



FACT SHEET

CRITICAL STEPS TO QUALITY MILK

Dairy farmers across the U.S. follow best management practices to ensure their dairy cows are healthy and well cared for, that the environment on and around their farms is protected and the milk they produce is safe and the best quality. Here are the most critical steps for producing high-quality, wholesome and safe milk, starting at the source—the cow—and ending at your table.

Healthy Cows

While many factors affect the milk cows produce, dairy farmer's commitment to ensuring high-quality milk begins with taking care of their cows and making sure they are healthy. By adopting best management practices, such as milking sanitation and regular veterinary care, dairy farmers increase the well-being of their cow herd by reducing the risk of disease and infections.¹

Recent decades have brought a greater emphasis on disease prevention. Veterinarians play an important role in dairy cow health by helping farmers implement on-farm management systems and cow tracking devices. These technologies allow farmers to tailor disease prevention and treatment to individual animal needs.²

Strict On-Farm Milking Protocols

Dairy farmers and workers follow several steps to assure the sanitary collection of milk from dairy cows. Today, human hands never touch the milk as it travels from cow to your table.

On farms, the people who milk the cows wear gloves to prevent any transfer of possible pathogens from cow to cow. A sanitizing solution is put on each cow's teats

to reduce the presence of any bacteria, reducing the possibility of its transfer to the milk. The cow's teats are then dried, and the milking unit attached. After only five to ten minutes, the cow is done being milked and the equipment is removed. The cow's teats are cleaned again with a sanitizer containing skin conditioners. Following milking, equipment is washed and sanitized.³

Quick Cooling and Transportation

Scientific studies on food safety were used to develop the U.S. Department of Health and Human Services' Grade 'A' Pasteurized Milk Ordinance. All milk sold commercially for direct consumption or use in processing must adhere to the rules in the Ordinance.

Dairy farmers are paid a premium for high-quality, safe milk. Milk collected from dairy cows is cooled to 45° F or less within two hours of milking in order to reduce the possibility of bacterial growth. It is important to follow protocol and limit the exposure to or growth of bacteria prior to pasteurization to ensure the highest quality milk reaches store shelves.⁴

It takes about two days for milk to go from the farm to the retail store. Keeping that milk safe and wholesome involves many people, including dairy farmers, milk processors, and those who collect the milk at the farms.

Milk is transported from the farm to the milk processor in insulated stainless-steel tanker trucks, which keep the milk cold. These bulk tankers are sealed to prevent tampering or contamination by an outside source.

When milk is received at the processor, it must be checked to ensure it has been kept at or below 40°F during transportation. Once the milk passes inspection, it is pumped into large insulated vats. The milk is then processed—this includes pasteurization, homogenization, and packaging—before it is distributed to various retail stores, schools and households. This all happens within about two days from the time the cows were milked.⁵

Testing for Antibiotics

Veterinarians help dairy farmers administer antibiotics when they are necessary to treat and cure an illness. When a cow has been treated with antibiotics, her milk is discarded and does not enter the food supply. Antibiotics are not used on a routine basis on dairy farms, nor are they added to feed or water to promote growth.

The U.S. Food and Drug Administration (FDA) requires that all milk, conventional and organic, be tested for commonly used antibiotics when it arrives at the milk plant. Any milk that tests positive cannot be sold to the public. In fact, the farmer who is responsible must pay for that entire tanker load of milk, which can be thousands of dollars. In 2014, 3.14 million tests were



conducted on milk samples to detect antibiotic or other drug residues. The most recent report by the FDA affirms that there are no antibiotics found in milk heading to retail.⁶



Pasteurization

Pasteurization involves the heating of raw milk to a minimum of 161° F for 15 seconds, followed by rapid cooling. This step is very important for the continued production of safe milk. Research

has shown that there is no significant difference in the nutritional value of pasteurized and unpasteurized milk.⁷

FDA and the Centers for Disease Control (CDC) recommend drinking only pasteurized milk, because raw milk—even from healthy cows and sanitary conditions—may contain harmful bacteria such as *E. coli* O157:H7, *Listeria* and *Salmonella* that can cause life-threatening illnesses. This recommendation has been

affirmed by the American Medical Association and the American Academy of Pediatrics.⁸ It is a violation of federal law to sell raw milk across state lines even if it has been packaged for consumer use. However, raw milk regulations vary by state, and some states allow the sale of raw milk within their borders.⁹

When properly cared for, milk generally stays fresh after the “sell by” date.

Proper Consumer Handling

The U.S. provides one of the safest food supplies in the world. With the U.S. Department of Agriculture, FDA, U.S. Environmental Protection Agency, and food, beverage and agricultural companies working together, the country’s milk and dairy food supply is becoming even safer. However, despite all these safety factors, microorganisms may still exist at levels that present risks to the public. Everyone, from farm to table, plays an important role in assuring the safety and wholesomeness of perishable food products like milk. Here are some helpful tips from the National Dairy Council¹⁰:

- Examine containers for leaks and other damage when purchasing dairy products.
- Check the “sell-by” or “use by” date on product containers. The “sell by” date refers to how long the grocery store can offer the product for sale. When properly cared for, milk generally stays fresh after this date. The “use by” date indicates how long the product’s quality should be optimum.
- Pick up milk and other perishable dairy foods just before checking out of the store, especially in hot weather.
- Take dairy products home immediately after purchase and store at a refrigerated temperature of 40° F or less (without freezing).
- Do not allow milk to remain outside your refrigerator during or after meals.

1. Rodriguez, ACO, Caraviello PZ, and Ruegg PL. 2005. Management of Wisconsin dairy herds enrolled in milk quality teams. *J Dairy Sci.* 88:2660.

2. LeBlanc SJ, Lissemore KD, Kelton DF, Duffield TF, Leslie KE. 2006. Major advances in disease prevention in dairy cattle. *J Dairy Sci.* 89:1267-1279.

3. USDA/APHIS. 2003. Safeguarding American agriculture: milking procedures on U.S. dairy operations.

4. USDHHS/PHS/FDA. 2011. Grade ‘A’ pasteurized milk ordinance, 2011 revision.

5. Kansas Department of Agriculture. Dairy: ensuring a safe milk supply.

6. USDHHS/FDA/CFSN. 2014. National milk drug residue data base.

7. USDHHS/PHS/FDA. 2011. Grade ‘A’ pasteurized milk ordinance, 2011 revision.

8. USDHHS/PHS/FDA. 2007 Mar. FDA and CDC remind consumers of the dangers of drinking raw milk. FDA news.

9. USDHHS/PHS/FDA. 2009. Grade ‘A’ pasteurized milk ordinance, 2009 revision.

10. National Dairy Council. 2002 Mar/Apr. Ensuring dairy quality and safety from farm to refrigerator. *Dairy Council Digest* 73(2).