

### Raw milk cheese, an exquisite gourmet delight

*Raw milk cheese has always existed and is still produced, despite the increasingly widespread use of pasteurized milk. We can therefore still enjoy its natural bacterial flora and distinctly rich flavour. Strict, closely regulated production methods ensure the quality and safety of this unique product. Upward trends in consumer taste have meant a steady increase in raw milk cheese production, especially in Quebec.*

#### From raw to pasteurised milk

Originally, all types of cheese were made from raw milk. Because cheese was produced near dairy farms, its main ingredient was sure to be fresh. The ensuing years brought on a need to address increasing consumer demand by means of larger-scale production. This translated into transportation of milk, often over long distances, as well as its storage, with greater risk of proliferation of milk bacteria, both good and bad. The use of pasteurized milk appeared at the time to be an ideal technical solution to food safety problems, and since then has gradually become the norm in cheese production.

That said, pasteurization also has its disadvantages. It may cause changes in milk composition or structure, which, in turn, affect cheese production. Its non-selective action destroys most bacteria and enzymes, both pathogenic and beneficial.

#### What is raw milk cheese?

Quebec's proposed new regulations on dairy products will soon define raw milk cheese. The dairy industry favours the following definition: [translation] "Raw milk cheese is a live product made with cow's, ewe's or goat's milk that has not been subjected to heat treatment of over 40°C before renneting or to any other process targeting bacterial flora." It should be noted that some filtration processes filter out basic milk bacteria.

Consequently, in raw milk, the original milk bacterial flora and enzymes remain intact. Since these bacteria and enzymes are crucial to all stages of cheese production and ripening, raw milk cheese offers a wide diversity and a great intensity of aromas and flavours.

#### The undeniable advantages of raw milk cheese

It is a well known fact that making cheese from raw milk is the only way to preserve the original land base characteristics and to take full advantage of this traditional craft. It is undeniable that cheese made from raw milk develops distinctly rich flavours. Consumers recognize the sensory differences in raw milk cheese. Although this type of cheese is manufactured on a small scale, it often receives widespread recognition, for example in the Quebec gourmet cheese competition Sélection Caséus.

Raw milk cheese is also believed to have distinct nutritional advantages because of the active bacterial flora it contains. As well, exposure to non-sterilized products such as raw milk products is thought to stimulate the human body's immune response.

#### The difference between cheese made from raw milk or heated milk

Cheese made from heated (thermalized) milk falls into an intermediate category between those of cheese made from raw milk and cheese made from pasteurized milk. It is made from milk treated at a temperature above 40°C before renneting or subjection to a microfiltration bacterial selection process, in order to remove certain bacterial flora, including some bacteria considered undesirable. Other harmful bacteria are eventually destroyed in the cheese production and ripening process, particularly because of the acidity present. New product labelling standards will allow only the use of the terms "raw," "non-pasteurized" and "pasteurized," thus making it easy to distinguish among cheese by production method.



## Strict monitoring of raw milk cheese production

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The production of cheese, particularly raw milk cheese, involves stages specifically designed to reduce the risk of harmful bacteria proliferation. Raw milk, of course, can rely on bacterial flora, which goes a long way toward offsetting certain undesirable elements. In addition, the acidity that must be maintained, depending on the type of cheese produced, helps create an environment that is not conducive to bacterial growth. Production stages such as salting and draining also reduce the risk of contamination. Furthermore, Canadian authorities prudently call for strict monitoring of bacteria, particularly four types considered harmful: *Listeria*, *Salmonella*, *Staphylococcus* and *E. coli*. Although production of all types of cheese is subject to monitoring, cheese makers working with raw milk must incorporate a series of very strict preventive health practices in their production process to monitor the development of these four types of bacteria. Key preventive practices include the following.

**Herd nutrition.** Proponents of raw milk cheese consider that its advantages start with a varied forage herd diet, which later gives the milk a complexity of aromas and flavours. As a result, they usually choose a herd diet based on hay rather than silage, which is known to be a source of *Listeria* contamination.

**Herd health testing.** Cheese makers and farmers work closely together in order to meet bacteria control standards and ensure consistency of product characteristics. From the outset, individual animals are selected on the basis of their health. Regular veterinary care is provided. Animals that are at risk or show signs of pathology are isolated from the herd.

**Milk supply.** The milk is collected daily from selected farms and herds, following a local supply policy that reduces the causes of bacterial proliferation.

**Milking hygiene.** During milking, great care is taken to avoid any contamination by pathogens, particularly *Salmonella*. Animal udders and milking equipment are carefully cleaned. Any animal in which mastitis is detected is isolated from the herd. Milking parlours are kept scrupulously clean.

**Cleanliness of production equipment and premises.** All equipment used in the various production stages—including milk reception, curdling, pressing, shaping, salting and refining—or that come into contact with the cheese is regularly and carefully cleaned or decontaminated. Production facilities are always kept clean.

**Limited access to production facilities.** Not just anyone may enter a cheese production facility. Clean clothing and boots that are specifically worn in these facilities are required. Access to buildings is controlled and closely regulated; boots must be disinfected before moving from one area to another.

**Regular sampling.** Different samples are taken and analysed regularly and at each production stage. A record of the analysis results is kept, thus allowing producers to take the necessary action if contamination is ever detected.

Government authorities—the ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ) and the Canadian Food Inspection Agency (CFIA)—provide follow-up on cheese production safety. These authorities conduct random facility inspections and exercise close control if a problem is ever detected.

## The trend toward flavour

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Because it is rich in high-quality protein, calcium and vitamins, cheese is a food with high nutritional value. Raw milk cheese adds rich and useful bacterial flora to this list of nutrients and, in particular, offers an incomparable palette of aromas and flavours.

In promoting the production of raw milk cheese, cheese makers are committed to a production process focused on quality, not quantity. This makes for a distinct, but more expensive, cheese, given the special care exercised all the way from herd management to product marketing.

### Experts avisors :

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