

Bauers Family Tree Farms News

A Semi-Annual Newsletter

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Farm Update - September 2011

Growing trees has a reputation for being a fairly consistent, predictable, and slow process, especially when compared with our fast-paced world. Some might even say that watching trees grow is like watching paint dry.



Jake with a 45 foot teak tree on the farm.

Not us. We have thoroughly enjoyed watching all of our trees grow over the last four plus years. We have seen them go in the ground at about six inches tall and grow as tall as forty five feet tall and as big as eight inches in diameter over that time. Not only have we been able to enjoy the sight of remarkable

tropical growth, but we also have been able to enjoy the beauty that surrounds the trees and the farm. From the lovely rolling hills and mountains that the farm sits on, to the tropical creatures abound, to the brilliant green hues that can only be found in such spectacular combinations in a place like Costa Rica, we have truly been lucky with vistas we have taken in.

The farm has had a great, albeit average, 2011. All the trees on the farm are now well established with just about all of them starting their first year of branching out and growing their crowns. Growth has been good and consistent with trees continuing to gain in girth as they branch out. With the branching out of the trees, our farm team has embarked on the first year of pruning. Pruning will keep the trees growing tall and straight giving them the best chance at developing a large volume of quality lumber in the trunk. Undergrowth management continues but at a reduced pace as the crowning of trees has already started to keep the undergrowth down. Rains have been consistent and average, as expected for the year so far, keeping everything lush and green. Increased rain could be a possibility for the next few months as hurricane season is coming into full swing.

Perhaps one of the most exciting developments so far this year for us is that the farm house is now complete. We have electricity, running water, appliances and furnishings. We built a fantastic dining room table from a log that had fallen on the farm many years ago. The table is a rustic design made with fine-looking ironwood. The weight and the density of the table are impressive. We ended up building the table in two five foot sections so that it could be easily moved from the

inside to the back patio for outdoor dining and back again. However, we did underestimate the weight of the wood. Even with the table being in two sections, two of us got a good little workout moving one section about fifteen feet. We built two queen size bed frames and one king



Teak tree with a 25 inch circumference.

size bed frame for the three bedrooms. We built these out of fifteen-year-old teak from another farm that is managed by our farm manager. The teak beds are very nice with a golden brownish natural tone and tight grain, and even though we used



teak wood that was only fifteen years old, we were easily able to mill lumber pieces that were over 12 inches wide.

Another exciting development around the farmhouse is that in June of this year we started the landscaping around the house. The part that we are most excited about is that we planted about 50 fruit trees, including mangos, oranges, limes as well as some more obscure tropical fruits like manzanas de agua, cas and guanábana trees. Not only



Hammock on the back deck of the farm house.

will they be delicious for eating but also they will attract birds, butterflies and animals around the house. One of the nice things about this project was that we were able to plant these trees at just a few feet tall. Like the teak trees these fruit trees will grow quickly, and some of the fruit varieties will be producing fruit in just a few short years.

Since the farmhouse has been completed and furnished, we have had the great pleasure of spending several days and nights on the farm. Having the farmhouse there really makes the trips to the farm that much more enjoyable. Having a shady and cooler place to sit, putting your feet up and enjoying a cold beverage, sitting on the back patio and watching the sunset, or taking a quick swing in one of the hammocks in the morning while watching the morning fog are all amazing experiences. Outside the house we also came across some great things. We captured a picture of a very colorful and cool looking Blue Crowned Mot Mot (see picture this page); also we came across several families of howler monkeys, and we took a swim in one of the several swimming holes on the property. Amazing as it sounds, these swimming holes are seven to eight feet deep in spots, and the water gives you a nice cool break from the tropical heat that is typical on the farm.

A Special Offer

Now that the farmhouse is complete, we want to get as many people as possible down to the farm to see the project firsthand and experience all that is great that comes along with it. Our special offer is that for anyone that purchases more than 300 trees from now until December 31, 2011 we will buy two round trip tickets (up to \$500 each) to Costa Rica, let you use the farm house for up to a week and get a personal guided tour of the farm from Joe, Jake or Jaime. This trip can be scheduled at your convenience, provided the farmhouse isn't already spoken for. The farm is beautiful year round. However, we would recommend skipping the month of March and 15 days on either side as this is the hottest and driest month. We think the most beautiful weather of the dry season is in December. If you prefer to enjoy a bit more rain (which makes



Swimming hole on the one of the farm's rivers.

everything very green and lush), June, July or August would be nice. If you would like to see the rainy season at its height, visiting in October or a bit on either side of the month would be the best choice. Of course you are welcome to extend your trip as long as you would like and see the rest of the great country. We

really do hope that you will make it down to the farm this year or next.



Blue Crowned Mot Mot on one of the teak trees.

Teak Lumber

Teak wood has long been used throughout the world for many different applications, but the wood has one attribute that sets it apart from all other woods in the world. Teak not only has one of the most beautiful red/brown grains, but it also is one of the densest woods on the planet. Teak has a weather repelling quality that is unrivaled. For millions of years these trees have competed for life in the tropical jungles. The teak tree has developed a virtual stronghold on the thousands of insects that would love to devour its leaves or bore into its trunk to have a feast. To combat the aggressive insect population in the tropics, teak wood grows in a very tight (dense) pattern, and it also produces an oil that repels insects. Teak oil not only repels insects, but it turns out that it is an excellent water, wind and UV repellent as well. Because teak wood has such amazing weather deterring qualities, it has become one of the most frequently used woods in the marine and outdoor furniture industries.

If you have ever set foot on a wooden deck of a yacht, sail boat or any other vessel that floats on water it was most likely constructed with teak wood. Teak is the most frequently used wood in the marine industry for surfaces that are exposed to the elements. Everyone knows just how corrosive seawater is to just about any building material, but teak wood stands up to seawater and other weather elements like no other. The

wood is so dense and filled with so much oil; it is virtually impossible for water, wind or UV rays to penetrate the surface. Therefore, if properly maintained, teak wood can retain its' beautiful red color for years and years. It is not uncommon to see boat decks made of teak last for over 50 years.

Teak is not only the ma-



Teak Chairs on Joe's back deck here in Colorado still looking great after 5 years in the harsh Colorado Sun.

rine industry's choice for wood, but also is a frequent choice for outdoor patio furniture and high end decking materials. Just because you're not out at sea, it doesn't mean the rain, snow, wind and sun won't be imparting daily punishment on your outdoor wood surfaces. There are many cheaper choices of wood when it comes to purchasing outdoor furniture, and when all these competing type of wood are at the store they all look beautiful. But try purchasing a cheap patio set and leaving it outside for a year or two



and you will quickly understand why you should have spent a little more on a teak set. Most woods after a year or two of being outside in the elements; they will

start to crack, rot, and turn an unsightly gray color. Teak wood, on the other hand, will retain its red color and show no signs or rotting or graying for years and years. Many woods require that you varnish or stain the wood in order to maintain the quality and appearance, but teak wood only needs an occasional polishing with teak oil on its surface to last for years. Many park benches in England made of teak are still in use after 70 years of service.

Although teak is widely known for its outdoor uses, teak can just as easily be found indoors throughout the world. Because of its outstanding grain and hardness, teak hardwood floors are commonplace in middle and upper price range homes worldwide. Teak wood is also used for cabinets, trim, wall paneling and ceilings. Additionally, it is frequently seen in high-end furniture used in dining room sets, bedroom sets, office furniture and more.

There are many types of wood and building materials to choose from when considering a purchase. Even though teak wood can be triple or more the price of other wood choices, it is often the best choice when considering the life-span and durability and the most attractive choice when considering the sheer beauty of the material. Teak's weather repelling qualities, matched with its density, hardness and gorgeous grain, should insure that it will be a high demand building material for years to come.

Timber Investing

As we manage the farm, we frequently look to see how others in the industry are managing their farms and forests to make sure we stay up to date with the most current and best practices. We look both inside Costa Rica and outside the country as well. One company we follow closely here in the United States is Plum Creek Timber. They are the largest private timberland owner in the US, with over 6.8 million acres of timberland. Like our business, Plum Creek is in the business of growing, harvesting and selling timber; they have a strong commitment to the environment, and their communities employ sustainable forestry practices. The major difference

between Plum Creek and Bauers Family Tree Farms, other than size and geographical scope, is that all of Plum Creek's timberland is in the US where the climate is quite different from Costa Rica. Due to the different climate, the growth

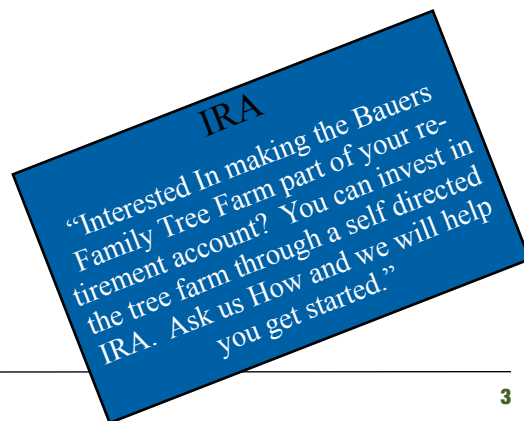


rates of trees and the types of lumber they produce is much different. The tree species in the US tend to be less dense and lighter in color, where tropical tree species are much denser and darker. The growth rates are also much different. Typical growth cycles for trees grown in the US range from about 40 to 80 years, where tropical trees can be grown on much shorter cycle. A different example of this is that Plum Creek typically needs to grow their seedlings in a nursery for one to two years. We can and have grown tropical tree seedlings in a nursery for only three to four months. The following article was written by Plum Creek and is entitled Forest Management, Art, Science and Business. The article demonstrates how our forest management programs are similar but again shows the difference between growing trees in the tropics versus a humid continental climate like many areas where Plum Creek grows timber.

Thank You

Thanks for all the continued support.

Jake, Joe, Jaime



Forest Management: Art, Science and Business

Based on the science of “silvics” (the study of how trees grow), foresters practice “silviculture” to encourage the growth of valuable and useful tree species.

People get a lot out of forests!

There’s no doubt about it – people get a lot of use out of our forests. For example, we get the wood to build our homes and paper products of all sorts like newspapers and beverage cups. These are what we call commodities (things everyone uses). Forests also produce “amenities” such as fish and wildlife habitat, water quality and recreation.

What exactly is forestry?

For many centuries, “forestry,” or planting and growing trees, was more “art” than “science.” Practices were based on years of experience and observations rather than the disciplined collection of data and rigorous scientific experiments. This was the case until 1863 when the first “experiment stations” were established. At that point, research began to provide a scientific basis, and the “science of forestry” was born.

Today, forestry is still an art, but is becoming more and more a science as experimental knowledge is increased. For example, foresters have always known that nitrogen fertilizer makes some forests grow faster. Through years of careful experiments and measurements on plots located throughout the Pacific Northwest and other parts of the world, we are learning which forests are likely to respond the

best, how much fertilizer to apply, and how much faster the trees will grow.

How do foresters manage forests?

Measuring the forest – One of the first things a forester needs in order to manage a forest is an inventory of the kinds of trees and other plants in it – how many there are, what size they are, and an estimate of the types and amounts of products that can be produced. Measuring a forest in this way is called “cruising.” Foresters record tree species and measure the height and diameter of trees in sample plots throughout the forest.

Developing a forest

management plan – Once a forester has an inventory and knows what species of trees and other plants are present, and in what sizes and volumes, he or she can begin a management plan. Beyond the inventory, the forester must consider the types of soils the forest is growing on, the topography (or slope and shape of the ground), and the weather in the area. Another important factor relates to the forestry science called “silvics” – the science of how trees grow and respond to their environment. A forester must know the tree species in the forest and understand the silvics of each to be able to plan effectively.



For example, one of the characteristics of Douglas fir trees is that it requires lots of direct sunlight to regenerate and grow well. A forester wanting to grow Douglas fir needs to be sure there are plenty of openings in the forest so that sunlight can reach the forest floor. On the other hand, western red cedar can grow quite well in dark shade, so openings are not as important to grow that species. The management plan may also include the location and design of road systems. Roads are used for removing trees that are harvested and to allow recreational access to remote parts of the forest.

(Continued from front)

Regenerating the forest –

Another important part of the forest management plan involves making sure the forest is “regenerated,” or replaced by new growth, after harvesting. This can be accomplished through natural seeding from trees left behind after harvesting or by planting. If planting is going to be done, planning must be completed well ahead of time. Seeds have to be collected from trees in the forest, or from special seed orchards, and seedlings must be grown in forest nurseries generally for one or two years. When the seedlings are ready, they are “lifted” from the nursery and delivered to the planting site or placed in cold storage until the planting site is ready. Seedlings are usually planted in the fall, winter or spring.

Shaping the forest

Managing forest conditions to favor certain species of trees is usually done through timber harvesting, but other methods (such as prescribed fire) can be used as well. There are several types of harvests or silvicultural systems that can be used to modify the forest environment. Here are some examples:

Selection – Only a few trees are removed from the forest at any one time. This method maintains a variety of sizes and ages of trees. The selection method works for species that are able to regenerate and grow in the shade of other trees.

Did you know?
Plum Creek plants more than 60 million seedlings annually!

Shelterwood – Most of the trees are removed in the initial harvest, but at least 20 trees per acre are left standing to provide a seed source for regeneration and shade for developing seedlings. The remaining trees are usually removed about 10 years later or as soon as the new forest is established and growing well. All of the older trees are eventually removed and replaced by trees of the same age. This approach suits species that can regenerate and grow with some shade from other trees.

Seed tree – Very similar to the shelterwood method, except that fewer trees (five to 20 per acre) are left standing after the original harvest. This method suits trees that thrive in sunlight but can benefit from some shade.

Clearcut – Virtually all of the trees are removed at one time



and replaced (usually by planting) with young seedlings. This method suits tree species that thrive in full sunlight and don’t require shade. Even with this method, a number of trees are left on the site after logging to protect streams and provide habitat for wildlife.

Copying nature

Forests are dynamic – always changing. Just as people, animals and individual trees have a life cycle (they are born, grow to maturity and eventually die), forests also have a life cycle.

Following a disturbance such as fire, windstorm or volcano, the conditions usually favor species such as Douglas fir and red alder that can regenerate and grow in full sunlight. It can take 25 or more years for a new forest to become established, but eventually the trees grow and form a dense canopy that prevents most trees or other vegetation from growing on the forest floor.

This is called the “seedling exclusion” stage. Over the next 40-80 years, the forest matures. Eventually, individual trees begin to die and openings are created that allow new seedlings to become established. Species, such as western hemlock, Englemann spruce or western red cedar, that can regenerate and grow in the shade get started. After many hundreds of years, if there is no major new windstorm, fire or other disturbance, most of the original Douglas fir will die and will be replaced by hemlock, spruce and cedar. This is called a “climax forest,” and it will remain until a major disturbance starts the entire life cycle all over again.

Plum Creek foresters work within a natural forest life cycle and use it to create the type of forest that produces the desired products. The life cycle of a managed forest is very similar to a natural forest except it is shorter because tree seedlings are planted within one year of logging rather than waiting for natural seeding and because of timber harvesting rather than natural events.