Input on Lower Yakima Valley Nitrate Study

Intranet Daemon Owner to: R10YVNitrate, Caryn Sengupta 11/05/2012 05:10 PM

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Comments for the U.S. Environmental Protection Agency regarding Relation between Nitrate in Water Wells and Potential Sources in the Lower Yakima Valley, Washington – 2012

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It is important to note that this document was peer reviewed by well qualified people and that the EPA made a valiant attempt to contain costs and avoid overspending tax payer funds. It is important to note that the work is ongoing and EPA is working with the U.S. Geological Survey to further evaluate nitrate fate and transport.

On page 11 the document states that dairies in Yakima County produce 36 million pounds of nitrogen per year. On page 12 the document states that "about 18.5 million pounds of nitrogen are applied to irrigated cropland each year in Yakima County." What happens to the difference?

Do we know how long hormones, pesticides and pharmaceuticals remain in the groundwater? Do we know how pharmaceuticals in drinking water affect human health?

Trenbolone is a potent anabolic steroid used for fattening Holstein steers. Why was there no analysis for this pharmaceutical?

Dairy supply wells are drilled to 210, 220, 470 band 482 feet. The cows drink pure water from the basalt aquifers and humans drink polluted water from the more shallow alluvial aquifers. This is immoral.

Chlorpyrifos was found in the Haak Dairy application fields. This is a highly toxic organophosphate that causes damage to fetuses and young children. It is even more toxic to aquatic life. There are current efforts to have the chemical completely banned (Israel, 2012). Do we have an obligation to inform the public and also assess transport of Chlorpyrifos to the surface waters?

It appears that bacterial testing was performed at two different laboratories, using different methods. Is there a reason behind this choice?

On page 14 the document states that Phase 2 found 2% fecal coliform bacteria or E. coli. Most research that I read analyzes for coliform bacteria which is found in the largest amounts, then for fecal coliform bacteria which is found in lesser amounts and then E. coli which is found in the smallest amounts. For example, the Well Water and Infant Health Study (VanDerslice, 2009) found coliform bacteria in 38.5% of kitchen tap water samples and E. coli in 2.8% of those samples. Coliform bacteria include Citrobacter, Enterobacter, Eschericia, Klebsiella, Moelleria and Yersinia, most of which are zoonotic and harmful to humans. In addition there are other water born, disease causing bacteria that put human health at risk. In the zip code area surrounding the Dairy Cluster, rates of infection with Campylobacter are 20 to 30 times the state average. (WA DOH, 2012)
Do we know how antibiotics in the water affect bacteria in the water? Do we know how these antibiotics affect soil microbiology?

There are those who will criticize the groundwater flow data used in this study. It is important to note that selection criteria for testing downgradient from irrigated fields included “Relatively constant direction of groundwater flow from season to season.” (pp. 17 & 18)

There are those who will criticize the study, saying that samples from different aquifers were compared. Two wells upgradient from dairies were tested – WW 01 and WW 06. Depths are unknown for either well. Age dating and presence of other contaminants indicate that these are shallow wells. Nitrate levels would be higher in shallow wells than deeper wells so any differences between upgradient and down gradient wells would be on the low end in this study.

On page 30 the document states that SF6 values were not reported for six wells because the numbers were out of the expected range. How can we be sure that the factors causing this deviation were not present in other well samples?

Tylosin is used for treatment of infections in beef cattle and diarrhea in calves. Use in milking cows is contraindicated. Does the presence of tylosin in some samples indicate a calf feeding source?

I presented information on the Lower Yakima Valley Ground Water Management Area at a recent Joint Conference on Health, sponsored by the Washington State Public Health Association. One of the participants suggested that the presence of DEHP in rural well water may indicate use of unapproved pipes for irrigation and drainage systems.

A dairy cow produces about 50 liters of urine per day and the amount of nitrogen in urine is higher than the nitrogen in solid waste. How did the study evaluate the amount of nitrogen in urine that is released into the soil and ground water in areas with high concentrations of animals per acre, for example feedlots or open air dairies?

Around 2000, the DeVries family began building a dairy in the Moxee area with 1,200 cows. This facility quickly grew to over 6,000 cows. One of the pre-conditions for permission to operate was drilling four monitoring wells and testing water quality twice a year. The DeVries family has refused to share this data with the public. If this information is made available, we have a ten year study in place that can prove or disprove effects of dairy operations on nitrate levels in the drinking water for neighbors. We might not need to engage in further dairy testing in the Lower Yakima Valley.

Thank you so very much for this well done and informative study. Please stay engaged in the process. Conscientious families in the Lower Yakima Valley currently spend over $1,000 per year per family buying bottled water in order

to ensure their health. Rates of diarrheal illness near concentrated animal feeding operations are 10 to 30 times higher than normal. This is a high price for individuals to pay in order to support “economic growth”.

Sincerely,
Jean Mendoza

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