

July 2008 FN/Food Safety/2008-02

Raw Milk Safety Facts

Brian A. Nummer, Ph.d., Extension Food Safety Specialist

Drinking raw (unpasteurized) milk is a choice that any Utahn can make. That choice, however, should be an informed one. Raw milk proponents tout health benefits, improved taste, and a myriad of other claims. On the other hand many scientists cite evidence that raw, unpasteurized milk can carry dangerous bacteria such as *Salmonella*, *E. coli*, *Campylobacter* and *Listeria* that are responsible for causing foodborne illness.

The Cooperative Extension System has long been known



to be an unbiased, science-based organization. This publication was created to help shed some light on raw milk consumption and safety in Utah. It is not an impetus to start a debate, but rather a

tool to allow consumers to make up their own minds.

The sale of raw milk is prohibited under the U.S. Food and Drug Regulations due to food safety concerns; however, limited sales are allowed inside the state of Utah. Individual farms or farm-owned stores may sell raw milk. This milk must be clearly labeled and meet certain milk standards. Just as you, the consumer, have a choice to purchase and consume a raw oyster versus cooking and consuming it, you can choose to purchase and consume raw milk. But your choice should be an informed one.

Due to different kinds of bacteria that can be found in raw milk, including *Salmonella*, *E. coli*, *Campylobacter* and *Listeria*, it has the potential to make you and your children ill. Illnesses can range from fever, vomiting and diarrhea to life-threatening kidney failure, miscarriage



and death. These pathogens can be especially dangerous to pregnant women, children, the elderly, and people with weakened immune systems.

A process of heating milk, called pasteurization, destroys 100% of these pathogens making the pasteurized milk safe to drink for everyone. Pasteurized milk has been a safety standard for over 100 years. Raw milk enthusiasts have a different perspective. They insist that along with the bad pathogens, heat-treating milk destroys beneficial bacteria, proteins and enzymes. Others praise raw milk's nutritional value and swear it benefits their immune system.

Unfortunately, the evidence supporting health claims of raw milk – at best – is thin and often stretched. And,

much of the disinformation about pasteurized milk is equally false.

Some "scare" myths about pasteurized milk

- Pasteurization is an excuse for the sale of dirty milk, may be used to mask low-quality milk, and promotes carelessness and discourages the effort to produce clean milk.
- Calcium and other minerals are precipitated and made unavailable by pasteurization.
- Pasteurized milk is more likely to lead to tooth decay or constipation.
- Pasteurization destroys beneficial enzymes, antibodies, and hormones which takes the "life" out of milk.
- Pasteurized milk may diminish resistance to disease (especially in the young).
- **☑** Calcium in pasteurized milk is no longer available for absorption.
- Pasteurized milk causes lactose intolerance or an increase in milk allergies.
- Pasteurized milk has some relationship to autism or arthritis.

There are a few truthful claims made about "raw" milk. Pasteurization does destroy small levels (0-10%) of vitamins C, thiamine, folate, and B_{12} . Others, e.g. vitamins A and K, remain the same. Milk is not an appreciable source of vitamin D and it is added to both raw and pasteurized milk at the same level.

Another truthful claim is that drinking raw milk is supporting small Utah farms and food businesses. However, you can still purchase their pasteurized milk and enjoy the same level of support while not risking you and your children's health.

Does anything make raw milk safe to drink?

Both raw and pasteurized milk contain equal amounts of antimicrobial enzymes, but none are present in quantities that significantly reduce pathogens. Instead, raw milk producers rely on sanitation and herd management to minimize the occurrence of foodborne illness microorganisms in milk. Testing for pathogens helps to determine the safety level of the milk. While pasteurization kills 100% of these pathogens; sanitation, herd management and testing does not. Therefore we do see foodborne illness outbreaks attributed to raw, unpasteurized milk.

The Utah State University Extension Food Safety Program recommends that you choose to drink raw milk using an informed choice. Know the risks and then make your decision if the taste or quality (as you see it) outweighs those risks. We also completely discourage consumption of raw milk by pregnant mothers, young children, and elderly. Products made from unpasteurized milk should also be avoided. There are proven risks of serious illness or death from consuming raw milk.



References

USDA. 2003. Raw Milk Position Statement. 2003. Available online at: http://vm.cfsan.fda.gov/~ear/mi-03-4.html.

U.S. CDC. 1983. Campylobacteriosis Associated with Raw Milk Consumption – Pennsylvania. MMWR. 32(26);337-8,344. Available online at:

http://www.cdc.gov/mmwr/preview/mmwrhtml/00000104.htm

US CDC. 2007. Salmonella typhimurium infection associated with raw milk and cheese consumption--Pennsylvania, 2007. MMWR. 56:1161-4.

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and academic related practices and decisions.

Utah State University employees and students cannot, because of race, color, religion, sex, national origin, age, disability, or veteran's status, refuse to hire; discharge; promote; demote; terminate; discriminate in compensation; or discriminate regarding terms, privileges, or conditions of employment, against any person otherwise qualified. Employees and students also cannot discriminate in the classroom, residence halls, or in on/off campus, USU-sponsored events and activities.

This publication is issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Noelle E. Cockett, Vice President for Extension and Agriculture, Utah State University.