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SWIGG Study Update – Identifying Sources of Fecal Contamination in Private Wells in Lafayette, Grant, and Iowa Counties

MADISON — The Southwest Wisconsin Groundwater and Geology Study of Grant, Iowa, and Lafayette Counties is halfway through its second phase: identifying fecal sources of contamination in private wells. Samples were collected in mid-August 2019 from 34 private wells, which were selected at random from those found earlier in the study to be contaminated with coliform bacteria or nitrate above the drinking water standard.

Samples were analyzed for specific viruses and bacteria that indicate fecal contamination from human wastewater or livestock manure. Not all of these viruses and bacteria are capable of causing illness.

Out of 34 wells sampled, which had been found to be contaminated earlier in the study, fecal contamination was found in 25 wells. There was evidence of both human and livestock sources, including cattle and swine manure. The percentage of contaminated wells from this sampling event is not a region-wide rate because the sampling focused on wells that were found to be contaminated earlier in the study.

Pathogens such as *Salmonella* and *Cryptosporidium* were also detected in 19 of the 34 sampled wells. Researchers have not calculated the health risk for these results, which will vary based on the specific pathogen, its concentration, and the health of the person that drinks the water.

It's too soon to assess which contamination source is more prevalent since they can vary seasonally. The percentage of wells that test positive is also expected to differ as weather and land use change over time.

Different wells will be randomly selected for future sampling rounds and results will be released when they are available. The research team will also look for correlations between water quality, geology, and well construction. The study's final report is expected by the end of 2020.

"Making sure our drinking water is clean and safe is a shared community responsibility," said farmer Jim Winn, chairman of the Lafayette Ag Stewardship Alliance, a farmer-led watershed conservation group. "The Lafayette Ag Stewardship Alliance's financial support for this study demonstrates agriculture's commitment to continuous improvement in conservation practices."

The study was initiated by Grant, Iowa, and Lafayette Counties in collaboration with researchers from the U.S. Department of Agriculture, the Wisconsin Geological and Natural History Survey-UW-Madison Division of Extension, and the U.S. Geological Survey. Support for the study comes from the counties and agencies involved, the Lafayette Ag Stewardship Alliance, the Iowa County Uplands Watershed Group and donations from Lafayette county citizens.