

Molokai Small Tree Plantations For Homestead Lots



(University of Hawaii's College of Tropical Agriculture and Human Resources small tree plantation in Hoolehua, Molokai. The stand consisting of milo, kamani, kou, and kukui is about nine years old in photo).

In Partnership With:

Department of Land and Natural Resources

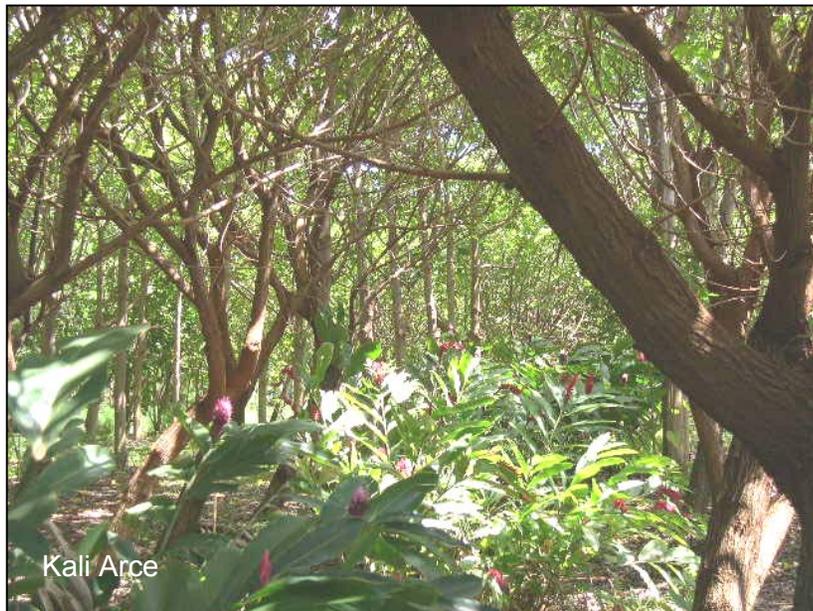
University of Hawaii
College of Tropical Agriculture and Human Resources
Cooperative Extension Service

Department of Hawaiian Home Lands

The Molokai Homesteader Small Tree Plantation Training Project began in July 2004 with a Renewable Resources Extension Act Grant. In September, the project was awarded a Forest Land Enhancement Program grant to continue its objectives. The training is coordinated and conducted by Rogerene "Kali" Arce, an Extension Agent with the UH Cooperative Extension Service and a homesteader.

Through this training project, eight homesteaders will establish a small tree plantation on their homestead agriculture and pasture lot by December 2005. Total acreage to be planted for this project is 10 acres. The goal is to create homesteader-owned farming enterprises and entrepreneurs. The idea grew out of an agroforestry system planted in 1995 by Kali Arce and Alton Arakaki, also an Extension Agent on Molokai.

Tree species shown in this brochure are high-value hardwoods with cultural and environmental values selected by homesteaders and planted on homestead land on Molokai.



(Ginger understory at UH CTAHR's tree plantation in Hoolehua, Molokai. Photo dated 2004).



Kamani seedling
Kali Arce

For assistance with tree species selection
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An Illustrated Guide to
Agroforestry and Tree Farming in Hawaii
www.ctahr.hawaii.edu/forestry/Data/trees.html

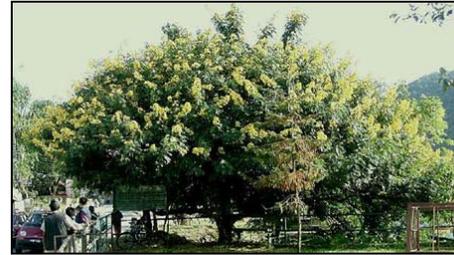
Milo (*Thespesia populnea*)



Kamehameha I was surrounded by mило.

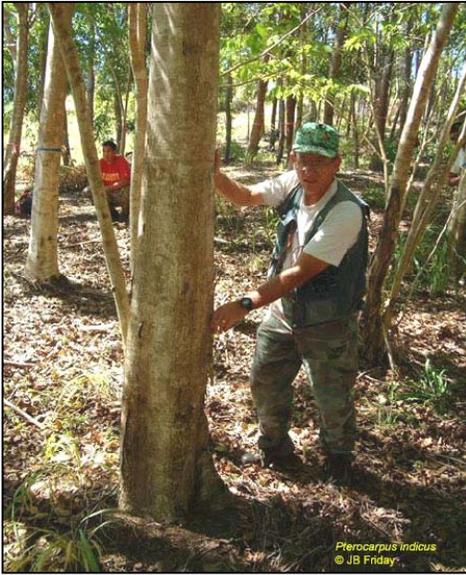
- High value hardwood.
- Uses: timber, craft, and landscaping.
- Also yields tannin, dye, oil, medicine and gum.
- Elevation: 0 - 500 feet.
- Rainfall: 15+ inches.
- 20 years to first harvest.
- Salt and wind tolerant.
- Milo grows to 30 - 40 feet in height.
- Brought to Hawaii by Polynesian settlers.
- In old Hawai'i, mило was a common tree, cultivated for its shade around homes near sunny coastal areas.
- The Waikiki home of

Pheasant Wood (*Cassia siamea*)



- High value hardwood.
- Uses: timber, veneer, craft, and landscaping.
- Elevation: 600 - 2000 feet.
- Rainfall: 40+ inches.
- 20 years to first harvest.
- Wind tolerant
- Native to East India, Malaysia, India, and Sri Lanka.
- The wood's grain looks like feathers, hence the name pheasant wood and makes distinctive bowls and musical instruments.

Narra (*Pterocarpus indicus*)

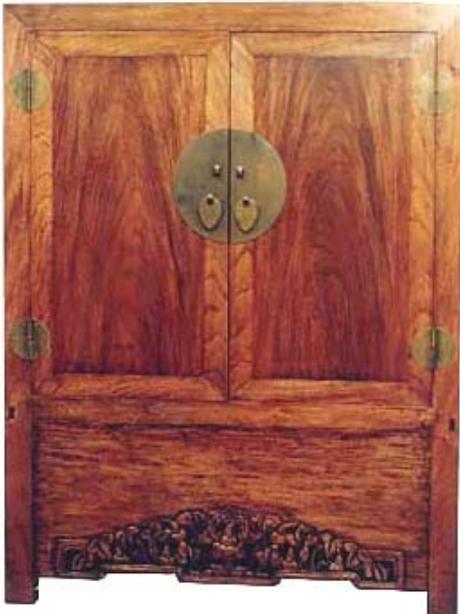


- High value hardwood.
- Uses: flooring, furniture, cabinetry.
- Elevation: 200-1500 ft.
- Rainfall: 20+ inches.
- 30 years to first harvest.
- Native to the Philippines, Borneo, Burma, New Guinea
- Grows up to to 80 ft tall, and 36 inch in diameter.
- Wind tolerance: good.
- Nitrogen fixing tree.

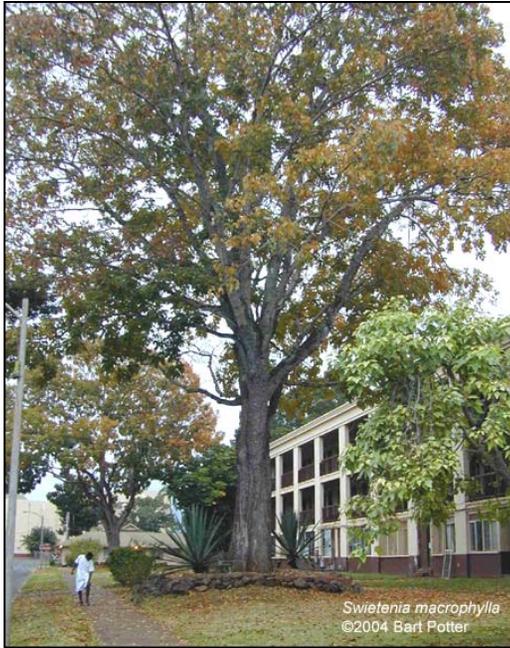
Kamani (*Calophyllum inophyllum*)



- High value hardwood.
- Uses: timber, veneer, craft, and landscaping.
- Elevation: 0 - 600 feet.
- Rainfall: 20+ inches.
- 30 years to first harvest.
- Salt and wind tolerant.
- Brought to Hawai'i by Polynesian settlers.
- Grows along sandy shores and lowland forests.
- Grows up to 60 feet tall.
- Wood used to make canoes; homes; `umeke la`au, and `umeke kamani.
- The seed, leaves, gum and bark are said to have medicinal properties.
- A lamp oil for light was produced from the kernel and was used at times instead of kukui nut oil. This oil may also be useful for lomi lomi massage, especially when enhanced with coconut oil or flower fragrances. The oil may have been used to waterproof and dye tapa cloth.
- Kamani was often planted around Heiau and temples and considered a sacred tree in parts of Polynesia.



Honduras Mahogany (*Swietenia macrophylla*)



- High value hardwood.
- Elevation: 200-1000 feet.
- Rainfall: 40+ inches.
- Wind tolerant.
- 20 years to first harvest.
- Uses: Fine furniture and cabinet making, interior trim, paneling, veneers, musical instruments, boat building, crafts.
- Grows up to 150 feet in height and 6 feet in diameter.

Kou (*Cordia subcordata*)



- High value hardwood.
- Modern uses: timber, landscaping, craft.
- Elevation: 0 - 600 feet.
- Rainfall: 20+ inches.
- 20 years to first harvest.
- Salt and wind tolerant.
- Brought to Hawaii by Polynesian settlers.
- Kou grows to 30 - 40 feet in height.
- Prefers sunny warm coastal lowlands on the leeward side.
- Cultivated near settlements, it was a favorite shade tree near home sites.
- Fashioned into bowls and other eating utensils. Also canoes, paddles, calabashes and boxes, and jewelry.
- The orange flowers have no scent and may be used for lei.
- Kou occurs in ancient legends of Polynesia, one of which suggests that kou was one of the first trees created.

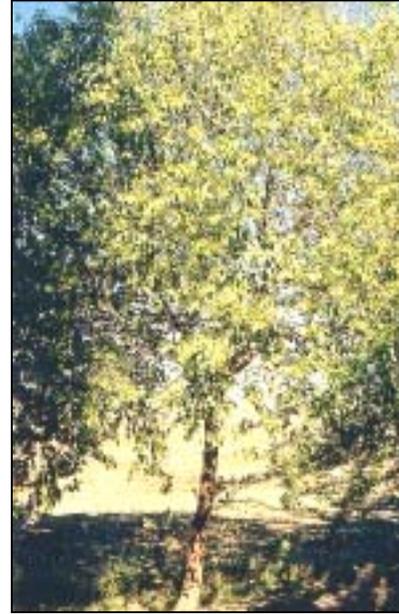


Acacia Koaia (*Fabaceae*)



- Elevation in leeward areas of all islands.
- Elevation: 0 - 2500 feet.
- Rainfall: 20+ inches.
- Nitrogen fixing tree species.
- Leaves have been used for medicinal purposes.
- Used for spears and paddles.

Indian Sandalwood (*Santalum album*)



- High value hardwood, also incense and oils.
- 20 years to first harvest.
- Needs nitrogen fixing host.
- Elevation: 0 - 2000 feet.
- Rainfall: 40+ inches.
- Faster growing than native sandalwood.

Native Sandalwood (*Santalum ellipticum*)



- High value hardwood, also incense and oils.
- Needs nitrogen fixing host.
- Elevation: 0 - 1000 feet.
- Rainfall: 20+ inches.
- 40 years to first harvest.
- Native to lowland dry forests in Hawaii.