

Maine Produce Farm Water Testing Tips

Accredited labs in Maine as of 4/2024: This list has been compiled from the Maine Division of Environmental and Community Health PDF of In-State Maine Accredited Commercial Laboratories. The PDF references an Excel spreadsheet which is a complete list of accredited laboratories nationally. <https://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtml>

A & L Laboratory	Auburn	784-5354
*Numerous free shipping locations throughout Maine. Check their website for current list.		
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

WHICH TEST DO I REQUEST?

1. Pre-harvest water (irrigation, pesticide application, etc.) does not need to be tested for compliance with the FSMA Produce Safety Rule (PSR) but is helpful for conducting an agricultural water assessment and is required for third-party food safety audits (GAP). Let the lab know that it is a test for irrigation/farm water. *E. coli* will need to be quantified (MPN/100mL). Farms subject to the Produce Safety Rule should verify the lab uses the IDEXX **Colilert** Quanti-Tray/2000 standard method (SM 9223 B). The lab will likely need to send a test kit with a foam cooler for shipping and specific instructions. There are other FSMA PSA approved methods, but it doesn't appear any labs in Maine are using them.
2. Drinking water may need to be tested for potability to meet Worker Protection Standards. This test may be called Food License / Safety and will test for Presences/Absence of Coliform/*E. coli* bacteria, Nitrate, and Nitrite.
3. Harvest and post-harvest water (hand/equipment/produce washing, ice manufacture, etc.) needs to have 0 *E. coli*. The cheapest way to test for 0 *E. coli* is with a Presence/Absence test. The lab may use IDEXX **Colisure** method SM 9223 B. The **Colilert** method can be used for Presence/Absence as well, but the **Colisure** method can't be used for MPN/100mL results. Presence/Absence tests do not need to be shipped on ice.

*There are other testing methods that meet FSMA PSR requirements, but the Maine Division of Environmental and Community Health spreadsheet did not list any accredited labs using other methods in Maine.

SAMPLING: Follow the lab's sampling instructions. Samples may need to be received on ice. Confirm that the lab will receive the sample within the required sample time and temperature parameters to avoid having to sample again. There is likely a best time of the day to pull a sample and drop it off. Confirm the sample drop off location. 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 bleach solution or isopropyl alcohol (allow a few minutes contact time), allow the water to run 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 (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*. GAP does not differentiate between water used on crops that are consumed raw and crops that will be cooked before consumption. The EPA recreational water standard is 126 MPN/100mL. This is the best science currently available (based on illness rates) indicating water safety outside of drinking water uses. GAP does not specify a safe level of generic *E. coli*. The best practice is for the average of the 3 water tests to be below 126 or otherwise mitigated through application or handling practices.

HARVEST/POST-HARVEST WATER: Third-party audits (GAP) require ground water sources to be tested once/year. Surface water may not be used unless treated/verified/monitored to maintain 0 *E. coli*. FSMA PSR required 4 tests in 1 year to build a profile with annual testing thereafter if all results are 0 or Absent for *E. coli*. Ground water sources that are not adequately protected will likely need to be shocked to get a sampling result of 0 *E. coli*. This is an indicator of an unsafe source.

NOT SUBJECT TO FSMA PSR OR PARTICIPATING IN A THIRD-PARTY AUDIT (GAP)? Maine Department of Agriculture, Conservation & Forestry, Quality Assurance & Regulations staff will not be checking for water tests, but a different agency or division might. For instance, H2A worker programs. It is recommended that all farms test their water enough to have a rough idea of the water quality they are working with.

HARVEST/POST-HARVEST EXAMPLE: Let's say you have a well that you tested for GAP which is also a drinking water source. You spent about \$60, and your results came back Absent for *E. coli*. To build the water profile for the FSMA PSR you would have to do 3 more Present/Absent *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 with *E. coli*, an annual \$60 test would satisfy GAP and FSMA PSR requirements. FSMA PSR requires a water profile to be done any time a test comes back with *E. coli* to ensure an effective corrective action was taken and the water source is reliably safe.