

MEET OUR SCIENCE

Advisors



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Have you done any specific work related to sugars, carbohydrates or nutrition, and what did you find?

Our Research Centre has been looking at producing reduced sugar products in a range of categories. We've found that baked products are the most difficult to formulate with lower sugar because of the functional properties that sugar provides, not an easy problem to solve!

I've also been looking at flavour generation in sugar-reduced products. We examined a model baked muffin and found that when sugar is removed and replaced with a bulking agent like polydextrose, the "fresh baked" flavour disappears. Replacing sugar also changes how the food breaks down in the mouth, how the flavour is released and ultimately how the food tastes.

I've done some whole grain research too. We wanted to know if the "intactness" of the whole grain is important for its benefits in the body. We found that it did matter – intact whole grain had a greater benefit on glycemic response, especially in those with Type 2 diabetes.

Where do you see a gap in our scientific knowledge on sugars, carbohydrates and nutrition?

We need to look at how flavour is generated in complex food systems during processing. We have only studied simple model systems so far. Also, more research around controlling flavour generation, so we can increase desirable flavours and manage the undesirable ones.

I also think we need more work around the Glycemic Index of whole meals, rather than just individual foods – no one eats plain bread or crackers alone! It's important to know how meal components interact to influence the carbohydrate availability.

What area of nutrition and food science are you most interested in right now, and what's on the horizon in these areas?

I'm exploring fermentation flavours at the moment, especially in beer and sourdough bread. There is some quite interesting work to be done to understand how flavour is created in a wild ferment.

Plant-based milks are another interesting area. They tend to lack the typical flavour profile of the product they're trying to match, so it would be good to look at how we can generate some of these desirable dairy-like flavours. This could also help mask any unpleasant flavours, as well as rounding out the other sensory properties like creaminess.

What is your favourite sweet food?

My partners chocolate caramel slice – it's on regular rotation in our house and I always look forward to it!