



Project 3.2.1

One potato, two potato...turning waste potato middles into new product lines

Experts at Sheffield Hallam University have been working with a UK food manufacturer, successfully developing new product lines to turn discarded potato centres into consumer ready products, with what was previously wasted material.

The food scientists and technologists at the University were asked by the Company, a producer of deep fried potato skins for the catering trade, to develop new products based on the waste potato middles.

Prior to the frying process, the centres of the potatoes are removed. Whilst some is used as a mashed potato pie topping, much of the material is used for animal feed which commands a potentially lower return for the Company.

The objectives of the study were two fold. To identify more economic uses for the potato centres and to develop a range of consumer ready products. This in itself is a new approach for the Company which has historically



Above: Uses for waste potato middles includes using mashed potato for pie tops.

only produced products for further processing by other companies prior to retail sale.

The Company processes both traditional potatoes and sweet potatoes. With this in mind, the study looked at developing uses for both products, alone and in combination.

New product development

The project brief was to develop an appealing plain potato mash product and a combination sweet potato/plain potato mash which could be frozen. The latter product would be suitable for defrosting and reheating by microwave. The use of differing

ratios of the types of potato, along with the additions of butter, crème fraiche, milk and salt was explored and a taste panel assessment of the products was then conducted.

Initial research identified that the consumer wants a potato mash product which is creamy, smooth, fluffy, buttery, light, soft and “potatoey”. These were the criteria that the Food Innovation researchers set out to achieve.

It soon became apparent that the actual method of producing the mash before any additions were considered was an important issue and the effects of whisking and reduction by a normal food processor were investigated. Even the method of cooking the potato has an effect on the final products.

At the end of the project, five new products were produced that proved to be acceptable and enjoyed by the consumers.



The results

The project shows the ability of the researchers at the University to work on innovative briefs with private-sector companies to add real value to new product development. It is especially interesting to note that in this case it was a “waste” product that was used as the base for the new products. The utilisation of the less commonly used sweet potato provided an opportunity to meet the demands of a completely new customer base - the more discerning consumer.

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