

Press release

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Foods of the future

Researchers investigate acceptability and taste of microalgae as an ingredient

(pug) A steadily growing world population brings with it an increasing demand for protein-rich food. Since meat production cannot be increased indefinitely, scientists have been seeking to establish alternative protein sources. Researchers at the University of Göttingen are currently investigating the suitability of the protein-rich microalga spirulina (*Arthrospira platensis*) for the production of food. Besides texture and taste, they are also looking into consumer acceptability.

So-called high moisture extrusion cooking is an established process for producing fibrous and bite-resistant products from soya protein that resemble meat in their texture. Supermarkets carry these products in the form of soya escalopes, steaks or nuggets. However, the processing of spirulina in high moisture extrusion cooking has hardly been investigated. Therefore, the Göttingen researchers first examined if the microalgae is generally suited for food production by analyzing what influence the technical parameters have on appearance, taste and mouthfeel of the product.

An online survey with about 1,000 participants in Germany, France and the Netherlands answered the question of consumer acceptability: having to choose between photos of spirulina-filled pasta, spirulina sushi and a protein-rich snack (spirulina jerky), consumers clearly preferred the pasta. "This might be because we are very familiar with pasta in general," says lead author Stephanie Grahl from Göttingen University's Division of Quality of Animal Products. "Spirulina has the potential to be offered in different forms of food. All three products would be acceptable as long as consumers were familiar with the category."

The researchers are currently investigating different flavours of spirulina-filled pasta in a sensory consumer test with the aim of developing tasty products that support a sustainable, meat-reduced diet. The work is part of the project "Sustainability Transitions in Food Production: Alternative Protein Sources from a Socio-Technical Perspective", which is funded by the Ministry of Science and Culture of Lower Saxony. Further information can be found at www.uni-goettingen.de/sustrans.

Original publications:

Stephanie Grahl et al. Towards more sustainable meat alternatives: How technical parameters affect the sensory properties of extrusion products derived from soy and algae. Journal of Cleaner Production 2018. Doi: 10.1016/j.jclepro.2018.07.041.

Stephanie Grahl et al. Consumer-Oriented Product Development: The Conceptualization of Novel Food Products Based on Spirulina (Arthrospira platensis) and Resulting Consumer Expectations. Journal of Food Quality 2018. Doi: 10.1155/2018/1919482.

Additional information for journalists:

High-resolution photos are available for download at www.uni-goettingen.de.

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