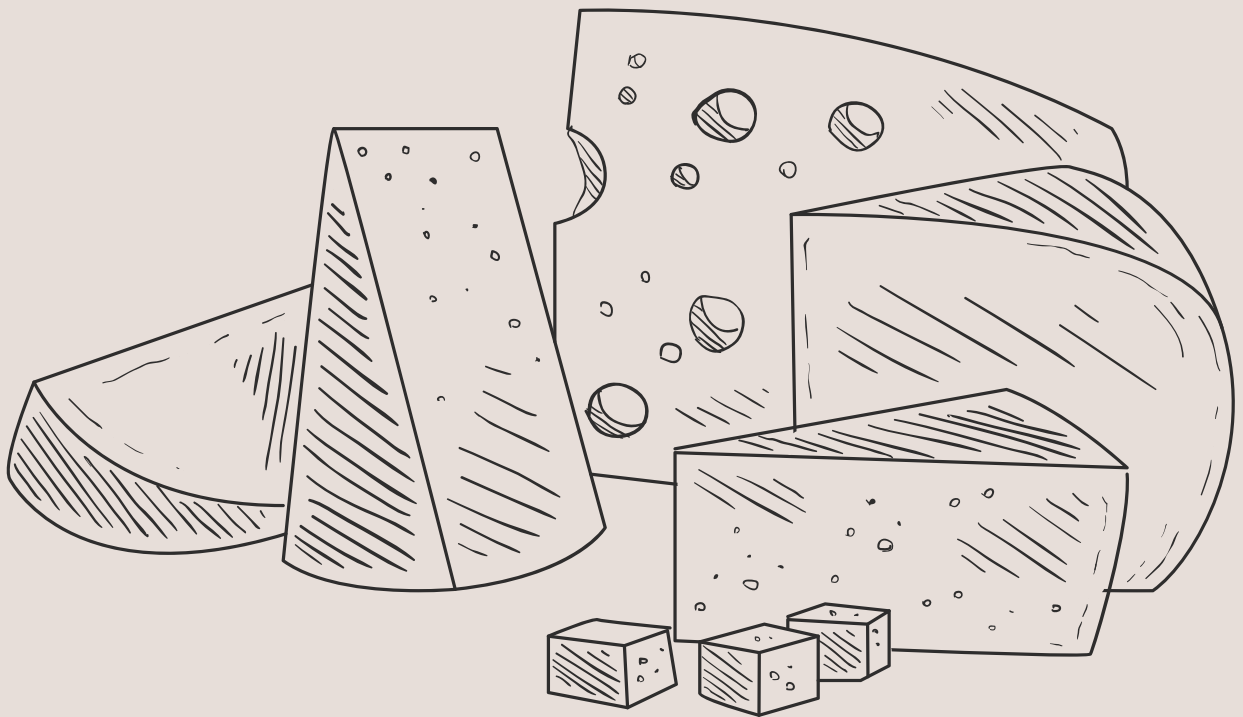
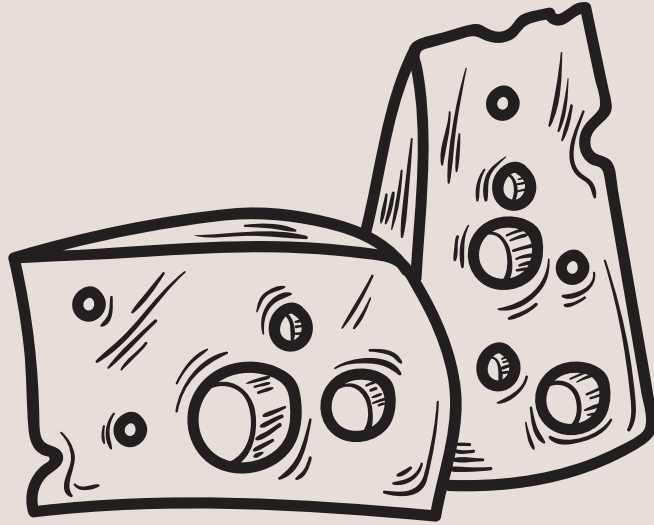


Introduction To Cheesemaking Masterclass

Learn The Basics Behind How To Make Cheese



Milkmaid
society



About This Masterclass

This Masterclass will take you through a very basic Introduction into cheesemaking. We will take a quick glance at the ingredients used for cheesemaking, what milk is best for cheesemaking, how and where to source ingredients for cheesemaking, some basic beginner principals behind cheesemaking, and lastly, we will take a look at what cheeses are best to start with.

Table of Content

Introduction

My Story Of Learning To Make Cheese

section 1

Ingredients Used For Cheesemaking

section 2

Sourcing Ingredients For Cheesemaking

section 3

Cheesemaking Equipment

section 4

The Basics Behind How All Cheese Is Made

section 5

Where and How To Get Started

section 6

Conclusion



Introduction

I learned how to make cheese with a canning pot and a Holstein cull cow. Ever since I began making cheese, a baby has rested on my hip and my old homestead kitchen, (not the quaint, cute kind, but the ants be marching two by two kind), has hummed away, sometimes buzzed away, always working always busy putting up food for the year.

The first years of my cheesemaking I would stand at my stove more often than not, looking down at the contents of my pot, wondering for the 10000 time, whether what I was doing was right.

I think this is common, gone are the days when our mothers would stand over our shoulder guiding us as we learned a traditional skill. Instead we live in a new age, where traditional skills are being re learned.

I can not wait to guide you along on this journey. To help you feel comfortable and confident in your abilities. It is my greatest ambition in life, to preserve the art of homestead cheesemaking and help you not only feel comfortable, but eat good cheese!



Section 1; Ingredients Used For Cheesemaking

There are thousands of different cheeses in the world and nearly all of them are made with the same 4 simple ingredients; Milk, Rennet, Culture or Acid, and Salt.

In this section we will take a brief look at what these ingredients are, and how to choose the best possible ones for your cheesemaking.



Milk

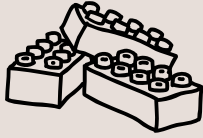
Milk in all species of mammals is primarily composed of water. For example cows milk is commonly measured at 87.5% water, with the remaining 12.5% being composed of proteins, lactose, fat and minerals. Between not only species of mammals but breeds of animals, you will see very different fluctuations in things like milk solid count or fat content. For instance, Jerseys are known for their high butterfat content, whereas Holsteins are more often known for their high production. The same can be seen in different goat and sheep breeds.

Milk is meant to make cheese.

It is meant to come out of the udder and go into the baby's stomach. In the confines of the young animals stomach not only is it exposed to a warm, acidic environment, but it is exposed to enzymes that line the young mammals stomach. These enzymes we know as Rennet.

When you have the understanding that turning milk into cheese, is merely mimicking what milk is meant to do, it becomes easier for us to understand cheesemaking in general. It takes the scary out of it. Like anything, I think that cheesemaking is often overcomplicated. Overcomplicated cheesemaking will make good cheese, but so will simplified cheesemaking, and that is what this masterclass is all about, learning the very very basics, so you can stop feeling overwhelmed, and just start.

The Main Things To Know About Milk Composition



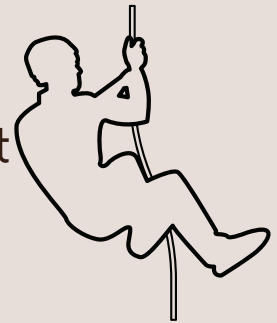
Proteins are the building blocks of cheese.

Lactose is the sugar



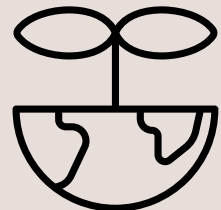
Calcium is the glue that binds proteins together

Fat is barely holding on; it doesn't take much to jostle fat out of milk.



Everything is able to stay suspended in water until reactions begin to occur.

Raw milk has a diverse ecology of bacteria.





Culture And Acid

You have probably heard of cheeses made with vinegar before. The milk is warmed, the vinegar is added, the solids separate from the whey and bam.. cheese!

All cheeses benefit from acidification though! In the last section we talked about how proteins are the building blocks of cheese, but how, if these proteins are suspended in water, do they come together to form building blocks?

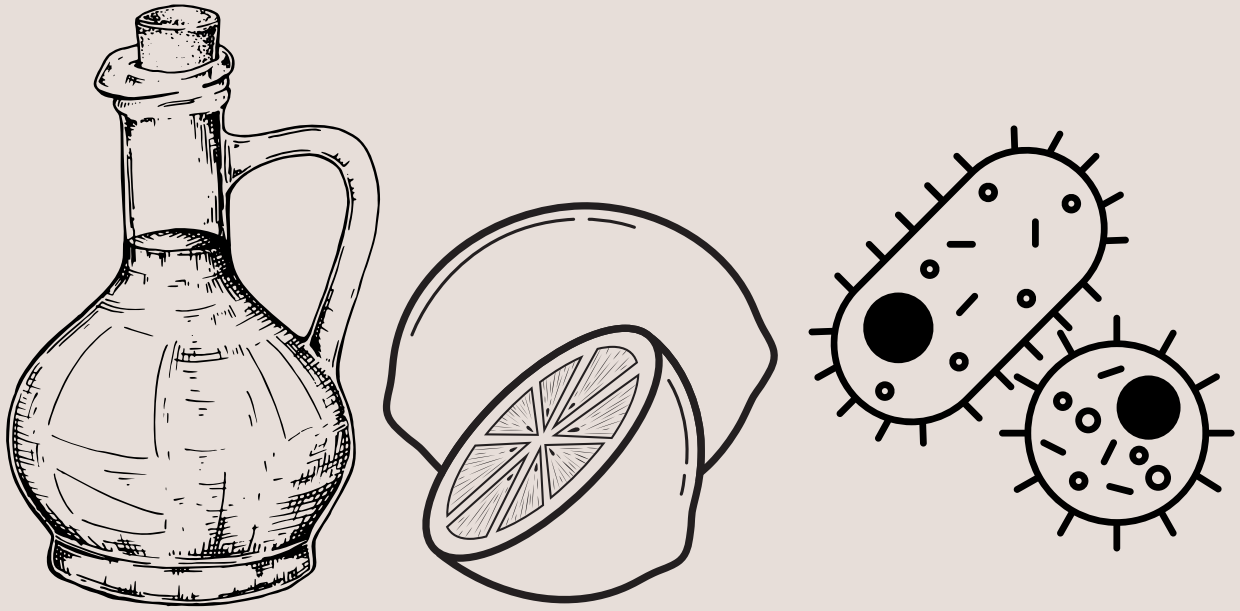
Acidification and the Rennet enzyme are both major players here!

Lactic bacterial culture is the main culture that you will see used for cheesemaking. There are many different strains of this bacteria, but the basic principal behind them all, is that they feed on lactose (the sugars in milk) and ferment the lactose into lactic acid, thus creating an acidic environment.

Milk in its unaltered form, has clusters of proteins within it that are able to remain suspended in the milk, because they are negatively charged. Two negatives can not come together.

Think of an acidic environment as putting a rusty nail in vinegar. Eventually over time the acidic environment will eat away at the rust. The same thing happens in milk. As those protein clusters sit in an acidic environment, the negative charges slowly wear down, until they no longer are able to repel each other.

This can happen quickly by adding an acid directly into milk, or more slowly by adding a lactic bacteria that then in turn has to feed and create an acidic environment.

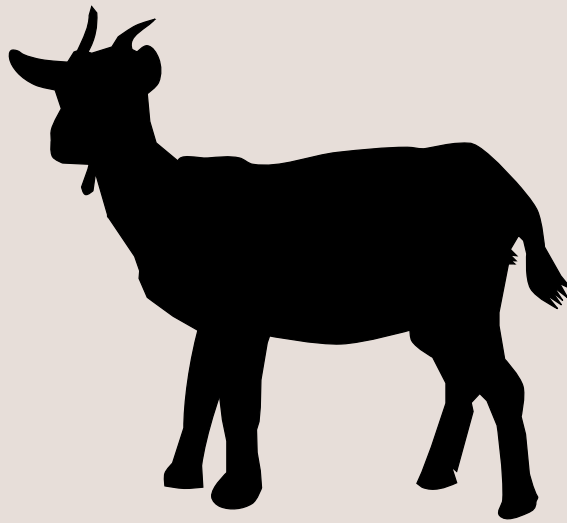


The Main Things To Know About Culture and Acid

Lactic bacteria feeds on lactose and ferments it into lactic acid.

A direct acid such as vinegar, lemon juice or citric acid creates an instant acidic environment.

There are many different lactic bacteria strains. Many are already living in Raw milk. You see this when you leave milk to sit out on the counter. It will eventually coagulate due to the natural lactic bacterias feeding on the lactose.



Rennet Enzymes

Rennet is a catchall phrase used to describe a multitude of enzymes that can be used to coagulate your milk.

These coagulating enzymes naturally occur in both young ruminants stomachs as well as in certain vegetation.

As we talked about in the last section, if left to sit, milk will eventually coagulate due to lactic bacteria. That takes a long time though, and even if you do wait, the bond that is created from acidified coagulation will never be as strong as the bond that is created with rennet coagulated cheeses. For this reason, cooked curd or pressed cheeses need to be made with the addition of rennet.

Rennet works on immediate contact with milk proteins. Where acidification weakens the negative charges keeping proteins apart, rennet enzyme basically cuts it off. The addition of rennet into a large pot of milk will cause complete, strong, coagulation in as little as 30min to 1 hour.

But two is better than one, and you will see that in milk that is more acidic, rennet will work much quicker, some of its job has already been done!



The Main Things To Know About Rennet

Rennet is a catchall phrase for different coagulating enzymes.

Rennet changes the way that proteins are able to stay suspended in milk.

It works very quickly and is used for cheeses that will need more manipulation, and thus a stronger curd.

It can be purchased in various different forms and types.

Proteins are bound together by calcium



Milkmaid
society





Salt

Salt is an essential part of making aged cheeses.

It acts as both as a preservative and as a flavour enhancer.

Making cheese is the process of decomposing milk in a controlled manner. You are essentially controlling how milk decomposes. If you left milk to sit unsalted, it would eventually decompose so far, that it would be nothing more than a puddle of goo suitable for the compost pile.

Salt is the referee in cheesemaking. It comes in and starts to control not only your good added bacteria, but also other unwanted bacterias. Its addition sets the stage for slow, controlled ripening.



The Main Things To Know About Salt

Salt is used as both a preservative and for flavour in cheesemaking.

It is an essential part of making any aged cheese and acts as a regulator to slow down ripening.

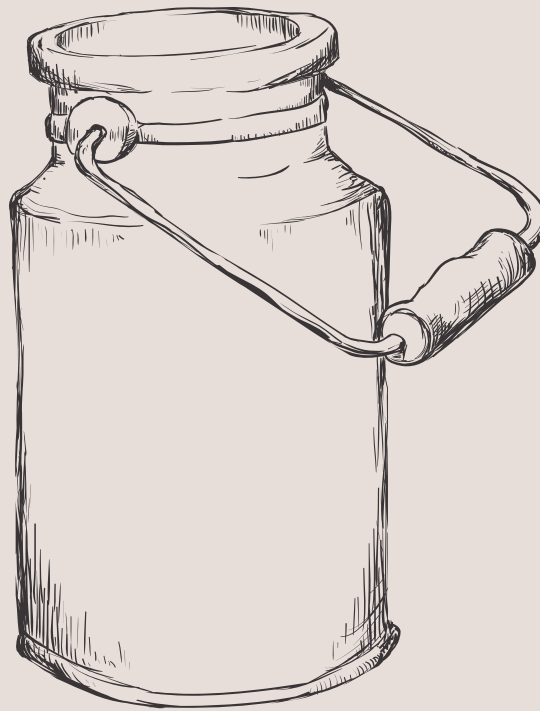
For cheesemaking it should be purchased without additives or iodine.



Section 2; Sourcing Ingredients For Cheesemaking

Sourcing ingredients for cheesemaking can be one of the most confusing steps of learning to make cheese. It doesn't have to be though!

In this section we will look at natural versus store bought ingredients, how to choose ingredients that are best for your lifestyle, and finally we will take a virtual shopping trip where I show you how and why I would buy specific ingredients.



Choosing Milk

When choosing milk for cheesemaking, fresh is always best. The fresher the milk, the less time naturally occurring bacteria have time to ferment the milk. Using fresh milk makes cheesemaking easier, because you are essentially starting with a blank slate.

I like to use good quality fresh raw milk for cheesemaking. The pasturization process damages milk's calcium content. When using pasteurized milk for cheesemaking, you will also need to add calcium chloride in order to achieve a stable coagulation.

Cheese can not be made with ultra pasteurized milk, and is very difficult to make with homogenized milk.

Do's and Don'ts of Sourcing Milk For Cheesemaking

- ✓ Use the freshest milk possible.
- ✓ Source milk from your own healthy animals.
- ✓ Source milk from farms you trust are using safe milk handling practices and have healthy animals.
- ✓ Source raw or pasteurized milk from the grocery store.
- ✗ Do not use ultra pasteurized or homogenized milk for cheesemaking.
- ✗ Do not use milk older than 4 days.
- ✗ Do not use milk from an untrusted source, unhealthy animal, or unclean environment.



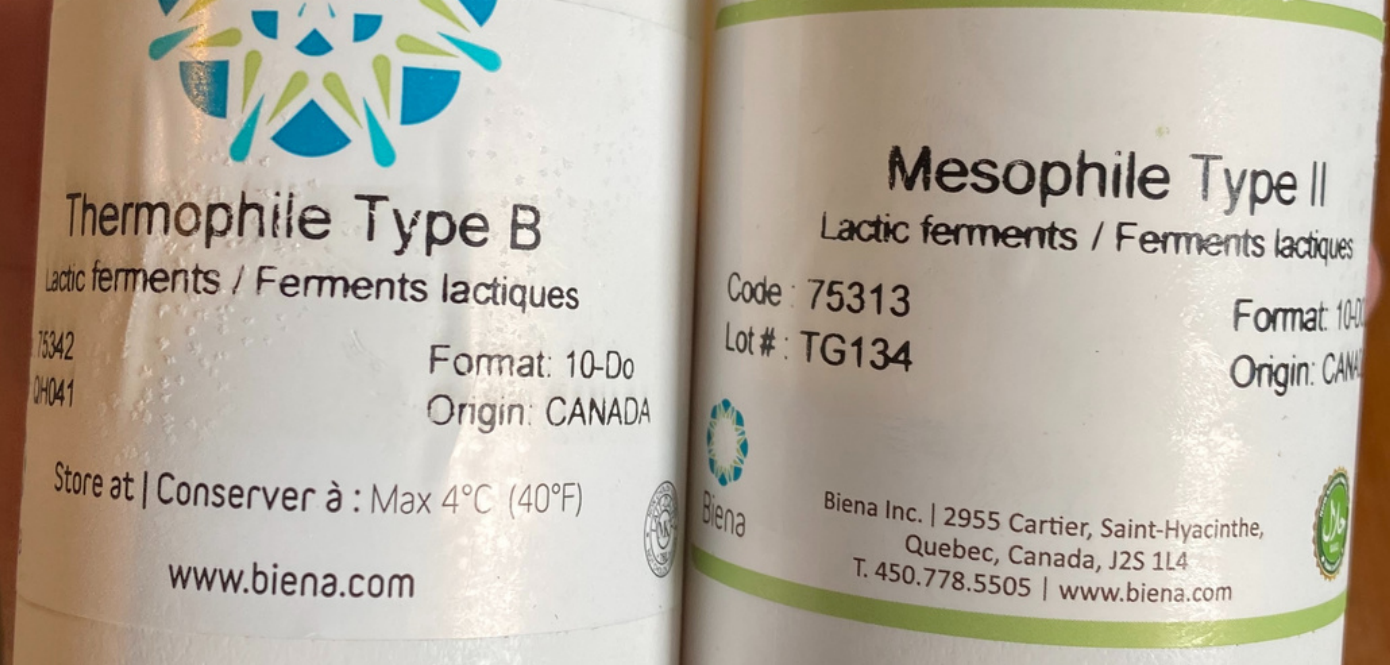


Choosing a Culture for Cheesemaking

Lactic bacterial cultures can be categorized into warm loving cultures (thermophilic) and lower temp loving cultures (mesophilic).

When learning to make cheese I recommend that you start with store bought freeze dried cultures. These cultures are isolated lactic bacterial cultures that are known to make good cheese.

Natural cultures can also be used for cheesemaking, but in my opinion, for aged cheeses, should be used with caution, as you learn. Examples of natural cultures would be kefir, clabber, or raw milk. These natural cultures house diverse ecologies of various types of lactic bacteria, and you must use your cheesemaking technique to isolate the ones you want for your cheese.



Do's and Don'ts of Sourcing Culture for Cheesemaking

- ✓ When learning to make aged cheeses start with freeze dried cultures.
 - ✓ Try not to get overwhelmed when buying freeze dried cultures. Choose 1 Mesophilic and 1 Thermophilic culture to purchase and keep on hand.
 - ✓ Store your freeze dried cultures in the freezer and they will last a long time. If you are using a natural culture for cheesemaking, understand that they can be tricky to master and I consider them an advanced skill. I
 - ✓ recommend as you learn, experiment with natural cultures, but continue to use some freeze dried cultures.
- I won't talk about mold cultures in this masterclass, but keep in mind that like lactic bacterial cultures, mold cultures can both be purchased freeze dried, or derived from natural sources.



Choosing Rennet for Cheesemaking

Rennet comes in many different forms and types. Commonly you will find rennets labeled animal, vegetable or microbial. They all work for cheesemaking, and choosing one should match your values and beliefs.

If using an animal rennet, you must understand that it is harvested from a young ruminants stomach. This means that the young animal must be killed and the rennet harvested.

If using animal rennet, try to stay within your species. For example, I make cows milk cheese, so I use calf rennet. This will give you the best results.

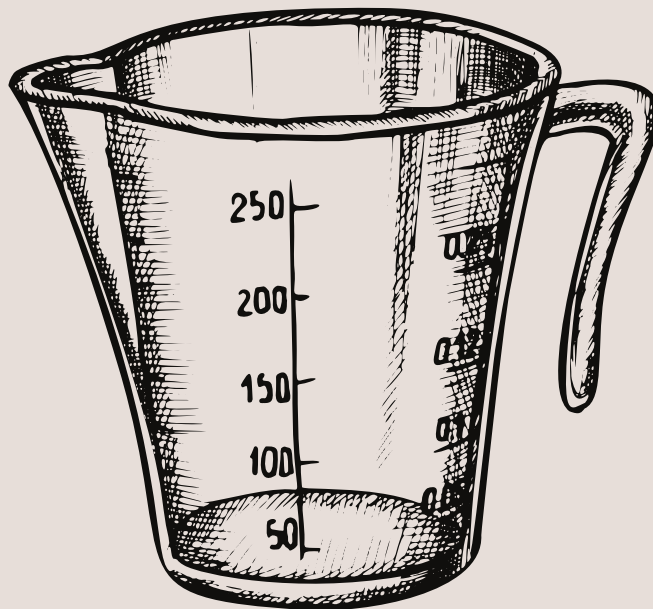
Vegetable and microbial rennets also work well for cheesemaking and are good choices.

Rennet will come in different forms. Tablet, liquid, paste and powder are the forms that you will see. I prefer liquid rennet because it is easier to dilute, but they all will work.

Rennet comes in different strengths. If the recipe you are using does not specify a strength of rennet, use the dose directions on your rennets bottle.

Do's and Don'ts of Sourcing Rennet for Cheesemaking

- ✓ You will get the best set with animal rennet, but vegetable and microbial also work well.
- ✓ Pay attention to the strength of rennet. For example, my rennet is double strength. If a recipe does not specify a strength of rennet, use the directions on your bottle or package. Keep in mind that milk that is more acidic, needs a slight less amount to coagulate as discussed earlier.
Store your rennet in the fridge. Keep in mind that it is light, temperature and chlorine sensitive.
- ✓ Rennet will start working as soon as it comes in contact with milk, so always dilute it in water before adding into the milk.
- ✓ If you are using pasturized milk, you will need to add calcium chloride to the milk before adding the rennet. To convert a recipe to use with pasteurized milk, add the same amount of calcium chloride as rennet (be sure to dilute it in water first).





Choosing Salt For Cheesemaking

When choosing salt for cheesemaking, choose a salt that is free of additives such as anti clumping agents or iodine.

I use fine ground salt in all of my recipes. I like fine ground salt because it weighs the same amount as water and makes calculating brine quantities easy.



Section 3; Cheesemaking Equipment

Like most things, cheesemaking has been commercialized.

It is easy to be overwhelmed by all of the equipment needed for cheesemaking, but ... when you start out you virtually need nothing!

Think back to the days when our ancestors made cheese, they had mostly handmade equipment, and they made good cheese.

This section will take you through the bare minimum that you need to get started.

Bare Minimum Equipment You Should Have on Hand For Cheesemaking

A Stainless steel pot that will fit the amount of milk you want to process.

Thermometer (any kitchen thermometer as long as it has the range 70F- 180F)

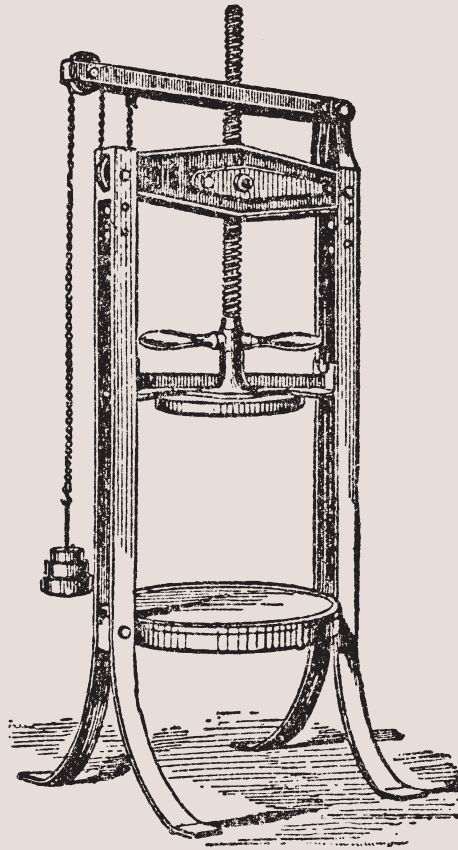
Cheese cloth - Don't buy the cheese cloth they sell in the grocery store, it doesn't work. Muslin baby blankets, thrifted cotton material, flour sack towels, or old pillow cases are all great, inexpensive options.

Knife, Spoon, Strainer

Vacuum Sealer - Not absolutely necessary, but if you are planning on making and aging pressed cheeses, this will make your life so much easier.

Place to age your cheese. This could be as simple as a regular refrigerator, a cold room, cellar or wine fridge. As long as it doesn't freeze and doesn't exceed 60F, it will work for aging your cheese.





Cheese Press

When I first learned to make cheese, I thought I needed a cheese press to get anywhere. I bought an inexpensive (yet still expensive one) and to this day it is my biggest cheesemaking regret.

Cheese presses are nice to have, but I firmly believe when you are learning to make cheese the less money you can spend the better. If you like cheesemaking, and you want to do a lot of it, save up for a good one, or if you are mechanically inclined, easily build a good one for cheap.

Watch the attached video to see how I easily make a DIY cheese press using things you have at home.

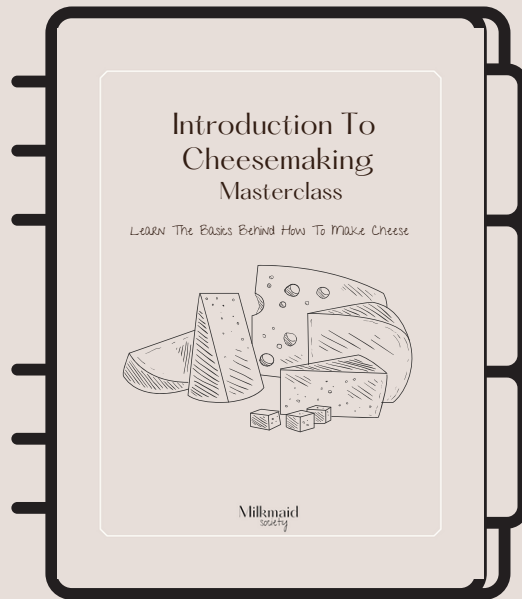
Also, keep in mind that some cheeses don't even need to be pressed. Cheeses such as feta, brie, or camembert are soft enough to press with their own weight. All they need is a cheese shaped vessel to drain in. This vessel can easily be made using an old food grade plastic container with holes poked in it.



Section 4; The Basics Behind How All Cheese Is Made

As we have learned, there are thousands of different cheeses and they are all essentially made from the same 4 ingredients. Different cheeses depend both the quality and type of these ingredients, as well as the cheesemaking technique to distinguish them as different cheeses.

In this section we take a brief look at the most common steps you will see in cheesemaking.



Most Common Steps of Cheesemaking That you will See in Recipes

Step 1- Heating your milk to a desired temperature that will allow your lactic bacteria to thrive the best.

Step 2- Inoculating your milk with a culture.

Step 3- Allowing this culture a chance to ripen. In some cheeses this may be hours, in rennet coagulated cheeses, this step is often very short.

Step 4- Coagulation. Either by the prolonged acidification or by the addition of rennet.

Step 5- Cutting, Draining, Cooking, Washing, Stirring, Cheddaring, Pressing
This is the time when many cheese recipes veer off to do different things. During this time the cheese is continuing to acidify and the way you manipulate them is not only releasing moisture, but also controlling how quickly they acidify.



Step 6; Salting. There are various different ways of salting cheese. The ones you will most commonly see include surface salting, brine salting and curd salting. Cheeses can also be aged in a salt brine.

Step 7; Drying, Preparing for Aging.

Cheeses must be dried slightly before aging can begin, this is typically done at a specific temperature to continue to control acidity development.

You will see that there are several different ways to prepare your cheese for aging, and certain cheeses do better with certain preparations. Waxing and Vacuum sealing are interchangeable. Waxed or Vacuum sealed cheeses need to be stored in a temperature controlled environment, but you don't need to worry about controlling humidity with these methods, which makes them great choices for beginners. Almost all cheeses that are low moisture and non mold ripened can be aged in this way.

Natural aging cheeses is when you allow them to form their own rinds. With this method of aging, you must control both humidity and temperature.

Step 8- Aging cheese is a very easy step if you are vacuum sealing. Without having to worry about humidity control all you have to do is put your cheese in a temperature controlled environment, flip it once and awhile if you remember, and wait.

Cheeses that are natural rinded will need a lot more care during the aging stage to monitor and control humidity as well as control mold growth and contamination.



Section 5; Where And How To Get Started

It can be overwhelming to figure out where to get started when it comes to cheesemaking! It is also easy to dip your toe in, love it, and want to try all the cheeses! This is great, but it can easily lead to overwhelm.

In this section we will look at where and how to get started so that you can stop thinking about it and just start!



Where Should I Start

If you have never processed any dairy, I recommend starting with some simple recipes such as butter, yogurt or sour cream.

After you have played around with these a little bit, great cheesemaking starting points are fresh cheeses such as cream cheese, quark or ricotta.

After you have played around with the fresh dairy a little bit, its time to dip your toe into the world of slightly more complicated cheeses.

My favourite suggestion for a starter cheese is feta. It is a great starter cheese because it allows you the opportunity to use a smaller amount of milk, as well as age it in your regular refrigerator. Mozzarella is also a good starter cheese, not because it is an easy cheese to make, infact it is quite an advanced cheese to make, but because it teaches you how to follow a cheesemaking recipe. It shows you that the steps in cheesemaking matter, because they give you a desired outcome.

After you have tried all of these, you are ready for more advanced cheeses. My recommendation is to choose 1 or 2 cheeses that your family knows and loves, and make those a lot! Repetition will help you to establish not only a cheesemaking rhythm but a comfort that only comes with experience.

How To Get Started.... Get Started!

- 1 Order Your Ingredients
- 2 Find Your Equipment
- 3 Start with Basic Dairy processing
- 4 Move on to fresh cheeses
- 5 Make a batch of feta, and Mozzarella
- 6 Choose 1 or 2 of Your Families Favourite Cheeses and Make those
- 7 Eat Cheese And Tag Me In your cheesemaking Adventures so I can see!



Conclusion

In this masterclass, you learned the very basics behind cheesemaking. There is so much more to it, but this is a start! Cheesemaking is one of those things that you learn the most by doing. As you make more cheese, you will naturally develop and hone your skills.

You will feel more comfortable, and the things that used to be scary, will seem easy. It's a learning transition that you will see sooner than you think!

You are ready for this first step! Order your ingredients, put your cheese pot on the stove, grab that cup of coffee, and lets make some cheese!