Editor's Note: This PDF has been revised to match the originally printed pages.

Question of the Month

What's This Pink Stuff in My Bathroom?

by Nelson Yarlott

Q. I am the manager of a small system in the Midwest. We have a customer who is experiencing an unusual problem. She has a pinkish substance on her bathroom fixtures that is very persistent, appearing in the shower, sink, and along the water line of her toilet bowl. The problem seems to be unique to her home, as we have had no similar complaints from any other customers. We have tested the water at her tap and just before her service connection and have found nothing unusual that we think could cause this. Can you help?

A. This question seems to peek its head on a fairly regular basis. Utilities from all over the United States have experienced similar problems and contacted the Small Systems Helpline and the AWWA Technical Forum (www.awwa.org/forums/main.cfm?cfapp=57) for advice on how to deal with it. The bottom line? Pink residue is less likely a problem associated with water quality than with naturally occurring airborne bacteria, and is also affected by the homeowner's cleaning habits. The bacteria produces a pinkish film, and sometimes a dark gray film, on surfaces that are regularly moist, including toilet bowls, showerheads, sink drains, and tiles. The problem also more commonly occurs in humid regions of the country.

To determine the exact species of bacteria would require lengthy and costly laboratory testing, and for those reasons most homeowners are reluctant to have the tests performed. Although the exact species of bacteria is not known, most experts have concluded that this pink staining is most likely from the bacteria *Serratia marcescens*. These bacteria thrive on moisture, dust, and phosphates and are widely distributed, having been found naturally in soil, food, and also in animals. The conditions for the survival of *Serratia marcescens* are minimal, and the bacteria may even feed upon itself in the absence of other nutrients.

Members of the *Serratia* genus were once known as harmless organisms that produced a characteristic red pigment. Because of this, scientists and teachers frequently used it in experiments to track other microbes. More recently, *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, and is no longer recommended for use in school experiments.

Many times, the pinkish film appears during and after new construction or remodeling activities. The dirt and dust stirred up from the work probably contains *Serratia* bacteria. Once airborne, the bacteria seek moist environments to proliferate. Some people have even noted the pink residue in their pet's water bowl, which causes no apparent harm and can be easily cleaned off. Others have indicated that their experience with this nuisance occurs during a time of year that their windows are open for the majority of the day. These airborne bacteria can come from any number of naturally occurring sources, and the condition can be further aggravated if customers remove the chlorine from their water by way of an activated carbon filter.

What to Do

Short of buying pink fixtures, the best solution to keep these surfaces free from the bacterial film is continual cleaning. A chlorinous compound is best, but use care with abrasives to avoid scratching the fixtures, which will make them even more susceptible to bacteria. Chlorine bleach can be periodically stirred into the toilet tank and flushed into the bowl itself. As the tank refills, more bleach can be added. Three to five tablespoons of fresh bleach should be all that is necessary. A toilet cake that contains a disinfectant can keep a residual in the water at all times. The porous walls of a toilet tank can harbor many opportunistic organisms.

Cleaning and flushing with chlorine will not necessarily eliminate the problem, but will help to control these bacteria. Keep bathtubs and sinks wiped down and dry to avoid this problem. Using a cleaning solution that contains chlorine will help curtail the onset of the bacteria.

While all water utilities are concerned about the quality of the product they are supplying to their customers, they cannot guarantee water quality once it leaves the pressurized distribution system and enters the customer's plumbing. Homeowners' individual components and the cleanliness of their environment are not part of the utility's responsibility to provide a safe and aesthetically pleasing product.

Call Yarlott on the Small Systems Helpline at (800) 366-0107, or send him an e-mail at nyarlott@awwa.org. Yarlott is leaving AWWA in January, and the Helpline will need a new experienced Small Systems Specialist. Interested persons should see the ad in the employment section of the November 2000 issue of MainStream.

From the Opflow *Forum*

Opflow readers are turning to the *Opflow* Forum, our Internet discussion place, to find answers and share ideas with fellow operators. Access the site through <www.awwa.org/ opflow> to join a discussion thread, or start your own subject link. Below are excerpts from a recent discussion.

Author: Jon Roberts (jgr1414@aol.com)
Subject: Water Flow Requirements

I am trying to research the water flows required in commercial areas and residential areas. Is there a certain required gpm for the water supply in these areas? If so what is it? What organization establishes guidelines on this subject?

Author: Gary Rhoads (wbwa@talon.net)
Subject: Water Flow Determination

Water flow requirements are determined by fire flow requirements (unless there is some extraordinary process with huge water flow needs). Typically, an organization such as Insurance Services Office rates an area and determines the required fire flows. Check with a rating service in your area for specifics. Other factors such as the degree of hazard, installation of sprinkler systems, etc., would also affect the required flows. The bottom line is that flow requirements are determined by what is needed for fire flows.