

			Type of test	Cost per sample (USD)	Description of test	Tissue needed* for test	Timeline from sample receipt to final test result*	Reporting
Fee structure for the UF-IFAS Plant Diagnostic Center. Effective 5-1-2019. Questions? Special case? Bulk processing need? Regulatory issue? Please call us: 352-392-1795. Thank you for using our service!			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 (immunostrips, pH/EC, HR, oxidase, etc.)	Freshly-collected, symptomatic tissue with live and sick tissue apparent	3-7 days; bacterial pathogens can take up to 2 weeks	Generally genus-level identification; cultural and chemical management recommendations
			Standard Rapid Turf diagnosis	\$75.00	Triage, microscopy, culturing, and other basic tests as necessary (SCMV ELISA, fungicide resistance, pH/EC, , etc.)	Freshly-collected, symptomatic tissue with live and sick tissue apparent. Cup-cutter-cores or 8"x8" pieces of sod are good. Soil without turfgrass or aeration plugs are insufficient.	2 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)	\$200.00	Triage, microscopy, culturing, and other basic tests as necessary (immunostrips, pH/EC, HR, oxidase, etc.)	Freshly-collected, symptomatic tissue with live and sick tissue apparent	3-7 days; bacterial pathogens can take up to 2 weeks	Generally genus-level identification; cultural and chemical management recommendations
			International, Rapid Turf	\$300.00	Triage, microscopy, culturing, and other basic tests as necessary (SCMV ELISA, pH/EC, etc.)	Freshly-collected, symptomatic tissue with live and sick tissue apparent. Cup-cutter-cores or 8"x8" pieces of sod are good. Soil without turfgrass or aeration plugs are insufficient.	2 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> f.sp. <i>canariensis</i> and <i>palmarum</i>	Fusarium wilt of palm	Culturing, microscopy	\$40.00	Triage, culturing, microscopy	rachis/petiole, usually from a frond showing one-sided blight. Photo of palm is required by email. Trunk/root tissue is not acceptable.	7-9 days	Genus-level identification; positive culture generally moves to PCR test for palm pathogens. If negative for <i>Fusarium</i> , other diagnosis will be reported.	
<i>Fusarium oxysporum</i> f.sp. <i>canariensis</i> and <i>palmarum</i>	Fusarium wilts of palm	PCR	\$50.00	This test is only used after traditional diagnostic workup has resulted in a <i>Fusarium</i> culture from rachis/stem tissue. DNA extraction, PCR, gel electrophoresis	Fusarium culture from infected rachis/petiole	2-3 days (added to culturing timeline)	Species-level identification; does not differentiate between <i>canariensis</i> or <i>palmarum</i> fomal specialies; reports as detected/not detected	
Palm phytoplasmas	Lethal yellowing/Texas Phoenix Palm Decline	qPCR	\$80.00	DNA extraction, PCR, second PCR, gel electrophoresis	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 days	Specific to palm phytoplasmas; reported as LY or TPPD detected/not detected	

<i>Blueberry Red Ringspot Virus</i>	Blueberry Red Ringspot	conventional PCR	\$50.00	DNA extraction, PCR, gel electrophoresis	fresh, symptomatic stems and/or leaves	5 days	Species-level identification; reports as detected/not detected
<i>Xylella fastidiosa</i>	Bacterial leaf scorch	Real-time PCR	\$80.00	Stem extraction, DNA extraction, qPCR	Stems with leaves attached from symptomatic plants.	5 days	Species-level identification; reports as detected/not detected
<i>Rhizobium radiobacter (Agrobacterium)</i>	Crown gall	Culturing and inoculation	\$40.00	semiselective media, inoculation	Fresh stem/roots with gall tissue; dead tissue is not acceptable	14 days	Genus-level identification; reports as detected/not detected
<i>Rhizobium radiobacter (Agrobacterium)</i>	Crown gall	conventional PCR	\$50.00	DNA extraction, PCR, gel electrophoresis	Fresh stem with gall tissue; dead tissue is not acceptable	7 days	Species-level identification; reports as detected/not detected
<i>Ca. Liberibacter asiaticus</i>	Citrus greening	qPCR, protocol set by USDA-APHIS	\$80.00	DNA extraction, PCR	Fresh symptomatic leaves with petiole and stem attached	5 days	Species-level identification; reports as detected/not detected
<i>Ca. Liberibacter solanacearum</i>	Zebra chip/tomato yellows	qPCR	\$80.00	DNA extraction, qPCR	Fresh tubers or symptomatic leaves with petiole and stem attached	5 days	Species-level identification; reports as detected/not detected
<i>Phytophthora or Pythium spp.</i>	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 days	Genus-level identification of detected/not detected; positive result does not indicate pathogenicity
<i>Raffaelea lauricola</i>	Laurel wilt	qPCR	\$80.00	DNA extraction, qPCR	Symptomatic wood from trunk/branch showing dark streaking; leaves/twigs or dead wood not acceptable	5 days	Species-level identification; reports as detected/not detected
<i>Phytophthora ramorum</i>	Sudden oak death/Ramorum blight	qPCR, protocol set by USDA-APHIS	\$150.00	DNA extraction, triple qPCR	fresh, symptomatic stems and/or leaves	5 days	Species-level identification; reports as detected/not detected
<i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i>	Tomato bacterial canker	Immunostrip, culture, conventional PCR	\$50.00	Immunostrip, culture, HR, Gram test, DNA extraction, amplification, gel electrophoresis	Fresh stems with wilt or vascular discoloration	Genus-level ID in 1 day; up to 5 days for Cmm confirmation	Sub-species-level identification; reports as detected/not detected
<i>Ralstonia solanacearum</i> and <i>Ralstonia solanacearum</i> race 3 biovar 2	Southern wilt of Solanaceae, blueberry, rose	Streaming, immunostrip, culturing; if immunostrip +, double qPCR	\$40; additional \$150 if qPCR is warranted	Immunostrip and streaming triage, culturing, HR, DNA extraction, qPCR of 2 genes if streaming or immunostrip +	Fresh crown or stems with vascular discoloration	<i>Ralstonia</i> +/- report in 1 day; fungal vs. bacterial report as early as 48 hours; sub-species-level identification may take up to 7 days	<i>Ralstonia</i> sp. +/-; Fungal vs. bacterial reported to genus; sub-species-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	PCR, ELISA, Immunostrip, culturing	depends on test needed	depends on test needed (per sample: culture \$40, ELISA \$20, PCR \$40, qPCR \$75, baiting \$65)	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 24 hours from triage of sample	PCR, ELISA, Immunostrip, culturing	\$50 for 1-5 samples; \$100 for >5 samples	prenotification requested to prepare for sample and discuss sampling	depends on test needed (seed, tissue culture plants, cuttings, etc.)	preliminary report 24 hours 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	\$50.00	DNA extraction, conventional PCR, and gel electrophoresis	detected/not detected if specific target; ITS and 16S are linked to sequencing	
Sequencing	ITS, 16S, specific target	molecular	\$20.00	cleanup and sequencing (single run, two directions) of single PCR product	raw sequence, sent in a Word or text file	
BLAST analysis	ITS, 16S, specific target	molecular	\$25.00	sequence editing and comparison to BLAST NCBI database	top similar results (BLAST accessions), identity and query coverage	
Single qPCR	<i>Xylella fastidiosa</i>	molecular	\$80.00	DNA extraction plus qPCR (real-time PCR)	detected/not detected	
MLSA	Species of <i>Xanthomonas</i> , etc.	molecular	\$400.00	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	TSWV	immunological	\$20.00	96-well plate	detected/not detected	
Immunostrip	INSV	immunological	\$10.00	lateral flow device	detected/not detected	
Baiting	<i>Phytophthora/Pythium</i> spp.	baiting, culture, microscopy	\$65.00	Plant material is floated in water or growth medium slurry, then plated on semi-specific culture media, followed by microscopy at 24, 48, and 72 hours.	detected/not detected at genus level	

***Notes and explanations**

Days are business days, generally Monday through Friday, 8-5. 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. Dead/dry tissue is insufficient and a resubmission will be required. Insufficient samples are billed at the base charge price; resubmission is encouraged. Resubmission of samples must be within a month of primary sample, and must refer to primary sample number to avoid double-billing.

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).

Our molecular and serological tests are conducted once per week; ship samples to arrive by 5 pm Tuesday to be included in weekly test; samples received Wednesday-Friday (by noon) will be extracted upon arrival, but test may be completed the following week.

Effective 5-1-2019