

How Microbes Influence the Flavor & Texture of Cheese:

*Choosing cultures
for cheesemaking*

by Curt Wittenberg
(your Sister Noella)

November 18, 2022



OK, I found the Library of Cheesemaking.
How do I choose a culture for my cheese?



Queso Diego Library of Cheesemaking

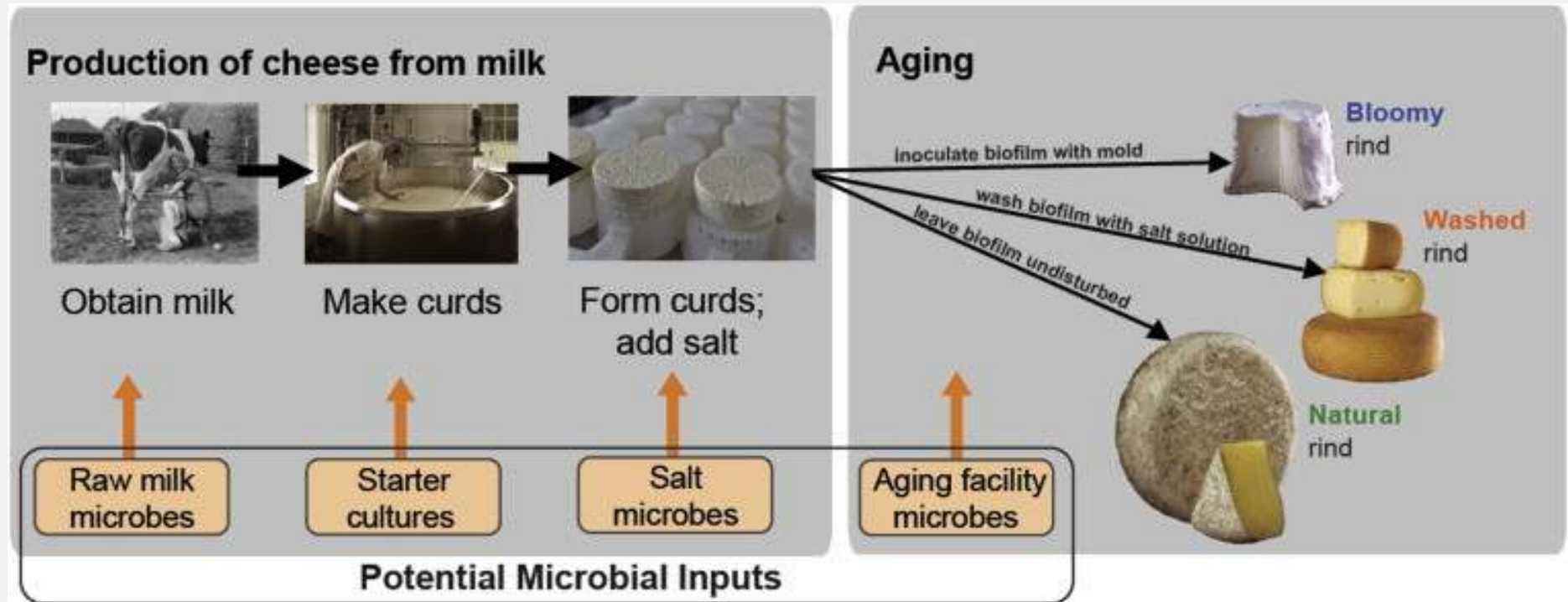
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Item Number	Bacteria/Mold/Other	Sub-Type	Description	Format	Held By	Amount Available
C012	Bacteria	Thermo	Thermo C blend used for high cook cheeses. Contains S. thermophilus and L. helveticus cultures.	freeze-dried	Curt	>10 vials of 1/4 tsp
C013	Bacteria	Thermo	TM01 Thermophilic lactic acid starter blend for use in Italian type cheeses, especially mozzarella.	freeze-dried	Curt	>10 vials of 1/4 tsp
C014	Mold	Blue	PV very fast growth rate, strong blue flavor and a blue-green color.	freeze-dried	Curt	>10 vials sufficient for 2 gals of milk
C015	Mold	Mixed	PLA Complex blend for aspect and flavor of the main European (French) style cheeses. Brevibacterium linens, Arthrobacter nicotianae, Debaryomyces hansenii, Geotrichum candidum.	freeze-dried	Curt	>10 vials sufficient for 1/2 cup of washing solution
C016	Bacteria	Red	Brevibacterium Linens (Corynebacteria) Brevibacterium linens: dark reddish color, high aromatic potential, high proteolytic activity.	freeze-dried	Curt	>10 vials sufficient for 1 cup of washing solution
C017	Mold	White	G17 - Geotrichum candidum Mold-like appearance, very mild flavor and aroma. Enhances the appearance and activity of the P. candidum strains. When used in combination will help minimize proteolysis and lengthen the storage time of the ripened cheese.	freeze-dried	Curt	>10 vials sufficient for 2 gals of milk
C018	Mold	White	HP6 - Penicillium candidum Classic white mold. Characteristics: High proteolytic activity, Moderate lipolytic (aroma), Moderate surface density and height. Generally used to achieve moderate-fast ripening time.	freeze-dried	Curt	>10 vials sufficient for 2 gals of milk
C019	Mold	White	Mycodora White mold esp. for Tomme cheese. White fluffy surface, with a yellow/brown underside.	freeze-dried	Curt	>10 vials sufficient for 2 gals of milk
C020	Mold	White	SAM3 - Penicillium candidum Classic white mold with Anti-Mucor properties. Helps inhibit black mold. Characteristics: High proteolytic activity, High lipolytic (aroma), low surface density and height. Generally used to achieve fast ripening time with high aroma.	freeze-dried	Curt	>10 vials sufficient for 2 gals of milk
			Lipase - Call (Mild) Mild lipase for cheese ripening.			>10 vials

Instructions Equipment Microbes and Supplies Books Purchase Requests

Microbial Inputs in Cheesemaking



Factors affecting cheese flavor and texture



	<i>Flavor</i>	<i>Texture</i>
<i>Type and source of milk</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Microbes (indigenous or introduced)</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Rennet</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Curd preparation</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Time and conditions of ripening/aging (affinage)</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Categories of cheesemaking microbes

Starter Cultures (dominated by Lactic Acid Bacteria [LAB]).

- Primary role is to acidify the milk to assist in forming curd
- Secondary role is to impart flavor and alter the physical characteristics to the developing curd
- Used to make both fresh and ripened cheeses
- Can be inoculated or indigenous

Ripening Cultures (diverse: include molds, yeast and bacteria)

- Generally participate in the development of rind ecosystems
- Impart flavor and alter the physical characteristics of the ripening cheese
- Can be inoculated or indigenous.

What are the roles of Starter Cultures?

- **Acid production (dramatic):**
Formation of curd, whey expulsion, curd texture, flavor development
- **Flavor (subtle):**
Formation of diacetyl (butter flavor), acetaldehyde (green apple), lactic acid and others
- **Preservation:**
Production of compounds that discourage spoilage bacteria (primarily acid)
- **Gas formation (subtle):**
Production of CO₂ increases openness of the curd and bubbles in paste



Bacteria for Starter Cultures

Strains of bacteria	Strains of bacteria	Function
LA	Lactobacillus acidophilus	Lactic acid in making yogurt
LB	Lactobacillus delbrueckii ssp. Bulgaricus	Lactic acid
LC	Lactococcus lactis ssp. cremoris	Lactic acid (salt sensitive >4%)
LD	Lactococcus lactis ssp. lactis biovar. diacetylactis	Lactic acid
LDL	Lactobacillus delbrueckii ssp. lactis	Lactic acid
LH	Lactobacillus helveticus	Lactic acid
LL	Lactococcus lactis ssp. Lactis	Lactic acid, CO ₂ , diacetyl
LM	Leuconostoc mesenteroides ssp. cremoris	Lactic acid, slow CO ₂ , diacetyl
ST	Streptococcus thermophilus	Lactic acid

Homolactic Fermentation: *Lactose* ----> Glucose -----> *Lactic Acid*

Heterolactic Fermentation: *Lactose* ----> Glucose -----> *Lactic Acid* + **CO₂** + Ethanol

CO₂ production can be Slow or Fast = Large or Small Eyes
Diacetyl (buttery flavor) is produced as a biproduct

Mesophillic Starter Cultures

Mesophillic (Abiasa) Aroma Type B1	LL + LC + LD + LM	Moderate acidifier with some gas and high diacetyl production. Havarti, Camembert, Cream cheese, Sour cream, Creme Fraiche, Cottage cheese, Fromage blanc, Chevre frais, St-Maure, Valencay, Cultured butter.
Mesophillic (Chr Hansen) Flora Danica	LL + LC + LD + LM	Moderate acidifier with some gas and high diacetyl production. Havarti, Camembert, Cream cheese, Sour cream, Creme Fraiche, Cottage cheese, Fromage blanc, Chevre frais, St-Maure, Valencay, Cultured butter.
Mesophillic (Danisco) Choozit LM057	LM	Low acidifier with very high gas and some diacetyl production. Used as an enhancer for Blue cheese and Gouda along with MM series cultures.
Mesophillic (Danisco) Choozit MA011/MA014/MA016/MA019	LL + LC	Moderate/high acidifier with no gas or diacetyl production. Clean flavor, very closed texture, proteolytic during aging. Use for Cheddar, Colby, Monterey Jack, Feta, Chevre, etc.
Mesophillic (Danisco) Choozit MD088/MD089	LD	Low acidifier with moderate gas and high diacetyl production. Used to enhance buttery flavor and produce small eyes in cheese such as Edam/Havarti. Poor acidifier, use with MA series culture.
Mesophillic (Danisco) Choozit MM100/MM101	LL + LC + LD	Moderate acidifier with some gas and high diacetyl production. Use for Brie, Camembert, Havarti, Gouda, Edam, Feta, Blue, Chevre and other buttery, open-textured cheeses. Optimum diacetyl production at 70 – 72° F.
Mesophillic (Danisco) Choozit RA022/RA024/RA026	LL + LC + ST	High acidifier with no gas or diacetyl production.
Mesophillic (Danisco) Choozit SMADL 77	LL + LC + LD + LM	Moderate acidifier with some gas and high diacetyl production. Havarti, Camembert, Cream cheese, Sour cream, Creme Fraiche, Cottage cheese, Fromage blanc, Chevre frais, St-Maure, Valencay, Cultured butter.
Mesophillic Starter (mother)	LL + LC	Moderate/high acidifier with no gas or diacetyl production. Clean flavor, very closed texture, proteolytic during aging. Cheddar, Monterey Jack, Stilton, Edam, Gouda, Muenster, Blue, and Colby.
Mesophillic (Abiasa) Type II	LC	Moderate/high acidifier with no gas or diacetyl production. Cheddar, Colby, Brick, Jack, Farmers, Limburger, Camembert, Brie, Blue cheese, Mozzarella, Provolone, Parmesan, Romano
Mesophillic (Abiasa) Type III	LL + LC	Moderate/high acidifier with no gas or diacetyl production. Clean flavor, very closed texture, proteolytic during aging. Gouda, Edam, Havarti.

Some of our favorite Starter Cultures



MA Series (MA 11)

MA culture is the basic mesophilic lactic acid culture. It is the most common culture type for making cheddar, colby, Monterey jack and cottage cheese.

Starting at: **\$12.50**



MA 4000 Series

Often referred to as the "farmhouse culture," the MA 4000 series is a very versatile mesophilic culture blend used especially in soft ripened or unripened specialty cheeses; may also be used for semi-hard cheeses such as farmhouse cheddar.

Starting at: **\$11.95**



MM Series

MM culture is a mesophilic culture blend preferred for soft ripened, and fresh (unripened) cheeses: Brie, Camembert, Havarti, Gouda, Edam, Feta, Blue, Chevre, and similar styles.

Starting at: **\$12.50**



Flora Danica

Mesophilic culture blend used for specialty fresh and soft cheeses, sour cream and cultured butter. Popular blend for goat-milk cheeses, Havarti, Baby Swiss, Gouda, Edam, Blue, Camembert, Brie, etc.

Starting at: **\$16.50**



from GetCulture.com

Mesophilic cultures for acid production

(All of these cultures are in the Library)

Flora Danica

LL, LC, LD, LM

Moderate acidifier with some gas and diacetyl production (Havarti, Camembert, Cream Cheese, Sour Cream, Chèvre, Valencay, Cultured Butter)

MM100

LL, LC, LD

MA011

LL, LC

Moderate/high acidifier with no gas or diacetyl production (Cheddar, Jack, Feta, Chèvre, etc)



Thermophillic Starter Cultures

Thermophillic (Danisco) Choozit TA050/TA052/TA054	ST	Low acidifier used for stabilized cheese.
Thermophillic (Danisco) Choozit TA060/TA061/TA062	ST	High acidifier, good for high temp. scalded cheeses. Culture survives up to 128° F. Parmesan, Romano, Provolone, Mozzarella Emmental/Swiss
Thermophillic (Abiasa) Type B	ST + LB	Italian-style mozzarella, parmesan, romano, provolone, other Italian cheeses, soft and semi-soft type cheeses. More proteolytic than ST strain alone.
Thermophillic (Abiasa) Type C	ST + LH	For use in Italian and farmstead type cheeses, Emmenthaier, Gruyere, Swiss, and Romano. More proteolytic than ST strain alone.
Farmhouse Culture (Danisco) Choozit MA4001/MA4002	LL + LC + LD + ST	Moderate acidifier with some gas and diacetyl production---similar to bacteria balance in raw milk. "Farmhouse" culture used for most types of cheese. Slightly open texture.
Feta Culture (Danisco) Choozit Feta B	LL + LC + ST + LB + LH	Feta. Due to the addition of L. bulgaricus and L. helveticus, it results in a higher proteolytic activity and a creamy texture.
Feta Culture (Danisco) Choozit MT1	LL + LC + ST + LB	Very high acidifier with no gas or diacetyl production. Used for feta.
Choozit Kazu (Danisco)	LL + LC + LD + LH	Moderate acidifier with some gas and diacetyl production. "Farmhouse" culture for semi-hard and soft cheeses.

Thermophilic bacteria tolerate high temperature

- Most thermophilic starter cultures contain mesophilic and thermophilic bacteria.
- Thermophilic bacteria can survive the “cooking” required for some cheeses.
- The bacteria that survive “cooking” can produce flavors and textures during aging.
- Mesophilic bacteria are generally lost during “cooking” and no longer influence the cheeses during aging.



Thermophilic cultures for acid and flavor production

(All of these cultures are in the Library)

Thermo B

ST, LB

Low acidifier with moderate proteolysis
(Mozzarella, Parmesan, other Italian cheeses,
soft and semi-soft)



MA4001/2

LL, LC, LD, ST

Moderate acidifier with some gas and diacetyl
production (Farmhouse blend imitates raw milk;
Most cheese types; ST tolerates cooking of curd
and adds complexity)

Feta Culture

LL, LC, ST, LH, LB

Moderate acidifier with some gas but no diacetyl
production. LB and LH add to proteolytic activity
for enhanced flavor and creaminess



(Consider the mild flavor of Mozzarella versus the sharpness of Feta)

Please pass out the first four cheeses:

Keep track of the number of each sample (1-4)

Quattro Fromaggi...reimagined



VS



Mesophilic cultures for acid production

(All of these cultures are in the Library)

- 1** ***Flora Danica***
LL, LC, LD, LM
 - 2** ***MM100***
LL, LC, LD
 - 3** ***MA011***
LL, LC
 - 4** ***MA4001/2***
LL, LC, LD, ST
- Moderate acidifier with some gas and diacetyl production (Havarti, Camembert, Cream Cheese, Sour Cream, Chevre, Valencay, Cultured Butter)
- Moderate/high acidifier with no gas or diacetyl production (Cheddar, Jack, Feta, Chevre, etc)
- Moderate acidifier with some gas and diacetyl production (Farmhouse blend imitates raw milk; For most cheese types; ST tolerates cooking of curd and adds complexity)

Streptococcus thermophilus [ST] is
a thermophilic lactic acid bacteria



How do different Starter Cultures affect texture and flavor?

Consider these characteristics when you taste each Chèvre

Texture

- Soft
- Firm
- Creamy
- Flaky
- Grainy

Flavors

Acidity:

- Bright
- Fresh
- Sour
- Sharp
- Mild

Other flavors:

- Butter (diacetyl)
- Apple (acetaldehyde)
- Fresh cream, fresh milk
- Bitterness
- Funky/musty

How can the same cheese be made using many different cultures?

The primary effect of starter culture on cheese texture is via the production of acid.

- High acid (low pH: ~4.5) leads to more "grainy/crumbly/brittle" cheese
 - Promotes calcium loss and a more compact casein network
 - Lower fat and low meltability
 - Think Chèvre and Feta vs Telemea, Mozzarella
- Moderate acid (higher pH: >5) leads to more pliable cheese
- Low acid (high pH: ~6) leads to softer, higher moisture, higher fat cheese



Chèvre



Feta



Telemea



Mozzarella

Ripening Cultures: Molds and Bacteria

Modifying and enriching simple cheeses



Corynebacteria



Geotrichum candidum



Penicillium candidum



Penicillium roqueforti

from [GetCulture.com](https://www.getculture.com)

What are the roles of Ripening Cultures?

Can create appropriate conditions for the establishment of other organisms by altering surface pH and other properties
(*Geotricum candidum* and other molds and yeast)

Can determine the appearance of the cheese rind and increase the fluidity of the paste
(*Penicillium candidum* and *Brevibacteria linens*)

Can contribute subtle to strong flavors and aromas and promote changes in the paste
(*P. roqueforti*, *B. linens*, *Propionibacteria*)

Many are molds; some are bacteria
Some need oxygen to thrive



Ripening Cultures exhibit dramatic differences in their characteristics and impact on flavor and texture

- Unlike Starter Cultures strains, Ripening Cultures do not all share any particular characteristic.
- They can be comprised of bacteria, molds, or even mixtures of the two (PLA and others)
- Many grow primarily on the surface, where oxygen is available (*B. linens*, *P. candidum*, *G. candidum*, etc.)
- Some act primarily within the paste (*P. roqueforti*, *Propionibacteria*, etc.).
- Some promote dramatic alterations to the paste by growing on the surface (*B. linens*, *P. candidum*, etc.), whereas others influence the conditions and/or flavor and texture of the rind (PLA, *Mycodore*, etc.).

Ripening Cultures often are responsible for the characteristic Texture and Flavor of cheeses

Surface-ripened cheeses

- Washed-rind cheeses (*B. linens*): Epoisses, Limburger, Reblochon, etc
- Bloomy-rind cheeses (*P. candidum* & *Geotricum*): Brie, Camembert, etc

Blue cheeses

- Traditional rind (*P. roqueforti*): Roquefort, St. Agur, Bailey-Hazen, etc.
- Bloomy-rind (*P. roqueforti* & *P. candidum*): Cambozola

Alpine cheeses (with eyes)

- Emmental (Swiss)

Some Ripening Strains are available in multiple forms (subspecies) that differ in their effect.

P. candidum

Brie, Camembert,
other surface-ripened
cheeses

SAM3: white mold, fast ripening with high aroma

ABL: white mold, moderate-slow ripening.

HP6: white mold, moderate-fast ripening



G. candidum **"Geotricum"**

Various surface-
ripened cheeses

GEO13: white mold with folded growth pattern,
intermediate flavor and "mushroom/earthy" aroma

GEO15: slick yeast-like appearance, mild flavor and aroma

GEO17: mold-like appearance and very mild flavor and
aroma



P. roqueforti

Blue cheeses

PS: medium-fast growth rate, a mild blue flavor and a blue-green color

PV: very fast growth rate, strong blue flavor and a blue-green color

Other: vary with source; sometimes from commercially available cheeses



Please pass out the Blue Cheese samples

(Produced by club members using different *P. roqueforti* strains)

Another Quattro Fromaggi



3

P. roqueforti

PS

P. roqueforti

PV

4

How do different *P. roqueforti* cultures affect texture and flavor?

Consider these characteristics and their intensity when you taste each Blue Cheese (1-4)

Texture

- Dense
- Soft
- Creamy
- Fudgy
- Flaky
- Grainy

Flavors

Acidity:

- Bright
- Piquant
- Neutral
- Sharp
- Mild

Other flavors:

- Blue mold
- Funky/musty
- Salty
- Bitter
- Ammonia

What you add isn't necessarily what you get!

Jasper Hill Farms Hazen Blue



As cheese ages, microbial populations evolve

- Aging is accompanied by water loss, increase in salt concentration, alterations to fat and proteins
- Complex evolution of surface microbes (bacteria and molds)
- Most of the microbes are environmentally-derived

What's happening here?

- Unlike starter cultures, which reside on the interior, ripening cultures that depend upon oxygen grow only on the surface.
- The surface of the ripening cheese is affected by the environment.
 - Humidity, temperature, environmental flora, etc.
- When conditions are appropriate, environmental microbes may populate the surface.
 - Their growth creates new conditions that may or may not favor the original ripening culture.
- Some ripening cultures are intended to establish conditions for invasion (yeast, *B. linens*) others are intended to dominate the surface and exclude other organisms (*P. candidum*, *Geotricum*).

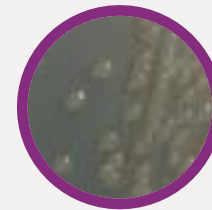
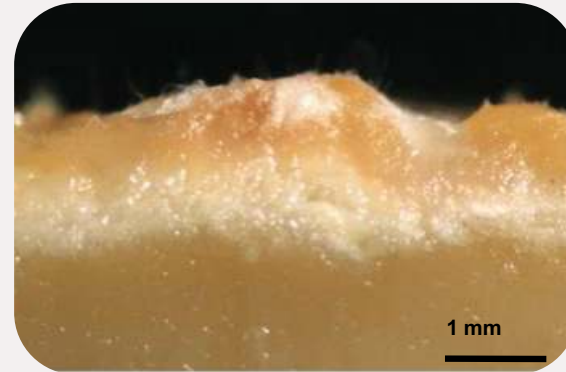
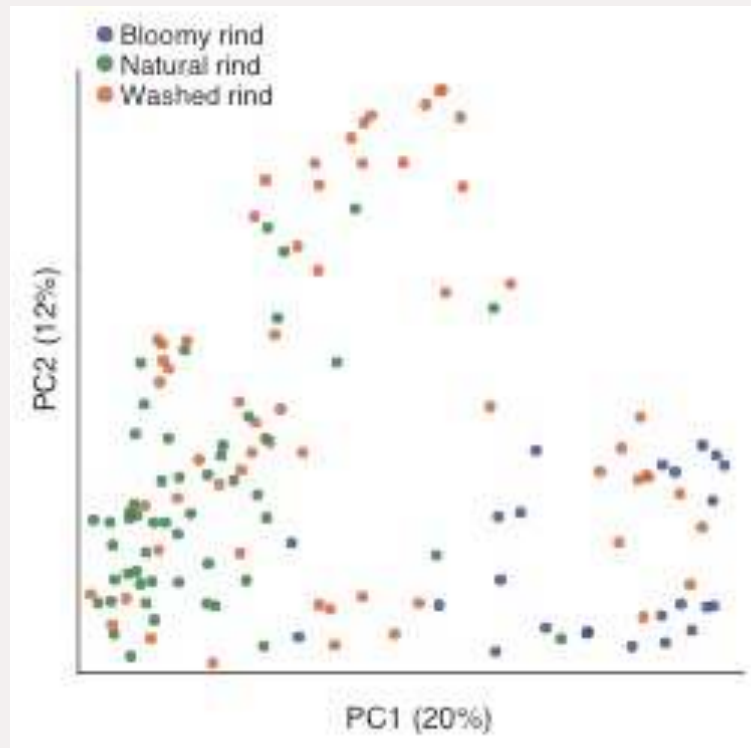
The *B. linens* conundrum



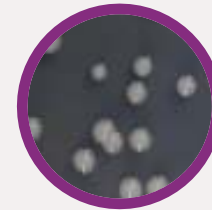
\neq *B. linens*

Where is the funk coming from?

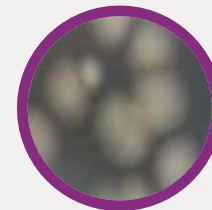
Washed rind communities



Marine-associated bacteria



Corynebacterium



Fusarium

Summary

- All cheeses start with a starter culture, mesophilic or thermophilic
- Starter cultures primarily acidify the milk to promote curd formation and affect both texture and flavor.
- Some cheeses employ ripening cultures to promote differentiating characteristics to the cheese.
 - Some of those characteristics are dramatic while others are subtle.
- Using different starter cultures or subspecies of cultures can affect the outcome of your cheesemaking.
- Experiment and enjoy!

How to use the Library of Cheesemaking?

The screenshot shows a Google Sheet titled "Queso Diego Library of Cheesemaking". The sheet is divided into sections for borrowing tools and supplies, with specific instructions for microbes and purchase requests.

Queso Diego Library of Cheesemaking Tools and Supplies

This library is only available to Queso Diego members in good standing. It should be treated as a privilege and not a right and this privilege can be revoked by the officers at any time if it is abused. See the other sheets for available materials (equipment, books, microbes).

To borrow any items, you must check them out by sending a message to <qd-library-request@quesodiego.org> and provide contact information and an expected return date. You and the current person in possession of the item will be contacted and must arrange to exchange the items.

Please respect the equipment and return it in the condition you received it, in a timely manner. By borrowing items, you are agreeing to be financially responsible for them if they are lost or damaged. Some of the items are club materials, which can be obtained from officers, while others may belong to individual members.

Special Instructions for Microbes:
Microbes are managed by one or more members who have the skills and equipment to maintain and package them. All items must be requested at least 5 days before the meeting or other arrangements can be made to obtain them. There will be a fee of \$1/unit for all items to cover storage and packaging materials. To request microbes, send an e-mail to <qd-library-request@quesodiego.org>. Include name, email/phone, item and amount needed, and any special information.

Purchase Requests:
The purchase requests sheet can be used to request future purchases. They are not guaranteed to be purchased on any specific timeline or at all, but this sheet gives club members some input into future purchases. Add a note if you would also find something suggested by another member useful. The new/refill column should be used to indicate whether it is an item we have carried and run out of, or if it is a new item.

The sheet has tabs for: Instructions, Equipment, Microbes and Supplies, Books, and Purchase Requests.

What do I find when I get there?

Queso Diego Library of Cheesemaking









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	A	B	C	D	E	F	G	H	I	J
	Item Number	Bacteri al/Non- Other	Sub-Type	Description	Format	Hold By	Amount Available	Lead Time	Notes	Link
10	C912	Bacteria	Thermo	Thermo C blend used for high cook cheeses. Contains S. thermophilus and L. helveticus cultures.	freeze-dried	Curt	>10 vials of 1/8 tsp	Minimum of 5 days before meeting or other arranged pickup		http://www.getculture.com/Thermo-C.html
14	C913	Bacteria	Thermo	TM81 Thermophilic lactic acid starter blend for use in Italian type cheeses, especially mozzarella.	freeze-dried	Curt	>10 vials of 1/8 tsp	Minimum of 5 days before meeting or other arranged pickup		http://www.getculture.com/TM81.html
16	C914	Mold	Blue	IV very fast growth rate, strong blue flavor and a blue-green color.	freeze-dried	Curt	>10 vials sufficient for 2 gals of milk	Minimum of 5 days before meeting or other arranged pickup		http://www.getculture.com/IV.html
15	C915	Mold	Mixed	PLA Complex blend for aspect and flavor of the main European (French) style cheeses. Brevibacterium linens, Actinobacter nicosianus, Debaryomyces hansenii, Geotrichum candidum.	freeze-dried	Curt	>10 vials sufficient for 1/2 cup of washing solution	Minimum of 5 days before meeting or other arranged pickup		http://www.getculture.com/PLA.html
17	C916	Bacteria	Red	Brevibacterium Linens (Corynebacteria) Brevibacterium linens: dark reddish color, high aromatic potential, high proteolytic activity.	freeze-dried	Curt	>10 vials sufficient for 1 cup of washing solution	Minimum of 5 days before meeting or other arranged pickup		http://www.getculture.com/BL_inens-500s.html
18	C917	Mold	White	G17 - Geotrichum candidum Mold-like appearance, very mild flavor and aroma. Enhances the appearance and activity of the P. candidum strains. When used in combination will help minimize proteolysis and lengthen the storage time of the ripened cheese.	freeze-dried	Curt	>10 vials sufficient for 2 gals of milk	Minimum of 5 days before meeting or other arranged pickup		http://www.getculture.com/GEO-17.html
19	C918	Mold	White	HPS - Penicillium candidum Classic white mold. Characteristics: High proteolytic activity. Moderate lipolytic (aroma). Moderate surface density and height. Generally used to achieve moderate-fast ripening time.	freeze-dried	Curt	>10 vials sufficient for 2 gals of milk	Minimum of 5 days before meeting or other arranged pickup		http://www.getculture.com/HPS.html
20	C919	Mold	White	Mycodore White mold esp. for Tomme cheese. White fluffy surface, with a yellow/brown underside.	freeze-dried	Curt	>10 vials sufficient for 2 gals of milk	Minimum of 5 days before meeting or other arranged pickup		http://www.getculture.com/Mycodore.html
21	C920	Mold	White	SAM3 - Penicillium candidum Classic white mold with Anti-Mucor properties. Helps inhibit black mold. Characteristics: High proteolytic activity, High lipolytic (aroma), low surface density and height. Generally used to achieve fast ripening time with high aroma.	freeze-dried	Curt	>10 vials sufficient for 2 gals of milk	Minimum of 5 days before meeting or other arranged pickup		http://www.getculture.com/SAM3.html
22				Lipase - Calf (Mild) A mild, non-acidic lipase characteristic for Mozzarella			>10 vials sufficient for 2 gals of milk	Minimum of 5 days before meeting or other arranged		

Instructions - Equipment - Microbes and Supplies - Books - Purchase Requests - Explore

What do I find when I get there?

Item Number	Type	Photo	Description	Int. Capacity	Dimensions 16 by 16 1/2	Open	Bottoms	Followers	Sum of Items	Qty	Unit	Cost	Differs	Owner
F048			Large Heart		1.5x4				1	1			0	Larry
F050			Large Heart		1.5x4x4				1	1			0	Jack
F051			Small Heart		2x2				2	2			0	Jack
F052			Small Heart		2x2				1	1			0	Larry
F053			8 pack 1.3" high by 3 wide x 1.5 wide		2.5x3x2.5				1	1			0	Jack
F054	Form		Mozzarella textured	+1.5-2.5 lbs				X	4			1	0	Jack
F055			Bella Mold	2lb	6.5x8			X	4	4			0	Jack
F056			Gouda large form		8x5		X	X	1	2			-1	Jack

Who wants to make Chèvre?

This is your opportunity to win a Chèvre-making kit with everything except the milk.



Questions or Comments?

