Should Drinking Water Be Disinfected with Monochloramine?

Srivastava, Cam (School: Spartanburg Day School)
Kusher, Logan (School: Spartanburg Day School)

Chemical disinfectants are added during the production of drinking water to prevent bacterial growth in the water as it distributed to consumers. Historically, in all 50 states, liquid chlorine has been added as the antibacterial agent. In recent years many drinking water systems have switched to the cheaper, longer-lasting disinfectant monochloramine (monochlor). The effects of monochlor in humans are under-researched and somewhat unknown at the allowable drinking water concentration of 4.0 mg/l set by the EPA. The present study used a nematode worm model, Caenorhabditis elegans (C. elegans), to examine the effects of monochlor on worm developmental growth rates and ability to produce viable eggs. The effects of a range of monochlor concentrations were examined and qualitative results indicate that 3.0-5.0 mg/l monochlor significantly inhibited developmental growth rates and the ability to produce viable eggs by C. elegans.

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