### Wednesday, December 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am</td>
<td>Registration &amp; Exhibitor Set-up</td>
</tr>
<tr>
<td>8:15 - 8:30 am</td>
<td>Welcome, Orientation and Announcements - Jack Fry (Ballroom II)</td>
</tr>
<tr>
<td>8:30 - 9:20 am</td>
<td>Turf and Landscapes in Kansas: Highs and Lows of 2021 - Jack Fry and Megan Kennelly (Ballroom II) (3A/3B - 1 hr)</td>
</tr>
<tr>
<td>9:20 - 9:40 am</td>
<td>BREAK</td>
</tr>
<tr>
<td>9:40 - 10:05 am</td>
<td>Basic Turf - McDowell/Tuttle room</td>
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<tr>
<td></td>
<td>Nursery &amp; Landscape - Alcove room</td>
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<tr>
<td></td>
<td>Diseases, Insects &amp; Weeds - Ballroom II</td>
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<tr>
<td></td>
<td>Advanced Turf - Konza Prairie BC room</td>
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<tr>
<td>10:10 - 10:35 am</td>
<td>Soils - Ward Upham</td>
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<tr>
<td></td>
<td>Environmental Stress in Trees - Jason Griffin (3A - 1 hr)</td>
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<td></td>
<td>Core Hour: Laws, Safety &amp; Environmental Concerns - KDA</td>
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<tr>
<td>10:40 - 11:05 am</td>
<td>Turfgrasses for KS - Ward Upham</td>
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<tr>
<td></td>
<td>Turfgrass Weeds - Dani McFadden (3B - .5 hr)</td>
</tr>
<tr>
<td>11:10 - 11:35 am</td>
<td>Irrigation - Dale Bremer</td>
</tr>
<tr>
<td>11:35 - 1:00 pm</td>
<td>LUNCH (On Your Own)</td>
</tr>
<tr>
<td>1:00 - 1:25 pm</td>
<td>Turfgrass Diseases - Megan Kennelly (3B - .5 hr)</td>
</tr>
<tr>
<td>1:30 - 1:55 pm</td>
<td>Turfgrass Insects - Mu Hong (3B - .5 hr)</td>
</tr>
<tr>
<td>2:00 - 2:25 pm</td>
<td>Mowing Basics - Jack Fry</td>
</tr>
<tr>
<td>2:30 - 3:00 pm</td>
<td>Cultivation - Manoj Chhetri</td>
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<tr>
<td>3:05 - 3:30 pm</td>
<td>Fertilization - Steve Keeley</td>
</tr>
<tr>
<td>3:30 - 5:30 pm</td>
<td>TRADE SHOW - Meet with vendors, network, and chat with speakers in an informal setting</td>
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</tbody>
</table>
**Thursday, December 2**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session/Event</th>
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<tbody>
<tr>
<td>7:30 am</td>
<td>Registration</td>
</tr>
<tr>
<td>8:00 am</td>
<td><strong>General Session</strong> - Ballroom II (Jack Fry, Moderator)</td>
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<tr>
<td>8:00 - 8:20 am</td>
<td>Welcome, Announcements, Awards - Steve Wilson, KTF President</td>
</tr>
<tr>
<td>8:20 - 9:10 am</td>
<td>Understanding Biological Control of Turf and Landscape Pests - Joe Roberts (3A/3B - 1 hr)</td>
</tr>
<tr>
<td>9:10 - 10:00 am</td>
<td>Landscape and Turf Research Update: A National Perspective - Cheryl Boyer (3A/3B - 1 hr)</td>
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<tr>
<td>10:00 - 10:10 am</td>
<td>BREAK</td>
</tr>
<tr>
<td>10:10 am</td>
<td>Advanced Turf - Konza Prairie BC room: Ryan Varns, Moderator</td>
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<tr>
<td>11:00 am</td>
<td>Site-Specific Turfgrass Selection to Reduce Stress &amp; Enhance Performance - Chrissie Segars (3B - 1 hr)</td>
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<tr>
<td>11:00 - 11:50 am</td>
<td>Site-Specific Turfgrass Selection to Reduce Stress &amp; Enhance Performance - Chrissie Segars (3B - 1 hr)</td>
</tr>
<tr>
<td>11:50 - 1:30 pm</td>
<td>The Turfgrass Microbiome - Joe Roberts (3B - 1 hr)</td>
</tr>
<tr>
<td>11:50 - 1:30 pm</td>
<td>Native Plants to Support Native Bees - Jason Graves (3A - 1 hr)</td>
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<tr>
<td>11:50 - 1:30 pm</td>
<td>Using Drones from an Industry Perspective - Dana Sullivan</td>
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<tr>
<td>1:30 pm</td>
<td>Update on Nursery &amp; Landscape Problems - Judy O'Mara (3A - 1 hr)</td>
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<tr>
<td>1:30 - 2:20 pm</td>
<td>Suppressing Poa annua - Jack Fry &amp; Industry Panel: Ethan Shamet, Jeff White, Steve Wilson (3B - 1 hr)</td>
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<tr>
<td>1:30 - 2:20 pm</td>
<td>Diversifying Your Business with Specialty Crops - Cary Rivard (3A/3B - 1 hr)</td>
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<tr>
<td>2:20 pm</td>
<td>Not Using Soil Moisture Sensors is Like Driving without a Fuel Gauge - Dale Bremer</td>
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<tr>
<td>2:20 pm</td>
<td>New Strategies for Suppressing Zoysia Seedheads with a Plant Growth Regulator - Manoj Chhetri (3B - 0.5 hr)</td>
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<tr>
<td>2:20 - 2:50 pm</td>
<td>How From the Land of Kansas Can Help Your Business - Sammy Gleason</td>
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<tr>
<td>2:50 pm</td>
<td>Keeping Ponds Clean - Joe Gerken (3A/3B - 1 hr)</td>
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<tr>
<td>2:50 pm</td>
<td>Establishment of Turfgrass with Drip Irrigation &amp; Protective Covers - Alex Bach</td>
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<tr>
<td>2:50 - 3:35 pm</td>
<td>Industry Conversations Panel: Mike Maas, Doug Melchior, Ryan Varns, Steve White</td>
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<tr>
<td>2:50 - 3:35 pm</td>
<td>Industry Conversations Nursery/Landscape Roundtable</td>
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<tr>
<td>3:35 pm</td>
<td>Conference Adjourned</td>
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<tr>
<td>3:35 pm</td>
<td>Commercial Pesticide Exam - Konza A room</td>
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PRESENTATION DESCRIPTIONS

Wednesday, December 1

Welcome, Orientation and Announcements - Steve Wilson

Turf & Landscape in Kansas: Highs and Lows of 2021 - Jack Fry & Megan Kennelly
A review of great things seen across the landscape and turf industry, and some of the issues that caused problems. (3A/3B - 1 hr)

A series of presentations that cover the basic knowledge needed to manage turf in the Midwest. A great starting point for new employees.

Environmental Stress in Trees - Jason Griffin
If Kansas can throw environmental stress at trees, it will do so: wind, drought, flooding, sub-zero temperatures, sky-high temperatures, soil compaction...the list goes on. This session will cover diagnosing environmental stress in trees and managing/mitigating plant response and pest issues resulting from host plant stress. (3A - 1 hr)

Drought Tolerant Ornamentals - Holly Dickman
Growing landscape plants in the ever-changing Kansas environment can be a challenge, but add drought to the equation and the challenge becomes even greater! Learn about drought tolerant ornamentals that have shown to “hold their own” during times of drought. Happy plants = fewer pests and diseases! (3A - 1 hr)

Deer Management in Urban Landscapes - Drew Ricketts
Deer can cause considerable damage to ornamental plants, and can be a challenge to manage in urban settings. This talk will cover deer biology and appropriate methods for managing deer damage to urban landscapes. (3A - 1 hr)

Industrial Hemp Update - Jason Griffin
In April 2018, Kansas Gov. Jeff Colyer signed a bill enacting the Alternative Crop Research Act, leading to the legal production of industrial hemp in the state on a research basis. Since then, K-State Research and Extension faculty at the John C. Pair Horticultural Center have studied industrial hemp production to determine best practices for Kansas producers. In this fast-paced industry, a lot has changed--learn about challenges, opportunities, and facts we still need to research.

Managing Nostoc and Liverwort in Nurseries - Cheryl Boyer
Nostoc is the slimy, unsightly, algae-like green stuff that is often present in nursery production areas. When dry, it shrivels up and is not much of a problem; when wet by irrigation, Nostoc becomes a slip hazard for employees. Similarly, Liverwort can be an unsightly weed on the surface of container-grown plants, reducing water uptake by plants. This session will report on the latest research to control these nursery pests. (3A - .5 hr)

Diseases, Insects & Weeds - Ballroom II

Core Hour: Laws, Safety & Environmental Concerns - KDA
Regulatory information required for certified applicators.
How Insect Pests Overwinter - Raymond Cloyd
Learn about the biology and ecology associated with how insect and mite pests overwinter, including the life stages that insect and mite pests overwinter as, and how overwintering may influence the management of insect and mite populations. (3A/3B - 1 hr)

Landscape & Turf Disease Update - Judy O'Mara
This session will cover common Kansas landscape and turf plants and their current pest challenges. (3A/3B - 1 hr)

What Happened in 2021 in Regard to Insect and Mite Pests? - Raymond Cloyd
Learn about the various insect and mite pests encountered in 2021 associated with ornamentals and turfgrass, including the fall armyworm, Japanese beetle, green June beetle, and bagworm. Find out why certain insect pest populations were a problem in 2021. (3A & 3B – 1 hr)

Factors Causing Preemergence Herbicide Failure - Dani McFadden
There are several factors that determine herbicide persistence in soil. Hear about the three main factors (soil, herbicide properties, and climatic conditions) and how they interact with one another to affect herbicide persistence. (3A/3B - 0.5 hr)

Turfgrass Cultivation Practices - Chrissie Segars
This discussion will focus on cultivation practices commonly used in turfgrass management. Cultivation is one of the four basic cultural practices that can lead to a healthy, dense area of turfgrass that can stand up to pests like weeds, diseases, and insects. Updates will also be given on new cultivation practices and equipment. (3B - 1 hr)

Drought Resistance in Cool-Season Lawns - Mu Hong
Learn about drought research that has been conducted in Kansas and other states, and the differences in drought resistance among cool-season turfgrass species and cultivars.

Managing Thatch - Jack Fry
Excessive thatch can cause problems with turf performance. Hear about options to prevent it and manage it after it accumulates.

Advances in Fungicide Programming - Joe Roberts
Numerous fungicides have been introduced over the years with broad applicability to a variety of turfgrass diseases. With the advancement of new active ingredients and many new prepackaged mixtures, it is important to stay up-to-date on the newest products. Learn about these new fungicide-programming strategies. (3B - 1 hr)

Best Management Practices for Promoting Athletic Field Safety - Chrissie Segars (3B - 1 hr)
Proper turfgrass selection is vital for stress management and site success. This presentation will cover options for Kansas lawns, sports fields, and golf courses. Attendees will learn about new cultivars of turfgrass that can be used for specific situations such as shade, cold, and drought. Selecting a cultivar for site-specific management will increase tolerance to abiotic and biotic stresses which will reduce the use of pesticides and lead to a healthier turfgrass. (3B - 1 hr)

Update on New Zoysiagrass Cultivar Progress - Jack Fry and Chrissie Segars
K-State and Texas A&M AgriLife Research-Dallas have been cooperating to develop zoysia cultivars since the early 2000's. Hear about newly released cultivars and those coming soon!

Thursday - December 2

General Session - Ballroom II

Understanding Biological Control of Turf and Landscape Pests - Joe Roberts
Concerns of synthetic pesticide use on turfgrasses has increased in recent years, yet we still have a poor understanding of alternative controls available. Come hear new information as to what non-synthetic turfgrass pest control measures are available, and new information on what happens to living biologicals once applied and how cultural practices can help. (3A/3B - 1 hr)

Landscape & Turf Research Update: A National Perspective - Cheryl Boyer
Every day new research is published in peer-reviewed journals related to various landscape and turf issues (pests, plant management, labor, marketing, etc.). It's challenging to keep up! This session will cover research highlights to enhance your effectiveness and competitiveness in the Kansas landscape and turfgrass industries. (3A & 3B - 1 hr)

Site-Specific Turfgrass Selection to Reduce Stress and Enhance Performance - Chrissie Segars
Proper turfgrass selection is vital for stress management and site success. This presentation will cover options for Kansas lawns, sports fields, and golf courses. Attendees will learn about new cultivars of turfgrass that can be used for specific situations such as shade, cold, and drought. Selecting a cultivar for site-specific management will increase tolerance to abiotic and biotic stresses which will reduce the use of pesticides and lead to a healthier turfgrass. (3B - 1 hr)
The Turfgrass Microbiome - Joe Roberts
Microbiomes have developed into a popular topic in the world of science. Much of previous research on turf microbes has been centered on pathogens, but these account for a small percentage of the overall microbiome. This presentation will introduce the topic of microbiomes and how we are advancing our knowledge to improve turfgrass health and survival. (3B - 1 hr)

Suppressing Poa annua - Jack Fry & Industry Panel: Ethan Shamet, Jeff W hite, Steve W ilson
Get an overview of success with the use of plant growth regulators and herbicides in suppressing and controlling Poa. The industry panel will discuss the experiences they've had on the golf course. (3 B - 1 hr)

New Strategies for Suppressing Zoysia Seedheads with a Plant Growth Regulator - Manoj Chhetri
Zoysiagrass produces seedheads in spring, which affect the aesthetics and playability on golf courses. This talk will provide insights on how to manage seedheads on zoysiagrass using ethephon. (3B – 0.5 hr)

Industry Conversations - Panel: Mike Maas, Doug Melchior, Ryan Varns, Steve White
Hear short summaries of highlights that stood out in 2021 for professionals in the golf, lawn care, sports turf, and sales industries.

Update on Nursery & Landscape Problems - Judy O'Mara
Each year we have new or emerging/emerging pest issues in ornamentals. Current pests of concern for Kansas include Boxwood Blight, Southern Blight, plant viruses, etc.). Learn how to identify these pests in nursery and landscape settings and what to do to address them. (3A - 1 hr)

Not Using Soil Moisture Sensors is Like Driving without a Fuel Gauge - Dale Bremer
Learn how integrating information from soil moisture sensors to existing irrigation techniques could substantially advance irrigation management by improving the timing and amount of each irrigation event.

Keeping Ponds Clean - Joe Gerken
Landscapes and turfgrass areas often include ponds and other aquatic features. Learn management techniques to control, prevent, and suppress aquatic weeds and techniques that can be used to limit nutrient and pesticide runoff into these aquatic systems. (3A/3 B - 1 hr)

Native Plants to Support Native Bees - Jason Graves
There are at least 4,000 species of native and solitary bees in the United States. These pollinators directly connect to human health and well-being and deserve to be understood, appreciated, and preserved in our landscapes. Jason will explore native bee biology and how native plants can be used to create a welcoming habitat for these essential pollinators. (3A - 1 hr)

Diversifying your Business with Specialty Crops - Cary Rivard
Participants will learn how nursery and landscape operations can incorporate production and sales of specialty crops such as fruits and vegetables. Crops can be grown in the open field or in greenhouses or hoop houses for retail or wholesale markets. Learn about agritourism and other opportunities for diversifying into specialty crops.

How From the Land of Kansas Can Help Your Business - Sammy Gleason
From the Land of Kansas is the state's trademark program designed to promote agricultural experiences and products grown, raised or produced in Kansas. Learn how they can help you promote your business thru being a member.

Industry Conversations: Nursery/Landscape Roundtable
Join your colleagues in an open discussion of current issues in the Kansas nursery and landscape industry. Topics may include labor, plant shortages, managing employees and other business decisions. Bring your thoughts, experiences, and questions!

Sustainability, Technology & Water Management - Alcove room

Innovative Irrigation Insights - Panel: Matt Gourlay, Dana Sullivan
Hear thoughts from those in the irrigation industry on how the past year has gone, and advancements in technology.
**Conference Location**
The Kansas Turf & Landscape Conference will be held at the Hilton Garden Inn, 410 S. 3rd St., Manhattan, KS.

**Hotel**

**Registration**
To register online and pay by credit card go to [https://2021turfconference.eventbrite.com](https://2021turfconference.eventbrite.com) OR fill out the registration form and send in by November 22.

**Special Assistance**
A conference participant who needs accommodations due to a disability or special dietary requirement, should indicate services needed on the registration form. Early notification is requested to ensure that accommodations can be provided in a timely manner.

**Cancellation/Refund Policy**
If cancellation is necessary, substitutions with another person from the same company is allowed. A written request for a refund must be received before November 22, 2021. The amount refunded will be less a $25.00 processing fee. No refunds will be made after this date. Mail your request to: KTF, 1712 Claflin, 2021 Throckmorton, Manhattan, KS 66506.

If inclement weather should prevent your attendance, no refunds are provided. Significant expenses are occurred on behalf of the KTF in its commitment to hold this conference.

Covid protocols will match what is current at the time for Riley County.

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**Pesticide Recertification Credit Hours**
The Kansas Turf & Landscape Conference has been approved for state pesticide applicator recertification credit:

- 1 Core Hour
- 3A - 7 hrs
- 3B - 7 hrs

Presentations qualifying for 3A or 3B credit are noted after the title. Pick up a form at the registration table to record pesticide recertification credits. A monitor must sign each form before you leave the session. At the end of the conference, give your form to the moderator in the last session you are attending.

If your license expires this year, go to [https://agriculture.ks.gov/divisions-programs/pesticide-fertilizer/renewals](https://agriculture.ks.gov/divisions-programs/pesticide-fertilizer/renewals) to pay the fees and renew before December 31st.

**GCSAA Education Points**
December 1 - 0.45 ed points
December 2 - 0.50 ed points

**Int’l. Society of Arboriculture**
CEUs available for Certified Arborists
Kansas Turf & Landscape Conference
December 1 & 2, 2021           Pre-Registration Form

Register online at: https://2021turfconference.eventbrite.com

**FULL Registration (2 days) ($275.00 at conference)**

Includes 2-day conference, lunch on Thursday, complementary KTF membership dues, and trade show.

$250.00 x _____ _____

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**Additional persons from same firm (140.00 at conference)**

No dues included.

$115.00 x _____ _____

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**WEDNESDAY only-Dec. 1 ($150 at conf.)** Includes trade show; no dues.

$125.00 x _____ _____

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**THURSDAY only-Dec. 2 ($150.00 at conference)** Includes lunch, trade show; no dues.

$125.00 x _____ _____

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**2022 Kansas Turfgrass Foundation Membership Dues**

A 2022 Kansas Turfgrass Foundation Directory will be sent to each member.

$ 75.00 x _____ _____

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A 2022 Kansas Turfgrass Foundation Directory will be sent to each member.

Name of individual(s) joining association: ________________________________

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2022 KNLA Membership Dues can be paid at http://ksnla.org/join-knla/

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**TOTAL:** $ __________

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**Dietary or special assistance needed:** __________________________________________

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**Company/business name:** ___________________________________________________

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**Individual:** _______________________________________________________________

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**Mailing address:** __________________________________________________________

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City ___________________________ State _____  Zip ___________  Phone (         ) __________________

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Email: ___________________________________________________________________________

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Payment:

☐ Check payable to Kansas Turfgrass Foundation enclosed

☐ Please invoice (payable upon receipt)

☐ Credit card Type: __________  N.o. ______________________________  Exp. ________  3-4 digit CID

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**Name on card (printed)** ______________________________  Signature

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Please return registration form by November 22 to:

Turf Conference Registration, 1712 Claflin, 2021 Throckmorton Plant Science Cntr., Manhattan, KS 66506-5507

Fax: (785) 532-6949   cdipman@ksu.edu
Dr. Joseph Roberts is an Assistant Professor and Specialist of Turfgrass Pathology and Nematology at Clemson University. His research is centered on innovative strategies to limit turfgrass and crop loss from plant pathogens including fungi, bacteria, and nematodes. His microbiome research is designed to understand both plant-microbe and microbe-microbe interactions. Improved understanding will enhance disease etiology, management recommendations, and possibly identify new beneficial microbes for enhancing turfgrass health.

Dr. Chrissie Segars is an Assistant Professor and Turfgrass Specialist at Texas A&M AgriLife Extension. Her outreach efforts focus on coaching managers on a system of approaches where primary goals are user safety and healthy turfgrass. Her research aims to find solutions that support better turfgrass areas across the socioeconomic spectrum using best management practices for turfgrass health & safety.