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Blue-green algae

What is it?

“Blue-green algae” describes a large and diverse group of simple, plant-like organisms found in salt water and some large fresh water lakes.

Blue-green algae products are used for many conditions, but so far, there isn’t enough scientific evidence to determine whether or not they are effective for any of them.

Blue-green algae are used as a source of dietary protein, B-vitamins, and iron. They are also used for weight loss, attention deficit-hyperactivity disorder (ADHD), hayfever, diabetes, stress, fatigue, anxiety, depression, and premenstrual syndrome (PMS) and other women’s health issues.

Some people use blue-green algae for treating precancerous growths inside the mouth, boosting the immune system, improving memory, increasing energy and metabolism, lowering cholesterol, preventing heart disease, healing wounds, and improving digestion and bowel health.

Blue-green algae are commonly found in tropical or subtropical waters that have a high-salt content, but some types grow in large fresh water lakes. The natural color of these algae can give bodies of water a dark-green appearance. The altitude, temperature, and sun exposure where the blue-green algae are grown dramatically influence the types and mix of blue-green algae in the water.

Some blue-green algae products are grown under controlled conditions. Others are grown in a natural setting, where they are more likely to be contaminated by bacteria, liver poisons (microcystins) produced by certain bacteria, and heavy metals. Choose only products that have been tested and found free of these contaminants.

You may have been told that blue-green algae are an excellent source of protein. But, in

reality, blue-green algae is no better than meat or milk as a protein source and costs about 30 times as much per gram.

How effective is it?

Natural Medicines Comprehensive Database rates effectiveness based on scientific evidence according to the following scale: Effective, Likely Effective, Possibly Effective, Possibly Ineffective, Likely Ineffective, Ineffective, and Insufficient Evidence to Rate.

The effectiveness ratings for **BLUE-GREEN ALGAE** are as follows:

Insufficient evidence to rate effectiveness for...

- **Allergies**. Early research shows that taking 2 grams of blue-green algae by mouth once daily for 6 months relieves allergy symptoms in adults.
- **Arsenic poisoning**. Early research shows that taking a combination of blue-green algae and zinc by mouth twice daily for 12 weeks reduces arsenic levels and its effects on the skin in people living in areas with high arsenic levels in the drinking water.
- **Attention deficit-hyperactivity disorder (ADHD)**. Early research shows that taking a combination of blue-green algae, peony, ashwagandha, gotu kola, brahmi, and lemon balm improves ADHD.
- **Tics or twitching of the eyelids (blepharospasm or Meige syndrome)**. Beginning research shows that taking a specific blue-green algae product (Super Blue-Green Algae (SBGA), Cell Tech) by mouth for 6 months does not reduce eyelid spasms in people with blepharospasm.
- **Fatigue**. Early research shows that taking 1 gram of blue-green algae by mouth 3 times daily does not improve fatigue in adults with chronic fatigue syndrome.
- **Diabetes**. An early study shows that people with diabetes who take 1 gram of a blue-green algae product by mouth twice daily for 2 mouths have lower blood sugar levels.
- **Exercise performance**. An early study shows that men are able to sprint for longer periods of time before becoming tired when they take 6 grams of blue-green algae by mouth daily for 4 weeks.
- **Hepatitis C**. Research on the effects of blue-green algae in people with chronic hepatitis C has been inconsistent. In adults who were not yet treated or unresponsive to other treatments, taking 500 mg of spirulina blue-green algae by mouth 3 times daily for 6 months resulted in greater improvements in liver function compared to milk thistle. However, another study found that liver function worsened after one month of blue-green algae use.
- **High cholesterol**. Early research shows that blue-green algae lowers cholesterol in people with normal or slightly elevated cholesterol levels; however, the research findings

have been somewhat inconsistent. In one study, blue-green algae only lowered low-density lipoprotein (LDL or "bad") cholesterol. In another study, glue-green algae lowered total cholesterol and LDL cholesterol, and increased high-density lipoprotein (HDL or "good") cholesterol.

- **Malnutrition**. Early research on the use of blue-green algae in combination with other dietary treatments for malnutrition in infants and children has been mixed. Weight gain was seen in undernourished children who were given spirulina blue-green algae with a combination of millet, soy and peanut for 8 weeks. However, in another study, children up to 3 years-old who were given 5 grams of blue-green algae daily for 3 months did not gain weight more than those given general treatments to improve nutrition alone.
- **Menopausal symptoms**. An early study shows that taking 1.6 grams of a blue-green algae product by mouth daily for 8 weeks lowers anxiety and depression in women with menopause.
- **Precancerous mouth sores (oral leukoplakia)**. Early research findings show that taking 1 gram of spirulina blue-green algae (Spirulina fusiformis) daily by mouth for 12 months reduces oral leukoplakia in people who chew tobacco.
- **Weight loss**. Research shows that taking spirulina blue-green algae does not seem to help reduce weight.
- **Premenstrual syndrome (PMS)**.
- **Immune system**.
- **Anxiety**.
- **Depression**.
- **Memory**.
- **Energy**.
- **Heart disease**.
- **Wound healing**.
- **Digestion**.
- **As a source of dietary protein, vitamin B12, and iron**.
- **Other conditions**.

More evidence is needed to rate the effectiveness of blue-green algae for these uses.

How does it work?

Blue-green algae have a high protein, iron, and other mineral content which is absorbed when taken orally. Blue-green algae are being researched for their potential effects on the

immune system, swelling (inflammation), and viral infections.

Are there safety concerns?

Blue-green algae products that are free of contaminants, such as liver-damaging substances called microcystins, toxic metals, and harmful bacteria, are **POSSIBLY SAFE** for most people.

But blue-green algae products that are contaminated are **LIKELY UNSAFE**, especially for children. Children are more sensitive to contaminated blue-green algae products than adults.

Contaminated blue-green algae can cause liver damage, stomach pain, nausea, vomiting, weakness, thirst, rapid heartbeat, shock, and death. Don't use any blue-green algae product that hasn't been tested and found free of mycrocystins and other contamination.

Special precautions & warnings:

Pregnancy and breast-feeding: Not enough is known about the use of blue-green algae during pregnancy and breast-feeding. Stay on the safe side and avoid use.

"Auto-immune diseases" such as multiple sclerosis (MS), lupus (systemic lupus erythematosus, SLE), rheumatoid arthritis (RA), pemphigus vulgaris (a skin condition), and others: Blue-green algae might cause the immune system to become more active, and this could increase the symptoms of auto-immune diseases. If you have one of these conditions, it's best to avoid using blue-green algae.

Phenylketonuria: The spirulina species of blue-green algae contains the chemical phenylalanine. This might make phenylketonuria worse. Avoid Spirulina species blue-green algae products if you have phenylketonuria.

Are there interactions with medications?

Moderate
Be cautious with this combination.

Medications that decrease the immune system (Immunosuppressants)
Blue-green algae might increase the immune system. By increasing the immune system, blue-green algae might decrease the effectiveness of medications that decrease the immune system.

Some medications that decrease the immune system include azathioprine (Imuran),

basiliximab (Simulect), cyclosporine (Neoral, Sandimmune), daclizumab (Zenapax), muromonab-CD3 (OKT3, Orthoclone OKT3), mycophenolate (CellCept), tacrolimus (FK506, Prograf), sirolimus (Rapamune), prednisone (Deltasone, Orasone), corticosteroids (glucocorticoids), and others.

Medications that slow blood clotting (Anticoagulant / Antiplatelet drugs)
Blue-green algae might slow blood clotting. Taking blue-green algae along with medications that also slow clotting might increase the chances of bruising and bleeding.

Some medications that slow blood clotting include aspirin; clopidogrel (Plavix); nonsteroidal anti-inflammatory drugs (NSAIDs) such as diclofenac (Voltaren, Cataflam, others), ibuprofen (Advil, Motrin, others), and naproxen (Anaprox, Naprosyn, others); dalteparin (Fragmin); enoxaparin (Lovenox); heparin; warfarin (Coumadin); and others.

Are there interactions with herbs and supplements?

Herbs and supplements that might slow blood clotting
Blue-green algae might slow blood clotting. Taking blue-green algae along with herbs that also slow clotting might increase the chances of bruising and bleeding.

Some of these herbs include angelica, clove, danshen, garlic, ginger, ginkgo, Panax ginseng, red clover, turmeric, and others.

Are there interactions with foods?

There are no known interactions with foods.

What dose is used?

The appropriate dose of blue-green algae depends on several factors such as the user's age, health, and several other conditions. At this time there is not enough scientific information to determine an appropriate range of doses for blue-green algae. Keep in mind that natural products are not always necessarily safe and dosages can be important. Be sure to follow relevant directions on product labels and consult your pharmacist or physician or other healthcare professional before using.

Other names

AFA, Algae, Algas Verdiazul, Algues Bleu-Vert, Algues Bleu-Vert du Lac Klamath, Anabaena, Aphanizomenon flos-aquae, Arthrospira maxima, Arthrospira platensis, BGA, Blue Green Algae, Blue-Green Micro-Algae, Cyanobacteria, Cyanobactérie, Cyanophycée, Dihe, Espirulina, Hawaiian Spirulina, Klamath, Klamath Lake Algae, Lyngbya wollei, Microcystis aeruginosa, Microcystis wesenbergii, Nostoc ellipsosporum, Spirulina Blue-Green Algae,

Spirulina Fusiformis, Spirulina maxima, Spirulina platensis, Spirulina pacifica, Spiruline, Spiruline d'Hawaii, Tecuitlatl.

Methodology

To learn more about how this article was written, please see the *Natural Medicines Comprehensive Database* methodology [https://medlineplus.gov/druginfo/natural/methodology.html] .

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