Why Mulberry Leaves for Silkworms Are the Only Food That Matters

When you first start raising silkworms at home, the most important lesson comes fast: these caterpillars are picky eaters. Really picky. I have watched beginners offer lettuce, cabbage, even commercial caterpillar chow, only to watch the silkworm larvae ignore it and starve. The truth is simple and non-negotiable. The only thing that keeps *Bombyx mori* alive and growing is fresh leaves from the *Morus* genus. In practice, that means you need to understand exactly how to source, store, and serve **mulberry leaves for silkworms** or you will not get past the first instar.

A One-Track Diet

Silkworms have evolved alongside mulberry trees for thousands of years. Their digestive systems are locked onto the chemistry of *Morus* leaves, especially *Morus alba*, the white mulberry. White mulberry leaves are tender, high in moisture, and low in latex compared to other species. That makes them the gold standard for *Bombyx mori*. But if you have access to *Morus nigra*, the black mulberry, or *Morus rubra*, the red mulberry, those work too. The leaves are a bit tougher and the growth rate may slow, but the silkworms will still eat them. mulberry leaves for silkworms

I have tried all three. White mulberry gives the fastest growth and the healthiest cocoons. Black mulberry leaves are thicker and take longer to dry after rain, which can cause mold issues in the rearing tray. Red mulberry sits somewhere in between. The key is to pick leaves from trees that have not been sprayed with pesticides. Even a trace of insecticide on a single leaf can wipe out an entire batch of silkworm larvae.

Picking and Storing Leaves

If you are raising silkworms indoors, you need a steady supply of fresh leaves. A mature white mulberry tree will produce plenty from spring through fall. The best leaves are the third or fourth from the tip of a branch. They are young enough to be soft but old enough to hold their shape. Avoid the very newest leaves at the tip. They are too high in moisture and can cause diarrhea in the larvae. Also avoid old, dark green leaves near the trunk. They are tough and low in nutrients.

Leaves can be stored in a plastic bag in the refrigerator for up to a week. Do not wash them. Washing strips the natural bloom and introduces extra moisture that can promote bacterial growth. Instead, wipe off dust with a dry paper towel. Before feeding, let the leaves come to room temperature. Cold leaves shock the silkworms and slow their feeding.



Feeding Frequency and Amount

Silkworm eggs hatch into tiny larvae that are barely visible. At that stage, you feed finely chopped leaves. As the larvae grow, you switch to whole leaves. The rule of thumb is to feed enough so that the leaves are mostly consumed by the next feeding, but not so much that old leaves pile up and rot. In practice, that means feeding two to three times a day during the warm months. In cooler weather, once a day may be enough.

One mistake I made early on was overfeeding. I wanted to make sure they had plenty, so I piled on leaves. The bottom layer got soggy, mold grew, and I lost half a tray of third-instar larvae. Now I feed only what they will eat in about six hours. Any leftover leaves get removed at the next feeding. This keeps the bedding dry and the silkworms healthy.

The Role of Leaf Quality in Silk Production

The quality of the leaves directly affects the silk thread. Silkworms that eat nutrient-rich leaves produce larger cocoons with longer, stronger silk fibers. This is especially important if you plan to reel the silk yourself. A *Bombyx mori* cocoon consists of a single continuous silk thread that can be 900 meters long. But if the larvae were underfed or fed poor-quality leaves, the thread breaks easily during reeling.

Sericulture, the practice of raising silkworms for silk, has relied on this relationship for millennia. In traditional sericulture, farmers plant white mulberry orchards specifically to feed their silkworms. The timing of leaf harvest is coordinated with the life cycle of the silkworms. For chawki rearing, which is the early stage of larval growth, the leaves must be especially tender. As the larvae grow and go through molting, they need leaves with higher fiber content to help them shed their old skin.

I have experimented with feeding *Morus nigra* leaves to a group of hybrid silkworm race larvae. The cocoons were smaller and the silk thread was shorter. It still worked for handicraft projects, but if you want consistent quality for reeling, stick with white mulberry.

Seasonal Challenges and Alternatives

Mulberry trees go dormant in winter. If you are raising silkworms year-round, you need a plan. Some people freeze leaves. Others dry them. I have tried both. Frozen leaves work if you blanch them first. Drop the leaves in boiling water for 30 seconds, then plunge them into ice water. Pat dry, bag, and freeze. Thawed leaves lose some moisture, so you need to feed more often. Dried leaves can be rehydrated, but the silkworms do not grow as fast on them.



Another option is to plant a mulberry tree in a pot and bring it indoors during cold months. Dwarf varieties of *Morus alba* do well in containers. The yield is lower, but it keeps you in fresh leaves. I keep two potted white mulberry trees in my sunroom. They produce enough leaves to sustain a small colony through the winter.

What About Other Silkworm Species?

Not all silkworms eat mulberry. The Tussar silkworm feeds on leaves of Terminalia trees. The Eri silkworm eats castor leaves. The Muga silkworm prefers Machilus or Litsea trees. But if you are raising *Bombyx mori*, the domesticated silkworm, you are locked into mulberry. That is why anyone serious about home sericulture learns the ins and outs of **mulberry leaves for silkworms**. There is no substitute.

I have seen hobbyists try to feed other leaves out of desperation. The silkworms might take a nibble, but they stop eating after a day or two and eventually die. The chemistry of mulberry leaves contains a specific attractant called morin, a flavonoid that stimulates feeding in *Bombyx mori*. Without it, the larvae simply will not eat.

Practical Tips for Beginners

If you are starting with silkworm eggs, prepare your leaf supply before the eggs hatch. The tiny larvae need leaves within hours of emerging. I recommend finding at least two mulberry trees in your neighborhood and asking permission to harvest. That gives you a backup if one tree gets sprayed or stripped by birds.

Store leaves in a plastic bag with a damp paper towel in the refrigerator, but not touching the leaves directly. Change the paper towel every two days. Leaves will stay fresh for about a week. After that, they start to yellow and lose nutrients.

When feeding, do not stack wet leaves on top of each other. Spread them out so the silkworms can move freely. The larvae are sensitive to humidity. Too much moisture in the tray encourages bacterial infections. Too little makes the leaves dry out before the silkworms can eat them.



One final note on **mulberry leaves for silkworms**: the timing of the harvest matters. Pick leaves in the early morning or late afternoon when the tree is not stressed by midday heat. Leaves picked at noon wilt faster. And never pick leaves from a tree that has been treated with systemic pesticides. The poison stays in the sap for weeks and will kill your silkworms.

Wrapping Up

Raising silkworms at home is rewarding and surprisingly educational. You learn to pay attention to details like leaf freshness, moisture levels, and the subtle changes in larval behavior. Most of it comes down to one thing: the quality of the food you provide. Get that right, and the rest follows. Get it wrong, and nothing else matters.