30th ANNIVERSARY RUTGERS TURFGRASS SYMPOSIUM

Advances in Turfgrass Science: Looking to the Future

Thursday, March 18, 2021

Virtual Event
School of Environmental and Biological Sciences, Rutgers University

9:00 AM Welcome – Laura Lawson (Interim Executive Dean, School of Environmental and Biological Sciences)

9:10 - 10:40 AM SESSION I: New Technologies for Turfgrass Breeding and Management (Moderator: Bingru Huang)

9:10 - 9:30 AM **Rong Di** *(Department of Plant Biology, Rutgers University)*
Application of CRISPR-gene editing and tissue culture to improve creeping bentgrass

9:30 - 9:50 AM **Josh Friell** *(Senior Research Scientist, The Toro Company)*
New technologies for optimizing turf management

9:50 - 10:10 AM **Phillip Vines** *(Department of Plant Biology, Rutgers University)*
Applications of high-throughput plant phenotyping in turfgrass breeding

10:10 - 10:40 AM **Naveen Singa** *(Research Professional, Siemens Technology)*
Decision support system - collect, analyze, deploy and integrate edge solutions for the food and beverage industry

10:40 - 11:00 AM Discussion, *e*- Posters, and Break

11:00 - 11:45 AM Keynote Address (Moderator: Stacy Bonos)

Cristobal Uauy *(John Innes Center, United Kingdom)*
Unlocking the polypoid potential of crops through genomics

11:45 – 12:00 AM Discussion Session

12:00 – 1:00 PM Lunch Break

1:00 – 2:00 PM SESSION II: Poster Session (3-minute summaries)
(Moderator: Rong Di)

Physiological effects of plant-health products for improving drought tolerance and post-stress recovery in creeping bentgrass
Cathryn Chapman and Bingru Huang *(Department of Plant Biology, Rutgers University)*

Herbicide application timing affects deer-tongue grass (*Dichanthelium clandestinum*) Control in Native Areas
Katherine Diehl, Matthew Elmore and Phillip L. Vines *(Department of Plant Biology, Rutgers University)*

Rhizobacteria inoculation and colonization for promoting plant growth in cool-season turfgrass
William Errickson, Ning Zhang and Bingru Huang *(Department of Plant Biology, Rutgers University)*

Applications of the *Epichloë festucae* antifungal protein, EfeAfpA
Patrick Fardella, Bruce B. Clarke and Faith C. Belanger *(Department of Plant Biology, Rutgers University)*

Spatial distribution of dollar spot fungus in asymptomatic and symptomatic turfgrass
Glen Groben[1], Bruce B. Clarke[1], James A. Murphy[1], Paul Koch[2], Patrick Purdon[1] and Ning Zhang[1] *([1]Department of Plant Biology, Rutgers University, [2]Department of Plant Pathology, University of Wisconsin – Madison)*

Organic lawn clippings can feed livestock and produce food for people
Joseph Heckman[1] and Mike Westendorf[2] *([1]Department of Plant Biology Department, Rutgers University, [2]Department of Animal Science, Rutgers University)*

Differential physiological responses to heat and drought stress in annual bluegrass and creeping bentgrass
Sean McBride, James A. Murphy and Bingru Huang *(Department of Plant Biology, Rutgers University)*

Genetic control of eastern filbert blight resistance in F2 generation hybrid hazelnut (*Corylus americana* x C. *avellana*) populations
Thomas J. Molnar[1], D. Hlubik[1], Shawn Mehlenbacher[2] and John M. Capik[1] *([1]Department of Plant Biology, Rutgers University, [2]Oregon State University College of Agricultural Sciences)*

Kentucky bluegrass tolerance to traffic during summer and autumn
Bradley S. Park and James A. Murphy *(Department of Plant Biology, Rutgers University)*

Improvements to an endophyte detection kit: A story of milk and phosphatase
Jeanne S. Peters, William A. Meyer and Thomas J. Gianfagna *(Department of Plant Biology, Rutgers University)*

Metabolic regulation of γ-aminobutyric acid during heat-induced leaf senescence in creeping bentgrass
Stephanie Rossi and Bingru Huang *(Department of Plant Biology, Rutgers University)*

Understanding and optimizing sampling methods for the annual bluegrass weevil
Anna Luiza Sousa, Ryan Geisert and Albrecht M. Koppenhöfer *(Department of Entomology, Rutgers University)*

Identification of viruses that may affect virulence of dollar spot fungi
Trini Taccad, Alanna Cohen, Limei Du and Brad Hillman *(Department of Plant Biology, Rutgers University)*

Genome wide association study of anthracnose disease in switchgrass
Christopher Tkach[1], Jeremy Sutherland[2], Stacy A. Bonos[1], John E. Carlson[3], Terrence H. Bell[2], Jesse R. Lasky[4], Julie L. Hansen[5], Ryan V. Crawford[5] and Donald Viands[5]
([1] Department of Plant Biology, Rutgers University, [2]Department of Plant Pathology and Environmental Microbiology, Penn State University, [3]Department of Ecosystem Science and Management, Penn State University, [4]Department of Biology, Penn State University, [5]School of Integrative Plant Science, Cornell University)

Comparison of *Magnaporthiopsis* spp. with respect to virulence on hard fescue and Kentucky bluegrass
Phillip L. Vines, Kyle M. Genova, Glen Groben, William A. Meyer and Bruce B. Clarke *(Department of Plant Biology, Rutgers University)*

Inheritance of summer patch disease resistance in hard fescue
Shidi Wu[1], Austin L. Grimshaw[2], Yuanshuo Qu[3], Phillip L. Vines[1], Eric N. Weibel[1], William A. Meyer[1] and Stacy A. Bonos[1] *([1]Department of Plant Biology, Rutgers University, [2]Simplot Turf, [3]Indigo Ag.)*

Potassium effect on dollar spot of annual bluegrass
Zhongqi Xu, Bruce B. Clarke and James A. Murphy *(Department of Plant Biology, Rutgers University)*

Influence of fungicide programming and bentgrass susceptibility on dollar spot control
Pingyuan Zhang, James A. Murphy and Bruce B. Clarke *(Department of Plant Biology, Rutgers University)*

2:00 – 2:30 PM Q & A, Discussion Session, and *e*- Posters

2:30 – 4:00 PM SESSION III: Pest Management (Moderator: James Murphy)

2:30 – 2:50 PM **Matt Elmore** *(Department of Plant Biology, Rutgers University)*
Goosegrass resistance to dithiopyr

2:50 – 3:15 PM **Scott McElroy** *(Department of Crop, Soil, and Environmental Science, Auburn University)*
Identifying the mechanism of oxadiazon resistance in goosegrass and improved understanding of PPO-inhibitor mode of action

3:15 – 3:35 PM **Pingyuan Zhang** *(Department of Plant Biology, Rutgers University)*
Interpretations of a logistic regression model for fungicide control of dollar spot on creeping bentgrass

3:35 – 4:00 PM **Bruce B. Clarke** *(Department of Plant Biology, Rutgers University)*
Developing turf disease control programs that are efficacious and environmentally sound

4:00 - 4:15 PM Discussion Session and Closing Remarks