

# Taking Plant Tissue Samples for Analytical Nutrient Testing

Following the recommended guidelines when you take samples for testing your own plants becomes critical for getting accurate results because the standards used for tissue sample analyses have been derived from samples taken from a specific part of the plant, at a specific stage of growth & development, along with a specified time of day, number of samples per plant, and number of plants to be sampled. **In other words, follow the guidelines for taking your samples as closely as possible and you will get the best results!**

**Here's what to do:** Whenever specific sampling instructions are not known and/or are not given, select the upper and most recently matured leaves. **For individual plants or small areas**, pick a variety of leaves to make **one to two full cups** of **wet** leaves. (10-12 fan leaves.) Younger plants may not have enough leaves to make 2 cups and still have enough to photosynthesize and continue growing correctly, so you would need to sample more young plants to get enough material to make up the needed sample size.

**All plant tissue should be delivered to the lab within 24 hours of collection.** Fresh plant material should not be placed in plastic bags unless there is a way to cool it. They should be put in paper bags instead. Whenever a plant cannot reach the lab within 24 hours, use a paper bag for shipment OR put it in plastic bags with a way to cool it to 41 degrees Fahrenheit (5 degrees Celcius).

When the crop or variety changes in a new section of field or greenhouse, a new and completely different sample should be collected only consisting of that particular crop or variety.

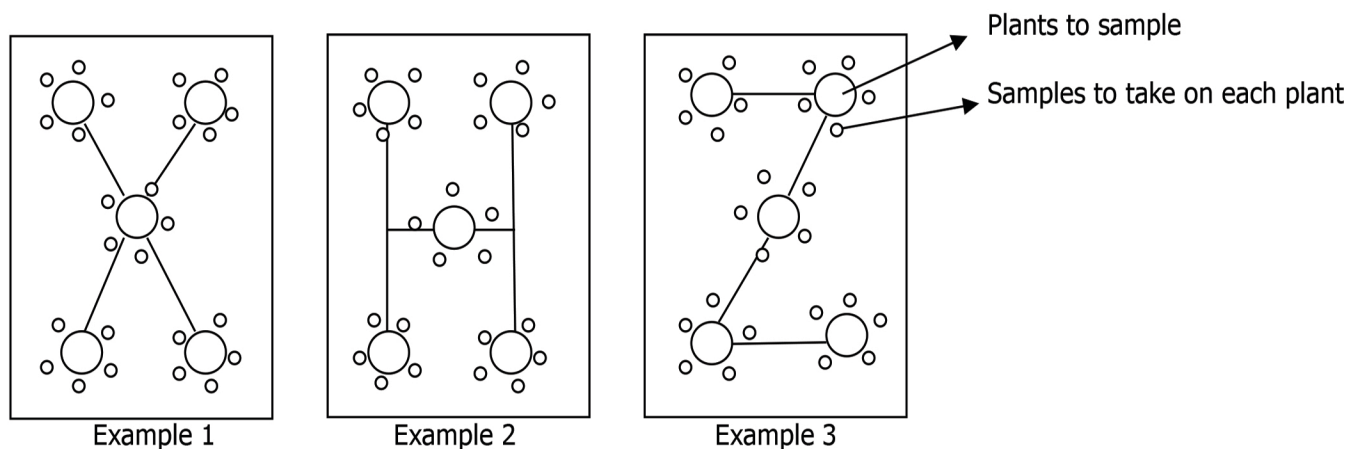
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There are actually more things **NOT** to do for good sampling technique. Keep the following in mind while taking samples:

What **NOT** to do:

- Do **not** select materials that have been under stress a long time (environmentally or nutritionally).
  - Do **not** select materials that are damaged physically by insects or other means or ones that are infested with disease; no dead, dying, damaged or diseased samples.
  - Do **not** select materials that are dirty with soil or dust or have had foliar sprays that have been recently applied.
  - Do **not** select leaves under a canopy and do not select border row plant leaves.
  - Do **not** allow your sample to freeze. Freezing will burst the cells and spill the nutrients & the cell's water content, which will alter your results.
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When sampling **large areas**, use a pattern to ensure diversity of your sample like these:



## Taking Water Samples for Analytical Nutrient Testing

When taking water samples, you can reuse an empty, plastic drinking water bottle (500 mL or 16.9 fl oz). Make sure it is empty and clean to start with.

Here is the procedure:

Rinse the bottle with the water you want to sample. Do **NOT** empty rinse water back into the main water supply you are sampling - dump it in a waste bucket or on the ground. Do **TWO rinses** like this before filling emptied water bottle with your sample water. Cap tightly. Place bottle with water sample in a gallon plastic bag and seal the bag.

Using a permanent marker, write your name, sample number, and general location or location code on each sample taken. Try to avoid extreme storage conditions prior to the sample getting to the lab - extreme heat or cold. Try to put the sample in the mail or bring into the store within 24 hours - the "fresher" the sample, the better.

**Please Note:** If you want to receive accurate nitrogen readings, please keep sample cooled until it reaches the lab. Use a cold pack or similar cooling methods in with the sample.

**Don't forget** to fill out your Lab Testing Information Sheet and include it with your sample before mailing or shipping.

## Taking Hydroponic Fertilizer Samples for Analytical Nutrient Testing

For fertilizer samples, mix up fertilizer in the water you use for your plants at working strength. Use the same method for filling the bottles as above, but rinse bottle with fertilizer solution instead of source water.

Write down the EC or ppm of this solution on the Lab Testing Information Sheet and include the sheet with your sample.

**Please Note:** If you want to receive accurate nitrogen readings, please keep solution cooled until it reaches the lab. Use a cold pack or similar cooling methods in with the sample.