

Assessing Drinking Water Quality for Small & Underserved Audiences in Delaware

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Background

According to the EPA (2002), the United States has one of the safest water supplies in the world. While the majority of U. S. groundwater supplies are safe for human consumption, contamination has been found in all 50 states. Although the EPA regulates drinking water, it does not have jurisdiction over private wells. About 15% of all Americans have their own source of drinking water, and unlike public or city drinking water supplies, individuals do not have professionals testing their water on a regular basis. Regular testing is the only way to ensure that the water being supplied through private drinking water systems is safe for human consumption (EPA 2002).

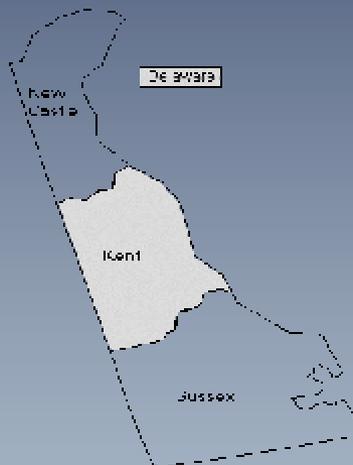
Over 80% of Delaware residents rely on ground water for drinking.

- 166,000 Delaware residents are served by private, individual wells
- 68,449 households are served by private wells

As one member of the Mid-Atlantic Regional Water Quality Program's Small and Underserved Audience team, Delaware State University has initiated a two-phase well water testing/education program in the state. In addition, to providing free water testing, we are also analyzing the water quality data in light of the responses from a survey instrument administered to the well owners at the time the samples are collected with the intention of better targeting our future educational efforts.

Preliminary Results

Based on the data collected, we see that more than 15% of the water samples contained coliform bacteria and more than 30% of the tested samples exceeded the EPA's MCLG of 10 ppm for nitrate. The majority of the respondents (>75%) are age 45 or older and more than half of them hold college degrees. Further, more than 66% of the households surveyed have no children currently living at home. Although our data is limited by the actual numbers of samples we have been able to collect so far, it does indicate that there are potentially serious issues facing our small, underserved farmers in Delaware.



Implementation Constraints

Notwithstanding the success of Delaware State University's Small Farm Technical Assistance and Outreach Program, we have had great difficulty getting buy-in from our existing clientele for this program. Reasons for this apparent reluctance to participate are thought to include:

- Fear of reprisal, should EPA drinking water standards be exceeded
- A 'why change what isn't broken' philosophy of limited resource clientele
- Lack of knowledge as to the potential health risks of having contaminated drinking water

Continuation Plans

Collaborative arrangements have been made with other scientists at Delaware State University to ensure that the water testing phase of the project is successful. During the next 12 months, 50 duplicate samples per county (150 samples total) are going to be collected and analyzed. As indicated previously, water quality data along with responses from a survey instrument administered to the well owners at the time the samples are collected will be used to target our educational efforts. Planned efforts to reach underserved, limited resource well owners include distribution of informational cards in English and Spanish, PSAs and site visits by DSU Small Farm Technical Assistance and Outreach Program agents and affiliated USDA-NRCS personnel.

Acknowledgements

Without the help of numerous individuals, this project would not be possible. I would particularly like to thank John Clendaniel and Dwight Meyer, DSU Small Farm Technical Assistance and Outreach Program agents, for their assistance in collecting water samples, Dr. Andrew Lloyd for performing the microbiological analysis, Dr. Mingxin Guo for conducting the chemical analysis and Dr. Dyremple Marsh for his continued support and encouragement. Funding for this project was provided by the Mid-Atlantic Regional Water Quality Program through a grant from the United States Department of Agriculture.

References

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