

Junk-free pizza, engineered to please taste buds

July 31 2013, by Constanze Böttcher



Food researchers are looking for new ways to reduce the sugar, fat or salt content in ready-made meals without using additives. But will consumers accept this new type of food?

Many diseases occurring in [industrial countries](#), such as hypertension, [type 2 diabetes](#), stroke or certain cancers are linked to malnutrition. The trouble is that [one in two people](#) in Europe is overweight or obese. Ready-to-eat food remains popular with consumers across Europe even though products, such as frozen pizza, often contain too much sugar, salt or fat. The European Commission therefore set up a strategy for tackling the

problem back in 2007.

One way of reducing a food product's content in sugar, salt or fat – particularly saturated and trans-fatty acids – is to use additives replacing the potentially [harmful substances](#). But substitutes such as aspartame, replacing sugar, have come under scrutiny themselves. "We wanted to leave this track," says Matthias Kück, owner of the company Biozoon Food Innovations in Bremerhaven, Germany.

Instead, Kück, aims at developing novel food processing technologies to reduce sugar, salt and fat in ready-to-eat meals without the help of additives, as coordinator of the EU-funded project [PLEASURE](#). "Using technological procedures, we want to achieve that the [sensory perception](#) of the new product is equivalent to that of conventional food products", he says. The project focuses specifically on products representing different groups of food such as sausages, mozzarella, pizza dough or tomato sauce. "At the end, we combine these components to create a pizza", Kück explains. The pizza serves as a model of a typical ready-to-eat meal.

Among the technological solutions explored, project scientists rely on a biotechnological procedure, for which a patent is pending, involving enzymatic and [fermentation processes](#) to reduce sugar in [apple juice](#). "We would like to transfer the technique to other food [such as tomato sauce]," Kück tells youris.com. Other approaches include procedures involving high hydrostatic pressure or a new type of homogeniser. These aim at improving the dispersion of salt or fat and thus reducing these components by 30%. According to EU regulations, a food product may only be labelled as "reduced" if the content of a certain nutrient is at least 30% less than in a similar product.

During the project, expert panels of three to four specially trained persons, who perceive smell and taste exceptionally well, will test the

newly developed food. Their role will involve describing their characteristics in relation to a reference product. Finally, consumer panels consisting of 60 to 100 people will taste the final product during blind tests. "We will have five to six new recipes at the end of the project," Kück says.

Experts acknowledge that less salt, for example, may be used for a palatable food product if processing technologies ensure better dispersion of the salt. "This leads people to perceive the food as more salty as it actually is," notes Wolfgang Meyerhof, head of the department of molecular genetics at the German Institute of Human Nutrition in Potsdam-Rehbrücke. This may also be true for fat-reduced products.

Others experts point out that the approach is not news, but recognise its merit: "The general approach is good," comments Fred van de Velde, group leader and project manager ingredient technology at consultancy NIZO Food Research in Ede, the Netherlands. Modifying the texture of a food product, for example, to reduce the [salt content](#) and keep the taste "has been tested before and even patented," he says. Since "consumers have become more and more aware of additives," van de Velde adds, avoiding additives and, at the same time, reducing fat, salt or sugar within processed [food](#) therefore combines "two advantages."

But Meyerhof expresses concerns about consumer acceptance. "Fat-reduced products have been around for some time, but nobody buys them," he says, adding: "we do not even know exactly how we perceive [salt](#) or fat and therefore manipulation is difficult." Meyerhof also believes that a reduction of about 30% of potentially unhealthy ingredients cannot be achieved by technological approaches alone. He concludes: "you need boosters or enhancers to achieve a considerable reduction."

Provided by Youris.com

Citation: Junk-free pizza, engineered to please taste buds (2013, July 31) retrieved 26 April 2024 from <https://phys.org/news/2013-07-junk-free-pizza-buds.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.