

Forefront Recommendations for Silk Farmers



2026

Content

Mulberry cultivation made simple.....	3
Silkworm eggs transaction and handling.....	5
Instructions on silkworm rearing.....	7
Silkworm rearing Schedule.....	10
Dos and don'ts in silkworm rearing.....	22
Silkworm cocoon production.....	28
Do-It-Yourself (DIY) on silk reeling.....	30
Facts and Myths about silkworm rearing.....	32
Sericulture resources.....	35

Mulberry cultivation made simple

Plantation basics

- Productive age: >3 years → plan ahead if trees aren't available locally.
- Density: 2,000–2,500 trees per hectare (scale down as needed).
- Trunk height: train/prune to ~1.0–1.2 m (work-efficient harvesting).
- Establishment: plant 1-year saplings at the target spacing.
- Care: form a strong upright trunk; irrigate, weed, fertilize regularly.
- Irrigation: ideally ~5 mm water/day over plantation area (best-case target).
- Weeds: remove often; mulch soil with straw or dried weeds to suppress regrowth.

Layout & pruning overview

- Place the rearing house beside the plantation (or vice versa) to cut workloads and costs.
- Young silkworms (1st–3rd instar): leaf picking below the 4th top leaf on spring shoots; Do not cut shoot tip so shoots keep growing.
- Older larvae: cut whole branches and lay them on the rearing beds; trim away thick basal wood.
- Spring rearing: prune off 1-year-old wood to maintain a “cup” canopy; new shoots from buds form the next year's harvest.
- Alternative: leave 3–4 buds at branch base if a second rearing is planned that year (quicker regrowth).



Pruning to harvest 1-year - old branches; maintain the “cup” at trunk top.



Highly productive 5-year-old mulberry plantation, trunk height 1–1.2 m, ~2,000 trees/ha.



Pruning leaving a base with 3–4 buds for quick regrowth when a follow-up rearing is planned

Mulberry cultivation made simple

Pruning details, productivity & fertilization

- 1-year-old branches are removed in spring to maintain the “cup” canopy; new shoots from buds become next year’s harvest.
- Alternate method (for two rearings/year): leave a short base with 3–4 buds so new branches grow faster; the following year branches will be shorter—avoid heavy harvest then.
- For young silkworms (1st–3rd instar): practice leaf-picking from below the 4th highest leaf on actively growing spring shoots. Do not pick the top leaves—this arrests shoot growth.
- For older larvae: cut whole branches; place them on the rearing beds for the larvae to eat; remove thick woody base with a machete so it doesn’t damage beds.
- Keep the rearing house next to the mulberry plantation to minimize labor and transport.
- Longevity: with good pruning and regular winter fertilization, mulberry plantations can stay productive for decades.
- Never plow or till during summer.

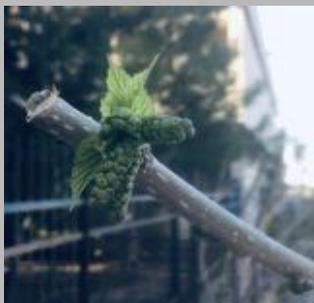
Silkworm eggs transaction and handling

Silkworm eggs: The basics

- The producer, upon securing a commercial transaction with an agency that sells silkworm eggs, should be informed of when the silkworm eggs will be delivered.
- Eggs are usually shipped in boxes or bags carrying a label. The label should state the hybrid name, country of origin (if not given elsewhere), and the number of eggs per box.
- The international standard is 20,000 eggs/box. Each egg weighs ~ 0.58 mg; thus 20,000 eggs weigh ~ 11.6 g.

Storage and Transport

- With local climatic differences, the best season for rearing silkworms is spring; cocoon spinning follows ~ 30 days of larval life (late May–June). To achieve this timing, eggs are stored refrigerated during winter/early spring.
- When eggs are removed from refrigeration, incubation begins and lasts ~ 11 – 12 days.
- For long distances (e.g., 2,000 km), arrange quick transport—ideally by air—and clearly mark the parcel to keep at room temperature (22 – 25°C) until receipt.



Silkworm eggs incubation in spring must start when the mulberry buds are at this stage of development.

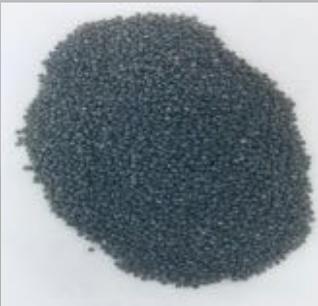


Silkworm egg boxes from agencies from Japan, Turkey, Bulgaria and China.

Silkworm eggs transaction and handling

Silkworm eggs incubation

- Place the eggs on the rearing bed where the larvae will live after hatching.
- Around incubation day 10 the eggs change colour visibly and the embryos can be discerned; hatching then follows in ~2 days. Eggs typically hatch on the morning of day 12 when the lights are turned on.
- Eggs typically hatch on the morning of day 12 when the lights are turned on.
- Depending on egg quality and transport conditions, hatching may span 2–3 days; late hatchers will be correspondingly delayed.
- During egg incubation, maintain temperature at 25°C constantly, humidity at 75-85% and photoperiod at 12 hours dark and 12 hours light.
- Keep the incubation room/house extremely clean.
- High quality silkworm eggs and excellent incubation conditions are key to a successful silkworm rearing.



Pile of 20000 silkworm eggs of excellent quality. Eggs should have uniform colour and no debris.



Eggs hatch soon after lights on. Larvae pass through the mosquito net placed above in search for mulberry leaves.

Instructions on silkworm rearing

Silkworm rearing: The basics

- There are multiple methods of rearing silkworms and every country and every region has its own. Here, the least labour-intensive method for silkworm rearing is described.
- This method is based on rearing silkworms by covering them with a thin polyethylene (PE) plastic film in the young instars (1st–3rd). It is a method that focuses on working hours reduction in relation to maximum crop output.



Larvae that just hatched from the eggs while some larvae can be seen inside the egg (not hatched yet).

Silkworm rearing: The basics

- When followed and when a highly productive hybrid is used, this method can yield a production of 41–42 kilograms of fresh cocoons per box of 20,000 silkworm eggs with each cocoon having a weight of 2.3 gr. on average, provided that excellent conditions are maintained, no disease occurs, and all the details of the rearing schedule are followed.
- As soon as the first feeding of the silkworm larvae is done, the silkworm rearing begins.



A rearing bed marked with the maximum sizes that should be reached in each instar (1st – 3rd instar)

Instructions on silkworm rearing

Silkworm rearing: The basics

- Silkworm rearing should be done on a rearing area called rearing bed. The rearing bed should be flat, on one level and at a comfortable height to allow convenient handling.
- The rearing bed should be accessible from all sides. Silkworm rearing should not be done under conditions of physical exhaustion. Under this principle, the rearing of silkworms on one level area is the best practice.
- Do not rear many silkworm egg boxes at the same time. The work load increases exponentially as the number of rearing boxes increases and requires many persons to work very long hours. A company of 3 persons can easily rear 5–6 silkworm eggs boxes but these persons have to be physically fit. A novice in silkworm rearing should not rear such numbers of egg boxes.
- A novice should rear 1 or 2 silkworm egg boxes first and gradually through the years calculate the number of silkworm egg boxes that can practically and easily be reared without physical exhaustion.



Indicative picture of how silkworm larvae can be reared covered with the PE film in the young instars.



30 minutes before each feeding, the PE film is uncovered to remove any excess moisture and carbon dioxide

Instructions on silkworm rearing

Silkworm rearing: Pictorial



Left picture: Rearing of older silkworm larvae on raised one-tier rearing beds with protective rails.



Right picture: The rearing beds do not have to be very large in length. It is the most comfortable kind of silkworm rearing.



Left picture: A variation of this raised 1-tier rearing bed uses a wagon for speedy branch feeding



Right picture: Another variation uses portable deep basket-like structures that can be disassembled and stored away.

Silkworm rearing schedule

Instar	Rearing day	Temperature (°C)	Humidity (%)	Feeding time (o'clock)
1st Instar	1	28	95	10:00
				15:00
				22:00
	2	28	95	08:00
				15:00
				22:00
	3	28	95	08:00
				15:00
				22:00
1st ecdysis	4	27	85	22:00
2nd Instar	5	27	95	08:00
				15:00
				22:00
	6	27	95	08:00
				15:00
				22:00
2nd ecdysis	7	25	85	22:00
3rd Instar	8	25	90	08:00
				15:00
				22:00

Silkworm rearing schedule

Feeding number per instar	Feeding quantity (kg/box)	Leaf size / description	Rearing area (m ²)
1	0.08	0.5	0.1
2	0.05	0.6	0.12
3	0.09	0.7	0.2
4	0.14	0.7	0.3
5	0.2	1	
6	0.25	1	0.45
7	0.29	1.3	0.7
8	0.2	1	
9	0.05	Rectangular pieces of leaves	
1	0.27	1.6	0.8
2	0.36	1.6	
3	0.45	1.6	1
4	0.5	2	
5	0.6	2	1.4
6	0.68	2.3	1.6
7	0.45	1.6	
8	0.05	Rectangular pieces of leaves	
1	0.63	Chopped eaves	1.6
2	0.63	Leaves	
3	0.9	Leaves	2.4
4	1.1	Leaves	
5	1.3	Leaves	

Silkworm rearing schedule



Silkworm Handling

Lights on at 8:00 am. Place a mosquito net on the eggs. At 10:00 am feed. Cover with PE

Brush wandering larvae on the leaves. Place the net on the side and cover with PE film

Rearing area increase. Gently spread the leaves and the larvae to the indicated area

Rearing area increase and rearrangement. Always remove PE film 30 min before feeding

Rearing area rearrangement. The delayed eggs will have hatched. Do as the previous day

Rearing area increase and rearrangement

Rearing area increase and rearrangement

Pause feeding

Care during ecdysis. All larvae should be on ecdysis. Do not disturb them.

Feeding can be delayed for several hours if not all the larvae have completed ecdysis

Rearing area rearrangement

Rearing area increase

Cleaning before ecdysis. Cleaning is meant to create a rearing area as flat as possible

Pause feeding and segregate delayed larvae on ecdysis by using a net and leaves as before

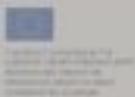
Care during ecdysis

Cleaning after ecdysis to maintain a rearing area as flat as possible

Rearing area rearrangement

Rearing area increase

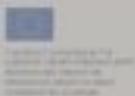
Rearing area rearrangement



Silkworm rearing schedule



Instar	Rearing day	Temperature (°C)	Humidity (%)	Feeding time (o'clock)
3rd Instar	9	25	90	10:00
				15:00
				22:00
3rd ecdysis	10	25	90	08:00
				15:00
				22:00
4th instar	11	24	80	08:00
				15:00
				22:00
4th ecdysis	12	24	75	07:30
				13:00
				17:00
4th instar	13	24	75	22:30
				07:30
				13:00
4th ecdysis	14	24	75	17:00
				22:30
				07:30
4th instar	15	24	75	13:00
				17:00
				22:30
4th ecdysis	16	24	75	07:30
				13:00
				17:00
4th instar	17	24	75	22:30
				07:30
				13:00
4th ecdysis	18	24	75	17:00
				22:30
				07:30



Silkworm rearing schedule

Silkworm Handling

Rearing area rearrangement

Rearing area increase

Apply desiccant and then place a net of larger mesh size. Feed on top of the net

Cleaning before ecdysis

Feeding on patches

Care during ecdysis

Cleaning before ecdysis

Rearing area rearrangement

Rearing area increase

Apply desiccant on rearing area. Desiccant is always applied before feeding.

Rearing area rearrangement

Rearing area increase

Apply desiccant on rearing area

Cleaning before ecdysis

Pause feeding

Silkworm rearing schedule

Instar	Rearing day	Temperature (°C)	Humidity (%)	Feeding time (o'clock)
4th ecdysis	16	24	75	07:30
				13:00
				17:00
				22:30
5th instar	17	24	75	07:30
				13:00
				17:00
				22:30
	18	24	75	07:30
				13:00
				17:00
				22:30
	19	24	75	07:30
				13:00
				17:00
				22:30
20	24	75	07:30	
			13:00	
			17:00	
			22:30	
21	24	75	07:30	
			13:00	
			17:00	
			22:30	
22	24	75	07:30	
			13:00	
			17:00	
			22:30	

Silkworm rearing schedule



Feeding number per instar	Feeding quantity (kg/box)	Leaf size / description	Rearing area (m ²)
1	7,5	Branches	12
2	8	Branches	
3	8,5	Whole Branches	
4	9	Whole Branches	
5	10	Whole Branches	
6	10	Whole Branches	
7	10	Whole Branches	18
8	11	Whole Branches	
9	12	Whole Branches	
10	13	Whole Branches	21
11	14	Whole Branches	
12	15	Whole Branches	
13	16	Whole Branches	
14	17	Whole Branches	25
15	18	Whole Branches	
16	19	Whole Branches	28
17	20	Whole Branches	
18	22	Whole Branches	
19	25	Whole Branches	
20	27	Whole Branches	
21	29	Whole Branches	
22	29	Whole Branches	
23	30	Whole Branches	
24	29	Whole Branches	

Silkworm rearing schedule

Silkworm Handling

Care during ecdysis

Avoid feeding the ecdysed larvae if ecdysis is not synchronised.

If ecdysis is not synchronised, consider leaving all larvae unfed until the following day

Rearing area increase, interim cleaning

A considerable increase in the larval size will be evident at this stage

Work load intensifies. Collect enough mulberry branches for two feeds

Work load peak

Silkworm rearing schedule



Feeding number per instar	Feeding quantity (kg/box)	Leaf size / description	Rearing area (m ²)
25	27	Whole Branches	28
26	25	Whole Branches	
27	22	Whole Branches	
28	20	Whole Branches	
29	18	Whole Branches	
30	14	Whole Branches	
31	13	Whole Branches	
32	13	Whole Branches	
33	7	Branches	
34	4	Branches	
35	3	Branches	

Silkworm rearing schedule

Silkworm Handling

Larvae should have a glossy appearance, a sign of the upcoming cocoon spinning stage

If mature (cocoon spinning) larvae appear preparations for the cocoon spinning stage start

Onset of cocoon spinning. Segregate the mature larvae from those that still feed.

Either place a spinning net on the larvae or collect mature larvae

Cocoon spinning. Feed those larvae (if any) that do not spin cocoons.

Handling during cocoon spinning

Dos and don'ts in silkworm rearing



DOs

DON'T

Preparations

Disinfect the rearing house and all the equipment that will be used inside the rearing house 15 days before rearing silkworms

Disinfect using 1 Litre of 3% formaldehyde solution per 1 m³ of rearing area.

Use a mat soaked in disinfectant to disinfect your shoes before entering the rearing house.

Always change your shoes when entering the rearing house.

Use disposable gloves when handling sick or diseased or suspicious looking silkworms.

Clean your hands regularly when handling silkworms. Safer to use disposable gloves always.

Always have mosquito nets on the windows.

Never use a previously used rearing house without disinfection.

Never use any disinfectant without proper advice, protection and supervision.

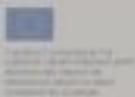
Do not use any other disinfectant. Disinfection with formaldehyde should be supervised.

Do not allow strangers or visitors in the rearing house when silkworm rearing is taking place.

Never have windows in the rearing house that open towards the inside.

Never have a rearing bed attached to the walls of the rearing house.

Never have rearing beds in tiers or on the floor.



Dos and don'ts in silkworm rearing



DOs

DON'Ts

Silkworm egg incubation

Inspect the silkworm eggs when you receive them.

Never attempt to incubate silkworm eggs that look discoloured or have a dimple in the middle of the egg surface.

Use 12-hour light:12-hour dark photoperiod during silkworm egg incubation.

Incubate the silkworm eggs at 25°C and 75–85% relative humidity.

Never allow humidity to drop during egg incubation.

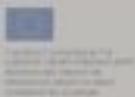
Spread the eggs in a thin layer of 0.1 m² per box of 20,000 eggs and place them under a sheet of tissue paper for easy handling.

Never spread the eggs in a large area.

After all the eggs have hatched, inspect the eggs and roughly determine if a large proportion of them did not hatch.

Never discard the eggs that did not hatch on the first day. Some larvae may hatch the next day and will be one day behind schedule.

Excellent hatchability should be >97%. If not, inform the agency. Low hatchability may be caused by transport or poor handling before incubation.



Dos and don'ts in silkworm rearing



DOs

DON'Ts

Silkworm rearing

Take notes on your rearing practices and the rearing conditions every day.

Do not leave instances of bad handling of silkworms unrecorded.

Maintain 12 h light:12 h dark photoperiod during rearing.

Do not rear silkworms in constant light or constant darkness.

Best practice: have a well-fertilized, irrigated mulberry plantation next to the rearing house to save labor and resources.

Avoid collecting leaves from remote plantations and transporting by trucks/wagons unless unavoidable—this increases cost and labor.

Best practice: cooperative rearing—young instars from many boxes reared by one producer to reduce individual time to ~15 days.

If inexperienced, do not rear more than one box of eggs per spring season.

Secure pesticide and insecticide-free mulberry leaves. Keep ~100 larvae as test dummies: feed them tomorrow's leaves today. If they die, do not use those leaves.

Prefer not to collect leaves at noon.

Dos and don'ts in silkworm rearing



DOs

DON'Ts

Silkworm rearing - continued

Keep a precise schedule of picking leaves/branches morning & late afternoon; avoid morning dew on leaves.

For 4th–5th instars, secure enough branches collected for two consecutive feeds.

Do not use hard or very tender leaves to feed young larvae.

Mark on the bed the maximum area for 20,000 larvae for the 1st to the 3rd instars.

Use polyethylene (PE) plastic sheets to cover larvae in instars 1–3 (or paraffin/baking paper).

Remove the PE cover 30 minutes before feeding. Re-cover after feeding.

Remove the PE cover if water drops form underneath.

To avoid larvae dropping, place a concave bed rail around edges and cover with paper; inspect rail for diseased larvae.

Do not pile leaves or branches on the floor.

Do not spread larvae beyond the maximum area for the 1st to the 3rd instars.

Do not keep larvae continuously covered with PE plastic all the time.

Do not cover the larvae with a PE film when water condensation persists

Do not leave the bed without a protective concave rail.



Dos and don'ts in silkworm rearing



DOs

DON'Ts

Silkworm rearing - continued

Always inspect animals during feeding; watch for larvae moving to bed edges.

Do not be fooled by larvae rapidly climbing leaves appearing 'mature' too early—may indicate infection by nucleopolyhedrosis virus

Always remember that the weight of leaves are 45% of the weight of a mulberry branch on average. It is safe to weigh the collected branches if possible.

Do not give too much or too little leaves to the larvae.

Cocoon spinning

Devote resources to the onset day of cocoon spinning—the key day of the schedule.

Do not assume it's time to rest once spinning starts.

Collect mature larvae using wide-mesh nets placed on a surface; after ~2 h, the mature larvae climb above the net.

Do not just place a spinning frame on the larvae and walk away.

Provide adequate space and ventilation during spinning (2–3 days); avoid disturbance.

Do not cover spinning frames with any material.

Allow adequate handling space.

Do not place spinning frames next to walls.

Dos and don'ts in silkworm rearing



DOs

DON'Ts

Cocoon harvest

Harvest cocoons ~10 days after spinning onset after removing soiled/malformed ones and diseased larvae; segregate qualities of cocoons in different grades before drying.

When all cocoons are harvest weigh the fresh cocoons to know your yield per silkworm egg box you reared.

Dry cocoons ~10 days after spinning onset to ~40% of fresh weight; if no cocoon drying machine is available, heat ~75°C for 30 min then air-dry ~20 days.

Safely dispose/bury rearing bed remains after cocoon harvest; thoroughly clean & disinfect the rearing house for the next rearing cycle/season.

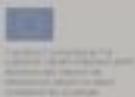
Dry cocoons can be stored in plastic reusable containers indefinitely when protected by store product pests or rodents.

Do not mix soiled with clean cocoons, nor mix qualities during drying.

Do not pile dried cocoons in thick layers.

Do not dump the waste from the rearing bed into the environment; never skip post rearing cycle disinfection; never leave dry cocoons unprotected.

Do not leave dry cocoons without proper protection because they will be damaged by stored product pests and rodents.



Silkworm cocoon production



Synchronised larval development is the key to successful cocoon production

Synchronize development

Keep larvae at the same pace of growth so ecdyses are taking place in a synchronised manner. Then most larvae become mature and start spinning cocoons on the same day. If not, labor and working hours increase. You can synchronise development by starving for 1 day the fast growing larvae and feeding the slow growing ones. Or by placing the fast growing larvae on lower temperature.

Simple mounting methods

At maturity, provide spinning sites:

- Concave plastic nets on rearing beds
- Cocoon spinning brushes/frames over larvae

Larvae climb, settle, and spin cocoons.

Be careful of larvae density, if it is too high then the percentage of double or malformed cocoons increases.



Cocoon spinning frame made of concave plastic mesh. Mature larvae climb through the mesh and spin a cocoon.



Mounting frames like large brushes can be used on the raised 1-tier rearing beds for cocoon spinning. This is the most comfortable method of cocoon spinning.



Silkworm rearing can be done on the floor of a toll-like structure. Frames like large brushes are placed on top of the larvae for cocoon spinning. This method is quite laborious

Japanese method, timelines and post-harvest

Best-practice: Japanese method

- Before the final feed on the day before the onset of larvae spinning,, lay nets on beds before feeding . Next day, lift nets to a separate floor area; Remove branches and leave only the larvae on the floor. Cover the larvae with nets. Within ~2 hours, only mature larvae crawl through the nets on top of them—collect them; return non-mature larvae to feeding beds.
- Count or weigh mature larvae and place them on a rotating mounting frame. Hang the frame from the cocoon room ceiling when all the larvae have climbed on to it; larvae settle into cells and spin cocoons.
- Spinning takes ~2 days, then pupa metamorphosis takes place. Do not handle cocoons during this period.

Harvest, grading, drying

- ~10 days after spinning day: harvest and grade cocoons by quality; weigh to estimate total cocoon production.
- If no drying machine available: heat at ~75 °C for 30 minutes, then air-dry for ~20 days; cocoons are dry at ~40% of fresh weight.
- Keep quality grades separate throughout.

Storage

- Store dry cocoons indefinitely in recyclable plastic containers or barrels.
- Protect from stored-product pests and rodents; keep cool and dry.

The Japanese cocoon spinning frames. The frame on the left is full of mature larvae and will be hung from the ceiling. The frame on the right was hung the previous day; larvae already spun their cocoons. This method maximizes cocoon quality and reduces low grade cocoon production.



Do-It-Yourself (DIY) Silk reeling

You need

- 1) 1–2 wide pots or basins (enamel/steel)
- 2) Kettle for hot water or stove for boiling cocoons
- 3) Small brush (birch/straw) for brushing
- 4) Chopsticks or a thin stick
- 5) Guide ring (loop/pin on a stick)
- 6) Hand reel (simple rotating cross)
- 7) Ladle/strainer; wooden spoon

Use the best quality cocoons and remove the outside floss.

Steps — Page 1

- Boil cocoons 5 minutes in boiling water.
- Move cocoons to a basin at 55–60 °C; keep temperature steady.
- Brush lightly in small circles; tease up the clean filament ends of the brushed cocoons.
- Move ≥ 8 cocoons to a second basin at 35–40 °C (reeling basin).
- Gather ≥ 8 filaments, pass through guide ring; tie the filaments to the hand reel and turn steadily.



All you need for DIY silk reeling. Back: basin for cocoons after boiling. The round basin in the front is the reeling basin; the brush is used to pick filament ends. Guide ring sits just above the reeling basin. Photo shows a traditional semi-automatic reeling machine. The (hand) reel is not shown.



This one-basin cocoon reeling method uses a much simpler device and setup that can be easily made at home. The rotating reel on top ensures that the filaments are twisted as they are reeled together. A fork instead of a brush is used here.

Do-It-Yourself (DIY) Silk reeling



Continue

- Keep the guide ring slightly above the water; move it gently for an even line of filaments to be formed.
- If a cocoon drops or a filament breaks: brush to find a new end, lay it on the running thread and tie a small knot.
- When the reel arm fills, wind into a skein (figure-8 on forearm or pegs). Tie lightly; dry in shade.

Important tips & facts

- Practice improves consistency.
- One-basin method is hotter; two-basin is more comfortable.
- Cocoon floss can be used for spun silk or pillow filling.
- Steady reeling pace prevents breaks of silk filament.
- Reel options: hand-held wheel or two rotating pegs.
- Keep many cocoons in the reeling basin to reduce transfers.
- ~8 cocoons \approx 20/22D (fine); add filaments for higher denier.
- Sericin \approx 27% of cocoon shell weigh. Only ~3–4% sericin is removed during silk reeling. The reeled silk (filaments) is raw silk.
- Raw silk is coarse. Degum (remove sericin) later with salts + soap.
- Twist (ply) skeins before weaving.
- Replace reeling-basin water regularly.
- Keep water temperature steady — most important factor.
- About 4000 cocoons will give you about 1 kg of raw silk in skeins.

Facts and Myths about silkworm rearing



Facts

Egg hatchability should be >97%.
If no disease occurs, expect ~10% loss per box in cocoon yield.
Agencies may include ~10% extra eggs per box.

A box of 20,000 eggs consumes about 630 kg of mulberry leaves until spinning.

A productive mulberry plantation can rear ~17 boxes per hectare (~10 per 0.6 ha per spring).

Leaves make up ~45% of a mulberry branch in full growth.

Top hybrids of silkworm produce on average 2.2–2.3 g fresh cocoon per larva; rarely more.

Races vs. hybrids differ only by parentage: race = same lineage; hybrid = two different races.

Hybrids often yield more due to greater disease tolerance and adaptability.

Silkworms can be reared in any season if high-quality leaves are available.

Myths

Only silkworm hybrids should be used for rearing.

Races are not good for silk production (historically false).

Races are more susceptible to diseases.

Silkworms can only be reared in spring.

Facts and Myths about silkworm rearing



Facts

Feeding drives development; withholding feed pauses growth and can synchronize cohorts of larvae.

Larvae that are delayed in ecdysis can be synchronised to be one or two days delayed in the rearing schedule.

Final ecdysis typically occurs at night under constant photoperiod.

Silkworms tolerate normal noise/odors/light; avoid direct sunlight.

Nutrition and photoperiod are key to synchronizing development.

Instars 1–3 prefer little to no draft; instars 4–5 prefer gentle draft.

Silkworms can be starved 3–4 days in emergencies (reduces silk output).

Dirty or rain-wet leaves can be washed; wet leaves can be fed if house humidity is controlled.

Myths

Delayed larvae are always diseased.

Silkworms are harmed by sound, odours, and light.

Silkworms should be protected from any light source.

Silkworms should be protected from drafts.

Silkworms must never be fed wet leaves.

Facts and Myths about silkworm rearing



Facts

Larvae cannot 'smell' mulberry leaves at ~1 m distance.

During feeding stages, locomotion is low; larvae are mostly immobile.

At feeding, larvae often climb to the top of the leaf pile.

Young larvae: more fungal risk; older larvae: more viral/bacterial risk.

Rearing house should have no strong odor; smells indicate poor conditions.

No hybrids are fully resistant to serious diseases; if disease appears, the whole lot can be affected without prevention.

Mature larvae show strong upward movement when mounting.

Myths

Cocoons can be dried in the sun (not recommended).

Agencies that trade on silkworm eggs

<https://www.crea.gov.it/web/agricoltura-e-ambiente>

Website of the Research Centre Agriculture and Environment (CREA). Includes the Laboratory of Sericulture producing and trading polyhybrid silkworm eggs.

<https://ses-vratza.bacsa-silk.org/en/home/>

Scientific Center on Sericulture, Vratsa (Bulgaria). Produces and trades hybrid silkworm eggs.

<http://www.kozabirlik.com.tr/>

Kozabirlik (Bursa, Turkey). Trades hybrid silkworm eggs.

<https://uzbekipaksanoat.uz/en/>

Uzbekistan Silk Industry Association. Extensive information on sericulture; Uzbekistan is the world's 3rd largest producer of cocoons.

<http://www.guangtongsilkwormeggs.com/>

Shandong Guangtong Silkworm Eggs Co., Ltd. (Shandong, China). Produces and trades Chinese hybrid silkworm eggs.

<https://ueda-sanshu.com/>

Ueda Sanshu (Ueda, Japan). Produces and trades hybrid silkworm eggs.*

<https://www.mapion.co.jp/phonebook/M26027/07213/20730127453/>

Tomita Sansyu (Date, Fukushima Prefecture, Japan). Company information and contact details.

<http://www.ehime-sanshu.jp/index.html>

Ehime Sanshu (Ehime, Japan). Produces and trades hybrid silkworm eggs.

* In Japan, pebrine inspection certificates are not issued because the pebrine pathogen has been eradicated since 1923.

@Sericulture - References



1. Aruga, H. (1994). Principles of Sericulture. Taylor & Francis. Google Books ID: qYZds1N0Q-YC
2. Ayuzawa, C., Sekido, I, Yamakawa, K., Sakurai, U., Kurata, W., Yaginuma, Y., Tokoro Y. (1972). Handbook of Silkworm Rearing. Fuji Publishing Co.
3. Ganga, G. (2003). Comprehensive Sericulture. Science Publishers. Google Books ID: IXokAAAACAAJ
4. Krishnaswami, S. (1979). Sericulture Manual: Silkworm rearing. FAO. Google Books ID: o9DhngEACAAJ
5. Lim, S. H., Kim, Y. T., Lee, S. P., Rhee, I. J., Lim, J. S., & Lim, B. H. (1990). Sericulture Training Manual. FAO. Google Books ID: Lc4zvd9fxMC
6. Otsuki, R. (1997). Silkworm Egg Production. Science Publishers. Google Books ID: eGboPAAACAAJ
7. Shekar, P., & Hardingham, M. (1995). Sericulture and Silk Production: A Handbook. Intermediate Technology Publications. Google Books ID: ue-1JAAAAYAAJ
8. Singh, T. (2015). Silkworm Rearing Technology: Principles and Management. Discovery Publishing House PVT. Google Books ID: QOjxrQEACAAJ
9. Tayal, M. K., & Chauhan, T. P. S. (2017). Silkworm Diseases and Pests. In Omkar (Ed.), Industrial Entomology (pp. 265–289). Springer Singapore. https://doi.org/10.1007/978-981-10-3304-9_9
10. Tazima, Y. (1964). The Genetics of the Silkworm. Logos Press. Google Books ID: 6JnwAAAAMAAJ
11. Tazima, Y. (1978). The Silkworm: An Important Laboratory Tool. Kodansha. Google Books ID: JprwAAAAMAAJ
12. Veda, K., Nagai, I., & Horikomi, M. (1997). Silkworm Rearing. Science Publishers. Google Books ID: huhJAAAAYAAJ
13. Wang, S., Li, P., Pan, R., & Ou, B. (1989). Silkworm Egg Production. FAO. Google Books ID: XZJfamWZyRMC
14. Wu, P., Chen, D., Chen, Z., Liu, P., & Tang, H. (1988). Silkworm Rearing. FAO. Google Books ID: Sf2KLVBb-WHMC

@Sericulture - Online resources



https://www.youtube.com/watch?v=1F3_LKTES08

<https://www.youtube.com/watch?v=RShupyKp31A>

<https://www.youtube.com/watch?v=tx03dNxeLOW>

<https://www.youtube.com/watch?v=7rQ3n8ZzOoY>

<https://www.youtube.com/watch?v=6ZbO1hLQBvM>

<https://www.youtube.com/watch?v=4BPYPtXTiUs>

<https://www.youtube.com/watch?v=tx03dNxeLOW>

https://www.youtube.com/watch?v=EBPCj5M_aK8

<https://www.youtube.com/watch?v=-9hrSjsJDDM>

<https://www.youtube.com/watch?v=3Z11e3F2nWY>

<https://www.youtube.com/watch?v=JG8bMUNPA-c>

<https://www.youtube.com/watch?v=CDtulkgwBtA>

<https://www.youtube.com/watch?v=Ar7P1JfzIsc>

https://www.youtube.com/watch?v=cgavTIBQ_Z0



Published in scopes of the ARACNE project

Text: Skarlatos G. Dedos

Graphic design: Diana Mantegazza



Tbilisi, Georgia 2026