

Dr. Mahesh D. S.

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(Under CSB-CMER&TI)
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Date of Birth: 06/11/1990

**Research Areas & Expertise**

- *Silkworm rearing and seed production technologies.*
- *Improvement of silkworms and their host plants.*
- *Value addition and by-product utilization in sericulture.*
- *Research Extension and technology transfer at the farmers' level*

Education & Qualifications

- *Ph.D. in Sericulture*, University of Agricultural Sciences (UAS), GKVK, Bengaluru (2017) – 92.70%
- *M.Sc. (Agri.) in Sericulture*, UAS, GKVK, Bengaluru (2014) – 93.10%
- *B.Sc. (Agriculture)*, College of Agriculture, V.C. Farm, Mandya (UAS, GKVK) (2012) – 74.60%

Professional Experience

- *Scientist-C & Unit In-charge*, Central Silk Board – Research Extension Centre (CSB-REC), Ahmedabad, Gujarat (under CSB-CMER&TI, Lahdoigarh, Assam), Ministry of Textiles, Government of India.
Period: 16 June 2025 – Present.
- *Scientist-C*, Central Silk Board – Central Muga Eri Research & Training Institute (CSB-CMER&TI), Lahdoigarh, Jorhat, Assam, Central Silk Board, Ministry of Textiles, Government of India.
Period: 1 November 2018 – 15 June 2025.
- *Scientist (Sericulture)*, Krishi Vigyan Kendra (KVK), V.C. Farm, Mandya, Karnataka.
Period: 2017 – 31 October 2018
- *Junior Research Fellow (JRF)* with PhD, Department of Biotechnology (DBT)-Funded Sericulture Research Project, Department of Sericulture, University of Agricultural Sciences (UAS), Bengaluru, Karnataka.
Period: 2014-2017.

Special Achievements

- Pioneered the development of castor-based eri sericulture in Gujarat (the non-traditional state) by developing and standardizing location-specific production technologies, leading to the state's first commercial eri raw silk production during 2025-26.
- Standardized chawki rearing technology in ericulture for the first time, resulting in improved larval uniformity and survivability, and achieving approximately 20% enhancement in cocoon productivity.
- Developed and standardized improved platform-based late-age eri silkworm rearing technology and improved mounting methods for large-scale commercial cocoon production.
- Identified the Borduar eri race as the most suitable for Gujarat agro-climatic conditions and standardized scientific rearing systems for different Disease-Free Laying (DFL) capacities.

- Developed and demonstrated commercial-scale loose egg production technology for enhancing the production and timely supply of quality Disease-Free Layings (DFLs).
- Initiated research on value addition and utilization of eri silkworm pupae through collaborative programmes with the CSIR–Central Food Technological Research Institute (CFTRI) and the National Meat Research Institute (NMRI).
- Successfully conducted multi-location field demonstrations and facilitated large-scale technology transfer to eri farmers in the North-Eastern Region, particularly in Assam and Nagaland, contributing to improved productivity and enhanced farmer income.
- Published more than 30 research papers in national and international journals and authored the first-ever *Handbook of Eri Culture* and *Manual on Eri Chawki Rearing Technology*, along with several technical bulletins, extension manuals, and farmer-oriented publications.

Major Projects

As Principal Investigator (PI)

1. Integrated Baseline Research on Castor-Based Sustainable Ericulture Development in Gujarat, funded by the Central Silk Board (CSB), Government of India (2026–2029; Project Outlay: ₹90.59 lakh).
2. Evaluation, Optimization and Popularization of Ericulture Practices in Castor-Growing Areas of Gujarat, funded by the Central Silk Board (CSB), Government of India (2024–2026; Project Outlay: ₹86.94 lakh).
3. Standardization of Chawki Rearing Practices for Eri Silkworm, funded by the Central Silk Board (CSB), Government of India (2019–2022; Project Outlay: ₹18.15 lakh).
4. Development of Commercial Egg Production Technology in Ericulture, funded by the Central Silk Board (CSB), Government of India (2021–2024; Project Outlay: ₹13.49 lakh).

As Co-Principal Investigator (Co-PI)

1. Advanced-Level Institutional Biotech Hub at CSB–CMER&TI, Jorhat, Assam (Phase II), funded by the Department of Biotechnology (DBT), Government of India (2023–2026; Project Outlay: ₹57.81 lakh).
2. Utilization of Silkworm Pupae for Human and Animal Consumption and Compost Production, funded by the Central Silk Board (CSB), Government of India (2021–2025; Project Outlay: ₹155.02 lakh).

As Co-Investigator (Co-I)

1. Optimization of Preservation Techniques and Quality Assessment of Mulberry and Eri Silkworm Pupae for Human Consumption, funded by the Central Silk Board (CSB), Government of India (2024–2026; Project Outlay: ₹41.00 lakh).
2. Muga and Eri Silkworm Disease Monitoring in the North-Eastern States of India, funded by the Central Silk Board (CSB), Government of India (2022–2026; Project Outlay: ₹41.00 lakh).
3. Breeding of Muga Silkworm for Improved Silk Quality and Disease Tolerance, funded by the Central Silk Board (CSB), Government of India (2020–2024; Project Outlay: ₹18.32 lakh).
4. Development of Honeycomb Mountages for Enhanced Muga Silk Production, funded by the Central Silk Board (CSB), Government of India (2020–2023; Project Outlay: ₹10.95 lakh).
5. Biology and Management of Predators of Muga Silkworm, funded by the Central Silk Board (CSB), Government of India (2018–2021; Project Outlay: ₹9.40 lakh).
6. Evaluation and Popularization of Technologies in Vanya Sericulture, funded by the Central Silk Board (CSB), Government of India (2019–2022; Project Outlay: ₹19.39 lakh).

International Participations

- *International Congress of Entomology (ICE 2024), Kyoto, Japan.*
- *Participated in the Central Silk Board's international delegation to Vietnam (VGSF-2026 & VIVC-2026) to explore advanced sericulture technologies, research and industrial practices.*

Publications:

- *Peer-reviewed Research Papers: 30+*
- *Books and Manuals: 3*
- *Book Chapters: 10+*
- *Technical Bulletins, Extension Booklets, Leaflets and Pamphlets: 10+*
- *Popular Articles: 5+*
- *Research Abstracts: 10+*
- *Audio-Visual Documentaries: 10+*
- *Invited Presentations and Participation in National & International Conferences, Seminars, Workshops and Training Programmes: 10+*

Selected Publications:

1. Mahesh, D.S., Chandrakumara, K., Keerthi, M.C., Arunkumar, K.P., & Neog, K. (2026). Standardization of rearing protocol for sustainable eri silk production in India using *Ricinus communis* and *Ailanthus grandis* through an age-stage, two-sex life table approach. *Journal of Environmental Biology*, 47, 105–113.
2. Shelhring, R.D., Harisha, R., Selvaprakash, R., Mahesh, D.S., et al. (2026). Evaluation of preservation methods on the physical, sensory and microbial quality of eri silkworm (*Samia ricini*) pupae. *Journal of Scientific Research and Reports*, 32(7), 761–773.
3. Mahesh, D.S., Arunkumar, K.P., Hazarika, S., et al. (2025). Chawki rearing technology in ericulture enhances productivity and profitability: Evidence from North-Eastern India. *Indian Journal of Sericulture* (Accepted).
4. Mahesh, D.S., Hazarika, S., Hazarika, D.J., Mishra, J.R., Arunkumar, K.P., et al. (2023). Selection of castor (*Ricinus communis*) cultivars suitable for commercial eri chawki rearing. *Plant Archives*, 23, 105–110.
5. Borah, L., Subrahmanyam, G., Gogoi, D.J., Mahesh, D.S., et al. (2023). Cross-transmission of a microsporidian pathogen from muga silkworm to eri silkworm. *Sericologia*, 62(2), 96–105.
6. Mahesh, D.S., Arunkumar, K.P. (2020). Status of ericulture in Northeast India. *Insect Environment*, 22, 68–69.
7. Mahesh, D.S., Arunkumar, K.P., Kumar, A., et al. (2021). Leafhopper (*Empoasca flavescens*): A major pest of castor affecting ericulture in Northeast India. *Biological Forum – An International Journal*, 13(3), 617–620.
8. Mahesh, D.S., Jigyasu, D.K., & Shabnam, A.A. (2024). *Handbook of Ericulture*. Central Muga Eri Research & Training Institute, Central Silk Board. ISBN: 978-81-972337-4-6.
9. Mahesh, D.S., Arunkumar, K.P., & Vijaya Kumari, K.M. (2024). *A Manual on Eri Chawki Rearing*. CMER&TI, Central Silk Board. ISBN: 978-81-959292-6-9.
10. Kaisa, K., Tiwari, J., Mahesh, D.S., Shah, S., & Arunkumar, K.P. (2024). *Biotechnological Approaches in Wild Silk Culture*. In *Biotechnology for Silkworm Crop Enhancement: Tools and Applications*. Springer.

Awards & Recognition

1. *Central Silk Board Best Scientist Award (R&D) – 2025*, conferred by the Central Silk Board, Ministry of Textiles, Government of India, for outstanding contributions in research & development during the preceding five years at CSB-CMER&TI.
2. *Best District Performance Award (MRMA Campaign), 2025* – Awarded by the Central Silk Board for exemplary leadership as Nodal Scientist in the successful implementation of castor-based eri sericulture in Banaskantha District, Gujarat.
3. *Appreciation Award, 2025* – Conferred by the Member Secretary, Central Silk Board, for significant contributions to the successful implementation of the Gujarat Eri Project.
4. *Presentation Award for Young Scientists (PAYS), 2024* – International Congress of Entomology (ICE 2024), Kyoto, Japan.

5. *Appreciation Award, 2021-22* – Awarded by CSB-CMER&TI for contributions to research and the popularization of “*Commercial Eri Chawki Rearing Technology*”.
6. *Young Scientist Award, 2020* – International Conference on New Trends in Agriculture, Environmental & Biological Sciences for Inclusive Development, AEDS.
7. *University Gold Medal (Ph.D.), 2017* – University of Agricultural Sciences (UAS), Bengaluru, for outstanding academic performance in the doctoral programme

Professional Memberships

Life Member, National Academy of Sericultural Sciences, India (NAASI)

Life Member, Assam Science Society

Life Member, Association for Environment Development and Sustainability (AEDS)

Life Member, Dr. S. B. Dandin Foundation

Life Member, UASB Alumni Association
