AFA

If there was a food which incorporated all the vitamins, nutrients, minerals, and amino acids vital to our existence; that had five times more calcium than milk; three times more protein than meat, fish, or poultry; fifty times more iron than spinach; that did not contain any calories or cholesterol; and contained natural substances which acted as a hunger suppressant, wouldn't you be interested?

AFA is derived from freshwater blue-green algae grown and harvested in Klamath Lake.

What is algae? (Note: the plural expression "algae" is used for both plural and singular expressions of alga in this article.)

Although it looks dull and slippery as it floats on the water's surface, beneath blue-green algae's unremarkable appearance lies a powerhouse of nutrition.

Algae is nature's original life form. It has been around for three-and-a-half billion years. Primary in the food chain, it supports the nutritional needs of all creation! Growing in abundance in only one place in the world, Upper Klamath Lake, Oregon, **Aphanizomenon Flos-Aquae (AFA)** is a wild freshwater algae. One of the first microorganisms to use the power of the sun for energy, algae is a prolific producer of the fundamental building blocks of life: amino acids. Algae is responsible for 80 percent of the earth's food supply and 90 percent of its oxygen supply. Life on planet earth has literally emerged from this unique nonflowering water plant and continues to be sustained and nourished by it.

A whole food, not a supplement, it contains up to 66 percent protein with an amino acid profile virtually identical to that required by the healthy human body. In addition, it contains high concentrations of vitamins, including beta-carotene and B12, and other nutrients the body uses to manufacture neuropeptides—the chemicals the brain uses to communicate with the body. It contains a full spectrum of

naturally chelated minerals and trace minerals. Algae is anabolic, which means its organic compounds are easily assimilated and absorbed by the body.

Upper Klamath Lake

Upper Klamath Lake is located in a remote area in the Southern Oregon Cascade Mountains. Klamath Lake is one of the few remaining alkaline lakes on the planet. Seven thousand years ago a volcanic explosion covered the entire area with millions of tons of mineral-rich ash. Approximately 50,000 tons of this mineral-rich ash flowed into the 140 square mile lake from the 4,000 square mile volcanic basin, through a network of 17 rivers and streams. This influx, in conjunction with the abundant mineral sediment, created a full spectrum of naturally chelated (organically bound) minerals that supply the algae with over 60 times the raw materials required for them to flourish. At the 4,000-foot elevation, air and water quality is great; it is the perfect environment for blue-green Algae growth.

How is AFA harvested?

The algae is selectively harvested from spring-fed water areas of Upper Klamath Lake by a 90 ft. by 45 ft. barge. Pumps are attached to adjustable front scoops which collect algae just under the surface of the water. These scoops have screens that prevent small fish and debris from entering the system. The algae then proceeds to the onboard stainless steel collection tank where a proprietary process of microfiltration, rinsing, and dewatering occur. Next the algae goes directly to a stainless steel refrigerated chill tank until it's transferred to another stainless steel food grade tank on a pontoon boat that transports the algae to shore. Throughout this process the algae is maintained at 35 degrees Fahrenheit.

Once the algae reaches the shore, samples are taken for examination by a quality control team, and sent to a microbiologist for comparison. If testing results are not acceptable, the batch will be destroyed, although this has not been necessary for any of the batches to date. Immediately, the algae is flash-frozen in a tunnel blast freezer and stored in this frozen state using a controlled-batch

system. As the products are needed, the algae is freeze-dried and the products are produced. All of the facilities have been licensed, inspected, and approved as food grade quality.

Absorbability

Microalgae, existing at the beginning of the food chain, provides the simplest form of balanced, wholefood nutrients. AFA has a very nutritious, easily digested, soft cell wall, comprised of a glycolipoprotein complex. This allows rapid absorption of vital nutrients of which 95 percent are assimilated, at almost no cost to the body's digestive energy supplies. Most of the nutrients in AFA are active and in forms that are directly useable by the body.

What are the benefits from using AFA?

- Contains the building blocks of neuropeptides, including high concentrations of RNA, which stimulate the development of new neurological (nervous system) pathways, which is believed to increase intelligence.
- Helps to rejuvenate our lungs, purify our kidneys and blood, and nourish the gastrointestinal tract.
- Contains blue pigment, called phycocianin, which helps the body detoxify heavy metals and pollutants.
- Especially good for vegetarians because it contains all of the essential amino acids that are usually found in meat.

Dr. Gabriel Cousens, M.D., has the following to say about his clinical experiences with AFA:

"The greatest value of AFA lies not in its dense nutrient concentration or even in its high levels of neuropeptide precursors, but in its amazing positive effect on the nervous system, and specifically on the pituitary, pineal, and hypothalamic (area in which the nervous and hormonal systems interact) structures."

People taking AFA have consistently reported an overall increase in the following functions:

- Mental alertness
- Mental stamina
- Short and long-term memory
- Problem solving
- Creativity
- Dream recall
- Greater sense of centeredness

Statistically, AFA seems to activate the mind/brain function in about 70-80 percent of those using it. Further, because it stimulates the opening of the neural pathways, it has excellent value in treating cocaine, amphetamine, and other neuro-stimulant addictions.

Dr. Gabriel also reports that algae has helped his clients with the following diseases:

- Depression (slowing down of the body and mind)
- Autism (disorder of higher brain function)
- Hypoglycaemia (low levels of sugar in the blood)
- Diabetes (low levels of insulin)
- Hepatitis (inflammation of the liver)
- Alzheimer's (brain shrinkage from loss of brain tissue)

While vitamins and minerals have been used to supplement our diet with essential nutrients for nearly a half-century, green foods such as AFA are now becoming popular. The manufacturers of AFA are deeply committed to maintaining the highest standards of excellence in order to bring the consumer the purest possible product. The manufacturers are taking an active role in working with several government and private agencies to preserve and protect this precious resource, to ensure the availability of bluegreen algae for all future generations.

AFA KLAMATH BLUE GREEN MOST FREQUENTLY ASKED QUESTIONS

1. What type of algae is Klamath Blue Green?

Aphanizomenon Flos Aquae.

2. Where are the algae harvested?

Upper Klamath Lake in Klamath Falls, Oregon.

3. When are the algae harvested?

In the summertime, depending on the weather, generally, from July to November.

4. How is the algae harvested?

The algae are harvested by barges, which scoop the algae from the lake. The algae then proceeds to the onboard collection tank where a process of filtration, rinsing, and dewatering occurs, maintaining the temperature of the algae at 35 degrees Fahrenheit. The algae are then put into a stainless steel refrigerated chill tank until it is transferred into a food grade tank and is transported to shore. The algae is then put through additional micro-filtration and purification processes and is immediately flash frozen and stored in the frozen state until the product is needed and released to be freeze dried and made into products.

5. How is the algae processed?

The algae are freeze-dried; temperature is maintained below 100 degrees, preserving vital enzymes and nutrients in their natural state.

6. What is the suggested serving for taking the algae?

Suggested Use:-

START UP: 2 capsules per day for 1 week Maintenance 4 capsules per day

Optimum Supplementation 8 capsules per day

7. Can 1 take too much algae?

The algae are considered a whole food. Due to the dense nutrient content of Klamath Blue Green Algae, occasionally someone may experience over-stimulation or slight gastric upset. If this occurs, serving should be reduced by 1 capsule. If someone isn't feeling the full benefits' they may want to increase their serving by 1 capsule.

8. When is the best time to take the algae?

The suggested time is first thing in the morning on an empty stomach, even before coffee. You may split them up and take half in the morning and half in the afternoon. It is not recommended to take the algae at night unless you want to stay up for some reason (students, those who work at night, etc.)

9. Can I take the algae while pregnant or nursing?

Klamath Blue Green Algae is considered a whole food. If you have any concerns or questions, please consult your doctor or nutritionist.

10. Can 1 give the algae to my children?

Most certainly, we recommend maximum 1 gram/4 capsules per day under age 13.

11. Can the algae be taken with my other vitamins, medications, or herbs?

Yes, since the algae are considered a whole food it would be just like taking other food.

12. What are the benefits?

A whole food, Klamath Blue Green Algae is rich in Beta-Carotene, B-12, Chlorophyll, Essential and Non-Essential Amino acids and all the Trace Minerals that your body needs for cell regeneration. It also has the nutritional balance to assist the immune system and enhance better brain and emotional functions.

13. What are the side effects, if any?

Used in the suggested serving amounts, side effects do not typically occur. However, some gastric upset may initially appear, due to the fact that the algae work as a detoxification product. Some may experience minimal diarrhoea, nausea, or stomach aches. If this occurs, dosage should be reduced by one capsule. On the other hand, if someone feels they aren't receiving the full benefits, they may want to increase the serving by one capsule.

14. How much of the algae will by body absorb?

Klamath Blue Green contains up to 68% protein, more than any other whole food, in the shape and form that the body needs to use it. No change is required - over 98% of the nutrients can be used directly by the body in the same form, the same organic compounds the algae provides.

15. What is the benefit of the enzymes in the Vegicaps and what are they?

All of the Enzymes that are used in Klamath Blue Green Vegicaps are plant-based digestive Enzymes and they are Protease, Amylase, Cellulase, and Lipase. These Enzymes aid in absorption of the nutrients in the algae and other food.

16. What is the difference between the Powder and the Flake?

They are the same product except for the fact that the powder is milled one step further. We are finding that the flake dissolves better in liquids vs. the powder.

17. Is the algae fattening?

The algae contain 50 mg of fat (from plant-based lipids; no animal fat) per gram of algae (two capsules/tablets). This tends to act as an appetite suppressant. There are 4 calories per gram of algae.

18. Is there any cholesterol in the algae? No.

- 19. What kind of quality control do you have concerning pollution, toxins, or debris? After every harvest the algae is tested for all common bio-toxins. Every batch is also tested for Salmonella, E. Coli, Coliforms, Yeasts, Molds, and Aerobic Plate Count. The lake water is also tested every year for the presence of Fecal bacteria, Coliforin, Microcystin, and Nitrates. A Certificate of Purity is issued for every batch of algae that is used in our products.
- 20. What is the shelf life on the products? The product has a shelf life of three years.
- 21. How long has your company been in business? Klamath Blue Green, Inc., started their business in 1990.

22. What is the difference between Klamath Blue Green Algae and Spirulina?

- 1. Most Spirulina is grown in concrete or plastic ponds with a sodium chloride salt content, often 100 times greater than Klamath Blue Green Algae.
- 2. Klamath Blue Green Algae is 98% assimilable and Spirulina is about 65-70% assimilable depending on how it is processed.
- 3. Due to the fact that Klamath Lake has 30 to 40 ft of organic nutrient sediment from past volcanic (activity; Klamath Blue Green Algae has about 40% more Calcium, 100% more Chromium, five to ten times the Vitamin C content of Spirulina.
- 4. Most Spirulina manufacturers do not freeze-dry but instead spray dry. This method is found to kill Enzymes, lose heat-sensitive components, and decrease the Beta-Carotene due to the high temperatures.
- 5. Klamath Blue Green Algae is the "greenest superfood" known because it contains 300 mg of Chlorophyll, whereas Spirulina contains only 115 mg. Chlorophyll can be an effective detoxifies of environmental toxins.

23. What is the difference between Klamath Blue Green Algae and Chlorella?

- 1. Much like Spirulina, Chlorella is also grown in man-made ponds.
- 2. Chlorella is not a Blue Green Algae but in fact a Green Algae.
- 3. Chlorella is 80% assimilable opposed to 98% of Klamath Blue Green Algae.
- 4. The cell wall in Chlorella is not digestible making nutrients more difficult to assimilate.

AFA

The following Vitamins, Essential Fatty Acids, Minerals and Amino Acids are found in AFA.

Vitamins

Thiamine (B1)
Pyridoxal (B6)

Pantothenic Acid (B5) Vitamin B12

Vitamin E

Biotin

Riboflavin (B2)

Niacin (B3) Folic Acid

Vitamin C

Beta carotene

Choline

EFA (Essential Fatty Acids)

Omega 6

Omega 3

Minerals

Boron
Calcium
Chromium
Cobalt
Fluorine
Germanium

Iron Manganese Nickel

Potassium Selenium Silicon Zinc

Iodine Magnesium Molybdenum

Amino Acids

Arginine
Histidine
Isoleucine

Leucine Lysine Methionine Phenylalanine Threonine

Tryptophan Valine

Asparagine

Alanine
Glutamine
Cystine
Glycine
Proline
Serine

Tyrosine Aspartic Acid Glutamic Acid

Wild Blue-Green

A third micro-alga, Aphanizomenon flos-aquae, which we call "wild blue-green," grows wild in Klamath Lake in Oregon and is processed by freeze-drying. By comparison, most commercial micro-algae are cultivated, and dried with at least some use of heat (spirulina too is now available freeze-dried). Wild blue-green is currently sold under various trade names, frequently as a mail-order product, and its proponents claim it contains optimum nutrition as a result of its pristine habitat and heatless processing. The fact that this alga is wild is itself one recommendation for its use, since everyone regularly needs at least some amount of wild food in the diet.

Wild blue-green has by far the most extreme properties of the commonly available micro-algae, and one needs to take precautions when using it. Like many strong substances, it has remarkable healing value when applied correctly. Even this alga's growth pattern exhibits an extreme nature. Under certain not-well-understood conditions—perhaps as a result of increased light and heat in late summer—wild blue-green can transform into an exceptionally toxic plant, so poisonous that toxicologists rate it "very fast death factor (VFDF)," since ingestion causes death in animals within five minutes.^{34, 35} Most of the research citing the toxin in wild blue-green involves samples from lakes in the northeastern United States. William T. Barry, Northwest algal expert, limnologist, and professor at Gonzaga University in Spokane, Washington, claims that he has never found wild blue-green in its toxic state in Klamath Lake.³⁶ The companies that harvest there make the same claim and purport to monitor the product closely. As an assurance of the safety of wild blue-green in its normal, non-toxic state, several studies show that the products currently coming from Klamath Lake are completely safe.³⁷

But what if the alga becomes toxic only rarely, and in amounts that would be hard to detect during processing? Research from the 1950s and -60s suggests that toxic blooms of wild blue-green did occur in the lake.³⁸ According to Barry, even this remote possibility is "covered," as the freeze-drying process apparently denatures the toxin. Knowing this poisonous aspect of wild blue-green, we gain respect for its powerful nature; also, as its toxic potential is exposed, individuals who want to harvest their own fresh wild blue-green will be warned.

Interestingly, native peoples have used naturally occurring blue-green algae (spirulina) in Latin America and Africa for hundreds, if not thousands, of years, but there is no record of Native Americans using wild blue-green (Aphanizomenon). The fact that wild blue-green can transform into a toxin may be one explanation. Another may be its bitter flavor.

It is the bitter flavor that enters and influences the "heart-mind" system, according to traditional Chinese medicine. Many of the strongest herbal nervines such as

valerian root are intensely bitter.

Because bitter substances can focus the mind, certain bitter foods including wild blue-green and peyote have been used to improve concentration during meditation and prayer. (Peyote is the much stronger of the two, often causing vomiting and hallucination, while wild blue-green offers a mental "buzz and blissed-out feeling." in the words of Viktoras Kulvinskas, author of Survival into the 21st Century.) Overcoming depression or a sluggish physical/mental condition with a mental stimulant such as wild blue-green is an excellent application of food-asmedicine. Gaining spiritual insight with reliance on any substance, however, can be counter-productive because it becomes more difficult to focus the mind without the substance. Perhaps this is one reason the sweet flavor (from whole foods and unrefined sweeteners) was emphasized in the earliest Vedic and Buddhist scriptures of India. Sugars gently activate the mind and require the aspirant to learn mental discipline to gain spiritual awareness; in general, the use of foods that strongly affect consciousness is discouraged in the original teachings of these "middle path" practices.

Properties and Uses: Wild blue-green is bitter, cooling, drying, mildly diuretic, a neurostimulant, an anti-depressant, and a relaxant; it also reduces *dampness* and overcomes liver stagnancy. Therefore, wild blue-green is excellent for the overweight, robust, *excessive* person, or those with *dampness* and/or *heat*; the depressed, flabby, modern person who has grown up with an excess of meats, eggs, dairy, and rich, greasy, refined, chemical-laden foods does exceedingly well in general with wild blue-green. Of course, those who are not as unbalanced also flourish with this micro-alga, as long as they have at least some signs of *excess*.

Because wild blue-green stimulates the opening of neural pathways. it has great value in treating cocaine, amphetamine, and other neuro-stimulant addictions. It also shows promise in the treatment of Alzheimer's disease. Those who have dulled their nervous system with too much salty food, including excesses of soy sauce and miso, usually benefit from wild blue-green. Moderate to large doses of wild blue-green have been therapeutically useful for cancer, arthritis, multiple sclerosis, candida overgrowth, and similar degenerations; it dries the *dampness* that supports these conditions and simultaneously acts as a mood elevator, although it must be taken in moderate amounts by those in frail conditions. In general, wild blue-green should be used cautiously by the person with a *cold* constitution if weakness, thinness, *dryness*, and/or "spaciness" are also part of the diagnostic picture.

Slim's Wild Blue-Green Adventure

A person whom we shall call "Slim" has a dry, thin, mentally unfocused, sensitive, and cold constitution. He had benefited from taking spirulina, and upon hearing that wild blue-green was more powerful, decided to try it. After three days of taking $\frac{1}{4}$ gram once or twice a day, he felt less focused and colder. He consulted with me about this, and I told him that someone with his constitution does not

do well with too much bitter flavor, because bitter foods in general reduce weight, are drying and cooling, and can make the highly sensitive person lose his or her mental focus. Slim communicated this information to the president and a top salesman of the wild blue-green company. Each thought their product could not have such an effect. Slim was then encouraged by the salesman to take wild blue-green for at least a month, because "he had obviously been experiencing only a temporary healing reaction." Not wanting to miss out on the possibility of gaining more robust health. Slim decided to give the product another try for one month.

Taking the same quarter-gram dosage as before, he soon began feeling weak and cold. The next symptom was apathy and unproductivity: he would gaze out into space for hours. (Ayurveda confirms this experience—the *vata*, spacey individual becomes much more so with the consumption of bitter foods.) After three weeks Slim felt still colder, even though it was warm weather, and he lost weight rapidly from his already-meager frame. He also noticed an absence of sexual desire and the beginning of an aching sensation in the lower back. In the final week, he felt "wasted" and incapable of doing his work, and developed a sort of asthmatic wheezing. The thought and taste of wild blue-green was nauseating.

All symptoms gradually lifted when Slim stopped taking the micro-alga. However, it took about five months to regain his former mental concentration and physical strength, and even after this length of time, he still experienced occasional wheezing.

Slim's experience demonstrates that wild blue-green, like many strong substances, is not a panacea. Ingestion by the wrong person can be devastating. It is simply a question of the effect of too much bitter flavor on a *cold* and *deficient* person. On the other hand, in the *excessive* and overly robust individual, wild blue-green can liberate energy (bitter foods supply energy by burning up fat), support mental focus and alertness, strengthen reproductive ability, and be generally beneficial. This does not mean that everyone who benefits from wild blue-green will continue to do so indefinitely. It is best to regularly check its effect. One sign of overuse is a cold and inflexible personality, and another is weakness and lack of mental focus. However, for many people, wild blue-green continually provides balance; one must simply pay attention.

We estimate that only about 5% of the American population will have negative results from taking wild blue-green. Another 20% will have mixed results or short-term benefits. This *deficient*, *cold*, and/or "ungrounded" quarter of the population will normally do better with chlorella or spirulina, although for some, all micro-algae may be contraindicated. At the other end of the diagnostic spectrum. 25% of the population with *excessive* signs are the ideal candidates for wild blue-green as described earlier, and even though they will improve with other micro-algae, the benefits will not equal those derived from wild blue-green. Thus, the estimated 25% of the population who receive mixed or negative results from wild blue-green is balanced by another 25% who will experience exceptional results. The middle 50% is not so clearly defined, but in general it seems most people in this cat-

egory have major health issues that would benefit from any of the micro-algae. By weighing the characteristics of each alga carefully, an optimal choice can be made.

REFERENCE - HEALING WITH WHOLEFOODS - PAUL PITCHFORD

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