

What Does Unpasteurized and Pasteurized Mean?

Unpasteurized apple cider is a beverage that has not been heat treated to remove disease-causing microorganisms. Without this, the cider could contain harmful bacteria, viruses, or parasites.

Pasteurization is the process of using high temperatures for short periods to destroy pathogens. Another method of safeguarding cider would be to use UV treatment. These processes leave the cider with the same nutritional and taste but without the risk of consuming harmful microorganisms.

Pasteurization has become an important consideration with apple cider because people traditionally believe apples to be too acidic for the survival of pathogens. However, today some bacteria have become more resistant to higher acid levels. In addition, some varieties of apples have been developed to be less acidic.



The Risk of Unpasteurized Ciders

Bacteria - *E. coli* O157:H7 and *Salmonella*

- Symptoms are often diarrhea which may become watery and/or bloody, severe cramps, vomiting, and fever
- Illness may last for upwards of 9 days or have long-term effects, such as Hemolytic Uremic Syndrome or Thrombotic Thrombocytopenic Purpura

Parasite – *Cryptosporidium parvum*

- Symptoms are often cramping, nausea and vomiting, diarrhea, dehydration, weight loss, and fever
- Severe symptoms often experienced by “high risk groups”

“High Risk Groups”

- Infants and young children under 5 years of age
- Older/elderly adults older than 65 years
- Those with weakened immune systems, such as those undergoing cancer treatments
- Pregnant women

These individuals are **advised NOT to consume** unpasteurized ciders.

Commonly Linked Illnesses

Hemolytic Uremic Syndrome (HUS)

- The most common cause of acute kidney failure in infants and youth
- Colon becomes inflamed and diarrhea occurs that soon becomes bloody

- Intense abdominal cramping
- After several days of bloody diarrhea, a person may have a low platelet count, hemolytic anemia (breakdown of red blood cells), and acute renal failure (kidney failure)

Thrombotic Thrombocytopenic Purpura (TTP)

- Is caused when clots form in the small blood vessels and leads to a low platelet count
- Leads to bleeding under the skin and to purple spots (called purpura), kidney failure, easy fatigue, weakness, increased heart rate, and shortness of breath

How Cider Becomes Contaminated

- Animal feces – cattle, deer, and sheep are the most common
- Using drops or windfall apples – fruit lying on the ground may be exposed to animals or fertilizer
- Rotten apples
- Crating and storing apples in a contaminated container or an area open to contamination
- Birds, rodents, and insects
- People
 - Infected worker
 - Poor personal hygiene habits
 - Improper food handling
 - Poor hand washing practices
- Contaminated equipment – no written and performed cleaning and disinfecting procedures
- Contaminated water

Cider Safety

- Pasteurize the cider
- Refrigerate the cider to lower than 4°C during storage, at the market, and at home
 - Helps slow down or prevent growth of bacteria
- Boil prior to consuming
- Label the product so that the customer understands it is unpasteurized, requires refrigeration, and must be consumed by the best before date
- Avoid consuming unpasteurized cider if you are a high risk individual
- Only used fruit picked from the tree for cider production
- Washing and brushing the apples before use – this reduces risk but does not prevent contamination of the cider
- Good hand washing practices by staff of cider pressing operation
- Adequate cleaning and disinfecting of surfaces and equipment at cider pressing facility
- Press the picked apples as soon as possible
 - This will help prevent the pH from increasing

For more information on food safety, contact your local Food Safety Specialist, or visit the Department of Agriculture's food safety website at <http://www.gov.ns.ca/agri/foodsafety>