Brief Biodata

Dr. Damodaran Thukkaram, born on October 2nd, 1973 in Chennai, did his M.Sc. and Ph.D. from Tamil Nadu Agricultural University, Coimbatore (1998-2003). Joined in the Agricultural Research Service (ARS) of ICAR at Central Agricultural Research Institute, Port Blair in 1999 as a Scientist, later got selected as Senior Scientist at ICAR-Central Soil Salinity Research Institute (CSSRI), Regional Research Station (RRS), Lucknow in the year 2008. Further, placed as Principal Scientist in the same institute and later served as Head In-Charge of the station since 2020. On 23rd January 2023 he assumed the charge as regular Director of ICAR Central Institute for Subtropical Horticulture, Lucknow and is currently leading the institute. Research expertise in agri-horticulture science lies with splicing the dynamic rhizospheric microbial diversity of perennial fruit crops for inducing abiotic and biotic stress tolerance in agri- horticultural crops to reduce the use of chemical fertilizers and fungicides that are of great concern to eco security.

Major research breakthrough was addressing the outbreak of the contagious banana *Fusarium* wilt disease in the Indian sub-continent through a holistic research approach of mapping the hotspots and developing a **bio-fungicide ICAR-FUSICONT** using a unique *Trichoderma* isolate on a patent-protected dynamic media. The product was highly successful in containing the disease in the hotspot region. The product is currently being granted a **global license for marketing internationally to address the devastation of the disease in the Southeast and Latin American countries apart from the Indian sub-continent under the Atma Nirbar Bharat.**

He developed and patented an **innovative *in-vitro* bio-immunization** product based on antifungal lipopoly peptides biomolecules and protocol **for inducing disease tolerance in tissue culture banana plantlets** at cell culture stage. The product was found to boost the tolerance of the banana cell culture plantlets against Fusarium wilt disease. The technology is the first of its kind in the tissue culture and is of global significance.

Has contributed immensely in exploring the unique polyembryony and wild mango bio-diversity of the Andaman & Nicobar Islands (Indo-Burma region) and conservation of rich mango bio-diversity of the Bay Islands. He was instrumental in adding nearly **66 polyembryony accessions of Sino-Indian origin to the National repository for rootstock studies**. **Developed a salt-tolerant polyembryony, regular bearing rootstock ML-2 which was reported to be better than the standard Israel rootstock 13-1** which serve as a tool for facing the climate change phenomenon. Also documented the genetic diversity of the mango rootstocks using molecular markers for conserving the mango biodiversity of the country.

Has contributed immensely to increasing the productivity of horticultural crops in degraded and salt-affected lands through the development of cost-effective eco-friendly bio-formulation (CSR-BIO) using consortia of salt-tolerant microbes. Developed the next generation Biosmart formulation CSR GROWSURE for enhancing and enabling production of fruits and vegetables in the soils of higher pH upto 9.2. The product GROWSURE has been widely used in the vertical farming of vegetables as a source of potash and zinc solubilizers by some of the commercial growers of Bangalore.

He was the recipient of several national awards like the **Jawaharlal Nehru Award from the Ministry of Agriculture, New Delhi, for his work on banana resistance breeding, Biotech Product & Process Development and Commercialization Award from Ministry of Science and Technology,** New Delhi and Young Scientist Award by the Indian Science Congress for his pioneering work in horticulture and eco-safety initiatives in research. He is also the National fellow of the Indian Academy of Horticultural Science and Society of Applied Biotechnology. He has published more than 70 research papers in high-impact journals and has **four published patents** to his credit.