

Helping food businesses

**REFORMUL**

for a healthier future



## Creating a healthier caramel sauce

**“I genuinely believe that most products out there can be reformulated if you give them the time and attention they need.”**

**Clare McNeil**  
Commercial Director

Lanarkshire-based R&W Scott is a bakery and confectionery ingredients supplier that offers a range of branded and own-label products for retail, foodservice and wholesale customers worldwide. Our vision is “to delight and inspire with ingredients used for indulgent treats”. We are BRC AA+ accredited and do not handle nuts on site.

### Why look at caramel?

With incoming restrictions on promoting products high in fat, sugar and salt (HFSS), we felt that having HFSS-compliant products would help us to maintain our competitive position in the market.

This project was reducing the sugar, calories and salt in a caramel sauce.

Although there’s limited demand at the moment, we’re very aware of the environment so wanted

to be prepared when that demand does start to pull through.

We received £5,000 in support from the third round of the Reformul8 Challenge Fund which supported a student placement and the costs associated with new product development such as external nutritional testing, sensory analysis as well as production time and some specialist equipment.

### What we did

The parameters of the project included matching the organoleptic properties of the original product, while meeting specified costs as well as tailoring the formulation to our manufacturing equipment and processes.

The team sponsor was commercial director Clare McNeil, with three food technologists, technical and production input as well as a final year food science student from Glasgow Caledonian University.

The student, despite not being a caramel fan, embraced the project during a 12-week placement, spending a day or two a week on site in the NPD (new product development) team.

The technologists brought her up to speed with approved suppliers and provided training on the caramel production process while she carried out background research.

It was agreed the best course of action was to eliminate salt, reduce saturated fats and sugar and enrich the product with either fibre or protein.

“It was rather challenging to substitute the fat and sugar content of a product that is primarily composed of those two elements,” joked the student.

She worked on fat reduction, gauging this would have the least knock-on effect in a caramel sauce compared to sugar reduction.

## CASE STUDY

R&W  
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She reduced saturated fats by 70%, while gradually reducing the sugar content.

However, a fat substitute was necessary to match the organoleptic properties of the reformulated product, as fat significantly contributes to texture, chew, creaminess and smoothness (mouth-feel), as well as flavour.

Extensive quality testing was carried out, including water activity, pH, total dissolved solids (TDS) and colour and the student also carried out sensory analysis and blind taste panels within the business.

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## CASE STUDY

### The findings

As a benchmark, we started with the current caramel HFSS score of 26, which we wanted to reduce to less than four, which is “healthy” on the Nutrient Profile Score calculator

- There were six formulations developed for the brief and the brief was achieved with two formulations with a score of 2 on the nutrient profiling model
- One of these formulations was commercially viable
- Saturated fats were reduced up to 84%, total sugars up to 66%, energy up to 41% against the standard caramel sauce, while both products were enriched with fibre
- We required some new specialist equipment to help us with new ingredients. The Reformul8 grant was invaluable when purchasing a new piece of mixing equipment to take some of the powders into solution



“We found it a really good experience and we were really lucky that our student was absolutely fantastic and very switched on,” said commercial director Clare.

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### The benefits and learning points

**Speak to your customers:** as a business to business manufacturer, we used them to understand what it is they want or need to achieve.

For example, although the legislation has a score of less than four, our customer may have a product for which the caramel is only a component, so a score of six is actually enough. By working collaboratively, you can avoid going down dead ends.

**Don’t assume it will be more expensive:** a key concern is the commercial viability of the product - we might come up with this fantastic reformulated caramel but if it’s triple the price, people aren’t going to be interested. However although ingredients may be different or more niche, don’t think they will definitely cost more, this really wasn’t our experience.

Which brings us on to **talk to suppliers.** By which, we mean both existing and new and explain to them what you’re trying to achieve.

They are the specialists and in some cases they identified ingredients we weren’t aware of and so we were able to bring them in as part of the project. If they understand what you’re trying to achieve, they’re in a good place to help.

And this reformulation project has given us the **confidence to move into other areas.**

If we can make a caramel that is HFSS-compliant, then we can do it on more of our products. It does take time and resource, but if you build it into your resource plan you will be able to achieve the benefits at the end.

Innovation and reformulation can seem to be the things that go to the bottom of the pile but we genuinely believe that most products out there can be reformulated if you give them the time and attention they need.

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