

Matthew T. Elmore

Assistant Extension Specialist in Weed Science for Turfgrass, Landscapes, Pastures and Forages
Rutgers University
School of Environmental and Biological Sciences
Dept. of Plant Biology
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EDUCATION:

- B.S. in Turfgrass Science. The Pennsylvania State University - 2009
 - M.S. in Plant Sciences. The University of Tennessee - 2011
 - Ph.D. in Plants, Soils, and Insects. The University of Tennessee - 2014
-

Assistant Extension Specialist in Weed Science

Rutgers University

50% Extension, 30% research, 20% teaching appointment

November 2016 - Present

New Brunswick, NJ

- Researching integrated approaches to control problematic weeds and reduce herbicide applications. This includes research to better understand optimal timing of control strategies and the influence of management practices on weed competitiveness.
- Investigating biological and natural products for selective weed control.
- Researching abiotic and biotic factors that influence weed competitiveness

Assistant Professor and Extension Turfgrass Specialist

Texas A&M University – Texas A&M Agrilife

100% Extension appointment

August 2014 – October 2016

Dallas, TX

- Conducted research and extension activities to understand best practices control problematic weeds using an integrated approach to reduce herbicide rates and application frequency. This included evaluating complementary herbicidal modes-of-action for greater control of problematic weeds, and combining cultural practices with proper application timings.
- Initiated research and extension activities to understand and reduce water usage of landscape turfgrasses. This included evaluating the effects of soil amendments in combination with turfgrass cultural practices to increase rooting potential of landscape turfgrasses.

Graduate Research Assistant - focus in turfgrass weed science

The University of Tennessee

June 2009 – July 2014

Knoxville, TN

Summer Research Assistant

BASF – The Chemical Company

June 2013 – August 2013

Research Triangle Park, NC

PUBLICATION

Refereed Journal Articles

- **Elmore, M.T.**, G.R. Armel, J.T. Brosnan, M.D. Best, J.W. Thomas and J.J. Vargas. 2017. Effect of alkyl substitutions on herbicidal activity of 2-(2,4-dichlorobenzoyl)cyclohexane-1,3-dione derivatives. *J. Pesticide Science (Submitted)*.
- Verma, S.K., K. Kingsley, M Bergen, C. English, **M. Elmore**, R.N. Kharwar, and J.F. White. 2017. Bacterial endophytes from rice cut grass (*Leersia oryzoides* L.) increase growth, promote root gravitropic response, stimulate root hair formation and protect rice seedlings from disease. *Plant Soil*. DOI 10.1007/s11104-017-3339-1
- Reynolds, W.C., D.S. Reynolds, R. Puckett, T. Wade and **M.T. Elmore**. 2016. Monitoring destructive scarab beetles in Texas turfgrasses. *Southwestern Entomologist* 41:921-932.
- **Elmore, M.T.**, J.T. Brosnan, G.R. Armel, J.J. Vargas and G.K. Breeden. 2016. Herbicide safeners increase creeping bentgrass (*Agrostis stolonifera*) tolerance to pinoxaden and affect weed control. *Weed Technology* 30:919-928.
- **Elmore, M.T.**, J.T. Brosnan, G.R. Armel, D.A. Kopsell, M.D. Best, T.C. Mueller and J.C. Sorochan. 2015. Cytochrome P450 inhibitors reduce creeping bentgrass (*Agrostis stolonifera*) tolerance to topramezone. *PLOS ONE*. DOI: 10.1371/journal.pone.0130947
- **Elmore, M.T.**, J.T. Brosnan, G.R. Armel, J.J. Vargas and G.K. Breeden. 2015. Influence of Herbicide Safeners on Creeping Bentgrass (*Agrostis stolonifera*) Tolerance to Herbicides. *Weed Technology* 29:550-560.
- **Elmore, M.T.**, J.T. Brosnan, D.A. Kopsell, T.C. Mueller, B.J. Horvath and G.K. Breeden. 2013. Seasonal application timings affect dallisgrass (*Paspalum dilatatum*) control in tall fescue. *Weed Technology* 27:557-564.
- **Elmore, M.T.**, J.T. Brosnan, G.K. Breeden and A.J. Patton. 2013. Mesotrione, topramezone and amicarbazone combinations for postemergence annual bluegrass (*Poa annua*) control. *Weed Technology* 27:596-603.
- **Elmore, M.T.**, J.T. Brosnan, D.A. Kopsell and G.K. Breeden. 2013. Effects of temperature and nitrogen fertilizer on mesotrione activity against annual bluegrass (*Poa annua* L.). 12th International Turfgrass Society Research Journal p. 657-662.
- J.T. Brosnan, G.K. Breeden, **M.T. Elmore**, A.J. Patton and D.V. Weisenberger. 2012. Zoysiagrass seedhead suppression with imidazolinone herbicides. *Weed Technology*. 26:708-713.
- **Elmore, M.T.**, J.T. Brosnan, D.A. Kopsell and G.K. Breeden. 2012. Nitrogen-enhanced efficacy of mesotrione and topramezone for smooth crabgrass (*Digitaria ischaemum*) control. *Weed Science*. 60:480-485.

- Brosnan, J.T., G.K. Breeden, **M.T. Elmore** and J.M. Zidek. 2011. Application timing affects bermudagrass suppression with mixtures of fluazifop and triclopyr. *Weed Technology*. 25:591-597.
- **Elmore, M.T.**, J.T. Brosnan, D.A. Kopsell, G.K. Breeden, and T.C. Mueller. 2011. Response of hybrid bermudagrass (*Cynodon dactylon* x *C. transvaalensis*) to three HPPD-inhibitors. *Weed Science*. 59:458-463.
- **Elmore, M.T.**, J.T. Brosnan, D.A. Kopsell and G.K. Breeden. 2011. Methods of assessing bermudagrass (*Cynodon dactylon* L.) responses to HPPD inhibiting herbicides. *Crop Science* 51:2840-2845.
- Brosnan, J.T., D.A. Kopsell, **M.T. Elmore**, G.K. Breeden and G.R. Armel. 2011. Changes in 'Riviera' bermudagrass [*Cynodon dactylon* (L.) Pers.] carotenoid pigments after treatment with three *p*-hydroxyphenylpyruvate dioxygenase-inhibiting herbicides. *HortScience*. 46:493-498.
- Brosnan, J.T., B.J. Horvath, **M.T. Elmore**, G.K. Breeden and J.C. Sorochan. 2010. Greenhouse investigation of strobilurin fungicide applications on creeping bentgrass root characteristics under two irrigation regimes. *Crop Science*. 50:2605-2612.
- Brosnan, J.T., G.K. Breeden, **M.T. Elmore** and J.M. Zidek. 2009. Early and late postemergence control of dallisgrass (*Paspalum dilatatum* Poir.) in tall fescue. Online. *Applied Turfgrass Science*. doi:10.1094/ATS-2010-0312-02-RS.

Abstracts and Proceedings for Presentations at Scientific Meetings

(Presenter *)

2017

Elmore M.T.*, J.F. White, K.L. Kingsley, K.H.D. Diehl, D.P. Tuck and S.H. Verma. Seed endophytes of smooth crabgrass (*Digitaria ischaemum*) increase white clover (*Trifolium repens*) and dandelion (*Taraxacum officinale*) seedling mortality. *Agronomy Abstracts*.

Elmore M.T.*. The future of turfgrass weed science at Rutgers. 2017. Proc. 26th Annual Rutgers Turfgrass Symposium. p. 29

Elmore M.T.*, J.A. Murphy, B.S. Park, C. Mansue, and S. Alea. 2017. Herbicide programs for creeping bentgrass (*Agrostis stolonifera*) control in Kentucky bluegrass (*Poa pratensis*). Proc. Northeastern Weed Science Society 71:98

B.S. Park, **M.T. Elmore**, S. Alea, C. Mansue and J.A. Murphy. 2017. Using herbicides and perennial ryegrass to renovate turf dominated by annual bluegrass during 2015-16. Proc. Northeastern Weed Science Society 71:101

2016

***Elmore, M.T.** and W.C. Reynolds. 2016. Post-emergence rescuegrass (*Bromus catharticus*) control with various herbicides. *Agronomy Abstracts* 2016, paper 100802.

***Elmore, M.T.** and W.C. Reynolds. 2016. Annual bluegrass (*Poa annua*) control with fall applications of trifloxysulfuron-sodium and foramsulfuron. Agronomy Abstracts 2016, paper 101043.

2015

***Elmore, M.T.** and J. Young. 2015. Control of *Alternanthera* species in turfgrass. Proc. Texas Plant Protection Association.

***Elmore, M.T.**, J.T. Brosnan, G.R. Armel, T.C. Mueller, J.J. Vargas and G.K. Breeden. 2015. Herbicide safeners influence creeping bentgrass, roughstalk bluegrass, and perennial ryegrass tolerance to pinoxaden. Proc. Southern Weed Science Society 68:133.

***Elmore, M.T.**, J.T. Brosnan, G.R. Armel, D.A. Kopsell, J.J. Vargas and G.K. Breeden. 2015. Cytochrome P450-inhibitors affect creeping bentgrass (*Agrostis stolonifera*) tolerance to topramezone. Proc. Southern Weed Science Society 68:131.

2014

***Elmore, M.T.**, J.T. Brosnan, G.K. Breeden, J.J. Vargas and G.R. Armel. 2014. The response of creeping bentgrass, roughstalk bluegrass and perennial ryegrass to pinoxaden in combination with herbicide safeners. Agronomy Abstracts 2014 121-6.

***Elmore, M.T.**, J.T. Brosnan, C.L. Brommer, G.R. Armel, G.K. Breeden and J.J. Vargas. 2014. Goosegrass (*Eleusine indica*) and large crabgrass (*Digitaria sanguinalis*) control with combinations of topramezone and cloquintocet-mexyl. Proc. Southern Weed Science Society 67:244.

***Elmore, M.T.**, J.T. Brosnan, G.K. Breeden, J.J. Vargas and G.R. Armel. 2014. Combinations of topramezone and cloquintocet-mexyl against creeping bentgrass (*Agrostis stolonifera*) and grassy weeds. Proc. Northeastern Weed Science Society 68:55.

***Elmore, M.T.**, J.T. Brosnan, G.R. Armel, G.K. Breeden and J.J. Vargas. 2014. The mobile weed manual: a new resource for managers of turfgrass and ornamentals. Proc. Northeastern Weed Science Society 68:91.

2013

***Elmore, M.T.**, J.T. Brosnan, G.R. Armel and G.K. Breeden. 2013. Influence of safeners on creeping bentgrass tolerance to herbicides. Agronomy Abstracts 2013. Annual Meeting CD-ROM.

***Elmore, M.T.**, J.T. Brosnan, G.R. Armel, M. Barrett and G.K. Breeden. 2013. Creeping bentgrass (*Agrostis stolonifera*) tolerance to topramezone in combination with various herbicide safeners. Proc. Weed Science Society of America Paper 49.

***Elmore, M.T.**, J.T. Brosnan and G.K. Breeden. 2013. Effects of herbicide application timing and overseeding on dallisgrass (*Paspalum dilatatum*) control in tall fescue (*Festuca arundinacea*). Proc. Southern Weed Science Society 66:149.

2012

- ***Elmore, M.T.**, J.T. Brosnan, G.R. Armel, M. Barrett and G.K. Breeden. 2012. Creeping bentgrass (*Agrostis stolonifera*) tolerance to topramezone in combination with various herbicide safeners. Proc. North Central Weed Science Society 67:91.
- ***Elmore, M.T.**, J.T. Brosnan and G.K. Breeden. 2012. Effects of herbicide application timing and overseeding on dallisgrass (*Paspalum dilatatum*) control in tall fescue (*Festuca arundinacea*). Proc. North Central Weed Science Society 67:69.
- ***Elmore, M.T.**, J.T. Brosnan and G.K. Breeden. 2012. Effects of herbicide application timing and overseeding on dallisgrass (*Paspalum dilatatum*) control in tall fescue (*Festuca arundinacea*). Agronomy Abstracts 2012. Annual Meeting CD-ROM.
- ***Elmore, M.T.**, J.T. Brosnan and G.K. Breeden. 2012. Strategies for controlling annual bluegrass (*Poa annua* L.) using HPPD-inhibiting herbicides applied with urea-N fertilizer. Proc. 3rd European Turfgrass Society Conference. Bioforsk Fokus 7:121-122.
- ***Elmore, M.T.**, J.T. Brosnan, G.K. Breeden and P.A. Jones. 2012. Nitrogen-enhanced efficacy of mesotrione and topramezone for smooth crabgrass (*Digitaria ischaemum*) control. Proc. Northeastern Weed Science Society 66:53.
- ***Elmore, M.T.**, J.T. Brosnan, and G.K. Breeden. 2012. Mesotrione and amicarbazone combinations for annual bluegrass (*Poa annua* control). Proc. Northeastern Weed Science Society 66:102.
- *P.A. Jones, J.T. Brosnan, G.K. Breeden and **M.T. Elmore**. 2012. Effects of rooting depth on hybrid bermudagrass injury with indaziflam in various soils. Proc. Northeastern Weed Science Society 66:40.

2011

- ***Elmore, M.T.**, J.T. Brosnan, and G.K. Breeden. 2011. Enhanced efficacy of HPPD-inhibiting herbicides for annual grassy weed control. Agronomy Abstracts 2011. Annual Meeting. CD-ROM.
- ***Elmore, M.T.**, J.T. Brosnan, D.A. Kopsell and G.K. Breeden. 2011. Methods of assessing the activity of HPPD inhibiting herbicides. Proc. Northeastern Weed Science Society 65:17.
- Breeden, G.K., J.T. Brosnan, **M.T. Elmore**, and F.R. Walls. 2011. F9001 for preemergence yellow nutsedge control. Proc. Northeastern Weed Science Society 65:14.
- ***Elmore, M.T.**, J.T. Brosnan, D.A. Kopsell and G.K. Breeden. 2011. Methods of assessing the activity of three HPPD inhibiting herbicides. Proc. Southern Weed Science Society 64:81.
- *Breeden, G.K., J.T. Brosnan, **M.T. Elmore**, and F.R. Walls. 2011. Yellow nutsedge, smooth crabgrass, and goosegrass control with F9001. Proc. Southern Weed Science Society 64:86.
- *Brosnan, J.T., G.K. Breeden, and **M.T. Elmore**. 2011. Imidazolinone herbicides for warm-season turf management. Proc. Southern Weed Science Society 64:78.
- *Brosnan, J.T., G.K. Breeden, and **M.T. Elmore**. 2011. Differential responses of bermudagrass to three HPPD inhibiting herbicides. Proc. Southern Weed Science Society 64:79.

- ***Elmore, M.T.,** J.T. Brosnan, P.E. McCullough and G.K. Breeden. 2011. Tall fescue and perennial ryegrass re-seeding intervals for amicarbazone. Proc. Southern Weed Science Society 64:287.

2010

- ***Elmore, M.T.,** J.T. Brosnan, D.A. Kopsell and G.K. Breeden. 2010. Methods of assessing bermudagrass responses to three HPPD inhibiting herbicides. Agronomy Abstracts 2010. Annual Meeting. CD-ROM.
- ***Elmore, M.T.,** R.M. Koepke-Hill, J.T. Brosnan, G.K. Breeden, and G.R. Armel. 2010. Control of ground ivy (*Glechoma hederacea*) with applications of quinclorac and sulfentrazone. Proc. Northeastern Weed Science Society 63:18.
- ***Elmore, M.T.,** J.T. Brosnan, and G.K. Breeden. 2010. Using growing degree day application timings to maximize the efficacy of fluazifop and triclopyr for control of bermudagrass in zoysiagrass turf. Proc. Southern Weed Science Society 63:145.
- ***Elmore, M.T.,** J.T. Brosnan, and G.K. Breeden. 2010. Early and late postemergence control of dallisgrass (*Paspalum dilatatum*) in tall fescue. Proc. Southern Weed Science Society 63:44.
- ***Brosnan, J.T.,** G.K. Breeden, and **M.T. Elmore.** 2010. Applications of indaziflam for control of annual grasses in warm season turf. Proc. Northeastern Weed Science Society 63:66.
- ***Breedon, G.K.,** J.T. Brosnan and **M.T. Elmore.** 2010. Non-selective and preemergence herbicide mixtures for MSMA replacement weed control in turfgrass. Proc. Northeastern Weed Science Society 63:143.
- Reis, A.P., J. T. Brosnan, *G. K. Breeden, and **M.T. Elmore.** 2010. Mesotrione for managing weeds during the establishment of Kentucky bluegrass and tall fescue in the transition zone. Proc. Northeastern Weed Science Society 63:7-8.
- ***Breedon, G.K.,** J.T. Brosnan, and **M.T. Elmore.** 2010. Non-selective and preemergence herbicides for winter annual broadleaf weed and preemergence crabgrass (*Digitaria* spp.) control. Proc. Southern Weed Science Society 63:143.
- ***Brosnan, J. T.,** G. K. Breeden and **M. T. Elmore.** 2010. Mesotrione for weed control during the establishment of cool-season turfgrasses. Proc. 2nd European Turfgrass Society Conference. Angers, France. Pp. 54-56.

2009: 4 abstracts

Research Reports to External Cooperators

2016 - 14 reports

2015 - 26 reports

2008- 2014 - Co-authored 15 reports

Popular Press/Online: 2015-2017: 13 articles

2017

- **Elmore, M.T.** and Murphy J.A. Programs for false-green kyllinga control in cool-season turfgrass. *Golfdom Magazine. In press.*
- **Elmore, M.T.** False-green kyllinga identification and control. *New Jersey Landscape Contractors Association Magazine. In press.*

2016

- **Elmore, M.T.** Improving dallisgrass control with well-timed herbicide application. *Mississippi Turfgrass Association Magazine. Summer 2016. p. 8-11.*
- Reynolds, W.C. and **Elmore, M.T.** 2016 Weed, insect, and disease control in turfgrass. *TTA Magazine. 2nd Quarter 2016. p 6-9.*
- **Elmore, M.T.** Weeding out the weeds. *TNLA Green Magazine. May-June. p 9-13.*

2015

- **Elmore M.T.,** A.C. Chandra, Q. Yu. Turfgrass Research and Extension in Dallas. *Pallet – Trade magazine for the Turfgrass Producers of Texas. October 2015. p. 6-7*
- Reynolds W.C. and **M.T. Elmore.** Herbicide resistant annual bluegrass. *Mississippi and Louisiana Golf Course Superintendents Association Newsletter. April 2015.*
- **Elmore, M.T.** Dallisgrass identification and control - Super Science. *Golfdom Magazine. June 2015. 44-47.*
- **Elmore, M.T** and C. Reynolds. Nutsedge control in turfgrass. *Texas Turfgrass Association Magazine. March 2015.*
- **Elmore, M.T** and C. Reynolds. Nutsedge and kyllinga control in sod production. *Pallet – Trade magazine for the Turfgrass Producers of Texas. April 2015. p. 7-10*
- Reynolds W.C. and **M.T. Elmore.** Herbicide resistance screening for Texas golf courses. *Tee to green. March 2015. p. 14*
- Reynolds W.C. and **M.T. Elmore.** Herbicide resistance screening for Texas golf courses. *Lone Star Links. March 2015.*
- Reynolds, C. and **M.T. Elmore.** Spring weed control in Texas turf. *Texas Turfgrass Association Magazine. March 2015. p. 16-19.*

2010-2014: 9 articles

FUNDED GRANT PROPOSALS

\$237,000 directly attributed to M. Elmore since August 2014

- **Elmore, M.T.** Applied Field Research Investigations of Various Problematic Weeds. \$35,520. 2017-2018. (Internal CTS competitive grant)
- **Elmore, M.T.** and White JF. A Program to develop seed associated microbes as herbicides. \$19,160. 2017-2018. (Internal CTS competitive grant)
- **Elmore, M.T.**, A.M. Koppenhöfer, and J.A. Murphy. Developing programs for annual bluegrass control in creeping bentgrass fairways using annual bluegrass weevil, plant growth regulators, and interseeding. 2017-2018. Golf Course Superintendents Association Environmental Institute for Golf \$20,000, New Jersey Turfgrass Foundation \$20,000, Golf Course Superintendents Association of New Jersey \$20,000. \$60,000 total attributed to M. Elmore.
- Kenworthy, K.E., J.B. Unruh, A.C. Chandra, S.R. Milla-Lewis, Y. Wu, B.M. Schwartz, J. Zhang, J. Erickson, M. Dukes, J. Kruse, P. Munoz, P. Raymer, C. Waltz, K. Devos, **M. Elmore**, B. Wherley, Q. Yu, T. Boyer, J. Moss, D. Martin, C. Chung, S. Taghvaeian, and G. Miller. Persistence, survival and recovery of warm-season turfgrass for sustainable urban landscapes under limited irrigation and long-term drought. 2015-2019. USDA-SCRI. \$4,430,003. Amount attributed to M. Elmore \$97,962.
- **Elmore M.T.** and W.C. Reynolds. 2015. Evaluating herbicide combinations for weed control at zoysiagrass sprigging. Turfgrass Producers of Texas. One year. 2016. \$7,053. Amount attributed to M. Elmore \$3,527.
- **Elmore M.T.** and A.C. Chandra. 2015. Seedhead suppression of greens-type zoysiagrasses. Texas Turfgrass Research, Education and Extension Endowment. One year. 2016. \$9,937.50. All attributed to M.Elmore. Partially funded (\$2,500).
- Stier, J., K. Kopp, E. Watkins, **M. Elmore**, J. Henderson, J. Baird and D. Karcher. 2014. Documenting water use for turfgrass in the United States. 2015-2018. The Lawn Institute. \$66,197. Amount attributed to M. Elmore, \$8,723.
- Bagavathiannan M., C. Reynolds, **M. Elmore** and B. Wherley. 2014. Confirmation and management of herbicide resistance in annual bluegrass (*Poa annua* L.) populations on Texas golf courses. GCSAA Research Grant Program. Two years. 2015-2016. \$12,000. Amount attributed to M. Elmore, \$3,000 (Partially funded).
- **Elmore, M.T.** and J.T. Brosnan. 2011. Developing weed management programs for creeping bentgrass fairways using low environmental impact herbicides. USGA. Two Years. 2012-2013. \$19,548.

Proposals Submitted, Not Funded

- **Elmore, M.T.**, Besançon T, Zhang N and White J.F. 2017. Diversity and ecology of endophytic bacteria of smooth crabgrass (*Digitaria ischaemum*) and assessment of effects competitor species. SEBS and NJAES Alberts Competitive Research Awards in Biodiversity.

- **Elmore, M.T.**, C. Reynolds, V. Baliga, S. George, G. Church, and J. Young. 2014. Water conservation to keep landscape turfgrass viable. Southern Extension Risk Management Education Center. One year. 2015-2016. \$49,919. Amount attributed to M.Elmore \$15,099 (not including IDC) (Not funded).
- **Elmore, M.T.** and A. Chandra. 2014. Seed coatings to improve weed control and water use efficiency in seeded zoysiagrass establishment. The Scotts Company. One year. 2014-2015. \$21,320. Amount attributed to M.Elmore \$21,320 (Not funded).

OTHER FUNDING

2017 - \$>40,000 directly attributed to M. Elmore to date

2016 - \$70,700 directly attributed to M. Elmore

2015 - \$81,327 directly attributed to M. Elmore

2014 - \$19,790 directly attributed to M. Elmore

EXTENSION

Publication: 2015-2017: 10 factsheets

2017

- **Elmore, M.T.** and Murphy J.A. False-green kyllinga control in cool-season turfgrass. *In press*.

2016

- Reynolds W.C. and **M.T. Elmore**. Bermudagrass lawn management calendar. ESC-042. 10 p
- Cunningham D. and **M. Elmore**. Lawncare for North Texas. 2016. 7 pp.
- Reynolds W.C., **M.T. Elmore**, Y. Jo, and D.S. Reynolds. 2016 Texas turfgrass pest control guide. 155 pp.

2015

- **Elmore M.T.** and A.C. Chandra. TamStar St. Augustinegrass best management practices.
- **Elmore, M.T.** and W.C. Reynolds. Dallisgrass identification and control - For Professionals. 2015. ESC-038
- **Elmore, M.T.** and W.C. Reynolds. How to manage herbicide resistant annual bluegrass. Publication ESC-036.

- **Elmore, M.T.** and W.C. Reynolds Nutsedge and kyllinga species control - For Homeowners. 2015. Publication ESC-027.
- Reynolds W.C., **Elmore M.T.** 2015. Turfgrass species profiles. 2015. aggieturf.tamu.edu.
- Reynolds W.C., **Elmore M.T.**, Jo Y., and Wherley, B. 2015. Texas turfgrass crop profile and pest management strategic plan. 2015.

2011-2014: 3 publications

Presentations: 2015 to 2017 >85 presentations

2017 - 5 presentations in state. 2 invited out of state. 4 Rutgers Turfgrass Field Days presentations.

2016 - 26 presentations in state, one out of state; > 2200 contact hours

2015 - Over 55 presentations in state, 1 out-of-state; >6200 contact hours.

- Coordinated and led the Lawn Management Field Day. Dallas, TX. 200 participants - 4 hours.

2009 - 2014 - 43 presentations in state. 1 out-of-state.

TEACHING

Courses

Special Problems in Plant Science 11:776:495 (Fall 2017)

Committee Membership

Kyle Genova - M.S. student advised by Dr. James Murphy and Bruce Clarke - 2017 to present
 Dan Hargey - M.S. student advised by Dr. Benjamin Wherley - 2014-2016

Mentorship

Katherine Diehl - Graduate Research Assistant (M.S. student) - June 2016 to present
 Alex Coward - Undergraduate assistant - May 2016 to present
 Sekou Sako - Undergraduate assistant - May 2016 to July 2016
 Stephanie Alea - Field Research Assistant - November 2016 to March 2016
 Brian Pasha - Non-Affiliated Student Worker - August 2016 to September 2016
 Scott Jordan - Ag Research Technician I - March 2015 to July 2016
 Jerri Pond - Student Worker II (summer intern) - May to August 2015

SERVICE & LEADERSHIP

- Associate Editor of the 2017 International Turfgrass Research Journal
- Crop Science Society – C5 Division – Advisor to the Graduate Student Committee (2014-present)

- Northeastern Weed Science Society Student Poster Contest Committee (2017)

Peer-reviews

2016 - Crop, Forage, and Turfgrass Management (1), HortScience (1), International Turfgrass Research Journal (1)

2015 - Crop Science (1), HortTechnology (1), Crop, Forage and Turfgrass Management (1)

2012 - 2014 - Agronomy Journal (1), HortScience (1), Applied Turfgrass Science (1), Weed Technology (1)

PROFESSIONAL ORGANIZATIONS

- ASA-CSSA-SSSA - Tri-Societies - Active in CSSA C-5 division
- WSSA – Weed Science Society of America
- NEWSS – Northeastern Weed Science Society
- GCSAA – Golf Course Superintendents Association
- STMA- Sports Turf Managers Association
- ETS – European Turfgrass Society
- ITS – International Turfgrass Society

AWARDS & HONORS

- 2015 Musser International Turfgrass Foundation Award of Excellence
- 2014 Golf Course Superintendents Association of America Watson Fellowship