

Arsenic in Private Well Water



RESEARCH

Insights

Arsenic occurs naturally in Iowa's groundwater due to the state's diverse landscape and geology. Because arsenic is colorless, tasteless, and odorless, it cannot be detected without testing. Drinking water with elevated arsenic levels over a long period of time can pose serious health risks.

Iowa INSIGHT provides localized, county-level data to help homeowners, public health professionals, and decision-makers better understand their arsenic risks. This research identifies monitoring gaps for arsenic in private wells and provides targeted testing to support prevention strategies.



[IHR.UIOWA.EDU/ARSENIC-PRIVATE-WELL-WATER](https://ihr.uiowa.edu/arsenic-private-well-water)

About Iowa INSIGHT

The **Iowa Integrated Network for Science, Information, and Geospatial Health Tracking** supports this research. The program is dedicated to understanding the impacts of environmental exposures on human health, prioritizing cancer, maternal and newborn health, and autism.

Iowa INSIGHT is a collaborative effort between the **Center for Health Effects of Environmental Contamination and IIHR—Hydroscience and Engineering at the University of Iowa**. A generous \$5 million founding gift from Sharon and Kyle Krause supports Iowa INSIGHT.



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Arsenic risk in Iowa

- **About 11% of Iowa wells that have been tested exceed the 10 µg/L maximum contamination level for arsenic under the Safe Drinking Water Act (Figure 1).** This water is unsafe to drink. Another 8.4% of Iowa wells fall between 5-10 µg/L, where emerging research suggests that elevated health risks may exist.
- **North central Iowa shows the highest instances of well water exceeding EPA limits for arsenic (Figure 1)** due to naturally occurring arsenic in the subsurface geology.
- Several counties have limited arsenic testing data, including Mitchell, Floyd, Plymouth, Jones, Cedar, and Benton (Figure 2). **This is particularly concerning because these counties border areas where well testing has frequently identified elevated and unsafe arsenic levels.**

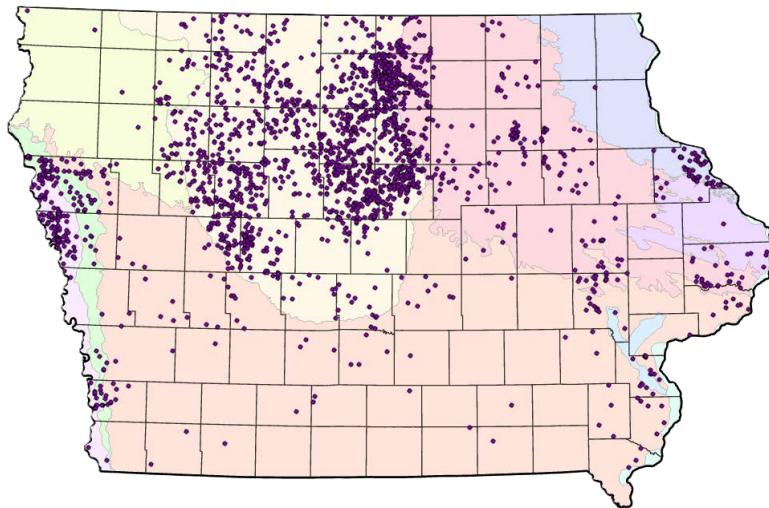


Figure 1. Location of private wells with at least one water sample testing at or above the EPA's maximum contaminant level for arsenic of 10 µg/L. NOTE: Buchanan County data from 2016 are not shown because of potential data quality concerns. Also shown, in color, are Iowa's major landform regions.

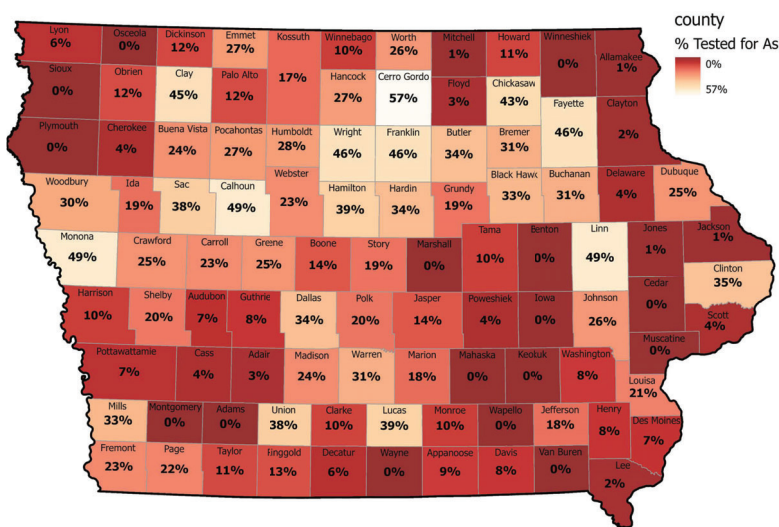


Figure 2. The percentage of registered private wells for each county that have an associated nitrate test result but not an arsenic test result between 2014–2024. Darker red counties are those with more wells tested for nitrate only, rather than for both nitrate and arsenic.



Recommendations for decision-makers

- Increase funding for the Private Well Grants Program to expand access to contaminant testing for Iowa well owners. Counties already testing wells for nitrate can add arsenic testing by collecting one extra water sample.
- Support proactive outreach by public health agencies to encourage private well testing for arsenic, especially in counties where little testing has been done.
- Enable counties to implement local policies and educational initiatives that raise awareness of arsenic risks in private wells.
- Provide financial incentives for well users to install in-home treatment systems to remove arsenic from their drinking water.



**Request a free
arsenic home water
testing kit.**

Iowa INSIGHT can test your well water for arsenic and other trace metal contaminants. If you drink well water and live in one of the six at-risk counties with limited testing data (**Mitchell, Floyd, Cedar, Jones, Benton, and Plymouth**), you are eligible for free testing through Iowa INSIGHT.

SCAN FOR FREE TESTING



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