



**cáceres
florestal**

**FOREST MANAGEMENT PLAN
SUMMARY
August/2021**

Version 9

• INTRODUCTION

Cáceres Florestal S/A owns teak plantations in the region of Cáceres, in the State of Mato Grosso, which have been specially managed for the production of quality timber, appropriately sized for sawing and veneering.

Teak, *Tectona grandis*, is a large tree species native to the monsoon tropical forests of Southeast Asia (India, Myanmar, Thailand and Laos) renowned for yielding one of the most widely appreciated and highly valued woods on the international market.

Given the excellent properties of its wood and that it is a hardy, fast-growing tree with good forest form which readily lends itself to open-air cultivation in homogeneous stands, it is no surprise that teak has been grown in plantations for more than 500 years.

In the mid-19th Century, European colonizers in India, Burma and Indonesia, concerned with securing a sustained supply of the teakwood essential to the construction of their merchant vessels and warships, introduced controls on harvesting from natural forests and began to establish teak plantations systematically and on a large scale.

When Indonesia won its independence in 1948, the country possessed more than 1.5 million hectares of teak plantations, the vast majority concentrated on the Island of Java, some as much as 150 years old.

At the beginning of last century, the Europeans introduced teak to their colonies in Africa and the Caribbean in the hope of ensuring new plantations.

Established under public administration, these plantations served strategic rather than commercial or economic purposes and were thus managed for long rotations, ranging from 60 to 150 years.

Such growth periods are obviously not viable for a private enterprise.

So when Cáceres Florestal set up its teak plantations on Brazilian soil, it had to innovate by basing its management regime on shorter rotations, in the order of 25 to 30 years.

Thirty years on, with the exception of large diameter pieces, which require trees of over a hundred years of age, Cáceres Florestal can now offer excellent quality teakwood that owes nothing to the woods harvested from the natural forests or plantations of Southeast Asia.

- GENERAL INFORMATION**

company name CÁCERES FLORESTAL S.A.	federal tax ID n°: 26.774.257/0001-94
address Rua Mal. Rondon 720, Cáceres, MT	state registration n°: 13.125.450-2
phone/fax 55 65 3223 1020 / 55 65 3223 3376	postcode 78205-060
website www.caceresflorestal.com.br	e-mail caceres@caceresflorestal.com.br

Industrial sector / branch of activity An agro-industrial/forestry company that handles the industrialization, sale and exportation of teakwood and its derivatives.	company size/n° employees medium-sized 158 employees, being 43 in the Forest Management Units.
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Information handled by:

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Plan drafted by:

Carlos Alberto F. Funcia (Agronomical Engineer)
CA/GF Consultores Associados Ltda

- GOALS**

The Cáceres Florestal S/A Forestry Management Plan is based upon respect for sustainable development policy on the economic, social and environmental levels.

As such, in compliance with Brazilian legislation and in-line with these policies, the goal of Cáceres Florestal is to achieve economic viability while generating dividends for its shareholders and, concomitantly, to:

Ensure and perpetuate the supply of TEAK forest products for commercial use, whether industrialized or not.

Ensure, protect and maximize the conservation of the ecosystems within its sphere of activity and influence.

Ensure and maintain proper working conditions for its collaborators, whether directly employed or outsourced.

Ensure full compliance with FSC® – Forest Stewardship Council® (FSC-C010186) norms.

The Cáceres Florestal Forestry Management Plan will be revised annually, adjusting any items that require modification or fine-tuning so as to ensure that the company remains up-to-date and aligned with its goals.

• THE COMPANY

Cáceres Florestal S/A was founded in 1991 by its controller, Silvicultura Cáceres S/A, to receive the financial support from foreign investors essential to the continuation of its forestry operations.

Silvicultura Cáceres S/A was founded in 1961 by Karl Veit, father of the company's current controllers, with the purpose of industrializing and exporting the mahogany and other noble woods then being made available through the process of regional colonization.

Attracted by the concession of public lands, the region of Cáceres received a considerable influx of immigrants from other parts of the country. Not only was much of this land fertile, but it was also covered in imposing tropical forest of the "open" and "semi-deciduous" variety, with the occurrence of mahogany (*Swietenia macrophylla*), Brazilian cherry (*Torresea spp.*) and other quality woods.

Despite the vastness of these natural forests, it soon became clear that the stocks of noble wood would not last for more than another 10 to 15 years, given the reduced stand density per area unit and the sheer volume of felled trees.

In 1968, with a view to sustaining the supply of wood for its operations, the company began to research and experiment with reforestation. Various native and exotic species were tested, with special emphasis on mahogany. Unfortunately, as the available bibliographical information on this *Meliaceae* suggested, mahogany, or "araputanga" as it is known regionally, proved to be a sensitive plant of difficult establishment and handling.

Teak outperformed all the other essences tested in terms of hardiness, rapid height gain and good forest form. Other factors that influenced in its selection were the strong demand and high prices its timber could fetch on the international market.

Planting began in 1971.

The seeds were imported from the Forestry Conservator – Ministry of Agriculture, of Trinidad and Tobago, on the recommendation of Dr. Frank Wadsworth, a specialist in the area from the US Department of Agriculture based in Porto Rico. The geographical origin of this seed is known as "Tenasserim, Burma", appreciated for its tree quality and the clear sheen of its woods.

Establishing the plantations in Cáceres was an arduous task, especially given the precariousness of the existing infrastructure, both on the local level (sparsity of highways, electrical energy and communications) and internationally, with only the postal service and telegraphy as means of communication. The difficulty was exacerbated when the native woodstocks ran dry halfway through

the process, depriving the company of its means of sustenance and of covering plantation and management costs up to the first harvest.

In return for capital from foreign investors, Silvicultura Cáceres transferred its forest patrimony to the fledgling company, though remained at the helm of the new partnership through its executives and staff.

• FOREST MANAGEMENT

Cáceres Florestal owns 576,15 hectares of teak plantations. Since 2001 the company has been replanting the clear-cut harvested plantation compartments in order to produce a second crop. A small part of the plantation compartments that have been clear-cut harvested have not been replanted, as they are inappropriate to the establishment of commercially productive teak plantations.

The company's plantations are distributed in four properties, of which three are rural and one is urban, as follows:

Name of the property	County	Total area of the propertyl (ha)	Effective teak plantation area (ha)
Faz. Paragatuba	Cáceres/MT	1.088,99	189,23
Faz. TECA do Jauru	Indiavaí/MT	416,92	284,83
Sítio Castiçal do Jauru	S. José dos IV Marcos/MT	163,20	62,00
Area E.F. Junco	Cáceres/MT	31,30	9,19

Social economic description:

All the company's Forest Management Units (FMUs) are part of the region known as "Greater Cáceres", where the main economic activity is cattle raising on planted pastures, to produce meat. However, the "Area E.F do Junco" FMU is located in the suburban área of the town of Cáceres.

Company's FMU land discriminations:

Total area	(ha):	1.700,41
Effective teak plantation area	(ha):	545,25
Total APP/RL areas	(ha):	585,94

Since 2002, these plantations have been managed for the production of quality timber in adequate dimensions for sawing and veneering purposes in thirty-year rotations.

Prior to 2001, when the company made its first clear-cut, the harvested timber was thin-out material. Since then, harvesting has been almost confined to the clear-cut of mature plantation compartments, and limited to the yearly volume increase found in the permanent forest inventory of the plantations.

In drafting the harvest program, it was considered essential that the annual cut be both stable and sustainable.

On the other hand, the forest managers are aware that the heterogeneity of the planted sites and the diverse management regimes to which they have previously been subjected preclude reliable harvest forecasts within the customary parameters, including stand age and simple extrapolations from all previously measured increments and/or increments ascertained in the most recent inventories.

The "Unit of Productive Equivalence (UPE)" (or "Weighted-average") concept was developed in a bid to confer greater precision upon harvest estimates in such disparate stands.

• **FOREST MANAGEMENT OPERATIONS**

Managing a plantation involves various interventions, herein called operations, as listed and described below:

FOREST INVENTORY

Annual allowable cut:

The volume being harvested each year is based upon the mean annual volume increment, indicated by the permanent forest inventory of the plantations of the company, which can be consulted at the company's headquarters archives.

Description and justification of the harvesting technology and equipment in use.

The development of these plantations has been monitored since they were first established. However, by force of circumstance, the sub-samples used in the past have lost their permanent condition and needed to be re-dimensioned and relocated, a task that began in 2002.

As a result, current estimates for growth, increment and other features used to indicate present and future prospects for production and quality in the different stands and compartments that comprise the company's plantations, especially in terms of increment analysis, are largely based upon the figures obtained in the three most recent forest inventories.

CLEANINGS

Cleaning is the best solution when it comes to controlling sub-thickets on young plantations. However, in older plantations, those already subjected to two or more thinnings, cleaning leaves a lot to be desired, as it is powerless to control sprouting from thinned stumps or the large quantity of seedlings derived from dispersed seed. Weeds, stump sprouting and unwanted seedlings are being controlled, at low cost, in using a "roller crimper" pulled by a four wheel tractor.

PRUNING

Pruning up to the height of six meters is done manually, using saws attached to aluminum tubes.

HARVESTING

Harvesting includes both thinned woods and clear-cut mature trees.

Harvesting occurs annually, always during the dry season, so as to minimize the impact of the machinery upon the soil (forest floor).

THINNING

Thinning includes any of the following operations:

- “Cleaning” sub-thickets
- Weeding and hoeing around trunks
- Felling trees
- Removing lower-hanging branches
- Cutting trunks into logs
- Transporting logs to the Landing Area
- Chopping and removal of branches as fuel wood

CLEARCUTTING

The felling of an entire stand of trees.

RE-COMPOSITION OF CLEAR-CUT AREAS

Areas already submitted to clear-cutting have been found to contain a large stock of teak seed with good germination capacity mixed in with the foliage and buried in the topsoil. This stock, left over from the last and earlier fructifications, contains a quantity of viable seeds that is more than sufficient for the selection of quality, well-spaced seedlings.

This enabled the company to develop a re-composition method that has yielded excellent results.

FIRE: PREVENTIVE PROTECTION AND SUPPRESSION

Preventive fire protection is ensured by maintaining peripheral and sectional firebreaks and by keeping internal roads carefully swept.

Neighboring landowners, for their part, are aware of the care that must be taken when practicing open burning and of the need to maintain the firebreaks along their borders. They are also conscious of the fact that avoiding fires is in the interests of all concerned.

ANT CONTROL

While leafcutter and sauba ants do attack teak, they can easily be controlled through the annual spreading of ant bait.

PROTECTION AGAINST THEFT AND TRESPASS

Our plantations are located on properties duly registered with the Land Registry, with no contention whatsoever regarding their limits, shared borders, domain or ownership.

The occupation of these lands is in line with the best environmental, economic and social principles.

Each property has its own gatekeeper and gatekeeper's residence and is appropriately fenced and gated.

These properties have been under the domain and ownership of the current proprietors for more than 30 years.

CONSERVATION OF ROADS AND FIREBREAKS

Work began on the Cáceres Florestal rural transport structure in the 1970s and it has been maintained and reformed ever since as per the necessities and possibilities.

In principle, each plot is accessible by light vehicle at any time.

FERTILIZATION

The plots being reforested are sufficiently fertile and therefore do not require fertilization.

SEED PRODUCTION

Cáceres Florestal is a seed producer in the SPA (Seed Production Area) category and is duly registered at the Registro Nacional de Sementes e Mudas – RENAEM, under nº MT-00262/2005, valid until 05/01/2015.

• ENVIRONMENTAL PROTECTION

Rare, threatened and endangered species

The protection the company provides its plantations against risk of fire, invasion and theft applies to the totality of its properties, including those reserved for conservation.

The effects are manifest in the vigour of the wild vegetation that has sprung up all over the conservation areas, as well as in the greater amount of wildlife that can be seen in the early morning and in the evenings.

This improvement could be ascertained through the Wildlife Inventory conducted by the Biological Department of the Campus of Cáceres, of the University of the State of Mato Grosso, copies of which can be accessed at the referred entity library.

During this inventory no rare, threatened or endangered species was found.

Hunting is utterly prohibited, not only by our staff, but also by management, shareholders and third parties.

Staff members are allowed to fish, but only within the bounds of the Law.

Environmental safeguards based on environmental estimates.

The company maintains a monitoring program of social and environmental impacts occurred in the UMFs, developed through semi-annually inspections to evaluate and monitoring of 22 quality factors, selected by the company and separated into following two groups:

(1) Controle of Environmental Quality and

(2) Control of Forestry Quality

The inspection files and corresponding reports are filed at the company's headquarters. Please refer to "Manual of Quality Control" at page 12.

USE OF PESTICIDES

Insecticides:

The only insecticide used on our plantations is a sulphuramide and fipronil-based ant bait. The company applied to FSC® for the derogation in using this product, which was authorized until 28/02/2021. After the end of the derogation, it started to adopt, based on the new FSC pesticide policy, the ARAs to define which pesticide to use.

On the landing areas, including those located on farms, we use an insecticide based in cypermethrin, a synthetic pyrethroid, to combat coleopters, whose larvae infest the green wood.

Fungicides:

No fungicides are used on the company's plantations.

PESTICIDE PACKAGING

The empty plastic and metal containers used as pesticide, once empty are washed and rinsed three times before being stored. Periodically these containers as well as the paper bags and cardboard ones are delivered to the "Posto de Coleta de Embalagens de Defensivos da ARAMIR – Associação dos Revendedores de Agrotóxicos de Mirassol D'Oeste e Região", established at Estada do Jabuti, km3, Mirassol D'Oeste/MT.

DISPOSABLE MATERIALS: BATTERIES, FILTERS, OILS

The company is aware that these supplies are potential sources of pollution and that their use, handling and disposal must comply with the rules designed to minimize their negative impact upon the environment and upon the individuals who handle them.

Disposal and monitoring

- Batteries: All used batteries found at the company's rural properties were collected and returned to the manufacturer or retailer, who is obliged to receive them.
- Machine filters and other disposable parts: Same are deposited in specific containers destined to hold contaminated garbage and temporarily stored at the company's headquarters, while awaiting for an official destination for them. Soil portions that have been eventually contaminated with oil while draining from motors, gearboxes, etc. as well as due to accidents in the field, have the same destination.
- Motor oils: once drained, all motor oils are sealed in barrels or drums and resold to gas stations, which then send them on to recycling companies or to rural landowners who use them to conserve their fencing. The disposal of used motor oils is carefully monitored.

Storage

- Fuel (diesel): The company has diesel storage tanks at its Teca and Paraguatuba farms. All machines are refuelled using the appropriate pumps, whether electrically powered (Paraguatuba Farm) or manually operated (Teca Farm). Both tanks are periodically inspected, reformed and painted. The employees who work the tanks receive hazard pay. The tanks are installed on metal basins in order to contain any possible leakage.
- Motor Oils: Motor oils are stored in an appropriate, locked facility at each property.
- Pesticides: Pesticides are kept in an exclusive, locked and appropriate storage facility at each property.

INVASION OF CONSERVATION AREAS BY TEAK

Teak seedlings derived from wind-borne seeds have invaded some of the conservation areas located beside our teak plantations.

The company is committed to keeping these conservation areas free from teak seedlings.

IDENTIFICATION, DEMARCATION AND RECUPERATION OF PCAs

Topographical surveys of all of the company's permanent conservation areas have been made using GPS and were found to be properly delimited.

These areas are protected against intrusion by people or domestic animals, which allow the process of natural recovery to unfold while respecting the botanical sociology of the region.

• SOCIAL ASPECTS

HEALTH & SAFETY AT WORK

With a view to increasing the work safety of its operations, the company has been developing various training programs for its employees, as well as awareness lectures in the social, environmental, economic and administrative areas.

Individual Protection Equipment (IPE)

The company supplies all IPE items required for each activity and enforces their mandatory use.

First-aid

First-aid kits assembled under the orientation of the medical coordinator of the PCMSO - Programa de Controle Médico de Saúde Ocupacional (Medical Control and Occupational Health Program) are deployed on all of our work fronts. Our employees receive periodically training in first-aid, which includes wound dressing.

STAFF TURNOVER

Turnover rates in the forestry sector are low.

There were 01 dismissals and 06 admissions in 2019.

COMMUNITY ACTION

To the greatest possible degree, the company has contributed to the welfare and development of the regional community by donating its products.

Beneficiaries include:

- Cáceres Town Council – donation of wood for the construction of facilities for various Fishing Festivals; donation of seeds to the forest nurturing program.
- Cáceres Fire Brigade – donation of wood for the construction of the Unit's facilities.
- Indaiavá Town Council - donation of wooden boards for the reform of school desks.

QUALITY CONTROL MANUAL

The **CFSA Quality Control Manual** was drawn up to provide parameters for the identification and monitoring the company activities, regarding its forestry, environmental and social aspects , which must be respected if we are to attain Excellence in Product and Service Quality.

CFSA Quality Control will therefore enable:

- The implantation of a management system and the continuous improvement of the working procedures.
- Improved efficiency and productivity
- Substantial cost reductions
- Lower wastage
- Greater probability of identifying problems before they have serious consequences
- Lower staff turnover and more motivated collaborators
- The ability to predict future client needs and improve client satisfaction
- Marketing benefit
- Expansion/development of the company's current markets and the market in general
- A competitive edge on the international market (credit-worthiness, ability to branch into new business areas, etc).

MONITORING DATA

Wildlife and flora composition and observed changes.

2020 harvesting was conducted at Fazenda Paraguatuba that has a total area of 1.088,99 ha, of which 30,9 ha are conservation areas. Comparing the large extension of the conservation area towards the harvesting area one could estimate that the harvesting impact would be of low intensity. Additionally it has to be said that the majority of the wildlife species spotted at this FMU does not live there, but crosses it while wandering from closeby marshland of the Paraguai River basin to drier terrains in the neighbourhood.

Impacts on social and environmental operations

Number of work casualties during 2020:	01
Number of work incidents during 2020:	00
Number of admissions in 2020:	00
Number of dismissals in 2020:	03
Total number of workers in December 2020:	43
Number of labour processes in 2020:	0
Number of forest fires in 2020:	0
Number of wild animal found dead:	0

Forestry Management productivity and efficiency

Every year, between February and March, the company publishes its Balance Sheet and Financial Statements in a local newspaper and in the Diário Oficial of the State of Mato Grosso . This is available to interested parties to verify or check the results of the forest activities of the company.