



Dr. Clarissa Challam

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Dr. Clarissa Challam is a Senior Scientist at the ICAR–Central Potato Research Institute, Regional Station, Shillong. With interdisciplinary expertise in plant biotechnology, potato improvement and sustainable seed systems, she has been serving in the Agricultural Research Service (ARS) since 2014. She obtained her B.Sc. in Agriculture from Nagaland University, M.Sc. in Plant Molecular Biology & Biotechnology from CAU and Ph.D. in Plant Biotechnology from TNAU, Coimbatore. Over the years, she has been fortunate to contribute, along with her team, to the refinement, standardization and development of apical rooted cuttings (ARC), a farmer-friendly and cost-effective technology. Her research also explores the molecular basis of host-pathogen interactions in potato, with a particular focus on SWEET genes influenced by *Phytophthora infestans*, to help in developing late blight-resistant cultivars. She has worked on transcriptome analyses related to ARC technology, iron-deficiency responses and explored molecular signatures linked to abiotic stress tolerance and abiotic stress tolerance, while her earlier work provided insights into cold tolerance in rice germplasm. In addition to molecular research, she has been engaged in areas such as nutrient management, organic farming, late blight management and potato-based cropping systems tailored for the North Eastern Hill Region. She has also been involved in the virus elimination of local landraces and in producing healthy seed stocks to support quality seed production. She has led two externally funded projects as Principal Investigator. Beyond research, she considers it a privilege to work closely with farming communities across the North Eastern states. Through Frontline Demonstrations, on-farm trials and training programs, she has sought to promote improved potato varieties, seed production technologies and sustainable crop management practices. Her work has resulted in over 30 publications in peer-reviewed journals, along with book chapters, training manuals and extension literature, which have together received more than 300 citations.