

Food science

with Dr Reza Tahergorabi

Talking points

Knowledge

1. What health concern is associated with deep-fat fried foods?
2. What are edible food coatings?
3. What is an oleogel?
4. What makes deep-fried foods calorie-dense?

Comprehension

5. How do edible coatings contribute to both the shelf life and sensory qualities of fried foods?
6. How do oleogels reduce oil absorption during the cooking process?

Analysis

7. How do edible coatings address environmental concerns related to the poultry and fish processing industries?
8. What is the difference between traditional frying mediums and oleogels?

Synthesis

9. Having read about William and Shahriyar's educational journeys, what questions would you ask Reza if you had the chance to interview him about his education, career path and research?

Evaluation

10. Although oleogels are a very promising frying medium, some of their aspects have delayed their commercialisation in the food industry. Discuss the potential challenges involved in the implementation of oleogels in the food industry. To what extent do you think that the acceptance of oleogels by consumers will affect their implementation?

Activity

Reza explains that as he and his team progressed in their research and considered the bigger picture, they “realised that there were more extensive challenges related to fried foods that needed attention.” While this realisation led Reza to investigate oleogels, what would it inspire you to study?

Imagine that, like William and Shahriyar, you are a student in Reza's lab. You have been tasked with exploring different research avenues related to fried foods that the lab could investigate.

There are so many different aspects to food science, from food production to packaging, to nutrition and sustainability – and all of these relate to fried foods. Which area do you think you and the team should explore further, and how?

Write a research proposal for Reza to consider. You should outline:

- The type of fried food you would like to focus on, and why.
- The specific aspect you would like to research. For example, do you want to investigate packaging or cooking methods?
- The types of experiments you foresee your study involving.
- How your proposed study will build on the lab's previous work with edible coatings and frying mediums.
- The challenges your proposed project will pose for the lab.
- What the rewards will be – both for the lab and society.

Present your proposal to a friend or your group. If they were Reza, how interested would they be in your proposal, and why?

More resources

- Read more about oleogels here: www.bnn.network/tech/oleogels-a-healthier-alternative-to-traditional-frying-oils.
- If you are able to conduct a practical experiment under the supervision of your teacher, try this experiment from the Royal Society of Chemistry to investigate how much energy different foods contain: edu.rsc.org/experiments/energy-content-in-foods/397.article