

# News & Notes

MUST-READ INFORMATION FOR QUALITY ASSURANCE, SAFETY AND SECURITY PROFESSIONALS, EXECUTIVES, AND MANAGERS IN THE FOOD INDUSTRY



## Yogurt = Mayonnaise = \$\$\$

Students turn yogurt into mayonnaise

**LIKE TURNING LEAD INTO GOLD**, making mayonnaise out of yogurt has presented scientists with some challenges. But unlike alchemists of old who failed to achieve transmutation, Utah State University doctoral candidates Subash Shrestha and Ranjeeta Wadhvani prevailed in their quest to produce a tasty, dairy-based sandwich spread. Their achievement netted them a \$10,000 prize in the New Product Development Competition at the Idaho Milk Processors Association's annual conference, held August 11-13 in Sun Valley, Idaho.

The purpose of the competition was to promote novel uses of milk and milk ingredients in food products. Yogonnaise won the competition because the judges felt it could be used in products already on the market, like salad dressings and sandwiches. The concept of a yogurt-based mayonnaise was the brainchild of Utah State University Extension Food Safety Specialist Brian Nummer, PhD, but various attempts in his laboratory were unsuccessful, and he handed the idea off to Shrestha and Wadhvani.

The pair worked under the supervision of Robert Ward, PhD, an assistant professor of nutrition and food science, and Donald McMahon, PhD, a professor in the department of food sciences and director of the Western Dairy Center at Utah State University.

### YOGURT CHALLENGES

A number of challenges faced the researchers as they worked with the yogurt. Perhaps the greatest challenge was syneresis, the separation of liquid and solid within the yogurt. "Getting a mayonnaise-like texture was a little tough for us," said Shrestha, a student in food safety and quality. "We tried several ingredients that didn't work well, such as whey protein."

The breakthrough finally came when they tried a combination of gums. The next challenge was flavor. Because a lower pH inhibits the bacteria that cause spoilage, Wadhvani and Shrestha wanted to adjust the pH of the product to less than 4.0; however, the vinegar used to achieve the lower pH made the product taste excessively sour. Their solution was to replace some of the vinegar with lemon juice.

"Yogurt has its own flavor. We wanted to make it similar to mayonnaise," said Wadhvani, who brought a background in dairy science to the collaboration.

A small focus group, including Wadhvani and Shrestha, guided the development of yogonnaise. When they felt they had the right formula, they tested the product on a consumer panel at a local farmer's market, and its average score on the hedonic scale (1-9) was 7.2. A score above 6 is considered quite good, according to Shrestha.

### PROTOTYPE YOGONNAISE

The researchers have not developed a shelf-stable formulation, so the prototype yogonnaise is a refrigerated product. "There is no heat treatment during the process," said Shrestha. "We have not studied the feasibility of heating the product."

The calorie content of yogonnaise is one-third that of regular mayonnaise, because yogurt replaces the oil in the recipe. "People who are calorie conscious can eat three times as much yogonnaise as regular mayonnaise," said Shrestha. Because it contains no eggs, yogonnaise is also completely vegetarian.

Wadhvani and Shrestha are working on a marketing plan for yogonnaise. Shrestha said that some students in the Utah State University business school are drafting a business plan for them, and according to Wadhvani, yogonnaise has garnered some interest from a company that makes salad dressings.

Students from Brigham Young University placed second in the competition with a vitamin D-enriched ice cream called Bone Appétit. Third place went to Moo-Rangs, a meringue-type cookie made from milk protein fractions that was created by students from Cornell University. ■

—By Catherine Shaffer

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