

SUSTAINABILITY REPORT 2021

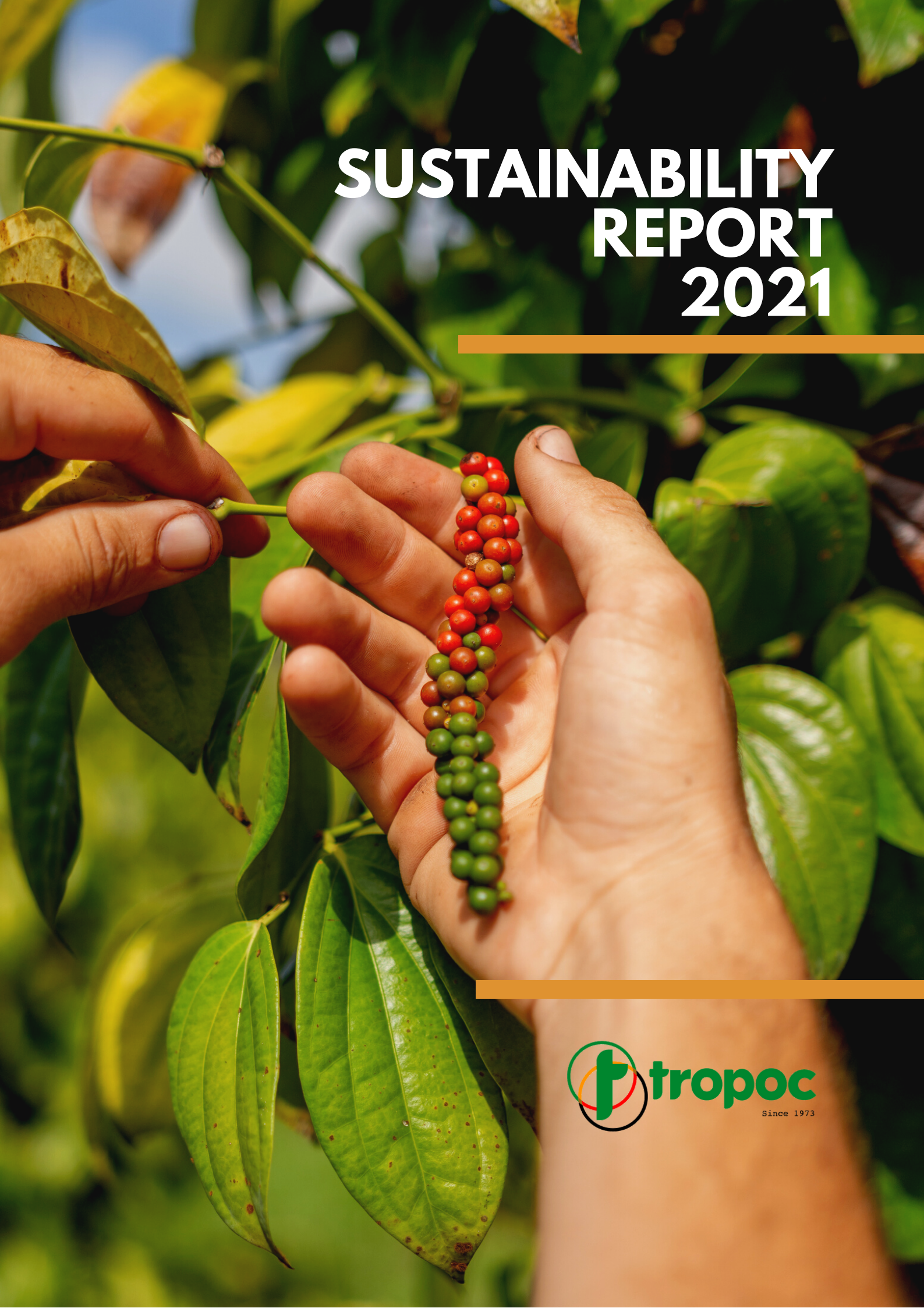




TABLE OF CONTENTS

01	— Sustainability	
02	— Message from Management	
03	— Our Work	
05	— Purpose	
06	— Our Pepper	
07	— Governance	
08	— Pará-Brazil	
10	— Pepper Production	
12	— 2021 Highlights	
13	— Economic Performance	
15	— Sustainability Program	
16	— Materiality	
18	— Our People	21
20	— Diversity	— COVID-19 Pandemic
		22
		— Social
		24
		— Partnerships
		25
		— Suppliers Production
		26
		— Production
		27
		— Certifications / Traceability
		28
		— Geo Project
		31
		— Water
		32
		— Energy
		33
		— Waste
		35
		— Sun-Drying
		36
		— Research
		37
		— Meliponary
		38
		— Future of the pepper
		39
		— GHG Protocol
		40
		— The Report
		42
		— GRI Index

SUSTAINABILITY

The Amazon biome holds 30% of all planet biodiversity and 20% of global water resources and has always occupied space in national and international debates due to the exuberant biodiversity that coexists in the midst of a wide sociocultural diversity composed of quilombolas, indigenous people, riverside communities, extractivists, and family farmers, among others.

TROPOC operations are distributed in approximately 30 municipalities in the state of Pará, in the eastern part of the Amazon, which reinforce the relevance of the company in the sustainable management of the black pepper production chain.

With the growing global concern about issues like climate change and nature conservation, we focus on being active agents of good agricultural practices dissemination that contribute to increased productivity while conserving the environment.

This document was elaborated aiming at providing transparency to TROPOC's vision, objectives and actions based on a sustainable management, in which the economic, social, and environmental pillars of sustainability are prioritized.



MESSAGE FROM MANAGEMENT

This document was elaborated aiming at providing transparency to TROPOC's vision, goals and actions based on a sustainable management, in which the economic, social, and environmental pillars of sustainability are prioritized. Currently, the search for actions that add to the company's growth and the sustainable development of the production chain is a priority condition in the decisions of companies' management boards.

TROPOC is a Brazilian company of the group FUCHS. With operations distributed in approximately 30 municipalities in the state of Pará, in the eastern part of the Amazon, biome with the greatest biodiversity on the planet. The growing global concern about issues like climate change and nature conservation, stimulated and drove the company to become an active agent of good agricultural practices dissemination, contributing to the increase in productivity of pepper production, while conserving the environment.

TROPOC established diverse policies and invested in its integrated management system, which includes certifications in international standards recognized by GFSI - Global Food Safety Initiative (FSSC 22000, HACCP, FSMA VQIP, ISO 22000, BRCGS, KOSHER, HALAL) and standards ISO 14001, ISO 45001 and the SEDEX/SMETA audit protocol, which reinforces the company's commitment with social responsibility and the employment of sustainable actions in its activities.

In addition, traceability and monitoring of native vegetation projects are developed in the black pepper suppliers; properties. Through partnerships with research and rural extension institutions, TROPOC enables innovative projects focused on boosting Pará's sustainable pepper production.

TROPOC is currently a pioneer in microbiological treatment by steam sterilization of black pepper, resulting in a safe product, ready for consumption and in compliance with the standards and requirements of the international market.

Based on TROPOC's matrix of materiality theme, which lists the topics related to the company's operations that are most relevant to our stakeholders, we prepared the fourth sustainability report, following the Global Reporting Initiative (GRI Standards) guidelines. Thus, we present the projects, partnerships and activities conducted in 2021, as well as the guidelines and methods considered to direct the company's actions towards the sustainable development of the sector, strengthening TROPOC's commitment to the sustainable global economy.

Fernando Limberti
Purchasing Director

Arthur Vinícius Gonçalves
COO

OUR WORK

Founded in 1973, TROPOC (Produtos Tropicais de Castanhã Ltda) operates in purchasing, processing, and exporting black pepper from the state of Pará. Quality, product safety and the synergy with the pillars of sustainability are priorities in the company's operation. As such, we make constant investments in innovation, process improvement, research and development, as well as methods and tools to the product traceability. On that basis, we contribute to the dissemination of technical and scientific knowledge and the development of the production chain, from the origin of the product in the field to its delivery to our customers.

For this planning to take place, TROPOC relies on a team for the management and execution of projects related to traceability and sustainability consisting of staff, consultants, and qualified researchers. Corporate strategies are defined based on the professionals'; aggregated knowledge and are always aligned with the guidelines and definitions of the company's mission, vision, and value pillars.

TROPOC understands that actions are needed to foster the development of the production chain as a whole, benefiting all players involved in the black pepper business in Pará and in Brazil.

GRI
102.1
102.2
102.5





TROPOC exports black pepper to various parts of the world, with customers and markets in Europe, Africa, Asia, and North America. The following products are supplied to the global market: green pepper in brine, black pepper, white pepper, and platinum pepper. In the first six months of 2021, the Catanhal site produced around 4 thousand tons of black pepper, which was exported from Brazil to the international market.

This market consists of: Spain, Italy, Germany, China, Vietnam, France, United States, India, United Arab Emirates, Netherlands, and Romania.

To make this number of exports and a substantial number of countries served possible, the staff become an essential part of TROPOC, therefore the company takes on social and environmental responsibility with the local community.

Several cooperation projects with public entities and non-governmental organizations - schools, community associations, health institutions - are developed focusing on the conservation and respect for the sustainable natural resources that the Amazon ecosystem provides.

MISSION

- To assure our customers quality raw material, guaranteed and recognized.
- To offer our customers a technical, logistical, and commercial differential.
- To provide rural producers with business and income opportunities in the Amazon geoeconomic region.
- To offer our customers full transparency through TROPOC Total Traceability.
- To offer our customers a product based on a broad Sustainability Program.

VALUES

- Global presence and financial strength.
- Commitment to the customers' needs, proposing solutions that encompass quality, innovation, and service.
- Commitment to the environment and to the society in which we live. Respect for the staff, being a company where they are proud to work.

VISION

- Use the 45 years of experience in agribusiness activities to be recognized globally as a company with quality assurance and sustainability.
- To be the largest company in the segment in Latin America, supplying the global market with traced, selected, and tested products, with quality and liability.

OUR GOALS

We want TROPOC to be a role model to other companies, pioneering in sustainable practices and support to research in Amazon. Our growth is the result of our employees' growth, in such a manner that together, we produce a quality product respecting the environment and the society.



GRI
102.2
102.7

OUR PEPPER

GREEN PEPPER

The green pepper is the fruit that has not yet ripened and presents a highly aromatic trace but a fresher and milder flavor when compared to the other peppers. This variety is sold in brine, being added to the brine following specific processes according to the requirements of the food industry.

DIAMOND PEPPER

White pepper grains selected, with double cleaning, in full compliance with EU regulations, with guaranteed microbiology and reduced Skatole levels.

PLATINUM PEPPER

Platinum pepper has light rind, and its grains are sun-dried and non-irradiated. Its production has low environmental impact when compared to the usual white pepper production, since it does not go through the traditional washing process that removes the pepper rind. It has a wood odor and goes through an exclusive fermentation process.

BLACK PEPPER

The black pepper is the sun-dried and non-irradiated grain. This is the most consumed variety in the world, as well as the one with the highest production in TROPOC, has pungency and a spicy and wood aroma.

Spiral

Identified/
Selected

Steam
Sterilized

GOVERNANCE

GRI
102.18
102.14

TROPOC's Governance structure is formed by qualified professionals who, together work in the leadership of each of the company's areas. This structure consists of: COO; Operations Manager and Quality Control Coordinator. Furthermore, the company has the technical and strategic assistance of researchers and professionals in the sector. These leaders coordinate a series of processes, paying attention to the quality and food safety of the product, so that its production is aligned with the pillars and concepts of sustainable production.



BOARD OF DIRECTORS

The company's directors and operational managers constitute the strategic decisions board related to the pillars of sustainability. Communication among decision-makers takes place continuously and constantly, linked to the company's day-to-day strategic and operational decisions.



STRATEGY

TROPOC is concerned with the conservation of the Amazon biome and seeks sustainable solutions and methods to the black pepper production. Understanding the importance of the Amazon biome and the need for joint efforts for development, TROPOC has established partnerships and ties with the stakeholders from the sector, in order to be an active agent of sectorial and regional development. Consequently, the company is already a reference in the sector, concerning research and development, traceability, and sustainability.

PARÁ - BRAZIL

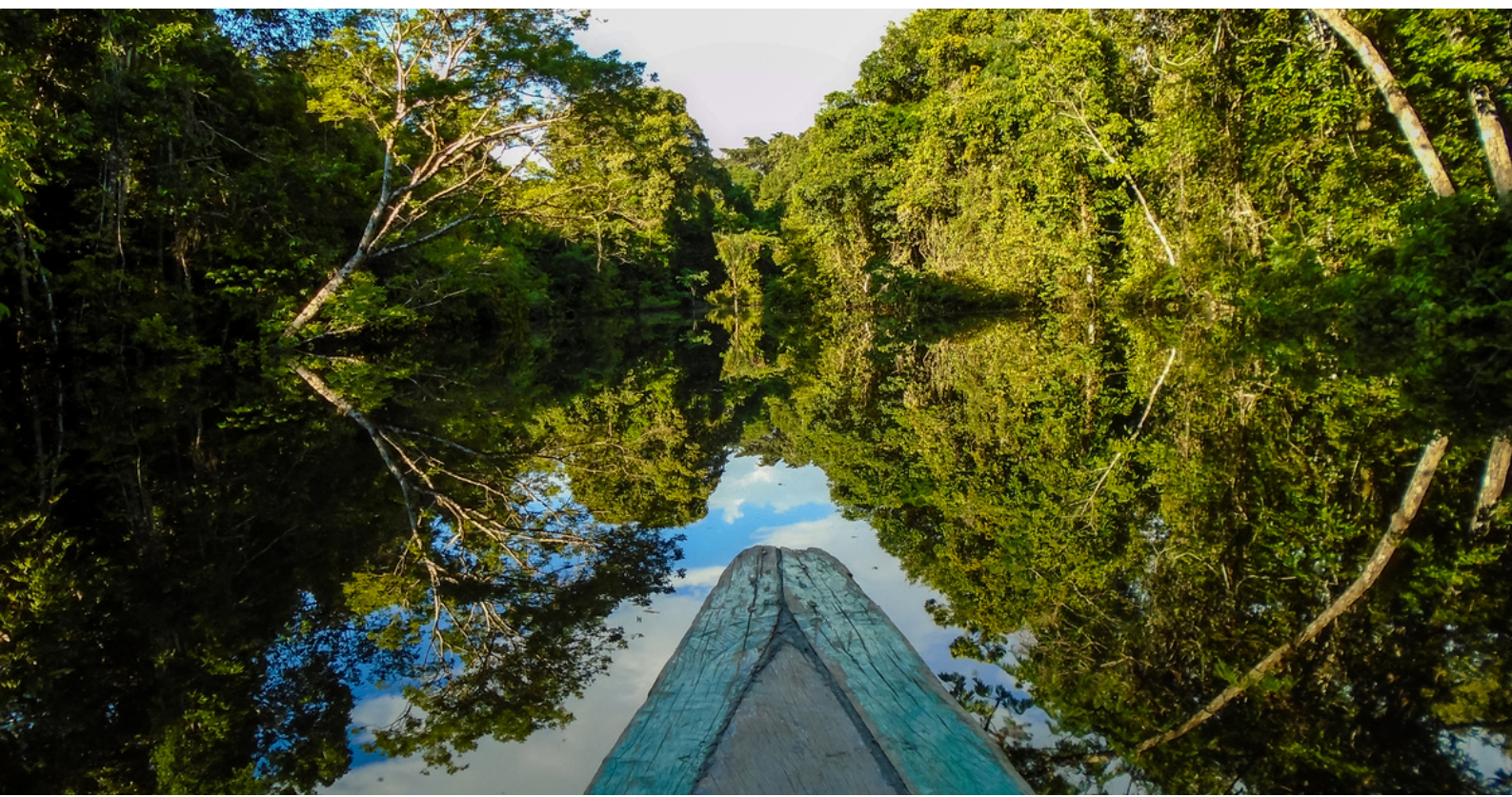
Located in the North region of Brazil, Pará is a state that has 144 municipalities distributed in an area of 1.2 million km². Rich in biodiversity and culture, it has a humid equatorial climate and is entirely covered by the Amazon biome.

Amazon encompasses more than 9 countries, covering an area of 5 million km², 30 thousand plant species and 4 thousand vertebrate animal species. An extraordinarily rich area, but already facing problems related to the forest and its biodiversity conservation.

Due to its great extension and abundance, it is estimated that only a small part of the forest has been discovered, which increases its importance and the urgency of conservation. It is estimated that 8% of the biome is formed by endemic species, with unique characteristic.

There are 80 Conservation Units (CU) in Pará with the goal of protecting environmental and natural features such as biodiversity, water resources, and local culture. The state also has 54 indigenous lands (IL) protected by law. Together, the Conservation Units and indigenous lands have approximately 75 million hectares, representing 60% of the state's total area.

In contrast, the agriculture and livestock-raising sector has been growing significantly in the last few years and has been standing out in the state's economy. Agriculture is responsible for 40% of Pará's economy, which supplies the domestic and international markets. Besides livestock-raising and mining, crops like cassava, açai, cocoa, orange, palm tree and black pepper are the state's outstanding products, mostly coming from family agriculture.



TROPOC is located in Castanhal, a town at a distance of around 60 km from the state capital, Belém. The company has operations in about 30 black pepper-growing municipalities in the state. The great reach and capillarity of the operations is obtained with the help of the staff and technicians present in the regions where the company operates.

The black pepper production in the state of Pará is solidly based on the production matrix of family agriculture, with the pepper fields implanted in areas of consolidated use.¹

According to sustainability principles and aiming at the protection of the rich biodiversity of the Amazon biome, TROPOC has the sustainable development as a premise in its sustainability program. Plans

and goals are established to have relevant impacts in the social, economic, and environmental spheres that belong to the local community.

To achieve results with social, environmental, and economic impact, the company invests human and financial resources in projects, developed in partnership with research institutions, universities, agencies, and public and private companies related to the black pepper production sector from Pará.

The technical and scientific knowledge of the agents involved in the development of the production chain, added to the financial and technological investments made by TROPOC, enable, and promote action plans focused on the development of the black pepper production chain.

According to the Brazilian Forest Code (Law no. 12,651/12), a consolidated rural area is the area of a rural property with anthropic occupation (resulting from human action) existing prior to 22 July 2008.



PEPPER PRODUCTION

The black pepper stands out in the spice market as the most sold product worldwide, serving industries and markets related to food production, perfumery, cosmetics, among others. There are reports and documents about the spice trade since the 4th century B.C.

According to FAO (2020) data, Brazil is the second largest global producer of the spice in the world, behind Vietnam and followed by Indonesia and India. According to data from the IBGE Municipal Agricultural Production survey (2020), in 2020 the country produced 114.7 thousand tons, with the states of Espírito Santo and Pará being the largest producers, with a production of 67 thousand and 36 thousand tons, respectively.

The family agriculture corresponds to 85% of the

national production. The cultivation of the species is highly labor intensive, especially the harvesting process, which is done manually and in a staggered manner, at different periods of fruit maturation. In Brazil, the activity generates approximately 30 thousand direct jobs within the year, and up to 80 thousand at harvest season and is characterized as an important source of income to small rural producers.

In Pará, the black pepper crops occupied 0.01% of the total state area. When we disregard the main protected areas, which are composed of Conservation Units (CUs) focused on forest and biodiversity protection and indigenous lands (IL), the pepper fields occupy 0.03% of the territory and occur in established areas, i.e., areas with no occurrence of deforestation.

DISTRIBUTION OF LAND USE IN THE STATE OF PARÁ

Pepper area in Brazil	37.376 ha
Pepper area in Pará	16.395 ha
Pará's share in the pepper fields area from Brazil	43,86%
Area Pará	124.587.100 ha
% of Pará's area covered by pepper	0,013%
Areas Indigenous Land in Pará (54)	34.091.400 ha
Conservation Units area in Pará (80)	40.854.100 ha
Area Pará (except IL and CU)	49.641.600 ha
% of Pará's area (except IL and CU) covered by pepper	0,03%

Wood live stakes are used in black pepper crops in Pará, especially Acapu (*Vouacapoua americana*). The usage and substitution of wood conventional stakes for *Gliricidia* live stakes are being encouraged by TROPOC, in several actions and projects developed together with partner institutions, specially Embrapa, Emater and UFRA.

In addition to protecting forests and biodiversity, climate change and extreme events are gaining increasing prominence in discussions about agricultural production. The lack of stability in the rainfall pattern, the increase in average temperature, the occurrence of extreme winds, and Indian summers are events that put at risk the viability of the pepper production.

Considering these facts, TROPOC creates projects for the development of sustainable productive systems, aligned with forest protection. These projects are resilient to climate change.

TROPOC's research and development project, in partnership with UFRA, Emater and Embrapa, aims at the generation of technology focused on good agricultural practices and the application of cultivation and management methods for the sustainable black pepper production.

The usage of *Gliricidia* live stakes is one of the studied characteristics and its adoption is already stimulated by means of disclosure, qualification, and training actions conducted by TROPOC and its partners in the field.



HIGHLIGHTS 2021

CERTIFICATIONS

Maintenance of certifications related to TROPOC production system and the quality and food safety of its products

PARTNERSHIPS

Partnerships with public and private institutions in several actions and projects focused on the development of sustainable pepper production from Pará

P&D

Research and development in the experimental field aimed at generating technologies and disseminating good agricultural practices and production methods to producers

MICROBIOLOGICAL TREATMENT

Black pepper **steam sterilization** process, audited by an internationally recognized third party

ECONOMIC PERFORMANCE

GRI
102.7

44%

INCREASE OF SALES VOLUME IN 2021

Compared to 2020, there was a 44% increase in the total volume of pepper supplied to the international market.

11

COUNTRIES

EXPORT SCOPE

TROPOC exports black pepper to 11 countries, located in the American, European and Asian continents.

NEW MARKETS

TROPOC is pioneer in sustainability and traceability of the black pepper production in Pará. Its product goes through a steam sterilization treatment and is supplied to the market as a safe product, ready for consumption. In addition to this fact, nationally and internationally recognized certifications ensure the quality and safety of the TROPOC product. Besides, TROPOC's pioneer actions contribute to the opening of new and demanding national and international markets. Efforts are being made to increasingly publicize the history and practices of high-quality black pepper family production in Amazon, in synergy with the protection of the local environment.





SUSTAINABILITY PROGRAM

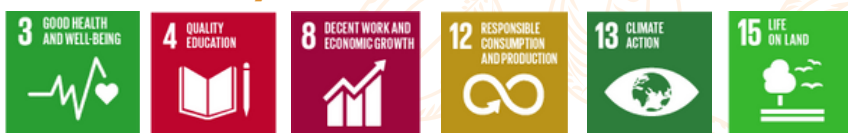
TROPOC's Sustainability Program aligns its actions with the needs and requirements of its stakeholders, as well as with the UN Sustainable Development Goals (SDG). This last program encompasses countries all over the world, and in general, sets goals to be accomplished within a certain period. These include fighting inequality within and among countries; building a peaceful, just, and inclusive society; protecting human rights; gender equality; empowering women; and protecting the planet and its natural resources. Creating the conditions for sustainable, inclusive, and economically sustained growth are also among the duties of the participating countries.

Among the 17 proposed goals, TROPOC chose 6 of them to serve as a guide for the company's managers to make assertive decisions related to the theme. These actions are taken by the managing board, with the help of consultants specialized in topics related to agriculture, environment, and sustainability.

17 SUSTAINABLE DEVELOPMENT GOALS - ONU



Goals chosen by TROPOC

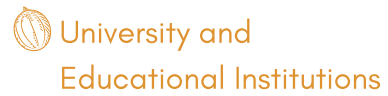




MATERIALITY

STAKEHOLDERS

The identification of the groups of stakeholders was made from the selection of the portion of society and institutions over which the company's actions have direct or indirect influence, besides the company's staff and agents that act in the black pepper production chain, such as customers, suppliers, researchers, and rural producers.



ENGAGEMENT

Black pepper producers represent a truly relevant group of stakeholders for the company. Through the TROPOC Traceability Project we generate a direct relational environment with each producer. As a result, the communication between the producers and the company's managers becomes clear and objective, in a way that promotes more coherent and assertive actions, thus understanding the sector's demands and needs.

The lectures and events, resumed gradually in 2021, following all the protocols for preventing and combating the dissemination of COVID-19, took relevant information to the production management, aiming to increase productivity and product quality, ensuring the preservation of the forests and the Amazon biodiversity.

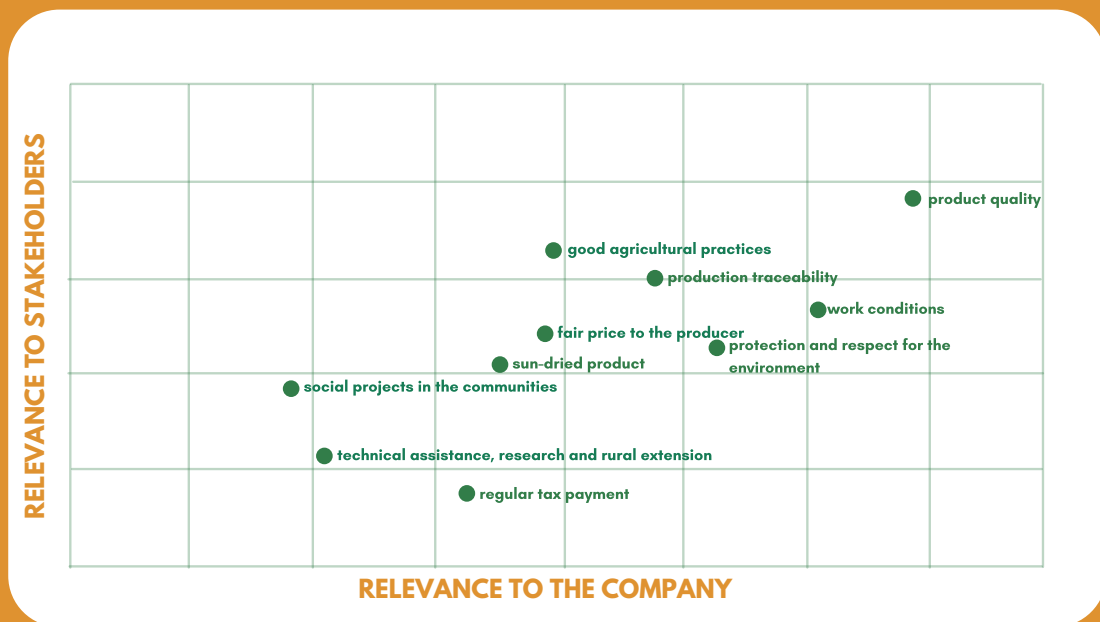
In addition to the actions in the communities and producing regions, TROPOC holds field days in its experimental field, receiving producers from several municipalities from Pará.

MATERIALITY

GRI
102.44
102.46
102.47

The materiality matrix is developed through a stakeholder survey and determines which relevant topics are important enough for the company to make decisions and take actions related to the topic, and indicates which topics are essential for the company's reports. In defining the matrix, social, environmental, and economic perspectives are considered in a broad and comprehensive way. TROPOC's materiality matrix was generated by means of a survey directed at 30 stakeholders in the black pepper production chain.

MATERIALITY MATRIX



RELEVANCE

The material topics indicated as highly relevant according to the TROPOC materiality matrix survey are:

PRODUCT
QUALITY

WORK
CONDITIONS

TRACEABILITY

PROTECTION
AND
RESPECT
FOR THE
ENVIRONMENT



OUR PEOPLE

staff by type of employment contract and gender

55 permanent employees (7 women and 48 men).

5 temporary employees (5 men - hired for the 2021 green pepper season).

staff by type of employment contract and region

All 60 TROPOC employees, permanent and temporary, live in the state of Pará.

staff by type of job and gender

All TROPOC employees work on a full-time basis.

OPORTUNITY

TROPOC encourages and collaborates with the education of its staff and service providers by supplying financial aid and making it possible to conduct educational and training activities, such as English language courses, higher education courses, and master's programs.



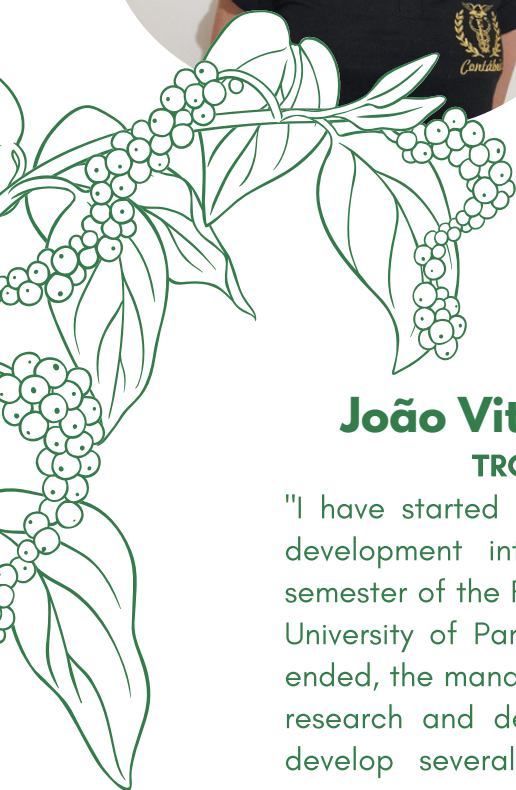
TROPOC



Amanda Borges Setúbal

TROPOC Support: Accounting Course

"I have started as an apprentice in 2018. I was 17 years old. Over time I developed and created a taste for the work, and then I have tried to continue to be an employee even after my apprenticeship contract ends. From then on, I went through a number of sectors, from purchasing to HR. I am currently in foreign trade, and it is very gratifying for me to have received this opportunity and support. The company is very good to me, I am really grateful. They help me with my studies, and I hope I can continue to contribute in whatever way is necessary."



João Vitor Andrade da Silva

TROPOC Support: English Course

"I have started at TROPOC as a research and development intern when I was in the last semester of the Food Technology course at State University of Pará. When my internship contract ended, the management decided to hire me as a research and development technician, where I develop several activities related to process improvement and the creation of new ones. I am grateful to the company for all the trust, opportunities and investment."



Eduardo de Moraes Pavão

TROPOC Support: Master's Program

"I am an agronomist and I work in the traceability and sustainability area at TROPOC since 2018. With the company support, in 2022, I am going to get my master's degree in agribusiness at Fundação Getúlio Vargas."



DIVERSITY

Our Women

Diversity is one of society's essential and relevant topics. Gender equality and the empowerment of women and girls is one of the UN's sustainable development goals. TROPOC encourages and promotes the inclusion of women in all the black pepper production chain. As such, we have a competent team of women in the administrative and industrial sectors, being extremely important agents in the company's operations. Women are essential in all activities, and our team has been showing an excellent work, and they intend to grow in the company.

"It is a company that has been operating for years in the domestic and foreign markets and provides its staff with opportunities for professional development. That way, we are happy to be part of this big corporation history, putting our knowledge into practice so that the company can evolve more and more. Each one of us women, has a very important role inside the institution and we provide this service with all our dedication and attention. Throughout TROPOC history the company used to be made up of men only. Over the years and the inclusion of women in the labor market, the organization has been hiring women, and in contemporary times the Castanhal site has a good number of women working in several departments. So, let us emphasize three of our female employees, which are: Érica Soares is a highlight of the company because she was the first woman to provide service in the industrial area, Amanda Setubal who joined the institution as a young apprentice and with her dedication was hired to work in the financial department and Juliana Silveira that went through a selection process to become a young apprentice. That way, we emphasize the importance of women in the labor market."

- Juliana, young apprentice



from left to right: Ingridy, Thatiana, Érica, Juliana, Amanda and Joana

COVID-19 PANDEMIC



Reflecting the company's ideals and values, the respect, well-being, and health of the staff and stakeholders are priorities for TROPOC and have been taken very seriously since the beginning of its operations.

During the COVID-19 pandemic, TROPOC assisted its staff by providing necessary materials and utensils for protection against and prevention of infection from the new coronavirus. Masks, gloves, and alcohol gel were available at the company's facilities, in addition to informative materials about the necessary actions to contain the virus.



The dissemination of information pertinent to the control of the pandemic, as well as the testing of the employees with suspected cases, were done to raise awareness among the staff and ensure everyone's health. In 2021, **17 COVID-19 tests** were conducted, with a total of **2 confirmed cases**.

All the company's staff who were affected by COVID-19 have recovered and, together with the others, maintain precautions against contamination by the virus.

GRI
103.1
103.2
103.3
413.1

SOCIAL

As a company that values the well-being of its staff and the community in which it operates, TROPOC is active in social causes that promote improvement in the quality of life and foster education. Through actions such as donations of food baskets, supply of disposable masks to fight the COVID-19 pandemic, sponsorship of regional events, TROPOC marks its presence in the collaboration with the development and welfare of the community.





GRI
102.11
102.12
102.13

PARTNERSHIPS

Joining forces with important institutions in the country, TROPOC aims to enable, enhance, and foster Pará's pepper production sustainable development. For this to happen, incentives are needed for research linked to the black pepper management technology, in addition to the joint action of working groups that bring together diverse knowledge of production, to train producers and encourage the adoption of innovative practices and technologies in the field.



TROPOC Experimental Pepper Field Project is focused on the identification of black pepper varieties that are adapted to local conditions and to the use of Gliricidia live stake, instead of native wood. The researchers are developing technical parameters for management and quantification of the carbon dynamics in the different black pepper crop production systems.



UFRA acts along TROPOC in the meliponary maintenance, where stingless native bees are kept. The bees contribute with the pollination of different Amazon species. The college's extension area is responsible for giving educational courses to students from schools in the region.



The purposes of the partnership are to quantify the irrigation parameters and to develop technologies for this branch. The goal of the project is to define the technical dimensioning of irrigation systems, focused on the rational use of water and reducing management risks. University members that work in this experiment, use TROPOC's experimental field.



Officialized by a Technical Cooperation Agreement, the partnership with Emater is strategic for the development of modern technologies for the sustainable management and black pepper quality enhancement and for the dissemination, training, and qualification of producers for a production focused on product quality, environmental protection, and sustainability.

SUPPLIERS

GRI
102.9



Black pepper is produced in 80 of the 144 Pará's municipalities. TROPOC works in approximately 30 municipalities, identified as the state's greatest black pepper producers. Tomé-Açú and Castanhal are the highlight of the chain and hold 60% of suppliers and 70% of the production volume purchased by the company.

Through its traceability program, TROPOC collects information related to the land situation, crop management, and social and environmental aspects of the farm and its residents.

As highly relevant stakeholders, the rural producers are encouraged to participate in the actions developed by TROPOC, engaging in the search for quality assurance, environmental protection, and sustainability of the production chain. It is pointed out that the pepper production from Pará is developed mostly by small family producers. Thus, TROPOC's work is of foremost importance for the reach and capillarity of the campaigns and actions.

The traceability program relies on staff with technical knowledge of production and of the commercialization chain, including the requirements of international markets. In this way, the registration of the producers is an opportunity to provide technical and mercadological information to the producer, expanding even more the reach and capillarity of the training and awareness actions conducted by TROPOC. System's details will be displayed in the next chapters of this publication.



GRI
102.11
103.1
103.2
103.3

PRODUCTION

At TROPOC, we have a production that does not generate product loss in any of its stages, everything that is generated is used. It starts in the field with technical assistance and training of black pepper producers, promoting agricultural practices that lead to a high-quality product and made with socio-environmental responsibility. The farms registration allows the provision of technical instruction on crop management, as well as monitoring of the activities related to plantation.

After harvesting, the pepper that enters TROPOC's facilities is electronically weighed. During the unloading process, a sample is taken from each bag and identified in relation to its origin, for conformity and quality tests. Using filters, classifiers, and magnets, the product goes through the cleaning, selection, and classification processes, ensuring the highest quality that is demanded by international markets.

All batches undergo analytical verification steps according to the TROPOC quality and compliance protocol, in line with the highest standards of quality and safety required by national and international food safety and compliance agencies.

source
identification via
TROPOC
traceability app

expedition

registration
and visit to
producers

producers
training

analysis
impurities,
hectolitre weight
and moisture

plantation,
harvest and
drying

natural
sun-drying

knowledge of
agricultural
products used

sampling

CERTIFICATIONS



TRACEABILITY



TROPOC has its own system of traceability at origin, consisting of an app in which is possible to register each producer's data with and automatic generation of a production report.

The traceability program counts on staff who have technical knowledge of black pepper production and its commercialization chain, including the standards and requirements of international markets. The producers receive periodic visits for registration and update the data related to the plantations. This is how we can have indicators and estimates of production volume and quality that subsidize the company's strategy.

TROPOC has established a close relationship with the producers, which was cultivated through events, field days, dissemination of technical material to support production, and frequent visits by the company's trackers and agricultural technicians.



**BY THE END OF 2021:
AROUND 700 PROPERTIES
REGISTERED**

TROPOC



GEO PROJECT

TROPOC is in one of the most diverse and rich biomes in the world. Therefore, forest preservation is much more than a company concern and a legal obligation. The maintenance and monitoring of the protected by law forests are a moral and civic obligation of the company, the rural owners and the society, that must have the commitment with the continuation of the pepper production from Pará in a sustainable way.

Geo TROPOC Project has the goal to insure the forest preservation on partner producers' farms. The monitoring of the vegetation is performed based on satellite images and artificial intelligence technologies to detect deforestation and the occurrence of fires at the suppliers registered in the company's sustainability program.

Integrated to the company's sustainability and traceability program, the project analyzes the spatial distribution of the suppliers'; properties, checking for possible overlaps with protected areas, such as indigenous lands, quilombola lands, forest conservation units, geoparks, geological sites, and other public areas of environmental protection.

The mappings are conducted annually, and their results serve as a basis for planning and action to bring the producers into compliance with the environmental legislation in force. The assistance to producers in case of adequacy demands is executed in partnership with Technical Assistance and Rural Extension Company of the State of Pará (from the Portuguese acronym, EMATER- Pará), that provide technical guidance related to the necessary regularization processes.



Obtaining and processing cloud-free images

HOW DOES IT WORK?

Satellite images obtained from the European Space Agency (ESA), National Aeronautics and Space Administration (NASA), in addition to images from various high-resolution satellites are the basis for land use analysis and deforestation detection. Spatial analysis procedures and artificial intelligence techniques are applied to identify changes in the analyzed supplier properties.

The land uses within the properties are mapped, identifying areas of native vegetation, perennial agriculture, water, pasture, and black pepper fields. Vegetation suppression is detected by calculating the vegetated areas and comparing them to the previous year. The data obtained are organized and summarized for the different geographic regions, allowing regional analyses and the formation of a solid base for strategic company decisions.



ANALYSIS

The data analysis obtained by Geo TROPOC Project is automatically conducted by means of geo traffic information systems. When deforestation or fires are detected, it generates a system alert, putting the producer and the producer's property in a list for field verification with the producer.

Information and results from Geo TROPOC Project are added to the producer's database, building a historical environmental information base, important to the suppliers' management, especially when it comes to environmental compliance.

IMPROVEMENTS

From 2020 on, Geo TROPOC Project incorporate geolocation data generated and made available by the National Institute for Space Research (from the Portuguese acronym, INPE). This way, the project identifies the occurrence of forest fires on the properties of TROPOC's traced producers and on properties nearby.

Thereby, TROPOC's geospatial database gains strength each year, enabling decisions to be made regarding the direction, training, and awareness of rural producers with the aim of adapting practices and adopting conservationist production methods.

IMPORTANCE AND GOALS

- Collaborate with the protection of the Amazon Forest and with sustainable development
- Train and make producers aware of their key role in preserving the environment
- Generate evidence that the black pepper production is developed in consolidated areas
- Transparency with stakeholders regarding the origin of the production
- Generate information to direct black pepper producers in Pará to environmental adequacy actions

WATER

GRI
103.1
103.2
103.3
303.1

TROPOC uses water from underground capitation. The water is used in all the company's facilities, including houses, administrative buildings, the living center, warehouses, support improvements and industrial units.

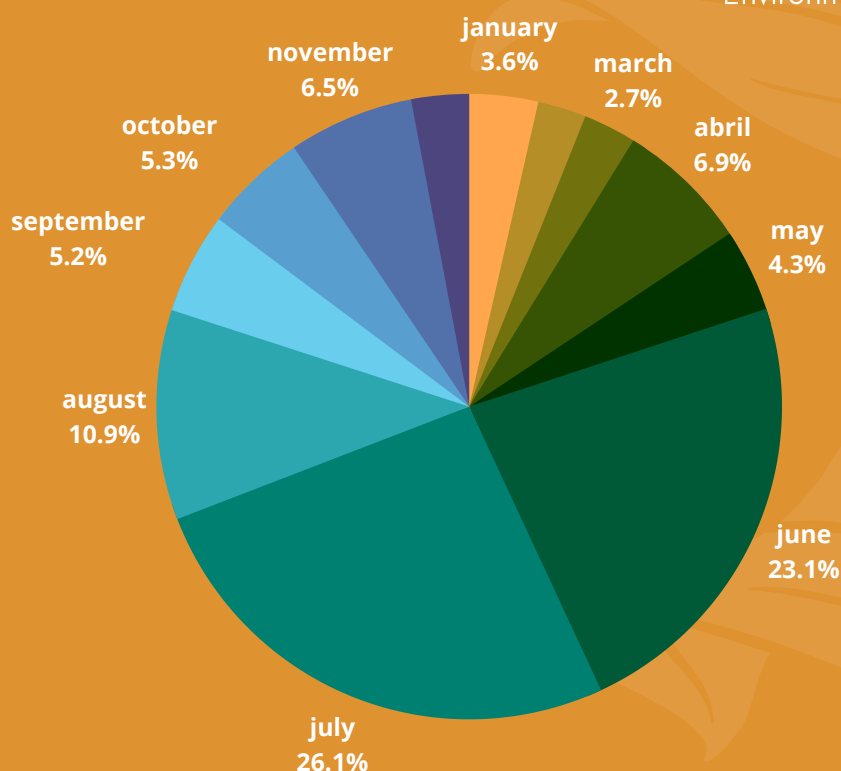
Following the required technical and environmental standards, the water supply comes from an artesian well granted by the Pará State Secretary for the Environment and Sustainability.

The quality of the water also follows strict control standards and verifications, documented in a report of physicochemical and microbiological analysis, complying with the requirements of the legislation in force and competent organs.

In 2021, 13,622 m³ of drinking water were consumed in TROPOC's facilities. The increase of this consumption in the months of June and July is due to the green pepper production, which undergoes through a process of cleaning and brine production which demands an additional water supply during production season.

Comparing to 2020, in which a total of 13,323 m³ of water were consumed, we noticed a maintenance of quantities of water consumed, as well as the water footprint per product, of about 1.1 m³/ton of product.

TROPOC used in its productive activities and to supply the residences and the company's improvements, 57.4% of the total of water authorized by Department of Environment and Sustainability, 23,718 m³.





ENERGY

Brazil has one of the most sustainable energy matrixes in the world, with 46% of its production coming from renewable sources. When it comes to electric power, this figure is of 83%, much higher than the world average, which is 27%. Of all the electrical energy produced in the country, 65% comes from hydro sources.

Brazilian clean energy production stands out worldwide and is fundamental to achieve the commitments made at the 2021 Climate Summit, in which it assumed to anticipate climate neutrality from 2060 to 2050.

The energy source used by TROPOC comes mainly from hydroelectric plants, specially from Usina de Tucuruí-PA, and it is supplied by Equatorial Pará Distribuidora de Energia S.A., through conventional power supply line.

Comparing to 2020, there was an increase in the production carbon footprint (2.0 to 2.3 kg CO₂ per ton produced). This is due to the changes in emission factors in the national electric power production system, which occur according to hydrological conditions and the dynamics of the production matrix during the year.

TOTAL ENERGY CONSUMPTION (kWh)	383.550
ENERGY CONSUMPTION IN THE PROCESS INDUSTRIAL (kWh)	331.475
% ENERGY USED IN THE PROCESS INDUSTRIAL	86%

CARBON IN INDUSTRY

The greenhouse gas emissions from electric power generation are considered as Scope 2 according to the Greenhouse Gas Protocol (GHG Protocol). The accounting of emissions is of immense importance for the evaluation of the environmental impacts generated by the production of the commodity. In 2021, TROPOC generated 2.3 kg of CO₂eq per ton of black pepper produced.



WASTE



The waste generated in TROPOC facilities are labeled as Non-Hazardous Waste - class II A - inert non-hazardous, i.e., does not present biological, chemical, or radiological risks to the environment and the health of the employees. At the moment of selective collection, the waste is categorized and segregated, and later sent for storage in containers.

The segregation, conditioning, and storage are made so as not to mix the waste, thus minimizing the environmental impacts in case of contamination and the risks generated by their accumulation. The non recyclable waste (general waste) is carried by Big Service Entulhos company and the recyclable are donated to COOPENORTE cooperative.

TROPOC also has Sewage Treatment Stations (STS) monitored by qualified professionals who work with the competent environmental agencies. The sanitary effluents are directed to the septic tank, this being a primary treatment and highly indicated for rural areas.

The organic waste originated, mainly in the cafeteria, both in the production of food and what was not consumed are destined to composting processes or donated for pig feeding.

WASTE

MATERIAL	FINAL DESTINATION	KG
METAL	RECYCLING	625
CARDBOARD	RECYCLING	965
PLASTIC	RECYCLING	2.010





SUN-DRYING

Currently it is estimated that 95% of the black pepper produced in Pará is sun-dried. By preventing the deforestation of thousands of forest trees annually, this practice reduces the degradation pressure on the Amazon biome and avoids greenhouse gas emissions.

For the production of a standard export batch of 25 tons, 40 to 60m³ of wood are necessary in the drying process of the product. With the black pepper production volume of 2021, would be required up to 23 thousand m³ of wood for the drying process, thus emitting approximately 20.9 thousand tons of CO₂ in the atmosphere. This carbon cannot be considered as a neutral emission in terms of climate impact, since there is no guarantee that the wood used in the process comes from legalized commercial plantations.

TROPOC demands that the drying of all black pepper supplied is performed by means of the natural process of sun-drying. Therefore, besides reducing the environmental impacts, the risk of anthraquinone contamination, generated in the drying process with the use of direct and indirect fire dryers, is eliminated.

Sun-drying demands a rigorous care during its handling, once the product should not get in contact with animals, thus avoiding contamination by Salmonella sp.

TROPOC acts in the dissemination of Information, qualification and technical training that aims at the maintenance of the product quality through the adequacy of the sun-drying facilities, as well as instructions related to contamination prevention procedures.



GRI
102.11
103.2
103.3
304.2

RESEARCH

TROPOC actively participates in the development of research aimed at improving black pepper management, making it more productive and sustainable. Planned in partnership with public research, development, and extension agencies (Brazilian Agricultural Research Corporation [from the Portuguese acronym, Embrapa], Rural Federal University of Amazonia [from the Portuguese acronym, UFRA] and Technical Assistance and Rural Extension Company of the State of Pará [from the Portuguese acronym, Emater]), TROPOC Experimental Field was developed with the goal of being a unit of reference and basis for these studies.

The goals of the developed projects are the generation of technologies for sustainable production, such as irrigation management indexes, fertilization indications and crop management and conduction practices, besides the adoption of *Gliricidia* live stakes, in place of hardwood stations.

GLIRICIDIA AS LIVE STAKE

The wooden stakes used for black pepper staking are usually made of Acapu (*Vouacapua americana*) trees, which presents great durability and quality. Its demand in the Amazon has generated deforestation pressure on the biome, contributing to the loss of local biodiversity and negative climate impacts.

That way, *Gliricidia* (*Gliricidia sepium*) has been studied to be used as live stake in cultivation systems. This species does not pose competition or invasion problems with other native species and can be easily cultivated and managed at a low cost. Therefore, the use of *Gliricidia* as live stake increases the economic, social, and environmental sustainability of the black pepper production, besides being the most effective way to maintain the ecological balance and the conservation of native wood stocks, and to avoid the emission of greenhouse gases from selective deforestation.



MELIPONARY

GRI
103.2
304.2

The Iratama Meliponary Project was developed in collaboration with a research group in Science and Agrindustrial Technology from State University of Pará (from the Portuguese acronym, UEPA). Installed in TROPOC's facilities, the meliponary was born with the intention of taking knowledge about the management and benefits of native bee's honey production to the local society, which include positive environmental aspects and income generation for the producer.

Iratama has 4 stingless bee species, Uruçu-amarela (*Melipona flavolineata*) in 9 boxes and Uruçu-cinzenta (*Melipona fasciculata*) in 12 boxes. There are also 2 hives of the species *Nannotrigona* spp. and *Melipona melanoventer*.

Raising people's awareness about the importance of the pollination process, both for agriculture and for the maintenance of biodiversity, is fundamental in the socioeconomic and environmental spheres. This process is stimulated through technical visits to the meliponary, where lectures are held, and informative materials are distributed about rearing and managing native bees.

Pollination is considered an ecosystem service that increases crop productivity, produces higher quality fruit and seeds, increases genetic variability, and maintains biodiversity. Moreover, the honey produced by bees has antibacterial and fungicidal actions and a high energy value for being rich in fructose and glucose, i.e., it becomes a nutritious and easily accessible food.

With this project, TROPOC promotes environmental education in practice, taking to its stakeholders and local educational institutions the importance of having a sustainable economy that cares about people and the environment.



FUTURE OF THE PEPPER

The pepper production from Pará presents an enormous potential to increase production without the need to expand the planted area. In addition, the strategy for the sector contemplates the use of Gliricidia live stakes, which provides agronomic, environmental, and social benefits to the production chain and the producing region.

The strategy for increasing the pepper fields productivity and consequent increase in production, in a sustainable way. This requires the joint participation of government agencies, research institutions, universities, rural extension agencies, banks, and companies that operate in the pepper production sector.

TROPOC has been playing a significant role in this journey, being a catalyst of the processes required for the development of the productive chain and of the state of Pará, with the following themes and priority performance areas:

- **Sustainable production system with a focus on good agricultural practices**
- **Technical Assistance with reach and capillarity**
- **Stimulus and support to the creation of bank financing lines for production**
- **Support to the establishment of the technical support structure to the producer**
- **Guarantee of commercialization**



GHG PROTOCOL

Efforts to mitigate GHG (greenhouse gas) emissions from TROPOC operations, as well as actions to reduce impacts on the environment are corporate strategies that insert the company on a journey to a low-carbon economy. Since its main goal is sustainable development, which values production that does not compromise the ability to meet the needs of future generations, TROPOC participates in the GHG Protocol program which is composed of a GHG emissions inventory. It has the following points as its purpose:

- ① Anticipation of future laws, rules and regulations related to sectoral policy and climate change;
- ① Assessment of operational and strategic risks and opportunities;
- ① Meeting customer and stakeholder expectations;
- ① Possibility of entering the carbon market;
- ① Competitive advantages and prominence in the industry.

TROPOC participates in the GHG Protocol Brazilian Program, acquiring a silver seal, regarding the classification of complete inventory, to the document presented in 2021.

Programa Brasileiro
GHG Protocol





THE REPORT

The annual Sustainability Report presented is regarding the year of 2021, and the information presented related to projects, actions and operations were conducted from 01 January to 31 December. The last report made by TROPOC encompasses the year of 2020 (from 01 January to 31 December).

This report was made in compliance with the GRI Standards: option essential. By presenting the contents of the report, we adhered to the stakeholders' inclusion reporting principles, context of sustainability, materiality, and integrality.

DISCLAIMER OF LIABILITY

All the text presented here was created with great care, however flaws may occur. All forward-looking statements were made based on assumptions and estimates existing at the date of publication.

We also sought to meet the quality guidelines, contemplating the principles of accuracy, balance, intelligibility, comparability, and practicability, and updating of information.

CONTENT, DESIGN, TEXT, QUESTIONS
Eduardo Pavão - Agronomist
sustentabilidade@tropoc.com.br







GRI INDEX

INFORMATION

PAGE OR REASON FOR OMISSION

GRI 101 - GROUNDS GRI

102 - GENERAL CONTENT

102.1 - Organization name		3
102.2 - Activities, brands, products, and services		3, 6
102.3 - Location of the organization's headquarters		9
102.4 - Place of operations		4, 9
102.5 - Nature of ownership and legal form		3
102.6 - Served markets		4
102.7 - Organization	Confidentiality restriction. The company chose not to disclose the economic information in the public version of the report because it is strategic data. However, the data may be requested, and the company will assess whether disclosure is authorized.	6, 13
102.8 - Information about employees and other workers		18
102.9 - Supply chain		25
102.10 - Significant changes in the organization and in the supply chain		12
102.11 - Precautionary principle or approach		24, 26, 27, 28, 29, 30, 36
102.12 - External initiatives		9, 24
102.13 - Participation in associations		24
102.14 - Statement from the most senior executive		2, 7
102.16 - Values, principles, standards, and behavior codes		5
102.18 - Governance structure		7
102.40 - Stakeholder groups list		16
102.41 - Collective bargaining agreements		18
102.42 - Stakeholders identification and selection		16
102.43 - Stakeholders approach and engagement		16
102.44 - Main concerns and topics raised		16, 17
102.45 - Entities included in the consolidated financial statements	Confidentiality restriction. TROPOC does not disclose its balance sheet publicly because it is a privately held company.	
102.46 - Defining report content and topic boundaries		17
102.47 - Material topics list		17
102.48 - Information amendments There was no information amendment.	There was no information amendment.	
102.49 - Report alterations There was no report alteration.	There was no report alteration.	
102.50 - Period cover by the report		40
102.51 - Date of the most recent report		40
102.52 - Reporting Cycle		40
102.53 - Contact for questions related to the report		40
102.54 - Reporting statements in compliance with the GRI Standards		40
102.55 - GRI table of contents 42, 43		42, 43
102.56 - External verification	It was not made for the present report.	

INFORMATION

PAGE OR REASON FOR OMISSION

MATERIAL TOPICS - MANAGEMENT APPROACH

WATER

103.1 - Explanation of the material topic and its limit	31
103.2 - Management approach and its components	31
103.3 - Management approach evaluation	31
303.1 - Interactions with water as a shared resource	31

ENERGY

103.1 - Explanation of the material topic and its limit	32
103.2 - Management approach and its components	32
103.3 - Management approach evaluation	32
302.3 - Energy intensity	32
305.2 - Indirect emissions (Scope 2) of GHG coming from the energy acquisition	32

WASTE PRODUCTION AND MANAGEMENT

103.1 - Explanation of the material topic and its limit	33
103.2 - Management approach and its components	33
103.3 - Management approach evaluation	33
306.3 - Generated waste	33

PROTECTION OF THE FORESTS AND THE WILD LIFE

103.1 - Explanation of the material topic and its limit	28, 29
103.2 - Management approach and its components	28, 29, 30, 36, 37
103.3 - Management approach evaluation	30, 36
304.2 - Significant impacts of activities, products and services on the biodiversity	28, 29, 30, 36, 37

TRACEABILITY

103.1 - Explanation of the material topic and its limit	26, 27
103.2 - Management approach and its components	26, 27
103.3 - Management approach evaluation	26, 27
308.1 - New suppliers selected based on environmental criteria	27, 29, 30

SOCIAL PROJECTS

103.1 - Explanation of the material topic and its limit	22
103.2 - Management approach and its components	22
103.3 - Management approach evaluation	22
413.1 - Operations with engagement, impact assessments and local community development programs	22





TROPOC - Produtos Tropicais de Castanhal
Ltda. BR 316 Road, km 74.6 - Rural Area
Zip Code: 68.740-970
Mailbox: 111
Castanhal-PA
Phone: +55 38 3562-2870
CNPJ: 02.317.099/0001-85

www.tropoc.com.br



TROPOC website



Traceability Report



Institutional Video