

# FLORIDA

## TURF DIGEST

FLORIDA  
TURFGRASS  
ASSOCIATION

VOL. 41 / NO. 5

Fall 2023

**UF** | IFAS Extension  
UNIVERSITY of FLORIDA

**TURFGRASS**  
Breeding Update

**70<sup>th</sup>**  
**Annual**  
**Conference**

**NOVEMBER 28–30, 2023**

**AGENDA,  
WORKSHOPS,  
EVENTS &  
REGISTRATION**

**ALSO IN THIS ISSUE:**

Membership, Education & CEUs,  
and Partnership Programs

No More Secrets about GPS Spray Control

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How Safe is Rain Barrel Water?



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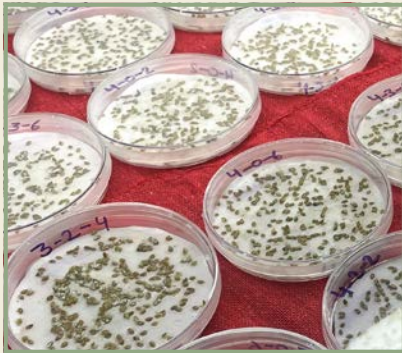
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# FLORIDA TURFGRASS ASSOCIATION DIGEST

Fall 2023  
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**FTGA MEMBERSHIP**

The Florida Turfgrass Association is committed to provide services, communications and networking opportunities for professionals in and associated with the turfgrass industry.

Florida ranks No. 1 in the nation for turfgrass-related economic activity, with total revenues estimated at \$7.82 billion and a total employment of more than 173,000 jobs. Today, the FTGA continues to advocate for and promote the turfgrass industry with extensive research, continuing education and opportunities for turfgrass professionals to network with their colleagues.

**MEMBER BENEFITS INCLUDE**

- Florida Turf Digest Magazine
- Membership Directory & Industry Guide
- E-Newsletter Industry Alerts
- Annual Conference
- Regional Turf Seminars
- Legacy Scholarship

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**INDUSTRY CALENDAR**

**NOVEMBER**

**2-5 North Florida GCSA Fall Classic & Crash Cup**  
*Omni Resort at Amelia Island, Florida*

**28-30 FTGA 70th Annual Conference**  
*ChampionsGate, Florida*

**DECEMBER**

**8 Larry Kamphaus Crowfoot Open**  
*Orange Lake Resort, Orlando, Florida*

**FEBRUARY**

**2024 Turf Seminars - Education & CEUS**  
**13** Port St. Lucie  
**15** Lake Worth  
**20** New Port Richey  
**21** Plant City  
**22** Ft. Myers  
**27** Tallahassee  
**28** St. Augustine

**MARCH**

**2024 Turf Seminars - Education & CEUS**  
**19** Orlando  
**20** Ocala

**FOR UPDATED  
INFORMATION, VISIT**



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**Jason Frank**  
FTGA President

## The Road Ahead: Building on Our Success

As my time as the president of the Florida Turfgrass Association draws to a close, I want to take a moment to reflect on the journey we've been on together and express my gratitude to not only those I have had the pleasure to serve with but also for the commitment of all the FTGA members. Over the past year, we've faced many challenges, from moving on from a global pandemic to unprecedented hurricane timings and transitioning from the retirement of our dedicated executive director, Mac Carraway. We've demonstrated a remarkable strength that defines our industry through it all.

In the first message, we spoke about the spirit of Florida and how it shined brightly in the face of adversity. We faced hurricanes and pandemics head-on and emerged stronger and more united each time. We found the word that epitomizes our industry—resilience.

In the second article, we shared our steps to reorganize and restructure the FTGA after Mac's retirement. We've refocused our mission and vision to be a true partner to the green industry in Florida, emphasizing advocacy, communication, education, networking and research. We've embraced change and come together to make the most out of the circumstances we've been given.

In the third article, we discussed the importance of unity and collaboration within our industry. We recognized the diversity of our experiences and expertise and came together to tackle common challenges. We also gave back to our community through volunteer efforts and highlighted the importance of supporting the next generation of turfgrass professionals.

As we look back at the past year, it's clear that our journey has been marked by determination, adaptability and an unwavering commitment to our industry's betterment. I want to extend my heartfelt gratitude to all our members, partners and volunteers who have been the driving force behind our success.

With many substantial challenges behind us, we are confident that our future is bright and on the cusp of a new chapter in the FTGA's history. The 70th Florida Turfgrass Association Conference at the Omni ChampionsGate Resort is just around the corner, and it's a perfect opportunity for us to come together, strengthen our unity and continue what we have all worked so hard for.

As we transition to the next administration of the FTGA, we are filled with hope and excitement about the future. The challenges we've overcome have only made us more resilient, more united and more prepared for what lies ahead. We are confident that the new leadership will carry the torch forward and lead us to even greater heights.

In closing, thank you all for the honor of serving as president. It's been an incredible journey, and I look forward to witnessing the continued growth and success of the Florida Turfgrass Association. Together, we can achieve remarkable things and make our industry shine even brighter. 🌱

Sincerely,

**Jason Frank**  
President, Florida Turfgrass Association

# 2023 ASSOCIATION PARTNERS

## PRESENTING



## PLATINUM



## GOLD



## SILVER



## BRONZE



# ASSOCIATION PARTNERS PROGRAM

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# TURFGRASS Breeding Update

Figure 1.

*By Dr. Kevin Kenworthy, Professor, Department of Agronomy*

**T**urfgrass breeding research at the University of Florida (UF) is a multi-disciplinary effort involving several turfgrass scientists. Whether you are a sod producer, golf course superintendent, sports turf manager, lawn care professional, or the guy with the best lawn on the block, we are striving to save you money and protect our natural resources. Our major breeding objective is to reduce irrigation requirements through improved water use efficiency and the introduction of more drought-resistant cultivars of St. Augustinegrass, zoysiagrass, and bermudagrass. The program also collaborates closely with pest management specialists to breed in resistance so that fewer pesticides will be needed in the future. In St. Augustinegrass, we have significantly altered our approach to address lethal viral necrosis (LVN) in Floratam caused by the sugarcane mosaic virus (SCMV). In bahiagrass, the focus is in two directions: 1) a vegetative turf-type only bahiagrass with improved aesthetic value and 2) improved seed production and germination to reduce the cost of seed and establishment.

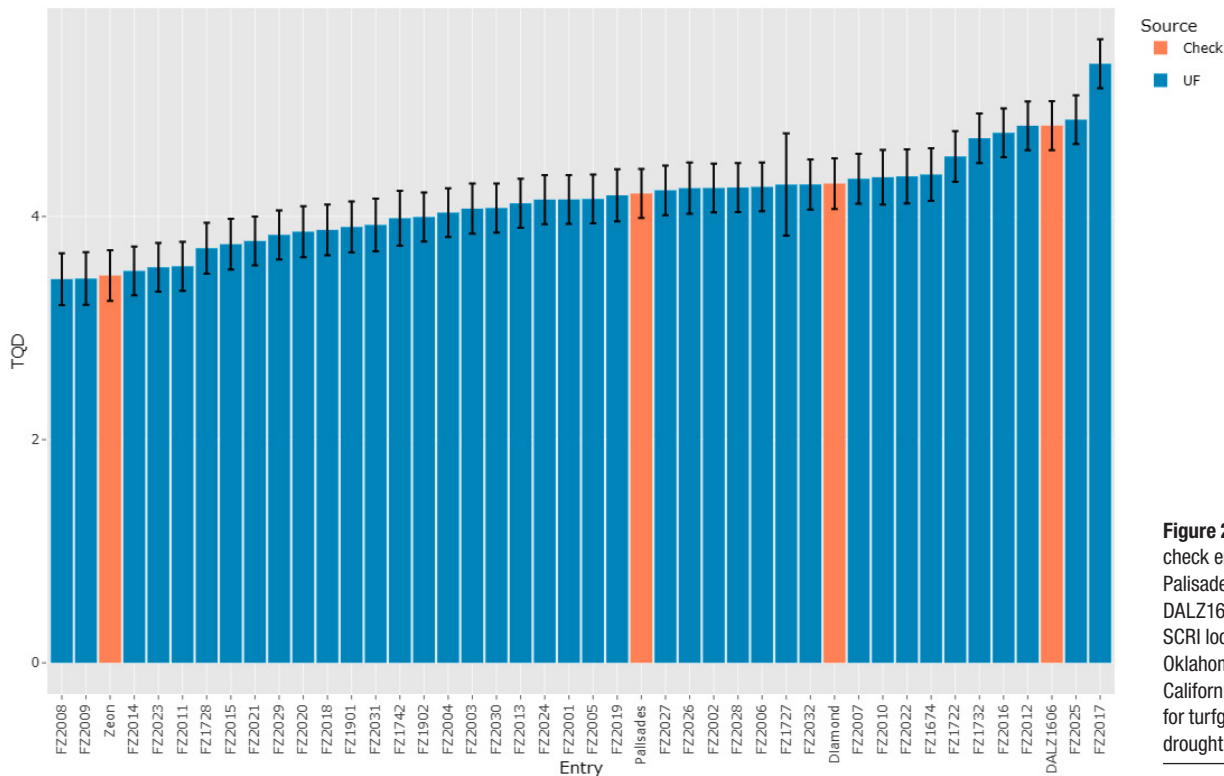
## **Institutional Collaborative Approach**

Since 2010, our program at UF has partnered with the breeding programs at Texas A&M University (TAMU),

Oklahoma State University (OK State), the University of Georgia (UGA), North Carolina State University (NCSU) and (since 2019) the University of California at Riverside to develop cultivars of warm-season turfgrass with improved drought responses. We refer to our collaborative research group as the SCRI warm season turf group. Follow us on X (formerly Twitter) @SCRI\_Turf. SCRI = Specialty Crop Research Initiative, which is a funding initiative of USDA National Institute of Food and Agriculture (NIFA) that has supported our efforts through three federal grants. The project has been highly impactful resulting in the releases of TifTuf® bermudagrass from UGA, Tahoma 31® bermudagrass from OK State, TamStar™ and Cobalt™ St. Augustinegrasses from TAMU, Sola™ St. Augustinegrass and Lobo™ zoysiagrass from NCSU, and CitraBlue® St. Augustinegrass, CitraZoy® zoysiagrass, and Brazos™ zoysiagrass from our UF program.

## **Bermudagrass**

The SCRI funding is in its last year, and there are many outstanding experimental lines from all programs that might be future releases. In addition, funding has been provided by the United States Golf Association to develop bermudagrass and zoysiagrass with better winter color and performance.



**Figure 2.** UF entries with check entries (Zeon, Palisades, Diamond, and DALZ1606) averaged across SCRI locations (Texas, Oklahoma, UF, Georgia, California and North Carolina) for turfgrass quality under drought stress.



**Figure 3.** Image of advanced St. Augustinegrass lines.

The UF program has a very high-performing bermudagrass, ‘FB1628’, that has done well in SCRI testing and is also doing well in the current 2019 bermudagrass NTEP trial (Table 1). For the full report visit <https://ntep.org>, click to enter the site, click All NTEP Reports, click Bermudagrass and click 2021 Data - Progress Report for the 2019 trial. The 2021 report is the most recent NTEP bermudagrass report posted at the time of writing this article.

### Zoysiagrass

For zoysiagrass, the UF program has a recently advanced line (FZ2017) in the SCRI trials that is performing very well across all states for turfgrass quality with and without drought (Figures 1 and 2). Our goal for zoysiagrass is to achieve acceptable quality with one-day-per-week watering. FZ2017 has the potential to meet this goal but still requires several years of evaluation to learn more about its drought and production capabilities prior to release. Several advanced lines of zoysiagrass are performing well in the 2019 NTEP zoysiagrass trial. Some of the overall best-performing lines include FAES1319, FZ1722 and FZ1422. FAES1319 is a medium-coarse textured *Zoysia japonica* that was recently named Brazos™, FZ1722 is a fine *Zoysia matrella*, and FZ1422 is an intermediate leaf textured hybrid between the two species. We are working with commercial partners to increase

**Table 1.** 2021 average turfgrass quality and quality at selected locations of vegetative bermudagrass entries in the 2019 NTEP bermudagrass trial.

| Entry              | Table avg* | Auburn, AL | Jay, FL | Ft. Lauderdale, FL | Mississippi State, MS | Raleigh Traffic, NC | Stillwater, OK | College Station, TX (Drought) | Riverside, CA (Drought) |
|--------------------|------------|------------|---------|--------------------|-----------------------|---------------------|----------------|-------------------------------|-------------------------|
| TifTuf             | 6.4        | 5.9        | 6.9     | 7                  | 5.4                   | 6.8                 | 6.1            | 6.2                           | 6.3                     |
| FB 1628            | 6.3        | 6.5        | 6.6     | 7.6                | 5.7                   | 5.8                 | 6.4            | 6                             | 5.3                     |
| Celebration Hybrid | 6.2        | 6.6        | 6.3     | 7.2                | 5.3                   | 4.9                 | 5.6            | 5.8                           | 5.7                     |
| TAHOMA 31          | 6.2        | 5.5        | 6.5     | 7.3                | 5.4                   | 6.1                 | 6.1            | 5.8                           | 4.8                     |
| LATITUDE 36        | 6.1        | 5.3        | 6.5     | 7                  | 4.9                   | 6.3                 | 6              | 5.3                           | 4.3                     |
| MSB-1042           | 6          | 5.5        | 5.4     | 6.5                | 5.1                   | 5.5                 | 6              | 6                             | 5.2                     |
| OKC1876            | 6          | 5.8        | 6.4     | 7.1                | 5.5                   | 5.5                 | 6.1            | 4.6                           | 6                       |
| MSB-1050           | 5.8        | 5.5        | 6.5     | 7.2                | 5.9                   | 4.5                 | 5.2            | 5.4                           | 5.1                     |
| OKC1873            | 5.8        | 5.6        | 6.8     | 6.5                | 5.1                   | 4.9                 | 5.7            | 5                             | 5.4                     |
| TIFWAY             | 5.8        | 5.2        | 6.7     | 6.5                | 5.2                   | 5.5                 | 5.9            | 5.3                           | 4.7                     |
| ASTRO              | 5.7        | 5.5        | 6.8     | 6.7                | 5                     | 5.5                 | 5.8            | 5.3                           | 4                       |
| FB 1630            | 5.7        | 5.8        | 6.5     | 7.4                | 5.2                   | 5.3                 | 5.5            | 4.7                           | 4.6                     |
| JSC 77V            | 5.7        | 4.7        | 5.9     | 7.1                | 5.3                   | 5.5                 | 5.7            | 5.8                           | 3.8                     |
| JSC 80V            | 5.7        | 4.5        | 6.5     | 6.5                | 5.3                   | 5.9                 | 5.7            | 5.1                           | 4.1                     |
| MSB-1048           | 5.7        | 5.3        | 6.1     | 7.1                | 5                     | 4.9                 | 5.4            | 5.5                           | 4.4                     |
| OKC1406            | 5.7        | 4.9        | 6.3     | 6.7                | 4.9                   | 5.8                 | 5.5            | 4.9                           | 4.1                     |
| MSB-1026           | 5.6        | 5.8        | 6.3     | 6.7                | 5.4                   | 4.6                 | 6.1            | 4.9                           | 4.6                     |
| OKC1682            | 5.5        | 4.4        | 5.6     | 6.5                | 4.8                   | 4.4                 | 5.9            | 5.4                           | 4.8                     |
| FB 1903            | 5.4        | 5.1        | 6.5     | 6.2                | 5.2                   | 5.9                 | 5.3            | 5.3                           | 4.8                     |
| FB 1902            | 5.3        | 4.6        | 5.5     | 6.3                | 4.8                   | 4.6                 | 5.5            | 5.3                           | 4.9                     |
| OKC1666            | 5.3        | 4.8        | 5.8     | 5.6                | 5                     | 4.2                 | 5.2            | 4.3                           | 4.4                     |
| MSB-1075           | 5.1        | 4.6        | 6.1     | 6.9                | 5.3                   | 3.5                 | 4.8            | 5.2                           | 4.5                     |
| C.V.               | 1.5        | 13.2       | 5       | 4.4                | 3.8                   | 7.1                 | 2.6            | 12.1                          | 6.5                     |
| LSD                | 0.1        | 1.1        | 0.5     | 0.5                | 0.3                   | 0.6                 | 0.2            | 1                             | 0.5                     |

\*Average of 19 total locations. Locations not shown include Fayetteville; Arkansas; West Lafayette; Indiana; Wichita; Kansas; Lexington; Kentucky; Columbia; Missouri; Las Cruces; New Mexico (quality); Las Cruces; New Mexico (salinity); Knoxville; Tennessee; College Station; Texas (shade); and Blacksburg; Virginia.

FZ1722 and other similar lines to further their evaluation on golf courses.

### St. Augustinegrass

Within our St. Augustinegrass breeding program, we have 14 advanced lines (Figure 3), five of these that I consider to be highly advanced. Among the 14, some have excellent drought resistance, some are highly shade- and cold-tolerant, and others have excellent disease resistance. A select number of these appear to have potential for widescale application similar to Floratam. Eight of these lines are entries in the new 2023 NTEP St. Augustinegrass trial and were planted at 10 locations throughout the Southern U.S. this year. There are three St. Augustinegrass NTEP locations in Florida with each trial having all 14 advanced lines. The trial locations are the West Florida Research and Education Center in Jay, Florida, (Dr. Bryan Unruh), Plant Science Research and Education Center

**Table 2.** Florida sod producers with CitraBlue® and CitraZoy®.

| CitraBlue®          | CitraZoy®          |
|---------------------|--------------------|
| Duda Sod            | Duda Sod           |
| Bay Breeze Farms    | FloriTurf          |
| Bethel Farms        | JW Turf Farms      |
| Council Growers     | King Ranch         |
| Gulf Kist Sod       | McCall Sod Farm    |
| King Ranch          | RB Farms           |
| Lake Jem Farms      | Star Farms         |
| McCall Sod Farm     | Willaway Sod Farms |
| RB Farms            |                    |
| Star Farms          |                    |
| Travis Resmondo Sod |                    |
| Tater Farms         |                    |



**Figure 4.** Expansion of FPN1901 and M98Alt bahiagrass lines at Tater Farms.



in Citra, Florida, (Dr. A.J. Lindsey) and Fort Lauderdale Research and Education Center in Davie, Florida, (Dr. Marco Schiavon). Several sod grower members of the Turfgrass Producers of Florida in collaboration with Sod Solutions are supporting further research with these advanced lines and the entire St. Augustinegrass program. In addition to the three state trial locations, these 14 will be evaluated for chinch bugs by Dr. Adam Dale, caterpillars by Dr. Sylvana Paula-Moraes, and diseases by Dr. Phil Harmon. Our primary focus is to develop a screen for SCMV to determine if any of these lines produce LVN symptoms similar to Floratam. Additionally, we will work with a few sod producers to establish small blocks to obtain their production feedback.

### Bahiagrass

The same group of growers along with Sod Solutions are supporting the breeding of bahiagrass. We have been working on bahiagrass as a small component of the overall breeding program for more than a decade. However, we are now focusing more intently on bahiagrass. Currently, bahiagrass is a dual-purpose species in Florida for both pasture and low-input turf. We have two advanced lines of bahiagrass (FPN1901 and M98Alt) that fit into the dual-purpose system. They have slight turf advantages over Argentine bahiagrass and have shown to be equal or more persistent under grazing than Argentine. In August, these two lines were expanded at Tater Farms in Hastings, Florida, to 4,000 ft<sup>2</sup> each (Figure 4). Having these blocks will help to determine their production characteristics.

Because bahiagrass has two modes of reproduction, it can be difficult to make crosses as is done in a traditional



**Figure 5.** Bahiagrass seed heads with the conventional two branches and examples of seed heads with multiple branches.



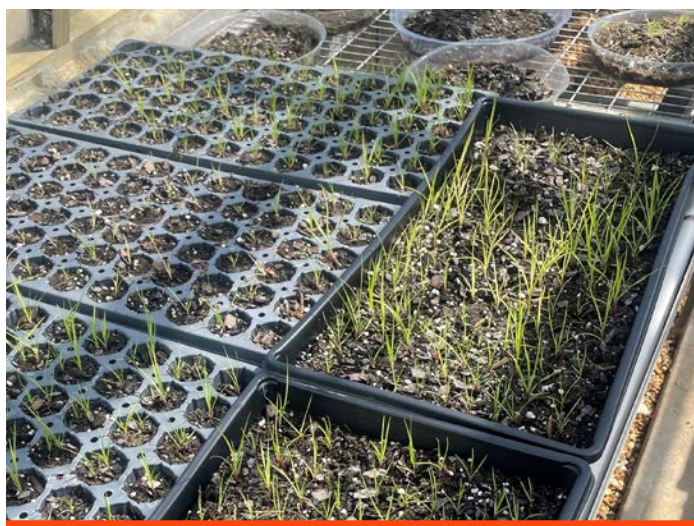
**Figure 6.** Crossing block of bahiagrass lines selected for having seed heads with multiple branches.



**Figure 7.** Bahiagrass plants illustrating different densities, growth habits and leaf textures.

breeding program. Bahiagrass, which is similar to Pensacola, reproduces sexually through male and female parents, and a typical breeding approach can be utilized to generate new progeny with variable traits. Plants of bahiagrass that are similar to Argentine have twice the number of chromosomes compared to Pensacola and reproduce through a non-sexual process (called apomixis) to produce seed that are genetic clones of the maternal plant; therefore, there is no genetic contribution from a male parent (even though they produce viable pollen), and all seed are genetically identical. To produce variation in plants with this mode of reproduction, unique approaches are incorporated. We expose seeds or tissue to mutagenic compounds that cause changes in the DNA code. Mostly, the changes are too severe, and

the seed won't germinate, or the seedling will die shortly after germinating. The surviving seedlings may be escapes, meaning no DNA changes occurred, or they will have altered DNA that could result in useful traits. The changes in the DNA are random so the surviving seedlings must be evaluated for useful traits. We are employing both approaches in the bahiagrass breeding program. In a Pensacola-based population, we have plants that have additional branches in their seedheads. Bahiagrass will typically have two branches; however, we have accumulated plants with three or four branches (Figure 5). These plants were recently planted in a crossing block to produce seed in 2024 (Figure 6). Our primary objective is to develop a cultivar with stable additional seed head branches to increase seed yield without



**Figure 8.** (Left) Treatment of bahiagrass seed with a chemical mutagen; (Right) germinated seedlings following mutagen treatment.

increasing the number of unsightly seed heads. Secondly, we are aiming to narrow the window of flowering to approximately 2.5–3 months compared to the existing 5–6 months period of flowering. In another group of Pensacola-type plants, our focus is on density and growth habit with a goal of improving sod tensile strength (Figure 7). Crosses will be made between these plants in 2024.

For the mutagenic approach, we recently treated seed and germinated (Figure 8) thousands of seedlings. Once these plants are mature, we will transplant them to the field and begin to evaluate for desirable changes. We will then use another chemical treatment to double the number of chromosomes creating sexually reproducing plants that can be crossed with Argentine. The goal of these approaches is a plant with the desired characteristics that will only reproduce vegetatively and will be grown exclusively as sod. Completion of this goal will require several more steps than what is described.

### **CitraBlue® and CitraZoy®**

CitraBlue® St. Augustinegrass and CitraZoy® Zoysiagrass continue to increase in sod production acres and use. The first sales of CitraBlue® occurred in 2020, and it is now produced statewide on 740 acres (Table 2). It is known for its striking blue-green color, disease tolerance, drought tolerance and shade tolerance. Because of its superior density, it will develop thatch in full sun. I recommend reducing fertilizer inputs and irrigating less frequently (it is okay to observe wilting for a day or two) to reduce thatch in full sun. Preliminary findings from our mowing height by nitrogen rate through dethatching treatments indicate that lower mowing heights

and reducing nitrogen are effective methods to delay thatch buildup. Dethatching also appears to provide benefits, but more time is needed to get a better understanding of the timing of dethatching. The use of CitraBlue® should focus on installation in shady landscapes. Even indirect shade for a few hours from a tree across the street will alter the growth habit and reduce thatch issues. It can also tolerate heavy shade.

The first appreciable sales of CitraZoy® occurred in 2022. It has a medium-fine leaf width (between Empire® and Zeon®), excellent resistance to large patch disease, very good winter color and slightly better shade tolerance compared to Empire. Its acres of production have increased to 85 acres across the state (Table 2). It has exceptionally performed in higher-value landscapes under a range of mowing heights and recovers very well from scalping.

With our current rate of population growth and water quantity issues, improving turfgrass options is imperative to sustain the Florida turfgrass and landscape industries. Additionally, Florida’s tourism relies on an abundance of attractive landscapes. It is the mission of the turfgrass breeding program to beautify Florida landscapes while continuing to decrease landscape/turfgrass water use. ♻️



*Dr. Kevin Kenworthy is a professor at the University of Florida. He serves as the lead investigator for warm-season turfgrass development and works closely with other land grant universities, the turfgrass industry and statewide associations. You can contact Dr. Kenworthy by email at [kenworth@ufl.edu](mailto:kenworth@ufl.edu).*



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# 2023 CONFERENCE AGENDA

## TUESDAY, NOVEMBER 28

8:00 a.m. — 5:00 p.m. Golf BMP Education  
 2:00 p.m. — 3:30 p.m. FTGA Board of Directors Meeting  
 4:00 p.m. — 5:30 p.m. Cross-Industry Meeting  
 6:30 p.m. — 8:30 p.m. FTGA Board of Directors Dinner

## WEDNESDAY, NOVEMBER 29

7:30 a.m. — 5:00 p.m. FTGA Registration  
 9:00 a.m. — 10:00 a.m. Leadership & Development Breakfast **\*\*New\*\***  
 11:30 a.m. — 4:30 p.m. Scramble Golf Tournament  
 Noon — 4:00 p.m. Sports Turf Tour  
 Noon — 4:00 p.m. CORE & Turf CEU Workshop  
 6:30 p.m. — 7:00 p.m. Opening Reception  
 7:00 p.m. — 10:00 p.m. Corn Boil & Networking Event  
 • Cornhole 50/50 Challenge  
 • 50/50 Raffle

## THURSDAY, NOVEMBER 30

7:00 a.m. — 1:30 p.m. FTGA Registration  
 8:15 a.m. — 8:45 a.m. Continental Breakfast  
 8:00 a.m. — 9:30 a.m. FTGA Past Presidents' Breakfast  
 9:00 a.m. — 11:00 a.m. Educational Workshops  
 • Athletic Field Management Workshop  
 • Golf Management Workshop  
 • Landscape & Irrigation Management Workshop  
 • Sod Management Workshop  
 11:15 a.m. — 1:15 p.m. Annual Meeting & Awards Lunch  
 1:30 p.m. — 4:20 p.m. Cross-Industry Roundtable



## 2023 CONFERENCE CEU INFORMATION

| CEU WORKSHOPS                   | FDACS    |          |                       |                   |                          |                               |                           |                              | GCSAA                       | FNGLA                       |                             |
|---------------------------------|----------|----------|-----------------------|-------------------|--------------------------|-------------------------------|---------------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------|
|                                 | 482 CORE | 487 CORE | PRIVATE APPLICATOR AG | ORNAMENTAL & TURF | LIMITED URBAN FERTILIZER | LIMITED LANDSCAPE MAINTENANCE | LIMITED LAWN & ORNAMENTAL | COMMERCIAL LAWN & ORNAMENTAL | MAX CEUS EARNED PER SESSION | MAX CEUS EARNED PER SESSION | MAX CEUS EARNED PER SESSION |
| GOLF BMP WORKSHOP               | 2        | 2        | 4                     | 4                 | 1                        | 0                             | 0                         | 4                            | 7                           | Pending                     | 8                           |
| CORE & TURF CEU WORKSHOP        | 2        | 2        | 2                     | 2                 | 1                        | 2                             | 2                         | 2                            | 4                           | .30                         | 4                           |
| LANDSCAPE & IRRIGATION WORKSHOP | 0        | 0        | 2                     | 2                 | 2                        | 2                             | 2                         | 2                            | 2                           | .20                         | 2                           |
| ATHLETIC FIELD WORKSHOP         | 0        | 0        | 2                     | 2                 | 0                        | 2                             | 2                         | 2                            | 2                           | 0                           | 2                           |
| GOLF WORKSHOP                   | 0        | 0        | 2                     | 2                 | 0                        | 0                             | 2                         | 2                            | 2                           | .20                         | 2                           |
| SOD WORKSHOP                    | 0        | 0        | 2                     | 2                 | 0                        | 2                             | 2                         | 2                            | 2                           | 0                           | 2                           |
| CROSS-INDUSTRY ROUNDTABLE       | 0        | 0        | 3                     | 3                 | 2                        | 3                             | 3                         | 3                            | 3                           | .30                         | 3                           |

## TUESDAY WORKSHOPS



**GOLF BMP EDUCATION**  
8:00 a.m. – 5:00 p.m.

**FTGA BOARD OF DIRECTORS MEETING**  
2:00 p.m. – 3:30 p.m.

**CROSS-INDUSTRY MEETING**  
4:00 p.m. – 5:30 p.m.

**FTGA BOARD DINNER**  
6:30 p.m. – 8:30 p.m.



| TIME                    | GOLF BMP EDUCATION              | SPEAKERS  |
|-------------------------|---------------------------------|---|
| 8:00 a.m. – 8:15 a.m.   | Introduction                    | Ralph Dain<br>GCSAA                                     |
| 8:15 a.m. – 8:35 a.m.   | Environmental Concepts          |   |
| 8:35 a.m. – 8:55 a.m.   | Environmental Monitoring        |   |
| 8:55 a.m. – 9:15 a.m.   | Design & Construction           |   |
| 9:15 a.m. – 9:25 a.m.   | BREAK                           |   |
| 9:25 a.m. – 10:20 a.m.  | Irrigation                      | Don Rainey<br>UF/IFAS                                   |
| 10:20 a.m. – 11:15 a.m. | Nutrition & Fertilization       | Dr. J. Bryan Unruh<br>University of Florida             |
| 11:15 a.m. – 12:00 p.m. | LUNCH BREAK                     |   |
| 12:00 p.m. – 12:30 p.m. | Turfgrass Pest Management       | Dr. J. Bryan Unruh<br>University of Florida             |
| 12:30 p.m. – 1:00 p.m.  | Pesticide Management            |   |
| 1:00 p.m. – 1:55 p.m.   | Lake & Aquatic Plant Management | Dr. Bonnie Wells<br>UF/IFAS Brevard<br>County Extension |
| 1:55 p.m. – 2:05 p.m.   | BREAK                           |   |
| 2:05 p.m. – 2:50 p.m.   | Cultural Practices              | Ralph Dain<br>GCSAA                                     |
| 2:50 p.m. – 3:20 p.m.   | Maintenance Operations          |   |
| 3:20 p.m. – 3:30 p.m.   | BREAK                           |   |
| 3:30 p.m. – 4:30 p.m.   | Test                            | Dr. J. Bryan Unruh<br>University of Florida             |

## WEDNESDAY WORKSHOP

| TIME                   | CORE & TURF CEU WORKSHOP  | SPEAKERS  |
|------------------------|---|---|
| Noon – 12:30 p.m.      | BOX LUNCH   |   |
| 12:30 p.m. – 1:20 p.m. | <b>Pesticide Licenses, Updates on Certification &amp; Training Standards</b> - This presentation will discuss the process of getting and keeping a pesticide license in the state of Florida. Category distinctions will be discussed as well as the logic behind why licenses are needed in the first place. Finally an update will be provided about the status of the Certification and Training updates by EPA and what it means for Florida applicators. | Dr. Brett Bultemeier<br>University of Florida             |
| 1:20 p.m. – 2:10 p.m.  | <b>How Pesticides Breakdown Naturally in the Environment</b> - This presentation will discuss Florida soil types and physical properties, along with the biological and chemical processes that start to work on pesticide molecules. This information will train applicators how to assess common ingredients and their longevity in soils, and how to prevent pollution of these chemicals in the future to protect Florida's natural resources.            | Prissy Fletcher<br>UF/IFAS St. John's<br>County Extension |
| 2:10 p.m. – 2:30 p.m.  | BREAK   |   |
| 2:30 p.m. – 3:10 p.m.  | <b>Viral Update: SCMV &amp; Lethal Viral Necrosis of St. Augustinegrass</b> - Review of the distribution and symptoms of the viral disease of St. Augustinegrass, mosaic. Results of ongoing and plans for future research will be presented on screening efforts to continue to identify tolerant varieties, potential RNA interference technologies and more.   | Dr. Phil Harmon<br>University of Florida                  |
| 3:10 p.m. – 4:00 p.m.  | <b>Nematode Diagnosis &amp; Management on Turfgrasses &amp; Ornamentals</b> - Overview of the kinds of nematodes that are common problems on turf and ornamentals in Florida. Learn how to recognize nematode symptoms, collect nematode samples, interpret nematode lab reports and manage nematode pests.   | Dr. Billy Crow<br>University of Florida                   |

# THURSDAY WORKSHOP & EVENTS

## EDUCATIONAL WORKSHOPS

9:00 a.m. – 11:00 a.m.

- Athletic Field Management Workshop
- Golf Management Workshop
- Landscape & Irrigation Management Workshop
- Sod Management Workshop

## CROSS-INDUSTRY ROUNDTABLE

1:30 p.m. – 4:20 p.m.

A board member from the GCSAA, SFMA, FNGLA, FPMA, plus Rep. Truenow to sit on a panel and be asked questions that affect our industry. There will also be discussions on what can we do to build and sustain such a wonderful industry.

## ANNUAL MEETING & AWARDS LUNCH

11:15 a.m. – 1:15 p.m.



| TIME                    | LANDSCAPE & IRRIGATION MANAGEMENT WORKSHOP   | SPEAKERS  |
|-------------------------|--|---|
| 9:00 a.m. – 9:50 a.m.   | <b>Maximizing Irrigation Efficiency in Planting Areas</b> - Learn how to optimize irrigation efficiency through design, best practices and proper product application, and minimize water waste while maintaining optimal plant health.  | <b>Brian Walker</b><br><i>FIS Outdoor</i>                 |
| 10:00 a.m. – 10:50 a.m. | <b>Insect Integrated Pest Management on Landscape Plants</b> - During this session, we will discuss pest and beneficial insects that commonly occur in urban landscapes. We will also discuss how to identify these organisms, the biology and management of the most common and difficult to manage pests, and factors that contribute to pest outbreaks. We will discuss the biology and management of both lawn and ornamental plant insects and the latest integrated pest management research from the University of Florida. Finally, we will discuss emerging insect pests of ornamental plants and recent research from UF on how to manage them most effectively and sustainably. | <b>Dr. Adam Dale</b><br><i>University of Florida</i>      |
| TIME                    | ATHLETIC FIELD MANAGEMENT WORKSHOP   | SPEAKERS  |
| 9:00 a.m. – 9:50 a.m.   | <b>Maintaining Engineered Infield Soils on Baseball &amp; Softball Fields</b> - This session attendees will learn how to switch from a native soil infield material to an engineered infield soil. Discussion will be of the pros and cons, challenges and successes of maintaining an engineered infield soil.  | <b>Rick Perruzzi</b><br><i>City of South Portland</i>     |
| 10:00 a.m. – 10:50 a.m. | <b>Field Painting 101 &amp; Logo Stencil Basic Training</b> - Spend some time learning about what goes into field marking paint that sets it apart from other typical coating such as wall paint or pavement paint. We will explore Pioneer Athletics' line of natural grass and synthetic turf paints in both bulk and aerosol options and how they are applied by machine. Finally, we will get our hands dirty by learning some basic logo stencil painting techniques.   | <b>Brett Hoyer</b><br><i>Pioneer Athletics</i>            |
| TIME                    | GOLF MANAGEMENT WORKSHOP   | SPEAKERS  |
| 9:00 a.m. – 9:50 a.m.   | <b>Benchmarking BMPs - Documenting Evidence of Change</b> - BMPs are aimed at reducing environmental impact of golf course management. Attendees will gain perspective on how best to document the impacts of their management practices and to assess whether improvements are warranted. Additionally, learners will be introduced to easily adopted, low-cost fertilizer and pesticide use best management practices that can be implemented on their facility.   | <b>Dr. J. Bryan Unruh</b><br><i>University of Florida</i> |
| 10:00 a.m. – 10:50 a.m. | <b>New &amp; Upcoming Tools for Nematode Management on Golf Course Turf</b> - The University of Florida's research indicates that use of the same nematicide over and over on turf can lead to nematicide resistance. Learn about how the current nematicides, and soon-to-be-labeled nematicides, work against each of the major nematodes impacting golf turf in Florida. Also, learn how nematicide rotations using different nematicide classes can be implemented to reduce the incidence of nematicide resistance.   | <b>Dr. Billy Crow</b><br><i>University of Florida</i>     |
| TIME                    | SOD MANAGEMENT WORKSHOP  | SPEAKERS  |
| 9:00 a.m. – 9:50 a.m.   | <b>The Life Cycle of a New Turfgrass: From Development to Market</b> - This presentation will cover the process of bringing a new turfgrass to the market, starting with initiation of the development and research phases. It will include the practice of working with land grant universities to introduce new breeding programs and gather the necessary industry support and funding for the development and research of new turfgrasses. The criteria for selecting new turfgrasses will be explained, and examples of several grasses and their paths to the market will be provided.   | <b>Mark Kann</b><br><i>Sod Solutions</i>                  |
| 10:00 a.m. – 10:50 a.m. | <b>Disease Management Strategies for Sod Producers</b> - This presentation will focus on common diseases that affect sod with emphasis on currently available fungicide products and the diseases they control.  | <b>Dr. Phil Harmon</b><br><i>University of Florida</i>    |
| TIME                    | ANNUAL MEETING & AWARDS LUNCH  |   |
| 11:15 a.m. – 1:15 p.m.  | Annual Meeting & Awards Lunch  |   |
| TIME                    | CROSS-INDUSTRY ROUNDTABLE  |   |
| 1:30 p.m. – 4:20 p.m.   | A board member from the Florida GCSA, FNGLA, FPMA, TPF, Central Florida STMA, plus Rep. Truenow will sit on a panel and answer questions that affect our industry. Also there will be discussions on what can we do to build and sustain such a wonderful industry.  |   |



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## ADAM JONES Awarded the FTGA 2022 Wreath of Grass Award



**M**assey Services and the Florida Turfgrass Association (FTGA) announced that Massey Services Vice President and Director of Quality Assurance, Adam Jones, will be honored with the FTGA Wreath of Grass award. Distributed annually since 1960, this award is FTGA's highest honor and recognizes individuals who have shown outstanding service to the association and the turfgrass industry.

"Adam has been a tireless advocate for the green industry," said Mac Carraway, acting executive director for the Florida Turfgrass Association. "His early involvement in the creation of the Environmental Research and Education Foundation (EREF) and his ongoing support and leadership have been absolutely critical to its mission. As a relentless student of the industry and its practices, he is able to bring the facts about our work to the table."

Jones has served as a mentor for the FTGA for more than 25 years. He has spoken at numerous public hearings regarding green industry issues and has assisted EREF and others with efforts to provide statistical facts regarding green issues. In 2016, while serving as the president of the Florida Pest Management Association (FPMA), Jones helped integrate FTGA efforts so the two associations could approach state regulators with a powerful and unified message.

"Adam exemplifies the values of our company and our industry," said Tony Massey, president and CEO of Massey Services. "He has a clear and consistent focus on impacting positive change that will result in quality customer service. His contributions have made a significant impact on our landscape service, which focuses on an environmentally responsible, agronomic program. We congratulate Adam on this well-deserved recognition."

Jones becomes the 100th recipient of this award, which will be presented at the association's 70th Annual Conference at the Omni ChampionsGate Resort in Kissimmee, Florida on November 30th.

## FTRF Scholarship Recipients Honored

The Florida Turfgrass Research Foundation (FTRF) has announced two Florida students will receive scholarships for the 2023 academic year. Both recipients attend the University of Florida (UF) and are preparing for careers in turfgrass management. The FTRF is a 501(c)(3) foundation and is funded through FTGA membership dues and member contributions. To date, the FTRF has awarded \$243,500 in scholarships.

The scholarship recipients will receive their awards at the 70th Annual FTGA Conference at the Omni ChamptionsGate on November 30th.



### **FERNANDA AREVALO**

#### Col. Frank Ward Memorial Scholarship

Fernanda Arevalo, University of Florida, is awarded the Col. Frank Ward Memorial Scholarship for \$1,500. She chose to study turfgrass because, “Turfgrass science is highly overlooked, and there is a world of opportunities in the research of turfgrass.” She is inspired by the vast availability of data and wants to be part of helping to improve turfgrass management. Arevalo received the Best Undergraduate Dissertation at the Department of Environmental Science in Sustainability at Zamorano University. Currently, she is working under the guidance of Dr. Marco Schiavon at UF’s Fort Lauderdale Research and Education Center.



### **MOHAMMAD KYUM**

#### Ralph White Scholarship

Mohammad Kyum, University of Florida, is awarded the Ralph White Scholarship for \$1,000. He attended undergraduate and graduate school in India. Kyum began his Ph.D. studies in plant biology at South Dakota State University, continuing his work with the Crispr/Cas9 gene editing technique in rice, corn, wheat, and barley and says he transferred to UF because “[my] interests towards applied research prompted me to transition for the pursuit of my academic goals.” Currently, he is working under the guidance of Dr. Kevin Kenworthy in Gainesville and is responsible for overseeing and managing ongoing research projects, including turf trials and lab experiments.

### **Col. Frank Ward Memorial Scholarship**

Colonel Frank Ward personally awarded the first scholarship named in his honor to a University of Florida student at the 10th Annual Turfgrass Management Conference. As a retired Army colonel, Ward served two terms as President of the FTGA, from 1956-1958. He also edited the first FTGA newsletter. In 1960, he established the Wreath of Grass Award, and in 1963, he received the award. Ward’s efforts were instrumental in establishing the FTGA as a force in the turfgrass industry in Florida.

### **Ralph W. White Scholarships**

The Ralph W. White Scholarship is awarded to a graduate or undergraduate student who is studying turfgrass management or a related agronomic field at any institution of higher learning in the state of Florida. White served as FTGA president from 1961 to 1963 and received the Wreath of Grass in 1963. He became one of only two Gold Wreath recipients in 2015 for his outstanding service to the association and turfgrass industry.

**RIVIERA  
COUNTRY CLUB  
Awarded  
“2023 Florida  
Celebration  
Golf Course  
of the Year”**



**R**iviera Country Club’s Director of Facility and Grounds Maintenance, PJ Salter, and his golf course maintenance team were awarded the “2023 Florida Celebration” Golf Course of the Year” Award. The award is given annually to talented maintenance professionals who display excellence in maintaining Celebration Bermudagrass golf courses and sports fields.

The award is presented annually at the Florida Turfgrass Association (FTGA) Conference, held at the Omni Orlando Resort at ChampionsGate on Nov. 28–30 in Kissimmee, Florida.

“We do about 35,000 rounds every year and the driving range gets put through the ringer. We found the recoverability great. [Celebration is], I would say, the industry standard down here. We have been extremely happy with the product,” Salter said.

Founded in 1925 and designed by the renowned architect Donald Ross, Riviera Country Club boasts a storied history spanning a century, making it a cherished destination for golf enthusiasts. The introduction of Celebration® Bermudagrass began in 2006 when it was initially installed on the driving range tee, and its exceptional performance led to the complete coverage of the entire course during the 2015 renovation.

Against the backdrop of the equally historic Miami Biltmore Hotel, Celebration has proven its resilience to year-round heavy traffic and rapid recovery from damage, surpassing other grass varieties. This region’s favorable climate negates the need for overseeding. With its rich heritage, captivating Mediterranean-inspired architecture,

and an unwavering commitment to delivering an extraordinary experience for members and guests, Riviera Country Club continues to symbolize South Florida’s opulent lifestyle and enduring sporting traditions.

Previous winners of the Golf Course of the Year award include Florida Atlantic Softball Stadium, The Country Club of Naples, Ben Hill Griffin Stadium, Roger Dean Stadium in Jupiter, The Club Pelican Bay in Naples, Admiral’s Cove in Jupiter, Orlando FC’s Exploria Stadium, North Palm Beach Country Club, Harbour Ridge Yacht and Country Club and the Country Club of Florida.

For more info on this Celebration course, visit [sodsolutionspro.com/case-study/37802](https://sodsolutionspro.com/case-study/37802).

#### **GIVING BACK**

Salter, who oversees the maintenance of the golf course, clubhouse and housekeeping at Riviera Country Club, is married and has three daughters. One of his daughters was born with Axenfeld-Rieger syndrome, a rare eye disorder that can affect other parts of the body. In the first year of her life, she had 10 eye and two open heart surgeries. After meeting families who weren’t as fortunate to have the support provided throughout their journey, Salter and his family were inspired to start the Persephone Mae Foundation, a 501(c)(3) nonprofit.

The foundation supports children and families who experience rare syndromes and visual impairments. The organization hosts an annual golf outing to raise money. Celebrating its 5th anniversary this year, it has raised over \$400,000 for the charity. For more information or to support this charity, visit [webelieveinunicorns.org](https://webelieveinunicorns.org).





# 2024 MEMBERSHIP DRIVE



The FTGA is committed to providing advocacy, communication, education, networking and research for professionals in and associated with the turfgrass industry.

This year, we're combining the membership drive with the Regional Turf Seminars and CUE Round Up Webinars registration so you can sign up for everything at the same time and not worry about missing deadlines. More information on the educational events will be forthcoming in early 2024.

## ADD UP THE BENEFITS OF MEMBERSHIP

### The vision of the Florida Turfgrass Association is to:

- ✓ Administer strong leadership as a partner organization for its members in the turfgrass industry
- ✓ Support agronomic and policy research
- ✓ Provide relevant and accessible education
- ✓ Serve as an industry advocate for its members and their interests
- ✓ Provide in-person social and networking events
- ✓ Promote environmental stewardship through its established best management practices
- ✓ Elevate the professionalism of its membership

### EDUCATION BENEFITS

**For you, your staff and your company:**

Knowledge, training, performance and efficiency benefits arising from focused education offerings at Turf Seminars and the annual Conference.

### INDUSTRY BENEFITS

**For you and your company:**

- Networking, Social Engagement and FUN

**For your children:**

- FTGA Annual Legacy Scholarships

**For you, your industry and its future:**

- FTRF Industry Research
- FTRF Annual Industry Scholarships
- FTRF Emergency Benevolence Fund

### FEBRUARY

|                 |   |         |
|-----------------|---|---------|
| Port St. Lucie  | Port St. Lucie Community Center                 | 2.13.24 |
| Lake Worth      | Polish American Club                            | 2.15.24 |
| New Port Richey | Pasco-Hernando College                          | 2.20.24 |
| Plant City      | Hillsborough Community College   Trinkle Center | 2.21.24 |
| Ft. Myers       | Florida Southwestern College                    | 2.22.24 |
| Tallahassee     | Southwood Golf Club                             | 2.27.24 |
| St. Augustine   | St. John's County Ag Center                     | 2.28.24 |

### MARCH

|         |                                |         |
|---------|--------------------------------|---------|
| Orlando | Orange County Extension Office | 3.19.24 |
| Ocala   | Marion County Extension Office | 3.20.24 |

**SAVE THE DATE**



**2024 TURF SEMINARS**

**Education & CEUS**



# 2024 ASSOCIATION MEMBERSHIP & EDUCATION

PO Box 14836 Bradenton, FL 34280 | (863) 688-9413 | Heather@FTGA.org

| INDIVIDUAL MEMBERSHIP & EDUCATION APPLICATION  |   |   |   |  |  |
|--|---|---|---|--|--|
| <p><i>Application must be received by 2/1 to attend the Turf Seminars</i><br/> <i>Application must be received by 3/15 to be included in the Membership Directory &amp; Industry Guide</i></p> |   |   |   |  |  |
| Business Contact Information   |   |   |   |  |  |
| Full Name  |   |   |   |  |  |
| Company  |   |   |   |  |  |
| City   |   | ST  |   | ZIP                                      |  |
| Phone  |   | Email   |   |  |  |
| Membership Type (check one)  |   |   |   |  |  |
| <input type="checkbox"/> Active<br>\$225   | <input type="checkbox"/> Technician<br>\$50               | <input type="checkbox"/> Not-For-Profit/Association/Municipal<br>\$50 | <input type="checkbox"/> Retired<br>\$50                            | <input type="checkbox"/> Student<br>Free |  |
| Industry Category (check one)  |   |   |   |  |  |
| <input type="checkbox"/> Architects/Consultants  | <input type="checkbox"/> Chemical Products/Baits/Services | <input type="checkbox"/> Commercial Supplier                          |   |  |  |
| <input type="checkbox"/> Crop Protection/Nutrients/<br>Soil Enhancements   | <input type="checkbox"/> Equipment/Irrigation/Drainage    | <input type="checkbox"/> Golf Superintendent                          |   |  |  |
| <input type="checkbox"/> Lawn/Landscape/Pest Control   | <input type="checkbox"/> Municipal/Schools/Sports Fields  | <input type="checkbox"/> Nursery/Sod Production                       |   |  |  |
| <input type="checkbox"/> Soil Mgmt./Amendments/Sand  | <input type="checkbox"/> Specialty Products/Services      | <input type="checkbox"/> Trade Association                            |   |  |  |
| <input type="checkbox"/> University/Extension  |   |   |   |  |  |
| TURF SEMINAR REGISTRATION (IN-PERSON)<br>\$45 EACH   |   |   | CEU ROUND UP WEBINARS<br>\$30 EACH                                  |  |  |
| <input type="checkbox"/> Feb. 13<br>Port St. Lucie   | <input type="checkbox"/> Feb. 15<br>Lake Worth            | <input type="checkbox"/> Feb. 20<br>New Port Richey                   | <input type="checkbox"/> July 16 Session 1 CORE Focus               |  |  |
| <input type="checkbox"/> Feb. 21<br>Plant City   | <input type="checkbox"/> Feb. 22<br>Ft. Myers             | <input type="checkbox"/> Feb. 27<br>Tallahassee                       | <input type="checkbox"/> July 17 Session 2 L&O Focus                |  |  |
| <input type="checkbox"/> Feb. 28<br>St. Augustine  | <input type="checkbox"/> Mar. 19<br>Orlando               | <input type="checkbox"/> Mar. 20<br>Ocala                             | <input type="checkbox"/> July 23 Session 3 LUF Focus                |  |  |
|  |   |   | <input type="checkbox"/> July 24 Session 4 Aquatics, NAW, ROW Focus |  |  |
| PAYMENT INFORMATION  |   |   |   |  |  |
| FTGA Member Dues   | \$  | Check #   |   |  |  |
| Turf Seminar Registration  | \$  | Credit Card #   |   |  |  |
| CEU Round Up Registration  | \$  | Exp. Date   | CCV Code  |  |  |
| Florida Turfgrass Research Foundation Donation   | \$  | Billing Zip Code  |   |  |  |
| Grand Total  | \$  |   |   |  |  |

**GROUP MEMBERSHIP & EDUCATION APPLICATION**

*Application must be received by 2/1 to attend the Turf Seminars  
Application must be received by 3/15 to be included in the Membership Directory & Industry Guide*

**Primary Business Contact Information**

|                  |  |              |            |
|------------------|--|--------------|------------|
| <b>Full Name</b> |  |              |            |
| <b>Company</b>   |  |              |            |
| <b>City</b>      |  | <b>ST</b>    | <b>ZIP</b> |
| <b>Phone</b>     |  | <b>Email</b> |            |

**Group Membership Type (check one)**

|                          |                                      |         |  |
|--------------------------|--------------------------------------|---------|--|
| <input type="checkbox"/> | Not-For-Profit/Municipal/Association | \$200   | Includes 4 employees, add employees for \$35 each  |
| <input type="checkbox"/> | Basic                                | \$400   | Includes 2 employees, add employees for \$100 each |
| <input type="checkbox"/> | Premium                              | \$825   | Includes 5 employees, add employees for \$75 each  |
| <input type="checkbox"/> | Premium-Plus                         | \$1,750 | Includes 15 employees, add employees for \$50 each |

**Industry Category (check one)**

|                          |   |                          |                                  |                          |                        |                          |                      |
|--------------------------|---|--------------------------|----------------------------------|--------------------------|------------------------|--------------------------|----------------------|
| <input type="checkbox"/> | Architects/Consultants                          | <input type="checkbox"/> | Chemical Products/Baits/Services | <input type="checkbox"/> | Commercial Supplier    |                          |                      |
| <input type="checkbox"/> | Crop Protection/Nutrients/<br>Soil Enhancements | <input type="checkbox"/> | Equipment/Irrigation/Drainage    | <input type="checkbox"/> | Golf Superintendent    |                          |                      |
| <input type="checkbox"/> | Lawn/Landscape/Pest Control                     | <input type="checkbox"/> | Municipal/Schools/Sports Fields  | <input type="checkbox"/> | Nursery/Sod Production |                          |                      |
| <input type="checkbox"/> | Soil Mgmt./Amendments/Sand                      | <input type="checkbox"/> | Specialty Products/Services      | <input type="checkbox"/> | Trade Association      | <input type="checkbox"/> | University/Extension |

**Additional Members**

|              |  |                |  |
|--------------|--|----------------|--|
| <b>Name</b>  |  | <b>Address</b> |  |
| <b>Phone</b> |  | <b>Email</b>   |  |
| <b>Name</b>  |  | <b>Address</b> |  |
| <b>Phone</b> |  | <b>Email</b>   |  |
| <b>Name</b>  |  | <b>Address</b> |  |
| <b>Phone</b> |  | <b>Email</b>   |  |

**TURF SEMINAR REGISTRATION (IN-PERSON) \$45 PER PERSON**

|                |                       |                    |                   |                |                        |
|----------------|-----------------------|--------------------|-------------------|----------------|------------------------|
| <b>Feb. 13</b> | <b>Port St. Lucie</b> | <b>Feb. 15</b>     | <b>Lake Worth</b> | <b>Feb. 20</b> | <b>New Port Richey</b> |
| <b>Feb. 21</b> | <b>Plant City</b>     | <b>Feb. 22</b>     | <b>Ft. Myers</b>  | <b>Feb. 27</b> | <b>Tallahassee</b>     |
| <b>Feb. 28</b> | <b>St. Augustine</b>  | <b>Mar. 19</b>     | <b>Orlando</b>    | <b>Mar. 20</b> | <b>Ocala</b>           |
| <b>Name</b>    |                       | <b>Location(s)</b> |                   |                |                        |
| <b>Name</b>    |                       | <b>Location(s)</b> |                   |                |                        |
| <b>Name</b>    |                       | <b>Location(s)</b> |                   |                |                        |

**CEU ROUND UP WEBINARS \$30 PER PERSON**

|                |                  |                   |                   |                  |                                 |
|----------------|------------------|-------------------|-------------------|------------------|---------------------------------|
| <b>July 16</b> | <b>Session 1</b> | <b>CORE Focus</b> | <b>July 17</b>    | <b>Session 2</b> | <b>L&amp;O Focus</b>            |
| <b>July 23</b> | <b>Session 3</b> | <b>LUF Focus</b>  | <b>July 24</b>    | <b>Session 4</b> | <b>Aquatics, NAW, ROW Focus</b> |
| <b>Name</b>    |                  |                   | <b>Session(s)</b> |                  |                                 |
| <b>Name</b>    |                  |                   | <b>Session(s)</b> |                  |                                 |
| <b>Name</b>    |                  |                   | <b>Session(s)</b> |                  |                                 |

**PAYMENT INFORMATION**

|   |    |                         |                 |
|---|----|-------------------------|-----------------|
| <b>FTGA Member Dues</b>                               | \$ | <b>Check #</b>          |                 |
| <b>Turf Seminar Registration</b>                      | \$ | <b>Credit Card #</b>    |                 |
| <b>CEU Round Up Registration</b>                      | \$ | <b>Exp. Date</b>        | <b>CCV Code</b> |
| <b>Florida Turfgrass Research Foundation Donation</b> | \$ | <b>Billing Zip Code</b> |                 |
| <b>Grand Total</b>                                    | \$ |                         |                 |

# 2024 ANNUAL PARTNER PROGRAM & FORM

## PRESENTING PARTNER

\$17,000

**Membership** unlimited members  
**Turf Seminars** table at each location  
**Annual Conference** up to 4 members  
 1 Golf Foursome  
 Annual Meeting & Awards Lunch  
 Corn Boil Tickets  
 Opening Reception Tickets  
 Logo on brochures, lanyards, signage, notepads, golf tee sign and more  
 Golf Tent and Vendor Table at selected events  
**Advertising** recognition in every issue  
 5 Full-Page Print Ads  
 4 eNewsletter Banner Ads  
 Each Month Social Media Post  
**Webinars** logo recognition in presentation  
**Website** logo recognition on FTGA website  
**Advocacy** participation on Legislative Day  
 Supports lobbying firm

## GOLD PARTNER

\$8,500

**Membership** up to 20 members  
**Turf Seminars** table at each location  
**Annual Conference** up to 2 members  
 Annual Meeting & Awards Lunch  
 Corn Boil Tickets  
 Opening Reception Tickets  
 Logo on Conference Gold Opportunity  
**Advertising** recognition in every issue  
 5 Half-Page Print Ads  
 2 eNewsletter Banner Ads  
 Each Month Social Media Post  
**Webinars** logo recognition in presentation  
**Website** logo recognition on FTGA website  
**Advocacy** participation on Legislative Day  
 Supports lobbying firm

## BRONZE PARTNER

\$2,700

**Membership** up to 10 members  
**Turf Seminars** table at each location  
**Annual Conference** up to 1 member  
 Annual Meeting & Awards Lunch  
 Corn Boil Tickets  
 Opening Reception Ticket  
 Logo on Conference Bronze Opportunity  
**Advertising** recognition in every issue  
 2 Third-Page Print Ads  
 1 eNewsletter Banner Ads  
 Each Month Social Media Post  
**Webinars** logo recognition in presentation  
**Website** logo recognition on FTGA website  
**Advocacy** participation on Legislative Day  
 Supports lobbying firm

## PLATINUM PARTNER

\$12,000

**Membership** unlimited members  
**Turf Seminars** table at each location  
**Annual Conference** up to 3 members  
 1 Golf Foursome  
 Annual Meeting & Awards Lunch  
 Corn Boil Tickets  
 Opening Reception Tickets  
 Logo Conference Platinum Opportunity  
 Golf Tent and Vendor Table at selected events  
**Advertising** recognition in every issue  
 4 Full-Page Print Ads  
 3 eNewsletter Banner Ads  
 Each Month Social Media Post  
**Webinars** logo recognition in presentation  
**Website** logo recognition on FTGA website  
**Advocacy** participation on Legislative Day  
 Supports lobbying firm

## SILVER PARTNER

\$5,500

**Membership** up to 15 members  
**Turf Seminars** table at each location  
**Annual Conference** up to 2 members  
 Annual Meeting & Awards Lunch  
 Corn Boil Tickets  
 Opening Reception Tickets  
 Logo on Conference Silver Opportunity  
**Advertising** recognition in every issue  
 3 Third-Page Print Ads  
 1 eNewsletter Banner Ads  
 Each Month Social Media Post  
**Webinars** logo recognition in presentation  
**Website** logo recognition on FTGA website  
**Advocacy** participation on Legislative Day  
 Supports lobbying firm

### \*Advertising

Refer to Media Kit for:

- Ad reservation dates
- Ad due dates
- Ad dimensions
- Social Media and eNewsletter content due dates

### Submit form:

Heather Russo, Association Manager  
 Heather@FTGA.org  
 (863) 688-9413

| ANNUAL PARTNER FORM COMPANY INFORMATION   |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
|---|------|------|----------|--------------------|------|--------|------|-------------------------|--------|------|------|------------------|--|--|
| Contact Name  |      |      |          | Company Name       |      |        |      |                         |        |      |      |                  |  |  |
| Phone   |      |      |          | Email              |      |        |      |                         |        |      |      |                  |  |  |
| SELECT LEVEL  |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Presenting  |      |      | Platinum |                    |      | Gold   |      |                         | Silver |      |      | Bronze           |  |  |
| MEMBERSHIP (make copies for more members)   |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Name  |      |      |          |                    |      | Phone  |      |                         |        |      |      |                  |  |  |
| Full Contact Address  |      |      |          |                    |      | Email  |      |                         |        |      |      |                  |  |  |
| Name  |      |      |          |                    |      | Phone  |      |                         |        |      |      |                  |  |  |
| Full Contact Address  |      |      |          |                    |      | Email  |      |                         |        |      |      |                  |  |  |
| Name  |      |      |          |                    |      | Phone  |      |                         |        |      |      |                  |  |  |
| Full Contact Address  |      |      |          |                    |      | Email  |      |                         |        |      |      |                  |  |  |
| Name  |      |      |          |                    |      | Phone  |      |                         |        |      |      |                  |  |  |
| Full Contact Address  |      |      |          |                    |      | Email  |      |                         |        |      |      |                  |  |  |
| Name  |      |      |          |                    |      | Phone  |      |                         |        |      |      |                  |  |  |
| Full Contact Address  |      |      |          |                    |      | Email  |      |                         |        |      |      |                  |  |  |
| Name  |      |      |          |                    |      | Phone  |      |                         |        |      |      |                  |  |  |
| Full Contact Address  |      |      |          |                    |      | Email  |      |                         |        |      |      |                  |  |  |
| Name  |      |      |          |                    |      | Phone  |      |                         |        |      |      |                  |  |  |
| Full Contact Address  |      |      |          |                    |      | Email  |      |                         |        |      |      |                  |  |  |
| Name  |      |      |          |                    |      | Phone  |      |                         |        |      |      |                  |  |  |
| Full Contact Address  |      |      |          |                    |      | Email  |      |                         |        |      |      |                  |  |  |
| Name  |      |      |          |                    |      | Phone  |      |                         |        |      |      |                  |  |  |
| Full Contact Address  |      |      |          |                    |      | Email  |      |                         |        |      |      |                  |  |  |
| Name  |      |      |          |                    |      | Phone  |      |                         |        |      |      |                  |  |  |
| Full Contact Address  |      |      |          |                    |      | Email  |      |                         |        |      |      |                  |  |  |
| ADVERTISING   |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Check the issue(s) your company will provide print advertisement.   |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Winter  |      |      | Spring   |                    |      | Summer |      |                         | Fall   |      |      | Annual Directory |  |  |
| SOCIAL MEDIA POSTS  |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Circle the month(s) your company will provide social media content.   |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Jan.  | Feb. | Mar. | Apr.     | May                | June | July   | Aug. | Sept.                   | Oct.   | Nov. | Dec. |                  |  |  |
| NEWSLETTER VENDOR SPOTLIGHT   |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Circle the month(s) your company will provide content and image.  |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Jan.  | Feb. | Mar. | Apr.     | May                | June | July   | Aug. | Sept.                   | Oct.   | Nov. | Dec. |                  |  |  |
| NEWSLETTER BANNER SPONSOR   |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Circle the month(s) your company will provide content and image. One company per month, first-come, first-served basis.   |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Jan.  | Feb. | Mar. | Apr.     | May                | June | July   | Aug. | Sept.                   | Oct.   | Nov. | Dec. |                  |  |  |
| TURF SEMINARS   |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Your company receives a table at each seminar; however, check the seminars you will be able to attend as there is limited space in some facilities. Representative names do not need to be submitted. |      |      |          |                    |      |        |      |                         |        |      |      |                  |  |  |
| Feb. 13 Port St. Lucie  |      |      |          | Feb. 15 Lake Worth |      |        |      | Feb. 20 New Port Richey |        |      |      |                  |  |  |
| Feb. 21 Plant City  |      |      |          | Feb. 22 Ft. Myers  |      |        |      | Feb. 27 Tallahassee     |        |      |      |                  |  |  |
| Feb. 28 St. Augustine   |      |      |          | Mar. 19 Orlando    |      |        |      | Mar. 20 Ocala           |        |      |      |                  |  |  |



# No More Secrets about GPS Spray Control!

Ninja GPS installed in a Frost Inc. Kubota RTV Sprayer.

By Ken Rost, President, Frost Inc.

It is no longer a secret what effect GPS spray controls can have on the management of turf. In 2012, early adopters had the idea that on-screen guidance and individual nozzle control would yield an unknown amount of chemical savings based on a diminished amount of over-sprayed areas. What these early adopters soon found out was that there were several other solutions for legacy management challenges that GPS spray control systems could address.

One of the largest benefits revealed was an increase in productivity and how to get spray applications done in a timely manner without disrupting play. As an example, let's say a common golf course fairway spray application takes two machines, two spray technicians and eight hours to complete. With GPS and dual nozzle control, that same amount of work could be done by one machine, one spray tech and in six hours. I know it's hard to believe, but it's also hard to overlook—especially knowing the sizable cost of an extra sprayer and the scarcity of finding extra spray technicians!

Another valuable factor for GPS sprayers is in the mapping and recording of spray jobs. Being able to see

and track exactly where spray chemicals have been applied is a huge benefit. A golf superintendent might ask their crew, "How did it go?" and the immediate response might be, "All good! Everything got sprayed." But did it? Within a few days, disease or insect activity might start to show up where the turf wasn't sprayed as reported. Collars may start to turn brown where the overspray of plant growth regulators (PGRs) have knocked it so hard that they need life support. It can also happen where a neighboring homeowner might claim that spray technicians cruised across their lawn and killed their begonias! With GPS spray control systems, having a report of exactly what chemical and where it has been applied can be a very valuable tool for quickly resolving disputes. There is also the reality of regulatory oversight and the need to provide spray application data upon request. Having a fully detailed map and application data electronically available will impress any regulatory auditor.

Having diverse grasses on collars creates an aesthetic that some golfers like, but managing growth with PGRs can be almost impossible with full four-nozzle boom sections. There is constant overlapping of potentially the



Training golf course staff to use a GPS sprayer.

GPS Visual of how GPS works.

wrong PGR on the wrong grass type. No matter what, something is either going to get oversprayed or under-sprayed. And how do you train an operator to make those decisions on which side to err? GPS systems can take the error opportunity down to a 20" or even 10" resolution versus an 80" error.

Perhaps the most appreciated feature is that GPS spray control systems can automatically control each individual nozzle during a spray application based on mapping. The GPS system turns nozzles on and off automatically, letting the operator focus more on piloting the sprayer. This can be especially important around small areas like greens and tees on a golf course. Training someone to spray small areas manually with a conventional sprayer can take a lot of time and will yield many mistakes. Training to use automatic GPS-controlled sprayers is minimal, and the applications will be more precise and efficient. Considering the more tech-savvy pool of potential spray techs, it is easier to attract the best candidates by giving them the automated functions of GPS spray control.

We can't dispute the environmental impact that golf courses have on our landscape—urban, suburban or rural.

These are environmental gems that provide green space for whole communities, not just for the players of the game. Because of this, we are charged with minimizing waste and overall inputs while still maintaining quality turf.

If there is a big secret about GPS spray control systems, the secret is 17%! The running average of spray product savings reported by GPS spray control system customers over the last ten years is 17%. Added up year after year, the case is already made; GPS spray control pays back! And it helps turf managers be more accurate, efficient and responsible. 🌱



**Ken Rost** is the founder of Frost Inc. ([www.frostserv.com](http://www.frostserv.com)), which specializes in spray technology products for the turf care industry. He has 30 years of experience in the spray technology field and has been fitting spray equipment with GPS-guided application systems for the last 10 years. Ken earned his undergraduate and master's degrees in agricultural science at the University of Minnesota. Ken's experience working hands-on with precision farming technologies and the people who use them brings a realistic approach to the execution of spray applications.



\*1st Place Poster at the UF/IFAS Southeast Extension District's (SEED) Fall Symposium at the Indian River Research and Education Center in Fort Pierce on October 12.

# Assisting Florida Sod Producers

## Protecting Water Quality by Quantifying Nutrient Inputs and Exports

Wells, B.<sup>1</sup>, Unruh, B.<sup>2</sup>, Lindsey, A.<sup>3</sup>, VanWeelden, M.<sup>4</sup>, Jancig, M.<sup>5</sup>, Schiavon, M.<sup>6</sup>, Kenworthy, K.<sup>2</sup> and Walter, J.<sup>1</sup> | UF/IFAS Extension Brevard County<sup>1</sup>, West Florida Research and Education Center<sup>2</sup>, University of Florida, Gainesville<sup>3</sup>, UF/IFAS Extension Palm Beach County<sup>4</sup>, UF/IFAS Extension Leon County<sup>5</sup>, Ft. Lauderdale Research and Education Center<sup>6</sup>



Figure 1. Freshly harvested Zoysiagrass field, St. Cloud. Photo by Bonnie Wells.



Figure 2. Palette of harvested St. Augustinegrass, Ruskin. Photo by Bonnie Wells.



Figure 3. EcoTurf (perennial peanut) ready to be harvested, Ruskin. Photo by Bonnie Wells.

### Situation

Enrollment in the Florida Department of Agriculture's (FDACS) Best Management Practices (BMP) program is required for farms in Basin Action Management Plan (BMAP) areas. Sod farmers follow BMP manual production guidelines for improved water quality/quantity. Challenges arise due to perceived low fertilization rates, especially in South Florida, with faster production cycles. Also, harvested sod carries soil-bound nutrients and residual fertilizer away from the farm. Nutrient export worsens low fertilizer rates and fast production cycles. The BMP manual is currently being revised to clarify and update sod management BMPs. One proposed revision emphasizes achieving nutrient balance for nitrogen (N) and phosphorus (P) inputs/exports on sod operations. Published data on nutrient export in Florida's sod production is lacking. Our project, funded through a 2022 FDACS BMP mini-grant, aims to provide relevant sod production training to Florida sod producers by quantifying nutrient inputs and exports from sod slab analysis.

### Results

N and P exports show variability by species of grass grown. Estimates of N export range from 618 lbs/acre (centipedegrass) to 1,025 lbs/acre (bermudagrass) and P export from 84 lbs/acre (centipedegrass) to 142 lbs/acre (bermudagrass).



Scan for detailed survey and nutrient analysis data and results.

### Conclusions

Results from this demonstration trial offer additional guidance on N and P export from harvested sod leaving the farm. The variability observed herein and as noted in the Cisar et al., 2009 report suggest that additional work remains needed. Specifically, nitrogen and phosphorous sinks remain yet to be determined. Additionally, the influence of soil depth on harvest export of nitrogen and phosphorus needs further exploration. Key questions: Does shallower cut sod result in less nitrogen and phosphorus export? Are nutrients concentrated nearer the surface?

### Objectives

- Survey Florida sod producers for current BMPs related to nutrient management
- Quantify nutrient exports on sod farms across Florida through sod slab soil and tissue analysis for different turfgrass cultivars
- Provide targeted training to sod producers from data obtained from surveys and nutrient export quantification

### Methodology

Surveys were designed using Qualtrics and an existing questionnaire by Cisar et al. (2009) to assess current BMP practices among sod producers. Collaboration with sod producers began in December 2022 via email and phone calls. Ten participating farms were visited for surveying and sod slab sampling from April to June 2023 across various counties from North to South Florida. Freshly harvested mature sod slabs for each available turfgrass cultivar were collected from the ten cooperating farms and mailed to University turfgrass labs for processing: drying, weighing, and soil and plant tissue separation. For nutrient analysis, soil and plant tissue sub-samples were further analyzed at Waters Agriculture Lab in Camilla, GA.

### Future

In collaboration with UF turfgrass management specialists, I will explore additional grant funding opportunities to initiate projects that may help answer the key questions remaining from this study.

**Acknowledgement:** Thank you to the Turfgrass Producers of Florida for the support and collaboration!

**Literature Cited:**  
Cisar, J.L., McGroary, P.C. and Snyder, G.H. 2009. Nutrient Study for Sod Production in Lake Okeechobee Watershed. Task 4 Final Report. 61 pp.

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## How Safe is Rain Barrel Water Quality in South Florida? UF/IFAS EXPERTS EXPLAIN

By Lourdes Mederos, Public Relations Manager,  
 University of Florida UF/IFAS

**M**uch more than a garden trend, rain barrels are an eco-friendly, long-term solution to sustainable watering. They save money, promote water conservation and reduce the amount of stormwater runoff, potentially reducing flooding.

While rainwater is naturally soft and free of chemicals, consumers remain hesitant to install and use rain barrel water to irrigate their gardens and landscapes because of safety concerns with the water.

Just how safe is water harvested in a rain barrel? A team of three University of Florida scientists at the Institute of Food and Agricultural Sciences (UF/IFAS) in Fort Lauderdale sampled and analyzed the water from barrels, lakes and ponds throughout South Florida to find that answer.

“A common question I receive from gardeners is if the water is safe to use in their garden when it is coming off

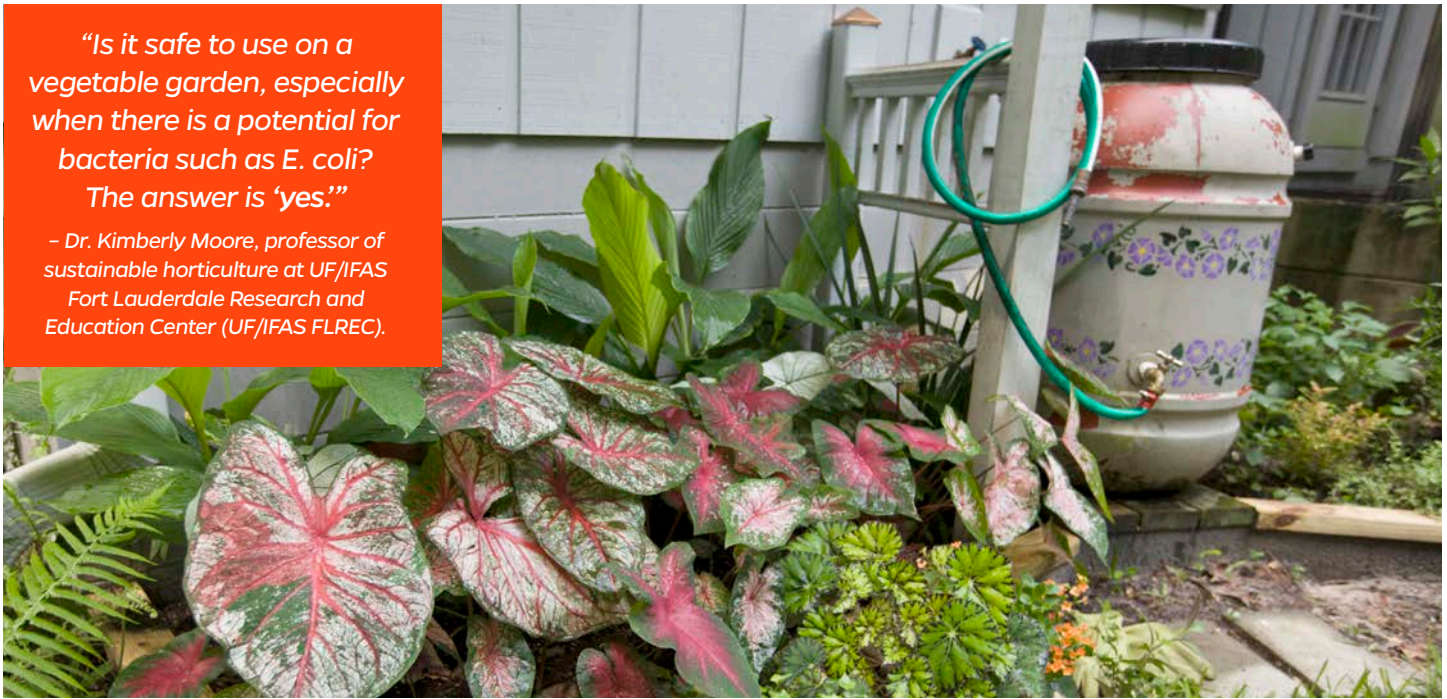
their ‘dirty’ roofs,” said Dr. Kimberly Moore, professor of sustainable horticulture at UF/IFAS Fort Lauderdale Research and Education Center (UF/IFAS FLREC). “Is it safe to use on a vegetable garden, especially when there is a potential for bacteria such as E. coli? The answer is ‘yes.’”

The study is one of the latest Extension documents published this month on Ask IFAS, the peer-reviewed website UF/IFAS Electronic Data Information Source (EDIS) (<https://edis.ifas.ufl.edu/publication/EP640>).

“Rain barrels have come a long way,” said Lorna Bravo, a co-author and urban horticulture agent who also serves as UF/IFAS Extension Broward County director. “Rain barrels come in all shapes and sizes and can be decorated to match the exterior décor of your home. Painting them helps prevent sunlight from entering and may reduce algae growth on the exterior of white or clear plastic barrels.”

*“Is it safe to use on a vegetable garden, especially when there is a potential for bacteria such as E. coli? The answer is ‘yes.’”*

*– Dr. Kimberly Moore, professor of sustainable horticulture at UF/IFAS Fort Lauderdale Research and Education Center (UF/IFAS FLREC).*



Bravo also assures consumers that rain barrels are easy to install and have many advantages, such as reducing water bills by reducing potable water use in the landscape.

To better understand rain barrel water quality, the trio sampled water from 60 rain barrels throughout South Florida properties. They collected 25 samples from tile roofs, 20 from shingle roofs and 15 from metal roofs. They tested the pH, soluble salt levels and nutrient levels in rainwater collected from the three sets of roofs. They found no difference based on roof type.

To test for E. coli and coliform in the water, they purchased AquaVial Well Water testing kits typically used for drinking water, pool, pond, lake and well-water testing. They chose a mainstream kit they purchased online to imitate what any homeowner could buy and use. The water analysis showed no evidence of E. coli in any samples.

“We suspect that the high solar radiation and high temperatures in South Florida killed any potential pathogens on the roof surfaces,” said Dr. Moore.

From 1998 to 2016, the average levels of solar radiation hitting roofs in South Florida were recorded as extremely high, with roof temperatures ranging from 124 degrees to 150 degrees. Temperatures greater than 149 degrees will kill bacteria in water, and most plant pathogenic bacteria and fungi will die in soils at

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temperatures ranging from 130 degrees to 145 degrees, explained Dr. Moore.

Another finding indicated that nutrient levels were minimal, with no harmful elements found. There was also no difference in nutrient levels based on roof type, shingle, tile or metal.

The authors also compared rain barrel water quality data to water analysis from the ponds and city water on the UF/IFAS FLREC property and determined rain barrel samples were better quality for growing plants. They also sampled water from five ponds on the FLREC property as well as five garden hoses attached to city water lines in Davie where FLREC is located.

“Water from all sources, garden hoses, ponds and rainwater, was found to be acceptable for growing plants and vegetables,” said Dr. Mica McMillan, assistant professor of environmental horticulture at UF/IFAS FLREC.

“Differences in nutrient levels, as well as salt levels, were minimal between all sources.” ♻️



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