

Frequently Asked Questions About *Cylindrospermopsis*

What is *Cylindrospermopsis*?

Cylindrospermopsis is a member of the group of algae called “cyanobacteria” or “blue-green algae”. Blue-greens are the algae most commonly associated with summertime blooms in nutrient-enriched lakes, reservoirs and ponds. Blue-green algae are single-celled organisms closely related to bacteria. But unlike bacteria, these algae are capable of photosynthesis – just like green plants -- and so can grow in our enriched lakes under the proper conditions – light, heat and nutrients. Some blue-green algae can produce toxins under certain environmental conditions.

Where did this species of algae come from?

Cylindrospermopsis, originally found in India and later in Australia, has made its way to the United States. It was first detected in Florida in the early 1990’s and has since moved to Midwestern states such as Michigan, Indiana and Oklahoma. It has more recently been found in Texas and Nevada and was initially found in Arizona in 2002 and, in certain reservoirs within the state, it has increased in numbers since this time.

How can I tell if the water contains *Cylindrospermopsis*?

Unlike several other blue-green algae, *Cylindrospermopsis* does not form a surface scum. Dense bands typically are located several feet below the surface in a reservoir, lake or other slow moving or still water. These cells are extremely small and do not create a color in the water that would easily distinguish it from other algae. There is no taste or odor associated with *Cylindrospermopsis* or its toxins. To be safe, avoid areas of the lake that are still or slow moving, have a green tinge to the water or are foamy.

Are these toxins harmful to humans?

No human deaths have been reported in the U.S. as a result of exposure to *Cylindrospermopsis*. The primary method of human exposure is by ingestion while swimming. Common symptoms exhibited by people exposed to blue-green algal blooms include skin irritation, allergic reactions, stomach aches, diarrhea, ear or eye irritation and respiratory problems. Some people are more sensitive to chemicals causing allergic reactions or toxicity, therefore, children, senior citizens and individuals with compromised immune systems may be more susceptible to these effects.

It’s important to note that similar symptoms can be caused by exposure to water containing *E. coli* or other bacteria or viruses.

What effects can these toxins have on animals?

There have been numerous documented cases of livestock and pet deaths attributed to algal toxins. Pets and livestock are more likely to drink large quantities of lake or river water potentially resulting in negative health effects.

Is it safe to swim?

Do not wade or swim in areas where large amounts of algae are readily visible. Boating, walking on the shore or fishing from a dock do not pose any potential exposure.

Are fish caught from these waters safe to eat?

The toxins produced by freshwater blue-green algae do not appear to bioaccumulate or concentrate in fish and other edible aquatic life in lakes and rivers. However, anglers should always take a common sense approach to eating fish caught from lakes or rivers. If the fish looks or smells unhealthy or was dead when caught, then don't eat it. Avoid fishing in areas of the lake with heavy algal blooms. Before eating, all fish should be thoroughly cleaned, gutted and cooked.

Is it safe to drink water from the lake?

In order to avoid potential negative health affects from the blue-green algae, do not drink untreated water from lakes, ponds or streams regardless of whether noticeable blooms are present nearby. In addition to possible health risks from algal blooms, other gastrointestinal illnesses can also be contracted by drinking untreated water, such as giardia, cryptosporidiosis, hepatitis A viral infection or E. coli-related diseases.

Since Valley cities get drinking water from these lakes, is the water I drink at home safe?

This algae thrives in slow moving or still water so it is not likely to exist in the canal system. Furthermore, all Valley cities treat raw water before it is delivered to households as drinking water. Several standard treatment methods remove these toxins, including use of activated carbon, oxidation with chlorine, ozone, and ultraviolet degradation with the addition of titanium dioxide.

Should I report illness in humans or pets after swimming in water?

In the event someone suspects they may have become sick from exposure to toxins produced by blue-green algae, contact your family physician so that pertinent information can be relayed to the Arizona Department of Health Services. If pets fall ill with the symptoms indicated above after swimming in or drinking from lakes or rivers, explain these circumstances to your veterinarian.

What is the State of Arizona doing about this?

Officials from the Arizona Departments of Game and Fish, Health Services and Environmental Quality, the Tonto National Forest, the University of Arizona, and the Salt River Project are working together on this issue. The organizations continue to monitor all Valley reservoirs closely and are currently analyzing samples for the presence of various algae and their toxins.