Mark S. Reiter

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Education and Training

2008	Ph.D.	University of Arkansas	Crop, Soil, & Environmental Sciences
2007	---*	Ghent University, Belgium	Soil Fertility
2003	M.S.	Auburn University	Agronomy and Soils
2001	B.S.	Virginia Tech	Crop and Soil Environmental Sciences

*Bio-Renewable Resources Technology exchange as part of Ph.D. program.

Research and Professional Experience

2021-Present	Professor, School of Plant and Environmental Sciences, Virginia Tech
2020-Present	Director, Eastern Shore Agricultural Research and Extension Ctr., Virginia Tech
2014-2021	Associate Professor, School of Plant and Environmental Sciences, Virginia Tech
2008-2014	Assistant Professor, Crop and Soil Environmental Sciences, Virginia Tech

Membership and Service to Profession

2021-Present, Past-President, Southern Cover Crops Council
2020, President, Southern Cover Crops Council
2019-Present, Vice-President, International Soil Tillage Research Organization
2019, Vice-President, Southern Cover Crops Council
2017-2019, Treasurer, Southern Cover Crops Council

Honors and Awards

2020. Diversity and Inclusion Service Award, College of Agriculture and Life Sciences, Virginia Tech, Blacksburg, VA.
2016. Early-Career Award in Research. Awarded by the Southern Branch of the American Society of Agronomy, Madison, WI.
2016. Program Excellence Award, Outreach and Extension. Awarded by Virginia Cooperative Extension, Blacksburg.
2015. Early Career Professional Award. Awarded by the Soil Science Society of America, Madison, WI.

Extension (and Academic Teaching) Program Overview

Research involves field and laboratory experiments on vegetable, fiber, grain, and oilseed crops grown in Virginia, with specialization of crops on the environmentally sensitive sandy loam soils of the Eastern Shore of Virginia. Specifically, cover crop integration, soil fertility, tillage/no-tillage, nutrient removal, and rotational crops are studied for their inclusion in grain and high-value vegetable crop settings.

Teaching involves undergraduate and graduate students. Currently I advise OMALS, M.S. and Ph.D. students, and am serving on committees for students in my home and other departments. Student projects revolve around crop rotations, cover crops, soil fertility, soil quality, and overall agronomic sustainability. Undergraduate students are engaged via experiential learning opportunities via internships, guest lecturing, and via co-leading study abroad programs to South Africa (CSES 3954; A Focus on Food Security, Wildlife, and Conservation, School of Plant and Environmental Sciences, Taught Wintermester 2017/18, 2018/19, and 2019/20, Virginia Tech). I also teach an applied online course for graduate students (CSES 5444; Agronomic Topics in the Mid-Atlantic, School of Plant and Environmental Sciences, Taught Spring 2018, 2019, 2020, and 2021).

Extension involves working with other scientists, county Extension agents, farmers, and the general public through scientific meetings, field days, field visits, and publications. Fertilizer use, alternative tillage regimes, alternative rotational crops, cover crops, soil quality, removal of marginal land from production, and basic soil fertility are discussed as it relates to food, fiber, and cellulosic biomass crops.

Selected Sponsored Research: Total Funding from 2014-present: $27.4M

Potential for Inter-cropping Forage Radish and Winter Wheat, USDA Natural Resources Conservation Service, USD 75,000, Principal Investigators: Reiter M; Flessner M, Participation: 60%, 09/27/2018-09/30/2021.

Developing edamame varieties for mechanized production and improved consumer acceptance to increase sustainability of the vegetable industry, U.S. Department of Agriculture - SCRI, USD 3,746,265.00, Principal Investigators: Zhang B; Arancibia R; Duncan S; Chen P; Ross J; Mozzoni L; Li S; Clinton L; Yin Y; Rideout S; …Reiter M, Participation: 10%, 09/01/2018-08/31/2022.

Innovative Manure Management Strategies to Promote Phosphorus Balance and Sustain Agriculture on the Delmarva Peninsula, NIFA-CARE, U.S. Department of Agriculture, USD 300,000, Principal Investigators: Reiter M; Shober A; Toor G, Participation: 34%, 05/15/2018-05/14/2022.

Environmental, economic and social perceptions of winter cover crops and nutrient cycling in the Eastern USA and Cherkassy Region, Ukraine, CRDF Global, USD 106,994, Principal Investigators: Reiter M; Kolibabchuk T, Participation: 47%, 02/01/2018-01/31/2019.

Strategic Initiatives to Achieve Regional Phosphorus Balance in the Chesapeake Bay Watershed, National Fish and Wildlife Foundation, USD 283,844, Principal Investigators: Reiter M; Ignosh J; Hughes-Evans K, Participation: 81%, 01/01/2017-12/31/2020.

U.S. Patents (*Graduate Student)

Millsaps, C.R.*, M.S. Reiter, J.E. Mason, and B.M. Whitehurst. 2020. Granulated compositions and methods for making and using the same. United States Provisional Patent Number: 63/012,613. Issued 12 May.

Reiter, M.S. and T.C. Daniel. 2011. Value-added granulated organic fertilizer. United States Patent Number: 8,062,405. Issued 22 Nov.

Refereed Publications (*Graduate Student, from 2017 – present; Total Number: 40)

Carneiro, R.*, S. Duncan, S. O'Keefe, D. Yu, H. Huang, Y. Yin, C. Neill, B. Zhang, T. Kuhar, S. Rideout, M. Reiter, J. Ross, P. Chen, and A. Gillen (2021). Utilizing Consumer Perception of Edamame to Guide New Variety Development. Frontiers in Sustainable Food Systems, 4. doi:10.3389/fsufs.2020.556580

Millsaps, C.R.*, M.S. Reiter, B.M. Whitehurst, G.B. Whitehurst, R.O. Maguire, and W.E. Thomason. 2021. Granulated poultry litter ash acidulation and physical characteristics. Trans. ASABE. doi: 10.13031/trans.14164.

Acharya, T.P.*, M.S. Reiter, G. Welbaum, and R.A. Arancibia. 2020. Nitrogen uptake and use efficiency in sweet basil production under low tunnels. HortScience 54:429-435. doi:10.21273/HORTSCI14515-19.

Brasier, K.*, J. Oakes, M. Balota, M. Reiter, N. Jones, R. Pittman, C. Sneller, W. Thomason, and C. Griffey. 2020. Genotypic variation and stability for nitrogen use efficiency in winter wheat. Crop Sci. 60(1):32-49. Doi: 10.1002/csc2.20006

Jian, J., X. Du, M.S. Reiter, and R.D. Stewart. 2020. A meta-analysis of global cropland soil carbon changes due to cover cropping. Soil Biology Biochemistry. 143. https://doi.org/10.1016/j.soilbio.2020.107735.

Jian, J., B.J. Lester, X. Du, M.S. Reiter, and R.D. Stewart. 2020. A calculator to quantify cover crop effects on soil health and productivity. Soil Tillage Res. 199. doi: 10.1016/j.still.2020.104575

Norris, R.*, Chim, B.*, Evanylo, G., Reiter, M., and Thomason, W. (2020). Corn yield and soil nitrogen following winter annual cover crops interseeded into soybean. *CROP SCIENCE,* 60(5), 2667-2682. doi: 10.1002/csc2.20185.

Reiter, M.S., K. Pavuluri, and F. Pierce. 202X. Tomato yield and quality response to polyhalite fertilizer on sandy loam soils in the Mid-Atlantic region. HortScience. In review.

Baxter, A.E.*, R.O Maguire, G. Whitehurst, D. Holshouser, and M.S. Reiter. 2019. Novel fertilizer as an alternative for supplying manganese and boron to soybeans. Commun. In Soil Sci. Plant Anal. 50(1):65-76.

Brasier, K.G.*, B.G. Tamang, N.R. Carpenter, T. Fukao, M.S. Reiter, R.M. Pittman, C.H. Sneller, W.E. Thomason, and C.A. Griffey. 2018. Photoperiod response gene PpD-D1 affects nitrogen use efficiency in soft red winter wheat. Crop Sci. 58(6):2593-2606.

Gu, G., L.K. Strawn, D.O. Oryang, J. Zheng, E.A. Reed, A.R. Ottesen, R.L. Bell, Y. Chen, S. Duret, D.T. Ingram, M.S. Reiter, R. Pfuntner, E.W. Brown, and S.L. Rideout. 2018. Agricultural practices influence *salmonella* contamination and survival in pre-harvest tomato production. Front. Microbiology. 9:2451.

Moore, P.A., H. Li, R. Burns, D. Miles, R. Maguire, J. Ogejo, M.S. Reiter, and M.D. Buser. 2018. Development and testing of the ARS air scrubber: A device for reducing ammonia emissions from animal rearing facilities. Front. Sustain. Food Syst. doi: https://doi.org/10.3389/fsufs.2018.00023.

Norris*, R., B.K. Chim, G. Evanylo, M. Reiter, and W. Thomason. 2018. Assessment of in-season soil nitrogen tests for corn planted into winter annual cover crops. Soil Sci. Soc. Am. J. 82(6):1428-1436.

Parvej, M.R., A.S. Williams*, D.L. Holshouser, W.H. Frame, and M.S. Reiter. 2018. Double-crop soybean response to potassium on mid-Atlantic coastal plain and piedmont soils. Agon. J. 110(1):399-410.

Stewart, R.D., J. Jian, A.J. Gyawali*, W.E. Thomason, B.D. Badgley, M.S. Reiter, and M.S. Strickland. 2018. What we talk about when we talk about soil health. Agric. Environ. Letters. 3(1):1-5.

Williams, A.S.*, M.R. Parvej, D.L. Holshouser, W.H. Frame, and M.S. Reiter. 2018. Correlation and calibration of soil-test potassium from different soil depths for full-season soybean on coarse-textured soils. Agron. J. 110(1):369-379.

Wimer-Fleming*, C., M.S. Reiter, R.O. Maguire, and S. Phillips. 2018. Long-term impacts of poultry litter on soil pH and phosphorus in no-till. Better Crops Plant Food. 102(2):21-23.

Williams, A.S.*, M.R. Parvej, D.L. Holshouser, W.H. Frame, and M.S. Reiter. 2017. Correlation of field-moist, oven-dry, and air-dry soil potassium for mid-Atlantic USA soybean. Soil Sci. Soc. Am. J. 81(6):1586-1594.

Technical and Extension Publications (from 2017-present; Total Number: 66)

Kuhar, T., M. Reiter, S. Rideout, and V. Singh. 2021. Critical updates for the 2021 mid-Atlantic commercial vegetable recommendations. Publ. SPES-193P. Virginia Cooperative Extension, Blacksburg.

Pittman, P., U. Deitch, M. Reiter, V. Singh, J. Mason, K. Duerksen, J. Haymaker, et al. 2021. 2021 Virtual Eastern Shore Agricultural Conference and Trade Show. Publ. SPES-312NP. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S., J. Ignosh, C. Neill, E. Zimmerman, K. Hughes-Evans, and V. Morris. Financial feasibility and market analysis of poultry litter ash fertilizer granules. SPES-330NP. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S., T.P. Kuhar, S.L. Rideout, and D.B. Langston. 2021. 2021 Southeastern U.S. Vegetable Crop Handbook. J.M. Kemble (ed). Southeast Vegetable Extension Workers. Meister Media Worldwide, Willoughby, OH. Available at: https://vegetablegrowersnews.com/catalogs/2021-southeastern-u-s-vegetable-crop-handbook/.

Reiter, M.S. and R.O. Maguire. 2021. Lime: Common soil additives to raise soil pH in Virginia. Publ. SPES-298NP. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S. 2020. Common fertilizers used in Virginia: Nitrogen, phosphorus, and potassium. Publ. SPES-199NP. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S. 2020. Common fertilizers used in Virginia: Secondary and micronutrients. Publ. SPES-200NP. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S. 2020. Conversion factors needed for common fertilizer calculations. Publ. SPES-201NP. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S., H.B. Doughty, T.P. Kuhar, J.M. Wilson, D.B. Langston, S.L. Rideout, J.A. Parkhurst, and L.K. Strawn. 2020. 2020-2021 Mid-Atlantic commercial vegetable production recommendations. Publ. SPES-193P. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S. and C.R. Ervin*. 2020. Fertilizer: The many forms you can use. Publ. SPES-187NP. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S., Kuhar, T.P., S.L. Rideout, and D.B. Langston. 2020. 2020 Southeastern U.S. Vegetable Crop Handbook. J.M. Kemble (ed). Southeast Vegetable Extension Workers. Meister Media Worldwide, Willoughby, OH. Available at: https://www.aces.edu/wp-content/uploads/2019/12/2020_SEVG_final_web.pdf

Reiter, M., V. Singh, J. Mason, K. Duerksen, J. Haymaker, T. Hines, et al. (2020). 2020 Virginia Tech Eastern Shore AREC Virtual Field Day. Publ. SPES-239NP. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S., W.E. Thomason, and W.H. Frame. 2020. Foliar injury: Spring nitrogen applications to small grains. Publ. SPES-197NP. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S., S.L. Rideout, T.P. Kuhar, R.A. Arancibia, L.K. Strawn, D.B. Langston, Jr., J. Samtani, H.B. Doughty, and J.M. Wilson. 2019. 2019 Mid-Atlantic Commercial Vegetable Production Recommendations. Publ. 456-420. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S., S.L. Rideout, T.P. Kuhar, R.A. Arancibia, and R.A. Straw. 2019. 2019 Southeastern U.S. 2019 Vegetable Crop Handbook. J.M. Kemble (ed.) Southeastern Vegetable Extension Workers Group. Meister Media Worldwide, Willoughby, OH.

Zhang, B., N. Lord*, S. Li, M. Reiter, S. Rideout, J. Pollock, C. Neill, T. Kuhar, K. Sutton*, S. Duncan, R. Carneiro*, H. Huang, D. Yu*, and Y. Yin. 2019. USDA edamame project. Publ. SPES-104NP. Virginia Cooperative Extension, Blacksburg.

Arancibia, R.A., C. Cahoon, H.B. Doughty, T.P. Kuhar, D.B. Langston, and M.S. Reiter. 2018. 2018 Mid-Atlantic commercial vegetable production recommendations. Publ. 456-420. Virginia Cooperative Extension, Blacksburg.

Arancibia, R.A., R.A. Straw, T.P. Kuhar, S.L. Rideout, and M.S. Reiter. 2018. 2018 Southeastern U.S. Vegetable Crop Handbook. J.M. Kemble (ed). Southeast Vegetable Extension Workers. Meister Media Worldwide, Willoughby, OH.

Reiter, M.S. 2018. Establishing a successful Extension program. Crops, Soils, Agronomy News. ASA-CSSA-SSSA, Madison, WI.

Reiter, M.S., W.H. Frame, and W.E. Thomason. 2018. Consider your whole system: Nitrogen and sulfur leaching potential in Virginia. Publ. SPES-39. Virginia Coop. Exten., Blacksburg.

Reiter, M.S., W.H. Frame, J.S. Reiter, J.L. Spencer, and W.E. Thomason. 2017. Yellow corn in Virginia – Spring 2017. Publ. CSES-193NP. Virginia Cooperative Extension, Blacksburg.

Reiter, M.S., S.L. Rideout, T.P. Kuhar, R.A. Arancibia, et. al. 2017. 2017 Southeastern U.S. Vegetable Crop Handbook. J.M. Kemble (ed.) Southeastern Vegetable Extension Workers Group. Vance Publ. Corp., Lincolnshire, IL.