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Water Safe to Drink; Algae are the Culprit

Customers don't have anything to worry about, even though taking a drink of water may bring with it a nuisance odor or taste right now in Northwest Arkansas. The bottom line is that the water is safe to drink.

"Algae are the culprit," said Larry Lloyd P.E., Chief Operating Officer for Beaver Water District. "While they cause an aesthetic issue, the fact remains that our water meets all regulatory requirements, and it's very safe to drink."

Customers have a few steps they can take to minimize taste and odor, from chilling water and adding lemon to using carbon filters, such as those used in water pitchers or attached to faucets.

"Taste and odor issues occur as a result of environmental conditions combined with human actions," Lloyd said. "The District has been working for a while now through our public awareness efforts to explain to customers what causes taste and odor and what they can do to help us be proactive about taking care of Beaver Lake."

In a nutshell, here's what happens. Excess nutrients enter the lake through a variety of avenues. For example, residents over fertilize lawns or silt fencing at a construction site isn't adequate or isn't maintained properly. When it rains, storm water runoff with sediment containing nutrients enters streams that feed into the lake. The nutrients feed the algae, causing them to grow.

"It's a vicious cycle. When the algae die, they may give off smelly chemicals that can cause unpleasant tastes in drinking water," Lloyd explained. "Here at the District, we keep an eye on what's going on with algae conditions when we sample for 'MIB,' or 2-methylisoborneol, an organic compound."

MIB is released by certain algae as part of the normal life cycle. Algal growth is spurred by sunlight, heat, and nutrients from watershed runoff.

“While it’s hard to control these factors, it is possible for the public to help reduce the nutrients going into watershed runoff. That’s why we continue to promote education about best management practices (BMPs),” Lloyd said. “We have materials available in our Water Education Center located at the Administration Center on our campus in Lowell. Additionally, our website at www.bwdh2o.org features a fact sheet on taste and odor, and maps and other publications that illustrate how Beaver Lake’s watershed works, as well as BMPs that will help us keep the water quality in the lake at a higher level.”

What makes taste and odor from algae a challenging issue is the fact that the “threshold” for MIB – the lowest point at which it may be detected by some people -- is only 5 parts per trillion, which is equivalent to about 2.5 gallons of MIB poured into the lake. On the other hand, some people may never notice it and others wouldn’t notice it until it reached significantly higher levels.

“We continue to study MIB and track its occurrence,” he added, noting that new treatment schemes that would potentially remove MIB at acceptable levels would cost upwards of \$4 to \$5 a month per household.

Adding to confusion when it comes to explaining taste and odor to the public is another cause of taste and odor, commonly referred to as “turnover.” This typically happens in the fall.

“Turnover simply means that the water in the lake is mixed from top to bottom,” he said. “When this happens, compounds rise from the bottom of the lake to the top, which can lead to taste and odor problems.”

When the temperature begins to get cooler in the fall, the cooler surface water settles to the bottom. Then this causes the water to “turn over,” or mix from top to bottom. Various organic components may then be introduced into the raw water supply.

Lloyd added that these issues are not unique to Northwest Arkansas and he reiterated that taste and odor in drinking water is an aesthetic issue, not a health issue. “Taste and odor or not, the water is safe to drink, and this episode should pass in a few weeks.”

Beaver Water District supplies drinking water to more than 300,000 people and industries in Fayetteville, Springdale, Rogers, Bentonville and surrounding areas. The District’s mission is to serve customers’ needs by providing high quality drinking water that meets or exceeds all regulatory requirements and is economically priced consistent with our quality standards. Visit bwdh2o.org for more information.