

Sampling Methods

Summary



Here are the best practices that will allow Berger to perform rigorous analyzes for any or all of these types of samples and get you the most representative results.

Proper sample identification is very important to ensure the adequate traceability of the results.

Growing Media

- Sample approximately one hour after the last water/fertilizer application;
- Remove a wedged-shaped sample from top to bottom excluding the upper and lower 1/2-1 inch OR a handful of mix from the middle (vertically) portion of the container;
- Ideally, combine 8-10 subsamples, thoroughly mixed together;
- Plug flats: exclude the top 1/8 inch and use the rest of the media;
- Follow the same procedure every time;
- Package the sample in a clearly labelled plastic bag.

Quantity needed:	Analysis	Type of sample	Volume of media needed
	SME	Used or unused growing media	1 L (approx. 4 cups)
	Density	Unused growing media	2 L (1/2 gallon)
	Particle size	Unused growing media	1 L (1/4 gallon)
	Complete characterization	Unused growing media	15 L (1/2 cubic foot)
	Mehlich-3	Mineral soil	500 mL (approx. 2 cups)
	Porosity	Unused growing media	8 L (2 gallons)
	Incubated pH	Unused growing media	1.5 L (6 cups)

Irrigation Water/Fertilizer Solution

- Use a clean, hermetic bottle (no traces of soap or other chemicals);
- Run the water or fertilizer solution for 5 min before sampling to clean the pipes;
- Rinse the bottle 2-3 times with the liquid you want to test;
- Fill the bottle and cap it quickly to avoid prolonged exposure to air;
- Different water sources or fertilizer solutions should be analyzed separately;
- Fertilizer solutions should be collected at the nozzle or the dripper;
- Label each bottle properly;
- Quantity needed: approximately 250 mL (1 cup).

Plant Tissue

- Sample should be representative of the crop or nutritional issue you wish to analyze;
- Select the most recently fully extended leaves or leaves with the nutritional issue;
- Sample several plants of the same variety or with the same issue and combine them;
- Unless it is for diagnostic purposes (sampled separately) avoid ill or odd looking leaves;
- Avoid tissue that is contaminated by pesticides or foliar sprays;
- Ship sample at the beginning of the week as much as possible;
- Do not allow tissue samples to freeze;
- Ship in clearly labeled **paper** bags;
- Quantity needed: 1-2 cups of plant material (about 30 to 50 medium-sized leaves).



Investigation and Troubleshooting

- Send entire plants in their pots;
- Select plants that display evident symptoms;
- Include healthy and unhealthy plants for comparison;
- Send as much information as possible about the situation (ask your sales representative about our troubleshooting form);
- Send pictures of the problem;
- Ship in a well-packaged cardboard box;
- Quantity needed: at least two plants (one healthy and one unhealthy).

Shipping Procedure

- 1-** If you are sending growing media for SME analysis, Tissue or water samples from the US, make sure to send the samples to the NCDA&CS Laboratory. For all other tests, you must send your samples to the Berger laboratories.
For samples sent to the NCDA&CS laboratory, make sure to use the correct forms (do not use the Berger forms)
- 2-** Fill out the analysis request form and include it with the sample/s. Protect it from water damage by placing it in an envelope or in a plastic Ziploc bag.
- 3-** Make sure every sample is bagged separately. The samples should be sealed properly to avoid any spillage. It may not be possible to analyze a sample that has spilled out.
- 4-** Label the parcel with the appropriate address below.
- 5-** Make sure you send your samples by using a rapid parcel delivery service (eg: U.P.S.).

Shipping from USA:

NCDA&CS Agronomic Division Laboratory
4300 Reedy Creek Rd, Raleigh NC
USA 27607

* SME, Water and Tissue samples only

Berger Laboratories
8822, Texas Highway 19 N, Sulphur Springs TX
USA 75482

Shipping from Canada:

Berger Laboratories
121 1^{er} rang, Saint-Modeste QC
Canada G0L 3W0

* If samples from outside Canada need to be sent to our Canadian laboratory, you must include the importation permit number with the parcel (Contact your sales representative or Berger Lab Support for more details).

** Send pictures or additional information to: labsupport@berger.ca

