

Adams County Workshops Highlight Wellwater Security

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GETTYSBURG (Adams Co.) — Drought or no drought, homeowners with private wells should pay attention to their water supply.

Unusually low groundwater levels across the region this spring — at a time when they should be approaching their yearly high — heightens the concern.

Adams County residents recently attended wellwater workshops here March 18 and 25 aimed at helping ensure a safe supply of water from their well. They learned about groundwater movement, well drilling, water-testing, and homeowner handling of fertilizers and pesticides.

According to Tom McCarty, multicounty water quality extension agent, starting the spring season with low groundwater levels is risky for some private water supplies.

"I think we're going to head into the summer with low (water) levels," he said, predicting the likelihood of "shallow" wells going dry.

Randy Alexander of Alexander's Well Drilling, Fairfield, said that most of the drought-related

problems he has seen are with shallow water sources such as springs and hand-dug wells, or drilled wells less than 100 feet deep.

"We haven't seen much problem with deeper wells," he said.

Alexander noted that deep wells can also go dry — especially if they are fed by groundwater from a shallow level. However, wells that are drawing water from depths of more than 100 feet will likely keep producing a steady supply, he said.

For homeowners, direct monitoring of groundwater levels on your property is difficult, usually requiring an expensive water level meter to lower into the well, according to Penn State extension information. A less direct but more practical way to gauge water levels is by referring to U.S. Geological Survey data gathered from 67 monitoring wells across the state. Website posting this information is found at

http://pa.water.usgs.gov/durplots/well_duration.html.

McCarty demonstrated the movement of water in the ground by using a cross-sectional model consisting of soil, colored water, a stream bed, and observation wells.

Rivers and larger streams tend to be natural dividing points for groundwater movement, he pointed out.

Under normal conditions, groundwater moving toward a streambed will generally not flow across or under the streambed to the other side. Accordingly, any contamination in the groundwater on one side of the stream will not usually reach the water table on the other side.

If drought conditions cause a stream to dry up, however, groundwater — and any contaminants in it — could potentially cross under the streambed.

Flood waters can carry surface contamination across these natural boundaries as well, McCarty said.

Groundwater movement is also affected by the type of material that surrounds it in the earth, he said. A relatively loose material such as gravel (or limestone) allows faster water movement than a denser substrate.

Dr. Irving Kipnis, lab director of Express Analytical Services, Inc., Chambersburg, gave an overview of water quality testing.

While water can be tested for a wide spectrum of contaminants,

homeowners usually need to concern themselves with only a few of them, according to Kipnis. Bacteria is at the top of the list.

"The most important test to do for a home well is for coliform bacteria," Kipnis said, pointing out that the Pennsylvania Department of Environmental protection recommends testing once a year.

Though coliforms are common above ground and most are not harmful in themselves, they indicate the possible presence of harmful types such as E. coli. The absence of coliforms generally means no harmful kinds are present, he said.

Nitrates are a concern for wells in farming and residential areas with high fertilizer applications. Water hardness and pH follow on the list of the most widely used water tests for homeowners. Metals such as lead can also be a concern, especially in homes with older plumbing.

Each of the most common water tests cost less than \$30, according to Kipnis. Some local conservation districts, such as the one in Adams County, also offer better rates to homeowners by

sending samples to the lab in bulk.

Philip Pitzer, environmental safety specialist with the Pennsylvania Department of Agriculture, delivered encouraging news about the impact of pesticides on water quality in the state.

Of 1,100 wells tested for five major pesticides since 1993, only three of the wells showed a problem, he said.

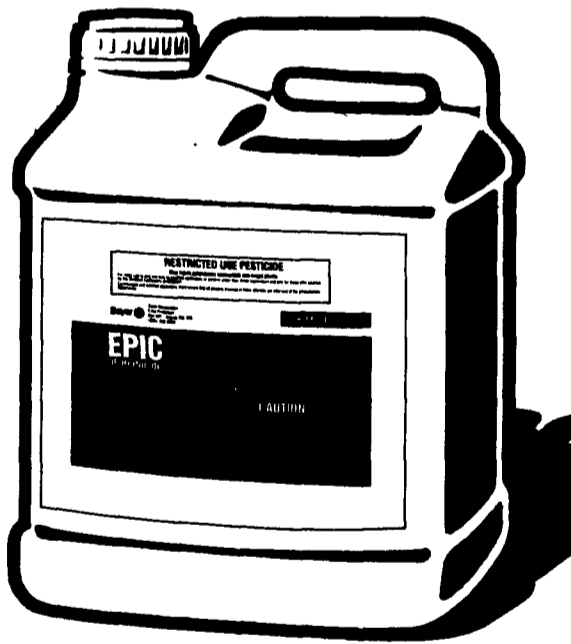
The program focuses on "vulnerable areas," with high concentrations of agriculture. Water samples are analyzed for the presence of atrazine, alachlor, metolachlor, simazine, and cyanazine. Acetachlor has recently been added to the list.

The state has also gathered and disposed of about 1.1 million pounds of old pesticides and recycled about a half million pounds through another program, Chemsweep, begun in 1993. About 265,000 pounds of pesticide containers have been recycled at 137 locations statewide for pesticide container recycling, Pitzer said.

For more information on water conservation and quality, contact your local conservation district.

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