

**CENTRAL SILK BOARD
BENGALURU – 560 068**

Curriculum for One week Refresher Training Programme in Chawki Rearing techniques for Registered Chawki Rearers of Mulberry Sector

#	Topic	Duration (no. of days)
1	Introduction, preparation of disinfectants, disinfection of rearing house and rearing equipments	1
2	Brushing of Loose Eggs, Sheet Eggs	1
3	Harvesting of leaf for brushing, chopping of leaf	1
4	Preservation of leaf	
5	Feeding of leaf, spacing	
6	Use of bed disinfectants	1
7	Identification of moulted, out of moult and eating larvae	
8	Resumption of rearing beds	1
9	Cleaning of rearing bed	1
10	Preparation for transportation of chawki worms	1

* The trainees have to conduct one batch of chawki rearing practically

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Curriculum for One week Refresher Training Programme in Silkworm Seed Production for Registered Seed Producers of Mulberry Sector

#	Topic	Duration (no. of days)
1	Planning, programming and facilities required for egg production	1
2	Generation of seed cocoons, assessment & procurement	1
3	Disinfection and hygiene in grainage	1
4	Preparation for egg production	1
5	Synchronization	
6	Sheet egg & loose egg preparation	1
7	Mother moth examination	
8	Preservation technologies for cross breed & bivoltine hybrids	1
9	Artificial hatching in bivoltine hybrids	1

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Curriculum for One week Refresher Training Programme in Tasar Silkworm Seed Production for Registered Seed Producers

#	Topic	Duration (no. of days)
1	Maintenance of hygiene in grainage and disinfection	1
2	Cocoon garland preparation and hanging, selection and sorting of seed cocoons and maintenance of a-biotic conditions	1
3	Selection of female moth, wing cutting, urination, use of earthen cups and nylon net bags in oviposition	2
4	Mother moth examination through prick method and fuziwara method	2
5	Preparation of egg washing solution, egg dying, incubation and transportation	1

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Curriculum for One week Refresher Training Programme in Muga Silkworm Seed Production for Registered Seed Producers

#	Topic	Duration (no. of days)
1	Importance of Muga silkworm seed production through improved seed production technology	1
2	Improved technology for Muga silkworm seed crop rearing for production of quality Muga seed cocoons	1
3	Maintenance of cocooning hall, mounting technique, harvesting of seed cocoons and their storing	1
4	Different diseases of Muga silkworm, casual organisms of diseases and their management	1
5	Disinfection of grainage hall and grainage equipments	
6	Selection and transportation of Muga seed cocoons and their preservation	1
7	Management of mother moth emergence, coupling, decoupling and oviposition	
8	Microscope and their use in silkworm seed production	1
9	Mother moth examination technique for detection of pebrine spores	
10	Egg harvesting, washing, drying, packing and transportation	1

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Curriculum for One week Refresher Training Programme in Eri Silkworm Seed Production for Registered Seed Producers

#	Topic	Duration (no. of days)
1	Importance of Eri silkworm seed production through improved seed production technology	1
2	Improved technology for Eri silkworm seed crop rearing for production of quality Eri seed cocoons	1
3	Maintenance of cocooning hall, mounting technique, harvesting of seed cocoons and their storing	1
4	Different diseases of Eri silkworm, casual organisms of diseases and their management	1
5	Disinfection of grainage hall and grainage equipments	
6	Selection and transportation of Eri seed cocoons and their preservation	1
7	Management of mother moth emergence, coupling, decoupling and oviposition	
8	Microscope and their use in silkworm seed production	1
9	Mother moth examination technique for detection of pebrine spores	
10	Egg harvesting, washing, drying, packing and transportation	1

**Curriculum for Three months training on Silkworm Seed
Production and Grainage management (Grainage Owners)**

Sl. No.	Events	No. of days
1	Reporting and Registration	1
2	Orientation – Visit to different laboratories	2
3	Introduction to Central Silkworm Seed Act	1
4	Management of mulberry garden for seed crop rearing Preparation for seed crop rearing Disinfection and hygiene in rearing house \Incubation Chawki rearing Late age rearing Mounting and spinning Cocoon harvest and transportation	32
5	Grainage operation (CB) – Critical aspects of cross breed egg production Seed cocoon procurement Planning, programming and facilities required for cross breed egg production Disinfection and hygiene in grainage Generation of parental seed cocoons Preparation for egg production Synchronization Mother moth examination New preservation technology for cross breed eggs Demisted beetle incidence in grainage	22
6	Grainage operation (Bivoltine) – Critical aspects of bivoltine hybrid egg production Planning, programming and facilities required for bivoltine hybrid egg production Generation of parental seed cocoons Preparation for egg production Synchronization Loose egg production Artificial hatching Hibernation schedule	20
7	Exposure tour	6
8	Other related activities	6
	Total	90

Curriculum for Three months training on Chawki Rearing for new CRC owners

Reporting and Registration – 1 day

Orientation programme – Visit to different laboratories – 3 days

Introduction to Central Silkworm Seed Act – 1 day

Field exposure – 5 days

Theory

Sl. No.	Topic	No. of days
1	Establishment of exclusive mulberry chawki garden : Importance of exclusive chawki garden, selection of land, soil analysis, mulberry variety, spacing, schedule of fertilizers and farmyard manure	03
2	Maintenance of chawki mulberry garden : Package of practices – Schedule and application of organic manure and fertilizer for existing garden, irrigation schedule, cultural operations, pruning schedule, integrated nutrient management, pest and diseases of mulberry and their management	02
3	Quality assessment of leaf, nutritional deficiencies in mulberry, leaf estimation for brushing	01
4	Chawki rearing house – design, construction and requirement equipments required for chawki rearing of 5000 dfls/batch	01
5	Selection of suitable multivoltine and bivoltine silkworm hybrids for rearing based on the season	01
6	Pre requisites for chawki rearing Disinfection – different types of disinfectants and its preparation, requirement per unit area	01
7	Importance of black boxing and incubation of silkworm eggs – Transportation of eggs – Environmental factors influencing hatching, black boxing, exposure of eggs to light, hatching and brushing	01
8	Chawki rearing techniques – quality and quantity of leaf required, feeding frequency, bed cleaning, spacing, care during moulting, maintenance of temperature and humidity, crisis management in chawki rearing	02
9	Silkworm disease control – use of different bed disinfectants, maintenance of hygiene during rearing	01
10	Chawki certification and its importance	01
11	Transportation of chawki larvae, care to be taken during transportation	01
12	Chawki rearing on artificial diet	01
13	Organization and management of CRC	01
14	Advantages of commercial chawki rearing	01
15	Economics of CRC operations	01
16	Importance of mechanization in sericulture	01
	Total	20

Practical

No. of days : 60 days

Sl. No.	Topic
1	Selection of suitable land, preparation of land, preparation of cuttings, raising of nursery beds, transfer of saplings
2	Package of practices – irrigation, application of fertilizers, farmyard manure
3	Pruning of chawki garden based on 32 crop schedule
4	Identification of pests and integrated pest management in mulberry
5	Identification of different diseases and their control measures in mulberry
6	Symptoms of nutritional deficiency in mulberry
7	Preparation of chawki rearing house – cleaning and washing of rearing equipments and rearing house, arrangements for brushing
8	Calculation of disinfectant required for rearing house, preparation of disinfectant solution, estimation of quantity of solution required, disinfection of rearing house, rearing equipments and surrounding place
9	Procurement of layings from the grainage, transportation of layings, incubation of layings/eggs, maintenance of temperature, humidity, black boxing, exposure of layings to light
10	Selection and harvesting of leaf for brushing, estimation of leaf moisture percentage, chopping of leaf, feeding of leaf, preservation of leaf
11	Brushing – Loose eggs / sheet eggs, calculation of hatching percentage
12	Maintenance of required temperature and humidity
13	Spacing for chawki worms for I and II instar
14	Identification of moulted, out of moult and eating larvae
15	Dusting of bed disinfectants & lime powder
16	Resumption of rearing bed
17	Cleaning of rearing bed
18	Identification of diseases in silkworm rearing
19	Chawki rearing on artificial diet
20	Chawki certification – calculation of missing percentage, microscopic testing of egg shell, newly hatched larvae
21	Operation of different machines used in chawki rearing
22	<p>The trainees has to conduct 6 chawki rearing batches practically comprising the following</p> <ul style="list-style-type: none"> - Two batches of Bivoltine hybrid rearing - Two batches of Multi x Bivoltine rearing - One batch of Multi x Bivoltine rearing on artificial diet - One batch of Bivoltine hybrid rearing on artificial diet