



**Department of Biotechnology  
Ministry of Science & Technology  
Government of India**

**Call for Proposals on "Biotech Interventions in Citrus of North East Region"**

**Under**

**DBT's Horticulture Mission Programme for NER**

The North Eastern Region is the centre of origin of citrus fruits. A vast reservoir of Citrus diversity largely exists in wild and semi-wild form, largely due to favourable edaphic and climatic condition of the region. Due to population pressure and changing climatic conditions, there is genetic erosion of these valuable resources and with many of them on the verge of extinction. Hence, there is a need to conserve these rare and endangered resources of Citrus of NE region and also to characterize, evaluate and screen them against biotic and abiotic stresses for future use in the Citrus improvement programme.

Despite the large diversity of citrus and favourable conditions for its cultivation in the NE region, the productivity of the NER-Citrus is far below the national average. There is a need to carry out interventions through biotechnology tools to address various challenges being faced by NER Citrus growers, especially in the widely cultivated species such as Khasi Mandarin, Assam Lemon, Sweet oranges etc. To conserve endemic citrus and to promote sustainable cultivation of the commercially important NER Citrus in the region the Department proposes to support R&D proposals in the following thrust areas:

**A. Germplasm Characterization of NER Citrus:**

- Molecular and phytochemical characterization of germplasm diversity in Citrus in North East Region
- Development of regional germplasm collection centres in NER with well-defined SOPs.

**B. Identification and production of quality planting material of NER Citrus:**

- Generation of disease-free quality planting material (micro-budding, rootstock standardization) for Citrus species through setting up of certified centres and nurseries in NER
- Developing virus-indexing and other disease diagnostic systems in Citrus
- Tissue-culture for mother stock production and shoot tip grafting
- Establishment of a robust bud-wood certification system for rootstock evaluation in NER

**C. Biotic and Abiotic stress tolerance in NER Citrus germplasm:**

- Evaluation of NER Citrus germplasm for biotic and abiotic stress tolerance to generate baseline information on disease mapping for genetic improvement of NER Citrus
- Soil health management for NER Citrus species through nutrient management and endophytic organisms/soil microflora, Water Use Efficiency (WUE) studies
- Good Agriculture Practices (GAP) including harvesting.

**D. Post-harvest management and value-addition in NER Citrus:**

- Development of improved post-harvesting and value-addition technologies for Citrus species in NER (enhancing shelf-life, quality and IPM)
- High-value phytochemicals including essential oils

**E. Diagnostic Centres in NER:**

- Development of Citrus diagnostics and certification centres in NER.

**F. Mission Mode Programme on generating quality planting materials of NER Citrus**

- Demonstration projects on generating quality planting materials of NER Citrus using shoot-tip grafting and supplying to farmers in NER in collaboration with state horticulture departments.

**Eligibility:** Researchers / Scientists working in the Government Organisations / Universities / Academic Institutions / National Laboratories / SIRO recognised Non-Profit Organisations, with sound scientific & technical backgrounds and relevant publications in the proposed areas can submit projects proposals.

**Norms for Assistance:** The proposals should be NER centric with multi-institutional participation from institutions within NER or with outside NER Institutions. If the projects are with outside NER institutions then the budget sharing should be in the ratio of up to 60:40 between NER and outside NER institutions, respectively. Having collaboration with relevant NER State Government departments is desirable.

**Mode of Submission:**

- The Applicants should submit a full proposal on or before the deadline through the DBT eProMIS portal (<http://dbtepromis.nic.in/Login.aspx>) under the “NER Programme”.
- **Two hard copies** of the proposal should also be submitted to **Dr. Vaishali Panjabi, Scientist “E”**, Department of Biotechnology, Block-2, 7<sup>th</sup> Floor, CGO Complex, Lodi Road, New Delhi-110003.
- A softcopy of the proposal should also be submitted to [nerdiv@dbt.nic.in](mailto:nerdiv@dbt.nic.in).

**Deadline for submission of the proposal:** 31<sup>st</sup> March 2020.

**Contact for further information:**

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