Damon Edward Abdi

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EDUCATION:

Ph.D. Candidate, Department of Horticulture, Michigan State University, East Lansing, MI, 2015-Present. Major Advisor: Dr. Tom Fernandez

B.S. in Landscape Contracting (Design/Build); Minor in Horticulture, Pennsylvania State University, University Park, PA, 2012-2015

CURRENT RESEARCH:

USDA NIFA SCRI Grant 2014-51181-22372 for $8.7 million: *Clean WateR^3 - Reduce, Remediate, Recycle: Informed Decision-Making to Facilitate Use of Alternative Water Resources and Promote Sustainable Specialty Crop Production.* 2015-2019. Research focus on nursery-scale bioreactors for nutrient and pesticide management as well as improving irrigation management to reduce agrochemical movement in water.

PROFESSIONAL EXPERIENCE:

Teaching Experience

HRT 211 – Landscape Plants I: Teaching Assistant FS2019, guest lecturer FS2017 and FS2018

HRT 310 – Nursery Management: Guest Lecturer FS2017, FS2018, FS2019

HRT 311 – Landscape Design and Management Specifications: Teaching Assistant SS2019

Industry Experience

Brickman Group, Columbia, MD, 2012-2014 – Field Intern

Outdoor Architects, Columbia, MD, 2010-2012 – Hardscape/Landscape Technician

AWARDS AND HONORS:

MSU Academic Achievement Graduate Assistantship Fall 2015, Spring 2016, Spring 2017.

North Central Integrated Pest Management Center student travel scholarship for the IX International IPM Symposium 2018 (Baltimore, MD).

PUBLICATIONS:

Refereed Journal Articles

Abdi, D.E. and R.T. Fernandez. 2019. Reducing water and pesticide movement in nursery production. *HortTechnology* https://doi.org/10.21273/HORTTECH04298-19. https://doi.org/10.21273/HORTTECH04298-19

Abdi, D.E., J.S. Owen, J.C. Brindley, A.C. Birnbaum, P.C. Wilson, F.O. Hinz, G. Reguera, J.Y. Lee, B.M. Cregg, D.R. Kort, and R.T. Fernandez. Nutrient and pesticide remediation in woodchip bioreactors under two hydraulic retention times. 2019. *Water Research.* **In review**

Knight, J., **D.E. Abdi**, D.L. Ingram and R.T. Fernandez. Water footprint analysis of container-grown plants in a model research nursery as affected by irrigation and fertilization treatments. 2019. *Water:* **In-review**

Abdi, D.E., J.S. Owen Jr., J.C. Brindley, A.C. Birnbaum, P.C. Wilson, F.O. Hinz, J.L. Parke, N. Redekar, B.M. Cregg, D.R. Kort, R.T. Fernandez. Agrochemical remediation using a two-stage bioreactor-adsorptive aggregate system under three hydraulic retention times. 2019. Water Res.: **In-preparation**

Abdi, D.E., J.S. Owen Jr., J.C. Brindley, A.C. Birnbaum, P.C. Wilson, F.O. Hinz, B.M. Cregg, R.T. Fernandez. Transport of 9 pesticides via surface runoff and subsurface infiltration in container-plant production. 2019. Environ Pollut: **In-preparation**

Abdi, D.E., J.S. Owen Jr., J.C. Brindley, A.C. Birnbaum, B.M. Cregg, R.T. Fernandez. Irrigation method and phosphorus fertilizer rate effects on growth and nutrient movement in container-grown plants. 2019. Agr Water Manage: **In-preparation**

Abdi, D.E., J.S. Owen Jr., J.C. Brindley, A.C. Birnbaum, P.C. Wilson, F.O. Hinz, B.M. Cregg, R.T. Fernandez. Surface runoff and subsuface infiltration of 9 pesticides in a container plant production system. 2019. Environ Pollut: **In-preparation**

Abdi, D.E., J.S. Owen Jr., J.C. Brindley, A.C. Birnbaum, B.M. Cregg, R.T. Fernandez. Irrigation scheduling based on substrate moisture sensors conserves water and reduces nutrient movement without affecting growth of container produced crops. 2019. Agr Water Manage: **In-preparation**

ABSTRACTS AND PRESENTATIONS:

Scientific/Peer Conferences

Abdi, D.E., B.M. Cregg, J.S. Owen, J.C. Brindley, A.C. Birnbaum, and R.T. Fernandez. Irrigating based on container capacity conserves water with minimal effect on crop quality. IX International Symposium on Irrigation of Horticultural Crops. Matera, Italy, June 20, 2019

Abdi, D.E., F.O. Hinz, P.C. Wilson, J.S. Owen, J.C. Brindley, A.C. Birnbaum, B.M. Cregg, and R.T. Fernandez. Reducing agrochemical movement in container crops by irrigating based on container capacity. IX International Symposium on Irrigation of Horticultural Crops. Matera, Italy, June 20, 2019.

Kort, D.R., **D.E. Abdi,** B.M. Cregg, J.S. Owen, J.C. Brindley, A.C. Birnbaum, and R.T. Fernandez. Agrichemical Remediation from Runoff Water Using Bioreactors. IX International Symposium on Irrigation of Horticultural Crops. Matera, Italy, June 20, 2019

Abdi, D.E., Cregg, B.M., Hinz, F.O., Wilson, P.C., Fernandez, R.T. 2019. Reducing pesticide movement in the nursery through water conserving irrigation practices. Plant Science Graduate Student Research Symposium. East Lansing, MI March 29, 2019.

Abdi, D.E., Cregg, B.M., Owen, J.S., Brindley, J., Paulk, A., Fernandez, R.T. 2019. Irrigating based on container capacity conserves water with minimal effect on crop quality. Plant Science Graduate Student Research Symposium, poster session. East Lansing, MI March 29, 2019.

Abdi, D.E., B.M. Cregg, J.S. Owen and R.T. Fernandez. 2018. Pesticide and water movement in nursery container production: Managing irrigation to reduce agrichemical losses. American Society for Horticultural Science Annual Conference, Washington D.C. August 1, 2018.

Abdi, D.E., B.M. Cregg, J.S. Owen, R.O. Hinz, P.C. Wilson and R.T. Fernandez. 2018. Remediating pesticides from water through biological degradation and adsorptive mechanisms. American Society for Horticultural Science Annual Conference, Washington D.C. August 1, 2018.

Abdi, D.E., P.C. Wilson, F. Hinz, R.T. Fernandez, B.M. Cregg. Optimizing irrigation management can reduce pesticide loss in nursery production. Plant Science Graduate Student Research Symposium, poster session. East Lansing, MI March 30, 2018.

Abdi, D.E., P.C. Wilson, F. Hinz, R.T. Fernandez, B.M. Cregg. Optimizing irrigation management can reduce pesticide loss in nursery production. IX International Integrated Pest Management Symposium, poster session. Baltimore, MD March 19-March 23 2018.

Abdi, D.E., B.M. Cregg, J.S. Owen and R.T. Fernandez. 2017. Efficiency of bioreactor nutrient remediation in the presence of the organophosphate chlorpyrifos. American Society for Horticultural Science Annual Conference, Waikoloa, HI. HortScience September 21, 2017.

Stakeholder Audiences

Abdi, D.E. and R.T. Fernandez. 2019. Sanitizing agents and methods for removing pathogens from irrigation water. Webinar 2019 Winter Nursery Conference. February 18, 2019.

Abdi, D.E. and R.T. Fernandez. 2018. Water, nutrient and pesticide movement in container nurseries. Invited presentation MNLA GLTE, Lansing, MI January 28, 2019.

Abdi, D.E. and R.T. Fernandez. 2018. Remediating nursery and greenhouse water using bioreactors. Irrigation Water Quality & Treatment Online Course. Water Education Alliance. 2018

Abdi, D.E. and R.T. Fernandez. 2018. Reducing water and pesticide movement in nurseries. Invited presentation Maryland Grower Conference, August 6, 2018.

Fernandez, R.T. and **D.E. Abdi**. 2018. Water and pesticide movement in container production as affected by irrigation practices. Invited presentation California Nursery Conference, Watsonville, CA June 21, 2018.

Abdi, D.E. and R.T. Fernandez. 2018. Keeping up with the stones: Benefits of using calcined aggregates throughout the nursery. Invited presentation MNLA GLTE, Lansing, MI January 22, 2018.

Fernandez, R.T. and **D.E. Abdi**. 2018. What's in the water leaving your nursery and where it is going. Invited presentation MNLA GLTE, Lansing, MI January 22, 2018.

Abdi, D.E., R.T. Fernandez 2017. Improving irrigation efficiency for specialty crops. Farming for the Future - Van Buren Conservation District Paw Paw, MI March 8 2017

Fernandez, R.T. and **D.E. Abdi**. 2017. Irrigation through the cloud: Using wireless irrigation systems to schedule and control irrigation for container crops. Invited presentation MNLA GLTE, Lansing, MI January 23, 2017

Abdi, D.E. 2016. Water management in horticultural production. MSU Extension In-Service Day Ornamental Horticulture. East Lansing, Michigan June 22, 2016.

GRANT FUNDING:

Funded Proposals

Abdi, D.E., B.M. Cregg, W.C. Wilson and R.T. Fernandez*. 2016-2018. Efficiency of bioreactor nutrient remediation in the presence of the organophosphate chlorpyrifos. Project GREEEN $80,000

Abdi, D.E., B.M. Cregg, W.C. Wilson and R.T. Fernandez*. 2016-2018. Efficiency of bioreactor nutrient remediation in the presence of the organophosphate chlorpyrifos. MDARD Horticulture Fund $20,000

Abdi, D.E., R.T. Fernandez* and B.M. Cregg. 2019. Reducing pesticide loss in nursery runoff through optimized irrigation. MDARD Horticulture Fund $20,000

*Fernandez listed as 1st PI in MSU system due to MSU requirements but he said to list me first on CV since I was the primary author for the proposal.