

Investing in Tropical Trees

How to Make Money with Hardwood Lumber: A Passive Investors' Guide

by **Dexter B. Dombro, B.A., LL.B.**

Tropical trees and hardwoods have outperformed the stock markets since before the 1940's. Can you say the same thing for your portfolio? All you have to do is go to a lumber yard that deals in tropical hardwoods and check out the board foot prices to realize that this is a commodity like no other. Even on sale or with a special discount most hardwoods are almost unaffordable. This *Passive Investors' Guide* is designed to provide the reader with a quick education in the benefits of investing in tropical trees. It is also meant to serve as a handy reference for terminology, the science of hardwood trees, popular conventions and examples of some plantation tree species.



Above: Finding available, affordable land for tropical tree plantations isn't easy, adding to the value of the hardwoods at harvest time.

Tropical trees have appeal around the planet. Potential markets are not restricted to just one or two regions, but rather extend to every continent on the planet. Even when the economy in North America is in recession, China and India are buying. Many regions have virtually no or scarce lumber resources, such as North Africa and the Middle East, India, Pakistan and China. Some regions have few hardwood resources that can be grown in economically feasible time periods, being instead limited to softwoods, such as most of Europe, Russia, Canada and much of the United States.



Above: The beauty and durability of hardwoods is one of their main features. This is an example of a cross section of *Acacia mangium*.

What are the economic factors that make tropical trees so valuable? Simply put, the answer can be broken down into three main points:

1. Every year there are more and more people on our planet eager to consume wood products for: construction, furniture, pulp and paper and fuel, to name just a few wood uses.
2. Every year there are fewer and fewer natural forests accessible to loggers, making demand exceed supply in many instances.
3. Tree plantations and wood lots have to compete with urban areas and agricultural uses for available land, restricting the number of plantations that grow hardwood trees.



Above: Demand for tropical hardwoods is international and unlimited.



The Science of Tropical Hardwood Trees



Above: This *Eucalyptus pellita* plantation is located 6° N of the equator.

What makes a tropical tree a hardwood? Hardwood is usually harder and denser than softwood. Hardwood trees are frequently broadleaf and evergreens, in that they grow for 12 months of the year. The density of tree wood is based on a number of factors, such as rate of growth, amount of heartwood, moist versus dry condition of a given volume of wood, and how much carbon the tree allocates to building its woody biomass. For the purpose of this guide we are concerned with tropical hardwood species that mature rapidly, are significantly denser than softwoods, and offer a variety of uses after harvest. As an example and for practical purposes, some species like *Caraipa llanorum* are dense but still easy to work, whereas *Acosmium nitens* is so dense termites leave it alone.

The tropics are usually defined as being between the Tropic of Cancer (23° N Latitude) and the Tropic of Capricorn (23° S Latitude). These are the most northerly and southerly points at which the sun can appear directly overhead at noon. For our purposes tropical trees are those species of hardwood trees that grow between the two Tropics. However, it is worth keeping in mind that their efficiency in terms of speed of growth and carbon dioxide sequestration increases the closer one gets to the equator. The ideal tropical tree plantation locations are those located between 15° North and South of the equator.



Above: *Saladillo* or *Caraipa llanorum* is fairly dense but still easy to work, making it a popular wood for construction and furniture in Colombia.



Above: An ordinary leaf on an *Acacia mangium* tree illustrates the effectiveness of carbon sequestration by tropical broadleaf trees.

It is perhaps instructive to compare tropical trees to say boreal trees for a better understanding of the advantages. A warm climate, abundant rainfall and a 12 month growing season means that many tropical tree species enjoy fairly rapid growth. Compare that with boreal trees that have a 3 month growing season, are usually coniferous or small leaved, and subject to difficult climatic conditions. Many tropical trees can produce a 16" to 20" diameter hardwood bole in just 10 years, while a boreal tree can take as much as 80 to 120 years to produce the same result as softwood.

Tropical trees account for almost 95% of tree-based carbon sequestration on the planet. This large and rapid conversion of carbon into woody biomass is important not just from an investment point of view, but also significant in the fight against global warming.



Popular Conventions and Facts

Lumber is often sold by the board foot in North America. This specialized unit of volume for measuring lumber is commonly applied to hardwood lumber in Australia, Canada and the United States. Board foot is abbreviated as FBM, meaning Foot Board Measure. One foot board describes a board that is 1 foot long, 1 foot wide and 1 inch thick. If you see MFBM, then that stands for one thousand board feet. Often, when wood is processed for shipping in a saw mill the sale will specify boards of varying lengths, widths and dimensions. This usually happens when immature logs are being sold.



Above: Selective logging in a plantation. Mature trees are harvested and replaced with new tropical trees so carbon sequestration continues unabated.



Most of the rest of the world uses metric measurements. Large quantities of wood are often sold by the cubic meter (1m x 1m x 1m of hardwood). This method of measurement has more to do with calculating weight for shipping, than anything else. A shipper will calculate the density and the number of cubic meters of wood in a shipment to determine the weight. Sometimes raw logs are shipped in a container. Conventional wisdom suggests that once those logs are run through a sawmill, there will be a 25% loss, so for example 400 cubic meters of logs will render 300 cubic meters of usable lumber.

At Left: The bole or trunk of a tropical tree is often straight and long as the tree tries to reach high to have its leaves in the rainforest canopy.

Tropical tree plantations work in hectares. A hectare is a metric measurement for plots of land that are 100 m by 100 m, each containing 10,000 square meters of planting area. A hectare works out to about 2.47 acres or 107,639 square feet. Plantation trees are typically planted 2.80 meters or 9 feet apart. On average between 1,200 and 1,300 trees can be planted in a grid on a single hectare. As those trees mature they are culled in years 4 and 6 to make room for the healthiest and fastest growing trees. It is not unusual for only 300 trees per hectare of some species to be left for harvest by year 10.



At Right: Hugging your trees is not standard procedure, but it can't hurt...



Above: Bright red *Saladillo* saw dust – made out of carbon!

The average tropical tree sequesters some 50 lbs or 22.6 kg of carbon dioxide (CO₂) from the atmosphere every year. The average North American car emits 12,100 lbs of CO₂ every year. That means that 242 tropical trees are required to offset or balance the emissions of a single car. Tropical trees are most effective at carbon sequestration during the first 10 years of their lives. Detailed information on this can be found at the informative CO₂ Tropical Trees site: <http://www.co2tropicaltrees.com>.



Why tropical tree investing is low risk, high return!

The first thing you need to do is get away from the kind of short term thinking that causes so much trouble for investors. Many people enter the stock market thinking that short term is one week and long term is two weeks. If you stop and think about it, what they are really doing is throwing the dice in hopes of a magical quick return on investment. As any business owner will tell you, it takes years of careful management and strategy to build a profitable business with consistent returns. Too many public companies and mutual funds try to short term please investors, leading to poor performance in IRA's, RRSP's and pensions.



Above: After brokers have taken frequent commissions and front-end loaded mutual funds have feasted on the remains, many portfolios are flat-lined or even lose principal.

Once you accept that it is going to take 10 years to see a return, the next question is how big a return? Bank savings pay from .75% to 2% a year. Savings bonds, CD's, GIC's and Treasury Bills pay between 2.5% to 5% a year. People with stock portfolios are ecstatic if they can average a 10% a year return, rarely consistent and always risky. Contrast that with people who invest in low risk tropical trees and hardwoods. It is not unusual to have annual growth of from 30% to 40% non-compounded. For example, *Amazonia Reforestation* pays its investors a return of about 33% per year non-compounded. An investment of \$4,000 USD will produce a return on investment of \$17,000 USD in 10 years time. In contrast the same \$4,000 USD making 10% compound interest over 10 years produces only slightly over \$10,000 USD, assuming no recessions or other risks.

So what are the risk factors? The obvious risks are drought, fire, flood, disease and pests. All of these risk factors are greatly reduced using modern forestry practices. Tropical trees are planted in places where there are consistent and predictable weather patterns, making drought and flood problems minimal. Fire breaks and controlled burns of surrounding areas, together with strict underbrush controls make fire risk negligible. In fact, some species of tropical trees, like the *Saladillo* and *Congrio* are actually natural fire barriers. Disease and pests are limited by multi-species cultivation, meaning a good tree plantation does not have all of its eggs in one basket. This greatly reduces the incidence of pests and diseases, which may be further controlled with spraying and frequent harvests in 10 to 12 year cycles.



Above: Controlled burns are used to protect seedlings and their plantation areas alike in modern reforestation.



Above: Investors' trees are cared for from the nursery and planting, through 10 year maintenance to harvest.

Best of all, the investor does not need to buy stock or shares in the forestry company. Rather, the investor has the option of buying the tropical trees directly. For example, *Amazonia Reforestation* issues *Tree Ownership Certificates* to its investors for the exact number of trees they own in the plantation. This joint venture approach has the added due diligence benefit of allowing the investor to come and see, touch and hug their trees any time they want. The plantation or forestry company provides the land, the tree nurseries, the planting, the know-how, the management, the harvesting and the ultimate sale of the timber, and shares those proceeds with the investor on a low risk, high return basis. See <http://www.myreforestation.com>.



Some Profitable Tropical Tree Species...

There are numerous tropical tree species that grow rapidly, have proven international markets, and are well adapted to plantation cultivation. One of the most popular is *Acacia mangium*. It grows tall and straight, fixes nitrogen in depleted soils and is tolerant of both dry and wet seasons. Though often marketed as “White Teak”, it is not a member of the teak family. Left untreated it turns a beautiful silver color. The wood is versatile and can be used in many applications. The Acacia produces a high protein nut that is edible by humans, but that can also be used for cattle feed. This tree can be harvested and planted in 10 year cycles.



Above: Inside a one year old *Acacia mangium* plantation.



No tropical tree plantation would be complete without one or more varieties of Eucalyptus. One species grown in Vichada, Colombia, is *Eucalyptus pellita*. Another popular hybrid is *Eucalyptus integration*. These trees grow rapidly, tall and straight. The wood has numerous uses and is easy to process. Once again the tree adapts well to dry and wet weather. One possible by-product is Eucalyptus oil, found in cough and other preparations. Eucalyptus matures and is ready for harvest in 10 years.

Left: Young *Eucalyptus pellita* trees with their tell-tale reddish leaves.

Many people are surprised to learn that the Caribbean Pine (*Pino Caribe* or *Pinus caribaea*) is a hardwood tree. These majestic trees grow in a number of altitudes in South and Central America, from sea level to high mountain. With a rapid growth cycle of 10 to 12 years, they are tall and straight and their wood is used in a large variety of applications. This type of pine is comfortable in hot weather and in wet weather, and supports huge coniferous needles.



Right: *Pino Caribe* 6 months after seedlings were planted.



Besides popular plantation species like those listed above, there are dozens of native tree species that have excellent characteristics. A typical example is Saladillo or *Caraipa llanorum*, prized in Colombia and Venezuela, and with a loyal following in Europe. The wood is an attractive red. The trees grow rapidly and are flood resistant, making them ideal for planting in low lying areas that cannot support other tree species. Using modern cultivation techniques Saladillo can grow to be straight and tall, providing the investor with a valuable bole that produces wood for many applications.

Left: *Saladillos* are trees that can handle floods or dry savannah conditions.



More Profitable Tropical Tree Information

Sassafras or *Ocotea cymbarum* is a tree that is highly prized because of its aromatic qualities. You will never forget the wonderful smell of Sassafras wood. It is used to produce sassafrinol and camphor oils. The wood was popular with European royalty, finishing to a bright yellow hue. It can be grown in 10 to 12 year cycles. Parrots love the fruit that protects its seeds. This tree has limitless potential in international markets.

Right: Sassafras seedlings awaiting their turn in the nursery.



Congrio or *Acosmium nitens* is an amazing tree. It is flood and drought resistant, and one of the native species that has a bright commercial future. It is an extremely dense, heavy wood that can be used for posts, railway ties, heavy construction, ship's keels and numerous other critical applications. I have seen untreated Congrio posts in buildings that are 30 years old and are still solid. Locals like Congrio because it is also bug and termite resistant.

Left: Congrio trees can be planted in low lying areas and have rich green leaves that make them stand out.

Many plantations obtain certified seeds from seed dealers. Seeds are certified to assure the planter that a high percentage will sprout, and that the trees from which the seeds were collected have good genetics, meaning that the parents grew tall and straight and at better than average growth rates. Seeds are also sold based on origin, as it is important to know the altitude at which the parent trees grew, to optimize success for local conditions. Environmentally conscious tree plantations practice natural selection genetics.

Right: Certified *Acacia mangium* seeds ready for the nursery.



Many of the tropical trees grown in plantations have interesting biological characteristics. For instance, the *Acacia mangium* starts life with tiny leaves arranged in rows. After planting in the field they all of a sudden change into large phyllodes that stand alone on the stalk. A good example of the mature phyllode or leaf is the picture on the bottom of page 2, while an example of the baby leaves can be seen in the picture on the left. Africanized killer bees like to make their hives in mature *Acacia mangium* plantations, because the trees give off an aroma the bees find irresistible. This requires extra caution on the part of plantation workers.



What are others saying about investing in tropical trees and timber?

Investors are moving into timber

Feb 5th 2007
From Economist.com

Economist.com

"HE PLANTS trees to benefit another generation" said Caecilius Statius, a Roman comic poet. The sentiment remains admirable, but modern investors are putting money into trees to reap benefits in the nearer term. A growing number of rich individuals, endowments and pension funds are including timber as a "hard asset" in portfolios.

No wonder. Average annual returns on timber—meaning managed preserves that are eventually harvested—have outstripped those from leading global stock indices, property, oil and gold for the past decade. Worldwide, timber has attracted more than \$20 billion of investment from institutional investors. Advocates say managed timber reserves are good for the environment too, preserving biodiversity on lands that might otherwise be logged recklessly.

http://www.economist.com/research/articlesBySubject/displaystory.cfm?subjectid=7933604&story_id=8653021

SmartMoney
It's your money. Be smart.

Since the days of Robin Hood and King John, the wealthy and powerful have owned woodland. But about 20 years ago, a few insurance companies and big pension funds started buying forests as a hedge against inflation. For the first time, economists began evaluating timber in terms of total returns and risk/reward ratios. The track record of early investors — and a slew of recent academic research — indicate that timber is a near-perfect asset. Studies show that a diversified timber portfolio would have returned 13.3% annually over the past 40 years, compared with 11.6% for the S&P 500. Impressive, but that's just the beginning. Timberland is also remarkably low-risk, with volatility more like bonds than stocks. And it tends to perform best when stocks and bonds go down, making it a neat counterweight.

<http://www.smartmoney.com/investing/stocks/timber-11903/>

MONEYWEEK

China is crying out for timber. Until recently, China had far less forest (roughly 18%) covering its land than other countries. Beijing imposed restrictions on harvesting timber and has thrown its weight behind creating man-made plantations. In the meantime, China has relied on imports to make up for shortage of timber. Imports to China increased tenfold from \$53bn in 1990 to \$561bn in 2004, with the bulk in recent years coming from Russia. But just as the Kremlin is happy to use its energy reserves to hold economies to ransom, it is squeezing its timber customers as well. Russian export taxes on timber rose to €15 per cubic meter on 1 April and are expected to balloon to €50 next year.

<http://www.moneyweek.com/investments/commodities/shake-the-money-tree-by-buying-into-timber.aspx>

The New York Times

Investing; Not Just for the Birds: Timber Is a Commodity for the Long Run

By ELIZABETH REED SMITH - Published: Sunday, August 26, 2001

INVESTORS who have lost patience with the stock market may want to take a walk in the woods. Trees, harvested as timber, make up one of the few investments whose returns have outpaced stocks, bonds and real estate over the last 30 years. Timber has a built-in hedge against price fluctuations. If log prices drop, owners can put off harvesting trees. In the meantime, the trees grow more valuable. "It's a unique asset class," said Richard J. Holohan, a timber analyst at Salomon Smith Barney. "I haven't come up with anything like it, in that if you don't like the price of timber, you don't cut the tree, and it grows thicker in cubic feet. People pay more for a thicker tree."

<http://www.nytimes.com/2001/08/26/business/investing-not-just-for-the-birds-timber-is-a-commodity-for-the-long-run.html>



It is not all about investing. Doing the socially responsible "green" thing is just as important. **Time Magazine** in its April 9, 2007 issue lists planting tropical trees as one of the top 51 things a person could be doing in the war on global warming. Being carbon neutral and planting tropical trees is about more than just one's conscience. It affects the air we breathe, the crops we grow, the food chains we depend upon, the threat to low lying areas, climate in both general and in local particular ways, the kind of planet we are passing on to future generations, including animal habitat, species survival (coral around the world is dying because of global warming), our own lifestyles (employment, health, travel etc.) and a host of inter-related issues, all of which have serious consequences (like the arrival of West Nile Virus as far North as Canada). Even if you are a sceptic as to the cause of global warming, planting tropical trees remains an acknowledged way of sequestering all that surplus carbon from our atmosphere.

http://www.time.com/time/specials/2007/article/0,28804,1602354_1603074_1603743,00.html



Conclusion and a Couple of Options

This short Passive Investors' Guide to tropical trees should provide you, the reader, with a basic knowledge of the opportunities and available options. There are no doubt a number of places selling tropical trees as an investment, some of them very reputable. However, there are also the inevitable brokers claiming to do the same, so in conclusion I wanted to include my own recommendation for investing in tropical trees. The reason is simple. Our company, *Planeta Verde Reforestación S.A.*, operating as **Amazonia Reforestation**, has a track record of getting things done. Best of all, you are always welcome to come and see, touch and feel your trees. The majority of images in this e-book are from our plantations and operations.



Above: Getting a sign up for the next area to be planted.



Amazonia Reforestation's main plantation is located some 50 kms (30 miles) from Puerto Carreño in the *Departamento* of Vichada, in Colombia. Our plantations are located 6° North of the equator, in the Colombian *llano oriental* or eastern plains, along the banks of the *Rio el Bitá*, which flows into the mighty *Orinoco River*. The land in this area is ideal for growing tropical trees, and offers some of the best opportunities anywhere on the planet. For more details about the **Amazonia Reforestation** program, please visit the site at <http://www.myreforestation.com>.

Left: Investors visiting a *Eucalyptus pellita* plantation.

Amazonia Reforestation doesn't just plant commercial trees, we also plant native tree species and fruit trees in a multi-species endeavour to provide habitat and food for endangered wildlife. Part of this commitment includes setting up a *Natural Reserve* under Colombian law to protect old growth rainforest on company land.

Planeta Verde Reforestación S.A. also has a program for vehicle owners who would like to make a difference, starting with making their car carbon neutral by funding the planting of tropical trees. This program is called **CO2 Tropical Trees**. Please visit <http://www.co2tropicaltrees.com>.



Above: 105 HP plantation tractor preparing the ground.

Planeta Verde Reforestación S.A. is proud to be associated with:



<http://www.omacha.org>



<http://www.ales.ualberta.ca/>

Dexter Dombro can be contacted at either one of the following e-mail addresses:

trees@myreforestation.com

dexter@co2tropicaltrees.com

or by telephone at **1-780-628-7281**, my VoIP number, or by international dialling at **+506-2273-3093**.