

Opportunities for Growing Tree Crops in the Top End of the NT

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With dwindling international supplies of timber and reduced wood supplies from native forests nationally, attention in Australia is turning to plantations as alternative means of providing this resource.

In the Top End of the Northern Territory, there is continuing interest in growing timber trees and an increasing recognition of the associated economic, social and conservation benefits.



Timber can be grown as:

- **Rural woodlots.** Rural woodlots are small plots (1 to 100 hectares) based on high-value timber species. Some examples of suitable species to grow are *Khaya senegalensis* (African mahogany), *Tectona grandis* (teak), *Eucalyptus pellita* (red mahogany), *Pterocarpus macrocarpus* (Burma Padauk), *Pterocarpus indicus* (Narra or New Guinea rosewood) and *Eucalyptus camaldulensis* (red river gum).

An increasing number of block owners are growing timber trees. However, because individual crops will be only small in volume, partnerships or cooperatives should be formed with other woodlot growers. Value adding on the farms should be practised to get the full benefit of the resource. An example of value adding could be through the purchase by the partnership of a small portable sawmill and a kiln to dry the finished product.

- **Farm forestry.** Farm forestry is the integration of timber trees into agricultural systems. This may combine timber production with the growing of legumes, fodder trees, shade trees and land conservation plantings on the farm.
- **Special native tree crops.** This type of planting may be established as an alternative source of native forest products. An example of such products may be Aboriginal bush tucker and Aboriginal artifacts harvested from these plantings to reduce the impact on native forests.
- **Irrigated tree crops.** This approach would incur much higher establishment costs, but provides the prospect of increased growth rates and an earlier return on investment. Similar partnerships could be formed as mentioned in the rural woodlots part to receive the full benefit from the planting.

Trial plantings have already been established in the Top End including some species showing promise as mentioned above. On remote Aboriginal settlements and cattle stations, irrigation from sewage ponds could be utilised for this purpose.

- **Urban forestry.** Urban forestry adds an economic dimension to the use of trees for aesthetic or environmental purposes in public use areas such as parks, nature strips and schools. The size of this resource could potentially be quite significant. Such areas are frequently already under irrigation.

These small-scale forestry systems are relatively new concepts in the Northern Territory and are far removed from previous forestry activities involving large-scale government plantations in remote regions of the Top End. Previous forestry activities did trial some 200 species and demonstrated that several were commercially good. Selected species of either native or exotic timber trees can be used in most of the above situations and in some instances with a clear advantage over other tropical forestry regions.

Timber is becoming an increasingly attractive crop in Australia. Whilst most plantations were originally established by State and Territory Governments, investors such as tree farmers, portfolio-based investors and life-style investors are becoming increasingly active in this field.

The following key factors can assist NT tree farmers to establish a viable industry

- The opportunity for increased diversity in farm products, utilising forest crops to provide an additional land use option.
- Labour resources are readily available, and many landholders have land that is suitable for growing trees but is not currently in use.
- A combination of land and climate well suited to growing trees.
- The scope for import replacement by encouraging local tree farming activities.
- The proximity to Asia, which is the fastest growing market world wide for forest products.
- Government funded research to help determine appropriate species and silviculture regimes.

RISKS AND CONSTRAINTS

Farm forestry is a long-term commitment viewed by many in the community as a risky endeavor. Farmers and their information providers are typically cautious about diversifying into tree growing on their properties because of a lack of knowledge and are wary of the perceived risks involved. Research is being conducted to improve understanding of commercial tree growing on farmland and how to manage risks.

REQUIREMENTS

- Profitable farm forestry starts in the nursery.
- It costs just as much to grow a tree using the very best genetic seed available as it does to use seed of unknown quality. The initial outlay for the improved seed may cost a little more, but the end result will be a far superior stand of trees. This will result in a larger volume and better quality timber at harvest.
- The site needs to be prepared properly before planting. Soil pH needs to be determined and the planting lines deep-ripped. If the soil is too acidic, sufficient lime can be added to the ripped line so as to raise the pH.
- Spraying the planting lines with Roundup and then again with a mixture of Roundup and Simazine just before planting will give the seedlings a good weed free bed.
- Individual tree application of 200 g of a complete fertiliser with trace elements should be done at planting. This application can be split into two applications of 100 g at planting and another 100 g one year later, if so desired.
- Controlling weeds in the field in the first few years of the life of the tree is very important and will go a long way towards a healthy and successful venture.
- Ongoing management such as thinning and pruning is essential to maximise the value of the product and increase profits.
- Planning needs to be part of all management stages to increase efficiency and ensure time is available to manage the stand to its highest potential.

THREATS

Cyclones, fire, insect attack and disease each poses a threat, but the risk in these regions may be considerably lower than in plantation programs elsewhere. Catastrophic fires such as occur in the southern parts of Australia are less likely under tropical conditions, while the cyclone frequency in this area is much lower than for other commercial plantation centres in the tropical belt.

Although strong winds have been experienced locally on some sites, extensive damage has not occurred in Northern Territory plantations to date. Damage by cyclone Tracy in December 1974 to a plantation at Howard Springs was lighter than expected, despite estimated winds of around 150 km/hour. Resistance to wind damage can be improved by breeding, selection of species and appropriate stand management.

The giant Darwin termite, *Mastotermes darwiniensis*, does pose a significant threat and may preclude the use of particular susceptible tree species in some areas; however, the inflicted damage may be reduced under irrigated conditions.

Fire management regimes are currently implemented with success in the Northern Territory and would need to be practised to reduce the risk. While these risk factors must be recognised, they do not appear to place serious limitations on plantation or woodlot development in the Northern Territory.

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