cleaned daily. If using water, floor must be able to dry completely between milking times under normal circumstances. Absorbent kiln-dried wood shavings may be used to absorb urine or manure as they can be removed/replaced when contaminated to maintain floor cleanliness and avoid frequent water use.

Animal cleanliness:

- a) The underbelly, flanks, udders, and tails of all milking animals should be brushed and free from visible soil at the time of milking. All brushing should be completed before milking commences. Milking equipment should be protected from debris during brushing, either by lids on buckets or removal from area.
- b) Tails of cows, if not clean, can come in contact with cleaned udders and contaminate the udder and teats prior to milking. If the cow's tail is not dry and clean, it should be restrained (tied) to avoid any contact of the tail with the udder or milking equipment following the cleaning of the udder but prior to milking.
- c) Teats of animals should be disinfected before milking.
 - a. For open bucket milking, thorough cleaning of the entire udder prior to milking is necessary.
 - i. A thorough dry brushing followed by a teat dip and wipe is acceptable if the udder is fairly clean. If udder is muddy or caked, it should be washed with water and a cleaning solution and thoroughly dried prior to using teat dip.
 - ii. Udder may be washed with a sanitizing solution, preferably a 1:4 vinegar to water mix (i.e. 1 cup vinegar to 4 cups water). A sanitizing bleach solution is also acceptable. Washing should not open teat canals (not expressing milk), to avoid introducing bacteria present

- during washing into the udder. After washing, the udder and any surrounding areas of the animal must be dried well with a towel. Any residue water not completely dried present a contamination risk.
- iii. Towels used should be previously sanitized or disposable and only used once (max of two teats). If using reusable cleaning cloths (rags), they should be washed with soap and bleach and then dried thoroughly prior to each use. Teat dip may be used following washing, if needed.
 - b. For machine milking, udders must also be free from manure or mud, and then properly be washed and thoroughly dried as noted above or sanitized with teat dip. Thoroughly dry any wet areas on or around the udder and teats, as they may drip and be collected by the machine.
 - d) Teats should be fore-stripped to stimulate milk letdown, dispose of any bacteria collected at the teat canal opening, and to screen for clinical mastitis (abnormal milk).
 - e) Wet hand milking is prohibited (protect from anything dripping into milk).

Milkers' hands/clothing:

- a) Milkers' hands should be washed clean, rinsed, and dried with a single service towel before milking and immediately after any interruption in the milking operation. Hand sanitizer just prior to milking is also useful.
- b) No person with an infected cut or lesion on hands or arms should milk animals, or handle milking utensils or other equipment without covering the injured area. Disposable, single-use gloves should be worn if there are any open cuts, sores, rashes, or lesions on the hands.
- c) Clothing worn while milking or handling milk, milk products, containers, utensils or equipment should be free from dirt or other loose debris.
- d) Milkers' hands should be washed or sanitized following milking prior to processing, i.e. before filtering or bottling milk. It is ideal to remove outer clothing following milking and prior to processing milk. A clean pair of gloves should be worn during processing if there are any open cuts, sores, rashes, etc. on milkers' hands.
- e) If milk is being transported in an open bucket between buildings, it should be covered, particularly in cases of wind, rain, etc.
- f) It is ideal for small operations to have the strainer and bottle set up prior to milking.

Milking handling:

- a) Milk should be immediately filtered into a proper milk storage container, or into glass or other impermeable containers meant for final distribution. A paper or other filter specifically designed for filtering milk should be used.
- b) Abnormal milk (mastitis, blood, serum, apparent contamination with manure or dirt) shall not be used for human consumption. If the milk filter reveals substantial residue, producers should use good judgment in deciding to distribute the milk or withhold the milk for private uses.
- c) Raw milk and raw milk products should be bottled on the farm where produced.
- d) Bottling should be conducted in a sanitary manner and in clean workspace.
- e) Containers must be labeled with date of bottling prior to pick-up/distribution.
- f) Milk should be cooled to between 33-40° F as quickly as possible. (the State asks for cooling to 40° F within two hours after completion of milking). Bottled milk ready for distribution should be maintained at 40° F or less. Cooling can be best achieved in

the home-based cooling process with an ice bath. Putting warm milk directly into the fridge for chilling is insufficient.

Equipment sanitation:

- a) All milk-contact surfaces (milking machines, buckets, pipelines, strainers, and containers for final distribution) should be washed with hot water and sanitized so as to remove all milk residue, bacteria, dirt, and milkstone. Sanitizing can take place in a bleach water solution or dishwasher.
- b) All multiple-use containers, equipment, and other utensils used in the collecting, handling, storage, filling, or capping of raw milk and raw milk products should be thoroughly cleaned immediately after each usage.
- c) After sanitation, containers and other raw milk and raw milk product utensils and equipment should be handled in such a manner as to prevent contamination of any surface with which raw milk and raw milk products come into contact.
- d) Reusable containers (glass jars) must be washed, then sanitized and completely dried before filling to guard against contamination. Sanitation may be achieved with a bleach solution (1/4 cup bleach to 1 gallon water) or with a dishwashing machine using chlorinated detergent (preferably a dedicated load, not one containing household dirty dishes), with a heated dry. Containers must be air-dried prior to resealing to avoid condensation in the bottle, which can harbor bacteria.

FLY CONTROL TIPS: The key to fly control is keeping the milking and holding areas scrupulously free of manure. All manure should be removed from the milking parlor and holding area immediately after milking. This is one reason cement floors can be such an advantage because they can be scraped clean and hosed down. Keep in mind that they must be able to thoroughly dry in between milkings. All the manure you remove should be composted in another location. Flies will not breed on compost.

In the fields, your best ally for fly control is pastured poultry, especially ducks. As a general rule, bring the poultry into a paddock three to four days after the cows have been there; they will search out the fly larvae in the cow paddies and eat them. Ducks can actually capture the flies and eat them.

INFO ON STATE TESTS:

SOMATIC CELL COUNT (SCC): Is mostly a count of the white blood cells and epithelial cells present in the milk. This indicates the general health condition of the udder and levels of mastitis infection, as well as the overall health of the cow and environmental pressures affecting the animal.

COLIFORMS: Coliform count reflects the degree of contamination of milk by fecal matter. Coliform bacteria can be dangerous. Human pathogenic *E. coli* O157:H7 is one of the dangerous coliform contaminants. There are other pathogens in raw milk such as *Salmonella* sp. and *Campylobacter* sp. to be considered as well as *E. coli*. Healthy gut bacteria, such as *Lactobacillus*, are not measured in this test.

STANDARD PLATE COUNT: Approved bacterial limit testing methods are used to quantitate the total number of colony forming units of bacteria in each milliliter of raw milk that will grow on the media it is plated on, at the incubation temperature used, and in the amount time it is given to grow. It is a test that is associated with cleanliness of the milking procedure, milk contact surfaces, milk temperature, and udder/animal health etc. The bacterial limit testing methods can detect bacteria that utilize lactose sugars and create lactic acids along with other bacteria. This test only counts bacteria that are present and grew at the test conditions. These bacteria may be good, beneficial or harmful. Slow cooling of raw milk provides greater opportunity for bacteria to multiply. Some coliforms in milk can double every 20 minutes at room temperature in ideal conditions. Other species of bacteria have different growth rates / doubling times.