Celebrating 25 Years!
ISA FLORIDA CHAPTER
1996 - 2021
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Florida Arborist

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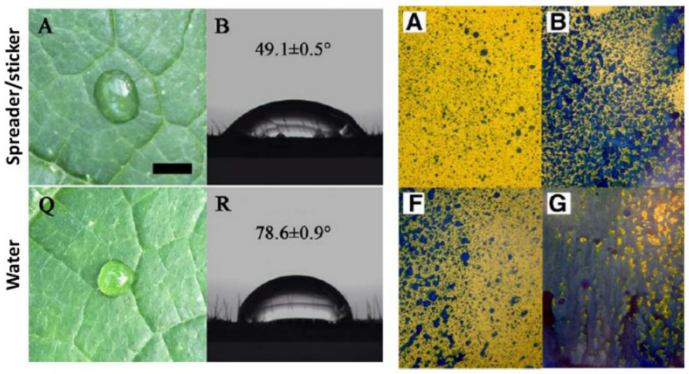
Summer 2021
This issue featuring the Economic Benefits of Trees:

Maximizing Your Fungicide Efficacy

Andrew L. Loyd, PhD, Plant Pathologist, Bartlett Tree Experts

While most foliar diseases won't lead to mortality in one growing season, they can create chronic stresses to plants and leave your landscape unsightly. Foliar diseases often manifest with symptoms including leaf spots, occasionally twig blight, and nearly always early defoliation—shortening the growing season, which reduces the photosynthetic capacity of the plant. These diseases over several successive years of infections can reduce the overall function of the plant, reducing growth, flower bud set on flowering trees, and reducing the non-structural carbohydrates, which reduces overall vigor. Foliar disease management is preventive in nature, meaning the applications of fungicides need to coincide with the timing when the foliage is most susceptible and prior to the emergence of the spores of the pathogen. The following tips can help add value to your fungicide applications for disease management, and maximize your success in preventing foliar diseases of landscape plants.

- **Know your plant material and biology of the target pathogen.** This is critical to getting correct timing from two different angles. First, the plant phenology of the host plant will dictate when you begin fungicide applications, which coincide with bud break for most of the foliar diseases. Most foliar diseases occur in the beginning of the growing season, because the succulent new growth tissue is more susceptible to infections because the leaves have not hardened off and formed a thickened cuticle. When scheduling these disease management applications, phenological clues can aid in predicting leaf emergence and many use flowering of local plant species as these indicators. Secondly, timing is also important from a standpoint of "how many applications do I need to make?" To answer this question, you need to understand the biology of the pathogen. Specifically, you need to know when the pathogen is most actively sporulating, or what environmental conditions are favorable to infections. Most foliar pathogens favor cool, wet conditions for sporulation and infection.



- **Full coverage applications are key**.

Fungicide continued on page 4

Hello Florida Chapter ISA!

Summer is here and so is our annual Trees Florida Conference and Trade Show! Come and help us celebrate your Florida Chapter's 25th Anniversary! Our in-person event will be June 7th – 9th at the beautiful and family-friendly Hammock Beach Golf Resort and Spa. Conference Committee Chairperson Ron Collins is working hard with his Palm Coast local hosts to plan an exciting and in-person event in June. Come early and stay late - I hope to see you there!

The Florida Chapter ISA Board of Directors (BOD) welcomes you to virtually observe and participate in our quarterly meetings, to further commit ourselves to fair and transparent governance, to provide a window into how much fun we actually have together, and perhaps to help decide where you may fit in. Check the website for meeting schedule and contact Patty at the Chapter office for the Zoom link and password.

I'm pleased to introduce the newly created Student/Early Career Arborist Task Force with Kirstie McCullough, Landscape Inspector for the City of Fort Lauderdale, as Chairperson. My goals in creating this task force are to prepare students and emerging professionals for successful long-term careers in arboriculture and to inspire future leaders. In speaking with Kirstie, she is interested in creating mentor-mentee relationships and promoting training for practical skills growth - along with building a network to interact with subject matter experts and industry leaders. I am so excited to be working with Kirstie and know that she will accomplish great things. Be sure to introduce yourself!

Our Marketing and Public Relations Committee received BOD approval to contract with The Marketplace, Inc. to increase and improve our social media presence, develop public outreach to support our licensure effort, and increase our Trees Are Cool specialty plate participation. We are very excited for this opportunity to refresh our branding and update our webpages for a more consistent marketing and public relations approach.

Our Executive Transition Task Force has been advancing the draft contents and structure of our proposed planning strategy for our future CEO transition, coming in 2023. We are so thankful to have this extended time to identify our Chapter's goals moving forward to ensure the highest level of service continues to be delivered to our Chapter membership during this transition. You can expect to receive transition-related surveys from the Executive Transition Task Force to gather and incorporate your feedback. Your input matters and we are looking forward to hearing from you!

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2021 Florida Chapter Awards applications due MAY 15, 2021

TRAQ 1-day Renewal Course & Exam
West Palm Beach, FL
June 22, 2021

TREES FLORIDA Conference and Trade Show
Hammock Beach Resort, Palm Coast, FL
June 7-8-9, 2021
- ▷ Silent Auction Donation
- ▷ Registration
- ▷ Flyer

John White Scholarship for Fall 2021 applications due JUNE 15, 2021

2021 Spring Florida Arborist CORRECTION: The article "Economic Impact of Urban Trees in Florida" (pg. 24) was co-authored by John Harris, ISA Certified Arborist and Darlene Harris, Senior Biologist. We regret the error in including only one author's name. - *Editor*

The ISA is a professional organization dedicated to continuing education for arborists, to tree care research, and to serving tree care consumers around the world. Your Florida Chapter shares this same dedication, with a further commitment to serving the needs particular to Florida's professional arborists and tree care consumers. Our chapter is only as strong as its membership, so I encourage you to renew your Chapter membership and promote new membership among your colleagues, allowing us to be the strongest possible local advocate for our Florida arboriculture industry.

Yours in Service,

Kimberly Pearson

Florida Chapter ISA

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Fungicide continued from page 1

When making applications with fungicides, it is critical to get full coverage of the foliar tissue that is emerging. The reason for this is that even though some of the products recommend are penetrants or locally systemic, the rates at which we apply them does not allow for a whole lot of movement within the plant. In addition, the use of a spreader/sticker is critical for breaking the surface tension of water so the product can expand out on the surface of the waxy leaves. Above in the figure to the left, you can see the angle of the water droplet is significantly smaller when a spreader/sticker is added (A and B) compared to just water (Q and R) on the leaf surface (He et al 2019). And similarly, the above figure on the right shows significantly greater coverage of an applied product when a spreader/sticker is used (B and G) compared to water (A) and fungicide alone (F) (Abbot and Beckerman 2018). These tools will aid in maximizing the protection leaves have for foliar diseases by spreading (breaking the surface tension of water) and sticking the fungicide on the leaf more effectively.

- **Use pruning to maximize coverage.** One tip to consider is pruning trees to reduce the crown density to better aid in your spray coverage. Holb (2005) (table to the right) researched this by using target cards and looking at spray coverage at multiple heights in apple trees. What they found was that the coverage of applications was significantly reduced in non-pruned trees when the apples were at full leaf. In addition to coverage, pruning dense canopies with a goal to reduce the leaf wetness period is a good goal-driven pruning objective that will allow for more air flow and light penetration, which will add value in your foliar disease management.

Table 5. Percent coverage of spray deposition on paper targets placed in unpruned, weakly pruned, and strongly pruned apple trees in organic apple orchards (Nagykálló, Debrecen-Józsa, and Eperjeske, Hungary) on 2 May and 3 July 2002

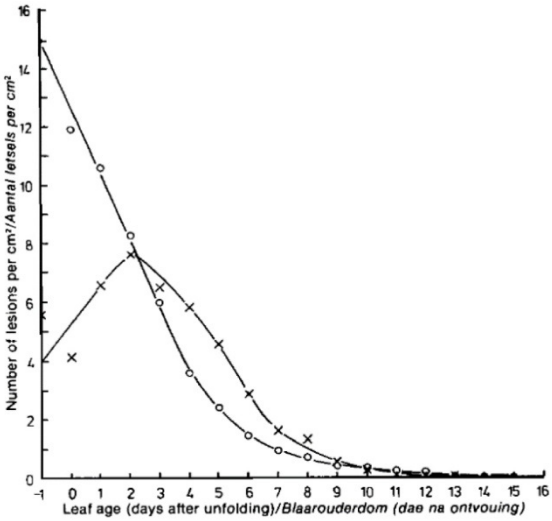
	Target height (m)		
	0.7	1.5	2.2
2 May			
Unpruned	82[x] a[y]	83 a	76 a
Weakly pruned	86 a	85 a	79 a
Strongly pruned	91 a	88 a	81 a
LSD[z]	10.5	8.0	11.8
3 July			
Unpruned	64 a	62 a	59 a
Weakly pruned	76 ab	79 ab	65 ab
Strongly pruned	83 b	81 b	74 b
$LSD_{0.05}$	17.9	18.2	15.4

[x] Means of percent coverage of paper targets of the three orchards on unpruned, weakly pruned, and strongly pruned trees.
[y] Values within columns and application date followed by different letters are significantly different.
[z] Means in each pruning treatment were compared using least significance difference (LSD) test at $P = 0.05$.

- **Frequency of application.** Not only application timing, but the frequency between applications can be super critical to success. Most foliar fungicides, like propiconazole or storbilurins, do not last forever after one application, nor do the pathogens set their clocks to your spray schedule. This means that the frequency of application is determined by the residual activity of the fungicide with a bit of overlap when the plants are the most vulnerable. The reason for the overlap is that the fungicides can weather from sun exposure and rainfall, especially the contact fungicides (e.g., copper products, mancozeb, chlorothalonil). Schwabe (1979) demonstrated that as apple leaves harden off, they became less susceptible to the inoculation of the spores produced by the apple scab pathogen Venturia inaequalis (graph to the right). In fact, 10 days after the leaves unfolded the tissue was no longer susceptible to infection. This tells us that the frequency of spray coverage should err on the side of early and not late, so when the label recommends 14-21 days it's best to stay in this range. Monthly applications open up a period of time where if a second flush of leaves emerge, they will not be protected. Typically, for

Fungicide continued on page 5

Fungicide continued from page 4



many foliar diseases 2-3 applications beginning at bud break and for every 14-21 days will suffice. When targeting multiple diseases as in the case with flowering dogwoods that get anthracnose and powdery mildew you may have to hedge your bets with an additional application for the later timed disease.

Plan to make big impacts with preventive disease management on landscapes such as with these two cherries. Can you guess which one was on a fungicide program? Last bit from the soap box: don't get tempted to just implement fungicides as your only tool for disease management. Get creative with cultural recommendations, which will surely add value to your client's plants. Good luck out there, and reach out to a diagnostic lab or other consultant with any questions you may have to assist with your management.❖

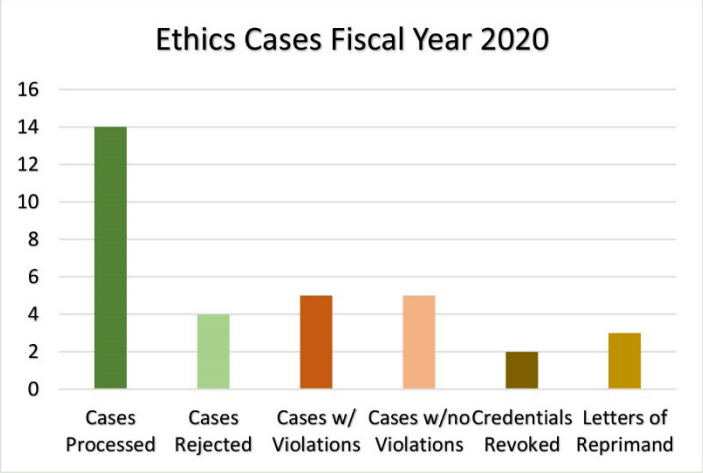
ISA Ethics Compliance Program

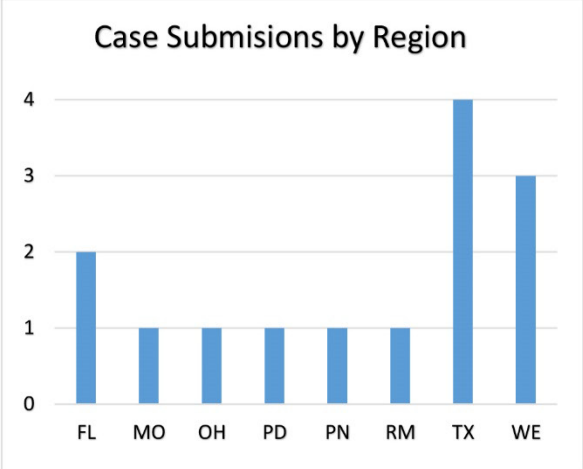
ISA is responsible for maintaining and supporting the integrity of our credentials. This is all made possible with the support of dedicated volunteers serving as subject matter experts, our internal team members and legal counsel.

The ISA Code of Ethics applies to certification holders, and individuals in the process of becoming certification holders. Commitment to the ISA Code of Ethics is required to obtain and maintain any of the ISA certifications.

The ISA Code of Ethics describe appropriate and enforceable professional conduct standards. The ISA Ethics Review Committee is a group of stakeholders that reviews and processes ethics charge statements in support of the integrity of the credentials ISA offers, professionals that hold our credentials, the consumer and the canopy.

The following graph illustrates ethics cases that were fully processed between July 1, 2019 - June 30, 2020:





Among the cases in which violations were found, the following ISA Code of Ethics Provisions were violated:

I.A-1: Comply with all applicable laws, regulations, policies and ethical standards governing professional practice of arboriculture.

I.A-7: Refrain from behavior or conduct that is clearly in violation of professional, ethical or legal standard related to occupational services and/or activities.

II.A-1: Deliver safe and competent services with objective and independent professional judgment in decision-making.

II.B-3: Assure that a conflict of interest does not compromise legitimate interests of a client, employer, employee, or the public and does not influence or interfere with professional judgments.

For further inquiries about the ISA Ethics Program please contact:
Rosa Gutierrez- Compliance Services Manager
rgutierrez@isa-arbor.com
678-367-0981 ext. 216

TREE Fund Update

TREE FUND
Tree Research & Education Endowment Fund

Tour des Trees 2021: Update

The Tour des Trees is back!
The TREE Fund is pleased to announce the Tour des Trees will be held as an in-person event, August 28 through September 3, in Colorado's Front Range.

Rider check-in and orientation: Aug. 28
Ride dates: Aug. 29 - Sept. 2
Closing breakfast and bike shipping: Sept. 3

Registration and other details are coming soon. Please watch for more information. If you have questions regarding the tour, please direct them to Jonathan Cain. Your safety is our highest priority, so our policy is that all riders and volunteers will be **required to be fully vaccinated against COVID-19 and follow the current guidelines and restrictions of the CDC and local officials.**

Can't make the tour? Participate at home!
We will also have the virtual Tour des Trees, just as we did in 2020. More information on this, too, will be coming soon.

TREE Fund Webinar Series

The TREE Fund is proud to partner with the Alabama Cooperative Extension System to bring you several education offerings. The TREE Fund's 1-hour webinars offer 1.0 CEU credit for live broadcasts from the International Society of Arboriculture, the Society of American Foresters, the National Association of Landscape Professionals and sometimes the Landscape Architecture Continuing Education System. Registration information becomes available on our website approximately one month before each webinar date. ❖

JOHN P. WHITE MEMORIAL SCHOLARSHIP FUND APPLICATION

Sponsored by:
Florida Chapter International Society of Arboriculture and Florida Urban Forestry Council

John P. White is remembered for his generous giving spirit as both the Florida Chapter ISA's Tree Fund Liaison and a dedicated member of the Florida Urban Forestry Council's Executive Committee as well as for his contributions to the annual Trees Florida Conference. He had a zeal for life and steadfast passion for arboriculture and urban forestry. It is our organizations' desire that the recipient of this scholarship will reflect John's passion and continue to carry the torch on behalf of these fields.

The John P. White Memorial Scholarship was established to support education in the arboriculture/urban forestry industry through scholarships in the sum of $1250.00 per semester for qualifying students. It is hoped that the John P. White Memorial Scholarship will provide deserving students the opportunity to develop into a new generation of dedicated individuals for the arboriculture/urban forestry industry of tomorrow.

Purpose Statement

The John P. White Memorial Scholarship was created to encourage students to pursue careers in Florida's arboriculture/urban forestry industry or a related field by providing financial assistance for undergraduate, postgraduate or other advanced education programs. The intent is to provide financial assistance for qualified students to gain expertise and experience, earn post high school degrees and become active members and leaders in the industry.

Eligibility

Applicants may be an incoming freshman, sophomore, junior, senior, or graduate student planning to or currently attending a community college, college or university. The student must be enrolled full-time, part-time or place-bound in an arboriculture or urban forestry program or related field with the intent to graduate in that field. Awards recipients are eligible to reapply for the scholarship each semester.

Requirements

Students must return all of the following to the John P. White Memorial Scholarship Committee by the deadline of June 15th for the fall term and November 15th for the spring term. Recipients will be notified of selection by July 31st for the fall term and January 1st for the spring term.

1. Completed scholarship application.
2. Two letters of recommendation from someone on the faculty of your school who will evaluate your abilities as a student, from a professional member of the arboriculture/urban forestry industry or related field or from someone you have worked for.
3. Biographical essay (maximum 500 words) that includes the following: work or classroom experience with arboriculture/urban forestry or related field, what area of arboriculture/urban forestry or related field that you are interested in pursuing, what you plan to do after graduation, and why you are qualified to receive the John P. White Memorial Scholarship.

The full application form can be found at
http://floridaisa.org/pdf/2015JohnWhiteScholarshipApplication3pgs.pdf
Applications for the Fall 2021 semester are due by June 15, 2021

Consultant's Corner

by Joe Samnik, Expert Forensic Arborist

THE GOOSE AND THE GANDER

In this instance, which certainly applies to many in our profession, a neighbor initiates self-help to alleviate damages being done by the roots of a pine tree encroaching into and onto their property.

Under Florida case law, it is well-established that an owner of a healthy tree is not liable to an adjoining property owner for damage caused by encroaching tree branches or roots; however, the adjoining property owner is privileged to trim back, at his own expense, any encroaching tree roots or branches which have grown onto his property. Should however irreparable damage or damage which can be repaired is caused by self-help, costs to mitigate or replace are different for every circumstance.

But the question in this matter becomes what happens after self-help has been initiated but the actions taken to remedy the destruction of the tree roots caused irreparable damage to the subject pine tree. The owner of the pine tree retained a consulting arborist who opined that the severing of the root system caused the subject pine tree to become structurally unsound and at risk of failure. The owner of the pine tree wanted the adjoining neighbor to pay for the value of their pine tree, and the associated costs of its removal.

There is conflicting authority on this very issue in other states; however, Florida is not one of them. In the matter at hand, the court reasoned that because the owner of the pine tree could not be compelled to pay for the damage to the driveway and sidewalk of the adjoining property owner caused by the encroaching tree roots, there was no obligation of the adjoining property owner to pay for the value of the pine tree. What is good for the goose is good for the gander.

Self-help in dealing with neighbor trees is fraught with many dangerous and possible repercussions by law. At first blush, the rules to self-help are quite simple: first you cannot trespass. This means even poking your hand across the property line to make a pruning cut. And the law takes an extremely dim view on trespassing. If you are found guilty of trespassing, you've got a significant problem. Second, you cannot cause irreparable damage to the tree you are pruning under the privilege of self-help. Even this has been successfully challenged in some states. The matter turns on the various and sundry "what if" scenarios that are always associated with each matter. Third, you are on your own financing and paying for the self-help privilege and resultant work which must be done to alleviate the issues being caused by the neighbor's tree. The state of Hawaii is one exception to that rule. There are other exceptions including whether or not the vegetation subject to self-help is naturally evolving or not. Very confusing. Proceed at your own peril. There are other caveats associated with self-help and those nuances often land arborists in significant problems. It has also been said that you cannot disturb the peace while initiating self-help. These are the basic rules of self-help when dealing with a neighbor's tree causing your client issues. If your client is the owner of the tree subject to self-help, your job is to determine if any of the aforementioned rules apply to your client's tree.

This article is not meant to be relied upon as legal advice. If you need legal advice, contact an attorney for guidance. ❖

Soil Compaction, Is it good or bad?

Henry Mayer, UF/IFAS Miami-Dade Urban Commercial Horticulture Extension Agent

Soil compaction occurs when the soil structure is compressed, thus reducing the number and size of the pore spaces between the particles, which causes a decrease in the availability of air and oxygen for the plants as well as a saturation of the pores with water. Soil compaction in urban areas often occurs when heavy equipment during construction is used and by constant human traffic during periods when the soil is wet.

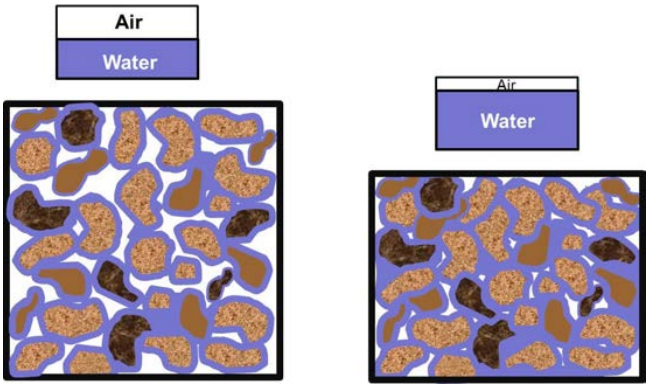


Figure 1. No compressed vs. compressed soil. Courtesy Univ. of Minnesota Extension

Compacted soils provide a stable foundation for homes and streets, but they are not ideal for plant growth or water movement. Typically, a good soil has 50% solids, 25% water and 25% air. Because a compacted soil has less pore space for air (porosity), the water infiltration will decrease, and runoff and soil erosion will increase.

Soil compaction also increases resistance to root penetration, making it difficult for roots to grow deeper through the soil. This can lead to the development of a shallow root system, poor plant growth, increased need for irrigation and fertilization. A plant under stress is also prone to attack by pests and diseases.

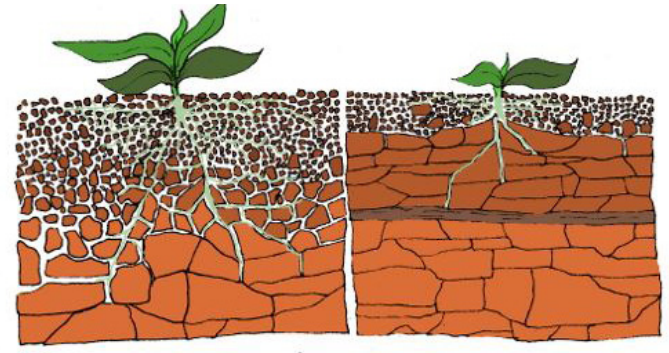


Figure 2. Plant under good soil vs. compressed. Courtesy University of Minnesota Extension

One way to quantify soil compaction is by measuring bulk density which is the mass of dry soil per unit volume (e.g., grams per cubic centimeter). As the pore space decreases, the bulk density increases. Soils with a higher percentage of clay and silt (for example Georgia's soils) naturally have more pore space and lower bulk density than sandier soils (Florida's soils). Bulk density may range from normal (approximately 1.4 g

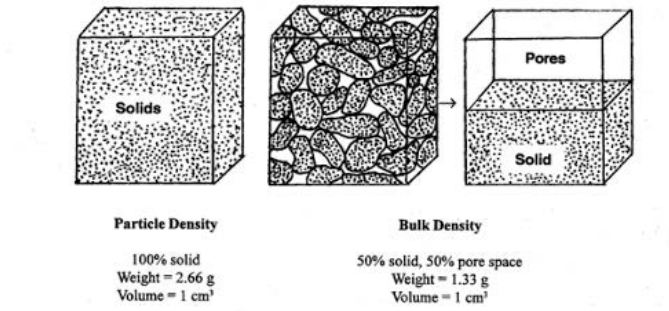


Figure 3. Bulk density comparison: 2.66 gr/cm3 in a very compacted soil is higher than 1.33 g/cm3. Courtesy of Soil Resources, Spring 2011

Soil continued on page 14

¿Es la compactación del suelo buena o mala?

Henry Mayer, UF/IFAS Miami Dade -Urban Commercial Horticulture Extension Agent

La compactación del suelo ocurre cuando se comprime la estructura del suelo, reduciendo así el número y tamaño de los espacios porosos entre las partículas, lo que provoca una disminución en la disponibilidad de aire y oxígeno para las plantas así como una saturación de los poros con agua. La compactación del suelo en áreas urbanas a menudo ocurre cuando se utiliza equipo pesado durante la construcción y por el tráfico humano constante durante los períodos en que el suelo está húmedo.

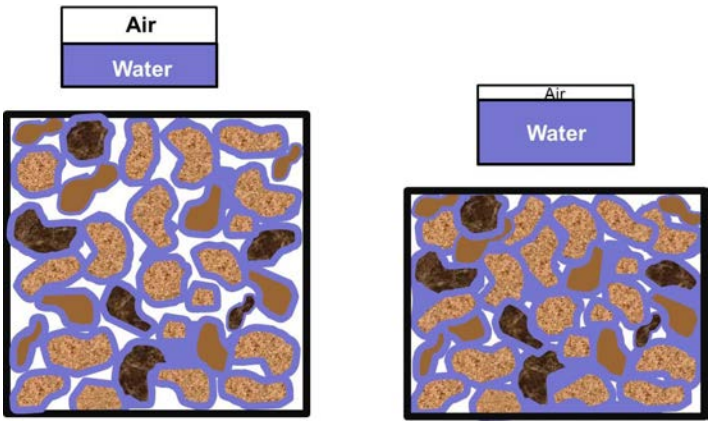


Figure 1. Suelo no comprimido vs. comprimido. Cortesía Univ. de Extensión de Minnesota

Los suelos compactados proporcionan una base estable para la construccion de casas y calles, pero no son ideales para el crecimiento de plantas o el para el movimiento del agua. Normalmente, un buen suelo tiene 50% de sólidos, 25% de agua y 25% de aire. Debido a que un suelo compactado tiene menos espacio poroso para el aire (porosidad), la infiltración de agua disminuirá y la escorrentía y la erosión del suelo aumentarán.

La compactación del suelo también aumenta la resistencia a la penetración de las raíces, lo que dificulta que las raíces se profundicen en el suelo. Esto puede conducir al desarrollo de un sistema radicular poco profundo, crecimiento deficiente de las plantas asi como mayor necesidad de riego y fertilización. Una planta bajo estrés también es mas propensa al ataque de plagas y enfermedades.

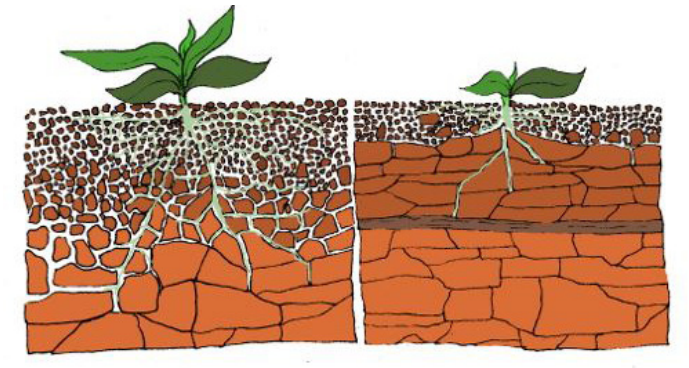


Figure 2.Sistema radicular de una planta bajo suelo suelto (izquierda) vs. comprimido (derecha). Cortesía de Extensión de la Universidad de Minnesota

Una forma de cuantificar la compactación del suelo es midiendo la densidad, lo cual es la masa del suelo seco por la unidad de volumen (por ejemplo, gramos por centímetro cúbico). A medida que **disminuye** el espacio poroso, **aumenta** la densidad. Los suelos con un **mayor** porcentaje de arcilla y limo (por ejemplo, los suelos de Georgia) tienen **más** espacio poroso y **menor** densidad que los suelos más arenosos (suelos de Florida). La densidad puede variar de **normal** (aproximadamente **1,4 g cm^{-3}**) a extremadamente **compactada** (**2,2 g cm-3**) en suelos urbanos.

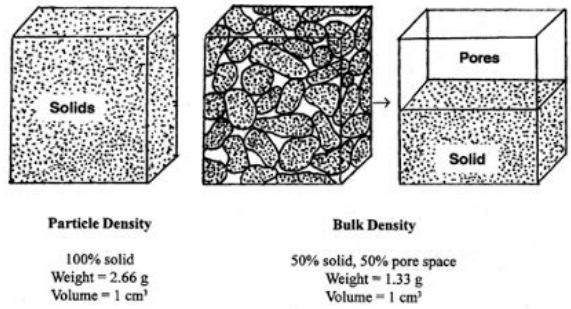


Figure 3. Comparación de densidades: 2,66 gr / cm3 en un suelo muy compactado es superior a 1,33 g / cm3. Cortesía de Soil Resources, primavera de 2011

Soil continued on page 15

Soil continued from page 12

cm-3) to extremely compacted (2.2 g cm-3) in urban soils.

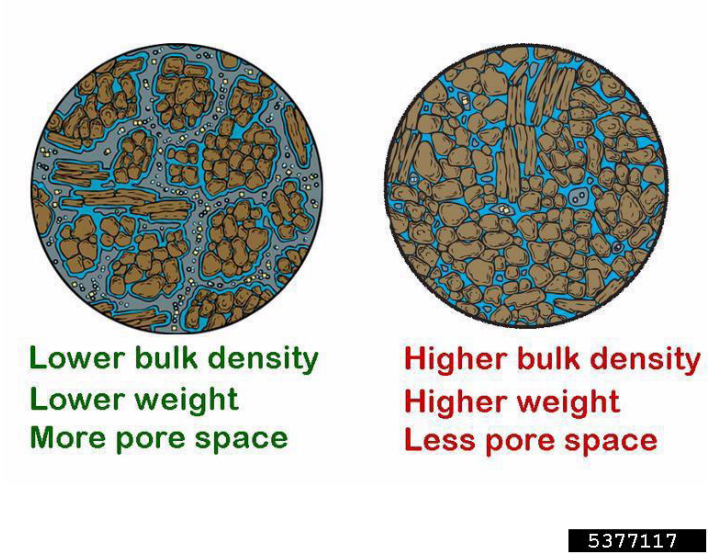


Figure 4. Soils with lower bulk density and more pore space vs. higher bulk density and less pore space. Courtesy of Bulk Density, Sustainable Agriculture

How to avoid soil compaction:

Remember that the soil is the most important resource for developing a healthy landscape. The following practices are recommended to avoid soil compaction:

- Eliminate or reduce pedestrian and heavy equipment traffic
- Spreading a thick layer of mulch over planting areas during construction
- Avoid working on the soil when it is very wet

Other available practices:

Figure 5. Shallow tillage (6") using rototiller. Courtesy IFAS

1. - Tilling: The idea is to break up soil compaction and create more pore space. This can be done with a rototiller to avoid damage to irrigation and utility lines. The incorporation of compost is also recommended to increase the content of organic matter, thus improving water retention.

Figure 6. Lawn aeration. Courtesy of Wright Outdoor Solutions

2. - Plug aeration: Used in golfcourses and sport fields by lawn aerator machines

Figure 7.Air aeration using AirSpade. Courtesy of Shelter Tree Care

3.- Air aeration: Uses compressed air from a high-speed gun (Air-Spade®) to eliminate soil compaction mainly around trees located in parking lots, streets and other locations.

In conclusion, planning will prevent many problems with compaction. Preventive practices, including limiting the extent of disturbed areas, manipulating soil only when dry and restricting traffic, are more effective and less expensive than practices to alleviate compaction after it occurs.

Literature:

Soil Compaction, University of Minnesota Extension, https://extension.umn.edu/soil-management-and-health/soil-compaction

Shober, A., et. al. Soil Compaction in the Urban Landscape, IFAS, EDIS
https://edis.ifas.ufl.edu/ss529

Urban Soil Compaction, USDA/ NRCS
https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053278.pdf

MARK YOUR CALENDARS & SIGN UP TODAY

SALUTING BRANCHES
Arborists United for Veteran Remembrance

The 7th Annual Saluting Branches Day of Service will be held on Wednesday, September 22, 2021.

VOLUNTEER TODAY!

The annual Saluting Branches Volunteer Day in Florida will be held at three Florida Veterans' Cemeteries on September 22, 2021: the Tallahassee National Cemetery, the Jacksonville National Cemetery, and Florida National Cemetery in Bushnell.

Click your chosen location listed above to sign up.

Soil continued from page 13

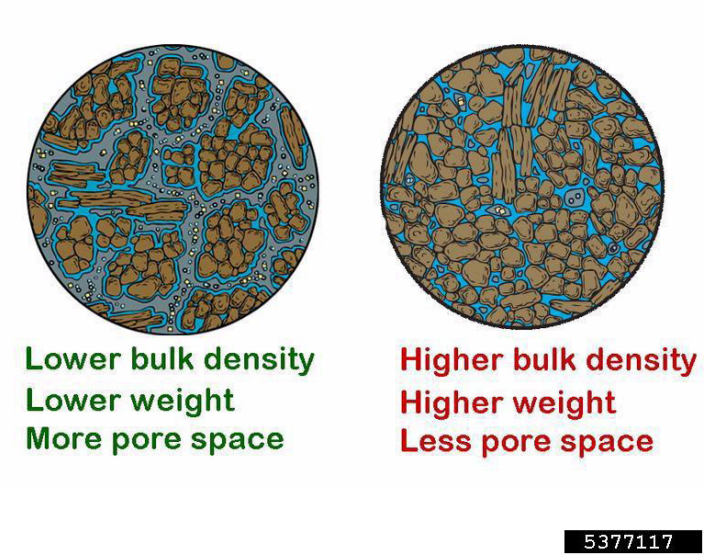


Figure 4. Suelos con menor densidad y más espacio poroso (izquierda) vs. a mayor densidad y menos espacio poroso (derecha). Cortesía de Bulk Density, Sustainable Agriculture

Cómo evitar la compactación del suelo:

Recuerde que el suelo es el **recurso más importante** para desarrollar un paisaje saludable. Se recomiendan las siguientes prácticas para evitar la compactación del suelo:

- Eliminar o reducir el tráfico de peatones y de equipos pesados
- Esparcir una capa gruesa de mulch sobre las áreas sembradas durante la construcción
- Evite trabajar en el suelo cuando está muy húmedo

Otras prácticas disponibles:

Figure 5. Labranza poco profunda (6 “) con rotocultivador. Cortesía de IFAS

1.- Labranza: La idea es romper la compactación del suelo y crear más espacio poroso. Esto se puede hacer con un motocultor para evitar daños en las líneas de riego y de servicios públicos. También se recomienda la incorporación de compost para incrementar el contenido de materia orgánica, y mejorar así la retención de agua.

Figure 6. Aireación del césped. Cortesía de Wright Outdoor Solutions

2.- Aireación mediante la apertura de agujeros: Se utiliza en campos de golf y campos deportivos mediante máquinas aireadoras de césped.

Figure 7. Aireación con aire utilizando AirSpade. Cortesía de Shelter Tree Care

3.- Aireación por aire comprimido: Aire comprimido sale de una pistola a alta velocidad (AirSpade®) sobre la superficie del suelo para eliminar la compactación principalmente alrededor de árboles ubicados en estacionamientos, calles y otros lugares.

En conclusión, la planificación adecuada evitará muchos problemas de compactación. Las prácticas preventivas, que incluyen limitar la extensión de las áreas alteradas, manipular el suelo solo cuando está seco y restringir el tráfico, son más efectivas y menos costosas que las prácticas para aliviar la compactación después de que ocurre.

Literatura

Soil Compaction, University of Minnesota Extension, https://extension.umn.edu/soil-management-and-health/soil-compaction

Shober, A., et. al. Soil Compaction in the Urban Landscape, IFAS, EDIS
https://edis.ifas.ufl.edu/ss529

Urban Soil Compaction, USDA/ NRCS
https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053278.pdf

UF study: Disease-carrying mosquitoes abound in deforested lands

Brad Buck, University of Florida

GAINESVILLE, Fla. — Most disease-transmitting mosquito species live in deforested areas, a finding that may influence decisions on where and when to cut down trees, a new University of Florida study shows.

Deforestation occurs when people remove trees to make way for neighborhoods, farms, shopping centers and other land uses, said Nathan Burkett-Cadena, a UF/IFAS entomologist and lead author of the study.

For their study, Burkett-Cadena and Amy Vittor, a UF assistant professor of infectious diseases and global medicine, synthesized and examined data from prior studies that had looked at how many pathogen-carrying mosquito species made their homes in forested lands vs. non-forested lands in 12 countries worldwide, including the United States.

They found that about half — 52.9 percent — of the species were more abundant in deforested habitats. Of those species that favored deforested areas, more than half — 56.5 percent – carry viruses harmful to humans, the study showed. More importantly, all of the species that carry multiple human pathogens were more common in deforested land, said Burkett-Cadena, a faculty member at the UF/IFAS Florida Medical Entomology Laboratory in Vero Beach, Florida.

"This research shows that when we convert forest to other uses, we make habitat for the mosquitoes that carry our diseases," said Burkett-Cadena. "The takeaway message is that our forests provide benefits above and beyond the biodiversity they sustain, the products they provide — such as food, lumber and medicine — and the recreational opportunities that they provide. Forests are poor habitat for most of our disease-carrying mosquitoes."

"Humans need to take this into account as we make decisions and policies about what we do with our remaining forests," Burkett-Cadena said. "Given the rapid pace of global land-use change and deforestation, it is imperative that these dynamics are better understood to mitigate disease risk and guide land-use policy."

Mosquito-borne diseases account for more than 17 percent of infectious diseases in people, according to the World Health Organization. The most common virus, dengue, is estimated to infect 390 million people per year, according to a 2013 study led by an Oxford University researcher.

The UF/IFAS study is published in the journal Basic and Applied Ecology. ❖

2021 FLORIDA CHAPTER AWARDS APPLICATIONS due by May 15th!

Nominate a deserving Florida arborist.

- Applications for 2021 are due by May 15th; applications received after May 15, 2021 will be considered for the following year.
- Awards are presented during the Trees Florida Conference at Wednesday's luncheon. You do not have to be present to receive the award, but we prefer it. Trees Florida 2021 is in Palm Coast, FL at the Hammock Beach Resort.
- The awards for 2020 were decided upon in November 2020; these awards will be presented during the Trees Florida 2021 Conference at Wednesday's luncheon.
- Nominate yourself or a colleague.
- All applications will be reviewed by the Awards Committee and the winners will be notified following their decisions.

TREES FLORIDA 2021

CONFERENCE AND TRADE SHOW

ISA Celebrating 25 Years! FLORIDA CHAPTER 1996 - 2021

IN PERSON

JUNE 7-8-9, 2021

Hammock Beach Resort
Palm Coast, Florida

REGISTER NOW AT TREESFLORIDA.COM

RESORT ROOMS ARE NOW ALL FILLED
See suggested alternate hotels at www.treesflorida.com . Hammock Beach will provide free self-parking (or $10 valet); identify yourself as a Trees Florida attendee upon entry.

Trees Transplanted on Florida's Highways Survive, Provide Motorists' Benefits

Brad Buck, University of Florida

Photo UF/IFAS

Trees not only beautify highways, they can calm motorists down, says a University of Florida scientist. Furthermore, according to new UF research, the trees planted along Florida's highways survive remarkably well, even after a period scientists call "transplant shock."

"Beauty and stress relief are probably the two most meaningful benefits trees bring to highways," said Andrew Koeser, an assistant professor of environmental horticulture with the UF Institute of Food and Agricultural Sciences.

"The trees enhance the experience of both tourists and residents as they drive to their destinations," Koeser said. "Additionally, there is research that shows folks who drive along tree-lined roadways have less stress compared to those navigating the concrete jungle without that green breakup."

Recognizing these advantages, the Florida Department of Transportation (FDOT) transplants many kinds of trees along the state's highways, including palms, the variety most widely associated with the Sunshine State. Indeed, about 51 percent of the transplanted trees are palms. The rest include crape myrtles, buttonwoods and many other varieties.

To assess the success of its tree-planting program, FDOT awarded Koeser grant funding to study how well the transplanted trees survive and thrive.

Koeser and his team surveyed 2,711 trees along rural and urban stretches of the state's highways. They found that more than 98 percent "established" themselves. That's another way of saying the trees have survived the hardships of planting and are growing into the surrounding landscape.

"The establishment rate is among the highest on record," said Koeser, a faculty member at the UF/IFAS

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Transplanted continued from page 18

Gulf Coast Research and Education Center in Balm, Florida.

For instance, the success of Florida's highway tree transplanting program rivals that of a program in East Palo Alto, California, which had a 96 percent establishment rate. Florida's program also compares favorably to survival rates of trees in many transplanting programs along highways and urban areas worldwide, according to a 2014 study Koeser led.

FDOT contractors are responsible for tree maintenance, including watering, mulching, creating berms around trees to keep water close to roots and more. The FDOT inspects the contractors' work.

"Since the contractors say they will deliver what is promised, they are more eager to do the care needed to get the trees through the period of stress we call 'transplant shock,'" Koeser said.

Koeser's study is published in the journal Urban Forestry & Urban Greening.❖

News From International

AWARDS NOMINATIONS DUE

The International Society of Arboriculture recognizes outstanding achievements in the arboricultural profession with the use of its awards program. Nominate your peers in the industry who have made excellent contributions to the arboriculture profession and the organization for the ISA Awards of Distinction and the ISA True Professionals of Arboriculture program:

- The ISA Awards of Distinction, presented by the Bartlett Tree Experts, are ISA's highest honors and include nine categories. This program honors recipients for their contributions to the advancement of the arboriculture industry. Learn more and download the nomination form.
- The ISA True Professional of Arboriculture program recognizes arborists who have achieved notable success in educating their communities, clients, colleagues and/or employees about the importance of trees, the necessity for proper tree care, and the role today's arborists play in tree care service and education. Learn more and download the nomination form.

All forms and supplemental information must be submitted to awards@isa-arbor.com. The deadline for nominations is May 31, 2021.

The award recipients will be announced and honored publicly at the ISA 2021 International Virtual Conference 13 – 16 December 2021.

THE RESULTS ARE IN FOR THE ISA BOARD OF DIRECTORS ELECTIONS

The ISA Board of Directors is an elected board of 15 directors. Ten of the director positions are voted upon by ISA members in a general election, and three director positions are voted on by the Council of Representatives. The president of the board and president-elect are each elected for their terms of office from within the Board of Directors by the current directors.

The terms of the following elected positions will begin in August 2021. Congratulations to those elected in the general election:

Elected to the Board of Directors:

- John A. Coles
- Randy Miller
- Gail Nozal
- Carlos J. Llanos Rojas

Elected to the Nominating and Elections Committee:

- Francesco Ferrini
- Johan Östberg
- Zhu Ning

Your input is of great value to the election process. Many thanks to those who participated in this election. The members of the ISA Board of Directors represent the members of the organization and set the strategic direction for the ISA. View the complete listing of current ISA Board of Directors.

2021 ISA INTERNATIONAL VIRTUAL CONFERENCE 13-16 DECEMBER 2021

The ISA 2021 International Virtual Conference offers an online forum for participants to network with others in the arboricultural profession. This virtual event provides a lineup of educational breakout sessions led by industry leaders from around the globe, sharing their thoughts and views about the research, practice, and technology. Watch for more details.

The next in-person International Conference will be in 2022 in Malmo, Sweden. ❖

Welcome!

New Florida Chapter Members

Below are the individuals that joined the Florida Chapter during the first quarter of 2021. If you see a name from your area of the state, look up their phone number online* and give them a call. Introduce yourself and find out what aspect of arboriculture the new member is involved in. Let's make the Florida Chapter friendlier.

We're all working in different ways for the same goals. Get to know other Chapter members! You might make some helpful connections for the future.

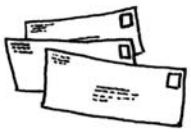
We would like to also thank our renewing members throughout the past year. We sincerely appreciate your support of the Florida Chapter, especially during these current unusual times.

Joel Adams, Seminole, FL
Jonah Albert, Provo, UT
Smith Amisial , Boca Raton, FL
Robert Bagnall,
Pembroke Pines, FL
Elmar Bamaca , Ft Lauderdale, FL
Cleburn Bannister, Thomasville, GA
Melanie Bergeron, Jersey City, NJ
Andrew Blaschke, Mims, FL
Destiny Buntyn, Pinellas Park , FL
Derek Callendar, Auburn Hills, MI
Charles Carr, Homestead, FL
Richard Cormier Jr, Davie , FL
James Davis III, Brooksville, FL
Ralph Dix, Tequesta , FL
Keyvan Emdadi, Clearwater, FL
Michael Feltner , Deltona, FL
Russell Fey, Nokomis, FL
Jeffrey Fish, Fort Lauderdale, FL
Terra Freeman, Saint Augustine, FL
Harry Gilby, Bonita Springs, FL
Angela Grout, Chico, CA
William Hall, Springfield, OH
Buck Hallock, Pinellas Park , FL
Fredric Haskett,
Lake Saint Louis, MO
Jessica Hong, Gainesville, FL
Joshua Hughes-Patton,
Pensacola, FL
David Hunt, Satellite Beach, FL
Kevin Kelly, Boca Raton, FL
John King, Vero Beach, FL
Austin Kreutzfeld, North Port, FL
Cal Leggett, Orlando, FL
Robert Lemaire, Daytona beach, FL
John Loudermilk, Pinellas Park, FL
Eric Mayorga, Miami, FL
Jeffrey McAfee, Ormond Beach, FL
Tim McCrary, Cape Coral, FL
Matthew Milliron, Lithia, FL
Jacob Newell, Lady Lake, FL
Melissa Nieves, Tampa, FL
Yodelis Nunez, Miami Gardens, FL
Joseph Payne, Port Charlotte, FL
Kamila Perez, Bonita Springs, FL
Juan Pons, Homestead , FL
Bari Rack, Eustis, FL
Kailey Reeves,
New Port Richey, FL
Elder Ripper, Clermont, FL
Justin Romero, Tampa, FL
Jacques Rousseau , Homestead , FL
Josh Sanders, Ocala, FL
Bob Shehu, Clearwater, FL
Jessica Soleyn, Tampa , FL
Patricia Spina, Hollywood, FL
joseph Spina, Hollywood, FL
Andrew Sprinkle, Mobile, AL
Kyle Stanford, Saint Petersburg, FL
David Steindl , Sanford , FL
Cary Strukel, Seminole, FL
Wayne Tidwell, Palm Bay, FL
Guillermo Troncozo, Tampa, FL
Andrea Walker, Pompano Beach, FL
Carly Zeffren, Longwood, FL

Go to http://www.isa-arbor.com, then go to "Members Only" and log in. Then go to ISA membership directory. If you do not know your log in for members only, contact ISA headquarters at (888) 472-8733. Once you log in, you can update your address, check your CEU's, edit or verify Certified Arborist information and search the membership list.

Letters to the Editor

We welcome your thoughts about Florida Arborist articles, about your Florida Chapter, or about tree issues in general.



Email your letters to:
jan@floridaisa.org

or mail to:
Florida Chapter - ISA
7853 S. Leewynn Court
Sarasota, FL 34240

Please remember: Letters should be no longer than 300 words. We reserve the right to condense letters, or to edit as necessary.

An invitation to all members
to attend a

Board of Directors Meeting!
Call 941-342-0153
for specific times and locations

Up-coming 2021 Board Meeting - Dates & Locations

July 17, 2021: TBA
September 17, 2021: TBA
November 11, 2021: TBA

Arborist Certification Committee Report

By Norm Easey, Florida Certification Liaison

Click here to view all scheduled exams; clicking on the "state" column will group all Florida exams together for easy searching. Relatively few in-person exams are currently scheduled; look into taking your exam at a Pearson Testing Center (throughout Florida - most are open with COVID safety precautions).

See the ISA International website for more information about the various ISA arborist credentials and how to earn them.

Florida Chapter currently has 2134 Certified Arborists.

The Florida Chapter would like to congratulate the following 47 Florida or Florida Chapter individuals for earning their certifications during the 1st quarter of 2021 as Certified Arborist, Municipal Specialist, and Utility Specialist:

Certified Arborist

Joel Adams, Seminole, FL
Lauren Adams, Ormond Beach, FL
Jeanne Allen, Indialantic, FL
Kristin Aubuchon-Neron, Altamonte Springs, FL
Brasington Beakley, Seminole, FL
Franklin Berggren, Naples, FL
Keith Burke, Ocala, FL
Robert Byrd, Lake Worth, FL
Derek Callendar, Auburn Hills, MI
Sierra Cook, Minneola, FL
Jason Dasher, High Springs, FL
Alejandro Datorre, Southwest Ranches , FL
Samuel Dunbar, Jacksonville, FL
Britton Durbin, Dunnellon, FL
Shane Fahey, Jupiter, FL
Michael Feltner , Deltona, FL
Jeffrey Fennell, Miami, FL
Rogelio Garnelo Cortes, Naples, FL
Margaret Garner, Princeton, FL
Trevor Gould, Venice, FL
Jordan Graham, Tampa, FL
Mark Hayse, Tampa, FL
Eric Kohnen, Gainesville, FL
Austin Kreutzfeld, North Port, FL
Michael Krolikowski, Miami, FL
Thomas Krzeminski, West Melbourne, FL
John Loudermilk, Pinellas Park, FL
Jeremy Mullon, Oakland Park, FL
Kamila Perez, Bonita Springs, FL
James Plowman, Plantation, FL
Danielle Puls, Palmetto, FL
Jana Read, Orlando , FL
Jeffery Reynolds, Plant City, FL
Sherry Rightmire, North Port, FL
Eric Rogers, Tallahassee, FL
Keri Smith, West Palm Beach, FL
Ryan St. George, Miami, FL
Kyle Stanford, Saint Petersburg, FL
James Stephens, Winter Park, FL
Fernando Tarque, Venice, FL
Jorge Velasco, Miami, FL

Municipal Specialist

Shannon Brewer, Holiday, FL

Utility Specialist

Scott Anderson, Orange Park, FL
John Coniglio , Lakeland, FL
Lindon Deal, Callahan, FL
Erin Schreck, Delray Beach, FL
Kyle Weiland, Fernandina Beach, FL

Are you thinking about becoming certified?
Visit the International ISA website To access the certification application handbook with further information.

Florida Chapter ISA - 2021 Education Schedule

***The schedule below is tentative and subject to changes.**

View Florida Chapter Seminars Online

Date	Seminar/Class	Location (s)	Open for Registration
June 7-8-9, 2021	Trees Florida 2021	Palm Coast	Register
June 22, 2021	TRAQ Renewal 1-day	West Palm Beach	Register
June 23-24-25, 2021	TRAQ Full Course	West Palm Beach	Full/Wait list, email jan@floridaisa.org to be added to the list

International Society of Arboriculture
Florida Chapter

Our Mission: "To Promote and Improve the Scientifically Based Practice of Professional Arboriculture"

Arborist Code of Ethics

Strive for continuous self-development by increasing their qualifications and technical proficiency by staying abreast of technological and scientific developments affecting the profession.

Not misuse or omit material facts in promoting technical information, products or services if the effect would be to mislead or misrepresent.

Hold paramount the safety and health of all people, and endeavor to protect property and the environment in the performances of professional responsibilities.

Accurately and fairly represent their capabilities, qualifications and experience and those of their employees and/or agents.

Subscribe to fair and honest business practices in dealing with clients, suppliers, employees and other professionals.

Support the improvement of professional services and products through encouraging research and development.

Observe the standards and promote adherence to the ethics embodied in this code.

Florida Arborist
Florida Chapter ISA
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