Larvae Under Moult

Application of Lime

Distribution of Chawki Worms

- Conduct chawki certification for larval growth & health during II moult
- Missing larvae should be <**5%** & undersized <**15%**
- Check weight of 100 larvae during 2nd moult (**Bv: 3.4-3.8g & CB: 2.2-2.6g**)
- Dust lime & transport worms to farmers in cool hours

Do's

- ✓ Organize chawki rearing in **Mini-CRCs**
- ✓ Raise **Chawki Garden** for succulent & nutrient leaf
- ✓ Maintain **Temperature & RH** in CRCs
- ✓ Maintain **Proper Hygiene** in CRC

Dont's

- X Do not transport silkworm eggs during hot hours
- X Do not keep dfls outside for incubation
- X Do not handle tiny worms with hand
- X Do not cover beds with paraffin paper & foam pads during the moult
- X Do not feed till 90% larvae are out of moult
- X Don't distribute Pebrinized chawki worms

Chawki Rearing Methods

Box Rearing: Silkworms are brushed onto the paraffin paper in plastic trays and wet-foam pads are placed around the bed. The rearing bed top is covered with paraffin paper to prevent moisture loss. Trays are piled-up, one above the other. Chawki beds are aerated before feeding for bed drying.

Shelf Rearing: Bamboo dalas are used to rear silkworms and kept individually in separate racks.

Advantages of CRCs

- **Proper Egg Incubation & Uniform Hatching**
- **Robust & Disease-Free Chawki Worms**
- **Cocoon Crop Stabilization**
- **Increased Cocoon Yields**
- **Reduced Costs of Cocoon Production**
- **Higher Economic Returns**
- **Prevention of Crop Losses**

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Pamphlet No.88 @CSRTI, Berhampore March, 2021

CHAWKI REARING

For Successful Silk Cocoon Crops

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CHAWKI REARING

For Successful Silk Cocoon Crops

'**Chawki**' means the first two larval stages of silkworm rearing (upto II moult). Chawki is crucial period in silkworm rearing, which demands good rearing facilities and technical skills. Scientific Chawki is essential for successful silkworm cocoon crop. The main objective of Mini-CRCs is to raise healthy and robust young age silkworms; and their supply to the farmers.

Mini-CRC Basic Requirements

- Separate rearing house with facilities to rear 1000 Dfls/crop
- Separate chawki garden with S-1635 (1 acre)
- Plastic/HDPE trays with double wall (2' x 3' size)
- PVC/Wooden rearing racks (L:23'; H:7'& W: 2') to hold at least 100 trays
- Leaf chopping machine/device
- Dry & Wet bulb thermometer
- Heaters & Humidifiers for managing micro-climate
- Paraffin paper (80 GSM)
- Other rearing equipments like feeding stands, plastic bins, power sprayer, incubation frames, bed clearing nets, dust bins, crates & disinfection masks

Disinfection of Rearing House & Appliances

❖ Conduct disinfection twice for each batch

First: 2-3 days before brushing &

Second: after completion of every batch

❖ General Room Disinfectants to be used:

5% Bleaching Powder Solution & NIRMOOL

Procurement of DFLS

✓ Procure only certified silkworm hybrid & Pebrine-free eggs from Government agencies like NSSO (SSPCs), DoSs, RSPs & transport in cooler hours of the day

Egg Incubation

➢ Dip egg sheets in 2% formalin solution for 10 minutes and air-dry in a cool room before incubation

➢ Incubate Dfls at 25°C temperature and 80% relative humidity with 16 hours light on incubation frames

Black Boxing

➢ Ensure 80% eggs are in **"Blue Stage"** for uniform hatching

➢ Incubation frames are wrapped with black paper or cloth for 24 - 36 hours

Brushing

➢ Brush at cooler hours, preferably by 7 - 8 AM

➢ Use soft feather brushes for transferring just-hatched larvae & sprinkle tender mulberry leaf pieces

➢ After 30 minutes, transfer all silkworms onto the paraffin paper in rearing tray

➢ Use incubation frames for loose eggs

Quality Mulberry Leaf

➢ Maintain Chawki mulberry garden with standard Package of Practices (**FYM @ 40 MT/ha/yr & NPK @ 336:180:112 kg/ha/yr**)

➢ Use tender & succulent leaves with high nutrients

➢ Harvest leaf at cooler hours

➢ Preserve harvested leaf in a leaf chamber & cover with wet gunny cloth

➢ Feed adequate quantity

Feeding Schedule

➢ Remove paraffin paper ½ hour before feeding

➢ Chawki leaf requirement **CB/ICB:15kg & BV:20kg/100 dfls**

➢ Feed three times a day **@ 7 am, 1 pm & 8 pm**

Bed Spacing

➢ Uniform spacing is provided for healthy growth & development of larvae

➢ Supply larvae (out of II moult) in 10-12 trays/ 100 Dfls to farmers

Ideal Bed Size (Sq. cm/ 100 Dfls)		
Instar	**ICB**	**Bi x Bi**
I	6-18	8-21
II	18-54	21-65

Bed Cleaning

✓ Do bed cleaning **Only Once in 2nd Instar** (before settling for 2nd moult)

Microclimate in Mini-CRC

✓ Maintain optimum temperature

I instar: 27-28°C

II instar: 26-27°C

✓ Maintain relative humidity **@ 85-90%**

Care During Moult

❖ Ensure good aeration

❖ Remove top-paraffin paper & wet-foam pads during moult & dusting lime/ bed disinfectants

❖ Stop feeding when ~90% of larvae settle for moult & dust slacked lime to reduce humidity

❖ Dust bed disinfectant (@ 350g/100 dfls) with **LABEX/SERICILLIN/SERI-WIN** after 95% of larvae resume from moult

❖ Feed larvae after 30 minutes using nylon nets with chopped tender mulberry leaves