

The University of Florida Plant Diagnostic Center (UFPDC) is a service provided to any Florida resident by the Institute of Food and Agricultural Sciences (IFAS), University of Florida in conjunction with the Cooperative Extension Service. The UFPDC is open from 9:00am-5:00pm Monday-Friday (except state holidays) and is located on the University of Florida campus at Gainesville. Submit sample and payment payable to:

University of Florida PDC
Bldg 1291, 2570 Hull Road
PO Box 110830
Gainesville, FL 32611-0830

Phone: (352) 392-1795
Email: PDC@IFAS.UFL.EDU
Website: plantpath.ifas.ufl.edu/extension/plant-diagnostic-center/

Call and talk with a diagnostician at the PDC BEFORE you collect a sample for submission. The diagnostician will recommend the appropriate type of sample and test(s) based on your description of the palm and its decline. We recommend sending a photo of the palm to PDC@IFAS.UFL.EDU for best results.

PRICING GUIDELINES

\$80 Palm panel (Culturing for <i>Thielaviopsis</i> and <i>Fusarium</i> and 1 PCR for <i>Fusarium</i> FOC/FOP OR Lethal Bronzing phytoplasma)	sample type: sawdust
\$60 PCR for detection of palm phytoplasmas only	sample type: sawdust
\$40 Culturing for <i>Fusarium</i> & <i>Thielaviopsis</i> (sawdust), and rachis rot (rachis sample) (without PCR)	sample type: sawdust/rachis
\$40 Identification of conch for <i>Ganoderma</i>	sample type: mushroom/conch
\$100 Pool up to 10 samples together for PCR for palm phytoplasmas only; get one result	sample type: sawdust, separated

The primary role of the FEPDC is to determine if the plant dysfunction involves an infectious causal agent, e.g. fungus, bacterium. This is done by associating causal agents with symptomatic plant tissue.

It is the PDC policy that:

- 1) We focus on samples that originate within the geographical boundaries of the State of Florida, but we accept samples from all US states and Territories. There is an additional \$10 fee for each sample originating outside of the state of Florida that pays a small share of the cost of processing the sample in containment, as required by our permits.
- 2) Plant samples must be adequate in the quality and quantity with a completed Plant Disease Diagnostic Form or equivalent information. Obtaining the appropriate sample before submission will save both time and shipping expense. NOTE: PDC staff will immediately contact the submitter of any sample not meeting the submission criteria listed below. Payments will be applied to submission of replacement samples.
- 3) Samples must be accompanied by payment to ensure timely release of disease determinations and recommendations. Commercial clients can arrange for monthly invoicing by contacting PDC staff. Sample charges may vary according to tests needed.
- 4) Samples are processed on a first come, first served basis in most cases. The exception to this rule is our **rush service**. Rush service moves the sample to the front of the sample processing queue. There is a flat fee of \$50 per sample with rush service. Note that the rush process cannot speed up how long fungi take to grow in culture, and does not change the once-per-week schedule for DNA extraction and PCR. Please call the lab with any questions.
- 5) Plant disease determinations and associated control options are emailed to the person(s) specified on the form. If none are indicated, the submitter &/or person who pays for the sample will receive the results.

PALM TRUNK SAMPLING FOR PHYTOPLASMA DETECTION

SAMPLE PRIOR TO OTC INJECTIONS!

- 1) Obtain trunk sample: First, flame sterilize drill bit by running and twisting it slowly through a propane torch flame to remove debris/DNA on its surface. Allow bit to cool by squirting with water. Bore a hole into the trunk of the palm. Lower is better for cosmetic considerations. Remove at least 2 tablespoons of interior wood shavings from the hole; they should be pale straw-colored, not dark brown or red. Do not touch the shavings with your hands, this can contaminate the sample. For *Phoenix* palms, drill past the old leaf bases to obtain trunk tissue. Avoid discolored (reddish-brown) shavings that are decaying. Do not sample dead palms. Label the bags of shavings.
- 2) Surface sterilization of drill bit: After obtaining the shavings from the trunk, rinse the drill bit with water to remove debris. Flame-sterilize with a propane torch and cool with another squirt of water. This must be done before drilling a hole in another palm trunk to avoid cross-contaminating tissue samples and potentially spreading disease.
- 3) Sealing the hole: Insert a golf tee or wooden dowel into the sample hole and tap it flush to the trunk with a hammer. This should seal the hole and prevent copious sap bleeding while preventing penetration of pests or other unwanted potential pathogens.

GENERAL SAMPLE SUBMISSION GUIDELINES

Please see our tips for sample collection and submission on-line at:

<https://plantpath.ifas.ufl.edu/misc/media/PDC/palmsampling.pdf>

- 1) Do not add water or pack a sample that is wet.
- 2) Keep samples refrigerated after collection until they are submitted. After collecting good samples, do not ruin them by allowing them to bake in the sun or on the back seat of a car prior to submission. DO NOT FREEZE samples. **Ship within 24 hours of collection.**
- 3) Do not mix samples in the same submission bag.
- 4) Please mark sample packages with "Warning" if sample has thorns or spines.
- 5) All samples must be accompanied with a completed Plant Disease Diagnostic Form. Give complete information on the form and **KEEP THE FORM SEPARATE FROM THE SAMPLE**. Limit sample information to one (1) sample per form, unless you have a series of all the same plant and location information, just differentiated by individual plant sampled. You are encouraged to include any other pertinent information in addition to that on the form.
- 6) Remember to note recent pesticide and fertilizer history on the Plant Disease Diagnostic Form accompanying the sample.
- 7) Do not ship samples on Friday. Mail samples early in the week to avoid the weekend layover in the post office. We recommend overnight shipping via courier with tracking services only. It is important for the sample to arrive within 48 hours of collection.

For more information about palm pathogens in Florida, please visit:

Lethal Yellowing: <https://edis.ifas.ufl.edu/publication/PP146>

Fusarium: <https://edis.ifas.ufl.edu/publication/PP139>

Thielaviopsis: <https://edis.ifas.ufl.edu/publication/PP143>

Ganoderma: <https://edis.ifas.ufl.edu/publication/PP100>