

## New processed cheese with 60% less salt could improve diets

January 5 2011

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Food scientists at University College Dublin have created a processed cheese product with 60% less sodium than full salt versions, and practically no difference in taste and structure.

Processed [cheese](#) is used by [food manufacturers](#) because it has several manufacturing advantages over unprocessed cheese, including extended shelf-life, resistance to separation when cooked, and uniformity of product. There are also significant economic advantages when compared to production by traditional cheesemaking processes.

“With so much processed food being consumed, western diets have about three times more sodium than is needed,” explains Michael O’Sullivan from the UCD Institute of Food and Health, University College Dublin, one of the scientists involved in the research.

“This excessive intake of sodium is linked to increased rates of hypertension and stroke. So in recent years there has been a move towards reducing sodium in processed foods, including cheese products.”

The processed cheese created by the scientists is made from dry protein ingredients such as casein powder rather than through the traditional cheese making process. The cheeses rated well among panellists who preferred the reduced salt versions to those with standard levels of sodium chloride.

According to O’Sullivan, emulsifying salts (usually phosphates and

citrates) and NaCl are the sources of added sodium content in processed cheese.

“NaCl which acts as a preservative, and helps to enhance the flavour of the product, contributes to over 60% of the total [sodium content](#),” he explains.

By altering the manufacturing conditions, the scientists could reduce the levels of NaCl, the major contributor to added sodium, and maintain the taste and structure of the imitation cheese while reducing the [sodium](#) content by up to 60%.

The methods used by the scientists also resulted in reduced processing times and a reduction in the amount of energy required for mixing and manufacture. Also the post-manufacture hardness of the cheese was decreased; mainly due to slight changes in the way fat and moisture are distributed within the product.

Although the pilot-scale conditions under which the scientists produced the imitation cheeses are not directly comparable to manufacturing conditions on an industrial scale, the team believe that their methods could easily be scaled-up for industrial production of imitation cheeses with significantly reduced salt content.

**More information:** “Reducing salt in imitation cheese: effects on manufacture and functional properties” by M. El-Bakry, F Beninati, E Duggan, ED O’Riordan, and M O’Sullivan, was published online in the journal *Food Research International*.

Provided by University College Dublin

Citation: New processed cheese with 60% less salt could improve diets (2011, January 5)  
retrieved 26 April 2024 from <https://medicalxpress.com/news/2011-01-cheese-salt-diets.html>

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