

# Wild Blue Green Algae

## Simply the Best

The discovery of this ancient strain of blue green microalgae (*Aphanizomenon Flos-Aguae*) has led to a new Super Food that contains more protein and chlorophyll than any other food source. This non-toxic cyanobacteria, which grows only in the wild, is far superior to any other algae on the market and has become the focus of much attention in the health food industry. Neurotransmitters can be seen as the chemical link whereby neurons communicate with one another. The ability of the brain neurons to manufacture and utilise neurotransmitters is dependent upon the concentration of amino acids in the bloodstream. This largely depends upon the food composition of the previous meal. Primitive as algae may appear, most are highly efficient photosynthesisers, even more so than plants.

**Algae utilise light energy from the sun (greater than 10% conversion efficiency), carbon dioxide from the air, and hydrogen from the water to synthesise proteins, carbohydrates and lipids.**

*Wild Blue Green Algae* is unique among all food grade algae in that it also metabolises molecular nitrogen from the air to produce its proteins and other nitrogen containing bio-molecules.

## About the Brain

The brain is the most undernourished organ in the body. Although it comprises only 2% of the total body weight, it uses 20% of the body's available energy resources. Each of its estimated 10 billion neurons, have a voracious appetite which must be satisfied every minute of every day of our lives. *Wild Blue Green Algae* metabolises molecular nitrogen directly from the air. This growth pattern allows for the bio-synthesis of low molecular weight peptides. These low molecular weight peptides are precursors of neurotransmitters, which are used by various regions of the brain and body to initiate the secretion of other substances (such as hormones) that influence metabolic functions.

## Complete Protein

All of the body's basic biochemical processes require energy to occur. It is from the ingestion of various food substances, that the required amount of energy is obtained. The central part of the body's energy package, that provides for the replication and repair of cells, organs and organ systems is protein.

Next to water, protein is the most abundant substance in a healthy human body. It comprises a major portion of the blood and lymph and creates a natural immunity by giving the body a means of recognising invading foreign cells and viruses.

Protein is made up of amino acids, the "building blocks" of the entire body. Twenty-two various amino acids are commonly found in all proteins in every species, from bacteria to man. This basic alphabet of protein is at least two billion years old.

Eight of the amino acids are considered "essential" since they cannot be produced inside the body; they must be assimilated from the food we eat. Two are considered semi-essential because they are necessary for proper growth in children. The other 12 amino acids are produced within the body. Proper quantities of all amino acids are required to maintain health in the body. Proteins from the foods we eat, are first broken down into amino acids by the digestive system. They are then carried throughout the body in the bloodstream and utilised by cells to construct new tissues, enzymes, hormones, etc. Foods that contain all eight essential amino acids are called "complete protein" foods. *Wild Blue Green Algae* is the perfect anabolic green food. It contains all eight essential amino acids, both semi-essential amino acids, and is a concentrated source of Arginine, known to build and tone muscle tissue.

**Minerals** are important to the overall functioning of mind and body. They have two general body functions - building and regulating. They build the skeleton and all soft tissues and regulate heart beat, blood clotting, internal pressure of body fluids, nerve response and oxygen transport from the lungs to the tissues. Growing as it does in the nutrient-rich environment of Upper Klamath Lake, *Wild Blue Green Algae* contains a full spectrum of chelated (organically bound) minerals. The algae's mineral volume lies approximately between that of alfalfa and seaweed.

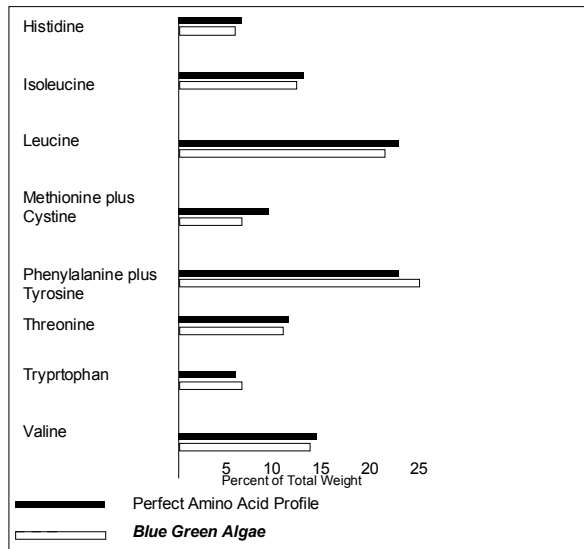
**Carbohydrates** are the primary source of energy for all body functions and muscular exertion. They assist in the digestion and assimilation of other foods and provide the body with immediate available calories for energy. The carbohydrates in *Wild Blue Green Algae* are straight chains of glucose molecules that are nearly identical to those found in glycogen, the major carbohydrate stored in the liver to regulate serum glucose levels in the body.

**Lipids** provide the most concentrated source of energy for the body. They function as carriers for Vitamins A,D,E and K and are important for the conversion of plant Beta-carotene into Vitamin A. The lipids found in *Wild Blue Green Algae* are commonly known as glycolipids, meaning they are composed of a sugar portion and a lipid portion. The lipid moiety acts as an excellent transport vehicle for vitamins and minerals across blood-cell barriers. There are no steroidal type lipids (cholesterol) in *Wild Blue Green Algae*.

The carbohydrates and lipids in *Wild Blue Green Algae* function to provide the body with a uniform level of energy, not an up / down energy cycle like that resulting from sweets or sugars.

*Wild Blue Green Algae* has been shown to enhance the assimilation and utilization of protein in those people on a vegetarian, macrobiotic or strictly raw food diet. *Wild Blue Green Algae*, grown in sunlight and natural water, is perhaps the most significant way to dramatically improve any diet.

The Essential Amino Acid profile of Blue Green Algae is virtually identical to that required by the human body.



Essential Amino Acids per 1 g of algae		Semi-Essential Amino Acids per 1 g of algae	
Isoleucine	29 mg	Arginine	38 mg
Leucine	52 mg	Histidine	9 mg
Lysine	35 mg		
Methionine	7 mg		
Phenylalanine	25 mg		
Threonine	33 mg		
Tryptophan	7 mg		
Valine	32 mg		

### Nutritional Profile

Chemical Composition % by dry weight		C, H, N Content	
Protein	60	Carbon	42.1%
Lipids (fats)	5	Hydrogen	6.3%
Carbohydrate (sugars)	22	<b>Nitrogen</b>	<b>9.1%</b>
Minerals (ash)	7	<b>NUCLEIC ACIDS</b>	
Chlorophyll	3	RNA >	.75%
Moisture	3	DNA >	.25%

**Chlorophyll:** Aphanizomenon Flos-Agae contains the highest concentration of chlorophyll of any food. The chlorophyll molecule is divided into porphyrin and phytol moieties (parts). The porphyrin protein closely resembles the heme moiety in haemoglobin and has been shown to assist in building red blood cells. The phytol moiety in chlorophyll is a metabolic precursor necessary for the synthesis of Vitamins E and K.

Chlorophyll Content per 10 grams	
BlueGreen	300 mg
Spirulina	115 mg
Chlorella	280 mg
Barley Grass	149 mg
Wheat Grass	55 mg

Blue Green Algae's vitamin profile is unusually even and complete for any single food. It is rich in B vitamins, including B12, and beta carotene (precursor to Vitamin A).

Vitamins	Per 1 gram of algae
Provitamin A (beta carotene)	2400.0 IU
Thiamine B1	4.8 mcg
Riboflavin B2	57.4 mcg
Pyridoxine B6	11.1 mcg
Cobalamin B12	8.0 mcg
Ascorbic Acid C	6.7 mg
Niacin	0.13 mg
Folic Acid	1.0 mcg
Choline	2.3 mg
Pantothenic Acid	6.8 mcg
Biotin	0.33 mcg
Vitamin E	0.13 IU
d-CA Pantothenate	11.0 mcg
Inositol	0.35 mg

Minerals	Per 1 gram of algae
Boron	10.0 mg
Calcium	14.0 mg
Chlorine	464.0 mcg
Chromium	0.53 mcg
Cobalt	2.0 mcg
Copper	4.0 mcg
Fluorine	38.0 mcg
Germanium	0.27 mcg
Iodine	0.53 mcg
Iron	350.7 mcg
Magnesium	2.2 mg
Manganese	32.0 mcg
Molybdenum	3.3 mcg
Nickel	5.3 mcg
Phosphorus	5.1 mg
Potassium	12.0 mcg
Selenium	0.67 mcg
Silicon	186.7 mcg
Sodium	2.7 mg
Tin	0.5 mcg
Titanium	23.3 mcg
Vanadium	2.7 mcg
Zinc	18.7 mcg

Fatty Acids	%
Palmitic (16:0)	43.4
Palmitoleic (16:1)	9.7
Palmitolinoleic (16:2)	Trace
Stearic (18:0)	2.9
Oleic (18:1)	5.0
Linoleic (18:2)	12.4
Linolenic 6,9,12 (18:3)	21.4

Each 1 gram serving of Blue Green Algae provides:	
NUTRIENT	% USRDA
Vitamin B12	<b>133%</b>
Provitamin A (beta carotene)	<b>48%</b>
Vitamin C	11%
Riboflavin (B2)	3%
Thiamine (B1)	2%
Iron	2%

ALGAE COMPARISON

<b>COMPARATIVE VARIABLE</b>	<b>ALPHANIZOMENON FLOS-AQUAE <i>Wild</i></b>	<b>SPIRULINA MAXIMA / SPIRULINA PLATENSIS</b>	<b>CHLORELLA</b>
<b>Organism type</b>	Blue-Green Protista	Blue-Green Protista	Green Protista
<b>Growth location</b>	Grows prolifically in Upper Klamath Lake during the summer months	Grows in Lake Texcoco near Mexico City and Lake Chad in Republic of Chad, Africa. Also cultivated in various locations throughout U.S.	Grows prolifically in most parts of the world
<b>Growth temperature</b>	68° F to 75° F	98° F to 103° F	68° F to 103° F
<b>Optimum pH for growth</b>	6.9 to 7.4	8.3 to 10.0	7.0 to 7.5
<b>Salinity of growth medium (sodium chloride content)</b>	30 ppm dissolved solids	Greater than 3,000 ppm dissolved solids	About 1,000 ppm dissolved solids
<b>Light sensitivity</b>	Grows in high intensity light	Grows best in conditions of low light intensity	Grows in high light intensity
<b>Nitrogen metabolism</b>	Metabolises molecular nitrogen from the air to produce protein, nucleic acids, and other nitrogen containing compounds	Grows on nitrates, nitrites, and ammonia	Grows on nitrates and ammonia
<b>Net Protein Utilisation</b>	High protein assimilability - NPU greater than 75% (freeze-dried material)	Assemblable protein - NPU about 37% for spray dried material	Low assimilability - NPU about 20%
<b>Low molecular weight peptide and neurotransmitter concentrations</b>	Has high concentration of neurotransmitter-like compounds due to its breatharian characteristics	Contains low levels of low molecular weight peptides when grown in adequate concentrations of ammonia or nitrates	Contains small amounts of controlled-growth-factor elements
<b>Cell wall characteristics</b>	Soft cell wall consisting of a glycolipoprotein complex	Soft cell wall constructed of a protein / mucopolysaccharide complex	Contains cellulose wall that is not digestible
<b>Denaturation of cellular constituents during processing</b>	Cellular components remain intact during freeze-drying	Enzymatic activity is lost during spray drying	Remains intact if freeze-dried
<b>Vitamins and minerals</b>	Bioavailability remains high during freeze-drying process	Heat sensitive components are degraded during spray drying	Low bioavailability due to cellulose wall
<b>Drying methods</b>	Cell walls are disrupted during freeze-drying thereby making the cell contents available for rapid assimilation	Cell walls may be disrupted during spray drying	Cell walls may be mechanically disrupted during drying procedures