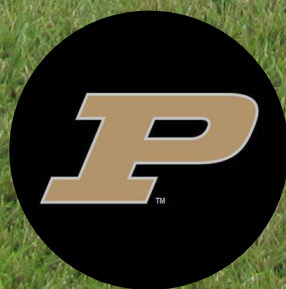


2011

***Purdue University
Turfgrass Research
Summary***



Acknowledgements

This publication was designed and prepared by Jennifer Biehl, Turf Program Secretary and Executive Secretary of the Midwest Regional Turf Foundation.

Disclaimer

Some of the information presented in this guide, especially pesticide recommendations, may be specific to Indiana. Readers outside Indiana should check with their own cooperative extension services for state-specific information.

Reference in this publication to any specific commercial product, process, or service, or the use of any trade, firm, or corporation name is for general informational purposes only and does not constitute an endorsement, recommendation, or certification of any kind by Purdue University. Individuals using such products assume responsibility for their use in accordance with current directions of the manufacturer.

On the cover: Crabgrass (*Digitaria* spp.) control research at Purdue University. Photo by Aaron Patton.

2011 Purdue University Turfgrass Research Summary

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Turfgrass Industry:

As the green industry continues to have a large impact on Indiana and the nation, Purdue University has assembled an outstanding team of researchers, extension personnel, and educators that are dedicated to solving problems and helping meet the needs of Indiana residents. One segment of the Indiana green industry that continues to provide a significant impact on the state's economy is the turfgrass industry, which includes residential and commercial lawn care, sports turf, cemeteries, sod production, golf course maintenance, and more. Indiana's professional turfgrass industry is estimated by some to generate in excess of \$1.4 billion in annual expenditures and provide over 11,500 jobs.

The Annual Report of the Purdue University Turf Program is published each year by the Purdue Turf Team and features significant findings made by turfgrass scientists over the past year. It is our desire that this publication will keep our stakeholders up-to-date on significant changes and advancements that affect our industry.

This 2011 Annual Report includes 21 papers from faculty, staff, and graduate students. We hope that these findings will enhance your ability to conduct business in an efficient and productive manner.

We would also like to recognize the many organizations, companies, and individuals who have contributed their time, talent and resources to help make our program successful. We are forever indebted to the many people who contribute to this program. Special recognition goes to the Midwest Regional Turf Foundation which supports the research and extension programs of each member of the Turf Team and also provides substantial support towards the operating and capital expenses of the W.H. Daniel Turfgrass Research and Diagnostic Center.

We hope that this publication will be of value to all persons with an interest in the Indiana green industry.



Cale Bigelow
Associate Professor



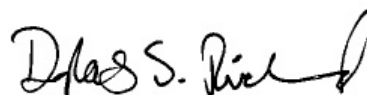
Tim Gibb
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Supporters of the Purdue University Turf Program in 2011

The Turfgrass Program at Purdue University relies on the support of the Midwest Regional Turf Foundation and gifts from the turfgrass industry for a large portion of its operating budget. We would like to extend our thanks to the members of the Midwest Regional Turf Foundation for their loyal support of turfgrass research and education at Purdue.

In addition, various individuals, organizations, and businesses have provided grants, products, or equipment to support our efforts throughout the year. Without this support, we would be unable to conduct many of the research projects included in this report.

Individuals

Al Capitos, Purdue Athletic Department
Greg Shaffer, Elcona Country Club
Jim Scott, Purdue Univ. Athletic Dept.
Brian Bornino, Purdue Univ. Athletic Dept.
Scott Helkamp, Purdue Univ. Grounds Dept

Companies/Organizations

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BASF Corporation	Midwest Regional Turf Foundation
Bayer Environmental Science	Monsanto, Inc.
Becker Underwood	National Turfgrass Evaluation Program (NTEP)
CISCO Seeds	NuFarm
CLC Labs	PBI Gordon
Dow AgroSciences	PermaGreen Supreme
DuPont Professional Products	Phoenix Environmental Care
Elcona Country Club	Precision Laboratories
Floratine	Purdue Pesticide Programs
FMC Corporation	Quali-Pro
Golf Course Superintendents Assoc. of America	Scott's Company, The
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Hamlet Golf Course	SePro
Henderson Country Club	Syngenta Crop Protection
Hoosier Golf Course Superintendents Assoc.	Tenbarga Seed Company
Indiana Seed Solutions	Tri-State Golf Course Superintendents Assoc.
Indiana Golf Course Superintendents Assoc	Turfgrass, Inc
Kenney Outdoor Solutions	United States Department of Agriculture NC-
Kentuckiana Golf Course Superintendents Assoc.	RIPM
Knox Fertilizer Co.	United States Golf Association
Lastec	Valent USA
Lesco	

We regret that some individuals or companies may have inadvertently been left off of this list. If your company has provided financial or material support for the program and is not mentioned above, please contact us so that your company's name can be added in future reports.