



Dangers of Unpasteurized Beverages

Why Pasteurize Milk, Juice or Cider?

The list of diseases that can be transmitted by raw or unpasteurized milk, grape juice and apple cider is overwhelming and can include:

- Salmonella
- Campylobacter
- Yersinia
- Brucellosis
- Tuberculosis (TB)
- Shigellosis
- E. coli
- Q Fever
- Streptococcal Infections
- Listeria
- Cryptosporidium
- Hepatitis A
- Clostridium botulinum

These diseases can cause severe diarrhea (which may be bloody), stomach cramps or abdominal pain, vomiting, fever, kidney failure, liver damage, miscarriage or death of unborn baby.

Some of these diseases are extremely dangerous to infants, young children, the elderly and those who have compromised immune systems. Compromised persons may include those who are receiving multiple steroid, antibiotic or chemotherapy treatments, transplant recipients, and other individuals with immune deficiencies. These individuals should not consume any unpasteurized beverages.

Raw milk and unpasteurized fruit juice or cider can become contaminated with soil, bird droppings and animal waste that contains various bacteria, viruses and parasites. These organisms can be present even if there is no visible dirt, soil or feces.



Raw milk, cream, juice and cider can be rendered safe for human consumption by pasteurization. Effects on the nutritional value are minimal and of no consequence.

Milk must be pasteurized in order for it to be sold in Canada. If you own a dairy farm and have made the decision to drink the milk produced by your herd, it is strongly recommended that you pasteurize this milk for your own personal use and consumption.

* FOR PERSONAL HOME USE ONLY.

What are the Steps in Pasteurization?

The pasteurization process consists of three essential steps:

1. Heating.
2. Holding.
3. Cooling rapidly.

Equipment Needed

- Double boiler (stainless or aluminum).
- An accurate metal stem-probe thermometer (cooking thermometer).
- Storage containers (litre-size mason jars are suitable).

How Pasteurization Can be Done Safely at Home

1. Wash your Hands
2. Sterilize storage containers by boiling in water for 10 minutes. Set aside with tops placed on loosely.
3. Place milk, juice or cider in the top part of the double boiler. Gradually raise the temperature (while stirring frequently to prevent burning) to:
 - a.) 63 degrees Celsius (145°F) and hold at this temperature for not less than 30 minutes. Remove the skin that forms on the surface of the milk, OR
 - b.) 72 degrees Celsius (162°F) and hold at this temperature for not less than 16 seconds. If the temperature starts decreasing you have to start the timing again.
 - c.) According to Health Canada and Canadian Food Inspection Agency, boiling unpasteurized juice for one minute will ensure the juice is safe for everyone to drink.

4. To check the temperature of the milk, juice or cider, insert the thermometer into the liquid only two-thirds of the way down (do not rest it on the bottom or sides).
5. Pour milk, juice or cider into the sterilized containers. Place containers into a sink of cold water to cool for 15 minutes or until temperature reaches 20°C (68°F).
6. Place the containers in the refrigerator to cool the liquid to a temperature below 4°C (39°F).
7. Milk is a highly perishable food and an excellent source of food for the growth of bacteria. Pasteurized whole milk should keep for up to two weeks in the refrigerator.

Don't assume store-bought juice or cider has been pasteurized. Check labels for pasteurization information.

Remember:

The only truly safe milk, juice or cider is that which has been pasteurized and protected from subsequent recontamination.

Commercially pasteurized milk is a safe choice for human consumption. It has the added advantage of being fortified with Vitamin D.

Can a Microwave be Used for Pasteurization?

Microwave ovens are not recommended for home pasteurization. It is difficult to achieve the uniform distribution of heat that is required for effective pasteurization.

Home Mechanical Pasteurizing Equipment for Milk

There are various types of units on the market with varying costs. They have the advantage of convenience and not having to monitor time and temperature through the process or constantly stirring the milk for even heat distribution. A buzzer will sound when the pasteurization process is complete. It is very important to keep and follow the manufacturer's directions. It is recommended that the mechanical unit be regularly monitored to ensure it is functioning properly (see manufacturer's directions or contact the manufacturer for these directions).

For more information

- Visit the Health Canada Food Safety page at www.healthcanada.gc.ca/foodsafety
- Unpasteurized Fruit Juices and Ciders: A Potential Health Risk www.healthlinkbc.ca/healthfiles/hfile72.stm

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