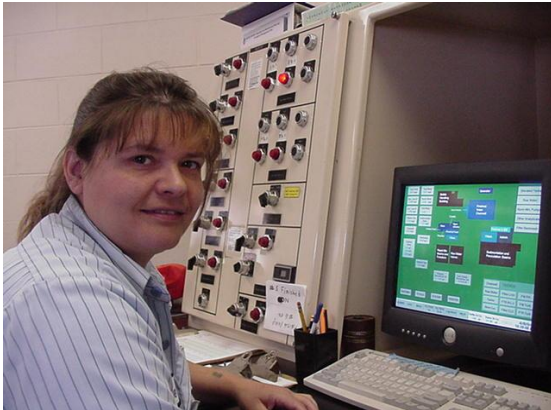


QUESTIONS AND ANSWERS ABOUT OWASA DRINKING WATER

Information prepared by OWASA's Laboratory Staff



CONTENTS

<u>Where does our water come from?</u>
<u>Who sets the standards for the quality and safety of drinking water?</u>
<u>Who tests the quality of OWASA's water? How?</u>
<u>Is bottled water safer than tap water?</u>
<u>How much does bottled water cost compared to OWASA water?</u>
<u>Is a home filter needed for OWASA drinking water?</u>
<u>What should I do for drinking water if I have a weak immune system?</u>
<u>What should I do if I want OWASA to test the drinking water in my home or business?</u>
<u>Who tests the water from private wells?</u>
<u>Does OWASA water have lead contamination?</u>
<u>Can lead get into drinking water when the water is in old water plumbing pipes?</u>
<u>Should hot tap water be used for cooking or making baby formula?</u>
<u>NC Water System fluoridation and the American Dental Association's Interim Guidelines for Reconstituting Concentrated Infant Formula</u>
<u>What does this all mean for parents of children under one year of age in North Carolina?</u>
<u>Is the level of fluoride in our drinking water safe?</u>
<u>How hard is our drinking water? (How much mineral content does it have?) How does mineral content affect water quality and water use?</u>
<u>How much sodium is in OWASA's drinking water?</u>
<u>Is water from a garden hose safe to drink?</u>
<u>Is it safe to store drinking water indefinitely?</u>
<u>How does OWASA kill bacteria and germs in drinking water? What are chloramines?</u>
<u>Are chloramines and chlorine in our water safe?</u>
<u>Can water with chloramines or chlorine affect toilet flappers and washers in water fixtures?</u>
<u>What precautions should kidney dialysis patients take before using our tap water?</u>
<u>Do I need to treat my tap water before I use it in an aquarium with fish or amphibians?</u>
<u>What are Cryptosporidium and Giardia?</u>
<u>Why do OWASA employees release water from fire hydrants or valves?</u>
<u>What can give the water flushed from a fire hydrant a dark brown or rusty color?</u>
<u>If my water is rusty, brown or otherwise discolored, what should I do?</u>
<u>What can make water look cloudy or milky?</u>

What should I do to clear up cloudy or milky water?
Why is there white sediment (small solid particles) in my faucet aerators, showerheads, water heater, etc.?
What can cause drinking water to have an unusual or poor taste or smell?
What is the pink growth on bathroom fixtures?
What causes the grayish-black ring in toilet bowls?
What cause a greenish stain on a sink or bathtub?
What causes water temperature to change?
How can I get more information?

Where does our water come from?

The Carrboro-Chapel Hill community uses water from three reservoirs:

- ◆ University Lake (which can hold about 450 million gallons);
- ◆ the Cane Creek Reservoir (which has a capacity of about 3 billion gallons); and
- ◆ the Stone Quarry Reservoir (which holds about 200 million gallons).

Water from Cane Creek and University Lake is pumped directly to the Jones Ferry Road Water Treatment Plant in Carrboro. Water from the Stone Quarry Reservoir can be pumped to University Lake via Phil's Creek. In addition to these sources, OWASA has emergency-only potable water system connections with the City of Durham, the Town of Hillsborough and Chatham County. OWASA has a water allocation from Jordan Lake for future use if necessary.

Who sets the standards for the quality and safety of drinking water?

Both Federal and State agencies set the standards. In accord with the Federal Safe Drinking Water Act (SDWA), the U.S. Environmental Protection Agency (EPA) issues national standards for the quality of drinking water and how it is tested. For more information, please visit EPA's water quality web site: <http://www.epa.gov/safe/standards.html>. The State of North Carolina sets some additional drinking water standards related to water quality testing procedures, etc.

Who tests the quality of OWASA's water? How?

The staff in our Jones Ferry Road Water Treatment Plant Laboratory, which is approved or "certified" by the State, monitors our drinking water quality by doing about 50,000 tests each year.

Using state-of-the-art equipment and instruments, our laboratory staff tests for more than 100 substances in drinking water, a small number of which are present at detectable levels. The results of these analyses are published in our annual *Water*

Quality Report Card, which is distributed throughout the OWASA service area in Chapel Hill-Carrboro each spring.

Our Laboratory staff does most of the water testing required by State and Federal regulations. Private laboratories approved by the State do some specialized testing for OWASA.

In addition to testing our drinking water, we monitor the water quality in our reservoirs, as water goes through the treatment process, and as water moves through our “distribution system” of more than 340 miles of public water pipes in the Carrboro-Chapel Hill community.

Is bottled water safer than tap water?

Not necessarily. Some bottled water is treated more than tap water, and some bottled water is treated less than tap water or not treated at all. For information on how bottled water is treated, tested and its quality, we encourage you to contact the company that bottles the water.

OWASA drinking water is strictly regulated by the EPA, which sets standards for tap water provided by public water systems.

Bottled water is subject to standards set by the U.S. Food and Drug Administration (FDA) which include contaminant limits equivalent to those established by the U.S. Environmental Protection Agency for public drinking water. The FDA standards also require testing, but do not specify the frequency of sampling or require reporting of test results. The FDA’s Website notes that the FDA inspects bottled water plants under its general food safety program and contracts with states to perform some bottled water plant inspections.

Like OWASA water, bottled water that meets the FDA’s standards is safe for almost everyone to drink. The exception is that people with weak immune systems may need to drink specially treated water on the advice of their physician or other health care professional.

Bottled water can be valuable in emergency situations. Some people prefer bottled water because of personal choice, convenience and aesthetic reasons, but bottled water usually costs much more than tap water on a per gallon basis.

How much does bottled water cost compared to OWASA tap water?

- ✓ **Bottled water** varies widely in cost. If you buy it in gallon containers, the cost may be less than \$1 per gallon. If you buy brand-name bottled water, a price of \$1.29 for 12 ounces of water is equivalent to \$13.76 per gallon.

- ✓ **OWASA tap water:** For a typical residential household that uses 5,000 gallons of water per month, the average cost for one gallon of tap water, including the cost of sewer service, is about 1.5 cents per gallon.

Is a home filter needed for OWASA drinking water?

Only if you have a weak immune system, other special medical conditions (such as a need to do home dialysis), allergies or sensitivities that you can address with additional filtering.

Otherwise, OWASA customers do not need to treat their drinking water at home to make it safe. A home water treatment unit can improve water's taste, or provide an extra margin of safety for people with severely compromised immune systems or other people who may have special needs.

If you own or plan to buy home water treatment unit, we recommend carefully researching the product so that you will understand its capabilities, limitations, benefits and ongoing costs for filter replacement, maintenance, etc. Please follow the manufacturer's instructions for operation and maintenance, and especially those for changing the filter on a regular basis.

If a filter is not changed regularly, it may stop working as intended and could become a source of bacterial growth or other contamination.

What should I do for drinking water if I have a weak immune system?

Some people are more vulnerable to contaminants in drinking water than the general population. People undergoing chemotherapy for cancer, who have had organ transplants, who have HIV/AIDS or other immune system disorders, and some elderly people and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

Guidelines from the U.S. Environmental Protection Agency (EPA) and Centers for Disease Control and Prevention (CDC) for reducing the risk of infection by Cryptosporidium and other microbial contaminants are available through the EPA's Safe Drinking Water Hotline (800-426-4791).

In our community, businesses including the Weaver Street Market and Whole Foods offer specially treated water.

What should I do if I want OWASA to test the OWASA drinking water in my home or business?

Please contact the OWASA Laboratory staff at 537-4227 or send an e-mail to rmonschein@owasa.org to schedule an appointment with a Laboratory technician who will come to your home or business to get a water sample. Typically, we schedule

water sampling at customers' homes or businesses on Mondays through Thursdays between 10:00 AM and 1:00 PM. We test the pH, chlorine, hardness and turbidity (or clarity) of our water, and for bacteria.

There is no fee for this special service.

Who tests water from private wells?

If you live in Orange County and wish to have your well water tested, please contact the Wells Division of the Orange County Health Department at 919-245-2360, or call 967-9251 and ask for the Wells Division.

Does OWASA water have lead contamination?

The lead levels in OWASA water are well below the limit of 15 parts per *billion* under the federal Safe Drinking Water Act. (One part per billion is equivalent to one penny in \$10 million.)

Please visit our Website, www.owasa.org, to read our annual *Water Quality Report Card* including information on the contaminants we test for, which substances we found and their levels, and the standards under the Federal Safe Drinking Water Act.

In cities with old water systems, lead can be present in public water mains because lead was used many years ago as a pipe material. However, the OWASA water system does not have lead pipes or fittings.

In addition, our water treatment process includes adding phosphate, which sticks to the inside of water pipes and therefore helps prevent the leaching of lead from solder, etc. into drinking water.

Lead testing is performed annually at the Jones Ferry Rd. Water Treatment Plant and lead is typically not detected.

Lead samples are also collected once every 3 years from 30 "high priority" homes in the water distribution system. These homes have the potential for exposure to excessive levels of lead and copper because they have copper pipes and lead solder, lead interior pipes and/or lead service lines). In 2008, our lead test results for 30 homes were below the detectable level of 3 parts per billion.

Can lead get into drinking water when the water is in old water plumbing pipes?

Yes. Plumbing systems installed before 1986 may have lead in pipes, solder or fittings. When water stands still in a plumbing system with lead in it, lead can be released or may "leach" into the water.

Lead can be harmful to everyone, but especially to children, pregnant women and their unborn babies, and nursing mothers and their infants.

If you have old water pipes or suspect for any reason that your plumbing system may “leach” lead into OWASA water, we recommend the following:

1. Please contact OWASA about testing your tap water for lead. We can take a sample and send it to a certified lab to have it tested.
2. Do not drink water from the hot water tap. Hot water is more likely than cold water to have lead.
3. Do not use hot water to make formula for infants, cereal or a beverage.
4. When you haven’t used a faucet for 6 or more hours, flush the stagnant water out of your plumbing pipes by running the water for 3 to 5 minutes or until it is cold as it will get.

Should hot tap water be used for cooking or making baby formula?

No. Using cold water to make baby formula is strongly recommended because hot water is more likely to contain iron, copper, lead and other contaminants from your hot water heater, copper plumbing pipes with lead solder, etc. These substances can be released or “leached” more quickly into hot water than in cold water.

NC Water System Fluoridation and the American Dental Association’s Interim Guidelines for Reconstituting Concentrated Infant Formula (March 12, 2007)

The Centers for Disease Control and Prevention (CDC), the American Dental Association (ADA), the US Department of Health and Human Services (HHS) and many nationally recognized organizations continue to recommend community water fluoridation as a safe, effective and inexpensive way to prevent tooth decay, or cavities. In North Carolina, tooth decay in young children continues to be a major problem. Over 40% of children entering kindergarten in the state this year have experienced one or more cavities. Initiating and maintaining water fluoridation in the water systems will have a profoundly positive effect on the health and lives of North Carolina children.

Recommended fluoride intake levels are based on the size of a child. Since scientists discovered the decay preventive benefits of fluoride 70 years ago, it has been known that fluoride intake above the recommended level for the size of a particular child may result in dental fluorosis, a condition that generally affects the appearance rather than the function of the teeth. Among children drinking water with the optimal level of fluoride (0.7 of a part per million [ppm]) a small percent may be affected by fluorosis. This is not new information. In the vast majority of those cases, the child has very mild or mild dental fluorosis, which appears as harmless, barely noticeable faint white lines or flecks

on the enamel of the tooth. Because of their small size, infants aged birth to 12 months need less fluoride than older children. Recently the ADA issued interim guidelines to help lower the amount of fluoride infants receive from reconstituted infant formula in order to minimize the already low risk of very mild and mild fluorosis. The full statement can be found at:

http://www.ada.org/prof/resources/positions/statements/fluoride_infants.asp.

The possibility of an association between fluoride in infant formula and the risk for mild enamel fluorosis has been studied for many years. Recent research indicates that the amount of the fluoride contained in the water used for preparing concentrated infant formula may contribute to a child's risk for developing very mild or mild fluorosis. The research suggests that this might be a bit more likely to occur if the infant's sole source of nutrition is from concentrated infant formula reconstituted with fluoridated water. The ADA guidelines pertaining to this matter are interim, while further research and a systematic review of existing research is conducted to help develop definitive recommendations on fluoride intake for infants.

What does this all mean for parents of children under one year of age in North Carolina? Community water fluoridation is safe and healthy, and the proper amount of fluoride from infancy through old age helps prevent and control tooth decay for persons of all ages. Parents of infants should weigh the balance between the relatively low risk of very mild or mild enamel fluorosis and the tangible benefit of fluoride to prevent tooth decay and reduce the need for dental fillings. If the parents have never had a cavity and can take the child to dentist regularly, brush the child's teeth daily as soon as they erupt, avoid sticky sweets in the child's diet and are concerned about a small chance of mild fluorosis, the use of fluoride-free water to prepare their infant's formula from concentrate or powder may be considered. In most supermarkets appropriate low-fluoride bottled water is labeled as deionized, demineralized, purified, distilled or prepared by reverse osmosis.

On the other hand, if the infant's parents have had cavities and are not able to take the child to the dentist regularly, or are less conscientious about brushing their child's teeth and limiting access to sticky sweets, the use of fluoridated community water to mix concentrated infant formula may be the most appropriate step. It is important to remember that fluoride exposure to a child's developing teeth plays a long-term role in preventing tooth decay. The CDC, the ADA and HHS continue to recommend community water fluoridation as a safe, effective and inexpensive way to prevent tooth decay for people of all ages.

Is the level of fluoride in our drinking water safe?

Yes. We add about 0.7 of one part per million of fluoride to the drinking water. Under the Federal Safe Drinking Water Act, the limit on fluoride in drinking water is 2 parts per million. One part per million corresponds to one penny in \$10,000. In January, 2011, the US Department of Health and Human Services (HHS) recommended changing the current guideline for the optimum fluoride level (0.7 to 1.2 parts per million) to 0.7 parts

per million based on a review of scientific research. The Federal announcement is at <http://www.hhs.gov/news/press/2011pres/01/20110107a.html>. The US Environmental Protection Agency (EPA) will review this recommendation before deciding whether to change the regulatory standard. We will continue to monitor Federal and State regulations for any changes.

Fluoride has been added to our community's drinking water since 1964, when the University owned the water system. (OWASA acquired the water and sewer systems in 1977.)

Small amounts of fluoride help reduce dental cavities, especially in people younger than 16.

The following organizations have supported water fluoridation within the limits under national water quality standards: US Centers for Disease Control (CDC), American Dental Association, American Academy of Family Physicians (AAFP), American Medical Association, World Health Organization, National Toxicology Program of the U.S. Public Health Service and the National Institute of Dental and Craniofacial Research (NIDCR).

***How "hard" is our drinking water? (How much mineral content does it have?)
How does mineral content affect water quality and water use?***

OWASA's drinking water is naturally soft. The hardness or mineral content of OWASA water is only about 2 "grains per gallon" or 34 milligrams per liter. "Grains per gallon" refers to the concentration of calcium and magnesium. Calcium and magnesium are naturally dissolved in water as it flows through soil and underground rocks in the environment. Therefore the water that comes from our reservoirs (surface water) tends to be softer than ground water.

One milligram per liter corresponds to one part per million or one penny in \$10,000, so a ratio of 34 milligrams per liter is like 34 cents in \$10,000.

Water with a hardness of less than 4 grains per gallon is considered soft; 7 grains per gallon is considered moderately hard; over 10.5 grains/gallon is classified as very hard.

The softness of our water means that less soap or detergent is needed for washing with OWASA water than in areas where the drinking water is hard. A water softener is usually not necessary for washing with OWASA water.

Hardness in water does not make it unsafe to drink, and the U.S. Environmental Protection Agency's safe drinking water standards therefore do not include hardness. (People need calcium and some magnesium in their diets, of course.)

Hard water can leave deposits or white scaling on cooking pots, shower heads and shower doors. Soft water leaves deposits or scaling much more slowly.

How much sodium is in OWASA's drinking water?

Our drinking water has a very small amount of sodium: about 22 milligrams per liter (22 parts per million). One milligram per liter (part per million) corresponds to one penny in \$10,000.

Sodium is not regulated under the Safe Drinking Water Act but we monitor the level as part of our overall water quality program.

Is water from a garden hose safe to drink?

No. The chemicals in vinyl garden hoses that keep them flexible are contaminants which can get into the water. People and pets should not drink water from hoses.

Is it safe to store drinking water indefinitely?

No. The disinfectant in drinking water eventually will dissipate even in a closed container. Bacteria that may have been introduced when filling the container may continue to grow after the disinfectant has dissipated. Some studies show that water can be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth. However, long term storage is not recommended.

How does OWASA kill germs and bacteria in drinking water? What are chloramines?

We use both ammonia and chlorine to disinfect our water. The ammonia is added to the water at a carefully controlled rate, and the ammonia combines with chlorine to create "chloramines." Chloramines are an effective and long-lasting disinfectant for killing bacteria and germs. OWASA water with chloramines is safe to drink. OWASA began using chloramines in 2002 to reduce the levels of substances called disinfectant byproducts, which can be harmful at high levels.

We use chloramines for disinfection in the 11 months of the year other than March. In March, we use chlorine in the form of bleach for disinfection as required under State rules for water systems that use chloramines.

Are chloramines and chlorine in our water safe?

Yes. We carefully control chlorine and chloramines in our water to meet the standards in the Federal Safe Drinking Water Act. OWASA complies with all State and Federal drinking water standards.

Can water with chlorine or chloramines affect toilet flappers and washers in water fixtures?

Drinking water disinfected with chlorine or chloramines can over time deteriorate the rubber compounds in toilet flappers and washers installed in faucets and other water fixtures. We suggest getting advice from a plumber or company that sells plumbing supplies about choosing a toilet flapper and washers. Some are made with a material that is intended to be resistant to chlorine and chloramines. (OWASA does not evaluate or recommend particular brands.)

OWASA is strongly committed to protecting the public health and safety. Although chloramines and chlorine can affect toilet flappers, etc. we believe that the public health is the most important consideration in treating our water to control bacteria and minimize disinfection byproducts.

What precautions should kidney dialysis patients take before using our tap water?

Both chlorine and chloramines must be removed from the water used in kidney dialysis machines. Medical clinics that perform dialysis are responsible for purifying the water that enters the dialysis machines.

We have informed the overall community including dialysis clinics and medical facilities about the need to remove chloramines from water used in dialysis machines. Customers with home dialysis equipment should contact the equipment manufacturer or dealer for information about whether any adjustments in operation or maintenance of the equipment are needed.

Do I need to treat my tap water before I use it in an aquarium with fish or amphibians?

Yes. The chlorine and chloramines in our drinking water are toxic to fish and amphibians. Our water should therefore be treated with an additive before putting fish or frogs, etc. in it. (Using a special carbon filter to remove chlorine and chloramines is more expensive.)

We disinfect our water with chlorine in the month of March and with chloramines in the rest of the year. These two types of disinfectants must be dechlorinated differently. Chemical treatment or additives are available at most pet stores. For more information on treating water for your fish tank, please contact a pet or fish supply store.

What are Cryptosporidium and Giardia?

Cryptosporidium and Giardia are microscopic organisms that can cause diarrhea, fever and other gastrointestinal symptoms. They come primarily from human and other warm-blooded animals' wastes. We have tested for Cryptosporidium and Giardia in our reservoirs and treated water and have not detected them. We protect against Cryptosporidium and Giardia through source water protection and water treatment technology.

Why do OWASA employees release water from fire hydrants or valves? (This is sometimes called “flushing” water mains.)

For several reasons:

- ◆ We have a “unidirectional flushing” program to systematically remove small particles of iron, manganese and minerals that settle in the bottom of our water pipes over time.
- ◆ We may flush a water main under some circumstances to keep the water fresh and with the right level of chloramines or chlorine.
- ◆ In accord with State requirements, we flush our water mains in the month of March, when our water disinfectant changes from chloramines to chlorine.
- ◆ Water mains are flushed to remove discolored water, before testing new lines and after repairs to a water main.

What can give the water flushed from a fire hydrant a dark brown or rusty color?

Sometimes our water looks rusty because maintenance, repairs or other work on the public water system can stir up iron, manganese and minerals that settle to the bottom of water mains over time. Sudden changes in the water system, such as when a fire hydrant is opened, can stir up these “sediments” and may cause temporary discoloration of the water. Even though the water is discolored and has sediments, disinfectants are still present and the water is safe once it clears up.

If my water is rusty, brown or otherwise discolored, what should I do?

Running a cold water faucet in a bathtub for 5 or 10 minutes should clear up the discoloration. The water should be clear before washing clothes, etc. If the water does not clear up in 5 to 10 minutes, please contact us at 968-4421.

What can make water look cloudy or milky?

Air bubbles, which may enter the water system during repairs or due to temperature changes, can make our water look cloudy or milky.

What should I do to clear up cloudy or milky water?

Running water through a cold water faucet in a bath tub for 5 or 10 minutes should clear up the cloudy or milky appearance. If not, please contact us at 968-4421.

Why is there white sediment (small solid particles) in my faucet aerators, showerheads, water heater, etc.?

In the normal use of hot water in plumbing systems and fixtures, some white sediment normally settles or “precipitates” out of the water. This sediment also called “scale,” often shows up in aerators, strainers, showerheads and water heaters. In chemistry terms, “scale” particles are typically composed of calcium and/or magnesium compounds that are normally present in small quantities in our treated drinking water. They are not hazardous to health.

Some customers with recirculating water heaters have reported having excessive amounts of sediment buildup. We are not certain what causes this.

We recommend that plumbers or homeowners contact the manufacturer of any recirculation system and inquire in advance about suitability of that manufacturer’s heating system, pipe materials, etc. for use with OWASA water.

In seeking technical advice, it is very important to give the manufacturer, etc. the following information about our water:

- ✓ The normal acidity/alkalinity or “pH” of our water is about 8.
- ✓ In March of each year, the pH normally changes to about 7.4 because we change our disinfection process as noted below.
- ✓ Our water is normally disinfected with chloramines, a compound of chlorine and ammonia.
- ✓ Typically in March, we disinfect with chlorine in the form of bleach (sodium hypochlorite).
- ✓ The average hardness of OWASA water is 31 milligrams of calcium carbonate (CaCO₃) per liter, or 2 grains per gallon.

Additional information about the characteristics of OWASA water is available by calling the Laboratory Supervisor at our Jones Ferry Road Water Treatment Plant at 919-537-4227 or sending an email to rmonschein@owasa.org.

What can cause drinking water to have an unusual or poor taste or smell?

Taste and odor in our water may result from several sources.

- ◆ At some times of the year, algae in our lakes may cause an earthy or musty taste and odor, which can be treated in the plant with activated carbon.
- ◆ In March, we normally use chlorine to disinfect the water. Some customers may notice a chlorine smell then. In the other 11 months of the year, we disinfect water with a compound of chlorine and ammonia, called “chloramines,” which usually have little or no odor.

However, taste and odor conditions do not make our drinking water unhealthy or unsafe to drink.

Please feel free to call the OWASA Laboratory (537-4227) to report taste or odor so we can make any needed adjustments in our treatment process to address taste and odor, whenever you have any questions about our drinking water or if you want to have our water tested.

What is the pink growth on bathroom fixtures?

The reddish-pink color frequently noted in the bathrooms on shower stalls, tubs, tile, toilets, sinks and toothbrush holders could be due to the growth of an airborne bacterium called *Serratia*. These naturally-occurring bacteria are commonly found in or on the soil, untreated water, plants, insects, and vertebrates including people. They are “airborne” because they can get into a bathroom with the normal movement of air in a house or other building.

“*Serratia marcescens* has been found to be pathogenic to some people, having been identified as a cause of urinary tract infections, wound infections, and pneumonia...” (Yarlott, 2000)

Another bacterium called *Methylobacterium* (commonly found in hot water heaters, air and dust) also produces pink films in wet environments—such as bathrooms. *Methylobacterium* is not known to cause sickness in healthy individuals.

We recommend cleaning an area with bacterial growth by scrubbing, rinsing, applying a disinfectant such as bleach, scrubbing and rinsing again and then allowing the area to dry out. Keeping wet areas as dry as possible (by wiping them dry, running the bathroom fan if there is one, etc.) will help prevent or reduce the bacterial growth.

What causes the grayish-black ring in toilet bowls?

The grayish-black buildup in toilet bowls results from the growth of fungi. This growth may include several different fungi and other organisms.

The source of the fungi is airborne fungal spores. The spores, which are microscopic, can spread throughout a house with air currents. When a house is vacant (due to vacations, etc.) the fungal spores can grow rapidly in toilets. The area under the inside lip of a toilet provides a refuge for the fungus. It is from here that the fungi can regrow after cleaning. In most cases, fungi reappear within several days after cleaning.

The toilet bowl and the tank should be disinfected with chlorine bleach after cleaning by bleach into the tank and bowl. A contact time of a half-hour or more should be allowed. This procedure might have to be repeated several times. It is important to disinfect all areas with fungi at the same time to eliminate cross contamination.

What can cause a greenish stain on a sink or bathtub?

A green or blue-green stain is usually results from the small amounts of copper in water. Copper, which is a contaminant, may be present in water because of the release or “leaching” of small amounts of copper from the inside of copper water pipes in the private plumbing system for a home or other building.

Copper testing is performed annually at the Jones Ferry Rd. Water Treatment Plant and is typically not detected. Copper samples are also collected once every 3 years from 30 “high priority” homes in the distribution system. These homes have the potential for exposure to excessive levels of lead and copper (have copper pipes and lead solder installed after 1982; lead interior pipes and/or lead service lines). The 90th percentile result from the 2002 study was 0.160 parts per million (ppm), well below the Maximum Contaminant Level of 1.3 ppm. One part per million is equivalent to one penny in \$10,000.

If you are concerned about copper in your water, please contact the OWASA Laboratory (537-4227) and we’ll be glad to check your water at no cost.

What causes the temperature of tap water to change?

The **temperature of your drinking water** is affected by several factors:

- seasonal changes in the temperature of water in our lakes,
- air temperature at our water storage tanks,
- the depth and size of the water main,
- the temperature of the ground,
- the temperature of air around the pipes in a plumbing system,
- and whether the pipes are insulated, exposed to sunlight or installed inside concrete.

How can I get more information?

We invite you to:

- contact the OWASA Water Treatment Plant Laboratory Supervisor at 919-537-4227,
- send an e-mail to rmonschein@owasa.org;
- visit or write a letter to us at 400 Jones Ferry Road, Carrboro, NC 27510; or
- send us a fax (919-968-4464).

We welcome the opportunity to respond to any questions you may have, and we encourage you to give us feedback about the quality of our services.