

ANOWAR ISLAM

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Education and Training:

University of Sydney, Australia	Agronomy	Ph.D. 2003
Institute of Postgraduate Studies in Agriculture, Bangladesh	Agronomy	M.Sc. 1996
Bangladesh Agricultural University	Agriculture	B.Sc. 1990
Postdoctoral Training; Noble Foundation, OK, USA	Agronomy	2005-2008
Postdoctoral Training; University of Sydney, Australia	Agronomy	2004-2005
Postdoctoral Training; Miyazaki University, Japan	Agronomy	2002-2004

Professional, Academic, and Administrative Experience:

2023-present	Department Head and Professor, Department of Plant and Environmental Sciences and Department of Extension Plant Sciences, New Mexico State University, Las Cruces, NM.
2023-present	Adjunct Professor, Department of Plant Sciences, University of Wyoming, Laramie, WY.
2019-2023	Assistant Department Head and Budget & Space Coordinator, Department of Plant Sciences, University of Wyoming, Laramie, WY.
2019-2023	Professor and Forage Agroecologist, Department of Plant Sciences, University of Wyoming, Laramie, WY.
2014-2019	Associate Professor and Forage Agroecologist, Department of Plant Sciences, University of Wyoming, Laramie, WY.
2008-2014	Assistant Professor and Forage Agroecologist, Department of Plant Sciences, University of Wyoming, Laramie, WY.
2005-2008	Postdoctoral Researcher, Forage Agronomist, Noble Foundation, OK.
2004-2005	Postdoctoral Fellow, Agronomy Dept., University of Sydney, Australia.
2002-2004	Postdoctoral Fellow, Grassland Ecology & Systems, Univ. Miyazaki, Japan.
1998-2002	Research Fellow, Department of Primary Industries, NSW, Australia.
1996-1998	Teaching Assistant, Crop Sciences Dept., University of Sydney, Australia.
1990-1996	Research Scientist, Bangladesh Agricultural Research Institute, Dhaka.
1990	Junior Executive Officer, Bangladesh Agricultural Development Corporation.

Teaching Experience:

- Forage Crop Science (PLNT 3200; PLNT 4700/5700)
- Internship in Agroecology (AECL 4930)
- Research in Crops (PLNT 5600)
- Research Apprenticeship (AECL 4920)
- Thesis Research (PLNT 5960)
- Dissertation Research (PLNT 5980)

Synergistic Activities:

- USDA-NIFA Alfalfa Seed and Alfalfa Forage Systems Program Panel Reviewer, July 28-31, 2026.
- Aggie Leadership Training Academy Certificate, New Mexico State University, 2025
- Committee chair of 19 and member of 15 graduate student committees since 2008.
- President and President Elect, Western Society of Crop Science, 2019-2023.
- Associate Editor, *Agronomy Journal*, 2018-2021.
- Guest Editor, *Sustainability*, Special Issue (an International Journal), Agroecology: Principles and

- Application for Efficient and Sustainable Agricultural Production, 2017-2019.
- Received *Outstanding Research Achievement Award* of Wyoming Agricultural Experiment Station, 2021
- Received *Outstanding Educator Award* in the College of Agriculture and Natural Resources, University of Wyoming, 2017.
- Visiting Professor, Lethbridge Research Center, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada, 2016.
- Visiting Professor and Fellowship Award, Hokkaido University, Japan, 2015.
- Search Committee Chair (2015-16), Assistant Professor (Agronomist/Irrigation Specialist).
- NIFA Foundational Knowledge of Agricultural Production Systems Panel Reviewer, Washington DC, September 12-14, 2017; August 26-28, 2020 (Adhoc Panel Reviewer).
- NIFA Climate Change Panel Reviewer, Washington DC, July 22-25, 2013.

Grants Received (Reported only selected grants):

Successful: Over \$14 million as PI and Co-PI (*reported only selected projects*).

- USDA Specialty Crop Block Grant Program–Farm Bill. 2023-2025. **Islam, M.A.** Evaluation of Peas in Rotation with Annual Crop for Monitoring Productivity and Soil Health. \$100,000.
- USDA-NIFA AFRI Sustainable Agricultural Systems (SAS). 2021-2026. Picasso, V., Berti, M., **Islam, M.A.**, et al. Fostering Resilience and Ecosystem Services in Landscapes by Integrating Diverse Perennial Circular Systems. \$10,000,000.
- US Department of Energy and Navarro Research and Engineering. 2021-2024. **Islam, M.A.**, Kastens, M., McGraw, J., Holbrook, D., and Heward, T. Regenerate Grazing for Carbon Sequestration in Shirley Basin, Wyoming. \$150,000.
- Hatch Multistate, Wyoming Agricultural Experiment Station Competitive Grants Program. 2021. **Islam, M.A.** Upgrading Near Infrared Reflectance Spectroscopy (NIRS) for Forage Quality Analysis. \$9,295.
- USDA Specialty Crop Block Grant Program – Farm Bill (SCBGP-FB), Wyoming Department of Agriculture. 2021-2024. **Islam, M.A.** Forage pea production in rotation with papa criolla potato. \$46,985.
- USDA-NIFA ASAFS Program. 2019-2021. Afshar, R.K., **Islam, M.A.**, et al. Increasing yield, quality, and economy of alfalfa hay through grass species selection and planting configuration. \$457,339.
- Specialty Crop Block Grant Program–Farm Bill (SCBGP-FB), USDA WY Department of Agriculture. 2019-2021. **Islam, M.A.** Evaluation of Yacon in Rotation with Fenugreek in Wyoming Environments. \$46,499.
- USDA NIFA Crop Protection and Pest Management. 2018-2022. Jabbour, R., **Islam, M.A.**, Rand, T.A., Peairs, F., Ritten, J., and Lee, B. Integration of early harvest with biological control for sustainable alfalfa production. \$324,998.
- Energy GA Fellowships, UW. 2018-2020. **Islam, M.A.** Reclamation of disturbed areas used by gas industries in Wyoming by using some promising grass and legume genotypes. \$55,008.
- Specialty Crop Block Grant Program – Farm Bill (SCBGP-FB), USDA Wyoming Department of Agriculture. 2017-2019. **Islam, M.A.** Evaluation of chickpeas in Wyoming Environments. \$24,500.
- USDA-NIFA Alfalfa and Forage Research Program. 2016-2019. **Islam, M.A.**, Burmmer, J., and Min, D. The silent decline in soil potassium levels and its effect on alfalfa productivity in the central and western US. \$250,000.

Publications (Reported only selected publications):

Peer-Reviewed Journal Articles

- Islam, M. A.**, and Baidoo, M. M. 2026. Agronomic and economic responses of reduced-lignin and conventional alfalfa to potassium. *Crop, Forage, & Turfgrass Management*, in press.
- Munkaila, M., and **Islam, M. A.** 2025. Productivity and economic implications of alfalfa–

- grass mixtures under variable irrigation. *Agronomy Journal*, 117, e70070. <https://doi.org/10.1002/agj2.70070>
- Islam, M. A.**, and Baidoo, M. M. 2025. Decade-long persistence, production, and profitability of tall fescue–alfalfa mixtures and nitrogen-fertilized tall fescue. *Agronomy Journal*, 117, e70124. <https://doi.org/10.1002/agj2.70124>
- Baidoo, M. M., **Islam, M. A.**, Atiemo, M. B., Munkaila, M., and Shilpakar, C. (2025). Phosphorus and potassium management in alfalfa production under varied calcium and magnesium soil conditions with harvesting regimes. *Crop Science*, 65, e70065. <https://doi.org/10.1002/csc2.70065>
- Baidoo, M. M., and **Islam, M. A.** 2025. Phosphorus–potassium interactions with calcium, magnesium, and harvest timing in alfalfa production systems. *Agronomy Journal*, 117, e21743. <https://doi.org/10.1002/agj2.21743>
- Baidoo, M. M., and **Islam, M. A.** 2025. Optimizing potassium applications and harvest strategies to boost productivity of depleting alfalfa stands. *Agronomy Journal*, 117, e21724. <https://doi.org/10.1002/agj2.21724>
- Herreid, J.S., Lee, B., **Islam, M. A.**, Ritten, J. and Jabbour, R. 2025. Alfalfa harvest timing impacts on alfalfa weevil with agronomic and economic contexts. *Crop Protection*, 191, 107134. <https://www.sciencedirect.com/science/article/pii/S0261219425000262?via%3Dihub>
- Shilpakar, C., Yang, D., Holbrook, D. L., Norton, U., and **Islam, M. A.** 2025. Impact of Grazing Duration and Environment on Soil Carbon in Reclaimed Uranium Mines Tailings: A Region Specific Study. *Land Degradation & Development*, 36, 4474–4485. <https://doi.org/10.1002/ldr.5647>
- Baidoo, M. M. and **Islam, M. A.** 2024. Potassium and harvest time interaction effect on alfalfa production and profitability. *Agronomy Journal*, 116, 1670–1687. <https://doi.org/10.1002/agj2.21575>
- Carr, P.M., Bell, J.M., Boss, D.L., DeLaune, P., Eberly, J.O., Edwards, L., Fryer, H., Graham, C., Holman, J., **Islam, M.A.**, Liebig, M., Miller, P.R., Obour, A., Xue, Q. 2021. Annual forage impacts on dryland wheat farming in the Great Plains. *Agronomy Journal*. doi. 10.1002/agj2.20513.
- Khatiwada, B., Acharya, S.N., Larney, F.J., Lupwayi, N.Z., Smith, E.G., **Islam, M.A.**, Thomas, J.E., and Poudel, H.P. 2020. Pasture rejuvenation using sainfoin and cicer milkvetch in western Canada. *Agronomy Journal*. doi: 10.1002/agj2.20466.
- Khatiwada, B., Acharya, S.N., Larney, F.J., Lupwayi, N.Z., Smith, E.G., **Islam, M.A.**, and Thomas, J.E. 2020. Benefits of mixed grass–legume pastures and pasture rejuvenation using bloat-free legumes in western Canada: a review. *Canadian Journal of Plant Science*. 100:463-476. doi.org/10.1139/cjps-2019-0212.
- Nilahyane, A.* , **Islam, M.A.**, Mesbah, A.O., Herbert, S.K., and Garcia y Garcia, A. 2020. Growth, water productivity, nutritive value, and physiology responses of silage corn to water stress. *Agronomy Journal*. 112:1625-1635. doi: 10.1002/agj2.20015.
- Islam, M.A.** and Adjesiwor, A.T. 2020. Nitrogen fertilization in tall fescue: Productivity, agronomic efficiency and relative profitability. *Grassland Science*. 66:67–73. doi: 10.1111/grs.12261.
- Homer, A., **Islam, M.A.**, Krall, J.M., Nachtman, J.J., and Groose, R.W. 2019. Registration of ‘WyoWinter’ Feed Pea for the US Central Great Plains. *Journal of Plant Registrations*. 13:128-133. doi:10.3198/jpr2018.07.0047crc.
- Aryal, P. and **Islam, M.A.** 2019. Establishment of forage kochia in seeding mixtures with

- perennial grasses. *Grassland Science*. 65:147–154. doi: 10.1111/grs.12228.
- Aryal, P. and **Islam, M.A.** 2018. Effect of forage kochia on seedling growth of cheatgrass (*Bromus tectorum*) and perennial grasses. *Invasive Plant Science and Management*. 11:201–207. doi: 10.1017/inp.2018.27.
- Islam, M.A.** and Ashilenje, D. 2018. Diversified forage cropping systems and their implications on resilience and productivity. *Sustainability*. 10, 3920; doi:10.3390/su10113920.
- Nilahyane, A., **Islam, M.A.**, Mesbah, A.O., and Garcia y Garcia, A. 2018. Effect of irrigation and nitrogen fertilization strategies on silage corn grown in semi-arid conditions. *Agronomy*. 8, 208; doi:10.3390/agronomy8100208.
- Dhakal, D. and **Islam, M.A.** 2018. Grass-legume mixtures for improved soil health in cultivated agroecosystem. *Sustainability*. 10, 2718; doi:10.3390/su10082718.

Refereed Bulletins, Proceedings, and Technical Publications:

- Islam, M.A.** and Baidoo, M. 2022. Alfalfa response to phosphorus and potassium in association with calcium and magnesium and harvest time. 2022 World Alfalfa Congress, November 14-17, 2022, San Diego, California. <https://calhaysymposium.com/>.
- Islam, M.A.** and Ashilenje, D. 2022. Comparison of Grass-legume Mixtures and Nitrogen Effects on Trace Gas Emission and Soil Microbial Biomass. The 8th International Greenhouse Gas & Animal Agriculture Conference, July 31-August 5, 2022, Glasgow, UK. <https://www.22wcass.org>.
- Islam, M.A.** and Ashilenje, D. 2022. Grass-legume Mixtures and Nitrogen Fertilizers Can Affect Trace Gas Emission and Soil Microbial Biomass. The 8th International Greenhouse Gas & Animal Agriculture Conference, June 5-9, 2022, Orlando, Florida. <https://conference.ifas.ufl.edu/ggaa/>.
- Islam, M.A.** and Ashilenje, D. 2021. Grass-Legume Mixtures for Diversified and Profitable Forage Production. Proceedings of the XXIV International Grassland Congress/XI International Rangeland Congress (Virtual), October 25-29, 2021, Nairobi, Kenya. <https://uknowledge.uky.edu/cgi/viewcontent.cgi?article=4238&context=igc>.
- Dhakal, D. and **Islam, M.A.** 2018. Grass-legume mixtures can maximize farm profits in Wyoming. University of Wyoming Extension Bulletin B-1329, Ed. S.L. Miller, pp.1-4, September 2018. UW, Laramie.
- Islam, M.A.**, Baidoo, M., Brummer, J., and Min, D. 2018. Effects of potassium, cultivar, and harvest time on sustainable alfalfa production. Proceedings of the 2nd World Alfalfa Congress, November 11-14, 2018, Cordoba, Argentina.

Refereed Book Chapter:

- Islam, M.A.** and Adjewior, A.T. 2024. Forage Crops and Their Photosynthesis. *In: Handbook of Photosynthesis*, 4th Edition (M. Pessarakli, Ed.), CRC Press, Taylor & Francis Pub Company, Florida.
- Islam, M.A.** and Baidoo, M.M. 2021. Effect of Potassium on Growth and Physiology of Alfalfa. *In: Handbook of Plant and Crop Physiology*, 4th Edition (M. Pessarakli, Ed.). pp. 29-39. CRC Press, Taylor & Francis Publishing Company, Florida.
- Islam, M.A.** and Adjewior, A. T. 2019. Moisture Stress and its Effects on Forage Production Systems. *In: Handbook of Plant and Crop Stress*, 4th Edition (M. Pessarakli, Ed.). CRC Press, Taylor & Francis Publishing Company, Florida.
- Islam, M.A.** and Nilahyane, A. 2019. Water Stress Effects on Growth and Physiology of Corn. *In: Handbook of Plant and Crop Stress*, 4th Edition (M. Pessarakli, Ed.). CRC Press, Taylor & Francis Publishing Company, Florida.
- Islam, M.A.** and Ashilenje, D. 2018. Understanding species traits and biodiversity indices to solve problems associated with legume persistence in cropping systems. *In: Plant Competition in Cropping Systems*, (D. Dunea, Ed.). pp. 23-36. InTechOpen, Rijeka, Croatia. DOI: 10.5772/intechopen.76523.