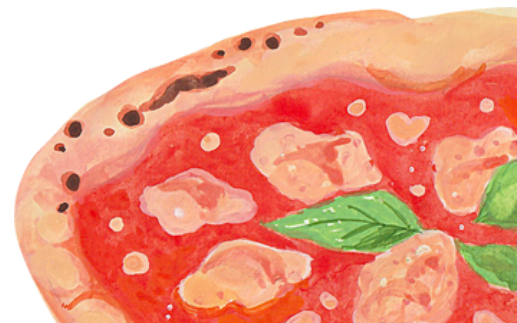




MOZZARELLA CHEESE PROCESSING





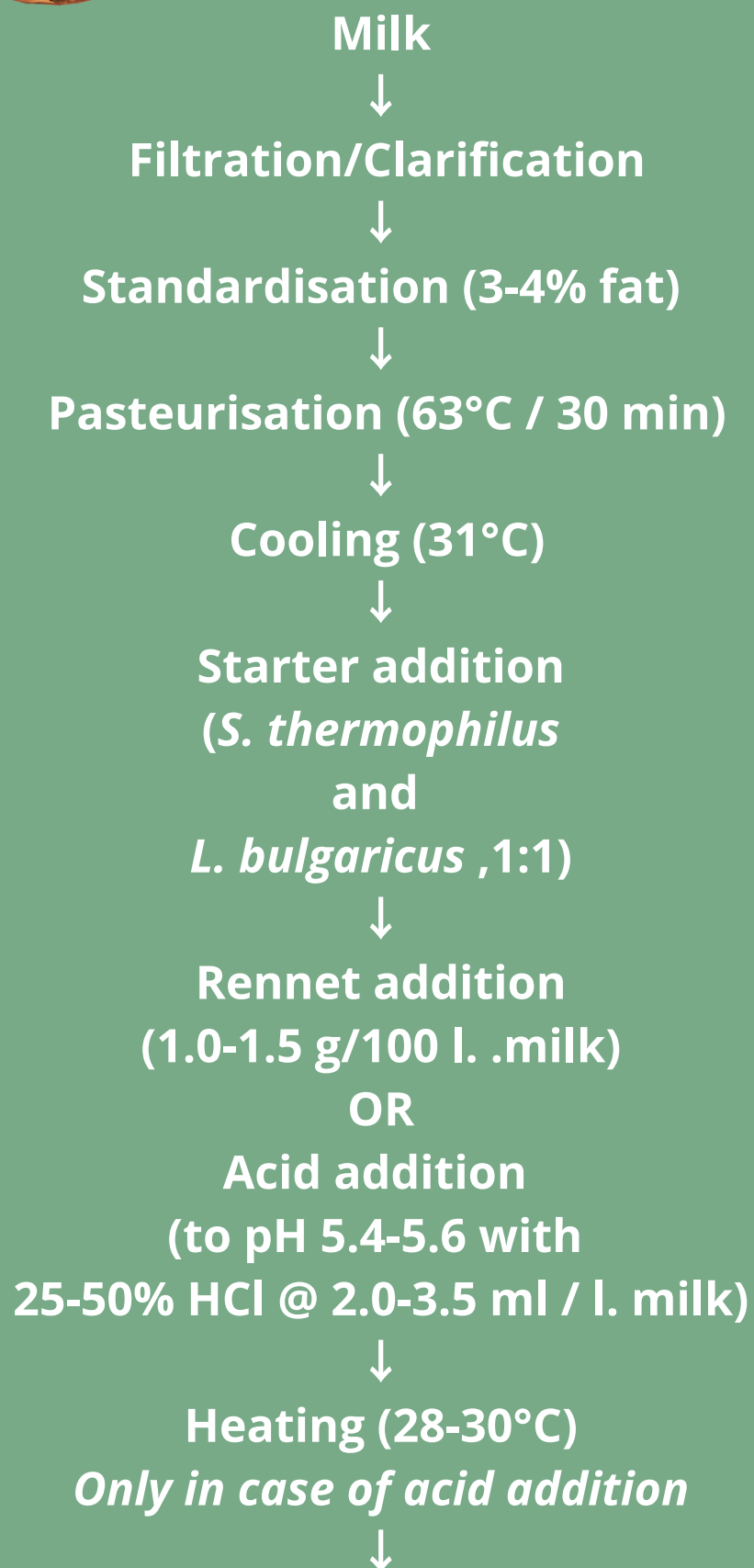
Mozzarella cheese is semi-soft, unripened cheese originally made with Italian high fat buffalo milk. It is now also made from cow milk in the United States and in Europe.

- It is a member of the "pasta filata" cheese family, which uses the principle of expertly stretching the curd in hot water to produce cheese with a smooth texture and grain.





Method of manufacture



*Starter
addition*



Cutting



Stretching





↓
Cutting

↓
Cooking (42-44 °C)

↓
Pitching

↓
Draining

↓
Cheddaring (0.70% acidity)

↓
Milling

↓
Plasticising/stretching
(under hot water , 80-85°C)

↓
Moulding

↓
Brining (20-22% chilled)

↓
Packaging

↓
Storage



Braiding



Moulding



Brining





“Stretch” of mozzarella cheese

- The **amount of calcium** that is available for casein crosslinking controls the development of curd stretch.
- The secret to making pasta-filata cheese is to have both the right amount of **casein-associated calcium** needed for the curd to stretch in hot water or brine, as well as the right **amount of moisture** in the curd at the time of stretching.

- Mozzarella when made into string cheese or pizza cheese, it should have a very delicate flavor that only comes from the starter culture's lactic fermentation.

Packaging

- The basic requirements for cheese packaging are:
 1. Exclusion of oxygen to prevent mold growth and rancidity, and
 2. Retention of moisture to preserve the texture and avoid weight loss.
- Vacuum packaging helps to reduce the increase of mold in packaged cheese whereas Irregular shaped Mozzarella cheese is generally packaged in flexible roll films, thermoformable packets or shrinkable pouches like cryovac.



A smooth surface with a perfect sheen is the desired quality in good Mozzarella cheese.

A close-up photograph of a Caprese salad, showing alternating slices of red tomato, white mozzarella cheese, and fresh green basil leaves, all drizzled with a light dressing.

Types of mozzarella cheese

Fresh Mozzarella

- Most common type, also known as "mozzarella di bufala."
- Made from the milk of water buffalo and has a creamy texture and mild flavor.

Low-moisture Mozzarella

- Made from cow's milk and has a firmer texture and slightly saltier taste.
- commonly used on pizzas and sandwiches and in grated form.

Smoked Mozzarella

- Made by smoking fresh mozzarella over wood chips, giving it a smoky flavor and a firm texture.
- Often used in salads, sandwiches, and pasta dishes.

Part-skim Mozzarella

- Made from part-skim milk and has a lower fat content than other types of mozzarella cheese.
- Often used in recipes where lower fat content is desired.

Burrata

- A type of mozzarella cheese that has a creamy filling of stracciatella (a type of cream) and curd, giving it a rich and creamy texture.
- Often used in salads and pasta dishes.



Defects

- Defects associated with Mozzarella cheese include a rubbery, tough texture, lack of flavor, paleness or green tint, inability to melt, and poor stretchability.

Poor shredability

Mozzarella cheese, with higher fat ($> 25\%$) and lower protein content ($< 20\%$), produced the most fines during shredding of cheese. The rheological properties and tack energy appeared to be the key factors involved in shredding defects.



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