

Did You Know?

Children and adults of all ages love cheese! It's simplistic, yet complex. Scientists at **ARS' Eastern Regional Research Center (ERRC)**, Wyndmoor, PA, have made major contributions to the dairy field, particularly in innovations relating to cheese. Specifically, ERRC's Dairy Research Management Unit's research goals are to improve and safeguard dairy products, to expand scientific knowledge of dairy's chemical and physical properties, and to find new ways to expand dairy products for consumer use—adding value for dairy farmers as well.

About a half-century ago, ARS scientists developed a deodorizing process that removed off-flavors from milk. The method, which allowed milk to be pasteurized by quick cooling in a vacuum chamber, permitted cheese milk to be pasteurized and deodorized, and increased in concentration by 8 percent. Cheese makers adopted the process.

In the late 1960s, ERRC scientists developed a phosphate-and-heat treatment for preparing milk starters for use in cheese making. In previous methods, certain bacteria were used to make cheese, but many of those bacteria were destroyed by viruses—rendering the product unusable. Within 5 years of developing this technique, half of U.S. cheddar cheese makers were using this new ARS process.

Consumer interest in low-fat products has been around for quite some time. In response to consumer demand, ERRC scientists developed a low-fat ripened skim milk cheese in the 1960s. Prior to that time, no such product existed. Thanks to the ARS team's ingenuity, consumers could enjoy a low-fat, high-moisture, semisoft cheese that resembled cheddar in texture and flavor. This new cheese contained 6 percent fat, compared to 33 percent in cheddar, and 30 percent protein, compared to 25 percent in cheddar.

This research laid the framework for the reduced fat mozzarella cheese (also developed by ERRC scientists) used today in USDA's National School Lunch Program (NSLP). This new version has improved storage life and contains only 10.8 percent fat, compared to 21 percent fat in regular mozzarella. The NSLP has been using the low-fat cheese to make lower fat pizzas since 1995, and it began using only the low-fat version in 2000.

As of January 2012, USDA's Agricultural Marketing Service—responsible for school lunch commodity purchasing—ordered more than 10 million pounds of low-fat mozzarella for the past month alone.

The low-fat version is better for you, but how does it taste, you ask? In taste tests and “trash can” tests—which evaluate the amount of pizza thrown out by students—students preferred low-fat mozzarella cheese pizza to full-fat mozzarella pizza.

So remember to thank ARS scientists for their contributions to the dairy and cheese making industries...and bon appétit!

*Written by **Tara T. Weaver-Missick**, ARS Information Staff.*





Scrambled Egg and Mozzarella Breakfast Pizza

Ingredients (makes 2 servings):

- 1 whole wheat English muffin
- 2 mushrooms, sliced
- 2 green onions, finely chopped
- 4 tablespoons diced green or red bell pepper
- 1/2 cup egg substitute
- 1/4 teaspoon pepper
- Dash of oregano or Italian seasoning
- 4 teaspoons pizza sauce
- 1/2 cup shredded low-moisture, part-skim mozzarella cheese

Preheat oven to 350 degrees Fahrenheit.

Split English muffin in half and toast; set aside.

Heat a small non-stick skillet over medium heat. Add mushrooms, green onions and bell pepper. Cook, stirring continuously for 2 minutes, or until vegetables are softened. Stir egg substitute, pepper and oregano into vegetable mixture. Cook, stirring continuously until egg substitute is set, about 2 minutes.

Spread 2 teaspoons of pizza sauce onto each English muffin half. Spoon a quarter of the egg mixture over pizza sauce and top with a quarter of the cheese. Spoon the remaining egg mixture and cheese evenly on top of the muffins. Place the muffins on a baking sheet and bake for 5 minutes, or until cheese is melted.

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