



Spirulina

Stock #681-1 (100 capsules)

Spirulina has been cited in the *Journal of Applied Psychology* as providing remarkable therapeutic effects, even at low dosages in the diet—this could indicate spirulina's beneficial effects may be due to more than simple nutrition.

Spirulina is a type of fresh-water blue-green algae composed of approximately 65-71% protein, making it one of the richest vegetal sources of protein known. These proteins are biologically complete, containing all 8 essential amino acids in their proper ratios. Much of spirulina's protein is in the form of biliprotein, which has been predigested by the algae, making it 5 times easier to break down than either meat or soy protein. In fact, the digestibility of spirulina protein is rated 85%, compared to approximately 20% for beef protein. This easy-to-digest type of protein is especially beneficial for those suffering from problems associated with excessive animal protein and refined foods intake—namely those with arthritis, cancer, diabetes, hypoglycemia, obesity, or a similar degenerative condition.

Spirulina contains an extremely high level of the fatty acid, GLA, as well as substantial amounts of omega-3 alpha-linolenic acid. GLA and its corresponding prostaglandin, PGE₁, have been researched extensively for their immunostimulating activity. GLA is also important for healthy growth and development in children, and is found in abundance in mother's milk, with spirulina being the next-best whole-food source. Children who have never been breast-fed are often given spirulina in order to encourage the hormonal and mental development which may be lacking as a result of insufficient nutrition during infancy.

Spirulina is an excellent source of beta-carotene (1,700mg/kg), vitamin B₁₂, potassium, and chlorophyll. In fact, spirulina is one of the few plant sources of vitamin B₁₂, which is typically only found in animal tissues. One teaspoon of spirulina can provide as much as 2½ times the RDA for B₁₂ and over twice the amount of B₁₂ found in an equivalent serving of liver. Spirulina also contains vitamins B₁, B₂, B₆, biotin, folic acid, inositol, niacin, pantothenic acid, vitamin E, and the minerals calcium, iron, magnesium, manganese, phosphorus, selenium, and zinc. A rich source of carotenes, spirulina contains beta-carotene, cryptoxanthin, echinenone, lutein, xanthophylls, zeaxanthin, and trace amounts of alpha-carotene. Spirulina also contains a blue pigment called phycocyanin, a biliprotein which has been shown to prevent the formation of cancer colonies. Phycocyanin also enhances neurotransmitter formation which increases mental capacity.

Another nutritional benefit of spirulina is that its cell walls are made entirely of mucopolysaccharides (MPs), which makes the nutrients contained within completely digestible. Other plants have cell walls made of an indigestible cellulose, thus limiting the bioavailability of many important nutrients. MPs help strengthen body tissues, particularly connective tissues, making them more elastic and resilient. MPs also provide anti-inflammatory activity, as well as reduce blood fat and inhibit artery deterioration.

Spirulina has been the subject of numerous studies in Europe and Japan, and has been proven helpful for various ailments, including anemia, cataracts, diabetes, gastrointestinal problems, glaucoma, hepatitis, hypoglycemia, malnutrition, obesity, overeating, chronic skin outbreaks, and weakened immunity. Spirulina has also been shown to protect the kidneys against damage from strong prescription medication. Spirulina helps to nourish the body, detoxify the kidneys and liver, build and enrich the blood, cleanse the arteries, promote the growth of intestinal flora, and inhibit the growth of bacteria, fungi and yeasts. Japanese studies of acute and chronic hepatitis and early liver damage sustained from alcohol abuse found that spirulina increased the liver's ability to regenerate, both in medicated and non-medicated individuals, with improvements documented after 2-6 weeks of supplementation.

Spirulina helps balance levels of Immunoglobulin E (IgE) in the blood. A study was conducted with children suffering from chronic radiation sickness—they lived in and around Chernobyl—and increased levels of IgE, denoting high allergy sensitivity. Results indicated that having the children consume spirulina reduced IgE levels in the blood, and thus reduced their allergic sensitivities.

According to studies published in *Medication and New Drugs*, spirulina supplementation has been shown to slow the loss of white blood cells (leukocytes) associated with chemotherapy and radiation treatments of cancer. Also, patients noted experiencing less nausea and lassitude from cancer treatments when spirulina was added. Furthermore, the Regional Cancer Centre in Trivandrum, India, gave spirulina to 44 individuals having developed precancerous lesions from chewing tobacco. After only one year, the lesions had disappeared in 20 of those who had eaten the algae, with another 5 showing significant improvement.

Other studies show spirulina may be beneficial for treating obesity and compulsive eating disorders. The high level of protein, vitamins and minerals in spirulina act to nourish the body and provide a more satisfied feeling of fullness. Furthermore, spirulina contains an amino acid called phenylalanine, which triggers the release of a hormone in the cerebral cortex that acts on the hypothalamus to suppress appetite.