



Project 3.3.3

Thick or thin? Improving the quality and appearance of starch based sauces

Curry and other types of savoury sauces are popular items on the menus of fast-food outlets across the country. But because they are left to stand, they can often develop a top skin, unless they are frequently stirred.

Once the skin has formed, stirring it into the sauce makes it lumpy and

removing it increases wastage. Charged with overcoming this frustrating issue, researchers at Sheffield Hallam University have been looking at the composition of such sauces with the aim of developing a recipe that is not prone to skin formation, while retaining the taste and quality of the sauce.

Replacement ingredients

Many such sauces used in fish and chip shops for example, are mixed on site from a dry powder mix. A major ingredient of the mix is starch which gives the right texture and viscosity to the products. Wheat flour is the most common starch source but it is this that increases the likelihood of a skin forming.

Experimental work carried out in the University laboratories has examined a range of other starches that might be used to replace the wheat starch.

The brief was not only to produce a sauce that did not skin over on standing, but which also met the expectations of a sensory panel. A similar mouth feel and taste to the original sauce was imperative to deliver a product acceptable to both consumers and fast-food operators.



Above: Savoury sauces which are often left to stand form a top skin



The solution

The researchers came up with the solution of replacing the wheat starch with a mixture of soya starch and a commercially modified starch (Colflo 67). This successfully eliminated the formation of skin on the sauce, even after several hours of standing to simulate normal outlet practice.

This successful outcome to the research project highlights the potential for other companies to benefit from developing new recipes where starch based products are underperforming. There are a range of starches available on the market from different base materials (including wheat, rice, soya and cassava) as well as a range of manufactured chemically modified starches.

Finding a suitable material, either alone or in combination, that meets technological as well as taste requirements, is no easy matter. Sheffield Hallam University's Food Innovation programme is on hand to investigate a solution for your business.

The Food Innovation programme

This project is part of the University's £1.3m Food Innovation programme. Funded by the Higher Education Funding Council for England (HEFCE), the food innovation programme is designed to help companies respond to the business growth opportunities created by the healthy eating agenda.

For more information, contact:

David Johnson
Food Innovation Project Manager
Sheffield Hallam University

T: 0114 225 5000
E: d.johnson@shu.ac.uk

www.foodinnovation.org.uk
www.shu.ac.uk/foodinnovation