

**A** superfood is a food with a publicist,” suggests the nutrition therapist Ian Marber as I grapple for a definition. If that’s the case, then seaweed can certainly be classed as one. Jamie Oliver is its main spokesperson — he attributes his recent weight loss in part to the green stuff and has declared it the “most nutritious vegetable in the world”.

He’s not the only fan. It has been reported that Madonna starts the day with a seaweed shake, Victoria Beckham grazes on bladderwrack, and the model Miranda Kerr lists dulse and wakame as her seaweed snacks of choice. What was once an aspirational and inaccessible ingredient that lurked in the wilds of the foraged food scene is becoming mainstream.

Fresh sea spaghetti is stocked in season (May to October) in 80 Tesco stores; the Clearspring range of dried seaweeds is available in Whole Foods; and Mara seaweed flakes are on Marks & Spencer’s dried-food shelves. Meanwhile, Ocado has seen sales of all seaweed food products grow 149% year on year, and Atlantic Kitchen, whose seaweed-based ready meals and packs of dried seaweed are available from Ocado, Whole Foods and Planet Organic, has reported 1,200% growth in the past 12 months.

Rumblings on health-food sites suggest that adding one teaspoon of kelp powder is the new “natural” way to bulk up smoothies. A glance through Instagram hints that sea spaghetti could be the next courgetti. Chefs are infusing chicken stocks with kelp, and using seaweed-enhanced butters for emulsifications. Keen home cooks have started sneaking peppery dulse into fish pies, and strips of dry snacking seaweed have even crept onto office desks.

Seaweed has a lot going for it. It’s attractively low in calories (about 45 calories per 100g, similar to kale) and studies have suggested it has particularly high satiety levels — meaning it creates the feeling of being full. Most enticingly, seaweed is one of the most nutritionally dense ingredients on the planet, packed with iron, calcium and magnesium. It’s also rich in iodine.

The World Health Organisation has identified iodine deficiency as a serious problem — something that affects 70% of teenage girls in Britain. An iodine deficiency has an impact on the thyroid. Symptoms range from tiredness and weight gain to more serious goitres, or swellings in the neck; it can even affect foetal development in — and seaweed is being touted as a miracle

# Treasures of the deep

**Nutrient-rich and calorie-light, seaweed is the superfood we all need to know about — just use with care. Rachel Walker reports**



cure. And here lies the source of the dispute.

While iodine is found naturally in eggs, dairy products and white fish, health-food gurus have suggested adding powdered kelp to a smoothie, popping a chlorella tablet or sprinkling a teaspoon of dried seaweed flakes over meals as a healthy salt-like supplement. But, unlike superfoods of the past — kale, quinoa, goji berries — too much of some seaweeds can have health implications. Overconsumption of brown seaweed has been linked to conditions such as thyrotoxicosis, hyperthyroidism and even thyroid cancer. “Brown seaweed could potentially slow down the thyroid and lead to weight gain and far more complex problems,” says Marber.

Food Standards Australia New Zealand has suggested that pregnant and breastfeeding women and children should eat no more than one serving a week of brown seaweed. But little guidance is available in Britain, either through official bodies or any traffic-light packaging system.

Awarding seaweed the “superfood” label suggests that the more you ingest, the more nutrients and minerals you will absorb. But the body isn’t like a sponge. In most cases, it absorbs what it needs when available and when it hits the limits of required nutrients, it stops. But this isn’t the case with iodine. “Think of the levels in a U-shape curve,” says Margaret Rayman, professor of nutritional medicine at the University of Surrey. “Too little and you have a high risk of disease. Go down to the right level and your disease risk is minimal. But too much and you go up to a high risk again.”

Kelp, or kombu as it’s known in Japan, often contains dangerously high levels of iodine. One 25g portion contains about 400 times the recommended daily intake. Rayman expresses horror at the thought of one teaspoon being eaten on a daily basis. “If we assume that one teaspoon of dried kelp is 1g, it contains 16 times the

recommended daily intake,” she says. “If people start ingesting these amounts on a regular basis, by putting it in a smoothie or sprinkling it over meals, then it can have real health implications.”

The reality is that all seaweeds are not equal. While brown seaweeds are loaded with iodine, green seaweeds, such as laver or nori, contain 60 times less and pose little health risk, even when consumed regularly. Hovering a little higher up the scale is dulse, which has more iodine than laver, but still six times less than kelp. Moreover, it’s a delicious ingredient with meaty, salty notes that people have likened to bacon, dubbing it “the truffle of the sea”.

The lure of dulse as an ingredient justifies the excitement surrounding seaweed in culinary circles. Take a handful of beautiful, deep-purple dried fronds, soak them in hot water for 10 minutes and watch them bloom into the most exciting of store-cupboard ingredients. “We want seaweed to be celebrated as an ingredient,” says Ruth Dronfield, head of Atlantic Kitchen. When given context as an occasional ingredient, rather than a regular supplement, it’s clear that the only dangers occur when seaweed is used primarily for health instead of taste.

“The idea that we should supplement our diets by sprinkling a teaspoon of anything over a meal every day is wrong,” says Professor Michael Guiry, seaweed specialist and emeritus professor of botany at the National University of Ireland. “The maxim for a diet is nothing in excess.”

That’s the problem. When a superfood explodes onto the market, it often shoots to stardom overnight, without context or guidelines. Yet there’s no denying that seaweed deserves its time in the spotlight. It tastes delicious, can be sourced locally and it’s rich in minerals and nutrients. But as soon as it starts being taken as a pill, ground up and mixed in daily shakes or sprinkled on every meal, it should be handled with caution. It’s too potent not to be. ■

## Seaweed rules

### How to incorporate it into your diet

- Rehydrate a handful of dulse by covering it with hot water and letting it “bloom” for 10 minutes. Add to a fish pie mix before baking, as you would with spinach.
- Simmer sea spaghetti for 10-15 minutes. Add fresh egg spaghetti to the pan for the last 3 minutes and use the combination of the two for spaghetti alle vongole.
- Cover a handful of wakame seaweed with hot water. Drain and stir-fry with julienned carrots, beansprouts, chilli and ginger. Top with a fillet of steamed fish.
- Melt 125g butter and stir in 2-3 tsp seaweed flakes. Pour the melted butter over ramekins of potted shrimps to act as a butter seal.
- Tip 2 tbsp seaweed flakes onto a plate. Press both sides of a scallop onto the seaweed, so it forms a crust, and pan-fry.
- Rehydrate a handful of dulse by pouring warm water over it. Chop roughly and incorporate into a soda bread recipe, with pumpkin seeds.
- Beat 250g softened butter in a mixer and add dried seaweed powder or crushed dried seaweed. Shape into a cylinder, wrap in greaseproof paper and leave the seaweed butter to set in the fridge. Cut discs to melt over grilled fish, or whisk into a seaweed hollandaise.



## Hake, mustard and dulse fishcakes

As well as being delicious, this dish celebrates some of our best seasonal produce. If you’ve never tried hake, it’s a little bit like cod — flaky, succulent and sweet.

*Serves 4 as a main course*

- 500g potatoes, peeled and roughly chopped**
- 20g dried dulse seaweed**
- 300g-500g hake fillets**
- 250ml milk**
- 1 bay leaf**
- 5 peppercorns**
- ¼ nutmeg, grated**
- 1-2 tbsp mustard, to taste**
- 4 tbsp seasoned flour**
- 1 egg, lightly beaten**
- 125g breadcrumbs**
- 4 tbsp vegetable oil**

Cook the potatoes in a pan of boiling salted water for about 20 minutes, or until tender. Meanwhile, put the dulse into a bowl and cover with hot water, so the seaweed fronds rehydrate and turn from dried purple to a shiny green colour.

Put the hake in a pan with the milk, bay leaf and peppercorns. Bring to a rolling simmer, cover and cook for 4-6 minutes, until the thickest part of the fish is just cooked. Transfer the fish to a plate, and use two forks to gently flake the flesh apart. Discard any skin.

Mash the potatoes and stir in the grated nutmeg. Mix the mustard with 3 tbsp of the poaching milk, and stir into the potatoes. Rinse the dulse, roughly chop and gently add it to the potato mixture. Don’t overwork the mixture, and make sure the flakes of hake are still bulky and intact. Leave to cool.

Heat the oven to 180C (fan 160C). Flour your hands, then form the mixture into eight round, slightly flattened fishcakes. Lightly coat in the seasoned flour and chill for 15 minutes. Tip the egg and breadcrumbs into separate shallow bowls. Dip each fishcake in the egg, then coat in the breadcrumbs and place on a board.

Heat the oil in a frying pan and fry the fishcakes for 5 minutes, turning halfway. Transfer to a baking sheet and bake in the oven for 8-10 minutes. Serve with a baby leaf salad.