

| Fee structure for the UF-IFAS Plant Diagnostic Center effective 11-1-2024. Questions? Special case? Bulk processing need? Regulatory issue? Please call us: 352-392-1795. Thank you for using our service. | | | | | | | | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| | | | | | | | | Type of test | Cost per sample (USD) | Description of test | Tissue needed* for test | Timeline from sample receipt to final test result* | Reporting |
| | | | | | | | | Standard general diagnosis (non-Rapid Turf) | \$40 (\$50 for samples from outside the state of FL) | Triage, microscopy, culturing, and other basic tests as necessary. | Freshly-collected, symptomatic tissue with live and sick tissue apparent. | 5-7 business days; bacterial pathogens can take up to 2 weeks plus additional tests for additional charge | Primary disease-causing organism genus-level identification; cultural and chemical management recommendations. |
| | | | | | | | | Standard Rapid Turfgrass diagnosis | \$75.00 | Triage, microscopy, culturing, and other basic tests as necessary (SCMV, pH/EC, etc.) | Freshly-collected, symptomatic tissue with live and sick tissue apparent: two cup-cutter-cores or 6"x6" pieces of sod. Aeration plugs or soil without turfgrass are insufficient. | 2 business days for prelim if samples received by noon Thursday. Final report 4-8 days later. Samples received after noon or on Friday will start the reporting clock the next business day. | Generally genus-level identification; cultural and chemical management recommendations |
| | | | | | | | | International (non-Rapid Turf) (prenotification, forms, and permits required -contact PDC@IFAS.UFL.EDU for information) | \$250.00 | Triage, microscopy, culturing, and other basic tests as necessary (immunostrips, pH/EC, HR, oxidase, etc.), in containment. PCR or other advanced tests are charged on top of base charge, at prices below. | Freshly-collected, symptomatic tissue with live and sick tissue apparent. Prenotification for forms and permits required. | 5-7 business days from receipt of sample; bacterial pathogens can take up to 2 weeks | Primary disease-causing organism genus-level identification; cultural and chemical management recommendations. |
| International, Rapid Turfgrass (prenotification, forms, and permits required -contact PDC@IFAS.UFL.EDU for information) | \$300.00 | Triage, microscopy, culturing, and other basic tests as necessary (SCMV, pH/EC, etc.), in containment. | Freshly-collected, symptomatic tissue with live and sick tissue apparent: two cup-cutter-cores or 6"x6" pieces of sod. Aeration plugs or soil without turfgrass are insufficient. Prenotification for forms and permits required. | 2 business days for prelim if samples received by noon Thursday. Final report 4-8 days later. Samples received after noon or on Friday will start the reporting clock the next business day. | Generally genus-level identification; cultural and chemical management recommendations | | | | | | | | |
| Pathogen | Disease | Type of test | Cost per sample | Description of test | Tissue needed* for test | Timeline from sample receipt to final test result* | Reporting | | | | | | |
| <i>Fusarium oxysporum</i> in palms | Fusarium wilt of palm suspected | Culturing, microscopy | \$40.00 | Triage, culturing, microscopy | Trunk sawdust or rachis/petiole piece, usually from a frond showing one-sided blight. Photo of palm is required by email. Trunk/root tissue or any tissue from dead palms is not acceptable | 7-9 days | Genus-level identification; positive culture generally moves to PCR test for palm pathogens. If negative for Fusarium, other diagnosis will be reported. | | | | | | |

| | | | | | | | |
|-----------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------|
| Palm phytoplasmas | Lethal Yellowing or Lethal Bronzing of palms | Real-time PCR | \$60.00 | Quantitative real-time PCR | Approx. 2 tablespoons of drill shavings from the trunk of a symptomatic tree, pseudobark discarded prior to sample collection. Photo of palm is required (email) | 5 business days | Specific to palm phytoplasmas; reports as LY or TPPD detected/not detected |
| <i>Fusarium oxysporum</i> fsp. <i>cubense</i> , TR4 | Banana Fusarium wilt, Tropical Race 4 | Isothermal amplification | \$80.00 | Extraction, isothermal amplification | Fresh stems with wilt or vascular discoloration | 5 business days | Sub-species-level identification; reports as detected/not detected |
| <i>Tomato Brown Rugose Fruit Virus</i> , ToBRFV | Tomato Brown Rugose Fruit Virus | Isothermal amplification | \$80.00 | Extraction, isothermal amplification | Fresh symptomatic fruit, leaves, or plants (NOT seeds) | 5 business days | Species-level identification; reports as detected/not detected |
| <i>Blueberry Red Ringspot Virus</i> | Blueberry Red Ringspot | Conventional PCR | \$60.00 | DNA extraction, PCR, gel electrophoresis | fresh, symptomatic stems and/or leaves | 5 business days | Species-level identification; reports as detected/not detected |
| <i>Xylella fastidiosa</i> | Bacterial leaf scorch | Real-time PCR or isothermal amplification | \$80.00 | Stem extraction, DNA extraction, qPCR | Stems with leaves attached from symptomatic plants. | 5 business days | Species-level identification; reports as detected/not detected |
| <i>Rhizobium radiobacter</i> (<i>Agrobacterium</i>) | Crown gall | Culturing and inoculation | \$120.00 | semiselective media, plant inoculation | Fresh stem/roots with gall tissue; dead tissue is not acceptable | 14-21 business days | Genus-level identification; reports as detected/not detected |
| <i>Rhizobium radiobacter</i> (<i>Agrobacterium</i>) | Crown gall | Conventional PCR | \$60.00 | DNA extraction, PCR, gel electrophoresis | Fresh stem with gall tissue; dead tissue is not acceptable | 5 business days | Species-level identification; reports as detected/not detected |
| <i>Ca. Liberibacter asiaticus</i> | Citrus greening | Real-time qPCR, protocol set by USDA-APHIS | \$80.00 | DNA extraction, PCR | Fresh symptomatic leaves with petiole and stem attached | 5 business days | Species-level identification; reports as detected/not detected |
| <i>Phytophthora</i> or <i>Pythium</i> spp. | Phytophthora/Pythium blight or rot | Baiting, culturing | \$65.00 | 1 L water or soil sample saturated with water, baited with green pear or popcorn, plated on semiselective media for <i>Phytophthora/Pythium</i> spp., microscopy and morphological confirmation | prenotification to the lab is required. 1 L soil, with field moisture, sent overnight. 1 L water, from surface, sent overnight. | 14 business days | Genus-level identification of detected/not detected; positive result does not indicate pathogenicity |
| <i>Raffaelea lauricola</i> | Laurel wilt | Real-time qPCR | \$80.00 | Specialized DNA extraction, qPCR | Symptomatic wood from trunk/branch showing dark streaking; leaves/twigs or dead wood not acceptable | 5 business days | Species-level identification; reports as detected/not detected |
| <i>Phytophthora ramorum</i> | Sudden oak death/Ramorum blight | Real-time triple qPCR, protocol set by USDA-APHIS | \$150.00 | DNA extraction, triple qPCR | fresh, symptomatic stems and/or leaves | 5 business days | Species-level identification; reports as detected/not detected |
| <i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i> or <i>sepdonicus</i> | Tomato bacterial canker, potato rot | Isothermal amplification | \$80.00 | Extraction, isothermal amplification | Fresh stems with wilt or vascular discoloration | 5 business days | Sub-species-level identification; reports as detected/not detected |

| <i>Ralstonia solanacearum</i> | Southern wilt of Solanaceae, blueberry, rose | Streaming, Immunostrip; if Immunostrip +, sample will be reported to APHIS as required by law | \$40.00 | Immunostrip and streaming triage | Fresh crown or stems with vascular discoloration | Ralstonia +/- report in 1 day; fungal vs. bacterial report as early as 48 hours; sub-species-level identification may take up to 7 days at APHIS lab if needed | Ralstonia sp. +/-; Fungal vs. bacterial reported to genus; sub-species-level identification report generated by APHIS |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <i>Dickeya spp.</i> | Soft rot of potato and other plants | Isothermal amplification | \$80.00 | Extraction, isothermal amplification | Fresh stems/tubers with wilt or vascular discoloration | 5 business days | Genus-level identification; reports as detected/not detected |
| <i>Dickeya dianthicola</i> | Black leg of potato | culturing, double conventional PCR, sequencing, BLAST analysis | \$150.00 | Culturing, selection, HR, DNA extraction, PCR of 2 genes, gel electrophoresis, sequencing, BLAST analysis | Fresh stems with wilt or vascular discoloration | Fungal vs. bacterial issue report as early as 48 hours; species-level identification may take up to 10 days | Fungal vs. bacterial issue report as early as 48 hours; species-level identification reports as detected/not detected |
| <i>Phytosanitary testing upon request</i> | Many bacteria, fungi, and viruses; call to inquire (prenotification required to ensure we have all reagents and staff time available) | PCR, ELISA, Immunostrip, culturing | \$50.00 per sample set, plus cost of analysis | cost covers appropriate methods research plus phytosanitary letter to certifying official by email; assay costs depend on test needed | depends on test needed (seed, tissue culture plants, cuttings, etc.) | depends on test needed | Depends on test needed; reports as detected/not detected or "sample deemed free from" letter to phytosanitary official |
| <i>Rush service</i> | Moves sample to front of line for immediate triage and preliminary report in 2 business days from triage of sample | PCR, ELISA, Immunostrip, culturing | \$50 per sample | prenotification requested to prepare for sample and discuss sampling | depends on test needed (seed, tissue culture plants, cuttings, etc.) | preliminary report 2 business days from triage of sample; final report depends on test type needed | |
| A la cart tests | | Example | Type of test | Cost per sample | Description of test | | Reporting |
| Single conventional PCR | ITS, 16S, specific target | molecular | \$60.00 | DNA extraction, conventional PCR, and gel electrophoresis | | detected/not detected if specific target; ITS and 16S are linked to sequencing | |
| Single conventional RT-PCR | RNA virus target, Potyvirus group | molecular | \$80.00 | RNA extraction, conventional Reverse-Transcription PCR, and gel electrophoresis | | detected/not detected | |
| Sequencing | ITS, 16S, specific target | molecular | \$20.00 | amplicon cleanup and sequencing (single run, two directions) of single PCR product | | raw sequence, sent in a Word or text file with sample report | |
| BLAST analysis | ITS, 16S, specific target | molecular | \$40.00 | sequence editing and comparison to BLAST NCBI database | | top similar results (BLAST accessions), identity and query coverage | |
| Single real-time/qPCR | <i>Xylella fastidiosa</i> | molecular | \$80.00 | DNA extraction plus qPCR (real-time PCR) | | detected/not detected | |
| MLSA (multi-locus sequence analysis) | Species of <i>Xanthomonas</i> , etc. | molecular | \$400-800 | Construction of concatenated phylogenetic tree for up to 4 genes | Charges on top of culturing, PCR, sequencing, and BLAST | concatenated phylogenetic tree; may take up to 3 weeks from date of pure culture | |
| ELISA (Agdia, Inc product) | SCMV, <i>Phytophthora</i> sp. | immunological | \$40.00 | crude extraction, 96-well plate, spectrophotometric analysis | | detected/not detected, family, genus, or species level | |
| Immunostrip (Agdia Inc product) | INSV, TSWV, etc. | immunological | \$20.00 | lateral flow device | | detected/not detected, genus or family-level | |
| Baiting | <i>Phytophthora/Pythium</i> spp. only. We do not test soil or water for any other pathogens. | baiting, culture, microscopy | \$75.00 | Plant material is floated in water or growth medium slurry for 2 days, then plated on semi-specific culture media, followed by microscopy at 72 hours. Each pathogen is one test = \$75.00: one sample tested for both pathogens = \$150.00 | | detected/not detected at genus level; requires 15 oz or 500 mL water or soil/substrate | |

***Notes and explanations**

Days are business days, generally Monday through Friday, 9-5. We are closed all university, state, and federal holidays. Samples received before noon are processed that day; samples received after noon may be processed the next day. We make every effort to triage samples the day they arrive, and in the order in which they are received.

Timeline and outcome assumes high-quality and appropriate samples shipped quickly. Inappropriate plant part/dead/dry tissue is insufficient and a new submission will be required.

Prices are in-state (Florida); add \$10 for out-of-state due to containment processing. The basic sample fee is considered a client co-pay; much of your diagnostic costs are covered by the University of Florida and the National Plant Diagnostic Network (a USDA-NIFA program).

We do not test soil, water, planting material, or other substrates for mold or pathogens beyond Pythium and Phytophthora. We do not offer household mold identification (contact the UF Mycology Lab for consultation on indoor mold issues). We offer limited seed testing; call to consult with the lab director for specifics.

Our molecular and serological tests are conducted once per week; ship samples to arrive by noon Tuesday to be included in weekly test; samples that arrive Tuesday afternoon through Friday will be extracted upon arrival, but test may be completed the following week.

Effective 11-1-2024