

# Statewide study shows algae toxin a minor threat, say UF experts

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(PhysOrg.com) -- A toxin produced by freshwater algae has garnered plenty of media coverage in recent years, but a new University of Florida study shows there's little cause for concern about its presence in Florida lakes.

Researchers analyzed water taken from 187 lakes in 38 counties during a one-year period, and found that almost three-quarters of the samples had no detectable levels of the chemical microcystin. Only 7 percent of the samples exceeded the World Health Organization guidelines for drinking water, which is one microgram of microcystin per liter.

The results should reassure swimmers, boaters and anglers, said Dan Canfield, a professor with UF's Institute of Food and Agricultural Sciences and an author of the study, published in the current issue of Lake and Reservoir Management.

"On a population basis for the state, it's not a big issue," Canfield said. "But if it's a concern to you as an individual you can get a test kit for about \$20 and use it to make a decision."

The test kits, available online, are not as accurate as laboratory tests, but provide immediate results, he said. People with impaired immune systems or hypersensitivity to microcystin may want to exercise caution about lake use.

The chemical is produced by some blue-green algae species; it can

damage the liver and has been implicated in human and animal illnesses.

In the study, the highest microcystin levels were found in lakes with the most abundant algae growth. A few samples from Lake Jessup in Seminole County and Lake Hunter in Polk County exceeded the WHO guidelines for recreational waters, 20 micrograms of microcystin per liter.

Microcystin levels can vary from one day to another, and from one part of a lake to another, said Dana Bigham, a UF graduate student and an author of the study. For these reasons, each lake was sampled six times during 2006, at two-month intervals, and water was taken from multiple locations.

Because the chemical is associated with [algae blooms](#), [lake](#) users should avoid contact with large mats of floating algae, Bigham said.

The primary danger would come from swallowing water containing microcystin, she said. Research indicates that the effects of microcystin vary between individuals, depending on their sensitivity and the amount ingested. Exposure to the toxin can cause symptoms ranging from upset stomach to severe liver damage.

Microcystin was identified in the early 1980s, Bigham said. Scientists have determined that numerous blue-green algae species can produce it, though its cause is unknown.

The chemical has received media attention, particularly in the Midwest, where it's associated with summer [algae](#) blooms. In Florida, the chemical can be produced virtually year-round, she said. The study indicated the highest microcystin levels occurred in September through December.

Provided by University of Florida ([news](#) : [web](#))

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