Spirulina
Aquatic-water super food

"Spirulina contains 10 times the vitamin A of carrots on a per-gram basis."
— Bruce Burnett, CH

Spirulina, also known as phyto-plankton, are tiny, green, one-celled algae that thrive in warm, alkaline, fresh water.

Named for its spiral shape, spirulina is probably one of the earliest life forms on earth, dating back 3.6 billion years. Spirulina is known as a “super food” because its nutrients are more concentrated than any other food or plant.

Quick and easy absorption
Of the three main types of algae (blue-green algae, spirulina, and chlorella), spirulina is the easiest to digest and absorb, because its cell walls are composed of mucopolysaccharides, rather than indigestible cellulose. Chlorella needs special processing to improve digestibility of a tough outer cell wall but is valued for its ability to bind with heavy metals and carry them out of the body. Wild blue-green algae contain remarkable healing properties but can transform into exceptionally toxic plants under certain conditions. Freeze-drying is said to denature, or change the properties of these toxins.

Highly digestible source of protein
Of special interest to vegetarians is the fact that with over 60 percent protein...
spirulina is the most potent and most digestible protein source known, containing all eight essential amino acids, plus 10 of the 12 nonessential amino acids.

**Adequate source of B₁₂?**

Many vegetarians also maintain that spirulina is the only plant source of vitamin B₁₂, although this view has been challenged by Stephen Byrnes, ND, PhD, RNCP, author of the article “The Myths of Vegetarianism” published in the Townsend Letter for Doctors—Patients, July 2000. Claims Dr. Byrnes, “The B₁₂ analogues present in algae and tempeh are not bioavailable. We know this because studies done on people’s blood levels of B₁₂ showed that levels remained the same after they ate spirulina and tempeh...clearly indicating no absorption by the body.”

“Spirulina is also one of the best sources of GLA, the ‘good’ omega-6 essential fatty acid.”

Calgary-based naturopath, Dr. Bruce Lofting, echoes this opinion. Says Dr. Lofting, “At the time of my academic training to become a naturopathic doctor, we were taught that a significant amount of vitamin B₁₂ from food could only be [obtained] from animal sources....I still recommend vegans supplement with B₁₂, perhaps in a quality multivitamin or as a separate pill. I would not feel comfortable trying to get it [B₁₂] from spirulina or any other plant.”

**A powerhouse of nutrients**

Nevertheless, spirulina is rich in the vitamins A, E, and B-complex. It contains 23,000 IU of vitamin A per 10 grams—10 times that of carrots on a per-gram basis. It is also a rich source of chlorophyll, a phytonutrient helpful in breaking down natural and man-made toxins—toxins that can cause mutations in body cells.

Spirulina also contains chelated versions of potassium, calcium, magnesium, zinc, selenium, phosphorus, and iron. In fact, at least one laboratory study has demonstrated that the iron level in spirulina is equivalent to that of beef. “Chelated” means firmly attached or bound, usually to an amino acid or other organic component, so that the two do not disassociate in the digestive system. Nutrient absorption is thus enhanced. Spirulina is also one of the best sources of GLA, or gamma-linolenic acid, the “good” omega-6 essential fatty acid.

Says Dr. Andrew Weil, clinical professor of internal medicine and the founder and director of the Program in Integrative Medicine at the University of Arizona in Tucson, “[GLA] has specific nourishing effects on skin, hair, and nails that are not duplicated by omega-3 fatty acids. It is true that a high ratio of omega-6 to omega-3 fatty acids in the diet promotes inflammation by favouring synthesis of pro-inflammatory hormones (prostaglandins). But the amount of GLA needed to treat eczema and other skin conditions (500 mg twice a day) is too small to affect that ratio significantly.” There are approximately 130 mg of GLA per 10 g of spirulina.

**Rich in antioxidants**

Spirulina is rich in antioxidants, those dietary good guys that gobble up free radicals (atoms with unpaired electrons) like voracious piranha. Antioxidants deactivate free radicals by binding to their footloose, vandalizing electrons that have been identified as major villains in the aging process. Antioxidants also improve the whole process of food metabolism, ensuring that fewer free radicals are generated in the first place. This boosts oxygen utilization and reduces oxidative damage.

Truly a “super food,” spirulina is readily available in most health food stores in powder, tablet, and capsule form.

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