

*Wood production of **Acacia mangium**...  
 Inexhaustible source of wood, honey, tannin,  
 animal fodder and carbon sequestration! ...  
 A smart and sustainable forestry !...  
 A new alternative social development, wealth  
 and prosperity...*

Mr. Rural Entrepreneurs, Forester, Beekeepers, Farmers and Loggers,



**A. mangium of 12 years**

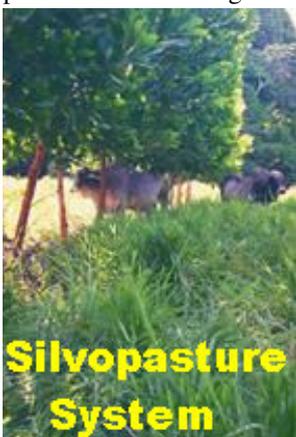
This matter seeks a new silvicultural technologies generated in research centers and universities to reverse forest in products and services by generating employment and income, benefiting the whole society. She wakes up your very entrepreneurial spirit, because the culture of **Acacia mangium Willd.** will produce high quality wood for furniture, various bee products, tannin, fodder, carbon sequestration, agriculture, soil recover, livestock, sheep and goats in the same area in sequential operations. This was only possible to perform today with this culture, as a result of modern forestry research; the ban on logging of natural forests that valued worldwide, the timber originating from planted forests, which contribute to **WOOD FOR THE PRODUCTION OF FOREST SPECIES OF FAST GROWTH, INTERCROPPED WITH AGRICULTURAL CROPS (AGROFORESTRY SYSTEMS), APICULTURE, PRODUCTION OF TANNINS, ANIMAL FODDER AND PASTURE (SILVOPASTORAL SYSTEM)** in Brazil, overcome all



**Sawed Wood of Acacia mangium**

the financial returns submitted by agricultural activities.

The annual consumption of wood in Brazil is estimated at about 350 million cubic meters, while planted forests supply about 26% of this total. If we had to fill this gap only through reforestation with fast growing species, plant and would need to explore further 8.7 million hectares of forests. These data show that there is an extraordinary space for investment in new plantations and a large unmet demand for forest-based products. A study conducted by FAO shows that the Brazilian forest-based industry could double exports by 2020 and account for about 6% of world trade in wood products, with revenues of U.S. \$ 12 billion.



**Silvopasture System**

The demand for forest species of rapid growth, easy to grow, multi-product and multi-purpose, led **Dr. Flavio Pereira Silva**, RESEARCHER OF THE , TECHNOLOGICAL CENTER ZONA DA MATA, IN VIÇOSA - MG (BRAZIL), to study and improve genetically **Acacia mangium** for 28 years, developing cultivars adapted to a variety of climates and soils, where it can be cultivated with success and prosperity. In this sense, we are continually requested by forest manager, beekeepers, farmers, landowners and public officials, in search of silvicultural technical support, technology transfer and supply of propagative material for deployment, management and sustainable exploitation of this and other species of rapid growth, alternatives to Eucalyptus spp and Pinus spp.

believe that encouraging the development of this sector in your company, city, state or country, will certainly boost the socioeconomic development of the population through employment generation, income and attraction of new forest-based industries to the region of the plantations. Aiming to achieve these goals, we provide your company, city, state or country, our latest technologies on **Acacia mangium** developed in partnership with the Federal University of Viçosa, contemplating new and improved seed varieties adapted to different climates and soils. In this sense, we take the liberty of sending you this TECHNICAL PRESS



**Beekeeping in A. mangium**



**Tannin of  
A. mangium**

for knowing the extraordinary potential of this new economic and environmental tree invaluable.

It is a widely grown in Asia, produces wood of excellent quality and high commercial value and can be used as **furniture, doors, MDF, wood, cement, particle board, veneer, lumber, biomass for energy, fences, crates, pallets, coal, ornaments, wood-cement, OSB, pulp, paper, construction, agriculture and forestry and substrate in the cultivation of edible mushrooms (shitakii)**. Its wood can be easily sawn, planned, sanded, glued, nailed and receive preservative treatment to increase durability of **fence posts and poles**, up to 15 years. In Asia, it has been



**Shitaki Cultivation**

used to replace the teak with great economic advantage and greater profitability. The acacia forest management allows the aggregation of value to the species by the **production of profitable 430m<sup>3</sup>/ha/7anos of wood, 7,400 kg/ ha of tannin extracted from the bark (industries of leather, glue, sugar and water treatment) , Beekeeping (240 kg of honey per hive per year, propolis, wax, royal jelly and pollen produced in the nectaries of the leaves) of forage production of leaves (41% crude protein), the kidnapping of 23.3 tonnes of CO<sub>2</sub>/ha/ano of agroforestry systems (consortia with agricultural crops) of pasture system (consortium with pasture), the recovery of degraded areas (500kg + N<sub>2</sub>/ha/ano 11.400kg organic matter / ha / year) , preservation of springs and forests.**



**Honey of Acacia**

*Acacia mangium* in Brazil has **grown to 6.20 m/year**, reaching adulthood at **45 meters high and 1.10 m in diameter**, exceeding many species of Eucalyptus and pine. As an investment medium term (nine years) the planting of this species brings a guaranteed return on the sale of various products, allowing the

entrepreneur to form a large estate in a few hectares of planting. Easy to grow and maintain, it dispenses nitrogen, increased cultivation and sophisticated management practices. The forest can be managed for timber production to multiple uses and can those woods coming from the periodic thinning and twigs are consumed on the farm or sold in the market like wood, coal or biomass, in anticipation of financial income to the producer.



**Furniture of Acacia mangium**



**Agroforestry System with Acacia mangium**

The **PLANTING TECHNIFIED** this species allows the consortium with beans, corn, rice, soybeans, peanuts, watermelon, sunflower, bee keeping and livestock, producing meat and/or milk, reducing the risk of forest fire and protecting the animals against cold winds, sun strong and giving these animals a weight gain of up to 12%. Planted along with coffee and cacao, lends itself as shade, windbreaks and protection from cold winter winds, providing a source of natural fertilizer to the soil by fixing nitrogen from air to plants and transmission nutrients from deeper layers of soil to the surface, reducing the need for application of chemical fertilizers.

The tables 1 until 5 below illustrate the multiple products and multiple uses of *Acacia mangium* and provides estimates of gross returns on Brazilian Real, resulting from the exploitation of the species planted at a spacing of 3 x 2 m, with 90% survival, intermediate thinning and cutting end to nine years old.

**TABLES 1.** Estimated gross profitability per acre, in Brazilian Real, resulting from the exploitation of the *Acacia mangium* planted at a spacing of 3 x 2 m, with 90% survival, intermediate thinnings and final cut at nine years old.

Thinning (Year)	Thinning (%)	Production/tree (m <sup>3</sup> log + firewood)	Use of wood	Income board (T) + meter fire wood (L)
3,0	33 (495)	0,114/log (20% board) + 0,64 meter of firewood (L)	Furniture, fiberboard, pulp energy, crowded	11,3 m <sup>3</sup> (T) 316,8 (L)
6,6	45 (675)	0,379/tora (29% tábuas) + 0,85 metro de lenha (L)	Furniture, fiberboard, pulp energy, crowded	74,2 m <sup>3</sup> (T) 573,7 (L)
9,0	22 (330)	0,480/tora (49% tábuas) + 0,92 metro de lenha (L)	Furniture, fiberboard, pulp energy, crowded	77,6 m <sup>3</sup> (T) 303,6 (L)
Thinning (Year)	Price/ m <sup>3</sup> board (R\$)	Price/ meter of firewood (R\$)	Gross profitability partial (R\$/ha)	Total gross profit (R\$/ha)
3,0	400,00	70,00	4.520 T + 22.176 L	<b>26.695,00</b>
6,6	750,00	70,00	55.650T + 40.159 L	<b>95.809,00</b>
9,0	1.500,00	70,00	116.400 T + 21.252 L	<b>137.652,00</b>

**TABLES 2.** Estimated gross profitability per acre, in Brazilian Real, resulting from the bee farm in commercial forests of the *Acacia mangium* for a period of nine years.

Products operated in beekeeping	Average profitability /hectare/year (R\$)
Propolis	8.193,61
honey	36.165,36
wax	6.799,20
Pollen	8.193,92
Royal jelly	6.378,81
Aptoxina	Not quantified
<b>Total income/hectare/year</b>	<b>65.730,90</b>

**TABLES 3.** Estimated gross profitability, per acre, in Brazilian Real, resulting from the exploitation of the silvopastoral system in commercial forests of *Acacia mangium*, for a period of nine years.

Silvopasture System	Average profitability (R\$)
Annual weight gain per animal	5,5 @ of animal
Supportability	1,5 head/ha.year
Weight gain	5,5 x 1,5 = 8,25 @ of animal/ha.year
Fattening cycle	2 years
Weight gain per cycle of fattening	8,25 x 2 = 16,5@ of animal/ha/2 years
Beginning the cycle of fattening	3° year
Number of cycles of fattening	03 (5; 7; 9 years )
Weight gain by three cycles of fattening	16,5 x 3 = 49,5 @ of animal/ha/6 years
<b>Total income</b>	<b>49,5@ of animal x R\$ 80,00 = R\$3.960,00/ha</b>

**TABLES 4.** Estimate the gross profitability, per acre, in Brazilian Real, resulting from the production of tannin per acre in commercial forests of *Acacia mangium*, for a period of nine years.

Prod. 1° Thinning (kg)	Prod. 2° Thinning (kg)	Prod. Final cut (kg)	Total Prod. (kg)	Price/kg tannin (R\$)	Total profitability/ 9 years (R\$)
495 tree	675 tree	330 tree	9 years		
1.039,5	2.835,0	2.079,0	5.953,5	5,15	30.660,52

**TABLES 5.** Estimated gross profitability, per acre, in Brazilian Real, resulting from the sale of carbon bonds, in commercial forest of the *Acacia mangium*, for a period of nine years.

N° tree/ha	Weight kidnapped/year (t)	Reforest. area (ha)	Weight kidnapped/ha 2° - 9° year (t)	Price/t/CO <sub>2</sub> (R\$)	Total return / 9 year (R\$)
1500	26,33	01	210,64	30,09	6.338,15

Remember that saw lumber species similar to *Acacia mangium* and good quality, in southeastern Brazil, in 2010 year, has its price hovering around US \$ 1,080.00 for cubic meter.

If this matter does not interest you, send it via email or print it and distribute to farmers, beekeepers, consumers of wood, tannin, among others, to whom this new technology might be useful.

For their cordial attention, please, putting us at your service.

Cordially

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