



Homemade Cottage Cheese Lab

Purpose	To demonstrate the scientific process used to make fresh cheese.	
Scientific Explanation	Rennet is a coagulating enzyme that acts a catalyst when added to warm milk causing the proteins (casein) in milk to become solid. Vinegar (acid) is added to cause the separation of the milk solids and liquid (whey).	
Equipment	Supplies	
Dutch oven- 5 qt. saucepot	1 qt. 2% milk (4 c.)	Optional stir-ins
Candy thermometer	1 Junket rennet tablet	Flavored gelatin
Measuring utensils	1-3 Tbsp. white vinegar	ranch dressing mix
Wooden spoon	1 tsp. salt	Veg. dippers
colander		
cheesecloth		
Large rubberband (opt)		
Large mixing bowl		
Procedure Steps		
<p>1. Add 4 c. milk to Dutch Oven. Attach candy thermometer to side on pan using clip- making sure the tip of thermometer doesn't touch the bottom of the pan. Heat milk in saucepan over medium heat until milk reaches 90 degrees F on candy thermometer; remove from heat.</p>		
<p>2. Crush rennet tablet in foil packet; add to 1/3 c. lukewarm tap water; stirring to dissolve with a wooden spoon. Add rennet and water solution to scalded milk. Let stand, 1 min. for milk to coagulate-clot.</p>		
<p>3. Add vinegar -one tablespoon at a time to scalded milk- rennet solution; recording observations on data chart after each addition. <i>Do not add more than 3Tbsp. of vinegar.</i></p>		
<p>4. Meanwhile, drape 2 ft. square of cheesecloth over colander-secure with large rubberband. Place in sink; pour milk mixture into cheese cloth and rinse under cold water 3-5 mins or until curds are completely cooled, squeezing the cheese curds dry.</p>		
<p>5. Place curds in mixing bowl stir in salt. Add stir-ins – taste and complete process questions. Assignment complete Frayer Model sheets for curds, whey, and enzyme.</p>		



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Describe appearance of cheese curd after each addition of white vinegar. Use adjectives such as smooth, chunky, thick, etc.

Data Table

White vinegar	Prior to addition of vinegar	1 Tbsp.	2 Tbsp.	3 Tbsp.
Appearance Description				

Process Questions

1. What is the function of rennet in the recipe?
2. What is whey?
3. Describe the difference between commercial cottage cheese and homemade cottage in term of appearance and flavor.

Assignment

Complete Frayer Model forms for the following terms:

Enzyme

Whey