Growing high-value timbers in Hawaiʻi

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Mindanao gum- Eucalyptus deglupta
Some Tree Farms

- Intercropped timber and nitrogen-fixing species in Hāmākua
- 17 acres, owned by a hui of 3 families
Toon & 13 other timber species in Kona

(81 acres, family owned)
Native forest in Kona
(130 acres above coffee plantation and tree farm)
Honduran mahogany and teak on Kauaʻi
(Family owned, 230 acres, integrated orchard, tree farm, and botanical garden)
Sandalwood in Hāmākua
(4 acres)
Kou, *Cordia subcordata*

- Very high value timber, heavy and brown color, favored among local woodworkers, turners
- Salt and wind tolerant, coastal tree
- Native to Hawai‘i
- Medium rotation
- Silviculture little known
Kamani, *Calophyllum inophyllum*

- High value timber favored among local woodworkers.
- Salt and wind tolerant, coastal tree.
- Polynesian introduction to Hawai‘i.
- Silviculture little known.
Milo, *Thespesia populnea*

- Very high value timber, heavy and reddish color, favored among local woodworkers.
- Salt and wind tolerant, coastal tree,
- Polynesian introduction to Hawai‘i.
- Medium rotation
Breadfruit, *Artocarpus altilis*

- Yields both fruit and timber
- Attractive yellow wood
- Fast-growing
- Also can use jackfruit wood
Mango, *Mangifera indica*

- One of most-often sold wood in Hawai‘i today
- Demand for furniture, flooring, outstrips supply
- May have attractive figure
- Harvested from old trees
- Silviculture?
Narra, *Pterocarpus indicus*

- High value wood ranges from golden to blood red in color.
- National tree of the Philippines.
- Long rotation.
- Often planted as an ornamental, seldom for timber.
- Poor bole form common. May be helped by better seed / genetic material?
Narra, *Pterocarpus indicus*  
- Nitrogen-fixer  
- Pea family
Pheasantwood, Thailand cassia, 
*Senna siamea*, syn *Cassia siamea*

- Non N-fixing legume,
- High value timber
- Rapid growth in Hawaiʻi, medium rotation.
- Wood is highly figured and used for decoration on craft pieces.
- Drought tolerant.
- Usually grown as an ornamental for showy flowers.
Pheasantwood, Thailand cassia, *Senna siamea*, syn *Cassia siamea*

- *Borers on a five-year-old pheasantwood in Pepeʻekeo*

Flowering nine-month-old pheasantwood on Kauaʻi
Honduran mahogany, Big leaf mahogany, *Swietenia macrophylla*

- High value wood used for furniture and cabinetwork
- Long rotation.
- Fairly rapid growth in Hawai‘i.
Honduran mahogany, Big leaf mahogany, *Swietenia macrophylla*

- Wind tolerant.
- Native to Central American rainforests, protected in the wild. Major plantation species worldwide.
Cedrela odorata: Spanish cedar

- High value timber
- Mahogany family, native to Central America
- Moderately rapid growth
Toon, Australian redcedar, *Toona ciliata*

- Valuable timber, red, easy to work,
- Cool weather tolerant.
- Needs deep soils.
- Favored in Hawai‘i
- Medium rotation.
- Naturalizes, may become a weed.
Teak, *Tectona grandis*

- High value wood is golden in color and resistant to decay
- Used for outdoor furniture and boat building.
- Long rotation.
- Native to south and southeast Asia and seasonal climates.
- Drought tolerant.
- Major tropical plantation species worldwide. Performance here in Hawaii variable.
Rainbow gum, bagras, kamarere

*Eucalyptus deglupta*

- A potential timber tree
- Native to low elevation, high rainfall areas in Indonesia and Philippines,
- Short rotation.
- Poor choice as an ornamental because of its size.
- Growth performance in Hawai‘i has been variable.
Eco-tourism

• Locally-grown wood as part of local architecture
• Guest house in tree farm in Pāpaʻaloa
Use in local architecture

- Eucalyptus robusta flooring in Hilo
Koa, *Acacia koa*

- Hawaii’s premier timber tree
- Second only to ‘ōhi‘a in Hawaii’s forests
- Key wildlife habitat
- Moderately rapid growth, N fixation
- Prolific
- Natural regeneration
Koa, *Acacia koa*

- Many pest and disease problems
- Black twig borer
- Koa wilt
- Most damaged by cattle
- Historically poor performance as a plantation species
Koa, *Acacia koa*

- Supports an extremely high value added industry
- Value of finished product may be ten times the value of raw materials
“Green” certification

• Need to demonstrate that tropical timbers grown in Hawai‘i are being grown on a sustainable basis
• Several certification systems exist internationally
• Private landowners working with mainland or international organizations leading the way
• Will see certification here in next few years