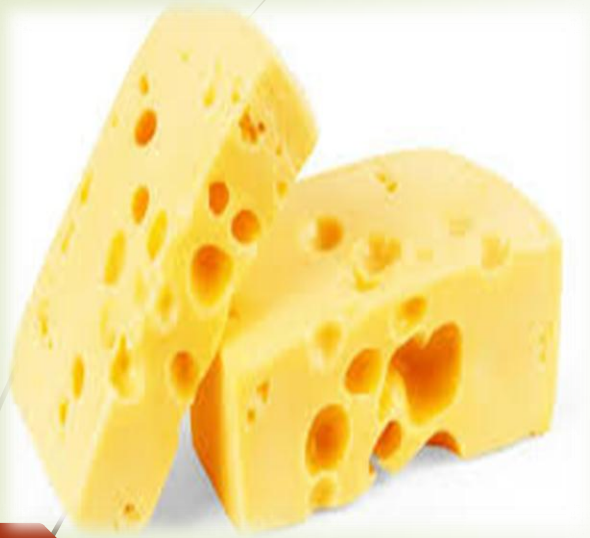
Cheese Making and Contents



Made by: Mustafa Nijem

Supervised by: Dr. Sameh Abuseir

COMPONENTS OF CHEESE

- fat, including saturated fatty acids
- carbohydrate
- Calcium
- vitamins A, D, and K
- Cholesterol
- sodium
- Magnesium
- proteins
- Zinc

Types of Cheese

- **WHOLE-MILK CHEESE contains between 6 and 10 grams (g) of fat per 1-ounce (28 g), serving. Of this, 4 g to 6 g is saturated fat.**

- **LOW-FAT OR REDUCED-FAT CHEESE is made with 2 percent milk. Non-fat cheese is made with 0 percent or skim milk.**

- **FRESH CHEESES are cheeses that have not been aged, or matured. They usually have a higher moisture content, softer texture, and milder taste than aged cheeses**

- **AGED OR MATURE CHEESES are firmer in texture and tend to be aged for 6 months or longer. The longer the aging process, the more concentrated or sharp the flavor.**

Health Benefits

- **Bone health**
- **Dental health**
- **Blood pressure**
- **Healthy blood vessels**
- **A healthy weight**
- **Omega-3 fatty acids**
- **Healthy cells**

RISKS

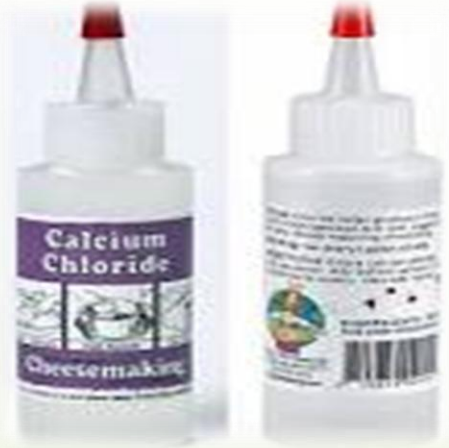
- **Saturated fat**: A high intake of saturated fat can increase the risk of diabetes, obesity, and cardiovascular problems.
- **Sodium**: Along with fat, sodium can be high in some cheeses, especially processed cheeses and "cheese flavored" products.
- **Hormones**: Concerns have been raised about the presence of estrogen and other steroid hormones in dairy produce. These could disrupt the endocrine system and potentially increase the risk of some types of cancer.
- **Allergies, intolerances, sensitivity, and interactions**
- **Lactose intolerance**: A person with a lactose intolerance lacks the enzyme needed to break down and digest the sugar found in milk. Consuming milk and dairy products may result in bloating, flatulence, or diarrhea.
- **An allergy:** Allergy symptoms include post-nasal drip, wheezing, diarrhea, and vomiting. In more severe cases, a person may develop asthma, eczema, bleeding, pneumonia

To boil or not to boil:

- To make cheese you need to start with fresh unboiled milk as with pasteurization, boiling changes the milk in a way that prevents the formation of the large firm curds needed to make cheese. The cheese will be boiled after it is finished to sterilize it.

- If we boil the milk before cheese making the calcium- casienate bond will be broken so the formed cheese quantity formed will be less than non boiled.

- Calcium chloride.



RENNET:

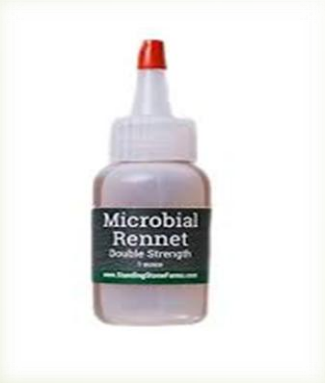
- you can use tablet rennet or liquid rennet. is a complex set of enzymes produced in the stomachs of ruminant mammals. Chymosin,its key component, is a protease enzyme that curdles the casein in milk. This helps young mammals digest their mothers' milk. Rennet can also be used to separate milk into solid curds for cheesemaking and liquid whey. In addition to chymosin, rennet contains other important enzymes such as pepsin and a lipase.

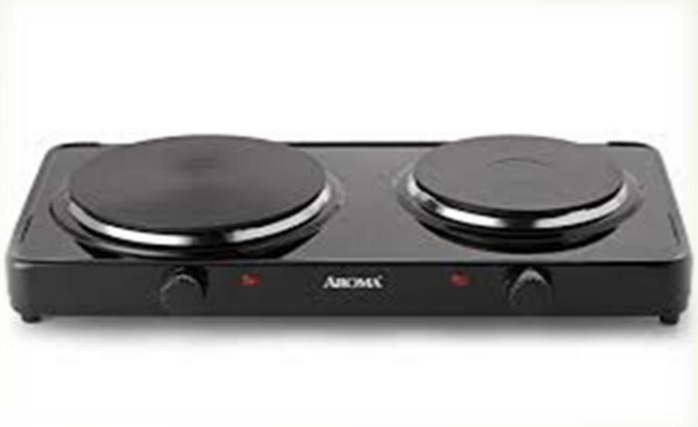
White Cheese Making

- **liters Fresh sheep milk**

salt

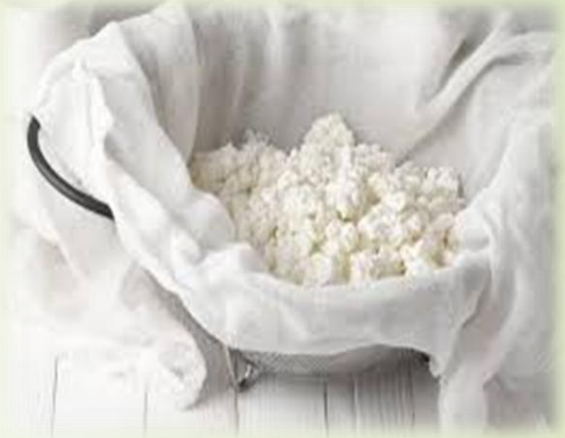
- **Drops of rennet to 5 liters of milk**

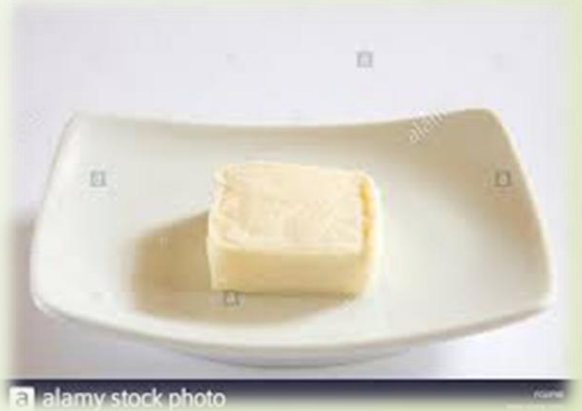




- cups water
- Heat the milk up tp 40 C or until it is slightly warm to the touch
- Add rennet using a spoon , add cups of water and stir till it is completely dissolved
- Add the rennet water to the milk and stir well to make sure the rennet is well distributed throughout the milk
- Once you add the rennet you need make sure not to disturb the milk, cover the milk pot with a lid and place it in a warm place covered with a blanket
- Leave undisturbed for 2 hours. After two hours you will find that the milk has separated into one big block of cheese and whey

- Using a plate of a big ladle transfer the cheese to a colander lined with a cheese cloth or a clean fabric with fine weave
- Allow the cheese to drain for a couple of hours, once it starts to firm up a little,sprinkle with a little salt (1/4 teaspoon) gather the edges of the cheese cloth to cover the cheese and place a heavy weight on top of it to help it drain, leave over night
- The next morning your cheese should be one mass that is slightly firm
- Flip over a plate that you have sprinkled with salt
- Cut into rectangles and sprinkle the top with salt. At this stage the cheese is still soft and needs to be handled with care. the salt will draw out more whey from the cheese and allows it to harden.





- leave the cheese undisturbed till evening, flip and sprinkle with salt and leave over night.
- The next morning flip the cheese again and sprinkle with a little salt and leave till the evening.
- In the evening arrange the cheese in a container separating each layer with nylon bag that you have sprinkled with salt.
- Leave in the fridge for 3-7 days. During this time the cheese will continue to hard due to the presence of the salt.
- After 3-7 days your cheese is ready to eat, you only need to boil it first.

LACTIC ACID BACTERIA

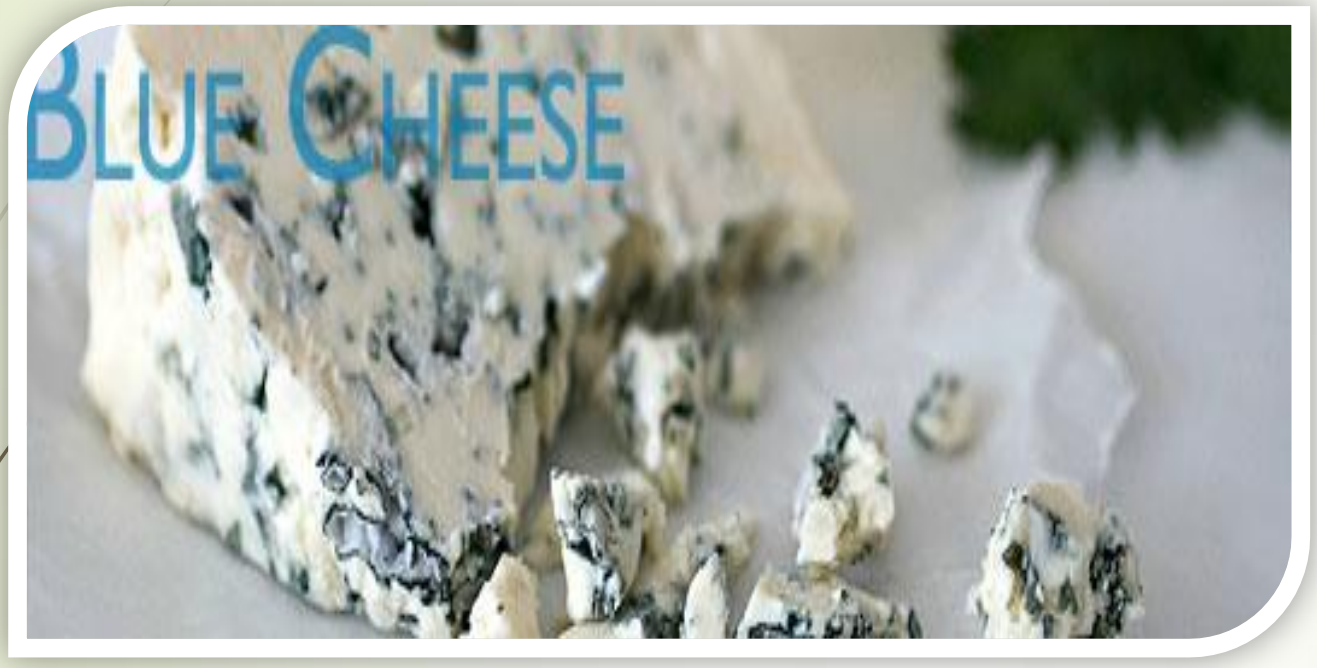
- These are the microbes (bacteria) that are added to the milk very early in the cheese making process that induce the fermentation process. The main reaction taking place here is the conversion of lactose to lactic acid, acidifying the milk, which explains how they get their name. You may have also heard of these guys referred to as "starter cultures"
- *Lactococci - Lactococcus lactis ssp. lactis* and *Lactococcus lactis ssp.* cremoris are common lactic acid bacteria that are used to make cheeses like cheddar
- *Streptococci - Streptococcus salivarius ssp. thermophilus* is an example of a culture used in cheese like mozzarella
- *Lactobacilli* - Lactobacillus helveticus is an example of a culture commonly used in Swiss and alpine cheeses. *L. helveticus* is also commonly used as an adjunct. (below)

10 BEST CHEESES OF THE WORLD

- 1. Asiago »

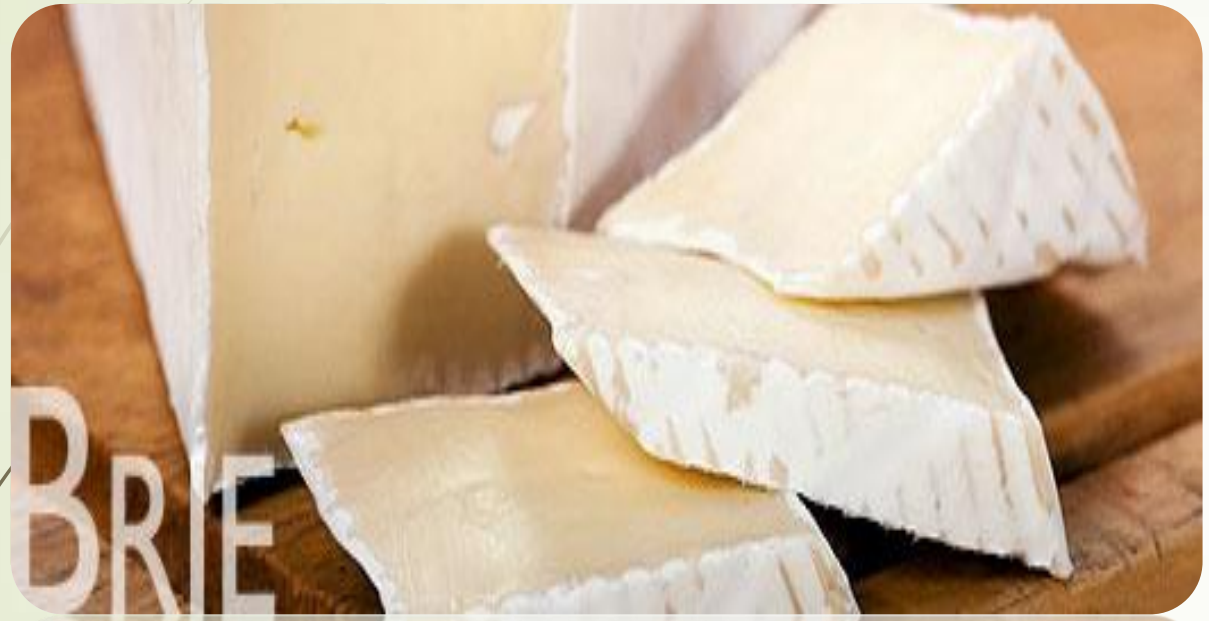
- The tradition of making this cheese comes from Italy and dates back hundreds of years.

- 2. Blue (Bleu) Cheeses »



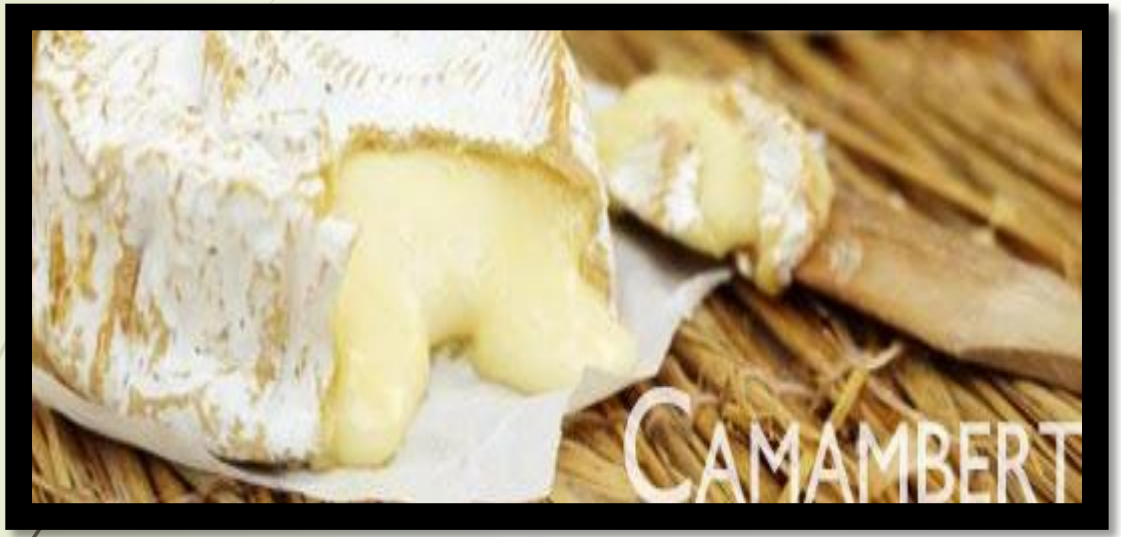
- This is a general term for the aged cheeses injected with special cultures of Penicillium mold to create blue and emerald or even grey and brownish veins or spots throughout the cheese interior.

- 3. Brie »



- the Queen of Cheeses", it was originally created in the region of Brie, France

- 4. Camembert »

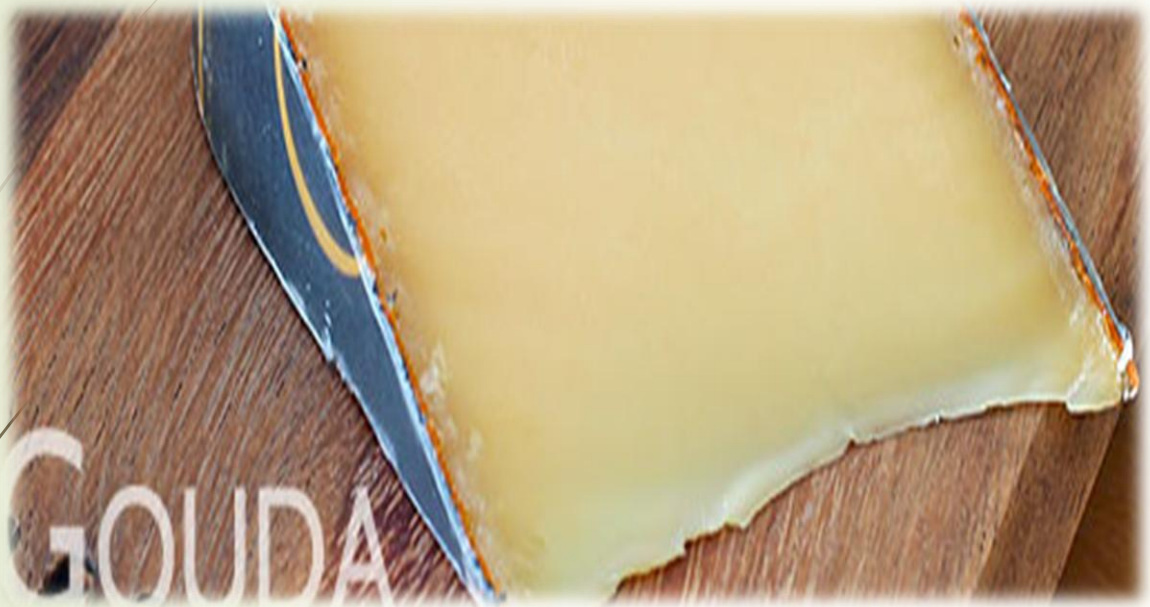


- It claims to be one of the best-known French cheeses and the world's most imitated one

- 5. Cheddar »

- Originating from the village of Cheddar, England, it tends to be one of the world's most enjoyed cow's milk hard cheeses.

- 6. Gouda »

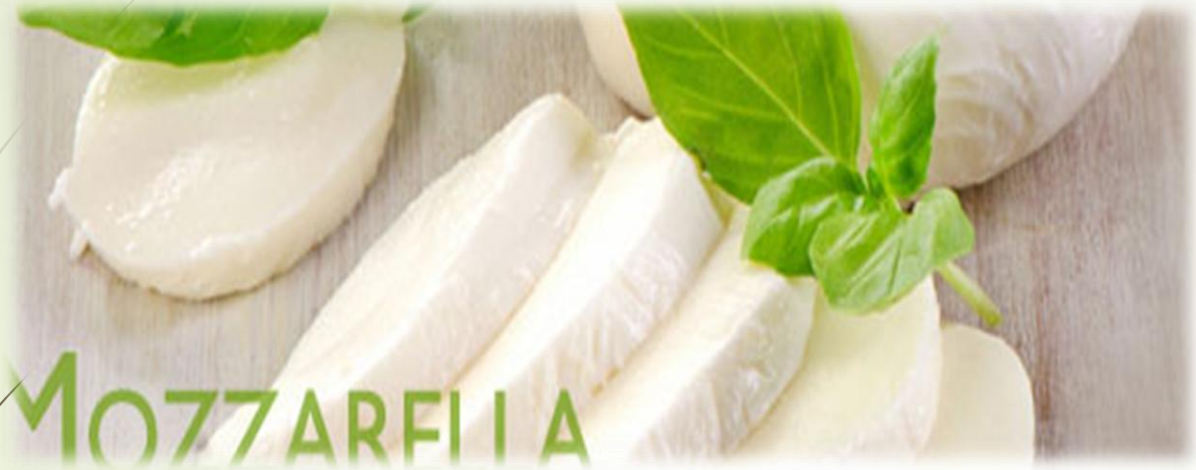


- Being probably the most famous Dutch cheese traditionally made from cow's milk.

- 7. Gruyere »

- he manufacturing of this cheese in the region of Gruyere, Switzerland,

- 8. Mozzarella »

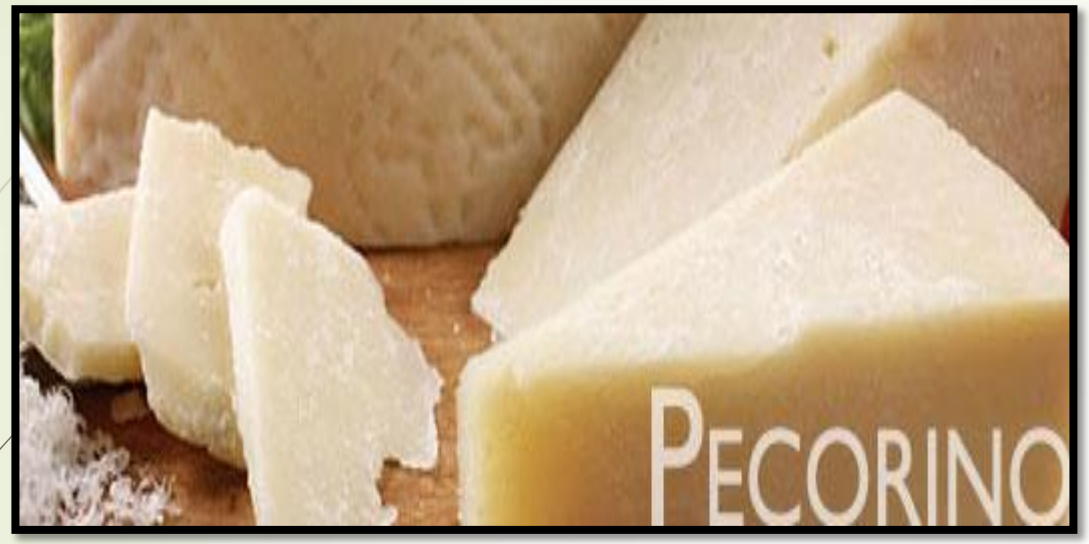


- The name comes from the Italian word “mozzare” meaning “to cut

- 9. Parmesan »

- This is a type of cheese which includes several hard and grainy cheeses, such as Parmegiano Reggiano, “the King of Cheeses

- 10. Pecorino »



- This name denotes all Italian cheeses originally made from sheep’s milk.