What's with the water?

By Kerri Savage

There's nothing quite like a cool glass of water to quench your thirst. But it's hard to get refreshed when that water smells like a swamp or perhaps that a family of frogs have taken up residence in the pipes. What's in the water and will it make me sick?

Though we may think the smell and taste of our drinking water indicates or measures the safety of it, in reality, funny taste and odour is rarely the result of toxic contaminants or poisons. In fact, harmful bacteria, such as E.coli, do not have a taste or smell.

Especially on the prairies, the odd taste and odour are caused by microscopic organisms such as bacteria and algae that are naturally occurring in our lakes and rivers that are often sources of drinking water. Not all bacteria or micro-organisms that are present in water are harmful. In fact, we need some of these micro-organisms to help break down some of the nutrients present in our water.

The most common compounds that occur in Alberta's drinking water are geosmin and MIB (2-methylisoborneol). The term geosmin, literally means "earth smell". Its distinct, earthy smell can be detected in even the smallest amounts. Depending on the individual, the tiniest trace of these compounds, such as 2 parts per trillion, can be detected. Geosmin also is responsible for giving soil its earthy or musty smell.

Taste and odour concerns often appear in late summer, but not much is known about what conditions cause this appearance, except that it may be linked with algae blooms. Though studies are scarce, the presumption has been made that the presence of these compounds do not present risks to aquatic organisms or humans.

Alberta Agriculture and Food attributes the appearance of the geosmin and MIB compounds with periods of high water temperatures and heavy nutrient loading from runoff, rotting leaves and other organics. Warmer summer months are ideal for producing heavy growth of blue green algae and actinomycetes (a bacteria that lives in soil) which produce both geosmin and MIB.

The presence of these compounds can occur all through the year and can be absorbed by fish living in our lakes and ponds. This is the reason why some of your catch may taste a bit muddy when you later consume it.

Alberta Agriculture estimates that less than one drop of pure geosmin in an average half acre Alberta farm pond is enough to give the water an earthy taste. Foods such as beets also contain concentrations of geosmin, contributing to their distinct taste.

Whatever your water tastes or smells like, you can be certain it has been tested to meet Canadian drinking water guidelines as set out by Health Canada. For details on Canada's guidelines visit www.hc-sc.gc.ca.