

# Nitrate Testing Final Results for Private Wells

## Results as of May 2022



The Minnesota Department of Agriculture (MDA) has designed a Township Testing Program to determine nitrate-nitrogen concentrations in private wells. Townships are initially selected if 30% of the township is vulnerable to groundwater contamination and 20% is in row crop production. The MDA uses the results to prioritize future work to minimize potential sources of nitrate pollution in the state's groundwater.

Table 1: Final Township Testing Results<sup>1</sup>

County	Number of Townships Tested	Final Well Dataset	Number of Townships with Less than 20 Wells <sup>3</sup>	Number of Townships with Wells Over the Health Risk Limit (>10 mg/L Nitrate-N) (Listed by percentage of wells exceeding the health risk limit.)					
				<5%	5-9%	10-19%	20-29%	30-39%	≥40% <sup>2</sup>
Becker	3	183	0	0	2	1	0	0	0
Benton	4	690	0	2	1	1	0	0	0
Big Stone <sup>3</sup>	3	82	1	2	0	0	0	0	0
Blue Earth	5	625	0	5	0	0	0	0	0
Brown	3	94	0	3	0	0	0	0	0
Carver	1	157	0	1	0	0	0	0	0
Chippewa <sup>3</sup>	3	151	1	1	1	0	0	0	0
Chisago	2	362	0	2	0	0	0	0	0
Clay <sup>3</sup>	11	484	1	10	0	0	0	0	0
Cottonwood <sup>3</sup>	4	27	4	0	0	0	0	0	0
Dakota <sup>3</sup>	15	1,179	1	3	3	2	3	2	1
Dodge	7	588	0	7	0	0	0	0	0
Douglas	9	1,826	0	9	0	0	0	0	0
Faribault	3	132	0	3	0	0	0	0	0
Fillmore	24	1,070	0	13	7	3	1	0	0
Freeborn	2	71	0	2	0	0	0	0	0
Goodhue	22	1,713	0	16	4	2	0	0	0
Houston	10	425	0	5	0	4	1	0	0
Hubbard	6	1,048	0	1	3	2	0	0	0
Kanabec	1	111	0	1	0	0	0	0	0
Kandiyohi	4	300	0	4	0	0	0	0	0
Lac Qui Parle <sup>3</sup>	5	51	5	0	0	0	0	0	0
Le Sueur <sup>3</sup>	2	201	1	1	0	0	0	0	0
Lincoln <sup>3</sup>	1	3	1	0	0	0	0	0	0
Lyon <sup>3</sup>	2	34	1	1	0	0	0	0	0
Meeker	2	240	0	2	0	0	0	0	0
Morrison	11	1,105	0	2	6	2	0	0	1
Mower <sup>3</sup>	12	721	1	8	2	1	0	0	0
Nicollet	1	22	0	0	0	1	0	0	0
Nobles <sup>3,4</sup>	4	10	4	0	0	0	0	0	0
Olmsted	11	923	0	10	0	1	0	0	0
Otter Tail	32	4,366	0	24	7	1	0	0	0

*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.*

County	Number of Townships Tested	Final Well Dataset	Number of Townships with Less than 20 Wells <sup>3</sup>	Number of Townships with Wells Over the Health Risk Limit ( $\geq 10$ mg/L Nitrate-N) (Listed by percentage of wells exceeding the health risk limit.)					
				<5%	5-9%	10-19%	20-29%	30-39%	$\geq 40\%$ <sup>2</sup>
Pipestone <sup>3</sup>	9	47	9	0	0	0	0	0	0
Polk <sup>3</sup>	5	139	3	2	0	0	0	0	0
Pope <sup>3</sup>	6	283	2	4	0	0	0	0	0
Redwood <sup>3</sup>	1	11	1	0	0	0	0	0	0
Rice	4	428	0	3	1	0	0	0	0
Rock <sup>3</sup>	7	59	7	0	0	0	0	0	0
Scott	4	458	0	4	0	0	0	0	0
Sherburne	6	1,993	0	0	4	2	0	0	0
Stearns <sup>3</sup>	14	1,788	1	7	5	1	0	0	0
Steele	4	258	0	4	0	0	0	0	0
Swift <sup>3</sup>	11	182	7	4	0	0	0	0	0
Todd	9	760	0	6	3	0	0	0	0
Wabasha	14	827	0	4	5	5	0	0	0
Wadena	4	222	0	1	2	1	0	0	0
Washington	2	441	0	0	1	0	1	0	0
Watsonwan	1	31	0	1	0	0	0	0	0
Wright	5	1,280	0	5	0	0	0	0	0
Winona	13	731	0	6	3	3	0	0	1
<b>Total</b>	<b>344</b>	<b>28,932</b>	<b>51</b>	<b>189</b>	<b>60</b>	<b>33</b>	<b>6</b>	<b>2</b>	<b>3</b>

<sup>1</sup> The initial township testing results include data from all wells initially tested, regardless of nitrogen source or the condition of the well. Final results are determined using two rounds of sampling and a process to remove wells with construction concerns, insufficient construction information and those near potential non-fertilizer sources of nitrate. In many cases wells are removed from the final data set because homeowners didn't participate in the second round of testing. Final results represent wells that are potentially impacted by a fertilizer source.

<sup>2</sup> Additional information for these townships is available below in Table 2.

<sup>3</sup> Some townships in the county have less than 20 wells, which MDA considers inadequate to characterize a township for the purposes of the Minnesota Nitrogen Fertilizer Management Plan (NFMP).

<sup>4</sup> One township in Nobles County (Grand Prairie Township) has no wells remaining in the final well dataset.

Table 2: Townships with > 40% of Wells Exceeding the Health Risk Limit (> 10 mg/L Nitrate-N)

**Final Township Testing Results**

County	Township	Years Sampled (initial, follow-up)	Total Wells	Number of Wells $\geq 10$ mg/L Nitrate-N	Percentage of Wells $\geq 10$ mg/L Nitrate-N
Dakota	Marshan	2013, 2015	95	42	44.2%
Morrison	Agram	2013, 2015	93	44	47.3%
Winona	Fremont	2016, 2017	28	12	42.9%

**Additional Information**

Township Testing Program summary and county reports: [www.mda.state.mn.us/townshiptesting](http://www.mda.state.mn.us/townshiptesting). Minnesota Nitrogen Fertilizer Management Plan (NFMP): To learn more about the NFMP, the state's blueprint for preventing or minimizing impacts of nitrogen fertilizer on groundwater, visit: [www.mda.state.mn.us/nfmp](http://www.mda.state.mn.us/nfmp). Funding for this project is provided by the Clean Water, Land and Legacy Amendment