

Surface Water P Sampling: Growers' Guide

A good surface water sample is (1) uncontaminated and undiluted, (2) collected in an uncontaminated bottle, and (3) analyzed within 48 hours, or frozen. Samples are best taken from flowing water; if there is no flowing water, avoid edge effects by sampling $\geq 4''$ below the surface, and do not skim the bottom of the reservoir. Samples for total P are collected unfiltered, and samples for orthophosphate are filtered to 0.45 μm at the time of collection.

Before Collection: Request sample bottles (125mL and 250mL) from your lab. Know which control structure(s) or reservoir(s) you will sample from.

Materials:

125mL plastic bottle (for orthophosphate) for each sampling location

250mL plastic bottle (for total P) for each sampling location

waterproof marker for labeling bottles

syringe: 60mL syringe with luer lock fitting

filter: 0.45 μm cellulose membrane syringe filter with luer lock fitting

Collection from flowing water (best):

1. At your sampling location, label the lab's bottle with date, time, sample ID, type of sample (UF, unfiltered; F, filtered) then open it.
2. Triple-rinse: fill and empty the bottle 3 times using sample water from mid-depth of the flow.
 - a. For filtered sample, the triple-rinse is with filtered water: fill syringe with sample water, attach the filter, then push sample water through the syringe. Discard first 5 mL of filtered water.
3. Fill to the bottle shoulder, and replace the lid on the bottle.

Collection if you are sampling from standing water: Ensure water is deep enough that you can sample $\geq 4''$ below the water's surface, without skimming the bottom. If the water is not deep enough, sample from another location or at another time.

1. At your sampling location, label the lab's bottle with date, time, sample ID, type of sample (UF, unfiltered; F, filtered) then open it.
2. Triple-rinse sample bottle:
 - a. Unfiltered sample:
 - i. Turn the bottle upside-down and plunge it ≥ 4 inches below the water's surface to rinse with sample water. Empty the bottle an arm's length away from your collection point. Repeat 2 more times.

OR

- b. Filtered sample:
 - i. Fill syringe with sample water, attach the filter, then push sample water through the syringe. Discard first 5 mL of filtered water. Repeat 2 more times.
3. Using the same method (filtered or unfiltered) collect a water sample to the bottle shoulder, then replace the lid on the bottle.

After Collection:

Samples must be sent to the lab within 48 hours of collection, or frozen immediately and then transported to the lab frozen. Any certified lab will be able to perform the two phosphorous tests of interest. Mark on the lab's sample submittal form that you want analysis of

- Orthophosphate (the 125mL, filtered sample)
- Total P (the 250mL, unfiltered sample)

Keep records of your sampling location, date sample was collected, and the results the lab returns.