Seaweed in Colon Health and Nutrition

by Simon Ranger

Seaweeds, or 'kelps' as the wild brown algae are sometimes called, are known to assist the acid-alkaline balance (1), have a prebiotic effect on the gut flora (2), help protect the gut lining (3), stimulate the secretion of digestive enzymes (4) assist nutrient absorption and metabolism, and thus strengthen immunity.

This verbal mouthful may nonetheless help explain why seaweed is recommended for natural digestive healing by among others, Dr Natasha Campbell-McBride in her GAPS diet *Foods to Choose* (5) and Dr Robert Gray in the venerable *Colon Health Handbook* (6).

Clinical nutritionist Jonathan Tommey adds these 'brown' seaweed's ability to bind and remove toxic metals (7), regulate fatty acid metabolism and electrolyte balance, restore dry skin and listless hair and improve circulation (8), as further specific benefits in autistic spectrum disorders where colon inflammation and dysfunction are especially common (9).

That certain varieties of these brown seaweeds provide in themselves a virtually complete balance of all the nutrients (10) also helps explain these claims for such a remarkably broad efficacy. In a conventional diet, a wide variety of foods is required on a daily basis for homeostasis and to perform thousands of complex functions - starting with digestion.

Balance of micronutrients

A really comprehensive nutrient spectrum is difficult to obtain from land-grown and manufactured foods (11) where the effect of soil deficiencies and nutrient imbalances is well documented (12). Still more so in special diets, where certain foods are restricted due to illness and therapy, allergy and intolerance, pregnancy, metabolic disorders and weight regulation (13), and in poor colon health.

The nature of land foods is that each species has a distinct but partial profile, high in some nutrients, low in others, all with some nutrients missing. Hence the need to 'graze' in the wild, or produce a wide variety of land foods. Even then, the mineral content will depend on the growing medium - from soil-less growing under 24/7 lighting to rich composted soil on a biodynamic farm.

Very different from the land, the ocean is a rich and consistent growing medium where abundant seaweeds feed a multitude of species. Brown seaweed is a complete, primordial food which, having no roots, absorbs and converts nutrients directly from this great 'soup' which covers 70% of the planet - the final repository of all the Earth's minerals which Nature has few ways of returning to the soil.

The seaweed, which is also rich in protein, is able to transform these into a unique whole food with not only all the trace elements like selenium and zinc, but the entire B group and other rare vitamins including absorbable B12 (14), D, H and K. In addition to chlorophyll, there are other rare pigments like astaxanthin and violaxanthin.

A range of indigestible polysaccharides (15) have been shown to protect the gut wall against cancer-causing bacteria and bind for elimination through the bowel, pollutants and toxic metals like lead and mercury - of special importance in the treatment of obesity since fat stores toxins which are released into the system in the process of fat reduction.

Like green tea, there are valuable tannins and polyphenols. Against the most nutrient dense species of land fruits and vegetables, half a teaspoon of Seagreens dried wrack seaweed has the same amount of vitamin B2 as 100g of blackberries or broccoli! (16).

All of this is vital for the endocrine system (so often implicated in colon disorders) which depends on the dietary balance of macro- and micro-nutrients to trigger digestive acids, hormones and enzymes.

Of all the brown seaweeds, the wild wrack species, of which Seagreens currently uses three (Ascophyllum, Fucus, and Pelvetia), have the broadest balance of nutrients and are the most suitable human food ingredients.

Seagreens has pioneered the means of harvesting and producing these seaweeds to consistent food quality standards. It is "the leading seaweed supplier in Britain" (17) and it's Certified organic production in the remote islands of the Scottish Outer Hebrides won a Crown Estate Business Award in 2010.

Easy to use, everyday ingredients

In *The Colon Health Handbook* Dr Gray describes an alkalising diet of vegetables, fruits, sprouts, honey, millet and other non-mucoid forming foods as a sound foundation for colon health and nutrition "with seaweed and zinc as supplements".

In the scientifically proven macrobiotic approach to a balanced diet - rooted in oriental culinary traditions - "a small volume of sea vegetables, about 2%, is taken daily, eaten as a condiment, in soup, cooked with grains, beans and vegetables as a seasoning to supply minerals, (and) as a small side dish about twice a week" (18).

According to the last available statistics (1969), this 2% equates to 4.6 grams, a heaped teaspoon of Seagreens dried ground wild wrack seaweed. Coincidentally, Seagreens' scientific research over the past five years at the Centre for Food Innovation in Sheffield, England, has shown that Seagreens can replace at least half of the salt (sodium chloride) in manufactured foods. Since the average person in Britain consumes at least 9 grams of salt per day, this would equate rather precisely to the 4.5 grams in the traditional Japanese diet. It is also the daily amount so many practitioners have found effective in therapeutic protocols!

Seagreens has purposefully developed a product range for use in the everyday Western diet as well as in macrobiotics. It easy and safe (and non-allergenic) to include a gram or many grams each day in food or drink for children and adults of all ages, as ingredients, salad, condiment, encapsulated food, or by inclusion in juices and smoothies, or as a tonic or tea. A high antioxidant (19) tonic, easy to make and delicious in summer or winter using Seagreens Salad & Condiment product, is available at: www.seagreens.co.uk/tonic

In summary

- protects and heals the gut endothelial lining
- macro- and micro-nutrient profile balances and fills gaps in the diet
- binds and excretes through bowel pollutants and toxins including heavy metals
- has a natural prebiotic effect from special seaweed polysaccharides (approx. 25% of seaweed)
- has natural antibacterial properties (eg. anti-candida, prevents adhesion of pylori bacteria)
- improves metabolism and circulation to the epidermis

Seagreens Healthcare Summary:
www.seagreens.co.uk/healthcaresummary

References

(1) H. Aihara, Acid and Alkaline, Ohsawa Macrobiotic Foundation, 1986 - and 7x times more alkalizing than apples!
(2) L. O'Sullivan, B. Murphy, P. MacLoughlin, P. Duggan, P. G. Lawlor, H. Hughes and G. E. Gardiner, Prebiotics from Marine Macroalgae for Human and Animal Health Applications, Marine Drugs 8:2038-2064, 2010 and current research at British and Danish Universities
(3) J. Pearson et al., University of Newcastle upon Tyne, Institute for Cell and Molecular Biosciences, in Critical Reviews in Food Science and Nutrition, November 2006
(4) S. Ikegami et al, Effect of viscous indigestible polysaccharides on pancreatic biliary secretion and digestive organs in rats, Journal of Nurtrition 120:353-360, 1990
(5) N. Campbell-McBride, MD, MMedSci (neurology), MMedSci(nutrition), Gut and Psychology Syndrome, Medinform, 2007. Foods to Choose also available at: www.gaps.me
(6) The Colon Health Handbook, 14th revised ed., available from Bestcare, West Sussex RH10 4HQ, England www.bestcare-uk.com
(7) Y. Tanaka et al., Studies on Inhibition of Intestinal Absorption of Radioactive Strontium, Canadian Medical Association Journal 99:169-75, 1968; M.Y. Arica et al., Alginates bind heavy metals, Journal of Hazardous Material, 2004 (in addition to the metal binding properties of their polysaccharides, Seagreens® also provide a balance of all the amino acids necessary for the production of the metal transporting metallothionines, including cysteine. In the case of the ubiquitous MT hæmoglobin, cysteine accounts for as much as 30% of its structure)
(8) Research on wild wrack (fucus) in un-controlled trials at the University of Pavia, Italy, 1998-99 claimed increased blood flow to the epidermis in over 80% of female trial subjects.
(9) J. Tommey, a clinical nutritionist, Pure, simple, effective and essential, The Autism File, Issue 21, Winter 2006 www.theautismclinic.com
(10) V. G. Cooksley, Seaweed, A Field Guide to Seaweed, Stewart, Tabori & Chang, New York, 2007 p. 172; S. Surey-Gent, G. Morris, Seaweed - A User's Guide, Whittet Books, 1987
(11) The Guardian, February 2006 (quoted in The Week, London, 11.02.06); Changing Diets, Changing Minds: how food affects mental health and behaviour, a joint report of Sustain: the alliance for better food and farming, January 16, 2006, in partnership with the Mental Health Foundation; Feeding Minds: The Impact of Food on Mental Health, a report of the Mental Health Foundation (MHF), February 2006
(12) Mineral and trace element changes in Britain 1940 to 2002 including fruit and vegetables, meat and meat products, cheeses and dairy products, research by D. E. Thomas, DC, MRNT (2007) based on McCance & Widdowson, The Composition of Foods, 6 Editions, pub. Royal Society of Chemistry and the Ministry of Agriculture, Fisheries and Food (MAFF); M. Crawford, Institute of Brain Chemistry and Human Nutrition, London Metropolitan University
(13) Seagreens is doing award-winning research in obesity using its whole food seaweeds: www.seagreens.com/University/Satietystudy2009.aspx. Further data for weight regulation at: www.seagreens.com/UniversityPractitionerHealthcareSummaryView.aspx
(14) F. Watanabe, S. Takenaka, H. Kittaka-Katsura, S. Ebara, E. Miyamoto, Characterisation and Bioavailability of Vitamin B12 compounds from edible algæ, Journal of Nutritional Science and Vitaminology, 48(5): 325-331, October 2002; P. MacArtain, C. I. R. Gill, M. Brooks, R. Campbell, I. R. Rowland, Nutritional Value of Edible Seaweeds, Nutrition Reviews, Vol. 65, 12:535-543, 2007
(15) S. Løvstad Holdt, S. Kraan, Bioactive Compounds in Seaweed: functional food applications and legislation, Journal of Applied Phycology, 2011 [Seaweed Health Foundation library: www.seaweedhealthfoundation.org.uk] and see: www.seagreens.com/University/HealthCondition.aspx
(16) Seagreens Presentation to the Food Industry at: www.seagreens.com/Media/Presentations.aspx
(17) Organic & Natural Business, October issue, 2009
(18) M. Kushi, A. Jack, The Macrobiotic Path to Total Health, Ballantine books, pp.9-11, 2003.
(19) Studies at the Centre for Food Innovation, Sheffield, England and the University of Århus, Denmark, the University of Reading and at SCRI, Scotland: [Seaweed Health Foundation library: www.seaweedhealthfoundation.org.uk]

Consumers will find Seagreens products in good health and natural food stores.
Healthcare practitioners and clinics can obtain Seagreens products from:

The Natural Dispensary	thenutricentre	Bestcare Products Ltd	Xynergy Health Products	Oceans of Goodness
camexpo stand: 1931a www.naturaldispensary.co.uk	camexpo stand: 1223 www.nutricentre.com	camexpo stand: 2730 www.bestcare-uk.com	www.xynergy.co.uk	www.oceansofgoodness.co.uk