

## Water Testing Tips for Maine Produce Farms

**Accredited labs in Maine as of 6/2025:** Compiled from the All Accredited Laboratories Excel spreadsheet on the Maine Division of Environmental and Community Health website:  
<https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml>

A & L Laboratory (free shipping locations on website)	Auburn	784-5354
Clear Water Laboratories	Newport	368-5786
Katahdin Analytical Services	Scarborough	874-2400
Nelson Analytical Testing Laboratory	Kennebunk	467-3478
State of Maine, Health and Environmental Testing	Augusta	287-2727
Maine Laboratories	Norridgewock	518-8030
Maine Coast Lab	Wiscasset	882-5476
Maine Environmental Laboratory	Yarmouth	846-6569
Northeast Laboratory Services	Westbrook	873-7711
Northeast Laboratory Services	Winslow	873-7711
Mi'Kmaq Environmental Laboratory	Presque Isle	764-4001

### WHICH TEST DO I REQUEST?

**Pre-harvest water** (e.g., irrigation, pesticide application, etc.) does not need to be tested for compliance with the **FSMA Produce Safety Rule (PSR)**, but it is helpful for conducting an agricultural water assessment and is required for **third-party food safety audits (USDA GAP)**. Let the lab know that you are testing irrigation/farm water and that *E. coli* will need to be **quantified (MPN/100mL)**. Farms subject to the **FSMA PSR** should verify the lab uses the IDEXX **Colilert** Quanti-Tray/2000 standard method. The lab will likely need to send a test kit with a foam cooler and specific instructions for shipping on ice. There are other **FSMA PSA** approved methods, but it doesn't appear any labs in Maine are using them. A well source that does not meet drinking water standards due to quantifiable *E. coli* may be suitable for pre-harvest water use.

**Drinking water** may need to be tested for potability to meet Worker Protection Standards for **USDA GAP**. This test may be called Food License / Safety and will test for **Presences/Absence (P/A)** of Coliform and *E. coli* bacteria; and quantify Nitrate, and Nitrite.

**Harvest and post-harvest water** (e.g., hand/equipment/produce washing, ice manufacture, etc.) must have zero *E. coli* in 100mL. The cheapest way to test for zero *E. coli* is with a Presence/Absence (P/A) test which does not need to be shipped on ice. The lab may use IDEXX **Colisure** (P/A only) or **Colilert** (P/A or quantity) methods; both are method SM 9223 B.

**SAMPLING:** Follow the lab's sampling instructions. The sample may need to be received on ice. Confirm the sample drop-off location and that the lab will receive the sample within the required sample time and temperature parameters to avoid having to resample. There is likely a best time of the day to pull a sample and drop it off. Iced samples likely need to be received within 24 hours. Samples should be pulled from where the water is used. Faucet screens should be removed, the faucet sanitized with a bleach solution or isopropyl alcohol (allow a few minutes contact time), run the water for a few minutes before collecting the sample to flush away any sanitizer and ensure the sample is from the water source, not water that has been sitting in pipes.

**SURFACE WATER: Third-party audits (USDA GAP)** require surface water sources to be tested 3 times a year during the growing season when the source is in use. The test must quantify generic *E. coli* even if drip irrigation is used and/or the crop is not subject to the **FSMA PSR** because it is rarely consumed raw (potatoes, etc.). The best science currently available indicating water safety outside of drinking water uses is the EPA recreational water standard of 126 MPN/100mL, which is based on illness rates. Best practice is for the **geometric mean** of the 3 water tests to be below 126 or otherwise mitigated through water application method (changing to drip irrigation) or microbial die-off between last water application and harvest. Calculating the **geometric mean** allows for more variability than the **average**. **USDA GAP** does not specify a safe level of generic *E. coli* but requires the farm to document what they determine to be acceptable in their food safety plan. USDA will make its own determination based on the specific use of the water.

**HARVEST/POST-HARVEST WATER: Third-party audits (USDA GAP)** require ground water sources to be tested once a year. **FSMA PSR** requires 4 tests in 1 year to build a profile with annual testing thereafter if all results are zero or Absent for *E. coli*. Surface water may not be used unless treated/verified/monitored to maintain zero *E. coli*. Groundwater sources that are not adequately protected will likely need to be shocked to get a sampling result of zero *E. coli*. Having to frequently shock your well is an indicator of an unsafe water source.

**NOT SUBJECT TO FSMA PSR OR NOT PARTICIPATING IN A THIRD-PARTY AUDIT?** We encourage everyone to know the quality of the water they use. It's your responsibility to ensure the food you offer for public consumption is safe.

**TESTING COST, EXAMPLE FOR HARVEST/POST-HARVEST WATER:** Let's say you have a well that you tested for **USDA GAP**, which is also a drinking water source. You spent about \$60 for the Food License/ Safety test, and your results came back Absent for *E. coli*. To build the water profile for the **FSMA PSR** you would need 3 more P/A *E. coli* tests costing about \$30 each for a total testing cost of \$150 to build the water source profile. Provided none of the profile test results came back Present for *E. coli*, an annual \$60 test would satisfy **USDA GAP** and **FSMA PSR** requirements for subsequent years. **FSMA PSR** requires a water profile to be done any time a test comes back Present for *E. coli* to ensure effective corrective action was taken, and the water source is reliably safe.

