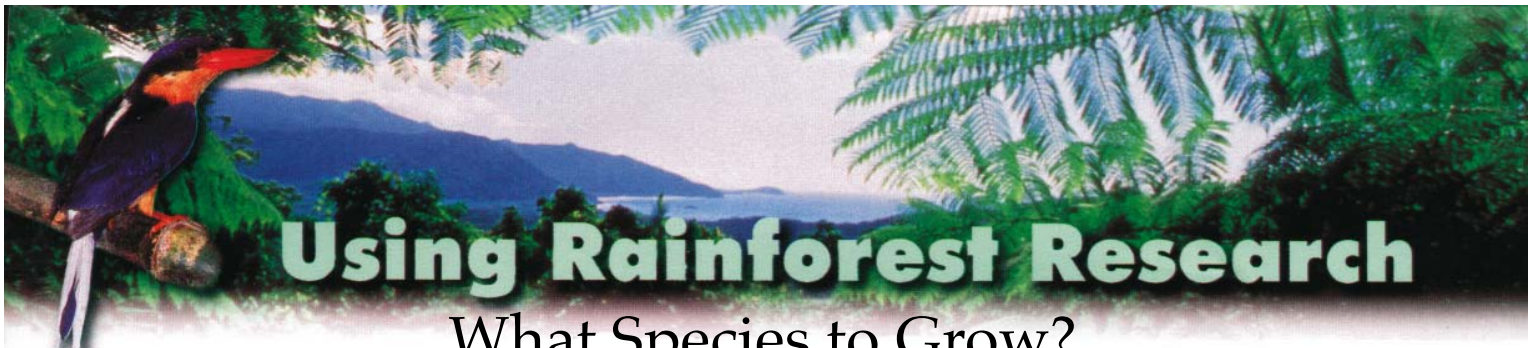


Using Rainforest Research

What Species to Grow?

Some factors affecting the choice of trees for farm forestry

November 1997

Landholders have shown increasing interest in "farm forestry" in recent years because growing trees on private land for future timber production provides a number of benefits, both in the short and long term.

In the short term, trees on farms provide environmental benefits such as stream bank stabilization, improvements in water quality, shade for stock, and farm beautification. In the long term, properly managed plantations could provide significant income streams from harvesting high value cabinet timbers, as well as an increase in land values. However, establishing a plantation requires more effort than just planting trees. Such long term ventures take a considerable amount of thought and planning, particularly the decisions about which species to plant.

For example, when choosing a plantation species, landholders might ask themselves:

- What species will grow best on my land?',
- Do I want to plant exotic species or do I wish to plant native species which will attract wildlife?,
- How long am I prepared to wait to harvest?,
- What are the tradeoffs that I will have to make between obtaining environmental benefits and producing timber?
- Will I be able to sell the timber when I harvest it?

Once planted, most plantation species will not be ready for harvesting for several decades.
Given that amount of time, it would be impossible for landholders to predict whether or not their raw timber product will be in demand. If uncertainty could represent an unacceptable risk.

To minimize some of that uncertainty, a team of researchers has been investigating the financial and economic aspects of the timber needs. Results from this study and others, such as the effects of reforestation on land values and non-market benefits of forestry, are being used to develop financial models to predict returns from plantations.

One of the more advanced native plantations on the Atherton Tableland

Table 1

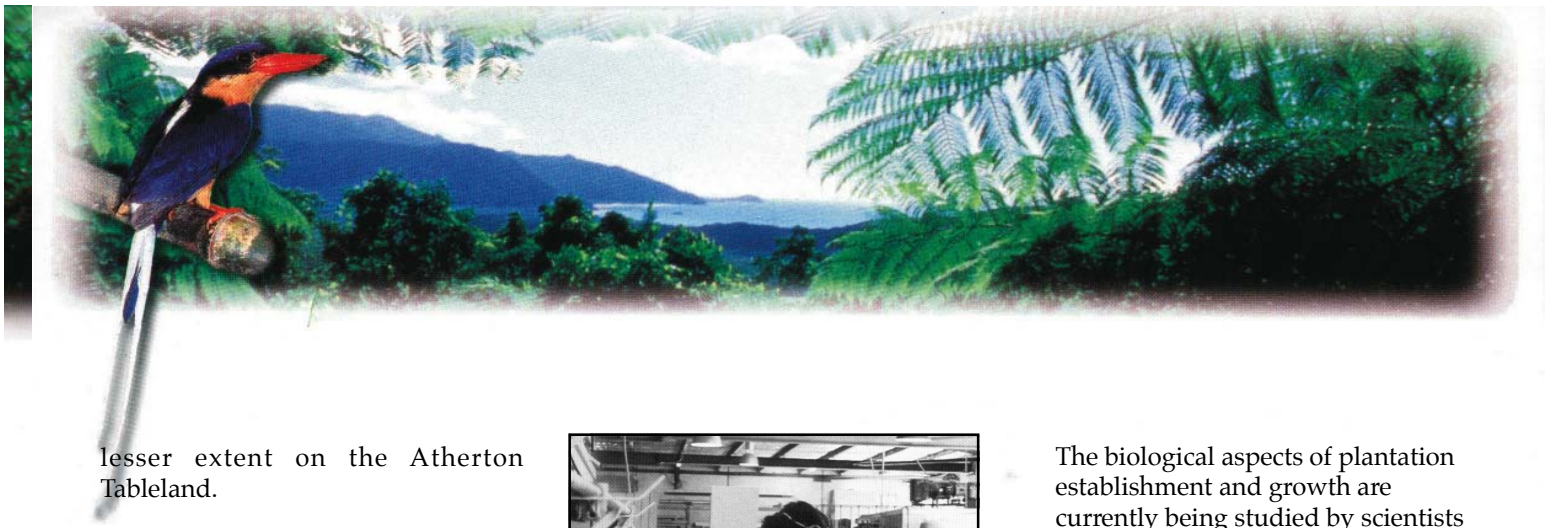
Species	Cairns Ranking	Brisbane Ranking
Queensland Maple	1	4
Northern silky oak	2	5
Red Cedar	3	2
Black walnut	4	6
Tasmanian Oak	5	1
Hoop pine	13	3

Timber market analysis

Cabinet -makers have traditionally been one of the largest users of rainforest cabinet timbers. The team's initial studies canvassed the opinions of a variety of cabinet-making business managers and their employees in north Queensland and Brisbane. These surveys allowed the team to determine which timber species are most popular to work with, and, which timbers are most sought after by their customers. The answers give an insight into which rainforest timber species (and eucalypt species) cabinet-makers believe should be planted now in order to satisfy their future timber demands. The most common responses to this survey are outlined below in Table 1.

What timbers do cabinet-makers want?

There is general agreement between both Cairns and Brisbane cabinet-makers about which rainforest and eucalypt species they prefer. Although the actual rank of a particular species may differ slightly, the same five species are listed in the six most popular species for both areas. The one exception is hoop pine, which is a native pine grown in large scale plantations in south-estern Queensland and to



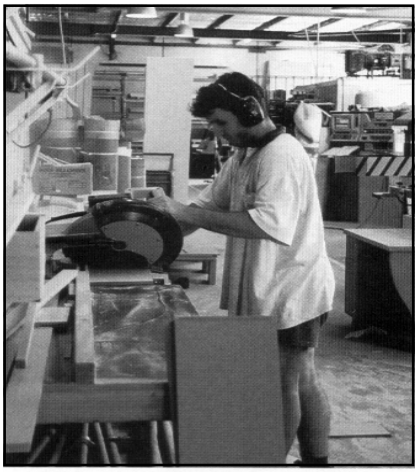
lesser extent on the Atherton Tableland.

Hoop pine was ranked third in popularity among Brisbane cabinet-makers but was only ranked thirteenth by those in Cairns. This difference is possibly due to the market penetration acheived for this species through a combination of ready availability, price competitiveness and promotion in the Brisbane market.

How do these results affect the choice of tree species?

The results indicate that Queensland maple, red cedar, northern silky oak, black walnut, Tasmanian oak (which is actually a variety of eucalypt species) and hoop pine have good market prospects. Cabinet-makers and their customers approve of these timbers and consider them a good choice for planting. As such, the species in this 'top six' are a good starting point when choosing which trees to plant.

It is always possible to create a future market for a species which is currently not in demand. The popularity of Tasmanian oak is a classic example of what good marketing can do, and the recent marketing success of hoop pine (Arakaria*) in southern markets is another example. However, the species in the top six represent the 'safest bet' given the long time until harvest and the work which would have to go into growing volumes of other less popular species, and building market demand.



Cabinet-makers and their customers - indicate their future timber needs

What other factors affect the choice of trees to plant?

Based on this information, a landholder could be forgiven for rushing out and planting fields with say, Queensland maple. Yet, he or she might find that Queensland maple does not grow well on their particular piece of land. Decisions on which species to plant require the consideration of a number of other factors.

As with other corps, the quality of the harvest is affected by the availability of nutrients and the mixture of species. The biology of the species and its pests, and the characteristics of the landowners site also affects the timber growth rate and time to harvest. For example, red cedar is prone to be attacked by a tip borer moth and, as a result, farmers have been reluctant to plant this species. Also, black walnut grows very slowly and northern silky oak only grows well on some sites.

The biological aspects of plantation establishment and growth are currently being studied by scientists from JCU, led by Dr Bob Congdon, from the University of Queensland, led by Dr David Lamb, and by Dr Rod Keenan and his staff from the Queensland Forest Research Institute. Information sheets featuring their work will be produced over the next year. The choices which landowners make may sometimes come back to weighing up the goal of growing trees for timber with other personal, or environmental goals such as growing trees for improved stream bank stabilization or farm aesthetics. These considerations may mean that there are better species choices available than those in the cabinet-makers' top six.

For more information

Landholders seeking further advice about the cabinet-makers survey and other financial factors of farm forestry can contact:

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A valuable reference on agroforestry is:
Reed R and A Stewart, 1997
"Agroforestry: Productive trees for shelter and land protection in the Otways."
Otway agroforestry network, Victoria. (The species mentioned are different but most of the information is relevant).

PHOTOS: PETER LIK: WETROPICS