

Dr. Avishek Datta

Main employment: Asian Institute of Technology, Thailand
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Employment History:

April 2016 – Present Associate Professor, Department of Food, Agriculture and Bioresources, Asian Institute of Technology, Thailand
August 2012 – March 2016 Assistant Professor, Department of Food, Agriculture and Bioresources, Asian Institute of Technology, Thailand
March 2008 – July 2012 Postdoctoral Research Associate, University of Nebraska-Lincoln, Nebraska, USA

Professional Position:

2021 – Present Head, Department of Food, Agriculture and Bioresources, Asian Institute of Technology, Thailand
2019 – Present Program Chair, Agricultural Systems and Engineering, Department of Food, Agriculture and Bioresources, Asian Institute of Technology, Thailand
2014 – Present Visiting Faculty, Faculty of Agriculture, Sam Higginbottom University of Agriculture, Technology and Sciences, Uttar Pradesh, India
2016 Chair, Doctoral Progress Review Committee, Asian Institute of Technology, Thailand
2007 Casual Academic, University of New England, Armidale, New South Wales, Australia

Academic Qualifications:

Ph.D. (Crop Science/Agronomy), University of New England, New South Wales, Australia (2008)
M.Sc. (Agronomy), B.C. State Agricultural University, West Bengal, India (2002)
B.Sc. (Agriculture) Hons., B.C. State Agricultural University, West Bengal, India (2000)

Areas of Expertise:

- Sustainable crop production
- Crop water management
- Climate change and food security
- Climate-smart agriculture
- Crop tolerance to soil and environmental stresses
- Conservation agriculture and organic farming
- Soil fertility and pest management
- Crop weed management and herbicide tolerance
- Experimental design and data analysis

Professional Experience:

Dr. Avishek Datta is an Associate Professor of Agricultural Systems at the Department of Food, Agriculture and Bioresources, School of Environment, Resources and Development, Asian Institute of Technology, Thailand. Dr. Datta has more than 13 years of international experience in research, consultancy, and capacity building in the areas of sustainable crop production, crop water management, climate change and food

security, climate-smart agriculture, crop stress tolerance, conservation agriculture, organic farming, and integrated nutrient and pest management.

Dr. Datta’s present responsibilities include teaching graduate-level courses, supervising Master and Doctoral students, and conducting research and outreach activities. A total of 10 Doctoral and 55 Master students have been graduated under his direct supervision. In addition, 15 more PhD and 8 more Master students are in-progress regarding their degrees where Dr. Datta is serving as the Chair of the Committee. In recognition for his contributions to the Institute and outstanding achievement in teaching and pedagogical development, Dr. Datta has been awarded the ‘**Distinguished Teaching Award**’ for **two consecutive years** in 2015 and 2016. In recognition for his contributions to the Institute and outstanding achievement in research, Dr. Datta has been awarded the ‘**Distinguished Researcher Award**’ in 2018. He has published 1 edited book, 8 book chapters, and more than 125 papers in international peer-reviewed journals. In addition, he has published a number of conference papers and popular articles, as well as has prepared a number of development and industry reports. Dr. Datta has recently received a ‘**Certificate of Appreciation**’ in recognition for his contribution of “28 Publications” to achieve a significant progress towards Sustainable Development Goal 2: SDG2 (Zero Hunger) from **Elsevier**, which is the largest publisher of scholarly journals in the world. He has implemented several research, development, and outreach projects in various countries including Australia, Bangladesh, Cambodia, Laos, Myanmar, Nepal, Thailand, Timor-Leste, USA, and Vietnam funded by many international donor agencies.

Dr. Datta has received several awards and honors including Certificate of Appreciation (Elsevier; 2021); Most Cited Article (Elsevier; 2021); Distinguished Research Award (2018); Distinguished Teaching Award (2016, 2015); Outstanding Reviewer (Elsevier; 2017, 2014); ScienceDirect Top 25 Hottest Articles (2011); Featured Article (Weed Science Society of America, 2010); Top Cited Article (Weed Science Society of America, 2009); Cooperative Research Centre for Australian Weed Management Scholarship (2004–2008); University of New England Research Assistantship, NSW, Australia (2004–2008); Indian Council of Agricultural Research Fellowship (2002–2004); State Agricultural University Merit Scholarships (2000, 1995); West Bengal State Merit Scholarship (1995); Dooars Branch Indian Tea Association Meritorious Student Award (1995).

Student Research Supervision:

Theses supervised

Summary of student research supervision (August 2012 – September 2021)

STUDENTS	COMPLETED		IN-PROGRESS	
	Chair of the Committee	Co-Chair of the Committee	Chair of the Committee	Co-Chair of the Committee
Doctoral	8	2	15	-
Master	53	2	8	-

Journal Editorial Board:

Associate Editor (10 November 2019–Present)

Frontiers in Agronomy

<https://www.frontiersin.org/journals/agronomy#editorial-board>

Associate Editor (18 March 2021–Present)

International Journal of Pest Management (Taylor & Francis)

<https://www.tandfonline.com/action/journalInformation?show=editorialBoard&journalCode=ttpm20>

Publication History:

Peer-reviewed scientific papers = 126; edited book = 1; book chapters = 8; conference proceedings = 67; extension articles = 8

Scopus *h*-index = 22, number of total citations = 1471

Google Scholar *h*-index = 29, number of total citations = 2515

Books and Edited Volumes

- 1) Rakshit A, Ghosh S, Chakraborty S, Philip V, **Datta A.** (2020). *Soil Analysis: Recent Trends and Applications*. Springer, ISBN 978-981-15-2038-9.

Chapters in Scholarly Books

- 1) Adu DT, Kuwornu JKM, **Datta A.** (2019). Smallholder Maize Farmers' Constraints to Climate Change Adaptation Strategies in the Brong-Ahafo Region of Ghana. In: JKM Kuwornu (Ed.), *Climate Change and Sub-Saharan Africa: The Vulnerability and Adaptation of Food Supply Chain Actors*. *Vernon Press*, USA (Series on Climate Change and Society), pp. 271–287
- 2) **Datta A**, Ullah H, Ferdous Z, Santiago-Arneas R, Attia A. (2019). Water Management in Cotton. In: K Jabran, BS Chauhan (Eds.), *Cotton Production*. John Wiley & Sons, ISBN:9781119385523, pp. 47–59
- 3) **Datta A**, Ullah H, Ferdous Z. (2017). Water Management in Rice. In: BS Chauhan, K Jabran, G Mahajan (Eds.), *Rice Production Worldwide*. Springer, ISBN 978-3-319-47516-5, pp. 255–277
- 4) **Datta A**, Ullah H, Ferdous Z. (2017). Utilization of By-Products from Food Processing as Biofertilizers and Biopesticides. In: AK Anal (Ed.), *Food Processing By-Products and their Utilization*. John Wiley & Sons, ISBN 9781118432921, pp. 175–193
- 5) Knezevic SZ, Fennimore S, **Datta A.** (2016). Thermal Weed Control. In: B Thomas, BG Murry, DJ Murphy (Eds.), *Encyclopedia of Applied Plant Sciences*. Vol 3, Waltham, MA: Academic Press, Elsevier Ltd. Vol. 3, pp. 463–468
- 6) Knezevic SZ, Jhala A, **Datta A.** (2016). Integrated Weed Management. In: B Thomas, BG Murry, DJ Murphy (Eds.), *Encyclopedia of Applied Plant Sciences*. Waltham, MA: Academic Press, Elsevier Ltd. Vol. 3, pp. 459–462
- 7) **Datta A**, Shrestha S, Ferdous Z, Win CC. (2015). Strategies for Enhancing Phosphorus Efficiency in Crop Production Systems. In: A Rakshit, HB Singh, A Sen (Eds.), *Nutrient Use Efficiency: from Basics to Advances*. Springer, ISBN 978-81-322-2169-2, pp. 59–71
- 8) Fennimore SA, Hanson BD, Sosnoskie LM, Samtani JB, **Datta A**, Knezevic SZ, Siemens MC. (2014). Field Applications of Automated Weed Control: Western Hemisphere. In: SL Young, FJ Pierce (Eds.), *Automation: The Future of Weed Control in Cropping Systems*. Springer, ISBN 978-94-007-7512-1, pp. 151–169

Peer-Reviewed Journal Publications

2021

- 1) Alam A, Ullah H, Cha-um S, Tisarum R, **Datta A.** (2021). Effect of seed priming with potassium nitrate on growth, fruit yield, quality and water productivity of cantaloupe under water-deficit stress. *Scientia Horticulturae* 288:110354
- 2) Chakma R, Saekong P, Biswas A, Ullah H, **Datta A.** (2021). Growth, fruit yield, quality, and water productivity of grape tomato as affected by seed priming and soil application of silicon under drought stress. *Agricultural Water Management* 256:107055
- 3) Zulfiqar F, **Datta A**, Tsusaka TW, Yaseen M. (2021). Micro-level quantification of determinants of eco-innovation adoption: An assessment of sustainable practices for cotton production in Pakistan. *Sustainable Production and Consumption* 26:752–760

- 4) Roy D, **Datta A**, Kuwornu JKM, Zulfiqar F. (2021). Comparing farmers' perceptions of climate change with meteorological trends and examining farm adaptation measures in hazard-prone districts of northwest Bangladesh. *Environment, Development and Sustainability* 23:8699–8721
- 5) Chakma R, Biswas A, Saekong P, Ullah H, **Datta, A**. (2021). Foliar application and seed priming of salicylic acid affect growth, fruit yield, and quality of grape tomato under drought stress. *Scientia Horticulturae* 280:109904
- 6) Anwar M, Zulfiqar F, Ferdous Z, Tsusaka TW, **Datta A**. (2021). Productivity, profitability, efficiency, and land utilization scenarios of rice cultivation: An assessment of hybrid rice in Bangladesh. *Sustainable Production and Consumption* 26:752–760
- 7) Mansour E, Desoky ESM, Ali MMA, Abdul-Hamid MI, Ullah H, Attia A, **Datta A**. (2021). Identifying drought-tolerant genotypes of faba bean and their agro-physiological responses to different water regimes in an arid Mediterranean environment. *Agricultural Water Management* 247:106754
- 8) Sirisuntornlak N, Ullah H, Sonjaroon W, Anusontpornperm S, Arirob W, **Datta A**. (2021). Interactive effects of silicon and soil pH on growth, yield and nutrient uptake of maize. *Silicon* 13:289–299
- 9) Ho TDN, Kuwornu JKM, Tsusaka TW, Nguyen LT, **Datta, A**. (2021). An assessment of the smallholder rice farming households' vulnerability to climate change and variability in the Mekong delta region of Vietnam. *Local Environment* 26:948–966
- 10) Santiago-Arenas R, Dhakal S, Ullah H, Agarwal A, **Datta A**. (2021). Seeding, nitrogen and irrigation management optimize rice water and nitrogen use efficiency. *Nutrient Cycling in Agroecosystems* 120:325–341
- 11) Das D, Basar NU, Ullah H, Attia A, Salin KR, **Datta A**. (2021). Growth, yield and water productivity of rice as influenced by seed priming under alternate wetting and drying irrigation. *Archives of Agronomy and Soil Science* doi: 10.1080/03650340.2021.1912320
- 12) Das D, Basar NU, Ullah H, Salin KR, **Datta A**. (2021). Interactive effect of silicon and mycorrhizal inoculation on growth, yield and water productivity of rice under water-deficit stress. *Journal of Plant Nutrition* doi: 10.1080/01904167.2021.1927087
- 13) Sirisuntornlak N, Ullah H, Sonjaroon W, Arirob W, Anusontpornperm S, **Datta A**. (2021). Effect of seed priming with silicon on growth, yield and nutrient uptake of maize under water-deficit stress. *Journal of Plant Nutrition* 44:1869–1885
- 14) Ferdous Z, Zulfiqar F, Ullah H, Anwar M, Rahman Khan ASMM, **Datta A**. (2021). Improved management practices vis-à-vis farmers' practices for rice-based cropping systems in Bangladesh: Yield gaps and gross margins. *Journal of Crop Improvement* 35:547–567
- 15) Attia A, El-Hendawy S, Al-Suhaibani N, Tahir MU, Mubushar M, Vianna MDS, Mansour E, **Datta A**. (2021). Sensitivity of the DSSAT model in simulating maize yield and soil carbon dynamics in arid Mediterranean climate: Effect of soil, genotype and crop management. *Field Crops Research* 260:107981
- 16) Ferdous Z, Zulfiqar F, **Datta A**, Hasan AK, Sarker A. (2021). Potential and challenges of organic agriculture in Bangladesh: A review. *Journal of Crop Improvement* 35:403–426
- 17) Boonwichai S, Shrestha S, Pradhan P, Babel MS, **Datta A**. (2021). Adaptation strategies for rainfed rice water management under climate change in Songkhram River Basin, Thailand. *Journal of Water and Climate Change* 12:2181–2198
- 18) Alam A, Hariyanto B, Ullah H, Salin KR, **Datta A**. (2021). Effects of silicon on growth, yield and fruit quality of cantaloupe under drought stress. *Silicon* 13:3153–3162
- 19) Myint YY, Sasaki N, **Datta A**, Tsusaka TW. (2021). Management of plantation forests for bioenergy generation, timber production, carbon emission reductions, and removals. *Cleaner Environmental Systems* 2:100029

- 20) Ho TDN, Kuwornu JKM, Tsusaka TW, Nguyen LT, **Datta A.** (2021). Factors influencing the choice of marketing channel by rice producers: Evidence from the Mekong Delta Region, Vietnam. *International Journal of Value Chain Management* (In Press)
- 21) Pipatsitee P, Theerawitaya C, Tisarum R, Samphumphuang T, Singh HP, **Datta A**, Cha-um S. (2021). Physio-morphological traits and osmoregulation strategies of hybrid maize (*Zea mays* L.) at the seedling stage in response to water-deficit stress. *Protoplasma* (In Press)
- 2020
- 22) Ferdous Z, Ullah H, **Datta A**, Attia A, Rakshit A, Molla SH. (2020). Application of biogas slurry in combination with chemical fertilizer enhances grain yield and profitability of maize (*Zea Mays* L.). *Communications in Soil Science and Plant Analysis* 51:2501–2510
- 23) Alam A, Ullah H, Attia A, **Datta A.** (2020). Effects of salinity stress on growth, mineral nutrient accumulation and biochemical parameters of seedlings of three citrus rootstocks. *International Journal of Fruit Science* 20:786–804
- 24) Oechaiyaphum K, Ullah H, Shrestha RP, **Datta A.** (2020). Impact of long-term agricultural management practices on soil organic carbon and soil fertility of paddy fields in Northeastern Thailand. *Geoderma Regional* 22:e00307
- 25) Rodthong W, Kuwornu JKM, **Datta A**, Anal AK, Tsusaka TW. (2020). Factors influencing the intensity of adoption of the Roundtable on Sustainable Palm Oil practices by smallholder farmers in Thailand. *Environmental Management* 66:377–394
- 26) Okwala T, Shrestha S, Ghimire S, Mohanasundaram S, **Datta A.** (2020). Assessment of climate change impacts on water balance and hydrological extremes in Bang Pakong-Prachin Buri river basin, Thailand. *Environmental Research* 186:109544
- 27) Jitmun T, Kuwornu JKM, **Datta A**, Anal AK. (2020). Factors influencing membership of dairy cooperatives: Evidence from dairy farmers in Thailand. *Journal of Co-operative Organization and Management* 8:100109
- 28) Ullah H, Giri S, Attia A, **Datta A.** (2020). Effects of establishment method and water management on yield and water productivity of tropical lowland rice. *Experimental Agriculture* 56:331–346
- 29) Santiago-Arenas R, Fanshuri BA, Hadi SN, Ullah H, **Datta A.** (2020). Nitrogen fertiliser and establishment method affect growth, yield and nitrogen use efficiency of rice under alternate wetting and drying irrigation. *Annals of Applied Biology* 176:314–327
- 30) Kry S, Sasaki N, Abe I, **Datta A**, Tsusaka TW. (2020). Assessment of the changing levels of livelihood assets in the Kampong Phluk Community with implications for community-based ecotourism. *Tourism Management Perspectives* 34:100664
- 31) Imran M, Shrestha RP, **Datta A.** (2020). Comparing farmers' perceptions of climate change with meteorological data in three irrigated cropping zones of Punjab, Pakistan. *Environment, Development and Sustainability* 22:2121–2140
- 32) Babur M, Shrestha S, Bhatta V, **Datta A**, Ullah H. (2020). Integrated assessment of extreme climate and landuse change impact on sediment yield in a mountainous transboundary watershed of India and Pakistan. *Journal of Mountain Science* 17:624–640
- 33) Pandit SS, Kuwornu JKM, **Datta A**, Yaseen M, Anal AK. (2020). Analysis of marketing information sources among smallholder vegetable farmers. *International Journal of Vegetable Science* 26:96–105
- 34) Kacan K, Tursun N, Ullah H, **Datta A.** (2020). Barnyardgrass (*Echinochloa crus-galli* (L.) P. Beauv.) resistance to acetolactate synthase-inhibiting and other herbicides in rice in Turkey. *Plant, Soil and Environment* 66:357–365
- 2019
- 35) Santiago-Arenas R, Hadi SN, Fanshuri BA, Ullah H, **Datta A.** (2019). Effect of nitrogen fertiliser and cultivation method on root systems of rice subjected to alternate wetting and drying irrigation. *Annals of Applied Biology* 175:388–399

- 36) Maneepitak S, Ullah H, **Datta A**, Shrestha RP, Shrestha S. (2019). Effect of water and rice straw management practices on soil organic carbon stocks in a double-cropped paddy field. *Communications in Soil Science and Plant Analysis* 50:2330–2342
- 37) Maneepitak S, Ullah H, **Datta A**, Shrestha RP, Shrestha S, Kachenchart B. (2019). Effects of water and rice straw management practices on water savings and greenhouse gas emissions from a double-rice paddy field in the Central Plain of Thailand. *European Journal of Agronomy* 107:18–29
- 38) Maneepitak S, Ullah H, Paothong K, Kachenchart B, **Datta A**, Shrestha RP. (2019). Water and rice straw management practices influence yield and water productivity of irrigated lowland rice in the Central Plain of Thailand. *Agricultural Water Management* 211:89–97
- 39) Boonwichai S, Shrestha S, Babel MS, Weesakul S, **Datta A**. (2019). Evaluation of climate change impacts and adaptation strategies on rainfed rice production in Songkhram River Basin, Thailand. *Science of the Total Environment* 652:189–201
- 40) Ullah H, Santiago-Arenas R, Ferdous Z, Attia A, **Datta A**. (2019). Improving water use efficiency, nitrogen use efficiency, and radiation use efficiency in field crops under drought stress: A review. *Advances in Agronomy* 156:109–157
- 41) Ullah H, Rahimi AZ, **Datta A**. (2019). Growth and yield of lowland rice as influenced by potassium application and cultivation method under alternate wetting and drying water regime. *Journal of Plant Nutrition* 42:1529–1542
- 42) Ullah H, **Datta A**, Samim NA, Ud Din S. (2019). Growth and yield of lowland rice as affected by integrated nutrient management and cultivation method under alternate wetting and drying water regime. *Journal of Plant Nutrition* 42:580–594
- 43) Sirisuntornlak N, Ghafoori S, **Datta A**, Arirab W. (2019). Seed priming and soil incorporation with silicon influence growth and yield of maize under water-deficit stress. *Archives of Agronomy and Soil Science* 65:197–207
- 44) Bundit A, Yamada K, Shigemori H, Laosripaiboon W, **Datta A**, Pornprom T. (2019). Potential of *trans-p-coumaric acid* released from *Rottboellia cochinchinensis* for weed control in vegetable fields. *Allelopathy Journal* 46:184–193
- 45) Jitmun T, Kuwornu JKM, **Datta A**, Anal AK. (2019). Farmers' perceptions of milk-collecting centres in Thailand's dairy industry. *Development in Practice* 29:424–436
- 46) Thongpalad K, Kuwornu JKM, **Datta A**, Chulakasian S, Anal AK. (2019). On-farm food safety knowledge, attitudes and self-reported practices of layer hen farmers. *British Food Journal* 121:1912–1925
- 47) Wahyudi A, Kuwornu JKM, Gunawan E, **Datta A**, Nguyen LT. (2019). Factors influencing the frequency of consumers' purchases of locally-produced rice in Indonesia: A Poisson regression analysis. *Agriculture (Switzerland)* 9(6):117
- 48) Chein SH, Sadiq MB, **Datta A**, Anal AK. (2019). Prevalence and identification of *Aspergillus* and *Penicillium* species isolated from peanut kernels in central Myanmar. *Journal of Food Safety* 39, e12686
- 49) Gunawan E, Kuwornu JKM, **Datta A**, Nguyen LT. (2019). Farmers' perceptions of the warehouse receipt system in Indonesia. *Sustainability (Switzerland)* 11(6):1690
- 50) Gunawan E, Kuwornu JKM, **Datta A**, Nguyen LT. (2019). Factors influencing farmers' use of the warehouse receipt system in Indonesia. *Agricultural Finance Review* 79:537–563
- 51) **Datta A**, Maran HHL, Kuwornu JKM. (2019). Investigation of the farmers' perceptions and participation in opium poppy cultivation in the Northern Shan State, Myanmar. *International Journal of Agricultural Resources, Governance and Ecology* 15:181–194

2018

- 52) Boonwichai S, Shrestha S, Babel MS, Weesakul S, **Datta A.** (2018). Climate change impacts on irrigation water requirement, crop water productivity and rice yield in the Songkhram River Basin, Thailand. *Journal of Cleaner Production* 198:1157–1164
- 53) Ullah H, Mohammadi A, **Datta A.** (2018). Growth, yield and water productivity of selected lowland Thai rice varieties under different cultivation methods and alternate wetting and drying irrigation. *Annals of Applied Biology* 173:302–312
- 54) Ullah H, **Datta A.** (2018). Root system response of selected lowland Thai rice varieties as affected by cultivation method and potassium rate under alternate wetting and drying irrigation. *Archives of Agronomy and Soil Science* 64:2045–2059
- 55) Ferdous Z, Ullah H, **Datta A,** Anwar M, Ali A. (2018). Yield and profitability of tomato as influenced by integrated application of synthetic fertilizer and biogas slurry. *International Journal of Vegetable Science* 24:445–455
- 56) Kuwornu JKM, Oduro E, Amegashie DPK, Fening KO, Yangyouru M, MacCarthy DS, Amoatey C, **Datta A.** (2018). Cost-benefit analysis of conventional and integrated crop management for vegetable production. *International Journal of Vegetable Science* 24:597–611
- 57) Ferdous Z, **Datta A,** Anwar M. (2018). Synthetic pheromone lure and apical clipping affects productivity and profitability of eggplant and cucumber. *International Journal of Vegetable Science* 24:180–192
- 58) Mallick S, **Datta A,** Kuwornu JKM. (2018). Vegetable seed marketing—An overview of challenges and opportunities. *International Journal of Vegetable Science* 24:10–28
- 59) Imbulana N, Gunawardana S, Shrestha S, **Datta A.** (2018). Projections of extreme precipitation events under climate change scenarios in Mahaweli River Basin of Sri Lanka. *Current Science* 114:1495–1509
- 60) Ullah H, **Datta A.** (2018). Effect of water-saving technologies on growth, yield, and water-saving potential of lowland rice. *International Journal of Technology* 9:1375–1383
- 61) Ullah H, Luc PD, Gautam A, **Datta A.** (2018). Growth, yield and silicon uptake of rice (*Oryza sativa*) as influenced by dose and timing of silicon application under water-deficit stress. *Archives of Agronomy and Soil Science* 64:318–330
- 62) Zahara M, **Datta A,** Boonkorkaew P, Mishra A. (2018). Effect of plant growth regulators on the growth and direct shoot formation from leaf explants of the hybrid *Phalaenopsis* 'Pink'. *Acta Agriculturae Slovenica* 111:5–16
- 63) Suwansin R, Kuwornu JKM, **Datta A,** Jourdain D, Shivakoti GP. (2018). Salvaging mortgage loans and land title redemption with revolving funds in Thailand. *Agricultural Finance Review* 78:2–24
- 64) Sathapatyanon J, Kuwornu JKM, Shivakoti GP, Soni P, Anal AK, **Datta A.** (2018). The role of farmer organizations and networks in the rice supply chain in Thailand. *Journal of Agribusiness in Developing and Emerging Economies* 8:554–578

2017

- 65) Zulfikar F, **Datta A,** Thapa G. (2017). Determinants and resource use efficiency of “better cotton”: An innovative cleaner production alternative. *Journal of Cleaner Production* 166:1372–1380
- 66) Alam MS, Sasaki N, **Datta A.** (2017). Waterlogging, crop damage and adaptation interventions in the coastal region of Bangladesh: A perception analysis of local people. *Environmental Development* 23:22–32
- 67) Cuong TX, Ullah H, **Datta A,** Hanh TC. (2017). Effects of silicon-based fertilizer on growth, yield and nutrient uptake of rice in tropical zone of Vietnam. *Rice Science* 24:283–290
- 68) Ullah H, **Datta A,** Shrestha S, Ud Din S. (2017). The effects of cultivation methods and water regimes on root systems of drought-tolerant (RD6) and drought-sensitive (RD10) rice varieties of Thailand. *Archives of Agronomy and Soil Science* 63:1198–1209

- 69) Ferdous Z, **Datta A**, Anwar M. (2017). Plastic mulch and indigenous microorganism effects on yield and yield components of cauliflower and tomato in inland and coastal regions of Bangladesh. *Journal of Crop Improvement* 31:261–279
- 70) **Datta A**, Ullah H, Tursun N, Pornprom T, Knezevic SZ, Chauhan BS. (2017). Managing weeds using crop competition in soybean [*Glycine max* (L.) Merr.]. *Crop Protection* 95:60–68
- 71) Suan JDK, **Datta A**, Salam PA. (2017). Effect of oil palm fly ash on soil properties and yield of sweet corn in the tropical zone of Thailand. *Communications in Soil Science and Plant Analysis* 48:236–244
- 72) Trang NTT, Shrestha S, Shrestha M, **Datta A**, Kawasaki A. (2017). Evaluating the impacts of climate and land-use change on the hydrology and nutrient yield in a transboundary River Basin: A case study in the 3S River Basin (Sekong, Sesan, and Srepok). *Science of the Total Environment* 576:586–598
- 73) Shrestha M, Shrestha S, **Datta A**. (2017). Assessment of the climate change impact on water diversion from Bago River to Moeyingyi Wetland, Myanmar. *Current Science* 112:377–384
- 74) Zahara M, **Datta A**, Boonkorkeaw P, Mishra A. (2017). The effects of different media, sucrose concentrations and natural additives on plantlet growth of *Phalaenopsis* hybrid 'pink'. *Brazilian Archives of Biology and Technology* 60:1–15
- 75) Mallick S, Shivakoti GP, **Datta A**, Kuwornu JKM, Van Asbrouck J. (2017). Value chain analysis of bitter melon (*Momordica charantia* L.) seed in Bangladesh. *International Journal of Value Chain Management* 8:151–170
- 76) Neilson B, Bruening C, Stepanovic S, **Datta A**, Knezevic SZ, Gogos G. (2017). Design and field testing of a combined flaming and cultivation implement for effective weed control. *Applied Engineering in Agriculture* 33:43–54

2016

- 77) Bundit A, **Datta A**, Pornprom T. (2016). Effects of timing and soil moisture on the allelopathic activity of itchgrass (*Rottboellia cochinchinensis*) in soil. *Biological Agriculture & Horticulture* 32:269–276
- 78) Ferdous Z, **Datta A**, Anal AK, Anwar M, Khan MR. (2016). Development of home garden model for year round production and consumption for improving resource-poor household food security in Bangladesh. *Wageningen Journal of Life Sciences* 78:103–110
- 79) Tukaew S, **Datta A**, Shivakoti GP, Jourdain D. (2016). Production practices influenced yield and commercial cane sugar level of contract sugarcane farmers in Thailand. *Sugar Tech* 18:299–308
- 80) Tursun N, **Datta A**, Sakinmaz MS, Kantarci Z, Knezevic SZ, Chauhan BS. (2016). The critical period for weed control in three corn (*Zea mays* L.) types. *Crop Protection* 90:59–65
- 81) Tursun N, **Datta A**, Budak S, Kantarci Z, Knezevic SZ. (2016). Row spacing impacts the critical period for weed control in cotton. *Phytoparasitica* 44:139–149
- 82) Zahara M, **Datta A**, Boonkorkeaw P. (2016). Effects of sucrose, carrot juice and culture media on growth and net CO₂ exchange rate in *Phalaenopsis* hybrid 'Pink'. *Scientia Horticulturae* 205:17–24
- 83) Wali E, **Datta A**, Shrestha RP, Shrestha S. (2016). Development of a land suitability model for saffron (*Crocus sativus* L.) cultivation in Khost Province of Afghanistan using GIS and AHP technique. *Archives of Agronomy and Soil Science* 62:921–934
- 84) Stepanovic S, **Datta A**, Neilson B, Bruening C, Shapiro A, Gogos G, Knezevic SZ. (2016). The effectiveness of flame weeding and cultivation on weed control, yield, and yield components of organic soybean as influenced by manure application. *Renewable Agriculture and Food Systems* 31:288–299
- 85) Cahyo AN, Babel MS, **Datta A**, Prasad KC, Clemente R. (2016). Evaluation of land and water management options to enhance productivity of rubber plantation using WaNuLCAS model. *Agrivita, Journal of Agricultural Science* 38:93–103
- 86) Stepanovic S, **Datta A**, Neilson B, Bruening C, Shapiro A, Gogos G, Knezevic SZ. (2016). Effectiveness of flame weeding and cultivation for weed control in organic maize. *Biological Agriculture & Horticulture* 32:47–62

2015

- 87) Khaing KK, Shrestha RP, **Datta A.** (2015). Assessment of land degradation and its impact on crop production in the Dry Zone of Myanmar. *International Journal of Sustainable Development and World Ecology* 22:533–544
- 88) Shrestha S, **Datta A.** (2015). Field measurements for evaluating the RZWQM and PESTFADE models for the tropical zone of Thailand. *Journal of Environmental Management* 147:286–296
- 89) Tursun N, **Datta A**, Tuncel E, Kantarci, Z, Knezevic SZ. (2015). Nitrogen application influenced the critical period for weed control in cotton. *Crop Protection* 74:85–91
- 90) Knezevic SZ, **Datta A.** (2015). The critical period for weed control: Revisiting data analysis. *Weed Science* 63:188–202

2014

- 91) Timprasert S, **Datta A**, Ranamukhaarachchi SL. (2014). Factors determining adoption of integrated pest management by vegetable growers in Nakhon Ratchasima Province, Thailand. *Crop Protection* 62:32–39
- 92) Knezevic SZ, Stepanovic S, **Datta A.** (2014). Growth stage impacts response of selected weed species to flaming. *Weed Technology* 28:233–242

2013

- 93) **Datta A**, Knezevic SZ. (2013). Flaming as an alternative weed control method for conventional and organic agronomic crop production systems: A review. *Advances in Agronomy* 118:399–428
- 94) **Datta A**, Stepanovic S, Nedeljkovic D, Bruening C, Gogos G, Knezevic SZ. (2013). Impact of single and repeated flaming on yield components and yield of maize. *Organic Agriculture* 3:141–147
- 95) Knezevic SZ, Elezovic I, **Datta A**, Vrbnicanin S, Glamoclija D, Simic M, Malidza G. (2013). Delay in the critical time for weed removal in imidazolinone-resistant sunflower (*Helianthus annuus*) caused by application of a pre-emergence herbicide. *International Journal of Pest Management* 59:299–235
- 96) Knezevic SZ, Rapp RE, **Datta A**, Irmak S. (2013). Common reed (*Phragmites australis*) control is influenced by the timing of herbicide application. *International Journal of Pest Management* 59:224–228
- 97) Knezevic SZ, Stepanovic S, **Datta A**, Nedeljkovic D, Tursun N. (2013). Soybean yield and yield components as influenced by the single and repeated flaming. *Crop Protection* 50:1–5
- 98) **Datta A**, Rapp RE, Scott JE, Charvat LD, Zawierucha J, Knezevic SZ. (2013). Spring-applied saflufenacil and imazapic provided longer lasting *Euphorbia esula* L. control than fall applications. *Crop Protection* 47:30–34

2012

- 99) Leskovsek R, **Datta A**, Simoncic A, Knezevic SZ. (2012). Influence of nitrogen and plant density on the growth and seed production of common ragweed (*Ambrosia artemisiifolia* L.). *Journal of Pest Science* 85:527–539
- 100) Rapp RE, **Datta A**, Irmak S, Arkebauer TJ, Knezevic SZ. (2012). Integrated management of common reed (*Phragmites australis*) along the Platte River in Nebraska. *Weed Technology* 26:326–333
- 101) Leskovsek R, **Datta A**, Knezevic SZ, Simoncic A. (2012). Common ragweed (*Ambrosia artemisiifolia*) dry matter allocation and partitioning under different nitrogen and density levels. *Weed Biology and Management* 12:98–108
- 102) Elezovic I, **Datta A**, Vrbnicanin S, Glamoclija D, Simic M, Malidza G, Knezevic SZ. (2012). Yield and yield components of imidazolinone-resistant sunflower (*Helianthus annuus* L.) are influenced by pre-emergence herbicide and time of post-emergence weed removal. *Field Crops Research* 128:137–146

- 103) Ulloa SM, **Datta A**, Bruening C, Gogos G, Arkebauer, TJ, Knezevic SZ. (2012). Weed control and crop tolerance to propane flaming as influenced by the time of day. *Crop Protection* 31:1–7 [ScienceDirect Top 25 Hottest Articles for October to December 2011]
- 104) Cavlieri S, Silva FML, Velini ED, Sao Jose, AR, Ulloa SM, **Datta A**, Cavalieri JD, Knezevic SZ. (2012). Selectivity of nicosulfuron at three popcorn growth stages. *Planta Daninha* 30:377–386
- 2011
- 105) **Datta A**, Sindel BM, Kristiansen P, Birchall C, Jessop RS, Felton WL. (2011). Influence of nitrogen fertilization and isoxaflutole on the nodulation of chickpea (*Cicer arietinum*). *Weed Biology and Management* 11:91–99
- 106) Ulloa SM, **Datta A**, Bruening C, Neilson B, Miller J, Gogos G, Knezevic SZ. (2011). Maize response to broadcast flaming at different growth stages: Effects on growth, yield and yield components. *European Journal of Agronomy* 34:10–19
- 107) Ulloa SM, **Datta A**, Knezevic SZ. (2011). Growth stage influenced sorghum response to broadcast flaming: Effects on yield and its components. *Agronomy Journal* 103:7–12
- 2010
- 108) Ulloa SM, **Datta A**, Cavalieri SD, Lesnik M, Knezevic SZ. (2010). Popcorn (*Zea mays* L. var. *everta*) yield and yield components as influenced by the timing of broadcast flaming. *Crop Protection* 29:1496–1501
- 109) Ulloa SM, **Datta A**, Malidza G, Leskovsek R, Knezevic SZ. (2010). Yield and yield components of soybean [*Glycine max* (L.) Merr.] are influenced by the timing of broadcast flaming. *Field Crops Research* 119:348–354
- 110) Ulloa SM, **Datta A**, Knezevic SZ. (2010). Growth stage impacts tolerance of winter wheat (*Triticum aestivum* L.) to broadcast flaming. *Crop Protection* 29:1130–1135
- 111) Ulloa SM, **Datta A**, Knezevic SZ. (2010). Tolerance of selected weed species to broadcast flaming at different growth stages. *Crop Protection* 29:1381–1388
- 112) Ulloa SM, **Datta A**, Knezevic SZ. (2010). Growth stage influenced differential response of foxtail and pigweed species to broadcast flaming. *Weed Technology* 24:319–325. *Weed Technology* 28:233–242 [Featured Article for 2010]
- 113) Knezevic SZ, **Datta A**, Scott J, Charvat LD. (2010). Application timing and adjuvant type affected saflufenacil efficacy on selected broadleaf weeds. *Crop Protection* 29:94–99
- 114) Ulloa SM, **Datta A**, Malidza G, Leskovsek R, Knezevic SZ. (2010). Timing and propane dose of broadcast flaming to control weed population influenced yield of sweet maize (*Zea mays* L. var. *rugosa*). *Field Crops Research* 118:282–288. *Field Crops Research* 119:348–354
- 115) Knezevic SZ, **Datta A**, Scott J, Charvat LD. (2010). Tolerance of winter wheat (*Triticum aestivum* L.) to pre-emergence and post-emergence application of saflufenacil. *Crop Protection* 29:148–152
- 2009
- 116) **Datta A**, Sindel BM, Kristiansen P, Jessop RS, Felton WL. (2009). The effects of temperature and soil moisture on chickpea (*Cicer arietinum*) genotype sensitivity to isoxaflutole. *Journal of Agronomy and Crop Science* 195:178–185
- 117) Knezevic SZ, **Datta A**, Scott J, Klein RN, Golus J. (2009). Problem weed control in glyphosate-resistant soybean (*Glycine max*) with glyphosate tank-mixes and soil-applied herbicides. *Weed Technology* 23:507–512
- 118) Knezevic SZ, **Datta A**, Scott J, Charvat LD. (2009). Adjuvants influenced saflufenacil efficacy on fall emerging weeds. *Weed Technology* 23:340–345 [Top Cited Article for 2009]
- 119) **Datta A**, Sindel BM, Kristiansen P, Jessop RS, Felton WL. (2009). Effect of isoxaflutole on the growth, nodulation and nitrogen fixation of chickpea (*Cicer arietinum*). *Crop Protection* 28:923–927
- 120) Knezevic SZ, **Datta A**, Scott J, Porpiglia PJ. (2009). Dose–response curves of KIH-485 for preemergence weed control in corn. *Weed Technology* 23:34–39

- 121) Knezevic SZ, **Datta A**, Scott J, Charvat LD. (2009). Interaction between saflufenacil and glyphosate on selected broadleaf weeds. *Crop Management* [Online] doi: 10.1094/CM-2009-1014-01-RS
- 2008
- 122) **Datta A**, Sindel BM, Kristiansen P, Jessop RS, Felton WL. (2008). The effect of soil pH on chickpea (*Cicer arietinum*) genotype sensitivity to isoxaflutole. *Plant and Soil* 303:49–54
- 123) Domingues AC, Ulloa SM, **Datta A**, Knezevic SZ. (2008). Weed response to broadcast flaming. *Review of Undergraduate Research in Agricultural and Life Sciences* [Online] <http://digitalcommons.unl.edu/rurals/vol3/iss1/2>
- 124) Teixeira HZ, Ulloa SM, **Datta A**, Knezevic SZ. (2008). Corn (*Zea mays*) and soybean (*Glycine max*) tolerance to broadcast flaming. *Review of Undergraduate Research in Agricultural and Life Sciences* [Online] <http://digitalcommons.unl.edu/rurals/vol3/iss1/1>. Publisher: *University of Nebraska-Lincoln*
- 2007
- 125) **Datta A**, Sindel BM, Jessop RS, Kristiansen P, Felton WL. (2007). Phytotoxic response and yield of chickpea (*Cicer arietinum*) genotypes to pre-emergence application of isoxaflutole. *Australian Journal of Experimental Agriculture* 47:1460–1467
- 2006
- 126) **Datta A**, Sindel BM, Jessop RS, Birchall C, Felton WL. (2006). Differential response of chickpea (*Cicer arietinum*) genotypes with isoxaflutole. *Communications in Agricultural and Applied Biological Sciences* 71:733–742

Project Engagements:

Year	Project Title	Awarding Body	Role
2021–25	Enhancing agro-meteorological early warning services in the RIMES member countries	Regional Integrated Multi-Hazard Early Warning System (RIMES)	PI
2021–23	Climate change adaptation in agriculture for enhanced recovery and sustainability of highlands	Asian Development Bank	Co-PI
2020–21	Technology clinic for agro-food small and medium-sized enterprises (SMEs) in Thailand	United Nations Environment Program (UNEP)	PI
2020–21	Development of specialized expert system for agro-meteorological early warning for climate resilient agriculture (SESAME) for Pakistan	Regional Integrated Multi-Hazard Early Warning System (RIMES)	PI
2019–21	Support to aquaculture capacity development and international networking for Yangon University, Myanmar	The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Germany	Co-PI
2018–19	Eco-friendly water management for sustainable wetland agriculture in Greater Mekong	Food and Agriculture Organization of the United Nations (FAO)	PI
2018–20	Agricultural project planning and implementation	Bangladesh Agricultural Research Institute	PI
2019–20	Drone technology for land suitability analysis based on geospatial data to determine agricultural production input	Ministry of Agriculture, Republic of Indonesia	PI
2018–19	Innovative water conservation technologies for enhancing agriculture/horticulture productivity	Regional Integrated Multi-Hazard Early Warning System (RIMES)	PI

Year	Project Title	Awarding Body	Role
2015–17	Renewable energy technologies for integrated community farming systems	VISIONS of Sustainability, Germany	Co-PI
2015–16	Estimation of food loss and food waste and awareness raising at the AIT Campus	Food and Agriculture Organization of the United Nations (FAO)	Co-PI
2013–16	Integrated management of crop-fish-water resources to enhance productivity towards sustainable food security in Bangladesh	NUFFIC via Wageningen University, the Netherlands	Co-PI
2014–15	Promoting participatory homestead sustainable vegetable production to AIT community	French Agency for Environment and Energy Management, France	PI
2013–16	Enhancing productivity and market linkages – improving the livelihoods and food security of smallholders in Asia	United States Agency for International Development (USAID)	Co-PI
2014–15	Assessment of empty fruit bunches (EFB) fly ash as fertilizer	Valmet Private Ltd., Thailand	Co-PI
2014–15	Capacity building for the Moeyingyi wetland conservation in Myanmar in the context of climate change	Ramsar Convention Secretariat, Switzerland	Co-PI