UF/IFAS
Plant Diagnostic Center
2020-2022 Report

We never stop working for you.

2020 brought many changes to the Plant Diagnostic Center at the University of Florida. Despite the university closing in response to the COVID-19 pandemic, the UF-IFAS Plant Diagnostic Center (PDC) remained open for service. As the hub for the Southern Plant Diagnostic Network, our team members worked hard in 2020 to continue diagnostic services throughout the pandemic. This allowed us to process a total of 3,018 samples, serving 59 Florida counties, 19 states and 9 countries.


(a)

With the pandemic, along came a shift in personnel. Many of our diagnosticians went on to new positions following 2020 and Florida is now represented in diagnostic labs across the country. We are pleased to introduce our current lab members (a). These friendly faces make up the diagnostic and extension team here at the PDC.

Melissa Irizarry joined the PDC in May 2021. Melissa is Ph.D. graduate from the plant pathology program at UF and is the PDC's lead diagnostician and laboratory manager. She comes to Florida from Iowa State University, where she earned both her B.S. in Horticulture and M.S. in Plant Pathology.
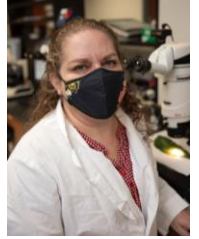
Brianna Benitez joined the PDC as laboratory diagnostician in 2020. Brianna a current Doctor of Plant Medicine (DPM) graduate student. Her primary focus is molecular diagnostics of palm, ornamental, fruit, and vegetable diseases.

Raquel Hill graduated from the University of the Virgin Islands in 2021 with a B.S. in Biology and joined the PDC fall 2021. She is a Plant Pathology M.S. and DPM student at UF while also working as a student diagnostician.
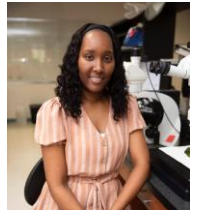
Alec Dunker is a UF Plant Science B.S. graduate and a current DPM graduate student. Alec joined the PDC in 2021 and works closely with Dr. Phil Harmon as a student turfgrass diagnostician, in addition to helping with routine samples.

Program highlights

In addition to routine diagnostic services, the PDC continued our outreach and education efforts. With the return of in-person events at the end of 2021, we welcomed Master Gardeners from Florida back to our lab for hands-on training and tours. 22 Master Gardeners visited from Clay County in December of 2021 and 2022 brought 19 Master Gardeners from Flagler and Marion Counties (b).

(b)

14 Florida Agricultural Agents visited the PDC in April of 2022, along with Dr. Marcelo Wallau, UF Forages Extension Specialist. In addition, the lab welcomed several groups and individuals during informal tours and crop-specific diagnostic discussions. PDC director, Dr. Carrie L Harmon, brought education about new and emerging diseases in Florida to labs and events around the country, both in-person and online. Dr. Harmon was able to reach a total audience of over 2,000 people in 2021 and 2022 through invited presentations to UF-IFAS' Pest Management University, and national webinars for the National Plant Diagnostic Network, Greenhouse Production News, and Crop Protection Network.

We continued to offer an online professional development course on disease management in the fall of 2021 and 2022; watch for this opportunity again in 2023. More than 100 Plant Professionals from around the world enrolled each year.

Samples

The annual number of samples processed has continued to average around 3,000 per year (2,964 samples in 2021 and 2,968 in 2022.)
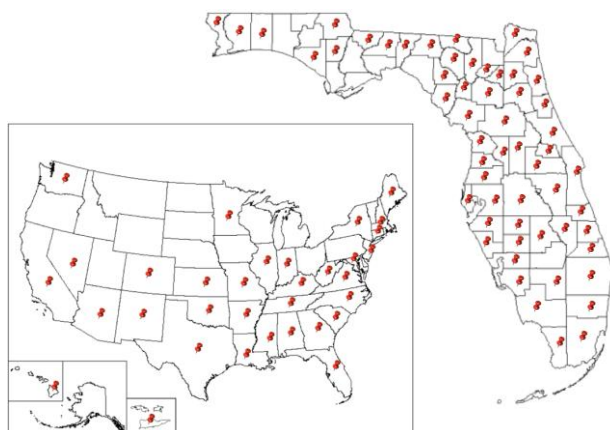

Figure 1. Distribution of samples 2020-2022 by FL county and state.

Sample Diagnosis

Most samples (>75%) received by the PDC are affected by plant disease. Successful disease detection requires samples in declining condition, but alive with plenty of material for symptom recognition. Find more information about criteria for sample submission on the PDC website. We require samples to have complete information upon submission to reduce turn-around time and improve accuracy of diagnosis.
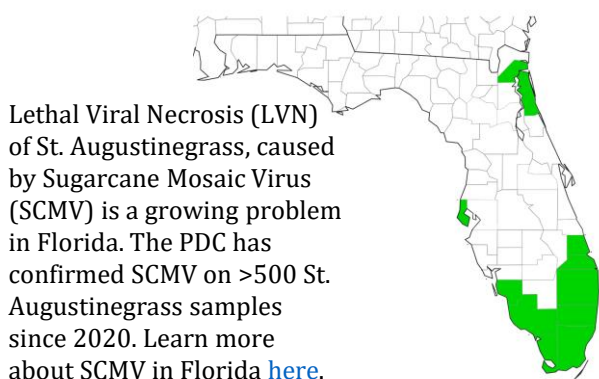
Lethal Viral Necrosis (LVN) of St. Augustinegrass, caused by Sugarcane Mosaic Virus (SCMV) is a growing problem in Florida. The PDC has confirmed SCMV on >500 St. Augustinegrass samples since 2020. Learn more about SCMV in Florida here.

Distribution

The PDC in Gainesville processed samples for clientele from 63 out of the 67 counties in Florida and 27 other states and territories between 2020 and 2022 (Figure 1).

Figure 2. Distribution of international samples 2020-2022.

Our international diagnostic service received samples from Barbados, Canada, Cayman Islands, Colombia, Dominica, Dominican Republic, Ecuador, El Salvador, Guyana, Mexico, St. Kitts and Nevis, and Trinidad (Figure 2). The Rapid Turf Diagnostic Service (RTDS) received samples from Hong Kong, Bermuda, Mexico, Singapore, and Taiwan.
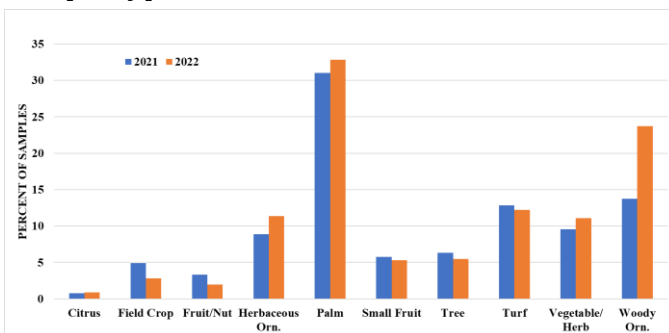
Sample Type

Figure 3. Percent of PDC samples by sample diagnosis.

Palm samples have become the most common sample type in recent years (Figure 3). In 2021 and 2022, palms accounted for 31% and 32% of samples, respectively. This reflects an increased awareness and incidence of deadly palm diseases. The PDC has developed a palm panel to efficiently test a single sample for six lethal diseases and various other aesthetic rachis blights, helping our clients to quickly identify and manage this growing problem.

Rapid Turf Diagnostic Service (RTDS)

Most RTDS samples were Bermudagrass, making up 49% of samples in both 2021 and 2022 (Figure 4). 31% of samples in 2021 and 36% of samples in 2022 were St. Augustinegrass, the second most common type of turf. The RTDS has seen a broader range of turf types in recent years. Four turf types (Zoysia, St. Augustinegrass, Seashore Paspalum, and Bermudagrass) are most common, while the remaining four types (Ryegrass, Centipedegrass, Bentgrass and Bahiagrass) make up about 1% of the RTDS service.
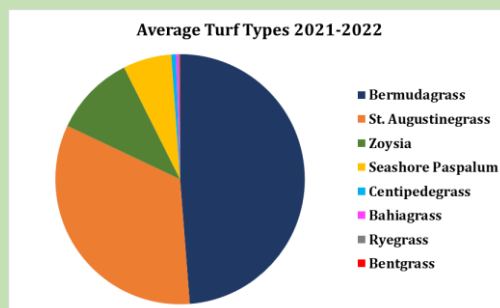

Figure 4. RTDS samples by turf type. Average turf samples 2021 and 2022.