

Government Degree College, Baramulla (Autonomous)

Semester 7th

Minor Course

Subject: Sericulture

Course Title: Silkworm Seed and Reeling Technology
Credits: 6 (4Th + 2 Pr)

Course Code: SECC1722N
Contact Hours (64 Th + 32 Pr)

Programme Learning Outcomes (PLO's):

1. Apply biological and technical knowledge to manage sericulture practices effectively and solve related problems.
2. Demonstrate professional, ethical, and regulatory competence in seed production and sericulture operations.

Course Learning Outcomes (CLO's):

1. Understand the fundamentals of silkworm seed production, grainage management, and egg processing techniques.
2. Apply correct methods of seed handling, preservation, disinfection, and equipment use for quality seed production.

Unit I: Fundamentals of Seed Production

- i) Silkworm Seed Incubation
- ii) Silkworm Seed Organisation: (Seed multiplication at P4, P3, P2 and P1 level. Norms of seed multiplication).
- iii) Activities of Grainers for quality silkworm seed production: (Cocoon selection and preservation; moth emergence; sex separation; coupling and decoupling).
- iv) Mother moth examination and surface disinfection of silkworm eggs.

Unit II: Management of Grainages

- i) Model grainages for industrial seed production.
- ii) Procurement and transportation of seed cocoons.
- iii) Adopted silkworm seed rearers for commercial silkworm seed production; Seed Areas and Seed Legislation Act.
- iv) Grainages equipment and their uses.

Unit III: Seed Processing and Preservation

- i) Preservation and handling of hibernating and non-hibernating silkworm eggs.
- ii) Short and long term chilling and hibernation schedule.
- iii) Hot and cold acid treatments; merits and demerits. Washing and drying of eggs
- iv) Preparation of loose and sheet eggs

Unit IV: Introduction to Silk Reeling

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- i) Silk Reeling – Scope and Importance.
- ii) Requirement of Cocoons for Quality Silk Production.
- iii) Cocoon Sorting – Different types of defective cocoons.
- iv) Cocoon Stiffling – types; merits and demerits.

PRACTICALS (1 CREDIT)

1. Plan of model grainage
2. Mother moth examination for identification of pebrine spore
3. Preparation of loose and sheet eggs
4. Acid treatment – hot and cold
5. Identification of textile fibers by physical and chemical tests—microscopic examinations, flame test and solubility test for silk, cotton and wool
6. Identification of defective cocoons and their percentage in a lot, determination of shell ratio of good cocoons
7. Visit to the commercial grainages, cold storage, reeling units and seed cocoon markets in different districts of J & K

BOOKS RECOMMENDED

1. An introduction to Sericulture by G. Ganga et al.
2. Silkworm/Mulberry Crop Protection by D. Govinda et al.
3. Handbook of Silkworm Rearing by S. Krishnaswami et
4. Sericulture Manual – Silkworm Seed Production by Central Silk Board (CSB), Bangalore
5. Principles of Temperate Sericulture by AS Kamili and MA Masoodi
6. Textbook of Silk Technology by R. S. Mishra and S. K. Datta
7. Handbook of Silk Technology by Tamanna N. Sonwalker
8. Handbook of Silk Reeling Technology by Central Silk Board (CSB), Bangalore

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