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How to Sample: Collecting Water Samples is so Easy, Anyone can do it!

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ARKANSAS WATER
RESOURCES CENTER

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The Arkansas Water Resources Center (AWRC) runs a water quality lab that anyone can use to have their water sample tested. The AWRC Lab is certified for the analysis of water samples, but the quality (and meaningfulness) of the data generated by the Lab is also dependent on you – the client. This fact sheet provides you some general guidance on how to properly collect your water sample.

Sampling Container

All water samples should be collected in clean bottles. We recommend that you get clean bottles from your county extension office or from the Lab, if feasible. If this doesn't work, an alternative is to use a drinking water bottle. Here are some things to remember:

- Use a clean bottle.
- If you are purchasing a bottle, make sure that it is large enough; the lab usually needs a half liter or 16 oz. or more.
- Clearly label your bottle with a simple sample ID, which should match that on the sample submission form.
- If you are submitting multiple water samples, use a different sample ID on each of the bottles to make sure you know what bottle represents what water sample.

Get your clean sample bottle from the AWRC lab or county extension office.

Doing a Little Field Quality Control!

The bottle that you are using should already be clean – it either came from the Lab, extension office, or a bottle of water that you could drink. However, it is always a good practice to rinse the bottle with the water source you intend to sample.

1. Fill bottle roughly 1/4 full

2. Cap bottle tightly

3. Shake bottle vigorously

4. Pour out rinse water

5. Repeat the process two more times.

So, you just performed a little field quality control – we refer to this as field rinsing and it helps to minimize the potential for contamination. It helps make sure you have a sample that will generate good data for you. Now that your sample bottle is clean, you want to make sure that you don't contaminate it by touching the inside of the lid or bottle.

Triple rinsing your bottle with sample water before collecting your water sample will help reduce contamination.

Collecting a Water Sample

Now that you have labeled and cleaned your sample bottle, it is time to collect your water sample. Depending on what water source you are interested in testing, the sampling methods might vary some.

Streams

When sampling water from a stream, you want to collect from an area that is well mixed with visibly flowing water. The water in this area will be the most representative of the stream's water quality. Follow these guidelines when sampling from a stream.

1. Avoid contaminating your sample.
    - Sample upstream of where you entered the water.
    - Collect the sample facing upstream and away from you.
2. Always collect samples from a few inches below the surface of a stream to avoid debris on the surface of the water.
    - With the bottle held upside down, insert it into the water to the desired depth. When you turn it up right it will fill with water from that depth.
3. Stay Safe!
    - If the water is flowing too fast to safely collect the sample standing in the stream, collect the sample from the stream's edge, or attach the bottle on to a broom stick or longer pole to allow greater reach.

Avoid contaminating your sample by facing upstream when collecting.

Lakes and Ponds

When sampling lakes and ponds, you should follow similar steps as stream sampling.

1. Avoid contaminating your sample.
    - If you have a small shallow pond, you can wade in and collect the sample, but make sure that you allow any debris to settle before collecting.
    - If you don't want to wade in, attach your bottle to a broom stick or pole to extend your reach.
    - With bigger ponds or small lakes, having a boat may be useful for collecting your sample.
2. Collect your sample six to twelve inches below the surface (roughly the length of your forearm).
    - With the bottle held upside down, insert it into the water to the desired depth. When you turn it up right it will fill with water from that depth.

Where you collect your water sample from in a pond or lake will depend on what you want to know about your water quality and what you use the water for.

1. If you want to know the overall water quality of the pond, you should collect your water sample away from the edge and near the deepest spot.
2. If you use your pond or lake as the primary water source for your livestock or for irrigation, you should collect your sample from the area that you pump water from or your livestock have access to.
3. If you are concerned about the water quality of your aquaculture pond:
   - Collect your water sample away from the water source feeding the pond.
   - However, if you suspect your source water is to blame for poor water quality of the pond, you may need to collect from the source(s) as well.

Domestic

Generally, the water treatment plant tests the water leaving their facility to ensure that they are providing safe and clean drinking water to the public. But if you are not on municipal water or are concerned about the quality of water in your home you should follow these guidelines for collecting your water sample.

1. Swing type faucets, aerators, and or leaks are all potential sources of contamination.
   - Make sure you collect your sample from a faucet without moving parts and has had the aerator removed.
2. If testing the water for bacteria, disinfect the faucet with bleach or a flame.
3. If you are interested in the actual quality of the main source of water, run the water several minutes (up to 10 minutes) to clear the line before collecting your sample.
4. If your concern is the condition of your water pipes or storage tanks, take the sample within 3 or 4 seconds after you turn the water on. Some tests, such as maximum contamination for lead, require that water stand in the pipes overnight before being sampled.
   - Two separate water samples may be required to address water related problems due to plumbing and/or fixtures.
   - When submitting multiple samples, use a different sample ID on each of the bottles to make sure you know what bottle represents what.

Well Water

To get a sample representative of your well water, we recommend that you allow the pump to run for at least ten minutes to flush out the lines before rinsing your bottle and collecting your sample.

When submitting mutiple samples make sure each bottle has its own unique label

Sample Handling and Shipping

As water sits in the bottle some chemicals may change over time, so when the sample is tested at the lab the values measured may not accurately represent your water resource. You can help the lab ensure the measured values in your water sample are accurate by following these steps:

1. Keep your water sample cool.
    - Keeping the sample cool slows down the natural processes that are responsible for causing changes in your sample.
2. Get your sample to the lab ASAP!
    - Try to get your sample to the lab within 36 hours of collecting it.
    - Samples can be delivered directly to the lab Monday through Thursday, and Fridays before noon.
    - You can drop your sample off at your county Extension office.
    - You can also send your sample to the lab using overnight delivery.
3. Try to collect your water sample earlier in the week so that it arrives at the lab when someone is there to process it.
4. Make sure that you fill out the sample submission form and send it with your sample, so that lab personnel know what to analyze your sample for, and a check, unless you are paying with a credit card, then an invoice will be sent to you.

Make sure to include a completed sample submission form with your sample.

How to Cite This Fact Sheet

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