

ARKANSAS PRODUCE SAFETY



Microbial Water Quality Profile (MWQP): How to Collect Your Water Samples

To create an accurate MWQP for your water sources (ground or surface water), **you need to properly collect your water samples.** The steps slightly vary depending on your water sources and location. Follow the guide below on how to properly collect your water samples before sending them to the water testing laboratories (see [Microbial Water Quality Profile\(MWQP\): Water Testing Labs for Arkansas Growers](#)) for analysis.

Before you start, gather all the supplies needed:



Sterile bottle – provided by a public or private laboratory, a [local county extension office](#), or a [local county health unit](#)

Nitrile or latex gloves



Permanent marker
(e.g., Sharpie)



Cooler and ice or ice packs (check recommendation of the water testing laboratory, e.g., dry ice) – bacteria may degrade in route to testing; temperature control increases stability of the sample



Sample submission form or chain of custody –

obtained from the water testing laboratory



Alcohol wipe or bleach solution with paper towel

You might also need:



Extension pole – if collecting from the bank of surface water to avoid sediment contamination in your sample



Collection bottle^a (new, unused, bottle of water) – if you are testing water treated with chlorine



Water boot waders – if collecting in surface water



GROUND WATER SAMPLING METHOD



SURFACE WATER SAMPLING METHOD

Step 1	Wash your hands thoroughly with soap and water.			
Step 2	Put on nitrile or latex gloves.			
Step 3	With a permanent marker (e.g., Sharpie), label the sample container with your name, the type of sample (e.g., ground water or surface water), the location on the farm (e.g., Well #1 or Pond #1), and the date and time.			
Step 4	Select the tap you will sample from; if collecting from an indoor tap, avoid swing or swivel faucets if possible. Prepare the faucet ¹ :		Position yourself to collect the water sample ¹ :	
	If you want to test the quality of your well water:	If you want to test the quality of your entire system (well, plumbing, faucet components):	If you plan to wade into the waterbody:	If you plan to use an extension pole:
Step 5	Remove any screens, filters, aerators, or splash guards; these can trap bacteria. Thoroughly wipe the end of the tap with disinfectant for 1 or 2 minutes (using alcohol or bleach solution). Turn on water and leave running for at least 5 minutes; this flushes water from the well line or household plumbing so the water tested is from fresh well water.	Do NOT remove faucet components, do NOT disinfect the tap, and do NOT run water before collecting your sample.	Go to the collection site; face upstream or up current (the water should be moving toward you).	Stand on the stream bank next to the area where you will collect your water sample.

	GROUND WATER SAMPLING METHOD	SURFACE WATER SAMPLING METHOD	
Step 6	Reduce the flow rate to avoid splashing.	Wait a moment to allow time for any kicked-up sediment to settle to the bottom; be sure to avoid leaves, sticks, and other debris.	Wipe the extension pole with disinfectant then attach the sterile bottle to the pole.
Step 7	Remove the lid of the sterile bottle. Do NOT touch the inside of the container or lid. Do NOT lay the lid down. Do NOT rinse the sterile bottle.		
Step 8	Fill the sterile bottle to the indicated line (usually to the 100 mL line).	Tilt the opening of the sterile bottle down toward the water; dip straight down into the water until submerged a few inches from the surface. While submerged, tilt upright to fill to the indicated line of the sterile bottle. Remove the bottle from the water.	Extend the pole and submerge the sterile bottle into the water, then fill the sterile bottle to the indicated line. Bring the bottle back to you.
Step 9	Replace the lid tightly, and put the sterile bottle upright on ice up to the sample level in a cooler.		
Step 10	Complete the sample submission form or chain of custody and deliver as soon as possible to the water testing lab.		

^aIf you want to test your treated (chlorinated) water, the water testing lab will provide you with a specific sterile bottle that contains a sodium thiosulfate tablet or powder used to neutralize chlorine. In this case, the water sampling methods will vary slightly, and you will need to use an additional collection bottle. The collection bottle can be any type of new water bottle that has been emptied, but make sure to not contaminate it. Do NOT drink from the bottle. Do NOT touch the inside of the lid or bottle. Do NOT lay the lid down. You will use this bottle to collect your water sample after rinsing it three times with your water source and then transfer the water sample from the collection bottle to the sterile bottle.

This resource was created by Dr. Amanda Philyaw Perez, Dr. Natacha Cureau, Julia Fryer, and Rip Weaver. For more information, please contact the Local, Regional, and Safe Foods team at 501-671-2226.