Nicollet County: Final Overview of Nitrates Levels in Private Wells (2018-2019)

The Minnesota Department of Agriculture (MDA) determines current nitrate-nitrogen concentrations in private wells, on a township scale, through the Township Testing Program. The MDA has identified townships throughout the state that are vulnerable to groundwater contamination and have significant row crop production. More than 90,000 private well owners have been offered nitrate testing in 344 townships since 2013.

Each selected township is offered testing in two steps, the “initial” sampling and the “follow-up” sampling. In the initial sampling, all township homeowners using private wells are sent a nitrate test kit. If nitrate is detected in their initial sample, the homeowner is offered a follow-up nitrate test, pesticide test and well site visit. Trained MDA staff visit willing homeowners to resample the well and then conduct a site assessment. The assessment helps to identify possible non-fertilizer sources of nitrate and to see the condition of the well. A well with construction problems may be more susceptible to contamination.

The MDA and Nicollet Soil and Water Conservation District (SWCD) worked together to select one township and implement the nitrate testing project. Ridgely was the only township selected for testing. The initial sampling in Nicollet County started in 2018 and follow-up sampling ended in 2019.

Results
Two datasets, “Initial” and “Final”, are used to evaluate nitrate in private wells. The initial dataset represents private well drinking water regardless of the potential source of nitrate. The final database was formed through an assessment process to evaluate wells. In the assessment, wells that had nitrate-nitrogen results over 5 mg/L were removed from the initial dataset to form the final dataset if a potential non-fertilizer source or well problem was identified, there was insufficient information on the construction or condition of the well, or for other reasons which are outlined in the full report (see Appendix E for details). The final dataset represents wells with nitrate attributed to the use of fertilizer. The initial dataset for Nicollet County contains 26 wells; the final dataset contains 22 wells. A total of four wells (15.4%) were removed.

The results from the initial and final well datasets are summarized in the table and figures below. In the initial and final dataset Ridgely Township had more than 10% of the wells over the Health Risk Limit of 10 mg/L of nitrate-nitrogen (map below). The final percent of wells over the Health Risk Limit in Ridgely township was 13.6%. The Nicollet County Final Report will be available on the MDA website in 2021: www.mda.state.mn.us/townshiptesting.

Next steps
The MDA uses the TTP data and assessment process and prioritization guidelines in the NFMP to determine next steps. It is MDA’s intent to implement the voluntary aspects of the NFMP in townships with elevated nitrate with the highest priority placed on areas with high sampling results. Find more information about the NFMP on the MDA website at www.mda.state.mn.us/nfmp.

Funding for this project is provided by the Clean Water, Land and Legacy Amendment

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### Table: Nicollet County Private Well Nitrate Results

<table>
<thead>
<tr>
<th>Township</th>
<th>Initial Well Dataset</th>
<th>Final Well Dataset</th>
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<tbody>
<tr>
<td></td>
<td>Total Wells*</td>
<td>Percent of Wells ≥10 mg/L Nitrate-Nitrogen</td>
</tr>
<tr>
<td>Ridgely</td>
<td>26</td>
<td>19.2%</td>
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</table>

* All well types included.

### Figure: Nicollet County Initial and Final Well Dataset Map

In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651-201-6000. TTY users can call the Minnesota Relay Service at 711. The MDA is an equal opportunity employer and provider.