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Thistlezyme Vs Ficin Testing on Fresh Cheese

Cheese Type: Fromage Blanc/Chevre Recipe

Scale: 750 g of milk + cream

Equipment: Sous Vide

Ingredients

- 600 g of skim milk
- 150 g of heavy cream
- 1/64 tsp MA11 Mesophilic Culture
- 1/64 tsp CaCl₂ Diluted in 2 tablespoons Non-Chlorinated Water
- Enzymes (see notes on individual samples for enzyme levels)
- Salt (Goal is 1 % by weight of drained curd)

Composition level of the base before fermentation (Calculated)

- Water: ~630g
- Protein: ~25g
- Fat: ~55g
- Carbohydrate: ~34g

Procedure

1. Weigh out skim milk in heavy cream into sterilized 32-ounce Mason jars.
2. Add CaCl₂ to cold milk, place lid on, and shake for 30 seconds.
3. Place the jars of milk into Sous Vide cooker, set to 28°C, and allow milk to heat up to 28°C.
4. When the milk reaches temperature: remove the jars from the Sous Vide, remove the lid, sprinkle the culture over milk without shaking or stirring, place the lid back on, and return to Sous Vide.
5. Leave the jars in Sous Vide for five minutes, allowing the cultures to hydrate.
6. After five minutes, remove jars from water and shake for 10 seconds.
7. Add Enzymes to the jar.
 - a. If adding a protease and peptidase, add the protease first, give the jar a quick shake, and add the peptidase.
 - b. Once all enzymes have been added, shake the jar for 60 seconds and return it to the Sous Vide.
8. Allow the milk to ripen in jars in Sous Vide; recipe suggested to ripen for 12 - 24 hours.
 - a. See individual samples for specific times and pH measurements.



9. After 12 - 24 hours of ripening time, check for a clean break; if you have one, then proceed to the next step.
10. Ladle the curds into sterilized cheesecloth, and hang the cheesecloth to dry from the spoon inside a bowl or jar. Curds should drain for 8 to 24 hours, depending on how creamy you want the cheese to be. See specific sample notes for draining time.
11. Weigh the drained curds and calculate the amount of salt needed and mix in. Salt should be 1% based on the weight of the drained curd.

Results

Enzyme	Dosage (Based on Protein wt.)	Ripening Time (hours)	pH (after Ripening)	Yield (based on Milk and Cream)	Notes
Thistlezyme	0.32%	12	4.0	25.5%	<ul style="list-style-type: none">• thicker cheese, dryer than ficin cheeses• Slightly salty, with herbal notes, Clean and tangy
Ficin 100	0.104%	12	4.0	28.6%	<ul style="list-style-type: none">• Slightly tangy/lactic flavor profile.• Creamy, but thick texture. Similar to cream cheese in flavor and texture.• After a couple of days, there was a slight water separation.
Ficin 100	0.052%	12	4.0	26.9%	<ul style="list-style-type: none">• Similar in flavor to sample made with 0.104% but slightly creamier texture.• Slightly more dairy flavor notes than sample made with 0.104%• Had slightly more water migration than sample with higher Ficin dosage