Microbial Water Testing Information

South Dakota Produce Growers

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Water Testing

SDSU Extension is conducting free microbial water analysis for produce growers using the IDEXX Colilert Test Kit Quanti-Tray 2000 for generic Escherichia coli quantification, which is one of the methods that is acceptable to the FDA under the Food Safety Modernization Act (FSMA) Produce Safety Rule water testing requirements. These results are also accepted by USDA GAP/GHP auditors. This FREE testing is available to South Dakota produce growers until the generous grant funds paying for this testing have been spent. In addition to regulatory and marketplace requirements, microbial water testing is important for produce growers to know the quality of their water to help ensure the safety of the fruits, vegetables, and herbs they produce.

Sampling

Water samples will be collected by the grower following the procedure outlined below in the provided water sampling bottles. Please contact Haley Eggebrecht Haley.Eggebrecht@sdstate.edu (tel: 605-688-4117) if you need empty sample bottles.

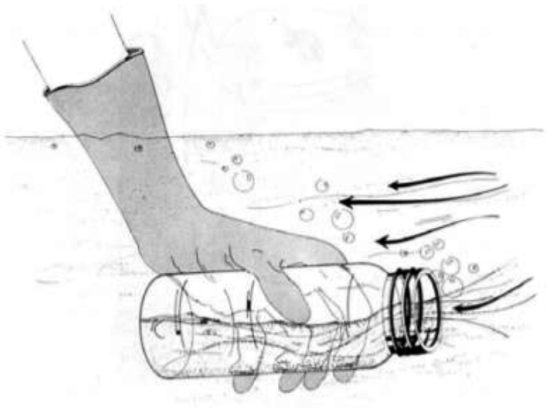
Delivery

South Dakota growers can deliver water samples to the SDSU Water and Environmental Engineering Research Center (WEERC) in 103 Crothers Engineering Hall (1151 8th St., Brookings, SD 57007).

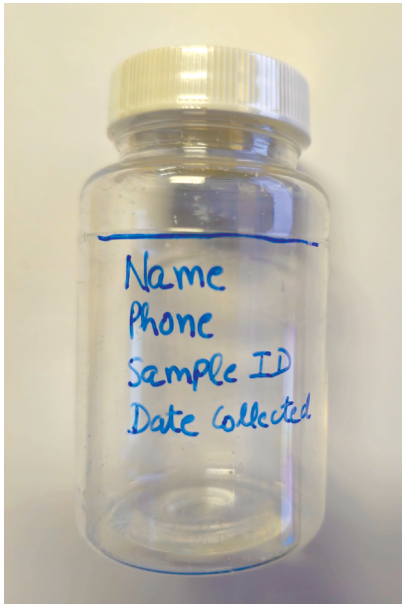
Water samples should be placed on ice and dropped off or it can be mailed to WEERC, SCEH 103, Box 2219, Brookings, SD 57007 so that they will arrive on ice at the SDSU laboratory within 24 hours of collection. Please e-mail Robert.Sachen@sdstate.edu to notify the laboratory that samples are being sent. When collecting and mailing, please be sure the samples will arrive at the laboratory on a Monday Thursday as samples cannot be received on weekends. You can call the laboratory at 605-688-6308 when you arrive at Crothers Engineering Hall (CEH) if needed. To drop off your sample bottles, you can park in the alley on the south side of CEH and go in the gray double doors just north of the blue metal sculpture that is just north of the SDSU Thompson Center building.

Water Sampling Procedure

1. Complete the SDSU Extension Microbial Water Testing Submission Form.
2. Label collection bottle with your name, phone number, sample identity (i.e. west well, north pond, etc.), and the date that was collected.
3. Wash your hands thoroughly with soap and warm water. Gloves are not required.
4. If using a water sampling stick, place the provided water sample bottle onto it.
5. Remove the lid from the container with care to not touch the inside of the container or lid. **Do not rinse the sample container.** There will be a white powder in each bottle to counteract any chlorine that may be present in the water for testing purposes.
6. For a surface water source, dip the sample bottle down to a depth of 6-12 inches. If water is static, create a current by moving the sample bottle horizontally away from your body under water as shown in the image below.
7. Move the top of the bottle slightly upward to allow air to exit.
8. For well water, run the pump for a few minutes to make sure the water in well riser is not sampled. Make sure the sample represents the current well water.
9. Fill the water a little past the 100 mL fill line on the bottle.
10. Cap the sample container, again with care to not touch the inside of the lid or container.
11. Ensure that the labeling remains on the bottle, as described above.
12. Place the sample bottle inside a sealable plastic bag and store in a cooler (<50°F), but do NOT freeze the samples.
13. Deliver the samples on ice to the address listed above so that they will arrive within 24 hours of sampling.



Water sampling technique for still surface water.



Fill bottle to line and label as described.

Results

The sample analysis results will be used only for research purposes and if reported, would only be reported in scientific journals and scientific meetings in aggregate (NO individual test results shared outside the research team). You will receive your results (the level of coliforms and generic *E. coli* in the water) within one week of the sample arriving at the laboratory.

References/resources available

This document is based on a fact sheet that was developed by the author when she worked for Kansas State University and the University of Missouri.

Other resources available:

- Kansas State University/University of Missouri Extension Produce Safety website: ksre.k-state.edu/foodsafety/produce/
- FDA'S FSMA Website: fda.gov/food

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