



Raving Ricotta



Purpose: Students will be introduced to ricotta cheese, including the basic science and origin of this fresh cheese. The students will make and taste ricotta in the classroom and discover ways to incorporate ricotta into healthy snacks.

Background:

Ricotta cheese is a versatile, delicious, and nutrient dense food. A small $\frac{1}{4}$ cup serving of ricotta provides six grams of high-quality protein and is a good source of bone-strengthening calcium. Ricotta contributes a variety of additional nutrients, including vitamin A, B vitamins, phosphorus, zinc, and selenium. With its mild flavor and soft consistency, ricotta works well in a variety of recipes.

There are references to ricotta in art, literature and medicine dating back to the early thirteenth century. Food historians believe that ricotta cheese is an ancient food that originated in the Italian island province of Sicily among the peasant class. The first ricotta was likely produced from sheep's milk rather than cow's milk because sheep were more common. It is thought that ricotta was created by peasants who were concerned about wasting the considerable liquid that drained off when aged cheese was produced. To avoid wasting the liquid **whey** resulting from cheese making, the technique of fermentation and heating was used to make a second or "re-cooked" cheese.

Ricotta is made by mixing cream, milk, and acid together. This mixture is then heated to very high temperatures. The combination of heat and acid cause the proteins in the **whey** mixture to coagulate. (**Whey** is the liquid remaining after milk has been curdled and strained.) The high heat causes the protein to unfold, stick to each other and stick to any **casein** that might be present. (**Casein** is the main protein present in milk and cheese.) The acid that is added causes further protein to unfold as well as the **caseins** to begin to coagulate. These processes create the soft mixture we know as ricotta.

Materials: 1 cup heavy cream, 4 cups whole milk, $\frac{1}{2}$ teaspoon salt, 3 Tbsp lemon juice or white vinegar, saucepan, strainer, large bowl, paper towels or cheesecloth

Activity:

1. Line a strainer with a couple layers of damp paper towels or cheesecloth and set inside a large bowl.
2. In a saucepan, combine heavy cream, milk, and salt. Bring to a boil over medium-high heat.
3. Once boiling, shut off heat, and stir in the lemon juice or vinegar. Remove from heat and let sit for 10 minutes. Put it in a strainer and drain for 20 minutes. Enjoy!

Review Questions:

1. What are the main proteins in milk?
2. What makes the cheese curd clump together?
3. True or False: The cheese curd is the casein and the liquid left behind is the whey.

Resources:

- Florida Dairy Farmers
 - <https://www.floridamilk.com/in-the-schools/dairy-curriculum/>