

Planting and Production Techniques for
Wild Foods and Aquatic Species

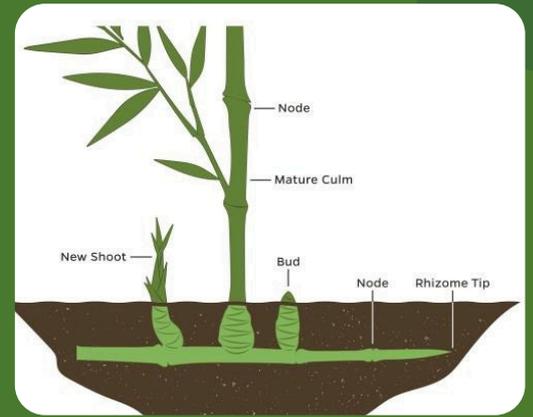
Bitter Bamboo

Propagation and Cultivation



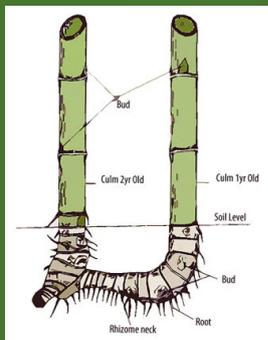
1. Description

Bitter Bamboo is a woody bamboo with straight stems 8–12 m tall and 3–5 cm wide. Young stems have tough, hairy sheaths, and leaves are long, narrow, and slightly hairy. It produces spike-like flowers. This bamboo is used for construction, furniture, and handicrafts, and its young shoots are edible. It also helps stabilize soil and support forest biodiversity. Native to Asia, it grows in forests and home gardens and is harvested sustainably. It is not currently at risk according to IUCN.



2. Bitter Gourd Propagation Techniques by Root Cuttings

2.1 Guidelines for selecting roots:



- Dig up roots in December, after the rainy season, when the soil is easier to work with.
- Do not use roots older than 3 years, as they may grow poorly and produce few new shoots.
- Choose healthy roots that are 1–2 years old and light green in color.
- Ensure the rootstock is free of disease or holes.
- Dig roots to a depth of 30–50 cm.

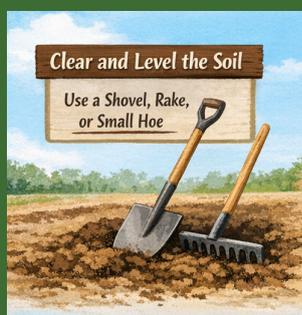
2.2 Handling and storage:

- Place the dug-up roots in a black plastic bag, fill with soil, and press firmly.
- Keep the bag in a shaded area and water every other day.
- Store the rootstock this way until planting, ideally in May, which is the best planting season.



3. Techniques for Planting

3.1 Preparing the Planting Area: Preparing the planting area is simple. Use tools such as a shovel, rake, or small hoe to clear the soil and level the ground so that planting and watering are easier. If the land is uneven, make small drainage channels to allow excess water to flow out and prevent waterlogging. Finally, create a strong fence should be built around the garden to prevent animals and pests from entering and damaging the plants.



3.2 Marking the stake:

- Mark the Line: Clear the area and lay a straight line for the fence.
- Place Stakes: Use wooden sticks (2 cm × 1 m), leaving one end above the ground as a reference.
- Prepare Firebreak: Cut wood to make a 4 m-wide firebreak around the fence.
- Install Cables: Place cables parallel to the ground or fire line, marking every 2 m.
- Secure Cables: Anchor the cables to the ground and add more at 2 m intervals.
- Mark Holes: Mark fence holes along the line, spacing them 2 × 2 m apart.



3.3 Bitter bamboo planting:

- Planting can be done by placing saplings in the prepared area. Alternatively, when the planting season arrives, 1–2-year-old saplings can be dug up from existing trees for planting. However, they should not be left for more than 2–3 days, as they may dry out and die.
- Dig a hole larger than the rhizome, ideally 30 × 30 × 30 cm in size.
- Separate the soil into two parts: topsoil and bottom soil.
- Place the sapling in the hole with its culm base slightly above the soil surface.
- Cover the roots with topsoil first, then add bottom soil, pressing it firmly to match the original soil level. This prevents water retention, which could cause the roots and buds to rot and die.

1



Use 1–2-year-old saplings from existing trees for planting.

2



Dig a hole slightly larger than the rhizome, about 30 × 30 × 30 cm.

3



Press soil to prevent waterlogging

4. Care and maintenance



4.1 Watering: After planting, water regularly every other day. However, if it rains, additional watering is unnecessary.

4.2 Weeding: Weeds should be removed twice a year before the rainy season (May) and at the end of the rainy season (November). When weeding and turning the soil, handle with care, as bitter bamboo roots are shallow. Disturbing the roots may cause the stump to die or grow slowly, as bitter bamboo is a single-stemmed plant that continues growing along its root system.



4. 3 Fertilizing: Fertilizer is typically applied at the beginning of the rainy season. For bitter bamboo, it should be applied before the budding season. After weeding, apply fertilizer in a 15:15:15 ratio by sprinkling it around the trunk, approximately 1 meter from the base. Cover the fertilizer with weed debris to retain moisture and nutrients.

4. 4 After planting, cover the root area with a husk. Mulching helps retain soil moisture, regulate temperature, and encourages the growth of strong, long new shoots. In addition, the mulch acts as a barrier to control unwanted spreading, keeping the plant contained within its designated area.



Fertilizer



Husk



About the Series

The AFN II Practical Guides on Wild Foods and Aquatic Species are a series of brochures with solutions for land users, NGO staff, extension workers, or farmer associations. Brochures in the series focus on one of three aspects:

1. Planting and production techniques
2. Sustainable harvest & management
3. Essential tools and equipment

Find the information online: The brochures are all available digitally on the Pha Khao Lao Website (www.phakhaolao.la). Scan the QR code on the right to watch a video on the Propagation and Cultivation of Bitter Bamboo. More videos are available on the Pha Khao Lao YouTube Channel (**Phakhao Lao**)

Authors and Funding

The series is prepared by the National Agriculture and Forestry Research Institute (NAFRI), Ministry of Agriculture and Environment, and the Centre for Development and Environment (CDE), University of Bern. It is developed as part of the Agriculture for Nutrition, phase II project funded by IFAD and GAFSP, and implemented by the Lao Government.

