



# The Facts About Pasteurization

## What is pasteurization?

Pasteurization is the process of heating milk to a specified temperature and holding the milk at that temperature for a specified period of time. Pasteurization will kill most bacteria in milk, including bacteria that can cause human illness. These include diseases such as Tuberculosis, Listeriosis, Salmonellosis, Brucellosis, *E. coli* O157 and Q fever infections, among others. These diseases can be very serious, even causing abortion or death. In the 100 years since it became widely used in the U.S., pasteurization has prevented many illnesses and deaths. It is one of the pillars supporting the safety of dairy products. All milk sold to consumers that crosses state lines must be pasteurized by law. Only a very few states allow unpasteurized (raw) milk to be sold to consumers within the state.

**Compared to other foods, milk is rarely the cause of food borne illness. Despite the fact that essentially all milk sold is pasteurized, the very small market for unpasteurized milk accounts for a large proportion of illnesses derived from milk. Between 1998 and 2005, the Centers for Disease Control identified 45 outbreaks of food borne illness from raw milk. Those outbreaks accounted for 1,007 illnesses, 104 hospitalizations, and 2 deaths.**

## Why is almost all milk pasteurized?

Dairy farmers take pains to harvest their cows' milk in a sanitary manner, but dairy farms are not sterile places and milk inevitably contains some bacteria when milked into the dairyman's milk tank. Milk is cooled immediately to help reduce the growth of these bacteria. As soon as milk arrives at the processing plant, it is pasteurized to kill the bacteria present in the milk, including the ones that could cause disease. Pasteurization also inactivates some enzymes in milk that would change the taste and storage life of milk if not inactivated.

## What about good bacteria in dairy products?

There are good bacteria used to produce some dairy products, particularly yogurt and cheese. These are added into the processing of milk under strictly controlled sanitary conditions in the dairy plant. This prevents contamination of dairy products with bacteria that could cause disease. Raw milk may contain some of these good bacteria, but most likely bad ones as well.

## Does pasteurization change the nutrient content of milk?

No. Quoting from the FDA: "research shows no meaningful difference in the nutritional value of pasteurized and unpasteurized milk." <http://www.cfsan.fda.gov/~ear/mi-03-4.html>



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## **But don't dairy farm families drink raw milk from their cows? Aren't those people healthy?**

Some dairy farm families may drink raw milk, but most drink pasteurized milk. Those families that do drink raw milk take risks with their health or the health of their family members. Children and those folks with a compromised or weakened immune system are at greatest risk. It has been shown that dairy farmers do develop some resistance to some bacteria. However, they and their family may still be at risk from other dangerous organisms in raw milk. The bacteria found in a particular herd's milk likely changes regularly. So herds may not have the more dangerous disease bacteria in their milk one day, but may the next. The fact that some dairy farm families drink raw milk does not make it safe. Consider, for a moment, a different question. If you traveled to a rural village somewhere in an undeveloped part of the world, would you willingly drink the water? Probably not. Yet the people who live there drink the water every day. On most days most people can drink the water without apparent ill effects. On some days some people become ill. Some die.

### **In conclusion**

Quoting from the FDA fact sheet: FOOD FACTS, October 2006  
<http://www.cfsan.fda.gov/~dms/rawmilk.html>

- Pasteurizing milk **DOES NOT** cause lactose intolerance and allergic reactions.
- Pasteurization **DOES NOT** reduce milk's nutritional value.
- Pasteurization **DOES NOT** mean that it is safe to leave milk out of the refrigerator for extended time, particularly after it has been opened.
- Pasteurization **DOES** kill harmful bacteria.
- Raw milk **DOES NOT** kill dangerous bacteria by itself.
- Pasteurization **DOES** save lives.

For further information, visit the FDA web site at:  
<http://www.fda.gov/bbs/topics/NEWS/2007/NEW01576.html>

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