



Eric Taylor, Associate Professor and Forestry Specialist from Texas Cooperative Extension and Jim Hall, Crockett City Council member

New Tree Farm Planting Strategies

At the September 22nd meeting of the Tyler County Forest Landowner Association, Eric Taylor, Associate Professor and Forestry Specialist from Texas Cooperative Extension and Jim Hall, Crockett City Council member, discussed new markets and management strategies for tree farmers.

Eric Taylor explained that while 2007 has been an anomaly, East Texas is in the 8th year of a 25-year cycle of hot, dry weather. Based on data collected over the past 100 years, the weather cycles between approximately 25 years of hot, dry weather, followed by 25 years of cool, wet weather. Tree farmers should expect most summers for the next 17 years to be hot and dry.

The impact of hot, dry summers on newly planted seedlings can be mitigated by new strategies that include planting container-grown seedlings in the fall. Traditionally, tree farmers established new forests by planting bareroot seedlings in the winter or spring. Studies are showing that the growth of trees can be significantly increased by properly planting container-grown seedlings in the fall as soon as soil moisture once again becomes available (mid-October). Planting in the fall gives the roots extra time to grow before the first summer, which is likely to be hot and dry.

Dr. Taylor explained that traditional forest management strategies were based on good markets for both large logs for chip and saw timber and small logs for pulpwood. Global markets have changed this balance. Other countries are increasingly satisfying the world's pulpwood needs, resulting in soft (low value) markets for East Texas pulpwood. Contrarily, markets for solid pine saw timber are growing. With the increased discrepancy between markets for large and small logs, traditional forest management strategies are being challenged.

Planting seedlings close together was appropriate when pulpwood markets were higher and poor seedling quality resulted in low survival rates. Today, with appropriate management techniques, Dr. Taylor recommends planting 350 to 450 trees per acre. Fewer trees per acre reduces the competition for resources and results in healthier and more vigorous trees that are less susceptible to Southern Pine Beetles, fire, and disease. In the long term, low-density plantings can provide a higher rate of return on investment. Beyond the balance sheet, a less-dense forest provides better wildlife habitat and is more aesthetically pleasing.

An additional benefit of widely spaced trees is the potential for planting bioenergy crops between the trees during the first five to fifteen years. The potential bioenergy markets may be closer than you think.

Jim Hall, Crockett Council Member in neighboring Houston County, was concerned about Crockett's energy costs and began researching bioenergy. Bioenergy is energy produced from renewable biological resources such as plant materials, vegetable oils and animal oils. Analysis showed that the Crockett area could annually use two million gallons of biodiesel.

As Crockett evaluates plans for their own bioenergy production, the city is facing challenges with changing legislation and increased vegetable oil costs. The vegetable oil options include soybean oil, palm oil, animal fats (particularly chicken), sunflower oil and cottonseed oil. Since initiation of Crockett's project, China has captured Indonesian sources of palm oil for their own production. Large oil companies are capturing many of the large domestic vegetable and animal oil sources to mix biodiesel into their diesel products. The resulting increased costs of vegetable and animal oils and the loss of state incentive funding greatly reduced the financial benefits of Crockett's planned biodiesel plant.

Not to be deterred, Jim Hall looked to other bioenergy solutions and is currently developing plans for a system that would use paper, tree thinnings and debris from logging. The paper and wood would be processed to produce gas that can be condensed into BioOil that would be used to power a new electric power plant to be built at Crockett. The heat and carbon dioxide generated by the power plant would be used as raw material for the biodiesel plant. A feasibility study for growing energy crops is currently in progress.