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Studies prompt interest in seaweed as salt replacer

By Jess Halliday, 19-Jan-2011

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Interest in seaweed granules as a salt replacer has soared in the last year, according to the producer, as the first results of a UK government-funded study indicate high consumer acceptability of various bread in which it replaced 50 or 100 per cent of the salt.

The Outer Hebridean Seaweed Company, which produces Seagreens branded consumer products and ingredients from Arctic wrack (*Ascophyllum nodosum*) attracted UK government funding funder the Food Innovation Project in 2007 to conduct research into the seaweed's potential use as a salt replacer in consumer food products.

The positive findings on taste and preservation were presented at the Chester Food and Environmental Science Week in 2010, and have been accepted for publication in the International Journal of Food Science and Technology. Seaweed granules were successfully used to replace up to 100 per cent of the sodium chloride.

Simon Ranger, managing director of Seagreens, told FoodNavigator.com that interest from the food industry has mushroomed since the event in Chester. Its ingredient is distributed by Gee Lawson.

"At this stage we are sticking our head above the parapet for the first time," said Ranger. *"We started out specialty and organic, we are now becoming mainstream".*

He revealed that the company is talking to two of the top five UK supermarkets about using the seaweed granules in baked goods. There are many solutions on the market for reducing salt content in foods, including mineral complexes, as the industry is working to a tough mandate to reduce sodium chloride levels in packaged and prepared products.

But the good performance of the Seagreens granules is attributed to its *"perfect balance of minerals".*

Ranger described it as *"like an extremely rich and very balanced salt – which salt isn't, it's just sodium chloride".*

In addition, the polysaccharides in the seaweed have effect on shelf-life and preservation.

Some trials using Seagreens granules have also been conducted in meat products, like sausages, cheese, and ready meals, but the research with Sheffield Hallam focused on bread because that is where the most pressing need is for salt reduction solutions.

Study findings

The research with Sheffield Hallam, led by Dr Andrew Fairclough, concluded that *"as well as maintaining the taste of the food, Seagreens dried granulated seaweed also helped to preserve it, potentially lengthening its shelf life in a similar way to salt".*

Fairclough's team studied different forms of seaweed in different kinds of loaves, assessing bake and sensory qualities, and rheology. FoodNavigator.com has not seen the full results and methodology, but the initial communication indicates that wholemeal bread slices with 50:50 coarse seaweed granules:salt were preferred by 67 per cent of panellists to *"normal salt control".*

Seventy five per cent of panellists preferred white bread with the sesaweed granules to the regular approach.

In sundried tomato and basil bread, the researchers were able to replace 100 per cent of the salt with Seagreens; in this case, there was only 0.3g sodium choloride per 100g bread.

Foundation

Seagreens set up an independent research foundation to conduct more research into seaweed in 2009, with Sheffield Hallam as the first partner.

Ranger's company puts 20 per cent of ingredient sales into the foundation, representing a small contribution to research costs to be supplemented by government funding and other industry partners.

Ranger called it *"a non-profit forum, to share the costs of doing research."*

He said that the main interest is in the role seaweed can play in nutrition, as it is *"a wonderful, natural whole food"*. In addition, he believes it could be used in foods for special diets, as seaweed contains the same nutrients as are present in wheat and milk, but without the allergens.

The foundation is experimenting with other forms of seaweed which have different properties and nutritional profiles – and which could prove useful either alone or in combination with others.