



Seaweed and algae

the new superfood

Seaweed is seen as one of the planet's most sustainable foods: it requires only sunshine, no land, no fresh water, pesticides nor fertiliser. Nutrient packed, with 46 minerals, 16 amino acids and 11 micro-nutrients, it is appearing more often on menus, and as the ingredient astaxanthin and spirulina, in energy rich foods and drinks. So are we on the brink of a seaweed breakthrough, in the food and beverage industry?

Seaweed and derivatives of seaweed are already used in many foods, including sushi, sauces, dressing, desserts, dairy products and soups. Fresh seaweed is also used in salads, stir fries and stews.

Basically seaweed is a type of single-celled algae that grows in the ocean. There are many different varieties, including nori, kelp, arame, wakame and kombu. Those are all edible and used fresh in many dishes. For instance, chefs use nori to make sushi rolls, dulse flakes are used as a salty seasoning on salad, soup and stews, and arame is sprinkled on soups, stews, grains and curries.

These edible algae pack a nutritional punch. Take dulse for instance, it's high in protein and fibre, low in fat, and full of calcium, iron, iodine, copper, manganese, magnesium, potassium, zinc and has an awe inspiring list of vitamins. Researchers at Newcastle University now say that the alginate found in seaweed reduces the uptake of fat in the body with hopes that seaweed could be an important tool in the fight against obesity.

Astaxanthin and spirulina

Astaxanthin is a reddish pigment that belongs to the chemicals called carotenoids. It occurs naturally in certain algae and causes the pink or red colour in salmon, trout, lobster, shrimp, and other varieties of seafood. It is just beginning to emerge in the finished food & beverage categories, but there are only a few drinks and energy bars containing it so far. Barbel Drexel's astaxanthin energy drink concentrate, with grapefruit, is one such example.

The food sector can use multiple forms of astaxanthin, while the beverage sector requires a water-soluble form. The water-soluble issue can be a problem for fat-soluble carotenoids from algae such as astaxanthin and beta-carotene. But with proper treatment to the oil-soluble raw material, it is possible to achieve a water-dispersible form that dissolves well.

"For food applications, you can use oils, microencapsulated beadlets or powders depending on exactly what you're trying to do with it," said US based, global marketing vice

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president, Algae Health Sciences, Bob Capelli. "Our water dispersible powder starts to dissolve in water right away without even stirring." The resulting food colour has the benefit of being a healthy antioxidant with an anti-inflammatory punch.

There is a novel delivery form for astaxanthin in Sweden. If you feed chickens haematococcus algae (the source of natural astaxanthin), their eggs come out with deep-coloured, rich yolks. So a company in Sweden is marketing these eggs as containing the world's strongest natural antioxidant (astaxanthin) marketing their beautiful yolks. They charge about 20% higher than the going price, and have gained significant market share, of over 15%. "Our company is the only producer in the world to offer organic astaxanthin which we make in a whole food based powder form," Capelli said. Introduced last year, the major natural health brand, New Chapter, (owned by Procter & Gamble) launched it in an innovative formula, "as the champion ingredient of a beauty product," he concluded.

Another area of growth of products from algae is for spirulina, which began in California's juice bar business. Today spirulina energy bars are fairly common, there is also a spirulina cracker developed by a client of Israel's Algatechnologies, along with spirulina pasta and rice available in some countries. Finally, in the exotic marketplace of Myanmar, spirulina beer is sold as an anti-ageing drink.

Algatech (Algatechnologies) has just introduced 100% organic Haematococcus pluvialis microalgae powder and astaxanthin oleoresin as part of its AstaPure line.

One of the USA's largest retailers, with a particular strength in supplements, is Costco. For years, astaxanthin was confined to only the health food store market, internet retailers and some direct-to-consumer brands but Costco has changed this: They've done very well with astaxanthin over the last few years, selling it in all their stores through the national brand BioAstin and under their own in house TruNature Label. Other mass retailers such as Wal-Mart also have their own house brand of astaxanthin, so in the USA this ingredient is beginning to hit the mainstream.

Seaweed – food of the future

Amsterdam-based entrepreneur Willem Sodderland mistook seaweed for green pasta in a salad way back in 2013. His thought was

immediate, simple and disruptive: what if we start eating it as pasta? "We're eating too many

carbs and not enough veggies, so why not swap one for the other? The company Seamore, and the first 'I sea pasta' product' were the result.

The seaweed is sustainably harvested in Ireland, one of six countries in which it grows. This species grows on rocks and is handpicked following a sustainable harvesting protocol. It is only rinsed and dried, no other processing takes place. The seaweed looks like green tagliatelle in its natural form and can be used in the same way. It is organic, gluten-free, very low on carbs and calories, rich in vitamins, minerals, omega3 and iodine. Now on sale through Planet Organic it has the al dente bite of pasta and noodles and is very easy to use.

Caro Warwick Evans- co owner of The Cornish Seaweed Company heard a radio programme on the seaweed industry in Ireland. She wondered why no one was harvesting seaweed in England. "Everyone sees seaweed but no one does anything with it," she said. She contacted the Irish company who invited her to come and learn more. She did and was so excited that she came back to Cornwall and started The Natural Seaweed company with partner Tim Van Berkel. "I can see seaweed being on everyone's plate in the future" she said. "It is a local and sustainable superfood that tastes amazing, why wouldn't you want to eat it?" Although most seaweed is still available in Japan, in particular the Yutaka wakame dried seaweed, available from Japan Centres worldwide, other new start-ups include the coarsely ground seaweed specialist Aniforte and SeaSnax organic raw seaweed. ●

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maybe we should have a bit of text about this image? It reminds me of something out of the SIMS