

The Oil Palm

Agribusiness in Colombia



SUPPORTED BY THE OIL PALM DEVELOPMENT FUND



The environment where oil palms are found is hot and humid, with shades of green, and inhabited by hundreds of animal and plant species. Moreover, it is also a universe of human and work relationships in which rural and urban, national and international, and agricultural and industrial activities converge.

This world of diverse and complementary efforts intertwines in a production chain that creates wealth and promotes social development.

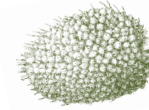


Queen of the Oilseeds

Oil palm is the most productive oilseed in the world. On average, one hectare planted with oil palm produces between six and ten times more oil than other oilseeds.

Ever since its inception in the Gulf of Guinea, in Western Africa —hence its name *Elaeis guineensis* Jacq.— and in America, where it is known as *nolí* or *Elaeis oleifera* (kunth) Cortés, the oil palm has lived in harmonious integration with other species in the tropical soils of Asia, Africa, and America. Its products are spread all over the world as edible oils, foodstuff, cosmetics, paints, soaps, detergents, printer ink, candles, biofuels, biomass derivatives and oleo-chemical products, and a variety of essential supplies.





The outstanding versatility of oil palm combines with its countless attributes, making it the farmer's favorite thanks to its goodness; of consumers, thanks to its beneficial effects on health; of the industry, thanks to its nobility and stability to mix with other commodities; and of governments, as they consider it ideal to create development plans and jobs as well as an alternative energy source. Thus, oil palm is an expression of life, a symbol of progress, and a generator of wellbeing.

Average oil yield (t/ha/year)



Source: Oil World Annual, 2018

The area for palm oil production was estimated to be 19.6 million hectares in 2018, a figure equal to 31.3% of the world's demand for oils and fats, whereas more than 125 hectares of soybean were required to meet 24.2% of global demand.

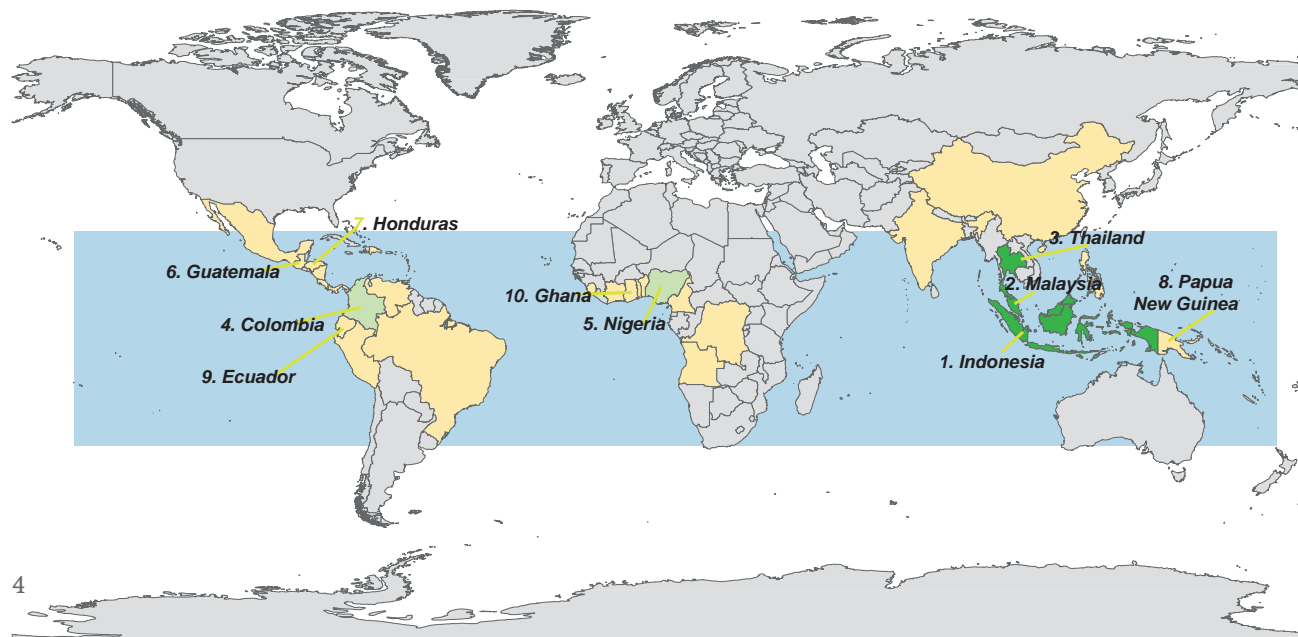
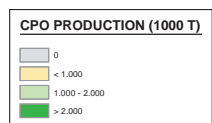




A Gift from the Tropics to the World

Few tropical plants have become as necessary as oil palm, which is now a champion of the provision of edible oils and fats, of the creation of alternative energy sources for biofuel-based diesel machinery and engines, and of the use of biomass and oleo-chemistry.

Main producers
Source: Oil World Annual 2018





Palm oil has been used for food ever since the rise of early civilizations in Africa throughout the coastal line between Senegal and Angola, in the Congo River basin. In Europe, its use grew during the Industrial Revolution to produce grease, soaps, candles, and lubricants. Additionally, the bagasse of palm fruit kernels was used as foodstuff.

In the Far East, where oil palm was introduced in the 18th century, it was used for ornamental purposes. The Dutch and the English began its systematized cultivation. The first commercial oil palm plantations were established in 1911 in Indonesia, and in 1914 in Malaysia.

By the late fifties, the conditions to promote the crops and develop their entire economic potential were there: improved genetic materials together with the considerable growth of the demand for edible fats in a postwar world. Crops expanded extraordinarily during the sixties, when the global supply of palm oil doubled. Notably, the government of Malaysia based its development policy on palm oil, massively promoting it. Consequently, the country became the first exporter of palm oil in the world, a position previously held by Africa, who used most of its production for local consumption.

The positioning of Malaysia—and soon after, Indonesia—as a palm growing power decisively marked the evolution of this agribusiness by radically increasing its production and productivity based on research, technological development, and corporate efficiency.

During the last ten years, there has been significant growth in the global production of oil palm, going from 26.2% of the world's production of edible oils and fats in 2007-2008 to 31.2% in 2017-2018, thus becoming the oilseed with the greatest yield per hectare in the market.

Harnessing oil palms has forged a buoyant agribusiness that actively involves agricultural, industrial, and commercial activities, focusing on the national and international markets and requiring a strict commitment with the sustainable development of the agribusiness.





Elaeis guineensis Jacq., or oil palm, is a perennial plant whose stem can grow over thirty meters high in wild conditions.

The Plant



Oil palm is the living expression of the tropics. It has the exuberance, grace, and strength of the sun and water plants. Its ripe fruits have the colors of sunsets at the equator.

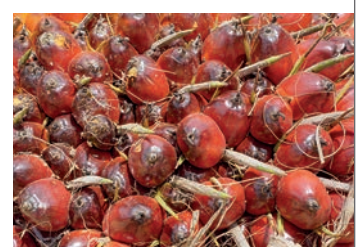


Cheerful male and female flowers wiggle in an oil palm, creating thousands of spherical, ovoid, or elongated fruits that form compact bunches weighing between 10 and 40 kilograms each. Before acquiring its cheerful and colorful reddish-orange tones of the tropical sun when ripe, oil palm fruits are dark violet, practically black. Inside, they hold a single seed, the kernel, protected by the pit, a woody endocarp surrounded by a fleshy pulp. Both kernel and pulp contain copious quantities of oil. The former provides palm kernel oil, while the latter provides palm oil.

The stem (or spike) of the queen of oilseeds is erect and has the shape of an inverted cone. Before aging, it is rough due to the petiole surrounding it. Upon reaching maturity, it is smooth, but segmented by the scars caused by its almost forty leaves upon withering and falling.

During its middle age, the leaves grow between three and six meters, almost parallel to the ground. Each leaf is formed by about 250 linear leaflets, irregularly growing on both sides of the petiole. The messy appearance of the leaf is one of the characteristic features of the species.

The productive life of oil palms may span over 50 years, but at around 20 or 25 years of age, its stem reaches a height that makes harvesting difficult, thus marking the beginning of the renewal for commercial plantations.





Work in the Field



Besides the climate and soil conditions required for oil palms to grow, achieving the maximum production capacity during the harvest depends on the quality of the seeds used, the rigorous selection of seedlings in the nursery, the preparation of the land, the establishment of cover crops, fertilization, and appropriate sanitary management.



Oil palms planted in the field for commercial production require great care and protection to grow, develop, and reach the productive and retributive stages as soon as possible. However, proper management is not only exclusive to the non-productive stage. Throughout their life, oil palms require protection from competing vegetables in order to ensure that they receive adequate amounts of water, light, and nutrients at the right times. They also require sufficient sanitary management and that leaves and bunches be carefully pruned to prevent any injury.



Therefore, the cultivation of oil palm demands a workforce with different skill levels and a broad knowledge. People working in the fields know that the careful handling of the fruits during the harvest, collection, and transport, as well as their timely processing, determine the amount and quality of oil obtained.



The design of the plantation and its lots, roads, channels, and mill are critical to streamlining the cultivation, maintenance, harvest, and transport of the fruit to the processing sites.





Extracting the Oil

Oil palm fruits are processed at facilities known as processing or palm oil mills, where crude palm oil and palm kernel oil are extracted from the fruit.

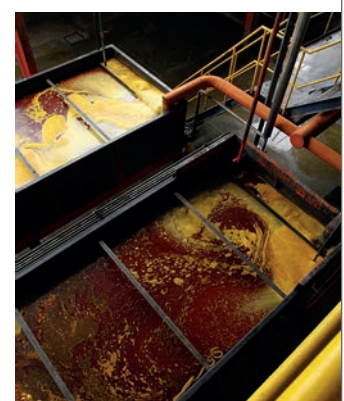


The process consists of sterilizing, shedding, and macerating the fruits, extracting the oil from the pulp, bleaching the oil, and recovering the palm kernel cake from the press. Subsequently, two products are obtained from the kernels: palm kernel oil and palm kernel cake. The latter is highly valuable as foodstuff.

The properties of the oil palm fruits demand their prompt processing in order to keep the oil's quality as well as to allow for the most efficient use of the extraction rate. Therefore, oil palm crops are typically located near a processing plant. Each crop or set of crops, plus the facilities to process the fruit, constitute an oil palm nucleus.

All around the world—except for Africa, where palm oil is massively consumed raw—palm oil is refined to reduce its moisture, bleach it, and deodorize it. Some processors trade it as is, but it is usually sold to the consumer mixed with other vegetable oils.

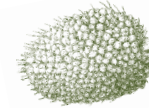
Two products are obtained after fractioning palm oil: palm olein and palm stearin. Palm olein is liquid in warm climates and may be mixed with any vegetable oil. Palm stearin is the most solid fraction and it is used to produce non-hydrogenated fats (thus making it naturally free of trans fats), margarine, and soap. The properties of each palm oil fraction explain its versatility and its various uses.





Palm Oil

Palm oil accompanies mankind far more than it can imagine. Households, offices, restaurants, even automobiles are hosts to its countless uses, which grow along with inventions, in search of healthy food, the hectic modern lifestyle, and the options for its use in oleo-chemistry.



In the 15th century, after tasting palm oil in Africa, Venetian explorer Alvise da' Mosto said that "it has the aroma of violets, the taste of olives, and color that tints food just as saffron, but that is even more attractive."

The tropical red of crude palm oil is proof of its high content of carotene (vitamin A), which is seventeen times higher than that of carrots when comparing an equal weight. This makes it one of the best natural sources of these vital elements and, thus, an excellent alternative to fight the vitamin A deficiency suffered by people in many developing countries.

Tocopherols and tocotrienols (vitamin E fractions) are important nutrients found in palm oil. Along with carotenes, they act as antioxidants to reduce the cell damage caused by toxic substances or the environmental pollution, which accelerate aging and the development of some diseases. Additionally, tocotrienols whose source for excellence is palm oil, are powerful anticarcinogenic and antithrombotic compounds.

Another unique characteristic of the "golden oil" as Asians call it is its perfect balance between saturated and unsaturated fats. Thanks to this, it has no negative impacts on the cholesterol levels of the consumers.

Even without knowing about its benefits, people in Africa have been using it as part of their diet for over five thousand years. Even today, as back then, palm oil is consumed raw and unrefined in several African countries.





Multiple Uses

Healthy Versatility

Due to its physical composition, palm oil may be used in various preparations without hydrogenation (the process through which trans fatty acids, harmful precursors of diseases such as diabetes, cardiovascular diseases, and others are produced).

This feature, along with its particular consistency, appearance, and odor as well as its resistance to deterioration, make palm oil an ideal component in the preparation of various foods and the best alternative to produce margarine and fats for pastries and dry mixes to bake cakes, cookies, and biscuits, or to prepare soups, sauces, and milk fat substitutes required to produce condensed milk, powdered milk, non-dairy cream for coffee, and ice cream.





Palm oil is also considered as one of the best frying oils, as it withstands high temperatures and does not produce unpleasant smells. It is used in households, restaurants, and in the commercial production of fries, puffed snacks, *empanadas*, *buñuelos*, shortbread, and others.

On the other hand, the palm kernel cake, a byproduct of palm oil, is used to produce concentrate foods to supplement animal nutrition. Although extracted from the same fruit, palm kernel oil is very different from palm oil, and it is more similar to coconut oil. It is semisolid or solid at room temperature. Palm kernel oil melts above 30°C and, upon contact with the mouth, provides a smooth feeling, similar to that of cocoa butter. This makes it especially attractive to chocolate lovers, as it replaces cacao and milk fat in its preparation due to its neutral flavor and long life.

Sponges, cookies, and cakes are filled with creams made of sugar, powdered milk, and palm kernel oil to make them softer and provide that delicate sensation of cream melting in the mouth. Special margarine and ingredients to bake cakes, croissants, and bread are also prepared with palm kernel, adding volume, soft texture, and extended duration to them. Other products improved with palm kernel oil include candies, coffee cream, and peanut butter.





Other Uses

Palm oils have non-edible uses with higher economic value and, in many cases, may replace petroleum.

Palm oil and palm kernel oil are especially useful to manufacture oleochemical products such as fatty acids, fatty esters, fatty alcohols, fatty nitrogen, and glycerol compounds. Lately, they have been gaining strength in biofuels.

By 1990, Rudolf Diesel had used vegetable oil to run the engine named after him. Years later, it was demonstrated that palm oil might also have these uses with more significant environmental advantages over fossil fuels (diesel fuel).





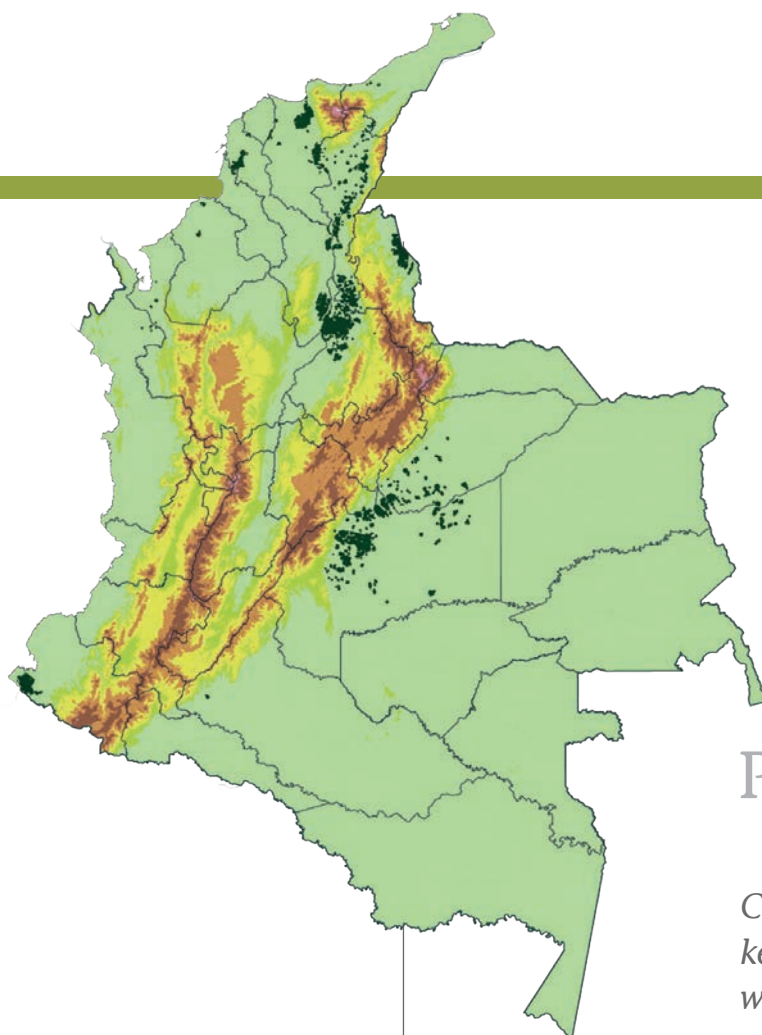
Colombia is producing palm oil biodiesel which, mixed with diesel, allows to run thousands of automobiles and machines using diesel engines nationwide, bringing benefits to the environment, creating jobs, and providing a supply of renewable energies.

Non-edible uses of palm oil and palm kernel oil include:

- Soaps and detergents
- Candles
- Cosmetics
- Fat to grease bread molds and equipment
- Grease to lubricate machinery used to prepare food
- Grease to protect tanks, pipes, or similar outdoor equipment
- Drilling mud
- Epoxidized palm oil, useful as a plasticizer and sterilizer in the plastics industry, especially PVC
- Gum
- Printer ink
- Biodiesel
- Metallic soaps, to manufacture lubricating grease and metallic dryers.
- Cold lamination of steel sheets
- Tin sheets
- Acids to lubricate fibers in the textiles industry

The biomass resulting from the palm oil extraction process may be used in different ways, among them: returning it to the field as part of the nutrient cycle, helping to improve the soil and retain humidity; and as biochar, both in the field and to capture greenhouse gases. There is also potential use of biomass to manufacture second-generation fuels, cellulose, agglomerates, foodstuff, and more. All these uses are framed within the global trend of a circular economy.





Position	Department
1	Meta
2	Santander
3	Cesar
4	Magdalena
5	Casanare
6	Bolívar
7	Norte de Santander
8	Nariño
9	Antioquia
10	Vichada
11	Cundinamarca
12	Córdoba
13	La Guajira
14	Sucre
15	Cauca
16	Atlántico
17	Caquetá
18	Arauca
19	Caldas
20	Chocó
21	Tolima

Palm Growing Colombia

Colombia is the largest producer of palm and palm kernel oils in America, and the fourth largest in the world. Palm growing is one of the most promising agricultural activities, and is a hub to achieve development through agriculture.

96,3% of the net area planted with oil palm is distributed in nine departments, as follows:

Meta (28.5%), Santander (44.2%), Cesar (15.3%), Magdalena (25.9%), Casanare (10.5%), Bolívar (16.7%), Norte de Santander (4.6%), Nariño (8.4%), Antioquia (1.0%).

The remaining 6.4% is in the departments of Vichada, Cundinamarca, Córdoba, La Guajira, Sucre, Cauca, Atlántico, Caquetá, Arauca, Caldas, Chocó, and Tolima.

According to estimates by Fedepalma, the production of the sector is equal to 8.1% of the national agricultural GDP for 201X.

Elaeis guineensis was introduced in Colombia in 1932, but its commercial cultivation only extended from the second half of the 20th century thanks to the government measures aimed at developing the countryside and providing the country with local palm oil.

Under the government's plan to promote oilseeds, oil palm was planted in the Caribbean Plains, in the Middle Magdalena Valley, in the low foothills of the plain lands, and in the Colombian southwest. The individual efforts of the producers and their organization, the National Federation of Oil Palm Growers, Fedepalma, played a significant role in the development and consolidation of this agribusiness.

As a result, plantations tripled during the eighties, and palm oil consolidated as the primary commodity in the country's oilseed, oils, and fats productive chain. During the nineties, efforts were aimed at developing the competitiveness of the big palm companies and at managing industry institutions that helped palm growers prepare for the 21st century.

Palm and palm kernel oils represent 94.1% of the national production of oils and fats in the local market and about 66% of the consumption of these products. Likewise, exports have significantly increased since 1990, now representing a significant share of the Colombian agribusiness exports. Although the commissioning of biodiesel plants increased the percentage of internal consumption, external sales will increase as a result of the larger production expected in the next years due to the growing plantations.



Environmentally Responsible Farming

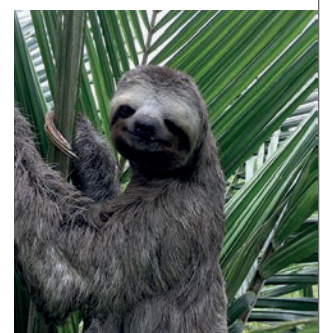
The Colombian palm sector is committed to a deforestation-free development, preserving our biodiversity and in harmony with the natural riches of the palm growing regions.

Colombia is one of the few megadiverse countries in the world. Its forests, jungles, wetlands, páramos, savannahs, rivers, lakes, and other ecosystems host countless species and an unrivaled natural wealth. Our biodiversity is also present in the agricultural sphere, and the productive sectors play a significant role in its conservation.

Therefore, the environmental management of planned projects begins from their conceptualization in order to ensure that the crops and processing plants do not affect protected areas, forests, or other environmentally essential ecosystems, and that the area intended for the project has an adequate environmental supply of water and other natural resources.

The design of the palm lots includes identifying the ecosystems and habitats to be kept as conservation areas as well as the landscape management tools (riparian corridors, conservation corridors, shrubberies, nectar plants, etc.), including natural vegetation into the productive system to provide ecosystem services such as pollination, biological pest and diseases control, formation of soils, and protection of riverbeds. These natural areas also favor the conservation of biodiversity in the palm regions.

The operation of the crops and processing plants promotes technologies and practices that: efficiently use water, soil, and resources; reduce the creation of solid wastes, atmospheric emissions and discharges; reduce the contaminant effect by using the biomass resulting from the process to return nutrients to the crops; create renewable energies; manufacture other products, thus promoting a circular economy; and, finally, to position Colombian palm oil in domestic and international markets thanks to its environmental commitment and development.





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According to the First Great Survey of Employment in the Palm Sector, conducted by Fedepalma and DANE, the national palm oil agribusiness has a formal contracting rate of 82.4%.

The Social Palm

Oil palm promotes economic and social development in the communities.

As of 2018, oil palm was cultivated in 160 municipalities in 21 departments of the country, creating approximately 178 thousand jobs and benefiting thousands of families. A study conducted by Fedesarrollo titled “Characterization of labor in the Colombian palm sector” showed that this activity creates formal and stable jobs, with effects on improving the living standards of the workers and their families.

This sector is one of the leading promoters and examples of the Productive Strategic Alliances between large, medium and small farmers, and contributes to the adequate exploitation of the land as well as to the competitiveness of the agribusiness sector. There are approximately 138 partnerships altogether in the palm regions, equal to over 58 thousand hectares planted with palm.

In turn, the sector involves about 5,000 smallholders who are engaged in this activity, equal to over 51 thousand hectares planted. Thus, this is one of the industries that generates the most social and economic inclusion in Colombian agriculture.

Furthermore, palm growers have developed social programs mainly aimed at providing necessary assistance to families, early childhood, the elderly, and others, with approximately 13 corporate foundations which offer progress and wellbeing to communities in palm growing areas to date.





Fedepalma and the Palm Growers' Organization

Fedepalma identifies the needs and values of its members to respond to their interests and expectations. Its mission is to bring palm growers together, help them define their interests, and guide them in all aspects related to their activity.

Colombian palm growers have one of the most robust and active trade associations in the agricultural sector, the National Federation of Oil Palm Growers, Fedepalma, whose actions have been decisive to consolidate the agribusiness in the country.

Fedepalma is a corporate organization. Since its foundation in 1962, Fedepalma has promoted all types of initiatives aimed at increasing competitiveness and promoting the sustainability of the sector, prioritizing the activities that producers and other individuals are not able to efficiently carry out on their own.

Due to its corporate nature, Fedepalma studies the risks inherent to the business, analyzes the markets, performs prospective exercises, explores alternative uses, and warns entrepreneurs on the reality of the palm-growing activities so that they may make their own investment decisions based on comprehensive, accurate, timely, and adequate information.

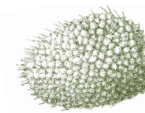
To do so, within the framework of the Strategic Map of the Federation, Fedepalma seeks the competitiveness of the sector and the general wellbeing of affiliated palm growers through a value proposition that contributes to improve the phytosanitary status, increase productivity, optimize the profitability of the palm, consolidating palm-growing as a sustainable business, and strengthening the institutionality of the oil palm sector.



Devising the Future

Fedepalma designs policies and defines strategies that respond to the needs of our times, of the business, and the feelings of both producers and entrepreneurs while paving the way for the future competitiveness and sustainability of palm growing.



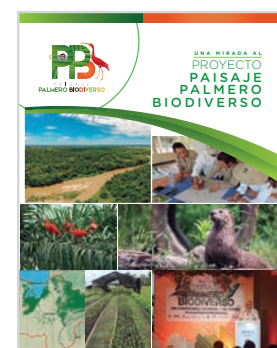


Until the 1980s, Fedepalma's activities focused on agreeing on the conditions to promote the cultivation and to protect the commercialization of its products with successive state administrations. During the 90s, the expansion and consolidation of the agribusiness required organized association in order to strengthen research and promote measures, actions, and instruments that would ensure greater competitiveness in the domestic production of palm oil and a more robust position in national and international commercialization, all within the context of economic opening.

In the last few years, international markets have become more and more demanding regarding sustainability and responsible consumption of products. Therefore, the Federation is committed to the sustainable development of Colombian palm oil with the purpose of positioning and consolidating it as a unique and differentiated product. To do so, it created the Colombia Sustainable Palm Oil Program, aimed at the massive adoption of best agribusiness practices, the recognition of progress in the sustainability status, the promotion of sales, consumption, and positioning of Colombian palm oil, and the implementation of sectoral policies that support the efforts of palm growers addressed at sustainable production.

For this purpose, the Federation trains not only the oil palm nucleus to be certified as sustainable, but also fruit providers who are usually small and medium holders thus ensuring the full traceability of the oil as sustainable and giving us a competitive advantage in the international market.

Thanks to these efforts, the Colombian palm sector has a significant organizational structure today, formed by organizations devoted to research and commercialization. Just like the special programs developed by Fedepalma, these institutions are governed by clear corporate criteria and develop the strategies of the palm sector policies, constantly devising and building the future competitiveness and sustainability of the sector.





Research and Technology Transfer

For Fedepalma, it is clear that the two key aspects of the sector's competitiveness are research and technology transfer. Therefore, in 1990, it created the Colombian Oil Palm Research Center, Cenipalma, which would later become the cornerstone to the solution of phytosanitary problems that affect oil palm crops, providing producers with efficient scientific tools to advance in issues such as yield, quality, and costs.

In Colombia, we could say that oil palm research is aimed at making the sector more competitive and ensuring quality of its products, sustainable development, and compliance with its social purpose.

Cenipalma develops technology transfer programs on its research in biology, genetic improvement, oil palm diseases, integrated management of pests and pollinators, integrated water management, integrated soil management, crop physiology and nutrition, irrigation, production of varieties adapted to Colombian conditions, benchmarking, and productivity of the extraction processes of palm oil and its derivatives. Additionally, it supports the dissemination of information on the uses and benefits of palm oil for human health and nutrition.





Both Fedepalma's and Cenipalma's commitment to science and technology led to the inauguration of the Experimental Field "Palmar de La Vizcaína" in 2004. This field is located in the central palm-growing area of the country, in the municipality of Barrancabermeja, Santander. Its main purposes are to conduct research that supports the development of improved oil palm materials adapted to the edaphoclimatic conditions of the Colombian regions, and to develop agronomic projects that respond to the efficient management of crops.

Similarly, we have expanded to the Northern Zone with the Experimental Field "Palmar de La Sierra," which focuses on the efficient management of water resources and contributes to environmental sustainability through research and technology development. Also, the Experimental Field "Palmar de Las Corocoras" in Paratebueno, Cundinamarca, focuses on efficient soil management. Lastly, in the South-western Zone, the Experimental Station "Finca La Providencia" located in Tumaco, Nariño, focuses on varieties resistant to plagues and diseases.

Oil Palm Development Fund: a guarantee of the sectoral programs

The Oil Palm Development Fund (FFP Palmero, for its initials in Spanish), is the organization's mechanism to assure funding for a significant portion of relevant programs intended to develop palm growing. The Fund was created in 1994 by a Law of the Republic. It is fed by parafiscal contributions from all the producers of crude palm oil and palm kernel oil, and it is managed by Fedepalma.

The chief authority of the Fund as well as of the Price Stabilization Fund for Kernel, Palm Oil and their Fractions (FEP Palmero, for its initials in Spanish), is the National Congress of Oil Palm Growers. This organization represents all the producers registered in the national registry of palm growers and meets at least once a year to analyze the investment of the resources and to issue the general guidelines for the operation of the funds. Additionally, it appoints the representatives of the palm growers in the Steering Committees of both parafiscal funds.





Commercialization

In the universe of the oil palm, some people are exclusively devoted to growing oil palms; others only process the fruit, and some do both. This is how the palm agribusiness creates several products:

- Palm fruit
- Crude palm oil
- Palm kernel
- Crude palm kernel oil
- Palm kernel cake

For years, the market for palm products has been international. This explains the high adaptability of the palm agribusiness to the changes and requirements of economic globalization.

The commercialization of palm oil and palm kernel oil depends on the ratio between supply and demand in the oils and fats market. Locally, the offer of these products changes according to the harvesting peaks or the periods in which fruit production, the producers' storage capacity, their decisions on exports, and their orderly behavior regarding potential buyers increases. In turn, demand is subject to the consumption of oils and fats, the management of stocks by manufacturers, competitiveness versus similar products, and the macroeconomic policies favoring or limiting imports. Therefore, successful commercialization depends on the organized producers' decision, discipline, unity, and capacity for dialogue.





In the late eighties, palm production exceeded local consumption, demanding the development of new external markets as well as regulation of domestic supply. Therefore, in 1991 Fedepalma created the Comercializadora de Aceite de Palma, C.I., Acepalma S.A., an organization in charge of directing the sector's efforts to commercialize palm oil products, which has developed the exporting know-how and capacity among Colombian palm growers.

Subsequently, Fedepalma directed the organization of the Price Stabilization Fund for Kernel, Palm Oil and their Fractions (FEP Palmero, for its initials in Spanish), a parafiscal mechanism fed with the contributions of the palm sector whose main purpose is to stabilize the income generated by national crude palm and palm kernel oil producers.

As a result of the increased activity in the supply of palm oils, and in line with the industry's activities in the field of commercialization, the exports of the domestic palm sector have diversified their markets since 1995, and are currently directed mainly at countries in Europe and America, taking advantage of the commercial benefits of Colombian products thanks to several free trade agreements signed by our country in recent years.

These actions have also promoted a higher supply for exports of processed products, which amount to 27.1% of the sales of Colombian oils and fats abroad. In turn, this has encouraged the improvement of export logistics and infrastructure, among other actions, by increasing the storage capacity of liquid bulks in the ports.

Fedepalma has also accomplished an important mission by facilitating the entry of Colombian palm oil products into international markets by supporting the negotiations of the national government to establish trade relationships with other countries.





Marketing

Given the fall of local palm oil in the edible oils and fats market share in the last five years, Fedepalma decided to promote and position palm oil consumption in Colombia. The process of implementation began in 2017. The first step was to conduct a quantitative and qualitative market research with stakeholders with the purpose of learning about their perception of oils in Colombia, focusing on palm oil. This research was conducted by a company called Metis, and it was the starting point to create the communications strategy.

More specifically, the purpose of the study was to find out about and explore the edible oils market, identifying the most liked and disliked elements, their purchasing processes and use, and the relevant variables and attributes that determine their choice by the end consumer.

Based on the results of this research, opportunities were found to position the palm oil agribusiness and its unique and differentiated product: palm oil. After identifying the consumers as well as their habits and preferences regarding edible oils in Colombia, Fedepalma developed a marketing plan to promote the consumption of palm oil in our country with the support of the consulting company *Oportunidad Estratégica*.

In 2018 progress was made in developing the strategy to position palm oil in the local market with the primary purpose of promoting its consumption. This strategy was divided into two stages, including an intermediate stage in which we contacted the entrepreneurs of the oils and fats category to invite them to the campaign.





Stage 1. Positioning of the palm oil agribusiness, “*Voces de la Palma.*” With the participation of StoryInc, experts in telling real stories in an engaging way for viewers, we prepared six stories about the impact of the palm oil agribusiness on the lives of the producers and employees from the sectors. These stories were told through the eyes of the protagonists, without any script, and with spontaneous and authentic accounts of how palm oil changed their lives. We scheduled field interviews with smallholders in palm growing areas such as María la Baja (Bolívar), Cumaral (Meta), and Tibú (Norte de Santander).

The stories we found in each area were the main characters of TV commercials as well as for radio, printed, and digital media outlets. In August 2018, we developed two additional stories with employees of the palm growing companies, with true stories of their participation in the organized agribusiness of palm oil.

These true stories, registered in “*Voces de la Palma,*” were on air from March to August 2018.

Stage 2a. Seal and Pioneers Plan. In order to identify products containing palm oil in the market, we invited several agencies specialized in creating brands to design the distinctive seal for “100% Colombian Palm Oil.”

We invited Lina Stella Constanza, Dean of the MBA program at *Universidad de los Andes* to the seal selection process. She designed an assessment matrix based on which we and some of the oils and fats refining companies of the country selected one of the proposals. Then, the seal chosen underwent an assessment by using neuroscience techniques in order to present the governing bodies of Fedepalma with the options that had the best connotations for the goal of positioning the 100% Colombian Palm Oil.

The “Pioneers Plan” is an initiative to encourage and strengthen the commercial relationships of oils and fats manufacturers and refiners by including their brands in the campaign to promote the consumption of 100% Colombian Palm Oil. The main purpose of this is to bring palm oil to life in the different sales channels so that consumers find the product identified with the seal, thus positioning the oil and increasing its sales and consumption in Colombian households.

The rules of the Pioneers Plan were established through a framework agreement signed by Fedepalma and each refining company that participated as a Pioneer, ensuring that the product available in the market would meet a minimum percentage of Colombian palm oil (30% in cold climates, 50% in temperate climates, and 70% in hot climates). As of July 2019, 12 brands from 8 manufacturers had joined the campaign, and we expect to have 4 more in the next few months.





Stage 2b. To position palm oil. After assessing several proposals, we decided to produce the communication pieces for the campaign to promote 100% Colombian Palm Oil under the 'Questions and Answers' creative resource, looking to highlight the unique characteristics of the product. Under the platform “El aceite colombiano es vida” (“Colombian oil is life”), the campaign to promote Colombian palm oil has been on the air since October 2018, highlighting the characteristics of palm oil: healthy, natural, and Colombian.

Additionally, this campaign has been accompanied by other activities to impact the target audience in different ways:

- Brand activations in sale points. In order to bring consumers to the sale points where they may find 100% Colombian palm oil identified with the seal, we held brand activations during the last quarter of 2018.



Below are the results of the first brand activation campaign:

- o 6 cities
- o 290 activities performed >> 143 minimarkets >> 147 megastores (Olimpica, Makro, SAO, La Gran Colombia, Más por Menos, etc.)
- o 139 sale points visited, with an average of two brand activations per sale point
- o 18.708 indirect contacts
- o 21.420 direct contacts
- o 2.181 buyers impacted by the activity



Stage two of the brand activation plan, which covered eight cities and over 204 sale points, began in June of 2019.

- “Palmero compra Palma” (“Palm growers buy palm”). This initiative is promoted by Fedepalma to explain the benefits and characteristics of palm oil to palm growers, facilitating its purchase and positioning it among the employees of the palm oil agribusiness.

To date, 15 oil palm nucleus have joined the initiative, and Fedepalma has visited each of them and held small conferences about the campaign to promote the consumption as well as the nutritional benefits of palm oil, besides facilitating the access to palm oil through different tools.

- Events and congresses. Looking to bring palm oil to consumer and purchase influencers, Fedepalma has attended events for both gastronomy and health care professionals.
- Contact with influencers. To disseminate the message on the characteristics of the oil palm agribusiness and the characteristics and benefits of palm oil, Fedepalma has developed several actions to relate with influencers.

In November 2018, we monitored the campaign for a third time, achieving a 60% recall, in comparison to 44% and 68% in May and November, respectively.

This assessment also showed that people understood the main messages that Fedepalma wanted to convey with the campaign, among them, that palm oil is Colombian, natural, and healthy.

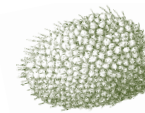




Other Strategic Association Programs



Colombian palm growers have set the goal of positioning their sector in domestic and global markets with competitive products that exceed the highest international quality standards. This requires that they direct their resources and activities to fundamental matters such as training, economic and marketing studies, and others that Fedepalma develops as strategic programs.



NATIONAL PHYTOSANITARY MANAGEMENT PROGRAM. The complex phytosanitary problems experienced during the crisis caused by pathogens and diseases, which included Bud Rot in some zones of Colombia, has demanded the design of a comprehensive strategy and coordinated actions among several different actors. Fedepalma leads the sanitary matters from research and outreach on technical issues, complementing it with coordinated management between companies at a regional level.

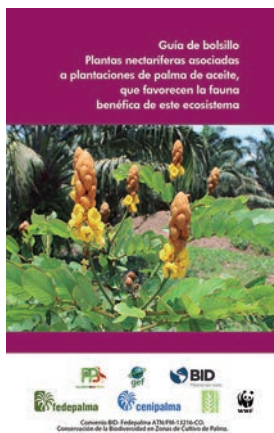
TECHNOLOGY TRANSFER AND TRAINING. The Colombian Oil Palm Research Center, Cenipalma, is committed to the productivity of the palm sector. Therefore, it works to introduce disease resistant genes in order to adapt them to the Colombian conditions. All the results of our research undergo a technical and economic validation stage. Following their validation, they are delivered to the palm grower through outreach scenarios and activities such as technology transfer and training and support sessions addressing the Technical, Environmental and Social Assistance and Audit Units, UAATAS (for its initials in Spanish).

Cenipalma offers various technical services to palm growers through the Specialized Technical Services Division.

MONITORING AND ANALYSIS OF THE ECONOMIC ENVIRONMENT. The changing challenge of markets summons the palm growing sector to recognize the conditions of the macroeconomic and sectoral environment in order to make the best decisions. Therefore, Fedepalma is tuned in with the market's situation, analyzes the behavior of the different oils and fats in the market, conducts prospective studies, and leads projects that provide palm entrepreneurs with efficient planning tools.

STRATEGIC COMMERCIAL MANAGEMENT. Palm oil production in a globalized world encourages the search for new uses and markets that return the best value to palm products. Fedepalma develops strategies to identify opportunities in line with market trends. Therefore, Fedepalma creates and disseminates bold market penetration campaigns with competitiveness and sustainability parameters.





DESIGN AND PROMOTION OF PUBLIC POLICIES TO DEVELOP THE SECTOR.

Fedepalma continuously monitors the fiscal, financial, and development conditions aimed at serving the needs of palm growers. Fedepalma identifies credit lines that facilitate and promote the development of the sector and manages the knowledge related to this activity before the government and the financial sector to promote policies that improve the competitiveness of growers and producers.

HUMAN HEALTH AND NUTRITION. This program researches, promotes and disseminates the functional and nutritional characteristics of palm oils and their byproducts. It also works on innovation through strategic partnerships with universities in research projects; on palm oil nano-encapsulation for food matrices; and on preparing invention patent applications. Likewise, it monitors the national and international regulations related to the consumption of oils and fats. Thus, the Codex standard for Oils and Fats (Codex stan 210) adopted the amendment on the inclusion of “palm oil with high contents of oleic acid”, derived from the fleshy mesocarp of the hybrid fruit of OxG palms (*Elaeis oleifera* x *Elaeis guineensis*).

SECTOR ENVIRONMENTAL MANAGEMENT. This program guides the sector in adopting an environmental sustainability model to prevent and mitigate environmental impacts of palm growing, to protect the ecosystems and species of palm growing regions, and to optimize the use of natural resources within a framework of sectoral competitiveness. It is aimed at including the environmental dimension across all stages of development of palm projects: planning, so that new crops do not affect forests or other ecosystems and species with a high conservation value, and to place them in areas with an adequate environmental characteristics and supply; design, so that crops are more harmonious with the natural environment (protecting riverbeds and connectivity networks as well as other landscape elements that favor biodiversity); and management, including best practices with an archaeological approach and cleaner technologies for crops and processing plants. It also promotes the adoption of international standards in sustainability and of strategic environmental management schemes, which create an added value for palm growing.

MANAGEMENT FOR CORPORATE SOCIAL RESPONSIBILITY. Fedepalma promotes best practices in employment relationships, respect for human rights, responsible management of vendors, the development of communities, and more based on its sustainability model, which procures the economic profitability and feasibility of the activity by creating social, economic, and environmental value. To do so, Fedepalma works with palm growers to diagnose gaps in these elements, in creating information and in designing policies with the purpose of paving the road of palm growing towards sustainability.

MANAGEMENT OF REGIONAL INFRASTRUCTURE RELEVANT TO THE SECTOR.

This program intends to improve the productive, physical, and social infrastructure of palm growing sectors in order to contribute to competitiveness and wellbeing. It also covers the implementation of the regional management model and the management of projects relevant to the palm industry.

SISPA AND PALM CID. These areas of Fedepalma offer specialized, up-to-date, reliable, and timely information to meet the needs of the agribusiness and to contribute to its competitiveness and sustainability. On the one hand, there is an oil palm statistical information system; on the other, the most complete collection of national and international publications relevant to the sector.



Guild Activity



Fedepalma gathers and represents the palm growers of Colombia with the purpose of defending their interests and promoting palm growing.



To do so, it examines, studies, reflects, and analyzes the technical, economic, and political issues related to the palm sector and its environment with the purpose of assessing the conditions and dynamics for its development, comparing it with other sectors, and increasing its competitiveness and sustainability.



Also, it disseminates the information it creates or collects so that its affiliates and the sectors related to the palm business may have sufficient elements to make decisions.



It establishes and promotes policies, strategies, and activities aimed at facilitating or ensuring the investment, production, or market conditions to develop palm growing in Colombia.



It promotes relationships, partnerships, and agreements with other agents of the production chain in the palm agribusiness favoring their participation in the vegetable oils and fats market and strengthening it.



It assists the national government in studying and solving problems related to the oils and fats industry, and, particularly, regarding the production and uses of palm oil and its derivatives.



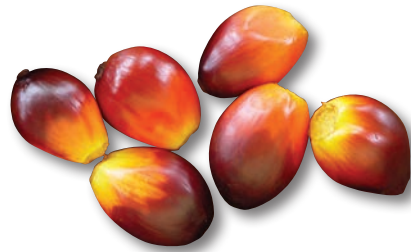
Together with national and foreign state and private organizations, it works on projects that contribute to the progress and improvement of the palm agribusiness or that facilitate the activities of its affiliates. Particularly, it promotes education and training at all levels within the sector.



It keeps a constant relationship with similar research entities from other countries regarding the cultivation, production, and commercialization of palm oil.



It advocates for projects in the palm agribusiness at the service of national development and progress, and it organizes palm growers around these projects.




Fedepalma, at the Service of Palm Growers

Joining Fedepalma has multiple advantages:

- You will be able to influence sector development policies and other strategic decisions that determine the conditions for the operation of the oilseed agribusiness in the country.
- You will receive timely, comprehensive, and relevant information and access to studies and analyses on sector matters developed by Fedepalma.
- You will be able to participate in congresses, seminars, courses, discussions, field trips, and other activities that not only offer opportunities for learning and training, but are excellent opportunities to share experiences, discuss opinions, and build consensus.
- You will be a member of Cenipalma by right, and will have the option of participating in other programs created or directed by Fedepalma.

¿Who may join?

Any natural or legal person engaged in oil palm cultivation or processing in Colombia who is duly registered in the National Palm Growers Registry accepted by the Board of Directors of the Federation and who adheres to its bylaws and the Code of Ethics and Good Governance.

For more information on the affiliation requirements and procedures, do not hesitate to contact Fedepalma's General Secretariat or Direction of Institutional Affairs at  (57-1) 313 8600 ext. 1203.

www.fedepalma.org