

Breeding Improved Cool-season Turfgrasses for Stress Tolerance and Sustainability in a Changing Environment

William A. Meyer¹, Lindsey Hoffman, and Stacy A. Bonos

Keynote Address

Paper summary: Growth and sustainability of cool-season turfgrasses has the potential to be negatively impacted under future climate change scenarios. Therefore, it will be necessary to breed turfgrasses that have improved abiotic and biotic stress tolerance compared to cultivars that are currently available. This will require the use of techniques that can efficiently and effectively identify novel germplasm for incorporation into a breeding program. Over the past decade, advances have been made in the methodologies used to develop new cultivars of apomictic and open-pollinated cool-season turfgrass species. This keynote address will discuss current breeding techniques, major advances that have been made in breeding cool-season grasses, and the future of plant breeding for sustainability.



Speaker Biography: Dr. William A. Meyer received a B.S., M.S., and Ph.D. from the University of Illinois Champaign-Urbana. He worked for Warren's Turf Nursery in Palos Park IL from 1972-1975. Dr. Meyer became the President of Pure-Seed Testing Inc. and Research Director of Turf-Seed Inc. in Hubbard OR from 1975-1996. In 1996, he became a Professor of Turfgrass Breeding and the Associate Director of the Center for Turfgrass Center at Rutgers University and the New Jersey Agricultural Experiment Station. He is still presently in this position. Dr. Meyer specializes in breeding disease resistant turfgrasses and has developed or co-developed over 450 new improved turfgrasses that are presently successful commercial cultivars.

¹**Corresponding author:** William A. Meyer, Professor, Department of Plant Biology and Pathology, 296A Foran Hall/Cook Campus, 59 Dudley Road, New Brunswick, NJ 08901. Email: wmeyer@aesop.rutgers.edu

Co-author: L. Hoffman, Postdoctoral Associate, Department of Plant Biology and Pathology, 278 Foran Hall/Cook Campus, 59 Dudley Road, New Brunswick, NJ 08901. Email: lh481@scarletmail.rutgers.edu

Co-author: S.A. Bonos, Associate Professor, Department of Plant Biology and Pathology, 284 Foran Hall/Cook Campus, 59 Dudley Road, New Brunswick, NJ 08901. Email: bonos@aesop.rutgers.edu