Superfoods Fact Sheet
Spirulina

What is Spirulina?
Spirulina is one of the single-celled, blue-green microalgae family, and grows in fresh water. Amongst the first simple life forms on the plant, algae are packed with goodness. The green colour of spirulina is derived from chlorophyll, whilst the blue colour comes from the pigment phycocyanin.

History and Traditional Uses of Spirulina
Algae and plankton life forms are the foundation of the food chain, and are the nutrient and food source upon which all life is built. They grow naturally in warm, alkaline freshwater lakes and we know of two civilisations which harvested and reaped the many benefits of spirulina – the peoples of Mexico City in Central America and those of Lake Chad in Africa.

Spirulina was the main protein source of the Mexico City civilization, and was widely grown in the lakes around this area, where it is still harvested to this day. The Aztec people revered spirulina along with cacao, and mixed the two superfoods together, and also used spirulina as an ingredient in cakes and broths. The peoples of Lake Chad have been drying and consuming spirulina since the beginning of human habitation in this area and even today it is sold in regional markets.

Health Benefits of Spirulina

Spirulina has been shown to be an excellent source of a wide array of nutrients.

High in chlorophyll, vitamins, minerals and protein it offers numerous benefits, many of which are beginning to be explored by scientists.

Antioxidant
Spirulina contains powerful antioxidant compounds such as beta-carotene and phycocyanin. These tiny plant cells developed antioxidant compounds to protect themselves from the higher levels of ultra violet radiation they were exposed to early on in Earth's history, and today these same compounds offer us protection from this same radiation as well as protecting our cells from free radical damage. It is particularly beneficial for protecting our DNA and cells from damage by free radicals.

They also help to prevent or reduce inflammation which is often caused by free radical damage in the body.

Blood Builder

Spirulina has a reputation as being an effective blood builder, helping to prevent anaemia, and increasing red blood cell formation. It is high in iron and chlorophyll and the compound phycocyanin which has been documented as stimulating the creation of blood.

Immune System Booster

Spirulina has been used as a powerful immune boosting tonic. Scientific studies have shown that it consistently improves immune performance both in humans and animals, helping to increase the production of antibodies and cytokines, protecting the body against bacterial, and virus, infections. It also increases the production of bone marrow stem cells, T fighter cells, macrophages, B cells and natural killer cells, all of which increase natural health and immunity.

Detoxification

Researchers also consider spirulina to have good detoxification properties and to support the liver and nervous system to detoxify poisons. It contains bioavailable sulphur and this, along with it many other beneficial nutrients help to improve the various channels of elimination in the body.

The high levels of chlorophyll also add to its excellent detoxification properties, which appears to bind to various toxic compounds, including heavy metals, and prevent them damaging the cells.

Other Benefits

There are a whole host of other benefits attributed to spirulina including:

- Helps balance brain chemistry, improves mental sharpness
- Helps improve cellular communication
- Helps maintain healthy insulin levels
- Age related macular degeneration
- Helpful with painful or too frequent periods, reduces feelings of fatigue with menstruation
- Helps balance intestinal flora and stimulate production of lactobacillus bacteria
- Neurodegenrative disorders such as Parkinsons, Alzheimers
- Liver health
- Protection from HIV and other viruses
- Bone marrow and blood health
- Reduced pain sensitivity
- Protection from ionising radiation
- Type II diabetes
- Cerebrovascular disease (including stroke)
- Reduce allergy symptoms
- Reduce arthritis symptoms
- Helpful with menopause
- Can help with fat burning during exercise.

In terms of herbal medicine, spirulina is considered to be a cooling food, damp by nature.

It should be taken on a 3 weeks on, 1 week off rota.

Nutritional Value of Spirulina

Highly nutritious, spirulina is packed with protein, containing 65 – 71% protein including all 8 essential aminos, (red meat is approx. 27% protein). It is therefore considered a complete protein source. What is more, this is a highly digestible form of protein due to not having cellulose walls, and is considered to be four times more absorbable than the same measure of protein from beef.

It is also considered to be a more efficient protein source than animal protein – and not just because it doesn't involve factory farming, and slaughter! Per acre it produces 200 times more protein than beef, without any depletion in soil nutrition – in fact, it can improve soil fertility when used as a fertiliser – and is more frugal on other resources such as water. Its secret lies in its ability to convert sunlight into protein more efficiently than anything else on the planet.

It is also rich in Vitamins A, B1, 2, 6, C, and D. A, E and K. It is high in the minerals calcium and iron and also contains potassium, chromium, zinc, selenium, and sodium.

Spirulina is high in chlorophyll as well as salts, phytonutrients and enzymes. It is also high in GLA (gamma linolenic acid) an essential fatty acid important for growth and development. It also contributes to healthy skin and hair, healthy hormone balance and is anti-inflammatory.

Amongst the antioxidant compounds it contains are:

- Carotenoids, including beta-carotene
- Chlorophyll
- Zeaxanthin
- Superoxide dismutase (SOD)
- Phycocyanin

Spirulina also contains the nucleic acids RNA and DNA.

It is and ideal food for those suffering malnutrition, digestive problems or malabsorption issues.