# Agro-Physio-Farm Management Section

## Scientist In-Charge

1. Dr. Monica Chaudhuri (nee Mukhopadhyay), Scientist –D

## Scientist

1. Dr. R. Mahesh, Scientist –B
2. Anil Pappachan, Scientist –B

## Technical personal

1. Buddha Deb Biswas, Technical Assistant
2. Shanti Ranjan Saha, Technical Assistant
3. Sayed Badrudduza, Technical Assistant
4. Bhola Nath Paul, Technical Assistant
5. Dipali Basak, Technical Assistant

## Mandate of section:

1. To conduct research and developmental work for improvement in quality mulberry leaf productivity through agronomical practices and application of geospatial technology
2. Maintain 16.58 acres of mulberry farm at the institute
3. Supply of instar –specific quality mulberry foliage for all R&D related silkworm rearing conducted at the Institute
4. To develop cost-effective mulberry cultivation technology.
5. Drudgery reduction and mechanization in mulberry cultivation
6. Promotion of eco -friendly climate resilient mulberry farming
7. Supplying instar specific mulberry foliage
8. To evaluate nutritionally superior mulberry genotypes/ varieties for stress tolerant - drought and flood tolerant and selection of parent for future breeding programmes.
9. Improvement of leaf quality through nutrient fortification by use of plant growth regulators, macronutrients and micronutrients

## Technology evolved:

1. Developed complete agronomical package of practices for mulberry cultivation
2. Commercial production of both the biofertilizers and limited production of Vermi compost/quality compost for farm use.

3. Developed integrated nutrient management package for mulberry cultivation under irrigated and rainfed condition.
4. Developed eco-friendly technologies for mulberry cultivation like green manuring, leguminous cover crop, use of on farm generated vermicompost, EM mediated compost.
5. Developed weed management system by leguminous crop like, Cowpea in mulberry cultivation.
6. Season- specific suitable intercrops have been identified suited to the available duration of mulberry crop in each season for better additional income.
7. Developed drum kit drip irrigation technology for areas with water scarcity
8. Developed Efficient Economic Eco-friendly Weed Mower © Shoot Harvest / pruning Machine for mechanization in mulberry cultivation
9. Identified of Kinetin based PGR restoring the leaf yield by 30% and enhancing cocoon yield by 20% under water logging condition.
10. Popularized high yielding mulberry variety C-2028 among farmers in flood prone and water logged areas
11. Popularized high yielding mulberry variety C1730 among farmers in drought prone areas under red laterite soil.
12. Developed and commercialized Morizyme-B, a plant growth regulator
13. Establishment of S-1635 as the best mulberry variety for chawki garden

**Resources:**

- Autoclave
- Balance (Electical)
- Colony Meter
- Cryocan, Lux Meter
- Double Glass Distillation Plant
- High and Low speed REMI Centrifuge
- Hot Air Oven
- Hot and Cold Water Bath
- Hydroprobe Moisture Gauge
- Image Analysis System
- Incubator

- Laminar Flow
- Leaf water potential meter
- Mettlet Moisture Analyser, DR
- Microscope (Ordinary)
- Microscope (Stereo scopic)
- Moisture Analyser
- pH meter
- PH Meter, Pocket PH Meter
- Plant Canopy Analyser
- Portable photosynthesis system
- Shaker(Rotary)
- U-Vis Spectrophotometer
- Power Tiller
- Power weed mower
- Grass cutting machine
- Shoot cutting machine
- Pruning machine
- Computer
- Laptop
- GPS Tracker
- Geotagging camera

## List of on-going projects

1. PPF: 3532 (in collaboration with NESAC, Dept of Space, Govt of India). Assessment, development and management of area under mulberry in major sericulture districts of West Bengal using geo-spatial technique
2. PPA: 3499. Evaluation of field level performance of Vishala mulberry variety in different locations under irrigated conditions in West Bengal

## List of concluded projects

1. PIP 001: Nutritional studies in mulberry (1990-96).
2. PIP002: Improvement of plant productivity through use of commercial plant growth regulator (1990–1996).
3. PIP003: Studies on environmental stress in mulberry (1991-98).
4. PIP004: Evaluation of improved mulberry varieties for eastern and north - eastern region of India (1997-2001).

5. PIP3194: screening of improved mulberry varieties for flood tolerance (20013-2004).
6. PPF3487: Decision support system initiative through impact assessment of agroclimate on foliage yield of mulberry (*Morus* sp.) for climate resilient sericulture in eastern India
7. Pilot Study BPP(PS): 008: Evolving Growing Degree Day based Integrated Sericulture Crop Calendar (2014-15)
8. BPP(P): Optimum requirement of irrigatin water and its management for sustainable leaf productivity in high yielding mulberry garden unfer West Bengal conditions (2013-2014)
9. BPP(VP): 015Validation of E3WM©SH/PM (Efficient Economic Eco-friendly Weed Mower © Shoot Harvest / pruning Machine) at nested units and farmers' field level (2013-2015)
10. Micro-projects I - BPP(RP):001 Maintenance of *Azotobacter chroococcum* mother culture and mass production of Nitrofert bio-fertilizer 1999-2015)
11. Micro-projects II - BPP(RP):002 Maintenance of *Glomus moseae* [Arbuscular Micorrhizal Fungus (AMF)] mother culture & mass production of Phosphofert bio-fertilizer (1999-2015).