

PETIOLE AND LEAF SAMPLING INSTRUCTIONS

Plant samples need to be **VERY SPECIFIC** because nutrient content of petioles and leaves vary with **LOCATION** of the leaf on the stalk. The **AGE** of the leaf also makes a big difference.

P - Petiole - Nutrients in the **SAP for future growth** that will be seen as the plant grows in 7 to 21 days.

L - Leaf – Nutrients that have been **utilized by the plant to date**.


Always inform the lab of the exact leaves sampled (young test different than old) so the proper standards of is a much better guide for fertilization. (One leaf per plant – exact same age and location for each of the composite sample.)

SIZE OF SAMPLE: Take 20 to 40 individual petioles (stems); numbers depend on size of leaf or stem. A larger sample results in too much volume in the lab and can result in sample segregation. – Too small results in poor aliquots. **BE SURE THERE IS ADEQUATE SAMPLE** (5% moisture[dry wt.]) after it is dried.

WHICH LEAVES: Take the most recent fully developed leaf. **PETIOLE:** For petiole sample, discard the leaf and send the stem. (Include a few typical leaves for observation.)


POTATO
Complete Nutrient Analysis
(Excluding petiole Nitrate & Phosphate)

All growth stages:
Submit entire 4th leaf including petiole and leaflets from 12-18 plants.



POTATO PETIOLE
Complete Nutrient Analysis
or Nitrate and Phosphate Analysis

All growth stages:
Remove leaflets from the petiole and submit only the petiole from the 4th leaf of 12-18 plants.



PLANT SAMPLE HANDLING: WASH samples gently before they wilt to remove any contaminants (dust-sweat). At least rinse with drinking water before bagging. When recently sprayed use a non-phosphate detergent (Ivory, Joy, etc. dishwashing liquid). Lightly rub the surface of each leaf (only rinse petioles - do not crush), rinse at least once in clean water. The last rinse should be distilled water, if possible. Handle with clean hands and place only on clean surfaces or in paper bags. A simple rinse is better than nothing!

BAG in paper so leaves/petioles can dry. Do not enclose in airtight plastic; punch holes if plastic must be used so they do not mold in transit to the lab. The first thing the lab must do is dry the leaves. The process of drying can be started as soon as leaves are washed by placing bags on dash of vehicle. **DO NOT CONTAMINATE.** DRY plant samples can be stored for quite some time without deterioration. Dry slowly (<100° F for 8 hours or longer). Use only low heat if any. (Air Conditioner exhaust - Vehicle dashboard - hair dryer, etc.)

IDENTIFICATION OF SAMPLE: should include date taken,

Effect of Petiole Position on Nutrient Concentration

Petiole Position	NO ₃ -N Nitrate (ppm)	P Phosphorus (%)	K Potassium (%)	Zn Zinc (ppm)
2	13000	.29	8.0	37
3	15100	.24	9.1	32
*4	15700	.22	9.7	25
5	18200	.20	9.7	23
6	19200	.19	9.9	19
7	19400	.17	10.0	19

* = petiole to collect for analysis.

size/age of plant, stage, size of fruit, growth condition, soil moisture level, insect or disease damage, production and fertilizer history, a copy of any previous soil tests, and any other observations that could influence growth. Include all information with the samples in the initial shipment to the lab. (Make sure to fill out the entire **Plant**

Analysis Information Sheet.)

For crop logging (series of tests) use up to a 6 digit ID – use same each time sampled.
Fill out a plant submittal form with date of planting, variety, address & ID's – leave date & field information blank to make copies for each sampling. Limit 6 samples for each report (sheet). (Include e-mail address for faster results)

TPSL --- MORE THAN JUST lab numbers for better crops.

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