BURLEIGH DODDS SERIES IN AGRICULTURAL SCIENCE



AVAILABLE NOW

About the book

The turfgrass industry is facing increasing pressure to reduce its environmental impact and advance more sustainable maintenance practices that utilise and/or optimise fewer agronomic-related resources.

This book summarises the wealth of recent research that addresses these challenges, whilst also identifying potential mitigation strategies to reduce the sector's

contribution to climate change, such as reduced fertilizer use and water conservation.

About the editor

Dr Michael Fidanza is Professor of Plant and Soil Science at Penn State University, USA. He is former Editor-in-Chief of the *International Turfgrass Society Research Journal* and is internationally-renowned for his research on turfgrass ecology, diseases and plant protection.

Achieving sustainable turfgrass management

Available in print and digital formats: ISBN - print 978-1-80146-019-4

Pages 688

Pub. Date January 2023

Price £165/\$215/€200/C\$280

Series No AS125

For a complete list of titles visit www.bdspublishing.com

T: +44 (0) 1223 839365

E: info@bdspublishing.com

www.bdspublishing.com

🍠 @bdspublishing

in Burleigh Dodds Science Publishing



Delivering knowledge for the global scientific community

Achieving sustainable turfgrass management

Edited by: Professor Michael Fidanza, Pennsylvannia State University, USA

Part 1 Physiology, breeding and cultivation

- Advances in understanding turfgrass physiology: David Jespersen, University of Georgia, USA; Benjamin Wherley, Texas A&M University, USA; and Michelle DaCosta, University of Massachusetts Amherst, USA
- 2. Advances in breeding for improved cultivars of turfgrass: Phillip L. Vines, University of Georgia, USA; Ambika Chandra, Texas A&M AgriLife Research, USA; and Trent M. Tate, GO Seed, Inc., USA;
- 3. Advances in soil management for successful establishment and maintenance of turfgrass: Douglas J. Soldat and Paul L. Koch, University of Wisconsin, USA
- 4. Advances in phosphite utilization for turfgrass: John Dempsey, Independent Turfgrass Research, Ireland
- Advances in irrigation and water management of turfgrass: Marco Schiavon, Fort Lauderdale Research and Education Center, University of Florida, USA; and Matteo Serena, United States Golf Association, USA
- 6. Advances in maintenance practices of turfgrass: Adam W. Thoms, Iowa State University, USA; and Alex J. Lindsey, Ohio State University, USA
- Advances in turfgrass for athletic fields and sports pitches: Gerald M. Henry, University of Georgia, USA
- 8. Advancements in turfgrass for ornamental lawns: Rebecca Grubbs Bowling, Texas A&M University, USA; and Joseph Young, Texas Tech University, USA

Part 2 Biotic and abiotic stresses

- 9. Advances in turfgrass disease management: James Kerns, North Carolina State University, USA
- Advances in turfgrass insect pest management: Benjamin A. McGraw, Audrey Simard and Garrett Y. Price, Pennsylvania State University, USA
- Advances in turfgrass weed management: Matthew T. Elmore, Rutgers University, USA; Aaron J. Patton, Purdue University, USA; Travis W. Gannon, North Carolina State University, USA; and James T. Brosnan, University of Tennessee, USA
- 12. Advances in plant growth regulation in turfgrass: David Gardner and Ed Nangle, The Ohio State University, USA
- 13. Advances in abiotic stress management in turfgrass: Charles Fontanier, Oklahoma State University, USA; and Chrissie A. Segars, Texas A&M University, USA

- Advances in managing organic matter in turfgrass ecosystems: Alec Kowalewski, Charles Schmid, Ruying Wang and Emily Braithwaite, Oregon State University, USA
- 15. Advances in biostimulants in turfgrass: Michael Fidanza, Pennsylvania State University, USA; Cale Bigelow, Purdue University, USA; Stanley Kostka, Pennsylvania State University, USA; Erik Ervin, University of Delaware, USA; Roch Gaussoin, University of Nebraska-Lincoln, USA; Frank Rossi, Cornell University, USA; John Cisar, Cisar Turfgrass Research Service, USA; F. Dan Dinelli, North Shore Country Club, USA; John Pope, Pope Soils Consulting and Counseling Services, USA; and James Steffel, Lehigh Agricultural and Biological Services, USA

Part 3 Case studies

- 16. Considerations with using unmanned aircraft systems in turfgrass: Dale J. Bremer, Kansas State University, USA; Dana G. Sullivan, TurfScout, LLC, USA; Phillip L. Vines, University of Georgia, USA; David McCall, Virginia Polytechnic Institute and State University, USA; Jing Zhang, University of Georgia, USA; and Mu Hong, Colorado State University, USA
- Considerations with selecting turfgrass varieties and cultivars: Kevin Morris, National Turfgrass Evaluation Program, USA; Yuanshuo Qu, Rutgers, The State University of New Jersey, USA; Len Kne, University of Minnesota, USA; and Steve Graham, University of Minnesota, USA
- Considerations with turfgrasses and pollinators: Michelle Wisdom and Michael Richardson, University of Arkansas, USA; and Paige Boyle, Utah State University, USA
- Considerations with water for turfgrass in arid environments: Brian Whitlark, United States Golf Association, USA; Kai Umeda, University of Arizona, USA; Bernhard R. Leinauer, New Mexico State University, USA; and Matteo Serena, University of California- Riverside, USA
- Considerations with soil testing in turfgrass: Cole Thompson, United States Golf Association, USA; Elizabeth Guertal, Auburn University, USA; Pauric McGroary, Waypoint Analytical, USA; Douglas Soldat, University of Wisconsin-Madison, USA; and Bryan G. Hopkins, Brigham Young University and Soil Science Society of America, USA