

## Drinking Water - Safety vs Quality

### AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

I regularly field questions about drinking water. It's not quite as many as it used to be as much more of the rural population now has access to Rural Water Districts. But the questions do still trickle in (pun intended.)

First and foremost, if you are on a rural water district or a municipal water supply, rest assured that your water is being monitored on a regular basis and spot tested by the Kansas Department of Health and Environment. If anything shows up that may be considered safe, you will hear about it. Those boil water orders that you occasionally hear on the news are generated from these routine tests or from emergency situations that pop up when there is a major extended power outage or a big water main break. Public water suppliers have to issue periodic notices of water quality and any exceptions that occurred. These arrive in the mail, usually with your water bill and you should read them, not just toss them out so you can see all the items that your water supplier is testing for.

If your drinking water comes from a private well, you are your own water quality inspection department and you should test your water at least annually to make sure that it is safe. What most people don't realize is that there are items of health of safety concern and there are items of quality or perhaps desirability concern. Two of the major items of concern are things that you may never see or taste: nitrates and coliform bacteria.

Nitrates are a common byproduct of organic matter decomposition as well as a commonly applied fertilizer. Nitrates are highly water soluble and move with the water and can wind up in the ground water that is being pumped for drinking water. Low levels of nitrates, one or two parts per million (ppm) are common even in "natural" or native ecosystems. Health concerns come about when nitrate levels exceed 10 ppm. Infants, pregnant women and livestock are sensitive to levels this high and can develop health problems if exposed to levels over 10 ppm on a regular basis.

Coliform bacteria are commonly found in feces of all warm blooded creatures including humans. If coliform bacteria are showing up in a private water supply it is an indication that waste or runoff water with wastes in it are getting into the ground water. This often occurs when drought causes soil to retract from well casings or when excessive rainfall causes flooding that inundates wells. Keeping drinking water free from bacteria is crucial to maintaining human health and a principle reason why public water supplies chlorinate water.

But both of these potential contaminants are usually not even noticed in water. It's the quality issues that gets homeowners attention. These are things that cause water to taste "bad" or "funny". It can be sulfur or other minerals. Hard water creates calcium deposits in anything it regularly touches. These may not be desirable, but they usually aren't a health concern. They are classified as a nuisance and usually aren't regulated. Homeowners can install additional treatment systems in their house to deal with many of these.

K-State Research and Extension has numerous bulletins that address water quality and safety. These are available at the Extension Office or online. If you have questions about your household water or want copies of these bulletins, don't hesitate to contact the Extension Office at 119 East 9<sup>th</sup> Street in Junction City or at 785-238-4161.