

NEWS SPLASH

Summer 2004



CHLORINATION: THE BASICS

History of chlorination

Techniques for chlorination of water supplies were developed in the late 19th and early 20th centuries. In 1908, Jersey City Water Works became the first system in the United States to practice large-scale chlorination on a permanent basis. As more water systems adopted the practice of chlorination, there was a corresponding decrease in the number of waterborne disease outbreaks. Health professionals regard the chlorination

of water as one of the most important advances in the field of public health.



An existing sodium hypochlorite injection system, which treats water for aesthetic purposes.

Why do water suppliers add chlorine to the water?

Many public water systems add chlorine to their water supply for the purpose of disinfection. Disinfection kills or inactivates harmful microorganisms that can cause illnesses such as typhoid, cholera, hepatitis and giardiasis. Sometimes, water systems use chlorination for taste and odor control, iron and manganese removal, and to stop nuisance growths in wells, water pipes and storage facilities. Adding chlorine is also a secondary defense against terrorism, since the chlorine residual will be monitored regularly for any changes.

How long has the District been adding chlorine to the water?

The District has been adding small amounts of sodium hypochlorite, a form of chlorine, to the water system to treat taste and odor problems for many years. In 2003, as part of its Water Comprehensive Plan, the District decided to implement chlorine disinfection throughout its system to protect public health. Implementation of the chlorine disinfection system was accelerated due to a water quality incident in January 2004, when routine water testing revealed coliform bacteria in the water supply. Chlorination is currently occurring in varying amounts at all District wells, for disinfection or to control taste and odor problems. The District informed its customers about system chlorination in its Winter and Spring Newsletters, in the 2004 Water Quality Report, and through information posted on the District website. Customers were also informed about chlorination of the system by a special mailing sent to their homes following the January 2004 water quality incident.

The regional water supply requires chlorination

The District will soon be connecting to the regional water supply, which is a surface water source from the Cedar and Tolt Rivers. Surface water sources are required to be disinfected, and chlorine is added to the Cedar and Tolt sources for disinfection. Since chlorine dissipates naturally in most waters, the Washington State Department of Health (DOH) requires that all areas of the water distribution system served by surface water maintain a residual chlorine concentration to provide continuing protection within the distribution system.

How is the chlorine being added to the District water supply?

Sodium hypochlorite is generated after adding salt to a tank of water to create a brine solution. By applying an electric current to the brine solution, sodium hypochlorite is created. The sodium hypochlorite is stored in a tank where metering pumps are used to add the disinfectant to the system. Chlorine is being added at a dosage of approximately one part per million to maintain the chlorine residual throughout the water system.

How does chlorine react in water?

When chlorine is added to water, it reacts with organic substances that occur naturally in the water. The compounds formed are called "disinfection byproducts (DBPs)." The amount formed depends on the amount of chlorine used and contact time between the organic substances and the chlorine. The U.S. Environmental Protection Agency (EPA) adopted the Stage 1 Disinfectants and Disinfection Byproducts Rule (DBPR), which specifies maximum allowable levels and monitoring requirements for disinfectants and DBPs. The District will be monitoring these levels for compliance with regulatory standards.

Will I notice a difference in my water?

Some District customers may notice a slight odor and taste from the residual chlorine within the distribution system, although the chlorine soon dissipates in open containers. Filters can also be used to remove chlorine if desired.

Where can I get more information on chlorination?

Please visit our website at www.sammplat.wa.org to learn more about chlorination and water quality, or call us at (425) 392-6256. You can also visit the Washington Department of Health's website at www.doh.wa.gov/ehp/dw or the U.S. Environmental Protection Agency's website at www.epa.gov/safewater.

Material in this article was adapted from information provided by the Washington State Department of Health

REPORT WATER THEFT!



We need your help! You can help protect your drinking water by reporting unauthorized hydrant use. **If you observe anyone other than water district or fire district personnel connected to a fire hydrant, please call the District at (425) 392-6256 as soon as possible!** Water district personnel are available 24 hours a day to take your call. Please use the phone number provided on our voice mail for water emergencies to report water theft.

When you call, please include such information as the address or cross streets where the infraction occurred, vehicle license number, and a description of the vehicle. Include color, logos and type of truck, such as tanker trucks, hydro-seeders, sweepers, or trailers with tanks. Water district and fire district vehicles will be plainly marked with logos. Please leave a contact phone number where you may be reached if we need further information. Do not approach or try to block vehicles, but report the incident to the District immediately! District personnel will be dispatched to investigate the situation. Contractors are required to call the District daily before utilizing water from a hydrant, and their vehicles must have a permit. The District will fine unauthorized users.

Thank you for your participation in helping to protect our water system from possible contamination and water theft!

KLAHANIE NEIGHBORS LEARN ABOUT NATURAL YARD CARE

Neighbors in the Klahanie area participated in the Northwest Natural Yard Care Neighborhood Program this spring. Sponsored by the Sammamish Plateau Water and Sewer District, King County and the Klahanie Homeowner's Association, the workshops showed participants a variety of ways to practice natural yard care.

Do you know that pesticides, such as those found in weed and feed products, applied on your lawn may affect the health of your family? Researchers in Seattle found traces of common lawn and garden pesticides in the urine of almost every child tested. Do you know there are ways to "train" your grass to grow deeper roots, making your lawn more drought tolerant? Do you know that you can get rid of weeds without using harsh chemicals? Workshop participants learned the answers to these questions and more.

In the first workshop, Ladd Smith discussed natural lawn care. Beautiful landscapes can be grown without the use of chemical fertilizers and pesticides. Using organic, environmentally friendly techniques and products help preserve water quality. Marty Wingate helped participants identify beneficial insects in their landscapes, and explained how a blanket application of pesticides can destroy the "good bugs" in addition to the "bad bugs!"

In the second workshop, the focus was on soil. Julian Durant showed the group how to develop healthy soil. Leon Hussey discussed composting and compost teas. Lisa Taylor shared the magic of mulching. The show stopper of the evening was the display of grass roots that were eighteen inches long! Most homeowners in our area deal with poor soils and hardpan, and often only see grass root depths closer to two inches. With proper soil depth, grass can grow longer roots, and with deeper roots comes a corresponding increase in the lawn's drought tolerance. Techniques such as aerating lawns and topdressing with compost can help improve existing soils.

During the third workshop, Janet Sailer provided the group with ideas on smart watering, including doing a tuna can test to see how well individual sprinklers apply water to given landscapes. Applying the right amount of water and no more prevents water wastage and means a smaller water bill! Greg Rabourn then discussed the use of native plants in the landscape. Native plants work well because they can tolerate our wet winters and dry summers.

Participants were eligible to win a number of fabulous prizes, including organic fertilizer and weed control, soil core samplers, native plants, and the grand prize of an electric mulching mower!

Many thanks to Doug Rice at King County, Rich Faires at the Klahanie Homeowner's Association, and Ann Chandler, Klahanie resident, for making this workshop series a huge success!

If your neighborhood would like to participate in the Northwest Natural Yard Care Neighborhood Program, please contact Janet Sailer, Conservation and Public Information Specialist at (425) 392-4931 x204. One workshop series will be held each year in one selected neighborhood.



Ladd Smith discusses natural lawn care at the first Klahanie natural yard care workshop



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