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June 4, 2021

**Food science students design gummy treats to promote healthier snacking**

By Fred Miller

U of A System Division of Agriculture

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**Fast facts**

* Food science students design healthy gummy treats in class project
* Aim to reduce obesity through healthy snacking

(751 words)

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FAYETTEVILLE, Ark. — Food science students in Dale Bumpers College of Agricultural, Food and Life Sciences at the University of Arkansas developed a new recipe for gummy treats in an effort to promote healthier snacking.

The students took on the project in “Product Innovation for Food Scientists,” the capstone class for seniors in food science taught by Navam Hettiarachchy, University Professor in the department of food science.

Hettiarachchy is also a food scientist for the Arkansas Agricultural Experiment Station, the research arm of the University of Arkansas System Division of Agriculture.

“Most children snacks are mostly dense in calories and deficient in nutrients,” Hettiarachchy said. “Replacing unhealthy snacks with more nutritious choices is of utmost priority for reducing childhood obesity.”

Hettiarachchy said about 19 percent of children in the U.S. are obese. The excessive weight can lead to high blood pressure and high cholesterol, risk factors for cardiovascular disease, diabetes and a host of other physical and psychological ailments. “If childhood obesity continues to increase unabated, it is speculated by some public health experts that today’s children will be the first generation with a shorter life expectancy than their parents.

“Creative food product development efforts can be a key strategy for controlling the current problem,” she said. “Since kids love gummies that are colorful, chewy, small and compact, with fun shapes and sizes, gummies can be made as a healthier snack option.”

Hettiarachchy said she integrates her teaching with her research and food industry experiences in developing novel, creative and healthy food for life products, backed by sound science, to meet the needs of consumers.

Jeyam Subbiah, food science department head, said, “In this capstone course, students apply the knowledge gained from multiple courses in the degree program to develop a novel food product. The students work on a team to develop solutions for industry-relevant problems.”

Hettiarachchy gave her product innovation students the assignment to build a better gummy.

The seniors were divided into teams and given a mission: develop a creative gummy gel product low in calories, dense in dietary fiber and protein, and with functional food ingredients to provide healthy and functional nutrition snacks as an alternative to calorie-rich temptations.

“For example,” Hettiarachchy said, “some of them used green tea extract, that contains polyphenols, or turmeric, containing curcuminoids.

“The immune-protection of many of these nutrients is based on their antioxidant capacity that counter oxidation, a chemical reaction that can damage cells,” Hettiarachchy said. “Functional food products like these, aimed at benefitting children and particularly for weight control, was highest priority.”

The teams followed established guidelines, held brainstorming sessions and used their knowledge and experience from food science courses they’d taken through the program. In the end, they had to write reports and create presentations that were judged.

Team One included Ashlynn Robinson, Isabella Bain, Jackson Lisle and Jackqueline Osorio. They created “Smart Gummies” with grape seed extract and organic turmeric grown in research plots at the Milo J. Shult Agricultural Research and Extension Center, where the food science department is located.

“The gel was prepared so it would be low in calories and sugar while high in antioxidants, anti-inflammatories and nutrients,” said team captain Robinson. “We had a relaxed atmosphere while making the product, and had to put on the thinking caps for this project.”

Team Two was Ashley Blair, Nguyen Ngo, Devin Smith and Lily Smith. Their product was called “Gummies with Benefits.”

Blair, the Team Two captain, said, “It was a fun process combining the knowledge we have learned in product development and our precious food science courses to work together and develop a creative product.”

Team Three included Alexandria Bramucci, William Evans, Ruth Ann Buckner and Ada-Miette Thomas. They created a product called “Pineapple Punch Gummies” with turmeric powder, green tea extract and pineapple flavor.

“It was a huge learning experience for us all,” said team captain Bramucci. “We enjoyed the hands-on lab and getting to work together as a team. The experience will greatly help us as we go on to our careers.”

“As an instructor, it is satisfying to have such wanting to learn and great achievers,” Hettiarachchy said. She praised her students for tireless efforts and dedication to their projects while working during a challenging COVID-19 pandemic.

“I also thank Dr. Ali Ubeyitogullari, assistant professor, for all his support,” Hettiarachchy said. “The plot of land at the Agricultural Research and Extension Center and all the support provided during growing organic turmeric plants by the Resident Director in Charge, Mr. Vaughn Skinner Jr., is appreciated.”

To learn more about Division of Agriculture research, visit the Arkansas Agricultural Experiment Station website: <https://aaes.uark.edu>. Follow us on Twitter at [@ArkAgResearch](https://twitter.com/ArkAgResearch).

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The Division of Agriculture is one of 20 entities within the University of Arkansas System. It has offices in all 75 counties in Arkansas and faculty on five system campuses.

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