

CURRICULUM VITAE

David M. Butler, Ph.D.

Professor, Department of Plant Sciences, University of Tennessee

2505 E.J. Chapman Dr., Knoxville, TN 37996, USA

(865) 974-7165; E-mail: dbutler@utk.edu

ORCID: [0000-0002-5897-1382](https://orcid.org/0000-0002-5897-1382) (link); [Google Scholar Profile](#) (link)

Summary of professional accomplishments

Summary of Publications

- **Refereed journal publications** - 50 manuscripts published, including high impact papers originating in the Butler lab in *Phytopathology* (2), *Frontiers in Plant Science*, *Applied Soil Ecology*, *HortScience*, *Frontiers in Sustainable Food Systems* (2), *European Journal of Plant Pathology*, and *Plant & Soil* (2)
- **h-factor 19, i10-index 27, total citations > 1324 (Google Scholar, Apr 2022)**
- **Book chapters** – 2 in career
- **Peer-reviewed technical bulletins** – 7 in career
- **Papers presented at technical and professional meetings** – more than 80

Summary of Competitive Grants Awarded as PI or Co-PI†

GRANTOR	TOTAL	BUTLER LAB
USDA-NIFA/AFRI (8)	\$6,709,280	\$1,066,296
USDA-ARS (2)	\$275,000	\$227,308
NSF (1)	\$99,936	\$7,700
Other external (10; e.g., NASGA, SRSFC, USDA-AMS, USDA-SARE, USDA-NRCS)	\$473,037	\$146,542
Internal (competitive)	\$25,000	\$7,700
Total at UT	\$7,582,253	\$1,460,096

†Projects where Dr. Butler was not a PI/co-PI, but a listed collaborator are not listed in the table

Summary of Teaching and Mentorship

- Instructor (annually, since 2011) for PLSC 275, PLSC 415, & PLSC 515
- Advisor, Organic Production Concentration; 10 to 22 students per semester
- One Ph.D. and five M.S. students completed studies in Butler lab, one current Ph.D. student
- Member of 12 additional graduate student committees
- Mentor for 16 undergraduate research projects/theses
- Service on mentorship committee for two junior faculty in UTIA departments

Summary of Honors and Awards

- **Gamma Sigma Delta Outstanding Teaching Award**, 2020
- **W.F. and Golda Moss Outstanding Teaching Award**, Herbert College of Agriculture, 2019
- **T.J. Whatley Distinguished Young Scientist Award**, UT, Institute of Agriculture, 2015

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Education/Training

University of Georgia, Athens, GA	Ph.D.	2008	Soil Science
North Carolina State University, Raleigh, NC	M.S.	2004	Crop Science
Frostburg State University, Frostburg, MD	B.S.	2002	Biology

Research and Professional Experience

Positions and Employment

2021-present	Professor, Dept. of Plant Sciences, Univ. of Tennessee
2016-2021	Associate Professor, Dept. of Plant Sciences, Univ. of Tennessee
2010-2016	Assistant Professor, Department of Plant Sciences, University of Tennessee
2008-2010	Research Soil Scientist (Postdoctoral), Subtropical Plant Pathology Unit U.S. Horticultural Research Lab, USDA-Agricultural Research Service

Professional Activities

Research Expertise

Research in Dr. Butler's lab group is principally focused on applied soil-plant and soil-plant-fungal interactions. Working mainly in organic vegetable and small fruit production systems, the primary research questions in the lab focus on better understanding mechanisms of soilborne plant pathogen control and plant growth promotion in soils treated by non-chemical and biological/anaerobic soil disinfestation as an alternative to chemical soil fumigants. Additional work in the lab includes aspects of endophytic/associative fungi use and function, biogeochemical cycling of C, N and P, and impact of cover crops and alley cropping systems on soil-plant and soil-plant-fungal interactions in horticultural cropping systems. Dr. Butler's lab works at laboratory, growth chamber/greenhouse, high tunnel and field scales.

Professional Memberships and Affiliations

American Society for Horticultural Science (ASHS), International Society for Horticultural Science (ISHS), Soil Science Society of America (SSSA), American Phytopathological Society (APS)

Participant in Annual International Research Conference on Methyl Bromide Alternatives (MBAO; 2009-present)

International Symposium on Soil and Substrate Disinfestation (ISHS Working Group PP7 Soil Borne Pathogens)

Teaching Experience

Plant Sciences 275, Organic & Sustainable Crop Production, University of Tennessee, Knoxville. 3 credit hours, lecture/lab combined course. 2011-present (annually).

Plant Sciences 415, Agroecology, University of Tennessee, Knoxville. 3 credit hours, lecture/lab combined course. 2011, 2013-present (annually).

Plant Sciences 515, Agroecology, University of Tennessee, Knoxville. 3 credit hours, lecture/lab combined course. 2011, 2013-present (annually).

Graduate Students Mentored as Advisor and Committee Chair

James Littrell, Ph.D. student, Plant Sciences, UT-Knoxville (Chair)

Karen Leu, M.S., 2020. Plant Sciences, UT-Knoxville (Advisor)

Keagan Swilling, M.S., 2018. Plant Sciences, UT-Knoxville (Advisor)

Utsala Shrestha, Ph.D., 2016. Plant Sciences, UT-Knoxville (Chair)

Carl Yoder, M.S. non-thesis, 2016. Plant Sciences, UT-Knoxville (Advisor)

Samantha Hill, M.S., 2015. Plant Sciences, UT-Knoxville (Advisor)

D. Grant McCarty, M.S., 2012. Plant Sciences, UT-Knoxville (Advisor)

Graduate Students Mentored as Committee Member

Selin Cayan, Ph.D. student, Plant Sciences, UT-Knoxville.

Wilson Ouma, Ph.D. student, Entomology & Plant Pathology, UT-Knoxville.

Danyang Liu, Ph.D., 2021. Horticulture, Virginia Tech.

Jonathan Kubesch, M.S., 2020. Plant Sciences, UT-Knoxville.

Weston Bracey, M.S., 2020. Plant Sciences, UT-Knoxville.

Shalini Yerukala, Ph.D., 2019. Entomology & Plant Pathology, UT-Knoxville.

Dereck Corbin, M.S., 2017. Plant Sciences, UT-Knoxville.

Muzi Zheng, Ph.D., 2017. Biosystems Engineering & Soil Science, UT-Knoxville.

Mwangi Muchoki, M.S. non-thesis, 2016. Biosyst. Eng. & Soil Sci., UT-Knoxville.

Jennifer Wheeler, M.S., 2015. Plant Sciences, UT-Knoxville.

Jeffrey Martin, M.S., 2013. Plant Sciences, UT-Knoxville.

Mary Rogers, Ph.D., 2013. Plant Sciences, UT-Knoxville.

Undergraduate Research Projects Mentored

Caitlin Dalton, B.S. student, Plant Sciences (Organic Production), UT-Knoxville.

Gracie Pilato, B.S. student, Plant Science, Penn State University (in Belize, 2018-19).

Ryan Vichich, B.S., 2021. Plant Sciences (Organic Production), UT-Knoxville.

Jacob Metcalf, B.S., 2021. Plant Sciences (Organic Production), UT-Knoxville.

John Williams, B.S., 2020. Plant Sciences (Organic Production) & Environmental Soil Science, UT-Knoxville.

Nicolas Ballew, B.S., 2020. Plant Sciences (Organic Production), UT-Knoxville.

Elizabeth Becker, B.S., 2018, Environmental Science, SUNY-ESF (in Belize, 2017-18).

Zachary Fox, B.S., 2017, Plant Sciences (Organic Production), UT-Knoxville.
 Nicole Talley, B.S., 2016, Plant Sciences (Organic Production), UT-Knoxville (EURECA Honorable Mention).
 Bonnie Craighead, B.S., 2016. Environmental and Soil Sciences (CASNR Honors Scholar Thesis), UT-Knoxville.
 Sarah Claude, B.S., 2014. Plant Sciences (Organic Production), UT-Knoxville.
 Geoffrey Duesterbeck, B.S., 2014. Plant Sciences (Organic Production), UT-Knoxville.
 Will Sublett, B.S., 2014. Plant Sciences (Organic Production), UT-Knoxville.
 Jordan Norton, B.S., 2014. Environmental Studies, Plant Sciences minor, UT-Knoxville.
 Elias Attea, B.S., 2014. Plant Sciences (Organic Production), UT-Knoxville.
 Hannah Barry, B.S., 2014. Plant Sciences (Horticultural Science), UT-Knoxville.

International and Invited Presentations

Invited Presentation	Partnerships in Biocontrol, Biostimulants & Microbiome	2019
International Presentation	Symposium on Soil Disinfestation, Heraklion, Greece	2018
Invited Presentation	Cover Crops in Crop-Livestock Systems Symposium, ASA-CSSA, Tampa, FL	2017
Invited Presentation	Northeast Pasture Consortium, State College, PA	2014
International Presentation	Symposium on Soil Disinfestation, Torino, Italy	2014
Invited Roundtable	Soil Fumigant Alternatives, CA Strawberry Commission	2009,13,14

Selected Honors and Service

Associate Editor	<i>Frontiers in Sustainable Food Systems</i>	2022-present
Committee Member	ASHS Education & Planning Committee, ASHS Vegetable Publication Award Committee	2020-present
Teaching Award	UT Chapter Gamma Sigma Delta Outstanding Teaching Award	2020
Working Group	Health Safety Planning Instructional Labs, UT-Knoxville	2020
Advisory Committee	International Programs, UT Institute of Agriculture	2019-present
Steering Committee	Southern Region Small Fruits Consortium	2012-present
Committee Member	Graduate Programs Committee, Dept. of Plant Sciences	2011-present
Undergraduate Advisor	Dept. of Plant Sciences, Organic Production	2011-present
Committee Member	Undergraduate Programs Committee, Dept. of Plant Sci.	2010-present
Steering Committee	Southern Cover Crops Council	2016-2020
Teaching Award	W.F. & Golda Moss Outstanding Teaching Award Herbert College of Agriculture, UT-Knoxville	2019
Search Committee Chair	Controlled Environ. Vegetable Phys., Plant Sciences	2019
Organizing Committee	Southern Cover Crops Conference, Auburn, AL	2019
Faculty Senator	UT-Knoxville & UT Institute of Agriculture Faculty Senate Faculty Affairs Committee	2016-2018 2018

	Faculty Senate Research Council	2016-2017
Grant Review Panel	USDA-SARE, Southern Region R&E program	2016
Search Committee	Field Crop Agroecology, Dept. of Plant Sciences	2016
Research Award	T.J. Whatley Distinguished Young Scientist, UTIA	2015
Search Committee	Soil Fertility, Biosystems Engineering & Soil Science	2013-2014
Member, Chair	Cross Cultural Experience Scholarship Committee, ASA	2011-2012
Award Committee	Emil Truog Soil Science Award, Soil Science Soc. Amer.	2010-2011

Research

Funded Grant Projects

PI or co-PI on competitive grants of over \$7.5 million, with >\$1.4 million to Butler lab

Nationally Competitive

USDA-NIFA Specialty Crop Research Initiative, Award 2020-51181-32160. Jacobsen, K., T. Woods, A.L. Wszelaki, **D.M. Butler (co-PI)**, T. Coolong, J. Grossman, M. Hutton, M. Rogers, R. Rudolph, and M. Velandia. Reclaiming high tunnel soil health for sustained specialty crop production (Planning Award). 1 August 2020 to 31 July 2021. Total: \$49,999.

USDA-NIFA Organic Transitions, Award 2019-51106-30197. **Butler, D.M. (PI)**, B.H. Ownley, U. Shrestha, S. Piya, and T. Hewezi. Enhancing indigenous soil microflora to facilitate organic strawberry transition in the southeastern U.S. 1 Sept 2019 to 30 Aug 2023. Total: \$496,738.

USDA-NIFA Specialty Crop Research Initiative, Award 2017-51181-26832. Shennan, C., J. Muramoto, M. Mazzola, O. Daugovish, R. Goodhue, **D.M. Butler (co-PI)**, N. Peres, F. Louws. Integrating anaerobic soil disinfestation, crop rotation and variety for disease management in strawberry production. 1 Oct 2017 – 14 Aug 2021. Total: \$2,513,040.

USDA-AFRI Undergraduate Research and Extension Experiential Learning Fellowships Program, Award 2017-67032-26014. Willcox, A., E. Willcox, **D.M. Butler (co-PI)**, J.C. Stier, A. Kaeser and D. Hodges. Strengthening U.S. agriculture with multidisciplinary international undergraduate research and extension experiences. 1 Jan 2017 – 31 Dec 2020. Total: \$281,236.

USDA-NIFA Organic Research and Extension Initiative, Award 2015-51300-24140. Pighetti, G., **D.M. Butler (co-PI)**, S.R. Smith, G.E. Bates, A. Rius, P. Krawczel, J. Bewley and K. Burdine. Develop science-based recommendations to efficiently manage forages, herd health, and productivity on organic dairies in the southeastern US. 15 Sep 2015 – 28 Feb 2021. Total \$1,807,044.

USDA-NIFA Methyl Bromide Transitions Program, Award 2012-51102-20293. **Butler, D.M. (PI)**, E.N. Roskopf and B.H. Ownley. Overcoming obstacles to adoption of anaerobic soil disinfestation. 1 Sep 2012 – 31 Aug 2016. Total: \$421,084.

USDA-NIFA Methyl Bromide Transitions Program, Award 2011-51102-31142. Louws, F., C.E. Sams and **D.M. Butler (co-PI)**. Advanced systems for integrated management of strawberry soilborne pests in the Southeast USA. 1 Sep 2011 – 31 Aug 2015. Total: \$496,962.

National Science Foundation (EAGER) Early Concept Grants for Exploratory Research, Award 1220731. Zhuang, J., J.F. McCarthy, **D.M. Butler (co-PI)** and G.E. Bates. Self-protection of organic carbon in soil pores under organic agricultural practices. 1 Jun 2012 – 31 May 2015. Total: \$99,936.

USDA-NIFA Methyl Bromide Transitions Program, Award 2010-51102-21707. **Butler, D.M. (PI)**, C. Shennan, E.N. Roskopf, J. Muramoto, S. Koike and K.A. Klonsky. Advanced development and implementation of anaerobic soil disinfestation as an alternative to methyl bromide. 1 Sep 2010 – 31 Aug 2014. Total: \$643,177.

USDA-ARS Cooperative Agreements

USDA-ARS South Atlantic Area-wide Pest Management Program for Methyl Bromide Alternatives, Award 58-6618-4-028. **Butler, D.M. (PI)** and B.H. Ownley. Anaerobic soil disinfestation for small farms in the southeastern U.S. 1 Sep 2014 – 31 Aug 2019. Total: \$230,000.

USDA-ARS South Atlantic Area-wide Pest Management Program for Methyl Bromide Alternatives, Award 58-6618-2-107. **Butler, D.M. (PI)**. Testing of MBI-005 for cut flower production. 1 Aug 2012 – 30 Sep 2015. Total: \$45,000.

Regionally Competitive and Commodity Groups

Southern Region Small Fruit Consortium. **Butler, D.M. (PI)**, B.H. Ownley, and J. Littrell. Interactive effects of volatile fatty acids and Fe²⁺ and Mn²⁺ in suppressing *Fusarium oxysporum* implicated in black root rot complex of strawberry. 1 Apr 2021 – 28 Feb 2022. \$5,000.

North American Strawberry Growers Association. Samtani, J., and **D.M. Butler (co-PI)**. Field evaluation of anaerobic soil disinfestation using brewer's spent grain and yeast inoculation in annual hill plasticulture strawberry production. 10 Apr to 30 Nov 2020. Total: \$7,169.

Southern Region Small Fruit Consortium. Samtani, J., and **D.M. Butler (co-PI)**. Strawberry crop performance following anaerobic soil disinfestation using brewer's spent grain and yeast inoculation. 1 Apr 2020 to 28 Feb 2021. Total: \$5,000..

Southern Region Small Fruit Consortium. Hansen, Z..., **D.M. Butler (co-PI)**, N. Bumgarner, D. Lockwood, M. Rose, V. Sykes. Demonstrating the impact of brassica cover crops on soil management and plant health and quality in small fruit plantings in the mid-south. 1 Apr 2020 to 28 Feb 2021. Total: \$5,000.

North American Strawberry Grower's Association. Samtani, J., C.S. Johnson, and **D.M. Butler (co-PI)**. Field evaluation of anaerobic soil disinfestation using brewer's spent grain and yeast inoculation in annual hill plasticulture strawberry production. 10 Apr to 30 Nov 2019. Total: \$8,985.

- Southern Region Small Fruit Consortium. Samtani, J., C.S. Johnson, and **D.M. Butler (co-PI)**. Disease and weed control efficacy of anaerobic soil disinfestation using brewer's spent grain and yeast inoculation. 1 Apr 2019 to 29 Feb 2020. Total: \$5,000..
- United Soybean Board. Sykes, V., X. Yin, R. Nave, L. Steckel, G. Bates, and **D.M. Butler (co-PI)**. Economic and environmental impact of multi-use cover crop species in Tennessee no-till soybean/corn rotation. 1 Oct 2017 to 30 Sep 2018. Total: \$116,604.
- USDA-AMS Specialty Crop Block Grant Program. Leib, B.G., **D.M. Butler (co-PI)** and A.L. Wszelaki. Co-PI. Thermal Protection Strategies in High Tunnels to Extend the Growing Season. 10 Nov 2016 – 30 Aug 2019. Total: \$42,163.
- USDOE, UT-Battelle, Oak Ridge National Laboratory, Technology Innovation Program. Labbe, J., C.E. Hamilton, W. Muchero and **D.M. Butler (collaborator)**. Using symbionts to advance food and energy crop production. 1 Jan 2016 – 31 Dec 2016. Total: \$200,000.
- USDA-NRCS Conservation Innovation Grants Program. Leib, B.G., **D.M. Butler (co-PI)**, A.L. Wszelaki and H. Savoy. Energy conservation for organic high tunnel production through rain water utilization, ventilation management, mulches and cover crops. 1 Sep 2012 – 31 Aug 2015. Total: \$257,130.
- USDA-SARE (Professional Development Program). Reberg-Horton, C., K. Balkcom, C. Barbieri, A. Boloques, **D.M. Butler (collaborator)** and 15 others. Institutionalizing cover crop research and education in the Southeast. 1 Apr 2015-31 Mar 2017. Total \$129,712.
- USDA-SARE (Graduate Student Grant). Shrestha, U., **D.M. Butler (PI/student mentor)**, and B.H. Ownley. Assessment of beneficial microorganisms: *Trichoderma*, Actinomycetes, and *Bacillus* in anaerobic soil disinfestation (ASD). 1 Sep 2014 –31 Aug 2015. Total: \$10,993.
- USDA-SARE (On-farm Research Grant). **Butler, D.M. (PI)**, and G.E. Bates. Organic forage production systems for organic dairies in the Southern region. 1 Apr 2011 –14 Sep 2013. Total: \$14,993.

Internally Competitive

- UT AgResearch Innovation Grants Program. **Butler, D.M. (PI)**, G.E. Bates and G. Alexandre. Seeding rate and free-living nitrogen-fixing bacteria impacts on organic cropping systems. 1 Jan 2012 – 31 Dec 2012. Total: \$20,000.
- UT AgResearch and Extension Innovation Grants Program. **Butler, D.M. (PI)**, and G.E. Bates. Sod-based rotations and reduced-tillage systems for organic vegetable production. 1 Jan 2011 – 31 Dec 2011. Total: \$5,000.

Publications

Book Chapters

More than 50 publications: h-factor 19, i10-index 27, total citations > 1324 (Google Scholar, Apr 2022)

Students and other staff from Butler lab are underlined.

- (2) **Butler, D.M.**, and E.N. Rosskopf. 2016. Organic agriculture and plant disease. pp. 453-465 *In Plant Pathology: Concepts and Laboratory Exercises*, 3rd ed., eds. R.N Trigliano and B.H. Ownley. Taylor & Francis. doi: 10.1201/9781315380773
- (1) Rosskopf, E.N., P. Serrano-Pérez, J. Hong, U. Shrestha, M.d.C. Rodríguez-Molina, K. Martin, N. Kokalis-Burelle, C. Shennan, J. Muramoto and **D.M. Butler**. 2015. Anaerobic soil disinfestation and soil borne pest management. *In Organic Amendments and Soil Suppressiveness in Plant Disease Management*, eds. M.K. Meghvansi and A. Varma. Springer, Soil Biology Series 46:277-305. doi: 10.1007/978-3-319-23075-7_13

Articles Published in Refereed Journals

Students and other staff from Butler lab are underlined. Asterisk indicates Dr. Butler served as corresponding author.

- (50) Swilling, K.J., U. Shrestha, B.H. Ownley, K.D. Gwinn, and **D.M. Butler***. 2022. Volatile fatty acid concentration, soil pH and soil texture during anaerobic soil conditions affect viability of *Athelia (Sclerotium) rolfsii* sclerotia. *European Journal of Plant Pathology*, 162, 149-161, doi: 10.1007/s10658-021-02392-8.
- (49) Kubesch, J.O.C., R.L.G. Nave, S. Cui, G.E. Bates, **D.M. Butler**, and V. Pantalone (2022). Transitional organic forage systems in the southeastern U.S.: Production and nutritive value. *Agronomy Journal*, 1– 15, doi:10.1002/agj2.21001.
- (48) Shrestha, U., Swilling, K.J., and **D.M. Butler***. 2021. Amendment properties affect crop performance, leaf tissue nitrogen, and soil nitrogen availability following soil treatment by anaerobic soil disinfestation. *Frontiers in Sustainable Food Systems*, 5:299, doi: 10.3389/fsufs.2021.694820.
- (47) Shrestha, U., B.H. Ownley, A. Bruce, E.N. Rosskopf, and **D.M. Butler***. 2021. Anaerobic soil disinfestation efficacy against *Fusarium oxysporum* is affected by soil temperature, and amendment type, rate and C:N ratio. *Phytopathology*, 111:1380-1392, doi: 10.1094/PHYTO-07-20-0276-R.
- (46) Swilling, K.J., Shrestha, U., Ownley, B.H., Gwinn, K.D., and **D.M. Butler***. 2021. Mechanisms of anaerobic soil disinfestation: Volatile fatty acids reduce viability of *Athelia (Sclerotium) rolfsii* sclerotia in acidic soil conditions and have limited effects on endemic *Trichoderma* spp. *Frontiers in Sustainable Food Systems*, 5:441, doi: 10.3389/fsufs.2021.747176
- (45) Allison, J., C. Dillon, K. Burdine, S.R. Smith, **D.M. Butler**, G.E. Bates, and G. Pighetti. 2021. Optimal forage and supplement balance for organic dairy farms in the Southeastern United States. *Agricultural Systems*, 189:103048, doi: 10.1016/j.agsy.2021.103048

- (44) Yerukala, S., Bernard, E.C., Gwinn, K.D., **Butler, D.M.**, Grewal, P.S., Ownley, B.H. 2021. Endophytic *Beauveria bassiana* increases galling of 'Rutgers' tomato roots with *Meloidogyne incognita*. *Journal of Nematology* 53:1-16, doi: 10.21307/jofnem-2021-072.
- (43) Shrestha, U., M.E. Dee, S. Piya, B.H. Ownley, and **D.M. Butler***. 2020. Soil inoculation with *Trichoderma asperellum*, *T. harzianum* or *Streptomyces griseoviridis* prior to anaerobic soil disinfestation (ASD) does not increase ASD efficacy against *Sclerotium rolfsii* germination. *Applied Soil Ecology*, 147:103383, doi: 10.1016/j.apsoil.2019.103383
- (42) Shrestha, U., R.L. Collins, K.J. Swilling, B.H. Ownley, and **D.M. Butler***. 2020. Role of substrate decomposability and volatile fatty acids in anaerobic soil disinfestation activity against *Sclerotinia sclerotiorum*. *Acta Horticulturae* 1270:71-82, doi:10.17660/ActaHortic.2020.1270.8
- (41) Swilling, K.J., U. Shrestha, C.E. Yoder, M.E. Dee, B.H. Ownley, and **D.M. Butler***. 2020. First report of wilt and necrosis caused by *Diplodia seriata* on cowpea in Tennessee, USA. *New Disease Reports (British Society of Plant Pathology)* 42:12, doi: 10.5197/j.2044-0588.2020.042.012
- (40) Di Gioia, F., J. Hong, M. Ozores-Hampton, X. Zhao, C. Wilson, J. Thomas, Z. Li, C. Pisani, H. Guo, B. Paudel, **D.M. Butler**, and E.N. Roskopf. 2020. Anaerobic soil disinfestation: Nutrient cycling and potential environmental impact. *Acta Horticulturae* 1270:51-62, doi: 10.17660/ActaHortic.2020.1270.6
- (39) Krams, I.A., R. Krams, P. Jöers, M. Munkevics, G. Trakimas, S. Luoto, S.E. Eichler, **D.M. Butler**, E. Merivee, A. Must and M.J. Rantala. 2020. Developmental speed affects ecological stoichiometry and adult fat reserves in *Drosophila melanogaster*. *Animal Biology*, doi: 10.1163/15707563-bja10043
- (38) Krams, R. T. Krama, M. Munkevics, S. Eichler, **D.M. Butler**, L. Dobkeviča, P. Jöers, J. Contreras-Garduño, J. Daukšte, I.A. Krams. 2020. Spider odors induce stoichiometric changes in fruit fly *Drosophila melanogaster*, *Current Zoology*, doi: 10.1093/cz/zoaa070
- (37) Leib, B.L., D. Muchoki, P. Vanchiasong, M. Zheng, T. Grant, A. Haghverdi, W. Wright, **D.M. Butler**, and A.L. Wszelaki. 2020. Rainwater harvesting with solar and gravity powered irrigation for high tunnels. *Applied Engineering in Agriculture* 36:489-498, doi: 10.13031/aea.13969
- (36) Liu, D., J.B. Samtani, C.S. Johnson, **D.M. Butler**, and J. Derr. 2020. Weed control assessment of various carbon sources for anaerobic soil disinfestation. *International Journal of Fruit Science* 20:1005-1018, doi: 10.1080/15538362.2020.1774472
- (35) Roskopf, E. N., F. Di Gioia, J. Hong, M. Ozores-Hampton, X. Zhao, Z. Black, H. Gao, C. Wilson, J. Thomas, J. Jones, **D.M. Butler**, et al. 2020. Anaerobic soil disinfestation: Areawide project on obstacles and adoption. *Acta Horticulturae* 1270:23-36, doi: 10.17660/ActaHortic.2020.1270.3
- (34) Trakimas, G., R. Krams, T. Krama, R. Kortet, S. Haque, S. Luoto, S.E. Eichler, **D.M. Butler**, P. Joers, D. Hawlena, M.J. Rantala, et al. 2019. Ecological stoichiometry: A link between developmental speed and physiological stress in an omnivorous insect. *Frontiers*

in Behavioral Neuroscience 13:42, doi: 10.3389/fnbeh.2019.00042

- (33) Zheng, M., B.G. Leib, **D.M. Butler**, W.C. Wright, P.D. Ayers, D.G. Hayes, A. Haghverdi, T. Grant, P. Vanchiasong, and M. Muchoki. 2019. Assessing heat management practices in high tunnels to improve organic production of bell peppers. *Scientia Horticulturae*, 246: 928-941, doi: 10.1016/j.scienta.2018.10.046
- (32) Zheng, M., B.G. Leib, **D.M. Butler**, W.C. Wright, P.D. Ayers, D.G. Hayes, and A. Haghverdi. 2019. Assessing heat management practices in high tunnels to improve production of romaine lettuce. *Agriculture*, 9, 203. doi:10.3390/agriculture9090203
- (31) Corbin, M.D., R.L.G. Nave, G.E. Bates, **D.M. Butler** and S.A. Hawkins. 2019. Alternatives to conventional nitrogen fertilization on tall fescue and bermudagrass. *Agronomy Journal*, 111:275-286. doi:10.2134/agronj2018.03.0190
- (30) Shennan, C., J. Muramoto, S. Koike, G. Baird, S. Fennimore, J. Samtani, M. Bolda, S. Dara, O. Daugovish, G. Lazarovits, **D.M. Butler**, E.N. Roskopf, N. Kokalis-Burelle, K. Klonsky and M. Bolda. 2018. Anaerobic soil disinfection is a potential alternative to soil fumigation for control of some soil borne pathogens of strawberry production. *Plant Pathology*, 67:51-66. doi:10.1111/ppa.12721
- (29) Shrestha, U., M.E. Dee, B.H. Ownley, and **D.M. Butler***. 2018. Anaerobic soil disinfection reduces germination and affects colonization of *Sclerotium rolfsii* sclerotia. *Phytopathology*, 108:342-351. doi:10.1094/PHYTO-04-17-0152-R
- (28) Shrestha, U., E.N. Roskopf, and **D.M. Butler***. 2018. Effect of anaerobic soil disinfection amendment type and C:N-ratio on yellow nutsedge tuber sprouting, growth and reproduction. *Weed Research*, 58:379-388. doi:10.1111/wre.12318
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