

Introducing novel foods: Swedish consumers' thoughts and associations on seaweed

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Introducing seaweed into the Swedish food market has a great potential if incorporating into existing products as well as making sure consumers are familiar with the tastes. In this study the product used was mostly associated with being "interesting" and "exciting", pointing at an openminded consumer attitude.

Background

Seaweed is a fairly unknown product on the Swedish food market, but there is a growing interest in investigating the potential of seaweed cultivation in Sweden. Because of seaweeds many positive factors, such as that it does not need land or fertilisers, and is high in protein, seaweed is a good commodity to further develop. Since seaweed is not a culinary tradition in Sweden it is of interest to study the consumers' perceptions to understand how seaweed best should be introduced.

Objective

The aim of this study is to explore Swedish consumers thoughts and associations on seaweed and how it may be introduced into the Swedish food market.

The research questions which the study has been based on:

- What are the thoughts and associations among Swedish consumers on a plant-based cottage cheese added with seaweed powder?
- What are the Swedish consumers thoughts on how seaweed may be introduced into the Swedish food market?
- Are there any differences between the city size and the thoughts and associations on a plant-based cottage cheese added with seaweed powder among Swedish consumers?

Material and methods

This master thesis was conducted through a convergent parallel mixed method approach. The data collection methods comprised of two focus groups (one in a smaller town and one in a larger city) and a web-based survey. The seaweed *Saccharina Latissima* was freeze dried and milled into a powder. Oatly is a Swedish food company with a plant-based cottage cheese among their product range which was mixed with the seaweed powder.

Both the participants in the focus group (n=16) and the respondents in the web-based survey (n=110) conducted a word association (WA). In the WA, the participants were given the stimulus which they were supposed to give their first four associations that crossed their minds. A smaller town and a larger city were compared on the consumers thoughts and associations.

Results and discussion

The result from the focus group in the smaller town was that the participants regarded the taste as ordinary which was seen as positive since broadening the applications. Environmental aspects were highlighted as something important, reflecting on where cultivation is supposed to take place.

The result from the focus group in the larger city was that the participants described the taste experience as something they did not expect. Using seaweed as a spice or nutrition adder was regarded as possible applications. It was important to give example on how to use seaweed and that there should be no harm on the environment during cultivation and collection.

The four categories found in the web-based survey was "new, unknown and positive", "unsure and/or negative", "sensory aspects", and "health and environment". The category "new, unknown and positive" was the most frequently mentioned by the whole group. Terms belonging to this category was e.g., "interesting" and "exciting". This was the most frequently mentioned category both in the smaller town and the larger city.

Table 1. The categories from WA in the web-based survey and the associations belonging to respectively category

Categories	Associations
New, unknown and positive	Interesting, exciting, innovative, try, taste, can try, possibility, possible, want to taste, we have to try, good alternative, good suggestion, smart.
Unsure and/or negative	Pensive, hmmm, unsure, sceptical, don't know, maybe, well..., okay?, weird, funny, obscurely, curious, special, unique, different, boring, dull, sure okay.
Sensory aspects	Appetizing, tasty, tempting, delicious, beige, colourless, grey, pale, gloomy colour, boring colour, gloomy, unappetizing, distasteful, does not attract, not appealing, dotted, big dots, salt, flavourful, disgusting, inedible, musty, yuck, dry.
Health and environment	Healthy, wholesome, minerals, vitamins, nutritious, environment, environmentally friendly, climate adapted, climate smart, sustainable development, sustainable.

Conclusions

The plant-based cottage cheese added with seaweed powder was seen as a product with many applications. The most frequently mentioned associations regarded "new, unknown and positive", with terms such as "interesting" and "exciting". Introducing seaweed into the Swedish food market, incorporating the seaweed into existing products seemed to be a good strategy as well as making sure consumers are familiar with the tastes.

The most profound differences between the city sizes in the focus group discussion was the taste experience. The word association showed that similar associations came up independently on city size. The results are not generalisable to the whole Swedish population since the study was limited by demographic factors and the number of participants. The present study should instead be regarded as a first indication on what seaweed is thought of and associated with.



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