Michael O. Adu

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PROFILE

I'm interested in rhizosphere interactions and mechanisms underlying resource acquisition and utilisation by crops. My research also focuses on agronomic practices that enhance availability and acquisition of resources by crops in low-input farming systems.

RESEARCH

Interests	Agriculture · Agronomy · Ecophysiology · Plant nutrition · Plant breeding · Plant Roots · Phenotyping · Rhizosphere · Abiotic Stress · Crop Physiology
Areas	Plant Science · Soil Science · Ecology · Ecology, Evolution, Behavior and Systematics · Agronomy and Crop Science · Food Science

RESEARCH SUMMARY

83	1,383	21	35	1.65	21%
Publications	Citations	h-index	i10-index	Field-weighted impact	World top 10%

Counted from the 83 publications listed below, 2010–2026. Field-weighted impact is the mean over the 66 works scored for it; 1.00 is the world average for works of the same field, type and year. 14 of the 66 papers scored for it are among the world's most cited tenth for their field, type and year.

POSITIONS

Lecturer 2015–present
Crop Science, University of Cape Coast, Cape Coast, Ghana

EDUCATION AND QUALIFICATIONS

MSc / PhD 2009–2014
Biosciences, University of Nottingham, Nottingham, United Kingdom

MSc / PhD 2009–2014
Biosciences, University of Nottingham, Nottingham, United Kingdom

PUBLICATIONS

Journal articles 75

1. Prosper Deo-Donne Lumorh, Innocent Kwaku Dorvlo, Godwin Amenorpe, Paul Agu Asare, **Michael Osei Adu**, Emmanuel Afutu, Mishael Amoah Nyarko, Michael Odenkey Quaye, Edward Bariam, Benjamin Kwasi Offei, Patrick Twumasi, Samuel Amiteye (2026). Early-maturing, high-yielding M5 mutant lines of cowpea (Vigna unguiculata) derived from gamma irradiation exhibit enhanced seed protein and mineral composition: implications for nutritional biofortification. *International Journal of Radiation Biology*. https://doi.org/10.1080/09553002.2026.2708815
2. **Michael O Adu**, Emmanuel Afutu, Paul Agu Asare, Kwadwo K Amoah, Mishael Amoah Nyarko, Kwabena A Sanleri (2026). Meta-analysis of corm yield responses to chemical and biological approaches for managing taro leaf blight disease. *Pest Management Science*. https://doi.org/10.1002/ps.70878

3. D. Nyadanu, W. Nunekpeku, D. A. Tchokponhoue, S. T. Lowor, P. Pobee, W. E. Anyomi, J. A. Dogbatsey, D. S. Yabani, P. A. Asare, **M. O. Adu** (2026). Nuclear DNA content and ploidy variation in Ghanaian accessions of kola [Cola nitida (Vent.) Schott & Endl.]: flow cytometry evidence from a national germplasm collection. *Genetic Resources and Crop Evolution*. https://doi.org/10.1007/s10722-026-02922-5

4. **Michael O. Adu**, David O. Yawson (2026). Research neglect of root system architecture in root and tuber crops important for Sub-Saharan African Food Security. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0357467

5. **Michael O. Adu**, Francis Kumi, Peter B. Obour, Emmanuel Arthur, Eric Oppong Danso, Samuel Banafo, Kofi Atiah, Kwadwo K. Amoah, Paul A. Asare, Joel Asiedu, Donatus B. Angnuureng, Stephen E. Moore (2026). Root system architecture and shoot canopy effects drive erosion control in Napier and Vetiver grasses. *Ecological Engineering*. https://doi.org/10.1016/j.ecoleng.2026.108126

6. Andreas A. Kudom, Martin Bosompem, **Michael O. Adu**, Benedict Afful, Benjamin Anderson, Francis Armah, Paul A. Asare, Joana Ayettey, Ben A. Mensah, Peter Osei-Wusu Adueming (2026). Urban herbicide use threatens a non-target butterfly (Hypolimnas misippus) through direct toxicity and host plant stress in Ghana. *PLOS Ecosystems*. https://doi.org/10.1371/journal.pesy.0000020

7. Felix Kuor, **Michael Osei Adu**, Daniel Nyadanu, Richard Adu Amoah, Emmanuel Yaw Owusu, Elvis Asare-Bediako, Paul Agu Asare (2025). Assessment of breeding value and gene action of okra germplasm for tolerance to Podagrica species, okra leaf curl and mosaic virus diseases. *Ecological Genetics and Genomics*. https://doi.org/10.1016/j.egg.2025.100358

8. Eric Oppong Danso, Christiana Dietzen, William Akortey, Bernard Kwabena Boadi Mensah, Peter Bilson Obour, John Bright Amoah Nyasapoh, Ebenezer Agyapong, Elorm Grace Ayayi, Nana Oduro Osei Bonsu, **Michael Osei Adu**, Emmanuel Arthur, Jacob Ulzen, Thomas Atta-Darkwa, Edward Benjamin Sabi, Stephen Abenney-Mickson, Mathias Neumann Andersen (2025). Can Solar-Powered Irrigation Systems Naturally Meet Crop Water Requirements? Proof of Concept From a Case Study in Sub-Saharan Africa. *Irrigation and Drainage*. https://doi.org/10.1002/ird.3089

9. Godswill Hygienus, Vincent Agyemang Opoku, Mathias Neumann Andersen, Paul Agu Asare, **Michael Osei Adu** (2025). Genotypic Variation in Root System Architecture in Okra (Abelmoschus esculentus (L.) Moench) for Adaptive Breeding in Soil Resource-Limited Environments. *Journal of Agronomy and Crop Science*. https://doi.org/10.1111/jac.70108

10. Patrick Twumasi, Paul Agu Asare, Sylvester NTT Addy, Godwin Amenorpe, Frank Kumi, **Michael O Adu**, Prosper D Lumorh, Emmanuel Afutu (2025). Harnessing Induced Mutations to Develop Superior Tiger Nut Varieties Using Ethyl Methanesulfonate (EMS) and Colchicine. *Acta Scientific Agriculture*. https://doi.org/10.31080/asag.2025.09.1474

11. Kwabena A. Sanleri, Francis Kumi, Kwadwo K. Amoah, Solomon Amamu, Igor Luketina, **Michael O. Adu** (2025). Identifying and Evaluating Salt-Tolerant Halophytes Along a Tropical Coastal Zone: Growth Response and Desalination Potential. *Plant-Environment Interactions*. https://doi.org/10.1002/pei3.70072

12. Emmanuel Afutu, Frank Kumi, Paul A Asare, **Michael O Adu** (2025). Investigating the Genetics of Scab Resistance and Yield Components in Cowpea (Vigna unguiculata). *International Journal of Plant & Soil Science*. https://hal.science/hal-05068356/

13. Peter Bilson Obour, Eric Oppong Danso, **Michael Osei Adu**, Erastus Mak-Mensah, Eric Kofi Doe, John Bright Amoah Nyasapoh, Billey Jaafar, Daniel Selorm Kpodo, Elorm Grace Ayayi, Jacqueline Naalamle Amissah, Emmanuel Arthur (2025). Long-term Rice Straw Biochar Alters Soil Pore Connectivity and Structural Anisotropy in an Acrisol. *Journal of soil science and plant nutrition*. https://doi.org/10.1007/s42729-025-02687-3

14. Paul A. Asare, Adeyinka S. Adewumi, Patrick Twumasi, Emmanuel Afutu, **Michael O. Adu** (2025). Multitrait Selection for Higher Agronomic and Tuber Yield–Related Traits in Tiger Nut (Cyperus esculentus L.) Genotypes. *Scientifica*. https://doi.org/10.1155/sci5/9458568

15. Godfred Okyere-Prah, Paul A. Asare, Kwadwo K. Amoah, Kofi Atiah, Moses Teye, Alfred A. Darkwa, Roseline L. Macarthur, **Michael O. Adu** (2025). Optimizing Agronomic Zinc Biofortification in Carrots. *Plant-Environment Interactions*. https://doi.org/10.1002/pei3.70086

16. Prosper D Lumorh, Frank Kumi, Paul Agu Asare, Godwin Amenorpe, **Michael O Adu**, Sylvester N T T Addy,

Emmanuel Afutu (2025). Response of some cowpea genotypes to radiosensitivity using 60Co gamma radiation. *International Journal of Agricultural Research Innovation and Technology*. https://doi.org/10.3329/ijarit.v15i1.82798

17. **Michael O. Adu**, Peter B. Obour, Francis Kumi, Emmanuel Arthur, Paul A. Asare, Eric Oppong Danso, Samuel A. Banafo, Kwabena A. Sanleri, Hygienus Godswill, Kofi Atiah, Kwadwo K. Amoah, Joel B.K. Asiedu, Stephen E. Moore, Donatus B. Angnuureng (2025). Soil reinforcement potential of multifunctional crop plants on arable and non-arable tropical soils. *Geoderma*. https://doi.org/10.1016/j.geoderma.2025.117470
18. PA ASARE, **MO ADU**, S AKABA (2024). CARNEIRO, JL dos S. Caracterização morfológica e molecular de germoplasma de. *PROPAGAÇÃO VEGETATIVA E DIVERSIDADE GENÉTICA DE INHAME (Dioscorea sp.)*. https://ri.ufs.br/bitstream/riufs/19514/2/CRISLAINE_ALVES_SANTOS.pdf#page=24
19. Adeyinka S. Adewumi, Idris I. Adejumobi, Vincent A. Opoku, Paul A. Asare, **Michael O. Adu**, Kingsley J. Taah, Adekemi E. Stanley, Temitope E. Olatunde, Emmanuel Afutu, Selorm Akaba, Hapson Mushoriwa, Paterne A. Agre (2024). Exploring quantitative trait nucleotides associated with response to yam mosaic virus severity and tuber yield traits in Dioscorea praehensilis Benth. germplasm via genome-wide association scanning. *Frontiers in Horticulture*. https://doi.org/10.3389/fhort.2024.1459476
20. Adeyinka S. Adewumi, Paul A. Asare, Oluyemi Titilola Akintayo, Idris I. Adejumobi, **Michael O. Adu**, Kingsley J. Taah, Emmanuel Afutu, Vincent A. Opoku, Adekemi E. Stanley, Selorm Akaba, Jean M. Mondo, Hapson Mushoriwa, Paterne A. Agre (2024). Genetic architecture of post-harvest tuber quality traits in bush yam (Dioscorea praehensilis Benth.) germplasm through association mapping. *Frontiers in Horticulture*. https://doi.org/10.3389/fhort.2024.1373327
21. Peter Bilson Obour, Christiana Dietzen, Eric Oppong Danso, Emmanuel Arthur, **Michael Osei Adu**, Minik Thorleif Rosing (2024). Limited short-term benefits of glacial rock flour for enhancing the physical quality of tropical arable soils. *European Journal of Soil Science*. https://doi.org/10.1111/ejss.70028
22. Justice Asante, Vincent Agyemang Opoku, Godswill Hygienus, Mathias Neumann Andersen, Paul Agu Asare, **Michael Osei Adu** (2024). Photosynthetic efficiency and water retention in okra (Abelmoschus esculentus) contribute to tolerance to single and combined effects of drought and heat stress. *Scientific Reports*. https://doi.org/10.1038/s41598-024-79178-5
23. Vincent A. Opoku, **Michael O. Adu**, Paul A. Asare, Justice Asante, Godswill Hygienus, Mathias N. Andersen (2024). Rapid and low-cost screening for single and combined effects of drought and heat stress on the morpho-physiological traits of African eggplant (Solanum aethiopicum) germplasm. *PLoS ONE*. https://doi.org/10.1371/journal.pone.0295512
24. Adeyinka S. Adewumi, Paul A. Asare, Idris I. Adejumobi, **Michael O. Adu**, Kingsley J. Taah, Samuel Adewale, Jean M. Mondo, Paterne A. Agre (2023). Multi-Trait Selection Index for Superior Agronomic and Tuber Quality Traits in Bush Yam (Dioscorea praehensilis Benth.). *Agronomy*. https://doi.org/10.3390/agronomy13030682
25. **Michael O. Adu**, Nathaniel Zigah, David O. Yawson, Kwadwo K. Amoah, Emmanuel Afutu, Kofi Atiah, Alfred A. Darkwa, Paul A. Asare (2023). Plasticity of root hair and rhizosheath traits and their relationship to phosphorus uptake in sorghum. *Plant Direct*. https://doi.org/10.1002/pld3.521
26. Francis Kumi, Peter B. Obour, Emmanuel Arthur, Stephen E. Moore, Paul A. Asare, Joel Asiedu, Donatus B. Angnuureng, Kofi Atiah, Kwadwo K. Amoah, Shadrack K. Amponsah, Selorm Y. Dorvlo, Samuel Banafo, **Michael O. Adu** (2023). Quantifying root-induced soil strength, measured as soil penetration resistance, from different crop plants and soil types. *Soil and Tillage Research*. https://doi.org/10.1016/j.still.2023.105811
27. Emmanuel Iwuala, **Michael Osei Adu**, Victor Odjegba, Okon Odiong Unung, Abiodun Ajiboye, Vincent Agyemang Opoku, Caroline Umebese, Afroz Alam (2022). Mechanisms Underlying Root System Architecture and Gene Expression Pattern in Pearl Millet (Pennisetum glaucum). *Gesunde Pflanzen*. https://doi.org/10.1007/s10343-022-00674-7
28. **Michael O. Adu**, Paul A. Asare, David O. Yawson, Kwadwo K. Amoah, Kofi Atiah, Matthew K. Duah, Alex Graham (2022). Root System Traits Contribute to Variability and Plasticity in Response to Phosphorus Fertilization in 2 Field-Grown Sorghum [Sorghum bicolor (L.) Moench] Cultivars. *Plant Phenomics*. https://

doi.org/10.34133/plantphenomics.0002

29. **Michael Osei Adu**, Kofi Atia, Emmanuel Arthur, Paul Agu Asare, Peter Bilson Obour, Eric Oppong Danso, Kwame Agyei Frimpong, Kwabena Azure Sanleri, Samuel Asare-Larbi, Richmond Adjei, George Mensah, Mathias Neumann Andersen (2022). The use of oil palm empty fruit bunches as a soil amendmentto improve growth and yield of crops. A meta-analysis. *Agronomy for Sustainable Development*. https://doi.org/10.1007/s13593-022-00753-z

30. Enoch Akyeampong, John R Bend, Isaac Luginaah, David Oscar Yawson, Samuel Jerry Cobbina, Frederick Ato Armah, **Michael Osei Adu**, David Kofi Essumang, Samuel Iddi, Paul K Botwe, Reginald Quansah (2022). Urinary Pesticide Residual Levels and Acute Respiratory Infections in Children Under 5 Years of Age: Findings From the Offinso North Farm Health Study. *Environmental Health Insights*. https://doi.org/10.1177/11786302221094418

31. Adeyinka S. Adewumi, Paterne A. Agre, Paul A. Asare, **Michael O. Adu**, Kingsley J. Taah, Jean M. Mondo, Selorm Akaba (2021). Exploring the Bush yam (Dioscorea praehensilis Benth) as a Source of Agronomic and Quality Trait Genes in White Guinea yam (Dioscorea rotundata Poir) Breeding. *Agronomy*. https://doi.org/10.3390/agronomy12010055

32. Adeyinka S. Adewumi, Paul A. Asare, **Michael O. Adu**, Kingsley J. Taah, Selorm Akaba, Jean M. Mondo, Paterne A. Agre (2021). Farmers' perceptions on varietal diversity, trait preferences and diversity management of bush yam (Dioscorea praehensilis Benth.) in Ghana. *Scientific African*. https://doi.org/10.1016/j.sciaf.2021.e00808

33. CA Wongnaa, IA Apike, HO Tuffour, **Michael Osei Adu**, AK Anning (2021). Journal of Agriculture and Food Research. *Journal of Agriculture and Food Research*. https://www.researchgate.net/profile/William-Amponsah-2/publication/355437174_Response_of_chilli_pepper_to_different_irrigation_schedules_and_mulching_technologies_in_semi-arid_environments/links/62fa0ddcb8dc8b4403e47768/Response-of-chilli-pepper-to-different-irrigation-schedules-and-mulching-technologies-in-semi-arid-environments.pdf

34. J.W. Tachie-Menson, J.N. Buah, **M.O. Adu**, E. Afutu (2021). Morphological diversity in purple nutsedge from four agro-ecological zones in Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2021.e07661

35. Emmanuel Adekaldu, William Amponsah, Henry Oppong Tuffour, **Michael Osei Adu**, Wilson Agyei Agyare (2021). Response of chilli pepper to different irrigation schedules and mulching technologies in semi-arid environments. *Journal of Agriculture and Food Research*. https://doi.org/10.1016/j.jafr.2021.100222

36. Vincent Agyemang Opoku, David Oscar Yawson, Paul Agu Asare, Emmanuel Afutu, Mohammed Clement Kotochi, Kwadwo Kusi Amoah, **Michael Osei Adu** (2021). Root hair and rhizosheath traits contribute to genetic variation and phosphorus use efficiency in cowpea (Vigna unguiculata (L.) Walp). *Rhizosphere*. https://doi.org/10.1016/j.rhisph.2021.100463

37. **Michael O. Adu** (2020). Causal shoot and root system traits to variability and plasticity in juvenile cassava (Manihot esculenta Crantz) plants in response to reduced soil moisture. *Physiology and Molecular Biology of Plants*. https://doi.org/10.1007/s12298-020-00865-4

38. D. O. Yawson, F. A. Armah, **M. O. Adu** (2020). Exploring the impacts of climate change and mitigation policies on UK feed barley supply and implications for national and transnational food security. *SN Applied Sciences*. https://doi.org/10.1007/s42452-020-2444-6

39. D. O. Yawson, **M. O. Adu**, F. A. Armah (2020). Impacts of climate change and mitigation policies on malt barley supplies and associated virtual water flows in the UK. *Scientific Reports*. https://doi.org/10.1038/s41598-019-57256-3

40. Paul Agu Asare, Roger Kpankpari, **Michael Osei Adu**, Emmanuel Afutu, Adeyinka Saburi Adewumi (2020). Phenotypic Characterization of Tiger Nuts (Cyperus esculentus L.) from Major Growing Areas in Ghana. *The Scientific World JOURNAL*. https://doi.org/10.1155/2020/7232591

41. **Michael O. Adu**, Paul A. Asare, David O. Yawson, Mishael A. Nyarko, Ahmed Abdul Razak, Amoah K. Kusi, Josiah W. Tachie-Menson, Emmanuel Afutu, Dick A. Andoh, Frank K. Ackah, Grace C. Vanderpuije, Kingsley J. Taah, Elvis Asare-Bediako, Godwin Amenorpe (2020). The search for yield predictors for mature field-grown plants from juvenile pot-grown cassava (Manihot esculenta Crantz). *PLoS ONE*. https://doi.org/10.1371/journal.pone.0232595

42. D.O. Yawson, S. Mohan, F.A. Armah, T. Ball, B. Mulholland, **M.O. Adu**, P.J. White (2020). Virtual water flows under projected climate, land use and population change: the case of UK feed barley and meat. *Heliyon*. https://doi.org/10.1016/j.heliyon.2019.e03127

43. **Michael O. Adu**, David O. Yawson, Ernest E. Abano, Paul A. Asare, Frederick A. Armah, Eugene K. Opoku (2019). Does water-saving irrigation improve the quality of fruits and vegetables? Evidence from meta-analysis. *Irrigation Science*. https://doi.org/10.1007/s00271-019-00646-2

44. Reginald Quansah, John R. Bend, Frederick Ato Armah, Felix Bonney, Joshua Aseidu, David Oscar Yawson, **Michael Osei Adu**, Isaac Luginaah, David Kofi Essumang, Abukari Abdul-Rahaman, Samuel Cobbina, Samuel Iddi, Matthew Tersigni, Samuel Afful, Peter Osei-Fosu, Edward Nketiah-Amponsah (2019). Respiratory and non-respiratory symptoms associated with pesticide management practices among farmers in Ghana's most important vegetable hub. *Environmental Monitoring and Assessment*. https://doi.org/10.1007/s10661-019-7898-x

45. **MO Adu**, PA Asare, Frederick A Armah (2019). Transforming urban idle spaces into green, productive and aesthetic landscapes. *AgriFoSe2030 Report*. https://pub.epsilon.slu.se/id/eprint/16564/contents

46. **Michael O. Adu**, Paul A. Asare, David O. Yawson, Mishael A. Nyarko, Kwabena Osei-Agyeman (2018). Agronomic biofortification of selected underutilised solanaceae vegetables for improved dietary intake of potassium (K) in Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2018.e00750

47. **Michael Osei Adu**, Paul Agu Asare, Elvis Asare-Bediako, Godwin Amenorpe, Frank Kwekucher Ackah, Emmanuel Afutu, Mishael Nyarko Amoah, David Oscar Yawson (2018). Characterising shoot and root system trait variability and contribution to genotypic variability in juvenile cassava (Manihot esculenta Crantz) plants. *Heliyon*. https://doi.org/10.1016/j.heliyon.2018.e00665

48. David Oscar Yawson, **Michael Osei Adu**, Benjamin Ason, Frederick Ato Armah, Emmanuel Boateng, Reggie Quansah (2018). Ghanaians Might Be at Risk of Excess Dietary Intake of Potassium Based on Food Supply Data. *Journal of Nutrition and Metabolism*. https://doi.org/10.1155/2018/5989307

49. **Michael O. Adu**, Paul A. Asare, David O. Yawson, Daniel K. Dzidzienyo, Daniel Nyadanu, Elvis Asare-Bediako, Emmanuel Afutu, Josiah W. Tachie-Menson, Mishael N. Amoah (2018). Identifying key contributing root system traits to genetic diversity in field-grown cowpea (Vigna unguiculata L. Walp.) genotypes. *Field Crops Research*. https://doi.org/10.1016/j.fcr.2018.12.015

50. D.O. Yawson, **M.O. Adu**, B. Mulholland, T. Ball, K.A. Frimpong, S. Mohan, P.J. White (2018). Regional variations in potential groundwater recharge from spring barley crop fields in the UK under projected climate change. *Groundwater for Sustainable Development*. https://doi.org/10.1016/j.gsd.2018.12.005

51. David Oscar Yawson, Isaac Benjamin Yao Kudu, **Michael Osei Adu** (2018). Soil-Transmitted Helminths in Top Soils Used for Horticultural Purposes in Cape Coast, Ghana. *Journal of Environmental and Public Health*. https://doi.org/10.1155/2018/5847439

52. David O. Yawson, **Michael O. Adu**, Kingsley N. Osei (2018). Spatial assessment of sugarcane (Saccharurn spp. L.) production to feed the Komenda Sugar Factory, Ghana. *Heliyon*. https://doi.org/10.1016/j.heliyon.2018.e00903

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54. **Michael O. Adu**, David O. Yawson, Malcolm J. Bennett, Martin R. Broadley, Lionel X. Dupuy, Philip J. White (2017). A scanner-based rhizobox system enabling the quantification of root system development and response of Brassica rapa seedlings to external P availability. *Plant Root*. https://doi.org/10.3117/plantroot.11.16

55. **Michael O. Adu**, Thomas Cobbinah, Paul A. Asare, David O. Yawson, Kingsley J. Taah (2017). Demucilaging Freshly Stored Seeds of Cocoa (Theobroma cacao L.) Improves Seedling Emergence and Growth. *Journal of Botany*. https://doi.org/10.1155/2017/1938359

56. David Yawson, Barry Mulholland, Tom Ball, **Michael Adu**, Sushil Mohan, Philip White (2017). Effect of Climate and Agricultural Land Use Changes on UK Feed Barley Production and Food Security to the 2050s. *Land*. https://doi.org/10.3390/land6040074

57. Ernest Teye, RS Amoah, **MO Adu** (2017). Evaluation and developing simple techniques for assessing Gari adulteration. *Journal of Food Security*. https://www.academia.edu/download/79328761/JFS-5-5-2.pdf

58. **Michael O. Adu**, David O. Yawson, Frederick A. Armah, Paul A. Asare, Kwame A. Frimpong (2017). Meta-analysis of crop yields of full, deficit, and partial root-zone drying irrigation. *Agricultural Water Management*. https://doi.org/10.1016/j.agwat.2017.11.019

59. Frederick Ato Armah, Arnold Paintsil, David Oscar Yawson, **Michael Osei Adu**, Justice O. Odoi (2017). Modelling spatio-temporal heterogeneities in groundwater quality in Ghana: a multivariate chemometric approach. *Journal of Water and Health*. https://doi.org/10.2166/wh.2017.244

60. **Michael O Adu** (2017). Response-based selection of barley cultivars and legume species for complementarity: root morphology and exudation in relation to nutrient source. *Plant Science*. https://www.sciencedirect.com/science/article/pii/S0168945216306173

61. **MO Adu** (2017). Spatial distribution of nematodes at organic and conventional crop fields in Cape Coast, Ghana. *West African Journal of Applied Ecology*. https://www.ajol.info/index.php/wajae/article/download/159722/149292

62. Dimitris I. Kalogiros, **Michael O. Adu**, Philip J. White, Martin R. Broadley, Xavier Draye, Mariya Ptashnyk, A. Glyn Bengough, Lionel X. Dupuy (2016). Analysis of root growth from a phenotyping data set using a density-based model. *Journal of Experimental Botany*. https://doi.org/10.1093/jxb/erv573

63. **Michael O Adu**, David O Yawson, Frederick A Armah, Paul A Asare, Malcolm J Bennett, Martin R Broadley, Philip J White, Lionel X Dupuy (2016). Effects of rooting media on root growth and morphology of Brassica rapa seedlings. *South African Journal of Plant and Soil*. https://doi.org/10.1080/02571862.2016.1141336

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65. David Yawson, **Michael Adu**, Benjamin Ason, Frederick Armah, Genesis Yengoh (2016). Putting Soil Security on the Policy Agenda: Need for a Familiar Framework. *Challenges*. https://doi.org/10.3390/challe7020015

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67. David Yawson, Tom Ball, **Michael Adu**, Sushil Mohan, Barry Mulholland, Philip White (2016). Simulated Regional Yields of Spring Barley in the United Kingdom under Projected Climate Change. *Climate*. https://doi.org/10.3390/cli4040054

68. David O. Yawson, **Michael O. Adu**, Frederick Ato Armah, Joseph Kusi, Isaac Gershon Kodwo Ansah, Canford Chiroro (2015). A needs-based approach for exploring vulnerability and response to disaster risk in rural communities in low income countries.

69. **MO Adu** (2015). Challenges and opportunities for quantifying roots and rhizosphere interactions through imaging and image analysis. *Plant, cell & environment*. https://doi.org/10.1111/pce.12448

70. **Michael Adu**, Lea Wiesel, Malcolm Bennett, Martin Broadley, Philip White, Lionel Dupuy (2015). Scanner-based Time-lapse Root Phenotyping. *BIO-PROTOCOL*. https://doi.org/10.21769/bioprotoc.1424

71. **Michael O. Adu** (2014). A scanner system for high-resolution quantification of variation in root growth dynamics of Brassica rapa genotypes. *Journal of Experimental Botany*. https://academic.oup.com/jxb/article-abstract/65/8/2039/433885

72. KA Frimpong, **MO Adu** (2014). Nitrous oxide emissions from soils amended with polyphenols and cowpea residues. *West African Journal of Applied Ecology*. https://go.gale.com/ps/i.do?id=GALE%7CA417570596&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=08554307&p=AONE&sw=w

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