



Achinthi Premasiri

Agricultural Researcher

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Location: Sri Lanka

Research Profile

A dedicated and passionate agricultural scientist with a strong foundation in plant biotechnology and advanced research methodologies. Primary expertise lies in **plant tissue culture**, a vital technique for mass-producing disease-free, high-quality plant material and advancing crop improvement. Driven by a commitment to sustainable agriculture and food security in Sri Lanka.

Currently pursuing MPhil research focused on optimizing micropropagation protocols and secondary metabolite production in highly valuable endangered medicinal plants.

Research Interests

- Plant Tissue Culture & Micropropagation
- Molecular Biology & Genetic Markers
- Phytochemical Extraction & Analysis
- Sustainable Agriculture & Medicinal Plant Conservation

Education

Master of Philosophy (MPhil) in Agriculture

2025 - Present

Department of Crop Science, Faculty of Agriculture, University of Ruhuna, Sri Lanka

Research Focus: In-vitro propagation and secondary metabolites production of highly valuable endangered medicinal plants

Master of Science (MSc) in Crop Production Technology

2025 - 2026

Department of Crop Science, Faculty of Agriculture, University of Ruhuna, Sri Lanka

Investigated and analyzed secondary metabolite production from plant tissue culture versus conventional plant materials to evaluate sustainable biotechnological methods for medicinal compounds

Bachelor of Science in Agriculture (Honours)

2020 - 2024

Department of Agricultural Biology, Faculty of Agriculture, University of Jaffna, Sri Lanka

*Undergraduate Research Project: "Developed an *in vitro* production protocol for *Murraya koenigii* (curry leaf)" - Grade: A*

Research Experience

Research Assistant

2024 - Present

Department of Crop Science, Faculty of Agriculture, University of Ruhuna, Sri Lanka

- Conducting laboratory and field research in agriculture, biotechnology and plant sciences
- Performing experiments in plant tissue culture, molecular biology, and nursery management
- Collecting, analyzing and interpreting data for reports and publications

Internship

EuroAsia Agro (Pvt) Ltd, Gampola, Sri Lanka

2023

- Comprehensive training in nursery management and sustainable agriculture
- Greenhouse farming techniques and best practices

In-Plant Training

SunAgro LifeScience Limited, Colombo, Sri Lanka

2021

- Preparation of organic fertilizer using Neem and *Pseudomonas fluorescens*
- Greenhouse farming operations and R&D section support

Key Research Projects

- Established efficient *in-vitro* propagation protocols for *Murraya koenigii* (Curry leaf), *Salacia reticulata* (Kothalahimbutu), *Evolvulus alsinoides* (Vishnukranthi), *Flueggea leucopyrus* (Katupila), *Zingiber officinale* (Ginger) and *Curcuma longa* (Turmeric)
- Extracted and analyzed secondary metabolites to evaluate phytochemical content and bioactive compound potential
- Implemented AI-driven *Oryza sativa* (paddy) yield forecasting using satellite data, weather APIs and historical data for Sri Lankan agro zones

Publications

Book Chapters

- **”Medicinal Plant Cultivation and Post-Harvest Management”**
In Press
In *Propagation and Sustainable Utilization of Medicinal Plants*, CRC Press, Taylor & Francis Group, USA
- **”Plant Tissue Culture for Mass Production of Medicinal Plants”**
In Press
In *Propagation and Sustainable Utilization of Medicinal Plants*, CRC Press, Taylor & Francis Group, USA
- **”SSR Marker Assisted Selection and Monitoring of High Metabolite Cell Lines in Plant Tissue Culture”**
In Press
Springer Science+Business Media, LLC, New York, USA
- **”ISSR Marker Based Authentication of *In Vitro*-Derived Medicinal Plant Lines for Enhanced Phytochemical Production”**
In Press
Springer Science+Business Media, LLC, New York, USA

Conference Presentations (2025)

- **”Resource-Efficient *In-Vitro* Shoot Multiplication of *Salacia reticulata* (Kothalahimbutu) for Sustainable Medicinal Plant Production”**
Presented
International Conference, Sri Lanka Council for Agricultural Research Policy (SLCARP) GtoG2025, BMICH, Sri Lanka
- **”AI-driven *Oryza sativa* (paddy) yield forecasting using open satellite data, weather APIs & historical data for Sri Lankan agro zones”**
Presented
5th International Electronic Conference on Agronomy, MDPI - Agronomy, Sciforum Online

- **"Innovative In-vitro Propagation of *Zingiber officinale* (Ginger) Local Variety 'Siddi' for Sustainable Commercial Cultivation and Biodiversity Conservation"**
Presented
7th Young Scientists' Conference on Multidisciplinary Research (YSCMR 2025), NIFS-YSA, Sri Lanka
- **"Efficient *In-Vitro* propagation approach for mass multiplication of *Curcuma longa* L. (Turmeric)"**
Presented
3rd International Online Conference on Agriculture, MDPI - Agronomy, Sciforum Online
- **"Optimized *In-Vitro* seed culture for disease-free propagation of *Murraya koenigii*"**
Presented
International Symposium on Agriculture & Environment (ISAE 2025), University of Ruhuna, Sri Lanka
- **"Development of an *In-Vitro* protocol for efficient shoot proliferation in *Murraya koenigii*"**
Presented
International Conference on Agriculture and Plantation Management (InCAPM2025), Wayamba University, Sri Lanka

Technical Skills & Competencies

Plant Tissue Culture & Micropropagation
Molecular Biology & Phytochemical Analysis
Computational Biology & Data Science
Research Design & Experimental Methodology
Agricultural Systems & Field Research
Analytical Instrumentation & Laboratory Operations
Scientific Communication & Research Management

Languages

Sinhala: Native
English: Fluent
Tamil: Intermediate

Professional Development

- **How to Write a Research Paper: Step-by-Step** - Dr. Faheem Ullah, November 2025
- **International Conference Presenter** - InCAPM2025, Wayamba University, 2025
- **International Symposium Presenter** - ISAE2025, University of Ruhuna, 2025
- **International Symposium Presenter** - YSCMR2025, NIFS, 2025
- **International Conference Presenter** - GreentoGreen2025, SLCARP, 2025