

NONLEGUMINOUS AGROFORESTRY TREES

In addition to the more conventional crops, many trees are used around the small farm for a wide variety of purposes. The potential multi-uses of trees on the small farm are many, including the production of food, feed, industrial raw materials, lumber, and fuel, living fences, alley cropping, shade, source of nutrients for the soil, and erosion control. Altitude ranges are given as a guide. We have an [Agroforestry Principles Technical Note](#) if you are interested in this area.

Seeds are available to members of our network.

To find out how to request seeds, visit the [Seed Bank Policy](#) page.

[Neem](#) | [Gumbo Limbo](#) | [Tagasaste](#) | [Eucalyptus](#) | [Silk Oak](#) | [Physic Nut](#) | [Red Mahogany](#) | [Moringa](#) | [Camel's Foot](#) | [Cassia](#) | [Terminalia](#) | [Toona](#) | [Buffalo Thorn](#)

Azadirachta indica

Elevation: 0-1500m

Neem

SA,

MS

Seed available in September and October. Seeds are viable for about 1-3 months. Extremely drought tolerant; grows quickly to yield fuelwood, excellent charcoal and durable timber. Seeds and leaves used to make insecticide/fungicide. Has anti-microbial and anti-fungal properties. Does poorly in water-logged soils and is frost sensitive. Established trees withstand drought and intense sunlight. Optimum Soil pH: 5-7. [Seed image](#)

[top](#)

Bursera simaruba

Elevation:

0-1000m

Gumbo Limbo

MS, LL

Images: [tree leaves seeds](#)

The light, soft, spongy wood can be used for fence posts, or the trees can be grown and used as a living fence. Wood is also used for timber and fuel. Turpentine-scented resin often used for making glue or varnish. Gumbo limbo coppices well. It has high wind and salt tolerance. Grows best in sandy, well-drained soils. Can grow up to 20m tall. Native to the tropical Americas.

Chamaecytisus prolifer

Elevation:

0-1000m

Tagasaste/ Tree Lucerne

MS, T

Tagasaste is a fast-growing shrub or small tree, originating in La Palma in the Canary Islands. Tagasaste produces high yields of palatable, nutritious fodder as well as shade for livestock. It helps to control soil erosion and increases fertility. It produces nectar for bees and the thick branches produce an intense heat

when used as fuelwood. Successful growth is best in temperate regions with wet winters and dry summers. Have been reported to survive at 3000m in Ethiopia. Seeds are attractive to birds.

Eucalyptus camaldulensis

Elevation: 0-1500m

Red Gum

SA, LL,

M

Spreading tree to 40 meters. Useful source of fuel on dry coastal soils. Good for saline and alkaline soils. Optimum soil pH: 5-7. Rainfall: 600-1000mm/year.

Grevillea robusta

Elevation:

0-3000m in tropics

Silk Oak

SA,

MS, H

Excellent timber production; for high altitudes, wide climatic range; requires medium soil fertility; moderate drought resistance; wind firm; some weed potential; little competition with crops for water. Optimum soil pH: 5-7.

[top](#)

Jatropha curcas

Elevation:

0-1600m

Physic nut

SA, MS

The oil from the seeds is used for candles, soap, and bio-diesel production. The oil can be processed and used as a substitute for diesel fuel. An oil lamp may be made with a floating wick. The seed shells and wood can be burned for cooking. However the seeds are **highly toxic** to humans and many animals because they contain the protein curcin and diterpene esters. Optimum soil pH: 5-7.

Khaya nyasica

Elevation:

0-1000m

Red Mahogany

SA, MS,

H

It is an important timber species, also for furniture, firewood, tools, carving and for canoes. An infusion of the bark is said to relieve colds and oil from the seeds is reported to kill head lice. Native to Malawi, Mozambique, Tanzania, Uganda, Zambia, and Democratic Republic of Congo.

Moringa oleifera

Elevation:

0-1000m

Moringa, Horseradish Tree, Drumstick tree

LL, MS, SA,

H

There are approximately 13 moringa species. Of these, *M. oleifera* is the most widely known. It is commonly grown for its nutritious leaves, which can be dried and pounded (e.g. in a mortar and pestle) to convert to leaf powder. The powder can then be added to food dishes. High density plantings can be used, along with pruning, to maximize leaf production. Moringa can also be grown for its edible pods

(harvested/cooked at an immature stage).

Moringa stenopetala

Elevation:

1000m-2000m

African Moringa

SA, MS,

H

Whole plants have been used as living hedges, fences, and windbreaks. The wood is very soft: useful for paper but makes low-grade firewood and charcoal. A fast growing tree. Note: *Stenopetala* performs best in drier climates. Refer to **Leafy Vegetables** section for varieties available. Optimum soil pH: 5-7.

M. stenopetala images: [Flowers](#) [Leaves](#) [Pods](#) [Seeds](#) [Tree](#)

[top](#)

***Piliostigma Thonningii* (or *Bauhinia Thonningii*)**

Elevation:

0-1850m

Monkey Bread/Camel's Foot

SA, MS, H

The Monkey Bread tree has many uses for humans, animals and the soil. Humans eat the pulp, pods, fresh leaves, bark and substitute the green pods for soap. The greatest use is for making firewood and building construction but the gum tapped from the bark is used as caulking, the bark is made into rope, and extractions from various parts are used for dye and tannin. Cattle will eat the leaves, bark, pods and seeds. Bees find the blossoms are a good source of nectar. Tolerates heavy clay soils.

Senna spectabilis

Elevation:

0-2000m

Cassia

SA,

MS, H

A rounded, deciduous tree up to 10m. *S. spectabilis* is tolerant of cool conditions. Popular as shade and ornamental. Fast growing, used for fuelwood, green manure, and light construction. Optimum soil pH: 5.5-7.

Terminalia sericea

Elevation:

0-1500m

Silver Terminalia, Silver Cluster

MS, LL, H

Trim wings or plant fresh. Plant 1.5-2cm deep. Thrives in sandy soils with moderate rainfall (350-750mm/yr). Common as a shrub or tree (5m) useful for reforestation, construction, medicinal properties, and general purpose wood. The roots can be cut into strips and used as a strong rope. The wood is also termite resistant.

[top](#)

Toona ciliata

Elevation:

0-1500m

Toon Tree

MS,

LL, H

The toon tree is a large deciduous tree, reaching 20-30 m (70-100') high and 1.8-3 m (6-10') in girth with a large spreading crown and shallow roots. The wood is valuable for firewood, charcoal, timber, windbreaks, furniture and as a substrate for growing shitake mushrooms. There is a strong, long-lasting spicy odor to the wood and the flowers. The flowers also produce abundant nectar and are an ingredient in yellow dyes. The leaves are used as fodder for animals and as mulch. Some bark extracts have insect-repelling properties. **Can become invasive** if conditions are favorable. More drought tolerant once established (700mm/yr). Optimum soil pH: 5.5-6.5.

Ziziphus abyssinica

Elevation:

400-2000m

Buffalo Thorn

SA, MS,

H

This is a thorny shrub or small tree that can reach heights of 7-12m (25-40feet). Grows well in arid, tropical, or subtropical climates at low altitudes of 400-2000m (1300-6500 feet). It can tolerate cold temperatures as low as -25° C (-13°F) and rainfall from 300-2000mm (12-80 inches). The bark is used for making a dye. It is grown for both fruit and foliage for human and livestock consumption. The wood makes good firewood, charcoal, fence posts, and furniture. The thorns on the tangled branches makes this specimen excellent as a living fence. Optimum soil pH: 5.5-7.5.

[top](#)