



Public Health Toxicology, Bureau of Epidemiology
Division of Disease Control and Health Protection

Frequently Asked Questions about Blue-Green Algae (Cyanobacteria) and Their Toxins

Q: What are blue-green algae (cyanobacteria)?

A: Blue-green algae are a group of organisms that are among the oldest on the planet. They can live in freshwater, saltwater or in mixed "brackish" water. Most of us know them as "pond scum." These "blue-green" algae can actually be many colors including red, orange or brown. They also have been found to share some characteristics of bacteria, which has led to them being referred to as "cyanobacteria."

Q: What causes these organisms to form "blooms"?

A: When blue-green algae grow rapidly over a short time it is called a "bloom." It is known that light, temperature, and the water's nutrient content play roles in bloom formation. Under the right conditions, a large bloom can form overnight, and rise to the surface as a huge unsightly mat of pond scum. A blue-green algae bloom can also lie below the surface of the water. Blooms can disappear or move to different parts of a pond or lake.

Q: What causes some blooms to be toxic?

A: Scientists do not know why some blue-green algae produce toxins. Most blue-green algae do not produce chemicals harmful to humans or animals. However, some types make natural substances called cyanotoxins. It is not possible to tell just by looking at a bloom. Over time, these toxins are diluted and eventually break down and disappear.

Q: How can I be affected by blue-green algae toxins?

A: Blue-green algae toxins can affect the liver, nervous system, and skin. Most problems happen when water containing high toxin amounts is ingested. Abdominal cramps, nausea, diarrhea, and vomiting may occur if untreated water is swallowed. Rashes can happen when skin is exposed to the algae when swimming.

Q: How can I prevent exposure to these toxins?

A: Most people avoid a blue-green algae bloom because they tend to be icky-looking and smelly. It is important that pets and children are kept away from blue-green algae blooms. Children are generally more vulnerable to environmental toxins than adults. Boiling water does not remove or destroy these toxins.

Ways To Limit Your Contact With Blue-Green Algae Toxins:

- 1) Do not drink, cook or shower with untreated water from lakes, ponds or streams.**
- 2) Do not allow pets or livestock to swim in or drink scummy water.**
- 3) If you or your animals accidentally get into a blue-green algae bloom, wash with fresh water and soap after skin contact, and avoid swallowing or inhaling water. Wash animals' fur thoroughly before they start to groom themselves.**
- 4) Avoid exposure to irrigation water drawn from untreated sources.**
- 5) Notify your local water quality officials if you notice unusual changes in the taste or smell of your tap water.**

Q: Can blue-green algae supplements (such as *Spirulina*) contain toxins?

A: Blue-green algae sold as health food are themselves non-toxic. However, some manufacturers collect their blue-green algae from the wild where many types (toxic and nontoxic) can grow together. A recent study found most of the products tested had blue-green algae toxin. The US FDA has received complaints from consumers about nausea, diarrhea and other symptoms after taking blue-green algae supplements but these cases have not been confirmed as being caused by the supplements. At this time, people who choose to use these products should exercise caution. If you take them, you might ask the manufacturer if they monitor their products for the presence of toxins, and if they culture their blue-green algae or collect it from the wild. Children, pregnant women and people with impaired liver function should avoid these products until their safety has been proven.

Q: Are there any drinking water standards for these toxins?

A: There are currently no standards for blue-green algae toxin levels in drinking water in the US. Other countries and the World Health Organization have developed guidelines for drinking water.

Q: Whom can I contact to report a blue-green algae bloom or to get more information about water quality?

A: These are two toll-free hotlines available for people to report fish kills or illness associated with blue-green algae:

Fish Kill Hotline (Florida Fish & Wildlife Conservation Commission) 1-800-636-0511

Human Illness (Florida Poison Center Hotline) 1-800-222-1222

Q: Are there web sites with more information about blue-green algae?

A: www.myFWC.com

www-cyanosite.bio.purdue.edu/

www.cdc.gov/nceh/hsb/hab/default.htm#Cyanobacteria

www.floridashealth.com/healthy-environments/aquatic-toxins/cyanobacteria.htm