
SAMPLING GUIDANCE

PHYTOPLASMA DETECTION from PALMS Date Palm Lethal Decline and Lethal Yellowing

(Adapted from U. of Florida/ IFAS document PP243 and sampling guidance)

Tools needed for sampling

1. Portable drill and long drill bit (at least 6 inches, preferably 5/16 dia.)
2. Portable torch (e.g. Propane torch) or any sterilizing equipment (e.g. Alcohol & lighter)
3. Squirt bottle or spray bottle with water
4. Sealable (qt. or gal.) plastic freezer bags (e.g. Ziploc bags)
5. Wooden dowel or wood golf tees – used to fill hole made from drill
6. Mallet or hammer

PROCEDURE

1. Sterilizing the drill bit. (NOTE: Procedure 1A or 1B should be done prior to sampling EACH palm)
 - a. Flame sterilization with propane torch method
 - i. Clean or brush off any debris on drill bit.
 - ii. Flame drill bit with torch to ensure the bit is sterilized.
 - iii. Cool drill bit with water from squirt/spray bottle.
 - b. Alcohol and flame sterilization method
 - i. After cleaning drill bit, dip the drill bit in 95% alcohol. Container should be appropriate length to coat entire drill bit with alcohol.
 - ii. Immediately flame the drill bit and wait for flame to die out.
 - iii. After fire is extinguished, cool bit with water from squirt/spray bottle.
2. Collecting the samples
 - a. LABEL plastic bags with details (e.g. Palm type, sampling date and location).
 - b. Bore a hole into the trunk of the palm.
 - c. It is recommended to drill out the first 0.5 - 1 inch and discard those shavings.
 - d. Shavings that appear discolored (reddish-brown) due to interior decay are less reliable than non-discolored samples. Deteriorated samples should be avoided (e.g. dead palms).
 - e. Collect the subsequent interior wood shavings in appropriate PLASTIC BAG. Take care to NOT physically contact sample to prevent contamination.
3. Sealing the bore hole
 - a. Insert golf tee or wooden dowel into bore hole.
 - b. Tap it with mallet or hammer until flush with the trunk. This will seal the hole and prevent an easy entry for a pest and/or an unwanted pathogen.
4. Handling and shipping to the Plant Clinic
 - a. Keep sample bags cool after sampling (e.g. ice chest or cooler with ice-packs or bags of ice). If using ice, please ensure that ice is double bags to prevent leaks which can contaminate the sample.

- b. DO NOT FREEZE sample and ship as soon as possible (preferably within 24 hours of sample collection).
- c. Ship sample by overnight courier or mail service. Ice is NOT necessary in shipping package. It is advisable to ship samples early in the week (Monday-Wednesday). There is no weekend delivery to university facilities.

5. Submission information

- a. Complete the Texas Plant Disease Diagnostic Lab form D1178 (<http://plantclinic.tamu.edu/forms/d1178/>). Please check specific test request OTHER, and specify *Lethal Decline* or *Phytoplasma*.
- b. The fee for a Phytoplasma Detection test is \$55 per sample.
- c. Put completed form and payment in a separate plastic bag. Include this bag with other bags containing palm shavings in a box for shipping.
- d. Ship to:
 - Texas Plant Disease Diagnostic Lab
 - 1500 Research Parkway, Suite A130
 - College Station, TX 77845
 - Attn: Palm analysis

Texas Plant Disease Diagnostic Laboratory
Texas A&M AgriLife Extension Service

1500 Research Parkway, Suite A130 | College Station, Texas 77845
Tel. 979.845.8032 | Fax. 979.845.6499 | <http://plantclinic.tamu.edu>
Email: plantclinic@ag.tamu.edu