



GREEN BIOTECH TISSUE CULTURE LAB

Create a Bigger Horizon in Agriculture



Green Biotech Tissue Culture Bangladesh, founded by the Rural Reconstruction Foundation (RRF) in Jashore under the Agricultural Value Chain Project’s Floriculture sub-project, is a significant initiative in Bangladesh’s floriculture sector. Established with support from PKSF, IFAD, and RRF, this project began on September 12, 2017, and initially operated with external financing until June 30, 2020. Since July 2020, RRF has continued the Tissue Culture Lab independently, funding it through its own resources. The main goal of Green Biotech Bangladesh is to support local farmers by producing high-quality, germ-free plantlets, particularly for flowers, at affordable prices. This effort not only promotes self-sufficiency in plantlet production but also aligns with broader objectives of agricultural development and commercialization. Through accessible, healthy plantlets, the initiative contributes to sustainable agriculture, economic empowerment, and greater stability for farmers in the floriculture sector across Bangladesh.

FACT & FIGURE

| Sl. | Fact | Figure |
|-----|-----------------------------|--|
| 1 | Name of the program | Green Biotech Tissue Culture Lab |
| 2 | Duration | From 2017 to till date |
| 3 | Supported By | RRF |
| 4 | No. of Project Participants | 200 (Female-50, Male-150) |
| 8 | No. of staff | 05 |
| 9 | Working area | Jashore -Jashore Sadar Upazilla |

PROJECT GOALS & OBJECTIVE

Its aim to produce Plantlets of Horticultural crops such as Flower, Potato, Banana, Pineapple etc. within the country and make availability of plantlets to the farmers at low price. The ultimate goal of the lab is to increase farmer’s income, livelihood, and extension of floriculture and other horticultural crops through supplying quality, germ-free healthy plantlets.

KEY ACTIVITIES

1. **Application of Tissue Culture Technology** in the production of high-quality plantlets for floriculture as well as horticultural crops.
2. Production of disease-free plantlets for various crops, including:
 - Gerbera (flower)
 - Banana
 - Virus-free potato plantlets and seeds (Nuclear, Breeder, Foundation, and Certified Seeds)
 - High-yielding papaya seedlings
3. **Research and Development** of new varieties, including Gerbera, Lilium, Eustoma, and Tulip.
4. Established a **Modern Hardening Center** to support plantlet acclimatization and health.



ACHIEVEMENTS IN 2023-24

- Sales of Gerbera plantlets: 7,940 pieces
- Potato production: 140 kg Nuclear Seed, 6,000 kg Breeder Seed, 31,440 kg Foundation Seed
- Sales of Dragon Fruits: 114 kg
- Planting of 700 Jhar Chui seedlings.
- Development of protocols for Lilium and Banana plantlets, with fine-tuning in progress

PROJECT IMPACT

- **Cost Reduction for Farmers:** Green Biotech's Tissue Culture Lab offers Gerbera plantlets at BDT 50 per piece, compared to BDT 95 if sourced internationally. This price reduction enables flower growers to reduce production costs, increase income, and improve their socioeconomic status.
- Farmers benefit from access to diverse plantlet varieties, leading to better crop yields and economic stability.



CHALLENGES

- **Quality of Mother Plants:** Limited availability of high-quality mother plants affects the consistency of plantlet production.
- **Chemical Quality:** There is a need for more reliable sources of quality chemicals to support tissue culture processes effectively.

SPECIAL PROJECT FEATURE:

Green Biotech Bangladesh has successfully cultivated three Lilium varieties—Amiga, Frontera, and Eremo. In-vitro plantlets are transferred to soil, producing bulbs that, when planted, yield Lilium flowers. This work showcases Green Biotech's commitment to developing specialized floriculture varieties and advancing flower cultivation in Bangladesh.