



INSIGHTS IN THE SUPPLY CHAIN: PALM OIL FROM COLOMBIA TO THE EU

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COLOPHON

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- Oil palm tree plantation. © pigphoto Getty images

About this report

This report has been commissioned by the IUCN National Committee of The Netherlands (IUCN NL). The underlying research was conducted in late 2022, early 2023. Most data is over a five-year period: 2017-2021. Part of the trade data concerns 2022. Planet satellite images were used for the analysis, in particular in the case studies showing situations before and after deforestation. This version of September 2023 is a revised version of the report published in April 2023.

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About IUCN NL

IUCN NL is the Dutch National Committee of the International Union for the Conservation of Nature, the world's largest and most diverse environmental network. Its mission is to safeguard nature as the foundation for all life on earth. Stimulated by its partners in Latin American, African and Asian producing countries, IUCN NL has been advocating for responsible agro-commodities over the past 15 years. Its team of experts advises civil society organisations, governments, business and finance on issues of agro-commodity governance, nature conservation and environmental human rights.



About AidEnvironment

AidEnvironment is a sustainability research, strategy and implementation organisation working to achieve transformative sector change. The not-for-profit organisation produces actionable insights and implements sustainable solutions to help protect and restore ecosystems and improve livelihoods in agricultural and forest landscapes across Asia, Africa and Latin America.

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Disclaimer on the case studies

We deliberately selected cases with potential deforestation (or close proximity to deforestation) and/or with other environmental and social impacts linked to oil palm expansion. The case studies in this report do not represent the situation of the entire Colombian palm oil sector. We cannot guarantee the completeness of these case studies or whether situations on the ground have changed for better or worse since sources were consulted. The authors of this report assume no responsibility for any errors found in the sources used. The report should not be construed as providing any endorsements, representations, or warranties of any kind. The information provided is current as of the date of the report's publication and is subject to change without prior notice.

ACRONYMS AND TERMS

CSDDD	Corporate Sustainability Due Diligence Directive
EU	European Union
FFBs	Fresh fruit bunches
FMCG	Fast-moving consumer good
HS	Harmonised System
IPLCs	Indigenous peoples and local communities
IUCN NL	International Union for the Conservation of Nature, Netherlands Committee
MMaE	Ministry of Mines and Energy
MT	Metric tons
OECD	The Organization for Economic Cooperation and Development
QGIS	Geographic Information System
RDM	Real-time Deforestation Monitoring
RED II	Renewable Energy Directive
TBML	Trade-based Money Laundering
UML	Universal Mill List
UNGPs	UN Guiding Principles on Business and Human Rights

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1.INTRODUCTION

This report presents the findings of a study on the Colombian palm oil supply chain from Colombian oil palm plantation level until European consumption. It also aims to identify potential environmental and social risks in six case studies of oil palm mills with links to the EU market.

The aim of this report is to map the trade flows of Colombian palm oil to the EU and to analyse potential social and environmental risks in the supply chain by studying six case studies. AidEnvironment has, in collaboration with IUCN NL, mapped the full palm oil supply chain from plantation level in Colombia to European consumption level, by identifying key supply chain actors and their linkages, trade flows and purchase of Colombian palm oil products in the EU. The research combined the outcomes of this mapping exercise with real-time monitoring of oil palm plantations with heightened deforestation and other social and environmental risks. The data come from Colombia's major palm oil-producing regions, covering almost the entire region east of the Andes (Cordillera oriental). The number of hectares planted per region are [1]: Meta (195,600 ha), Casanare (61,156 ha), Cundinamarca (4,848 ha), Vichada (5,155 ha), Aruaca (200 ha) and Caqueta (72 ha).

Understanding of potential risks of deforestation, degradation and human rights issues in the Colombian palm oil supply chain is increasingly relevant. First, as suppliers to the EU, Colombian oil palm companies will be subject to various EU legislative initiatives, notably the EU Deforestation Regulation and the upcoming Corporate Sustainability Due Diligence Directive (CSDDD). Secondly, deforestation in Colombia is high. Colombia lost more than 174,000 hectares (ha) of woodland in 2021 to clearances. It was reportedly “the country’s worst year for deforestation since 2018 and the second year in a row that the amount of land lost had increased, putting the country’s climate mitigation targets, indigenous communities and countless species of flora and fauna at risk” [2]. In 2022, a reduction in deforestation was noted to 123,517 ha, which is a decrease of 29% compared to 2021 [3]. In the Amazon Arc, which includes the departments of Guaviare, Caquetá, Meta and Putumayo, the reduction in deforestation was 26% compared to 2021 [3].

These forest clearings are mainly driven by land use such as cattle ranching; palm oil was not a major driver of deforestation. Studies by IDEAM [4] showed that while 1.1 million ha were deforested in Colombia between 2011 and 2017, approximately 17,132 ha (1.5%) were deforested on properties with oil palm plots, of which 4,455 ha (0.4%) were actually transformed into oil palm crops. An update by IDEAM showed 357 hectares of deforestation transformed into oil palm in 2018 and 199 ha in 2019. The primary reason for this contribution of less than 1% to overall forest loss is the substantial expansion of oil palm plantations into pasture lands [5].

[1] Fedepalma. (2022). La palmade aceite en Colombia. [Link to website](#).

[2] Financial Times. (2022). Colombia’s battle against Amazon deforestation ... [Link to article](#).

[3] Presidencia de la República. (2023). Deforestación en Colombia se redujo 29,1% en 2022, la cifra más ... [Link to article](#).

[4] IDEAM. (2022). Deforestación 2019 asociada a palma de aceite africana y palma de aceite híbrida. [Link to presentation](#).

[5] The Guardian. (2023). Colombia deforestation plummets as peace efforts focus on rainforest. [Link to article](#).

According to IDEAM, approximately 2.4% (4,455 ha) of the 183,282 ha oil palm plantations that were newly established between 2011 and 2017, were established on recently deforested land. Oil palm areas harvested covered 138,457 ha in 2001, 231,172 ha in 2011 and 499,364 ha in 2021, according to the FAO [6] and Fedepalma [7]. This is a surface increase of 67% between 2001 and 2011 and 116% between 2011 and 2021. Based on data from the Rural Planning Unit (UPRA), Fedepalma sees at least 5.2 million ha as highly suitable for palm oil cultivation in Colombia [8a, 8b].

Two relevant EU legislative initiatives

The EU regulation on deforestation-free products (Deforestation Regulation) aims to address commodity-linked deforestation and forest degradation. Under the scope of the Deforestation Regulation are palm oil, soy, beef, cocoa, coffee, timber, rubber and their derivatives. The European Commission reports the following as “the largest share of EU-driven deforestation: palm oil (33.95%), soy (32.83%), wood (8.62%), cocoa (7.54%), coffee (7.01%), and beef (5.01%)” [9]. Rubber was added in the final scope [10] of the regulation that was adopted in December 2022 [11].

For the Corporate Sustainability Due Diligence Directive (CSDDD), companies will need to better manage sustainability-related matters in their operations and value chains regarding social and human rights, climate change, and the environment. This includes the protection of the rights of Indigenous peoples and local communities.

The Deforestation Regulation needs to complement the legislative initiative on corporate sustainability due diligence processes, while the requirements of the CSDDD “go beyond the requirements of the deforestation regulation, they apply in conjunction.” [9]

Photo: People traveling by boat in the Colombian Amazon. © FCDS

[6] FAO. FAOSTAT: Crops and livestock products. [Link to website.](#)

[7] Fedepalma. (2022). Statistical Yearbook. [Link to publication.](#)

[8a] Fedepalma. Suitable areas for oil palm cultivation in Colombia. [Link to infographic.](#)

[8b] SIPRA UPRA. Frontera Agrícola. [Link to website](#)

[9] European Commission. (2021). Proposal for a regulation of the European Parliament ... [Link to document.](#)

[10] Council of the European Union. (2022). Proposal for a Regulation of the European Parliament and ... [Link to document.](#)

[11] European Commission. (2022). Green Deal: EU agrees law to fight global deforestation and forest ... [Link to press release.](#)

Colombian palm oil leads sustainable market of palm oil

Colombia leads the Latin American market of sustainable palm oil [12]. In 2017, the Colombian government and palm oil sector committed to a Zero Deforestation Agreement, initiated by the Tropical Forest Alliance, to maintain the low levels of deforestation in the sector and to fully achieve zero deforestation by 2030 [13]. In 2019, zero deforestation and conversion of areas with High Conservation Value (HCV) were adopted as one of the ten principles for sustainable palm oil production in Colombia (APSCO) [14]. These principles were translated into two Colombian business standards, one for cultivation and one for processing plants [15]. In 2020, 28% of the Colombian palm oil production volume was certified as sustainable [16]. This is a higher percentage compared to Indonesia and Malaysia, the major palm oil producers, with respectively 19% and 23% of their total production certified [17].

Most certified palm oil comes from the northern and eastern areas of the country, and the majority of all certified volume was exported to Europe over the past years. In 2020, RSPO represented 53% of the volume exported to Europe, followed by ISCC with a 29% market share, organic (8%) and Rainforest Alliance (4%). Together, they achieved 96% certified sustainable import from Colombia to Europe. Fedepalma works together with FCDS (*Fundación de Conservación y Desarrollo Sostenible*) to monitor deforestation, and with IDH, The Sustainable Trade Initiative, Solidaridad Colombia and others on the facilitation and promotion of sustainable, certified palm oil.

The Dutch government supports several palm oil related projects to improve data management, production and sustainability, as well as the use of palm oil residues for bioplastics through Dutch and Colombian partners [18]. In 2022, Fedepalma and Solidaridad along with many companies, signed an agreement to enhance the domestic support and purchase of sustainable palm oil, as more than half of palm oil is meant for domestic consumption, among others for biofuels [19].

Drivers of deforestation and degradation

Oil palm is situated in broader landscapes where a complex interplay of land uses, like cattle production and illegal crops, drives deforestation and conversion. Several studies show that in Colombia cattle and illicit crops have been significant direct drivers of deforestation, and not oil palm [20b]. Cattle ranching is seen as the primary cause of deforestation, while the expansion of oil palm plantations mostly takes place on scrublands, pastures and natural savannas. In these savannah landscapes, riverine forests have been affected by fires. Although much more research is needed, several studies show that in some areas palm oil plantations have led to the degradation of biodiverse ecosystems, as they affect much needed biological connectivity in the landscape, harm soil biodiversity and increase water stress causing environmental conflicts with communities [21].

[12] Solidaridad. (2020). Colombia leads the Latin American market of sustainable palm oil. [Link to article](#).

[13] Ministerie van Landbouw, Natuur en Voedselkwaliteit. (2021). Infographics sustainable palm oil Colombia. [Link to infographic](#).

[14] APSCO. Principios del aceite de palma sostenible de Colombia. [Link to publication](#).

[15] Fedepalma en ICONTEC (2022). Producción de aceite de palma sostenible de Colombia. [Link to Fedepalma](#) - [Link to ICONTEC](#).

[16] Solidaridad. (2021). Colombian Palm Oil Barometer 2020. [Link to publication](#).

[17] Solidaridad (2021). Colombia further increases sustainable palm oil production in 2020 and ... [Link to publication](#).

[18] Dutch Ministry of Agriculture and Nature. Infographics sustainable palm oil Colombia. [Link to infographic](#).

[19] RSPO. (2022). Colombia Steps up Sustainable Palm Oil Support in Joint Declaration. [Link to article](#).

[20a] García-Ulloa, et al. (2012). Lowering environmental costs of oil-palm expansion in Colombia. [Link to article](#).

[20b] Murillo-Sandoval, et al. (2023). The post-conflict expansion of coca farming and illicit cattle ranching in Colombia. [Link to article](#).

[21] Pardo Vargas, L. E. et al. (2015). The Impacts of Oil Palm Agriculture on Colombia's Biodiversity ... [Link to article](#).

Photo: © ECDS

Indirect land use change

In Colombia, the harvested oil palm area has increased by 116% between 2011 and 2021 [6]. This, in combination with the competition between several land uses and high rates of deforestation by other agricultural land uses in Colombia, indicates there could be a risk that increasing palm oil production area in Colombia could be contributing to indirect land use change (ILUC).

In biofuels policy terms, ILUC occurs when land previously used for food or feed production is converted to policy-driven cultivation of crops for the purpose of producing biofuels, bioliquids and biomass fuels [22]. In the case of Colombia, palm oil expansion is often over pasture lands for cattle production, which could also cause an increase in land prices [20a]. At the same time, deforestation for cattle ranching is one of the main causes of deforestation in Colombia [20b].

Colombia is projected to produce around 2 million MT of palm oil by 2030 [23], an increase of around 25% compared to 2020, with palm oil-based biodiesel as an important and growing market. There are several national policies to stimulate the production palm oil in Colombia, such as the Price Stabilization Fund methodology (FEP Palmero), which aims to stabilise prices in a competitive international market [23b, 23c].

While significant land in Colombia is available for oil palm expansion without any conversion of forests, land development processes in other Amazon countries, such as Brazil, demonstrated that incentives that make the clearing of new areas cheaper than production on existing pastureland may exist [24].

Considering these points above, there is a potential risk of palm oil expansion pushing cattle and other land use into untouched forest areas in Colombia [25]. Therefore, it is not impossible that further palm oil expansion could be an indirect driver of deforestation [26a, 26b]. Given the complex and dynamic nature of ILUC, which varies across countries, further independent research and data are needed to determine if there is a correlation between palm oil expansion and indirect land use change in Colombia.

Social risks

Palm oil production in Colombia reveals a multifaceted matter characterised by a mixture of positive and negative social consequences. Positive consequences are rural development and jobs creation [26c]. Risks such as labour exploitation, land grabbing and displacement linked to oil palm production are potential negative social consequences of the palm oil sector [27 t/m 31].

[22] ICCT. (2016). Understanding options for ILUC mitigation. [Link to working paper](#).

[23] OECD-FAO. (2021). Agricultural Outlook 2021 - 2030. Chapter 4: Oilseeds and oilseed products. [Link to chapter](#).

[23b] Fedepalma. El FEP Palmero y su importancia en la comercialización y en el ingreso del palmicultor. [Link to article](#).

[23c] Volckhausen, T. (2018). Liberalización, guerrillas y acaparamiento de tierras: la historia de cómo ... [Link to article](#).

[24] Steinweg, T. et al. (2017). Farmland Investments in Brazilian Cerrado: Financial, Environmental and Social Risks. [Link to report](#).

[25] CIFOR. (2011). A global analysis of deforestation due to biofuel development [Link to report](#).

[26a] Azhar, B. et al. (2021). Mitigating the risks of indirect land use change (ILUC) related deforestation from ... [Link to article](#).

[26b] WWF International (2021). Deforestation Fronts. [Link to article](#).

[26c] Fedepalma. Dividendo Social de la Palma Parte I. [Link to article](#).

[27] Serrano, A. (2021). The Power of Oil Palm: Violence, Inequality and Alternatives in Colombia. [Link to article](#).

[28] Potter, L. (2020). Colombia's oil palm development in times of war and 'peace': Myths, enablers and the [Link to article](#).

[29] Albertin, I. (2021). The environmental and social consequences of palm oil production in Colombia. [Link to thesis](#).

[30] Hurtado, M. et al. (2017). Oil palm development and forced displacement in Colombia: Causal or spurious? [Link to article](#).

[31] Kuepper, B. et al. (2021). Latin American Palm Oil Linked to Social Issues, Local Deforestation. [Link to report](#).

Photo: © Didi9306 Getty Images

Northern Colombian Amazon

In recent years, expansion of oil palm plantations has been documented in the Colombian Amazon, mainly in the northern part [32]. This expansion by unknown actors is observed primarily in southwest Meta and northern Guaviare. Research conducted in 2020 found that cattle ranching and mechanised agriculture of palm oil and other crops, along with illegal roads and illicit coca crops [33] are increasingly spreading in the Amazon state of Guaviare [34, 35]. Criminal armed groups may pay peasants to cut down forests and plant coca [36].

FCDS conducted an analysis revealing that a minimum of 250 hectares of oil palm trees have been cultivated within forested regions in Guaviare. It's noteworthy that Guaviare hasn't traditionally been a major hub for national palm oil production. Nevertheless, there have been cases of deforestation occurring in areas like the Sabanas de La Fuga and near the Nukak Makú Indigenous Reserve [37, 38]. These deforestation events have been linked to palm oil and eucalyptus plantations [38, 39, 40a]. The Attorney General's Office is actively pursuing investigations related to this activity, as indicated by case numbers 201800076, 201800116, and 201800197 [39].



Taking action to reverse the point of no return in the Amazon

Between 6 and 8 July, 2023, the Ministers of Environment of the eight Amazonian countries that are members of the Amazon Cooperation Treaty Organization (ACTO) met in Leticia, Colombia. The meeting was a preparation for the summit the organisation will hold in the Brazilian city of Belém de Pará on 8 and 9 August [40b]. Seeking solutions to the loss of forests and rivers, the conference addressed the urgency of combating environmental crimes, such as deforestation and illegal mining.

During the meeting in Leticia, the Ministers of Environment called on taking action to reverse the point of no return in the Amazon. They made a commitment to fight environmental crimes, and to encourage conservation and scientific research to protect the Amazon basin and strengthen the rights of Indigenous peoples. According to a report prepared by USAID and the Attorney General's Office [39], 62% of deforestation in 2019 took place in the Colombian Amazon. Seeking solutions to the loss of forests and rivers, the conference addressed the urgency of combating environmental crimes, such as deforestation and illegal mining.

[32] Fedepalma. (2021). Palmicultura y deforestación en Colombia: balance positivo e importantes retos ... [Link to publication](#).

[33] Rojas Hernández, T. (2020). 'En 5 años perdimos 500.000 hectáreas de bosque y recuperadas, cero'. El Tiempo. [Link to article](#).

[34] Pardo Ibarra, T. (2020). Palm oil, coca and gangs close in on Colombia's Indigenous Nukak Makú. Mongabay. [Link to article](#).

[35] WWF. Explore the deforestation fronts - factsheets. [Link to website](#).

[36] Semana. (2020). Mafias pagan 5 millones de pesos por hectárea deforestada en el Meta. [Link to article](#).

[37] Ministerio de Ambiente y Desarrollo Sostenible. Reserva Nacional Natural Nukak. [Link to website](#).

[38] FCDS. (2020). Reporte FCDS Deforestación Amazonia colombiana 2020. [Link to report](#).

[39] Barbosa, Francisco. (2021). Análisis de deforestación: departamento Guaviare. [Link to publication](#).

[40a] Ministerio del Ambiente y Desarrollo Sostenible de Colombia - Instituto Sinchi. (2022). Conflictos por ... [Link to publication](#).

[40b] Reuters. (2023). Colombia, Brazil presidents pledge cooperation to protect Amazon. [Link to article](#).

Colombian deforestation laws and regulation

The rights of the Amazon

The Supreme Court of Justice in Colombia, through Judgment T4360-2018, declared the Amazon an 'entity subject of rights', determining that national, regional and municipal authorities must adopt a short, medium and long-term action plan to protect the Colombian Amazon. The ruling was issued in response to the critical situation of the Amazon, which is facing alarming rates of deforestation, as well as the absence of adequate actions and protection measures by the Colombian government.

The Inter-generational Pact for the Life of the Colombian Amazon (PIVAC) aims to reduce deforestation and greenhouse gas emissions, while incorporating nature conservation components into municipal territorial planning and effectively enforcing measures within the Amazon basin [41].

Environmental crimes according to the Colombian law

Deforestation is prohibited by Colombian law. In 2021, the president enacted the Criminal Code Law 2111 of 2021. Among the most noteworthy main changes are newly included criminal offenses, such as:

- wildlife trafficking and the illicit management of exotic species;
- deforestation, as well as the promotion and financing of deforestation;
- damage to natural resources and ecocide;
- financing land grabbing of areas of special ecological importance; and
- illegal appropriation or financing the appropriation of the country's wastelands [42].



The role of Indigenous Territories and Protected Areas

The 2021 RAISG Report on Amazonia's Protected Areas and Indigenous Territories emphasizes that Indigenous Territories (ITs) and Protected Areas (PAs) are vital to protect the Amazon [42b]. Due to increasing changes, the Amazon could reach a tipping point, and ITs and PAs are important strategies to reduce the risk of reaching that tipping point [42c]. For years, researchers and several reports have been highlighting the importance of ITs and PAs to safeguard the world's largest tropical forest. However, deforestation continues to expand, putting pressure on the surroundings of large patches of native forest and, in some cases, even on these native forest areas themselves.

Studies conducted in the Amazon have demonstrated the effectiveness of ITs and PAs in maintaining the total carbon inventory nearly intact. Studies also confirm their fundamental role in the protection of forests and the fight against climate change. Because of their socio-environmental importance, PAs and ITs are governed under specific protection statutes, and government agencies are responsible for their protection and oversight; however, there are shortcomings in ensuring the protection of these areas and the cultures of the people living in these forests.

[41] IUCN. (2018). Colombian Supreme Court Recognizes Rights of the Amazon River Ecosystem. [Link to the article](#).

[42] CMS. Environmental Crimes Law: a significant progress in Colombia regarding the environmental protection. [Link to the article](#)

[42b] RAISG. (2012) . Amazonía 2021 – Áreas Protegidas y Territorios Indígenas. [Link to report](#).

[42c] Watts, J. (2023). Ecological tipping points could occur much sooner than expected, study finds. [Link to article](#).

2. APPROACH AND METHODS

In this study, we have used two approaches:

1. **Trade data analysis**, including the mapping of the physical trade flows by identification of the palm oil supply chain's collection points, mills, traders and refineries; the key exporting and importing companies; and the main buyers and fast-moving consumer good companies (FMCGs) using the palm oil. Where data was available, we have included trade data flows over a period of five years, between 2017 and 2021, and if possible from 2022.
2. **A case studies approach**, looking into the cases of six company cases linked to 11 palm oil mills in Colombia, to see the nature of potential risks to (recent) deforestation, land use change or other social and environmental impacts, with links to European palm oil operators [43] and traders. We have selected the case studies, by categorising 81 palm oil mills based on several variables e.g. proximity to deforestation frontier; presence of RSPO complaint; proximity to Indigenous territories; and reference to social issues mentioned in other literature. The scope of this study does not include a risk assessment methodology, but relies on referenced sources to indicate existing or potential risks.

2.1 Trade data analysis

To analyse palm oil trade flows and the main importing and exporting companies, we have used European trade statistics [44] between 2017-2021 and two different sources of shipping data: Panjiva shipping data [45] between February 2017 – February 2021 and Seair shipping data [46] between 1 January 2020 – 31 May 2022 for Harmonised System codes 1511 (palm oil), 151329 (refined palm kernel or babassu oil); and 230660 (palm oil cake) [47]. Prior to analysis, we cleaned the datasets, e.g. by removing errors and grouping into parent companies. Other than trade data, we have used a variety of existing sources.

2.2 Palm oil mill analysis

To identify the main mills and refineries linked to the key exporters and importers of Colombian palm oil, we have made use of company websites, but above all of publicly available mill lists. Most palm oil traders and consumer goods companies publicly share a list of their palm oil supplying mills worldwide. According to the public mill list of AAK, for example, the company sources palm oil products from several mills in Colombia. The mill list of AAK includes references to their geolocation [48]. We used these lists to develop a clear picture of the exact locations of all palm mills in Colombia's main palm oil producing regions, located mainly east of the Andes, exporting to European importers.

[43] In the EU deforestation regulation, 'operators' are those who place commodities on the EU market for the first time.

[44] European Commission. European trade statistics page. [Link to website.](#)

[45] Panjiva. Global Trade Insights. [Link to website.](#)

[46] Seair. Import Export Data, Global Trade Data of 120 Countries. [Link to website.](#)

[47] These are the HS codes defined by the EU under the scope of the EU Deforestation Regulation. Note that HS code 151321 (Crude palm kernel or babassu oil) was not covered in the available Panjiva data set. Moreover, in the Seair data set, 271,182 MT of palm oil and palm oil products was registered without a label, i.e., could not be assigned to a specific buyer.

[48] AAK. Public mill list September 2021. [Link to list.](#)

We have prepared a database with 81 Colombian mills linked to palm oil buyers (traders and FMCGs) and have plotted all mills in a geographic information system (QGIS), and a summary is provided in annex 1. This 'mill list' of AidEnvironment (81 mills) is more elaborate than the Universal Mill List (UML), which has 72 mills, because we also included mills from publicly available mills lists of palm oil traders and consumer goods companies.

Moreover:

- We have categorised the mills into company groups, while the UML has only partly done this.
- We have attached more information to the mills, e.g. on certification status, and on potential social and environmental impacts and controversies.
- Most relevant, we have attached information on buyers linked to the mills, retrieved from all the latest available palm mill lists from palm oil traders and FMCG companies.

There are also a few limitations to the mill lists:

- The mill lists publicly shared by palm oil buyers are not static, and they change every year (sometimes two to four times a year). We have used mill lists of 2022 when available, and otherwise 2021 lists.
- We cannot identify customers of biofuels and power generation, since they do not publish publicly on palm oil mill lists. Considering the increased focus on the biofuel markets, these are important stakeholders not covered in this report.
- Palm oil companies have no uniform reporting on the mills. Some of them do not mention exact locations, for example, only Colombia.
- Palm oil companies publish mill lists with errors in them, for instance incorrect UML codes or incorrect geolocation coordinates.
- Some mills cannot be identified by UML codes (blank records).

2.3 Case study approach

In the second part of the report, we have developed six case studies. We have used existing literature and knowledge gathered from different public sources, including information on deforestation, fires, misconduct, land ownership, land conflicts, producers, traders and investors.

We have selected the case studies by categorising each of the 81 palm oil mills based on several variables, e.g. proximity to deforestation frontier, presence of RSPO complaint; proximity to Indigenous territories; and reference to social issues mentioned in other literature. Based on all these variables, we deliberately selected cases with higher risks related to these variables. After the selection, we conducted additional research on each case.

It is important to note that the case studies in this report do not represent the situation of the entire Colombian palm oil sector. Since we used publicly available sources, we cannot guarantee the completeness of these case studies or whether situations on the ground have changed for better or worse since sources have been consulted. The scope of this study does not include a risk assessment methodology capable of quantifying risk levels. Instead, drawing upon the referenced sources, we offer indications of either existing risks or potential ones. In certain instances, there is a need for additional independent research.

Radius approach

Crucial to the case study approach was to identify and prove the physical flows of palm oil fresh fruit bunches, from the deforestation-linked oil palm plantations to the mills. For these case studies, we applied a 'radius monitoring approach' to link oil palm plantations with palm oil mills and companies. Due to their limited shelf life, fresh palm fruits, which are picked every ten to twelve days, need to be transported to the mills within 24 hours after collection.

According to some sources, palm fruits should be harvested and sent to the extraction plants within six to twelve hours, which "requires great operational interdependency and thus geographical closeness between the two processes (cultivation and extraction)" [49]. This allows for a radius monitoring approach since it is estimated by palm oil companies that mills can only source from plantations within a 50 km radius around the mills due to the fruits' perishability (though this may vary depending on available infrastructure, such as road density and quality). This implies that satellite deforestation and fire monitoring in the area immediately surrounding a mill might reveal useful information about (smallholder) plantations within the sourcing area.

While the 50-km radius approach has its limitations, as land use changes cannot be directly associated with palm oil companies without further evidence, there are valid reasons for applying it. First, some of the largest commodity companies are using it, while also acknowledging its limitations. These include Sime Darby, Cargill, and Unilever to (mainly) identify indirect suppliers of their mills or warehouses [50]. Second, there is a lack of transparency on data on which oil palm plantations are delivering fresh fruit bunches to which mills. Therefore, not-for-profit organisations without access to such data must rely on proxies to estimate the physical movement of fresh fruit bunches. Based on the limited shelf life of palm oil fresh fruit bunches this radius approach seems the best option to use. Third, while there is a risk that other crops in the 50-km radius could be responsible for any conversion within the 50-km buffer zone, the attribution error can be avoided by adding data in the Geographic Information System (GIS) that specifically indicates oil palm areas. If we see ten oil palm plantations in a certain area and adjacent to it fires or deforestation, the chances are higher that it is (also) linked to potential oil palm expansion; even though it is not guaranteed, it is an increased risk. Land use change dynamics in other commodities also confirm this connection to be a valid assumption when looking at a multi-year time scale.

[49] HREV. (2006). The flow of palm oil Colombia - Belgium/Europe.: A study from a human rights perspective. [Link to report.](#)

[50] EPOA and IDH. (2021). Role of Europe in Driving Sustainable Palm Oil. [Link to report.](#)



Projects related to this report

Real-time Deforestation Monitoring project

AidEnvironment's Real-time Deforestation Monitoring is an accountability system that provides timely and on-the-ground data reporting on companies' implementation of their no-deforestation commitments. Since 2018, AidEnvironment has been monitoring real-time deforestation and fires in relation to palm oil, soy, beef, leather, pulp and paper and cocoa, and identifies responsible actors so they can be pressured to halt such practices before further clearing occurs. Through remote satellite imagery, supply chain analysis, field research and millions of datasets, it provides data supporting stakeholders in holding companies accountable to heightened sustainability standards. This data has informed civil society advocacy, media campaigns and legal action that help create enabling environments for corporate accountability. Past and present partners and clients include the European Climate Foundation (ECF), EU LIFE, ClientEarth and Rainforest Foundation Norway. ECF partially funded the Colombian palm oil case studies in this report.

Forest for a Just Future

IUCN NL is a partner in Forest for a Just Future [51], funded by the Dutch Ministry of Foreign Affairs. Through this Green Livelihoods Alliance programme [52], IUCN NL contributes to more sustainable and inclusive management of tropical rainforests by promoting climate mitigation and human rights and preserving the livelihoods of local communities, to tackle the drivers of deforestation and forest degradation. In Colombia, the programme addresses the issue of deforestation, forest degradation and unsustainable management of forests and wooded landscapes, in a context of climate change, gender inequality and inequity, and threats to the protection of human rights, as well as rights related to territory and local livelihoods [53].

Amazon rights in focus: peoples and forest protection

The Amazon is the most extensive rainforest on earth. But the Colombian Amazon is at risk: the surging demand for commodities trigger deforestation. Together with partner organisations, IUCN NL aims to protect the rights of Indigenous peoples and local communities in the Colombian Amazon [54]. Deforestation severely affects local communities and Indigenous territories, as they often depend on the resources the forest has provided them for generations. One of the main objectives is to create an observatory of environmental conflicts and unveil the dynamics of forest crimes. The programme is funded by The Norwegian Agency for Development Cooperation (NORAD), Norway's International Climate and Forest Initiative (NICFI).

Photo: © Tanes Ngamsom Getty Images

[51] IUCN NL. Forests for a Just Future. [Link to website.](#)

[52] Green Livelihoods Alliance. Forests for a Just Future. [Link to website.](#)

[53] Green Livelihoods Alliance. Colombia. [Link to website.](#)

[54] IUCN NL. Amazon rights in focus: peoples and forest protection. [Link to website.](#)

3. TRADE FLOWS FROM COLOMBIA TO THE EU

3.1 Colombia's role in global palm oil production

Colombia ranks as the fourth largest global palm oil producer worldwide, after Indonesia, Malaysia and Thailand (figure 2). The country produces around 1,838,000 MT [55] of palm oil annually (figure 3), about 2.3% of the worldwide production. Compared to the world's largest producers Indonesia and Malaysia, which jointly produce around 84% of the worldwide production, Colombia's market share and scale are relatively small. However, the oil palm cultivated area in Colombia increased by 116% between 2011 and 2021 [56].

Moreover, there is an increase in uptake of palm oil for biodiesel industries, which is linked to Colombian policy promoting the use of biodiesel as part of carbon emission reduction goals and aim to reduce dependency on fossil fuel imports [56]. In 2021, the Colombian government increased, for a set period, the biodiesel blend mandate from B10 to B12 in most of the country [57, 58], to promote Colombian palm oil-based biodiesel production and use. According to Fedepalma, the blend remained at 10% since then.

By 2030, Colombia is projected to produce 2 million MT of palm oil, increasing by around 25% compared to current levels, with palm oil-based biodiesel as an important and growing market [59]. The Colombian government tightly controls the Colombian fuel market, mainly through the Ministry of Mines and Energy that has the authority to establish the biofuels blend mandates [58].

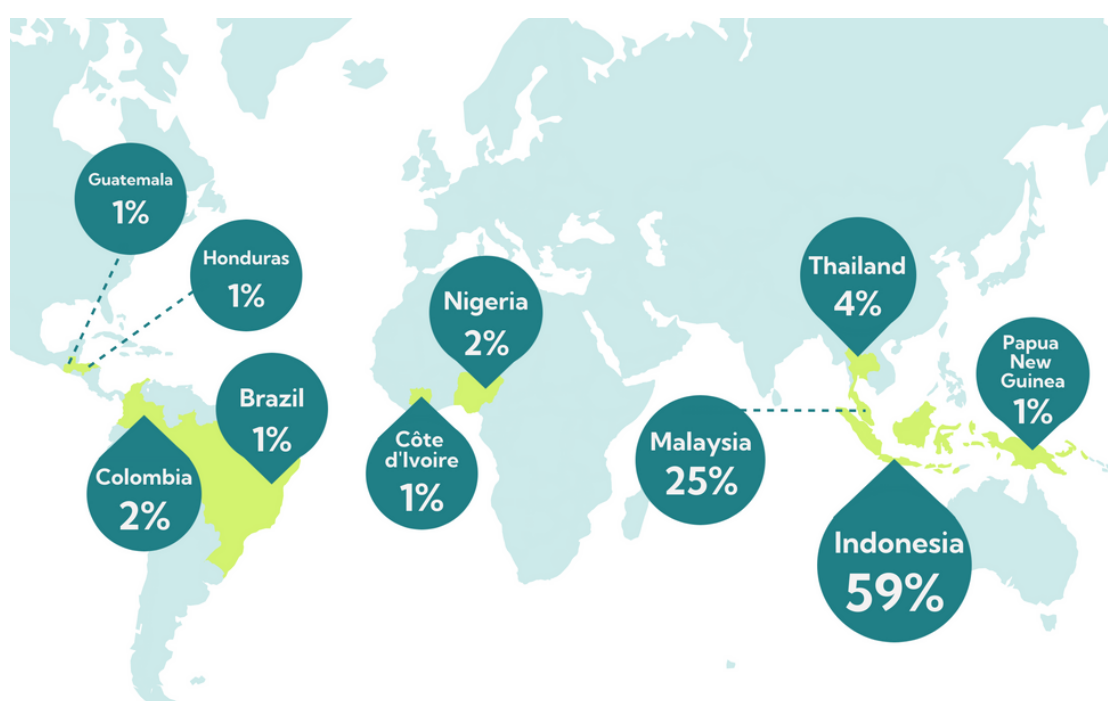


Figure 2: Top 10 global producers of palm oil. Source: AidEnvironment, based on FAS USDA [55].

[55] USDA. Palm oil explorer. [Link to website](#).

[56] FAO. FAOSTAT: Crops and livestock products. [Link to website](#).

[57] Biodiesel can be blended and used in many different concentrations. The most common are B5 (up to 5% biodiesel) and B20 (6% to 20% biodiesel). B100 (pure biodiesel).

[58] USDA and GAIN. (2021). Biofuels Annual. [Link to report](#).

[59] OECD-FAO. (2021). Oilseeds and oilseed productions. Chapter in Agricultural Outlook 2022-2031. [Link to chapter](#).

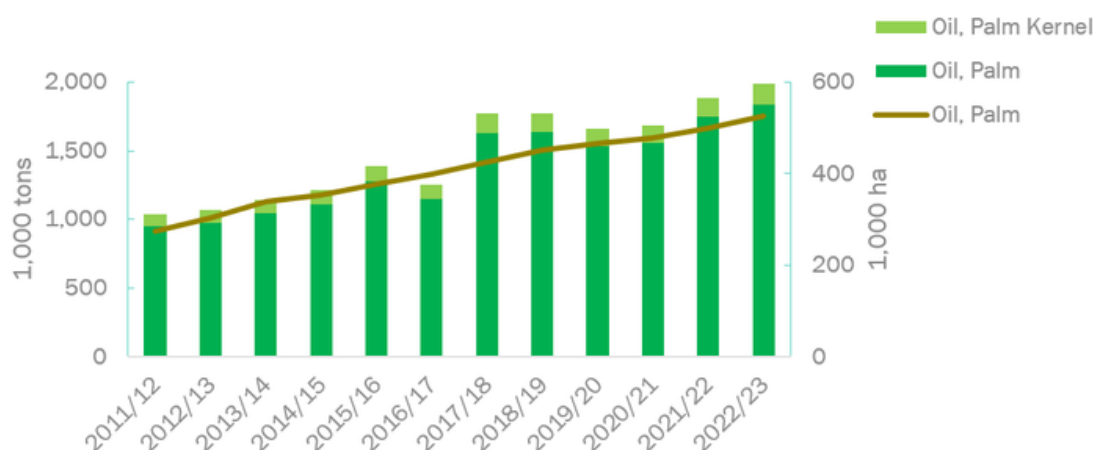


Figure 3: Development of Colombian palm oil production and harvested area. Source: AidEnvironment, based on USDA FAS [34].

In Colombia, most of the palm oil is grown in Meta (30% of total palm oil production), Santander (19%), Cesar (13%), Magdalena (12%), Casanare (6%) and Bolívar (5%) (figure 4).



Figure 4: Major palm oil producing areas in Colombia. Source: FAS USDA [55].

3.2 Colombia's role as a supplier to the EU

The European Union (EU) imported 8 million MT of palm oil and palm oil products from non-EU countries in 2021. Within the category of palm oil-related products, crude palm oil represents the largest share of both imported volumes and values in the EU, accounting for 74% (5.9 million MT) of the total imported volumes and 83% (EUR 5 billion) of the total imported value (figure 5). Palm oil cake, a residual product resulting from the extraction of palm nuts or kernels and the second largest imported palm oil product by volume, represents 18 percent (1.4 million MT) of imported volumes, but only 4% (EUR 248 million) of the total imported value.

Product type	Volume (MT)	%	Value (EUR)	%
Crude palm oil (HS 1511*)	5,962,492	74%	5,259,700,638	83%
Crude palm kernel or babassu oil (HS 151321)	501,728	6%	555,364,589	9%
Palm oil cake (HS 230660)	1,438,637	18%	248,628,441	4%
Refined palm kernel or babassu oil (HS 151329)	189,745	2%	243,405,947	4%
Palm nuts and kernels (HS 120710)	60	0%	417,571	0%
Total	8,092,662	100%	6,307,517,186	100%

Figure 5: Total EU imports of palm oil related products in 2021 by volume and value. Source: EU27 trade statistics [60]. *Harmonised System (HS) codes and linked palm oil products relevant for the EU are derived from annexes to the EU proposal for a regulation on deforestation-free products. Babassu oil is extracted from the nuts of wild babassu palm trees growing in the Amazon region.

In 2021, the EU received 4.1% (241,710 MT) of its crude palm oil import volumes from Colombia. In comparison, the EU received respectively 44.6% and 25.2% of its crude palm oil import volumes in 2021 from Indonesia and Malaysia, followed by Guatemala (8.8%), Papua New Guinea (6.6%) and Honduras (5.4%). Colombia follows as the sixth largest supplying country of crude palm oil to the EU in 2021 (4.1%).

Between 2017 and 2020, the share of the EU in palm oil imports from Colombia varied between 6% to 7% of the total global palm oil imports, therefore the 2021 imports (4%) can be seen as a drop of at least 2%.

Next to crude palm oil, the EU also imports crude palm kernel or babassu oil from Colombia, in 2021 this was 8% (40,684 MT) [61]. In comparison, crude palm kernel or babassu oil largely originates from Malaysia (54%), Papua New Guinea (11%) and Honduras (10%).

[60] European Commission. (2021). EU trade statistics. [Link to website.](#)

[61] European Commission. (2021). Annexes to the Proposal for a regulation of the European Parliament ... [Link to annexes.](#)



Photo: © Mr Fiza Getty Images

Colombia does not play a significant role as a supplier of the three other relevant palm oil-related products to the EU: palm oil cake, refined palm kernel or babassu oil, and palm nuts and kernels. The first two products mainly originate in Indonesia and Malaysia, with 95% of the oil cake being imported from Indonesia and 3% from Malaysia. Only the Netherlands and Spain imported palm oil cake from Colombia between 2017 and 2021, but these numbers are negligible compared to Indonesia and Malaysia. In 2021, the Netherlands imported 423 MT and Spain 239 MT of palm oil cake from Colombia.

For refined palm kernel or babassu oil, 53% originates from Indonesia and 45% from Malaysia. Between 2017 and 2021, only the Netherlands, Belgium and Germany imported limited numbers of refined palm kernel or babassu oil from Colombia, respectively 968 MT, 60 MT, and 3 MT. Finally, in 2021, the EU imported palm nuts and kernels mostly from Côte d'Ivoire (48%), Thailand (8%), and Cameroon (5%), but compared to the other palm oil products, these numbers are negligible in terms of volume and value, as seen in figure 5 above. In 2021, only the Netherlands imported 0.8 MT of palm nuts from Colombia.

Considering the role of Colombia and its links to the European Union, the remainder of this analysis will focus on crude palm oil (HS 1511) and crude palm kernel or babassu oil (HS 151321). The majority of exports from Colombia to the EU are unrefined raw materials, mainly crude palm oil. This is linked to the fact that it is more expensive to refine palm oil in Colombia, compared to a European refinery. For instance, in 2000 it was calculated that the cost of refining one MT of crude oil in Rotterdam, the Netherlands was USD 36.9, compared to USD 60.3 in Colombia [62].

3.3 EU recipient countries of Colombian palm oil

In 2020, 52% of Colombia's total production of crude palm oil was destined for the domestic market and 48% for international exports [63]. With a production of 1,559,011 MT in the same year [64], a total of 748,325 MT was for international export, of which 57% (429,653 MT) was exported to Europe [64], and the remainder (318,672 MT) to the Latin American region, mainly to Brazil and Mexico. Colombian palm oil is mainly exported from the ports of Barranquilla, Santa Marta and Cartagena [62].

[62] HREV. (2006.) The flow of palm oil Colombia - Belgium/Europe.: A study from a human rights perspective. [Link to report.](#)

[63] Solidaridad. (2021). Barometer on sustainable palm oil production and trade Colombia 2020. [Link to report.](#)

[64] European Commission. (2021). EU trade statistics. [Link to website.](#)

List of top importers of Colombian palm oil and palm oil products in the EU				
Top-3 EU importers	Volumes (MT)	Volumes	Values (USD)	Value
The Netherlands	301,508	42%	274,544,077	41%
Spain	215,712	30%	197,055,654	30%
Italy	171,290	24%	171,452,480	26%
Others (Germany, UK, Switzerland, France, Portugal, Sweden, Belgium)	28,486	4%	24,098,626	4%
Total	716,995	100%	667,150,837	100%

Figure 6: List of top importers of Colombian palm oil and palm oil products in the EU, based on Seair shipping data between 1 January 2020 and 31 May 2022.

Based on recent shipping data [65], a combined total of 78% of Colombia's palm oil and palm oil export products [66] was exported to the Netherlands (20%), Brazil (18%), Spain (15%), Mexico (14%) and Italy (12%) between 1 January 2020 and 31 May 2022. Figure 6 specifies exports to the EU (and the UK), where the Netherlands (42% of the total volumes, 41% of the total value), Spain (30% volume, 30% value) and Italy (24%, 26% value) are the major recipient countries of Colombian palm oil and palm oil products in terms of volume [67], followed by Germany, UK, Switzerland, France, Portugal, Sweden and Belgium (non-EU countries excluded). The three major recipient countries import a combined total of 96% of all volumes from Colombia in the EU.

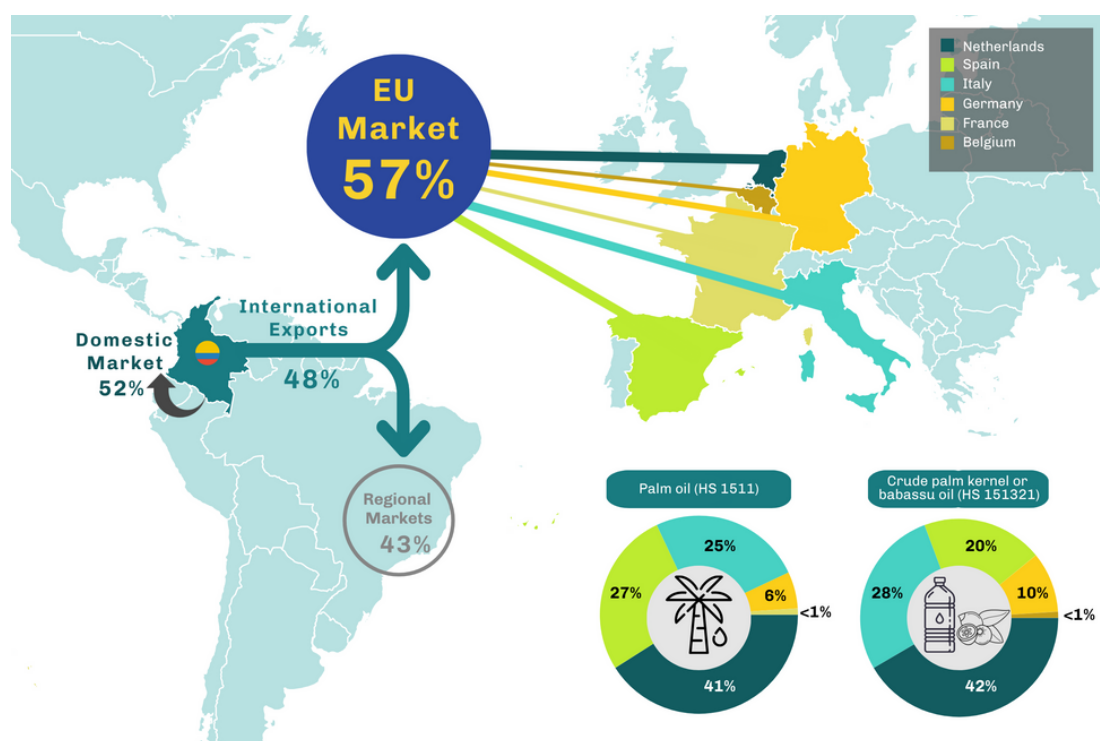


Figure 7: Palm oil trade flows from Colombia to the EU. Source: AidEnvironment, based on EU27 trade statistics (2021) for trade flows from Colombia to the EU for HS codes 1511 (crude palm oil) and HS 151321 (crude palm kernel or babassu oil) and Solidaridad (2020) for domestic and regional trade flows.

[65] Seair. Import Export Data, Global Trade Data of 120 Countries. [Link to website](#).

[66] Based on HS codes 1511, 15119, 151321, 151329, 23066.

[67] Ibid.

3.4 Trends in EU Colombian imports

Plotted over time, EU imported volumes of Colombian palm oil dropped considerably in 2021, but the imported value (EUR) did not follow this trend (figure 8). In 2020, around 28% (429,653 MT out of 1,559,011 MT) of Colombia's palm oil production was imported by EU countries. In 2021, this dropped to 14% (241,710 MT out of 1,747,000 MT). For EU imports of crude palm kernel or babassu oil from Colombia, there is also a decreasing trend of imported volumes but recovering values (figure 9).

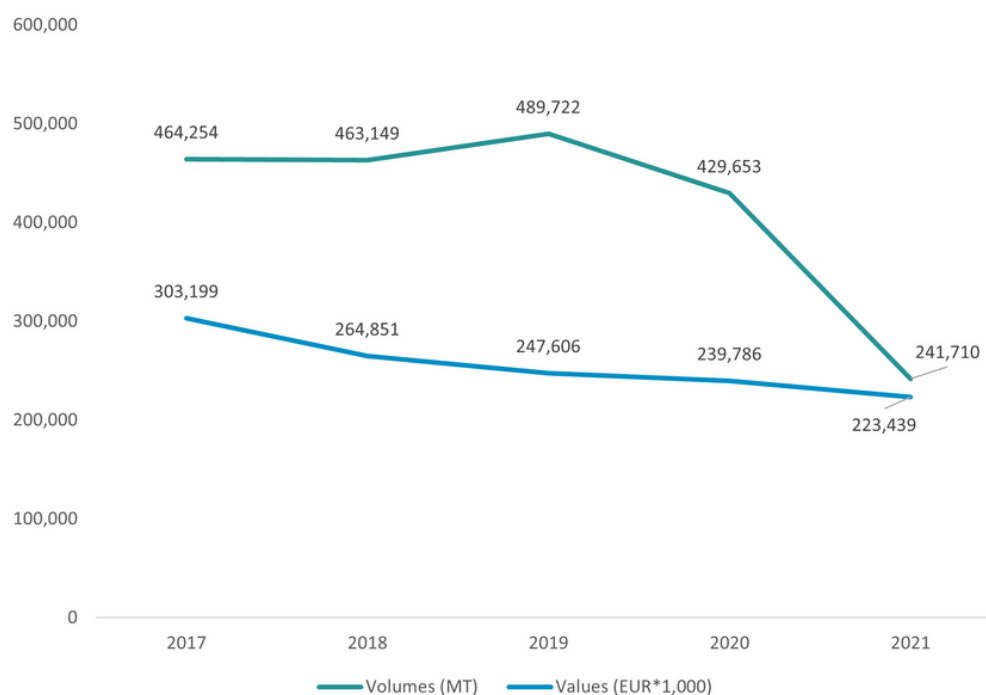


Figure 8: EU palm oil imports (HS 1511) from Colombia, by volume and value, between 2017 and 2021.
Source: AidEnvironment, 2022, based on EU27 Trade Statistics.

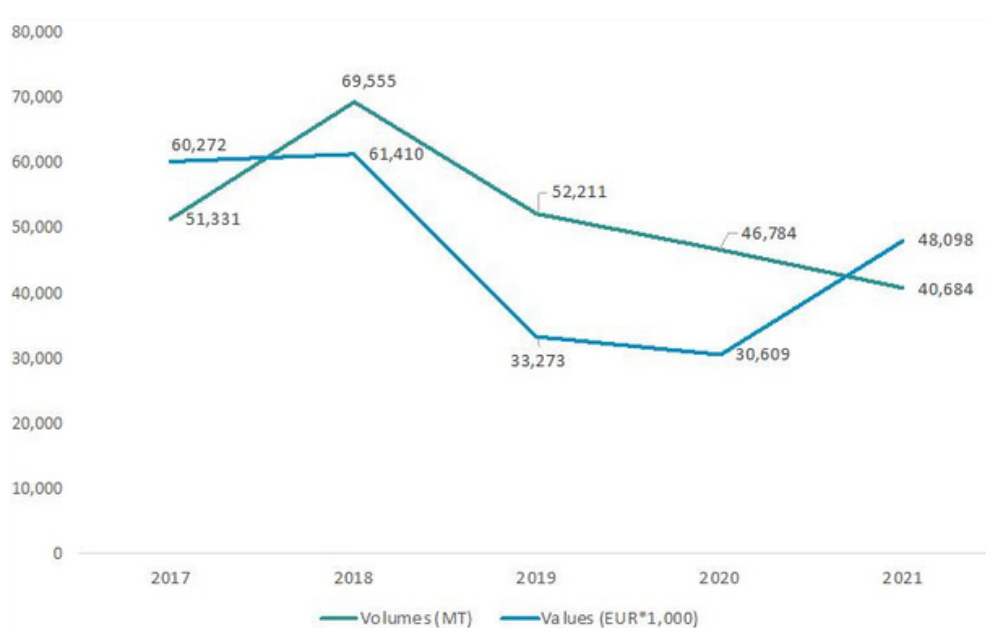


Figure 9: EU imports of crude palm kernel or babassu oil (HS 151321) from Colombia, by volume and value, between 2017 and 2021. Source: AidEnvironment, 2022, based on EU27 Trade Statistics.


 Photo: © Phadungsak Getty Images

The rise in imported value is likely linked to growing global prices for palm oil and palm oil products that is expected to continue. Particularly the global surge for edible oils, linked to current global crises, such as Russia's invasion of Ukraine and the blocking of export routes, increased export levies on soybean oils in Argentina and drought in Canada, have increased the need for crude palm oil as an alternative source of oils [68]. Globally, Ukraine and Russia are the main sunflower seed producers, while the drought in Canada contributed to a reduced supply of canola oil for 2022. China has been looking into alternatives for soybean oil, and palm oil is one of the preferred replacements. Moreover, Indonesia's cooking oil crisis [69] has further pushed up global demand for palm oil, resulting in high palm oil prices.

The drop in EU imported volumes from Colombia is predominantly linked to an export reduction in the Colombian palm oil market, which started in 2020 [70]. In addition, the domestic market has become increasingly attractive for Colombian producers. This development is linked to favourable conditions for selling in the national market. "As a result of the Price Stabilization Fund methodology (FEP Palmero) favorable conditions have been generated for selling in the local market as producers who sell to the export market must pay tax fee and producers who sell on the domestic market receive compensation," (Fedepalma, 2021) [70]. Another reason may be attributed to the EU's restrictive measures banning the use of palm oil as a raw material in biodiesel blends RED II., which discourages imports. Moreover, the producers may anticipate the EU Deforestation Regulation.

Other reasons for the drop in EU imports, are more speculative of nature. Our findings, however, suggest that this decline could, apart from Covid-19 pandemic effects [71], be partially linked to a fall of sourcing Colombian palm oil by the company Wilmar. Recent shipping data retrieved from Seair, suggest that Wilmar sourced 50,569 MT of crude palm oil from Colombia in 2020, and only 14,986 MT in 2021: a 70% contraction compared to 2020. This drop could partially explain some drawback in EU imported palm oil from Colombia, although it must be considered to be taken into consideration that Wilmar also sources palm oil in Colombia through its joint venture with ADM: Olenex.

[68] Asean briefing. (2022). Indonesia Bans the Export of Palm Oil, Impacting Global Food Prices. [Link to article.](#)

[69] In April 2022, the Indonesian government issued a temporary ban on the exporting of palm oil products, driving up global palm oil prices. The ban sought to stabilise the availability of cooking oil within Indonesia. With palm oil Indonesia's most widely used cooking oil, the regulation followed weeks of concern over shortages of palm oil in shops and markets, which the media termed the "cooking oil crisis."

[70] Solidaridad. (2021). Barometer on sustainable palm oil production and trade Colombia 2020. [Link to report.](#)

[71] The effect of the pandemic in the Colombian palm oil sector is, however, questionable. According to a Solidaridad study, the sector was able to continue its production and processing activities during the country's lockdowns, despite the restrictions generated by the Covid-19 pandemic.

4. MAPPING SUPPLY CHAIN ACTORS

While analysing the key actors involved in Colombian palm oil exports and imports, the reported trade volumes and values should be considered with care, since a recent study (2023) highlighted a gap between the value of palm oil exports reported by Colombia and the value of imports reported by its trading partners [72]. Part of this gap may be caused by intentional manipulation of the value and quantity of palm oil exports. The authors reported underbilling of 151 million USD (5% of the total export value) between 2009 and 2020, with the following countries meeting most criteria for fraudulent billing: the United States, the Netherlands, Chile, Japan and Ecuador. These are also part of the destinations receiving the majority of shipments.

The ‘value gap’ found in the Colombian palm oil sector “could have the purpose of distorting the taxable base of the transactions or carrying out illicit financial flows, which could be directly related to the financing of illegal groups or trade-based money laundering” [73]. This was “supported by price abnormalities in the customs declarations prepared by the [palm oil] companies, which suggests that tax authorities may need to take a closer look at the companies consistently reporting abnormal values.” [73]

4.1 Suppliers of Colombian palm oil

Between 2017 and 2021, Grupo Biocosta (CO), Acepalma (CO), Cargill (USA), Daabon Group (CO), and Thin Oil Products (USA) were reportedly the five major suppliers of Colombian palm oil to predominantly Europe and Latin America (see figure 10 below).

Palm exporter (parent)	Colombian plantation companies (department)	Volumes (MT)	Value (USD)
CI Biocosta - CO (Grupo Biocosta)	Aceites (Magdalena) Extractora el Roble (Magdalena) Extractora Frupalma (Magdalena) Palmaceite (Magdalena) Palmagro (Cesar)	595,518	342,362,211
CI Acepalma - CO	None (trader)*	488,255	291,887,435
CI Cargill de Colombia - CO (Cargill USA)	None (trader)*	199,377	114,322,747
CI Tequendama – CO (Grupo Daabon - CO)	Tequendama (Magdalena) Palmas y Trabajo (Santander) Oleaginosas Del Yuma (Santander)	152,252	93,565,913
CI Top - CO (Thin Oil Products - USA)	Nutrimezclas Y Aceites (Santander) Palmeiras Colombia (Nariño)	101,781	56,829,791

[72] Victor, S. and Carvajal, M.A. (2022). Estudios sectoriales sobre el riesgo de facturación fraudulenta en [Link to article.](#)

[73] Global Financial Integrity, Fedesarrollo, Transparency International Kenya and ACODE. (2023). Trade-Based.... [Link to policy brief.](#)

Indutrade Colombia	Indutrade (Cesar)	27,833	17,770,341
Palmas de Tumaco	Palmas de Tumaco (Nariño)	979	507,380
CI Oleana (EC)	None, only in Ecuador (trader)*	728	627,762
CI Global American Exp.	None (trader)*	420	273,000
Grasas Y Derivados (Gradesa)	Grasa y Derivados (Magdalena)	43	46,070
Others (3)	-	63	52,385
Total	-	1,567,250	918,245,036

Figure 10: Top Colombian palm oil exporters and linked plantation companies between 2017-2021.

Source: AidEnvironment (2022), based on Panjiva shipping data between February 2017 and February 2021 for HS code 1511 (palm oil); company websites; palm oil mill lists 2021 and 2022. Notes: * Selected palm oil exporting company does not seem to possess and operate its own oil palm plantations and mills, but mainly sources from other plantation companies. In the case of Acepalma, which was founded by Fedepalma, its shareholders will likely operate their own oil palm plantations.

Grupo Biocosta was founded in 2007 and headquarters in Santa Marta in Colombia. The group, as indicated in figure 10, consists of five plantation companies: a refinery (BGreen), a logistical company (OLC) and an agricultural and industrial service company (Biosagro) [74]. In November 2020, Palmagro S.A. was accused of violating multiple labour rights [75], specifically the right to freedom of association and the right to collective bargaining of its workers [76].

In 1991, **Acepalma** was founded by Fedepalma, the Colombian Palm Oil Federation, in Bogotá. According to Orbis, a large financial database on 400 million companies globally, Acepalma consists of 60 shareholders (typically including the majority of Colombian oil palm plantation companies) and two subsidiaries: Sociedad Portuaria Regional De Tumaco S. A. En Liquidacion and Solutrans [77]. For 2021, the group's net income was USD 5.30 million. On its website, they report 148 shareholders, all of them being oil palm growers or palm oil mills [78]. Acepalma is RSPO certified for mass balance, segregated and identity preserved and has ISCC (International Sustainability and Carbon Certification). In 2022, the company lists the following palm oil mills as suppliers: Aceites Manuelita (Yaguarito), Aceites Cimarrones, Agropecuaria Santa Maria S.A. (San Martin), Entrepalmas, Alianza Oriental, Hacienda La Cabaña, Palmar De Altamira, Extractora Sicarare, Palmaceite, Extractora El Roble, Aceites, Palmeras De La Costa, Extractora Del Sur De Casanare and Oleoflores (annex 1) [79].

[74] Grupo Biocosta. [Link to website.](#)

[75] Quiroz, D., Achterberg, E., Arnould, J. (2021). Sector Analysis: Latin American Palm Oil. [Link to report.](#)

[76] Agencia de Información Laboral. (2020). Palmagro S.A. otra empresa que vulnera los derechos de sindicalización. [Link to article.](#)

[77] Orbis. [Link to website.](#)

[78] Acepalma. About us. [Link to website.](#)

[79] Acepalma. (2020). Mill list first half of 2022. [Link to list.](#)

In 2018, Cargill founded **Cargill de Colombia**, marketing grains, agricultural inputs and oils through import and export. Its other business segments in Colombia include animal nutrition (Cargill Nutrición y Salud Animal) and protein business (Cargill Protein Latin America). While Cargill reportedly does not operate oil palm plantation mills or refineries in Colombia [80], the company reports to source from 31 different Colombian palm oil mills in the first quarter of 2022 (see annex 1) [81].

Grupo Daabon is a family-owned company founded in Colombia in 1914 and has its headquarters in Santa Marta [82]. The company operates agriculture, industry, logistics and real estate businesses, and has presence in five continents. **C.I. Tequendama** is the palm oil arm of the company group, which is involved in the production, refinery and transformation of palm oil. Reported area of cultivation is 4,038 ha in municipalities Aracataca and El Reten (Magdalena) and Riohacha (Guajira), while it operates a refinery in Mamatoco (Santa Maria). Plantation subsidiary Palma y Trabajo, located in Puerto Wilches (Santander), is involved in milling of palm oil and palm kernel oil, and Oleaginosas Del Yuma (also in Puerto Wilches) grows oil palm on more than 3,000 ha. There was an investigation in response into an RSPO complaint against Palmas y Trabajo S.A.S, Progreso Palmero S.A.S, and Oleaginosas de Yuma S.A.S, all being subsidiaries of Daabon Group. The complaint on labour conditions was filed by the Union 'Sintrainagro Puerto Wilches' in September 2020, stating non-compliance with labour rights/laws, anti-union practices and employees not provided sufficient protection equipment. Since 6 March 2023, the RSPO complaint has been closed [83].

CI TOP is the sister company of Thin Oil Products, a company based in the United States. CI TOP consists of two plantation companies: Nutrimezclas Y Aceites S.A.S. and Palmeiras Colombia S.A. Reportedly, the company is a marketer of palm oil and its derivatives, and for the operations they have two ports, one located in Tumaco where 15% of the operation is handled and the other in Cartagena where 84.3% of the operation is handled [84]. CI Top does not publish publicly on its suppliers.

Finally, **Indutrade Colombia**, the sixth company on the list (figure 10), is an international trader of palm oil and palm kernel oil. AAK and ADM referring to Indutrade on their public mill lists indicates that Indutrade Colombia may operate a mill (Indutrade) in Cesar (La Paz). In the second half of 2021, Indutrade is supplied by the following Colombian mills: Aceites, Alianza Oriental, Extractora El Roble, Palmaceite, Abago, Aceites Cimarrones, Hacienda La Cabaña, Extractora Sicarare, Extractora La Paz and Palmeras De La Costa [85]. The company is at least supplier to LDC and Unilever [86].

Focusing on Colombian palm oil suppliers to the main recipient countries in the EU, the Netherlands, Spain and Italy, shows that Cargill de Colombia, Daabon group (Tequendama), Biocosta and Indutrade supply all three countries (figure 11).

[80] Cargill. (2021). Palm Oil Sustainability Report 2020. [Link to report](#).

[81] Cargill. (2022). 2022Q3 Mill List. [Link to list](#).

[82] Daabon. [Link to website](#).

[83] RSPO. Palmas y Trabajo S.A.S&Progreso Palmero S.A.S & Oleaginosas de Yuma S.A.S. [Link to case](#).

[84] RSPO. Members: C.I. TOP S.A. [Link to website](#).

[85] Indutrade. (2022). Mill list second half 2021. [Link to list](#).

[86] LDC. (2021). H2 - 2021 Supply Chain Traceability. [Link to report](#).

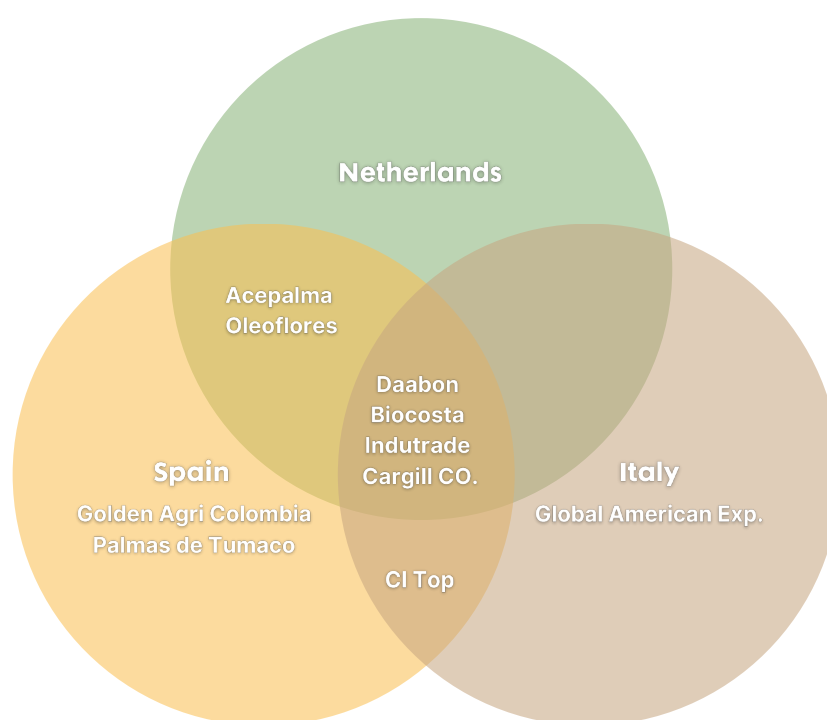


Figure 11: Top Colombian exporters to the three main recipient countries, the Netherlands, Spain, and Italy.

Source: AidEnvironment, based on Seair shipping data between 1 January 2020 and 31 May 2022 for HS codes 1511 (palm oil), 151321 (Crude palm kernel or babassu oil) and 230660 (palm oilcake). Note that we only included key exporters that we discussed in the top-10 exporters above.

4.2 Buyers of Colombian palm oil

Assessing recent shipping data from 1 January 2021 through 31 May 2022, shows that key recent global buyers of Colombian palm oil include M. Dias Branco (Brazil), Unigra (Italy), Cargill (USA), Louis Dreyfus Company (LDC) (the Netherlands), Grupo Oleomex (Mexico), Pasternak, Baum & Co (USA), Wilmar (Singapore), Lipidos (Spain), Global Organic (Panama) and Golden Agri Resources (GAR) (Singapore) (figure 11).


Top 10 buyers (Feb 2017 - Feb 2021)	Volumes (MT)	%	Top-10 buyers (Jan 2020- May 2022)	Volumes (MT)	%
Wilmar (SG)	371,952	27%	M Dias Branco (BR)	184,736	22%
Cargill (USA)	236,576	17%	Unigra (IT)	129,718	15%
Pasternak Baum & Co (USA)	197,523	14%	Cargill (USA)	113,423	13%

Golden Agri International (GAR) (SG)	146,544	10%	Louis Dreyfus Company (NL)	75,970	9%
Bunge (BM)	128,074	9%	Oleofinos (Grupo Oleomex) (MX)	75,029	9%
Lípidos Santiga (ES)	108,096	8%	Pasternak Baum & Co (USA)	67,433	8%
Olenex (CH)	77,295	6%	Wilmar (SG)	65,554	8%
Unigrà (IT)	73,575	5%	Lípidos Santiga (ES)	52,818	6%
Global Organic (PA)	40,500	3%	Global Organic (PA)	50,353	6%
Louis Dreyfus Company (NL)	23,322	2%	Golden Agri International (GAR) (SG)	32,507	4%
Total Top 10	1,403,456	100%	Total Top 10	847,542	100%

Figure 12: Top 10 buyers of Colombian palm oil and palm oil products between 2017 and 2022.

Sources: Panjiva shipping data between February 2017 and February 2021 and Seair shipping data between 1 January 2020 and 31 May 2022 for HS codes 1511 (palm oil), 151329 (Refined palm kernel or babassu oil); and 230660 (palm oilcake); company websites. Note: HS code 151321 (Crude palm kernel or babassu oil) is not covered in the available Panjiva dataset. Moreover, in the Seair dataset, 271,182 MT of palm oil and palm oil products were registered without a label, i.e., that could not be assigned to a specific buyer.


M Dias Branco S.A. is a publicly listed, leading Brazilian multinational company in the field of biscuits and pasta in Brazil and has its headquarters in Fortaleza (Ceará). The group has fifteen industrial units in the northeast, southeast and southern regions of Brazil, including seven wheat mills. The company has been supplied with processing equipment and technology by the Russian Bühler group [87], that has acquired the Austrian Haas Group in 2018. Ranking 213th on the Food and Agriculture Benchmark of the World Benchmark Alliance, M. Dias Branco is one of the weaker performers on sustainability indicators compared to other agribusinesses [88].

 **Links with Colombian palm oil mills:** While using palm oil in its products, the company does not publicly list its supplier mills. Based on public information, it is therefore not possible to identify palm oil mills linked to this company.

[87] Bühler group. [Link to website.](#)

[88] World Benchmark Alliance. M Dias Branco. [Link to ranking page.](#)


Unigrà, an agri-food company that was founded in 1971 and headquartered in Conselice, Italy, is operating in vegetable oils and fats processing, and manufacturing of raw materials. Apart from Italy, the company also has a food processing unit in Malaysia and an office in Brazil. Unigrà is an RSPO member. The company requires that all its palm oil suppliers are RSPO members and operate in compliance with RSPO Principles and Criteria [89]. In AidEnvironment's mill database, clearly not all mills in Colombia supplying to Unigrà are RSPO members.

 *Links with Colombian palm oil mills:* Unigrà publicly lists to source from 23 Colombian mills (see annex 1). Nine of them are currently not registered as RSPO members.

Cargill Inc. is the largest privately held corporation in the United States and one of the leading global commodity traders. It is involved in purchasing, trading, processing and distributing food, agriculture, financial and industrial products and services. Cargill began operations in Colombia in 1966. Over the years, Cargill's activities have included coffee, cocoa, fertilizers, grains, oilseeds, animal feed and protein. Palm oil will be likely supplied through Cargill de Colombia.

 *Links with Colombian palm oil mills:* While Cargill reportedly does not operate oil palm plantation mills or refineries in Colombia [90], the company sourced from 31 different Colombian palm oil mills in the first quarter of 2022 [91]. The report included four more mills from which Cargill sourced in 2021 (see annex 1).

Louis Dreyfus Company (LDC) is one of the leading global commodity traders and processors of grains, oilseeds, rice, sugar, ethanol, coffee and cotton. The company also provides animal feeds, fertilizers, agricultural chemicals and other farm supplies. LDC has had a permanent presence in Colombia since 2007, mainly operating in coffee and palm oil.

 *Links with Colombian palm oil mills:* In the AidEnvironment mill list, LDC could be linked to 37 out of 81 mills (annex 1). In reality, this number may be higher, since LDC does not mention Colombia as a country in its palm oil mill list [92], making it more difficult to identify linked Colombian palm oil mills.

The **Oleomex group** was founded in 1978 in Guadalajara in Mexico and consists of at least twelve companies, including Oleofinos, Oleopalma, Oleoflor, Summa, Tecno Global, and Magnocampo. Oleopalma operates four palm oil mills in Mexico in Chiapas (Mapastepec, Aceitera Chiapaneca, Agroipsa Palenque) and Tabasco (Agroipsa Jalapa). The group does not seem to operate palm oil mills in Colombia. Oleopalma's sustainability report indicates that among its customers include Oleofinos and Cargill [93]. Public palm oil mill lists indicate that also Colgate, General Mills, Grupo Bimbo, Hershey, Johnson n Johnson and Reckitt Benckiser are customers of Oleomex.


[89] Unigrà. Supply Chain. [Link to website](#).

[90] Cargill. (2021). Palm Oil Sustainability Report 2020. [Link to report](#).


[91] Cargill. (2022). Q3 Mill List. [Link to list](#).

[92] LDC. (2021). H2 - 2021 Supply Chain Traceability. [Link to report](#).


[93] Oleopalma. (2020). Sustainability Report 2019. [Link to report](#).

 *Links with Colombian palm oil mills:* Public palm oil mill lists from several FMCG companies (e.g. Colgate, General Mills, Grupo Bimbo, Hershey, Johnson n Johnson and Reckitt Benckiser) only indicate to source directly from Oleomex palm oil mills located in Mexico. The Oleomex group does not have a public mill list, therefore it is not possible to identify all Colombian palm oil mills from which it sources. This mill list of Colgate [94], however, shows that Olemex's subsidiary Oleofinos acts as a tier-1 supplier to intermediary supplier Pasternak & Baum (tier-2), from at least nine palm oil mills in Colombia: Tequendama, Palmas Oleaginosas del Magdalena, Nutrimezclas Y Aceites, Extractora del Sur de Casanare, Alianza Oriental, Extractora Monterrey, Guaicaramo, Palmeras del Llano and Oleaginosas San Marcos.

Pasternak, Baum & Co (USA) is a leading palm oil trader with brokers and ships transporting over one million MT of fats and oils, primarily palm oils, per annum. The company is reportedly "extremely active in brokering and shipping from the Americas (Guatemala, Honduras, Colombia, Ecuador, Brazil, Costa Rica, Peru) to northern Europe and the Mediterranean" [95]. Pasternak started operating in the palm oil business over 40 years ago in the Asian market and then grew into the Americas. Next to conventional palm oil, the RSPO member sources MB, SG, and IP palm oil[74]. Several identified customers of Pasternak include Colgate, LDC and Reckitt Benckiser.

 *Links with Colombian palm oil mills:* The company does not submit any palm oil mill lists, making it impossible to identify all Colombian mills from which it sources. However, on the mill list of Colgate [94], the Mexican company Oleofinos acts as a tier-1 supplier to intermediary supplier Pasternak & Baum (tier-2) from at least nine palm oil mills in Colombia: Tequendama, Palmas Oleaginosas del Magdalena, Nutrimezclas Y Aceites, Extractora del Sur de Casanare, Alianza Oriental, Extractora Monterrey, Guaicaramo, Palmeras del Llano and Oleaginosas San Marcos.

Wilmar was the number one buyer of Colombian palm oil until December 2020, according to shipping data, retrieved from Panjiva, on the period of 2017 until 2020. However, according to recent data (January 2020 until May 2022) of Seair, Wilmar dropped from rank one to rank seven. In September 2022, AidEnvironment asked Wilmar about the reason for this drop, but only general answers, including competitive pricing, tax conditions, climate-linked cultivation failures and domestic consumption patterns, were provided. The Seair dataset tell that 271,182 MT of palm oil and palm oil products were registered without any label. As these products cannot be assigned to a specific buyer, they could (partly) represent Wilmar. Moreover, Wilmar continues to source palm oil from Colombia through Olenex SARL, its joint venture with Archer Daniels Midland Company that started in 2012. While Olenex sourced 7,951 MT in 2020, this increased to 9,201 MT in 2021. Olenex stated that the joint venture completely follows Wilmar's sustainability approach and procedures [96]. Despite Wilmar's high profile on no deforestation, no peat, and no exploitation and RSPO policies, recent research reveals this contrasts with the company's actual sustainability performance on the ground and in its whole supply chain [97].

 *Links with Colombian palm oil mills:* There are no public palm oil mill lists of Wilmar referencing Colombian suppliers to the company. However, its joint venture Olenex is linked to 61 of the 81 palm mills identified by AidEnvironment (annex 1).


[94] Colgate (2020). Colgate Palm Oil 2020H1 Mill List. [Link to list.](#)

[95] RPSO. Member page Pasternak, Baum & Co. [Link to list.](#)


[96] Quiroz, D., Achterberg, E., Arnould, J. (2021). Sector Analysis: Latin American Palm Oil. [Link to report.](#)

[97] Chain Reaction Research. (2022). Wilmar's Refineries and Brands Lag in Implementation of ESG Policies. [Link to article.](#)


Lípidos Santiga's (LIPSA), a refiner of palm oil or palm kernel oil, has its main refinery and headquarters in Santa Perpetua de Mogoda, Spain. The company has a refining capacity of 1 million MT per year. The RSPO-certified company mentions on its website to have reached 100% traceability to mill and 51% traceability to plantation in 2021 [98].

 *Links with Colombian palm oil mills.* We identified 42 Colombian palm oil mills being connected to Lipidos (see annex 1).

Global Organic Inc. is headquartered in Panama. Little information is available about this buyer, but the company is likely part of the Daabon Group, as RSPO data on Daabon's group members reveals [99]. Daabon states to have the following companies in its group: Tequendama Refinery (supplying, processing and commercialisation), Caribbeans Ecosoap (oleochemicals), Global Organic (traders), and Terlica (storage units). Current shareholders of Global Organic Inc. are Mr. Ezequiel Ruiz Rodriguez and Mrs. Cecilia Jurado Rassow, who currently plays 271 roles in 118 companies [100], many registered in Panama [101].

 *Links with Colombian palm oil mills.* Daabon has published on its supplying mills in the first half of 2022 (annex 1) [102], demonstrating that the group sources from the following mills: Tequendama, Palmas y Trabajo, Palmeras de la Costa, Agroindustrias del Sur del Cesar, Aceites, Palmaceite, Extractora La Gloria, Palmagro, Palmas Oleaginosas de Casacará, Palmicultores del Norte and Extractora Loma Fresca. It is likely that Global Organic Inc. sources from all of them as well.

Golden Agri International Pte Ltd, subsidiary of Golden Agri-Resources (GAR), a vertically integrated palm oil plantation company, provides petroleum products. The company offers crude palm and cooking oil, margarine, shortening, biodiesel, and oleochemicals, as well as food, shipping, and logistics services. In August 2021, GAR acquired Golden Agri-Resources Colombia S.A.S. with core activities in trading in sugar, crude palm oil and their related products, logistics, and business and management consultancy services [103]. In November 2021, GAR was rated 'high-risk' on a ESG risk rating by Sustainalytics [104].

 *Links with Colombian palm oil mills.* While GAR publishes lists of its Indonesian palm mill suppliers, it does not for its Colombian palm oil suppliers. This difference is likely (partly) due to the fact that petroleum companies do not have to publish data on their palm oil suppliers.

Focusing on Colombian exports to the EU, we can link the top three EU recipient countries (the Netherlands, Spain and Italy) to the main buyers per country (figure 13 below). This is rather in line with palm oil refineries of Cargill, Bunge, AAK, Olenex (ADM and Wilmar) and Sime Darby, based in the Netherlands' port in Rotterdam and source from Colombia [105].

[98] LIPSA. Our traceability. [Link to website.](#)

[99] RSPO. Member: Daabon Group. [Link to website.](#)

[100] Orbis. [Link to website.](#)

[101] Mercado. Cargos del ejecutivo CECILIA JURADO RASSOW. [Link to website.](#)

[102] Daabon Group.(2022). Mill List first half of 2022. [Link to list.](#)

[103] Golden Agri-Resources. (2021). Asset Acquisitions and Disposals: Announcement Pursuant to... [Link to announcement.](#)

[104] Sustainalytics. Company ESG Risk Ratings: Golden Agri-Resources Ltd. [Link to rating page.](#)

[105] Quiroz, D., Achterberg, E., Arnould, J. (2021). Sector Analysis: Latin American Palm Oil. [Link to report.](#)

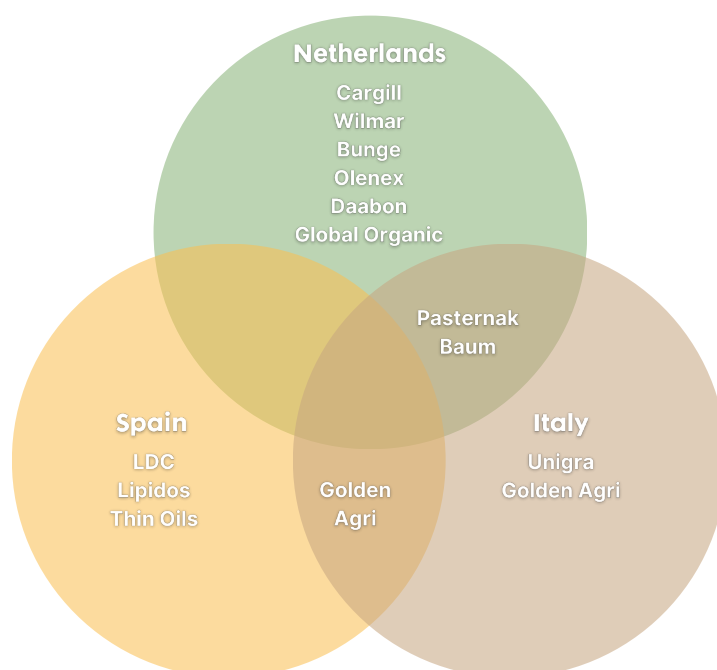


Figure 13: Top EU importers of Colombian palm oil in the Netherlands, Spain, and Italy.

Source: AidEnvironment, based on Seair shipping data between 1 January 2020 and 31 May 2022 for HS codes 1511 (palm oil), 151321 (Crude palm kernel or babassu oil) and 230660 (palm oil cake). Note that we only included key importers that we discussed in the top ten buyers mentioned above.

4.3 Consumers of Colombian palm oil

The Latin American region consumes three quarters of its own palm oil production [106]. Food products account for around 45% for the largest share, energy accounts for 20% and other consumer products for 35%. Colombia mainly exports to other Latin American countries and Europe (figure 14). Demand for food uses, as well as biodiesel programs in several national markets, is expected to further drive regional consumption. Several countries, including Colombia and Brazil, are promoting the use of biodiesel as part of carbon emission reduction goals and aim to reduce dependency on fossil fuel imports.

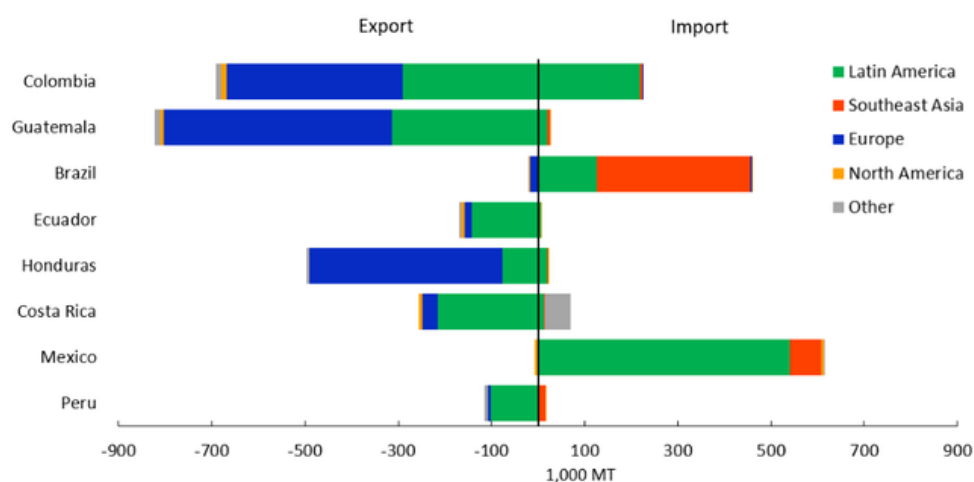


Figure 14: Palm oil trade patterns from Latin American producer countries.

Source: Chain Reaction Research based on Trademap.

[106] Kuepper, B. et al. (2021). Latin American Palm Oil Linked to Social Issues, Local Deforestation. [Link to report](#).

As described in the section 'Trends in EU Colombian imports' of this report, volumes of Colombian palm oil imported into the EU fell considerably since 2020, primarily because the domestic market has become increasingly attractive for Colombian producers. In the past four years, domestic consumption has increased, while export has decreased. According to a Solidaridad study (2020), sales in the domestic market demonstrate the increase in uptake by the biodiesel industries (28%), oil and fat processing industries (23%), and manufacturers of balanced feed (3%) in particular [107]. In 2021, Fedepalma estimated a growth of respectively 46%, 47%, and 6% for these categories (and 1% other industries) [108]. In response to the first publication of this report, Fedepalma states that in 2021, palm oil sales to the local market were destined for the biodiesel and human consumption markets, with 32.8% and 32.4% respectively. In 2020, only 5% of the volumes sold in Colombia itself have a sustainability certification, as mentioned by Solidaridad [107].

Also within the EU, the majority of imported palm oil is used for biodiesel and energy. While the food and feed sectors and industry were initially the largest users of palm oil in the EU, the demand for palm oil as a feedstock for biodiesel increased between 2008 and 2018. In 2018, the EU used more than 4 million MT of crude palm oil for biofuel production in European biorefineries (see figure 15 below). In the same year, the EU imported an additional 1.2 million MT of palm oil biodiesel. An estimated 65% of all imported palm oil was used for energy, of which 53% for biodiesel production for cars and trucks and 12% to generate electricity and heating [109]. About one-third of the palm oil was used to produce food, animal feed, and other industrial products such as detergents and soaps. The continuous growth in the use of palm for biodiesel production was linked to a weak EU biofuels policy, which has been allowing, the use of palm oil, a key driver of deforestation, as a feedstock for the production of biodiesel and energy since 2019 [109].

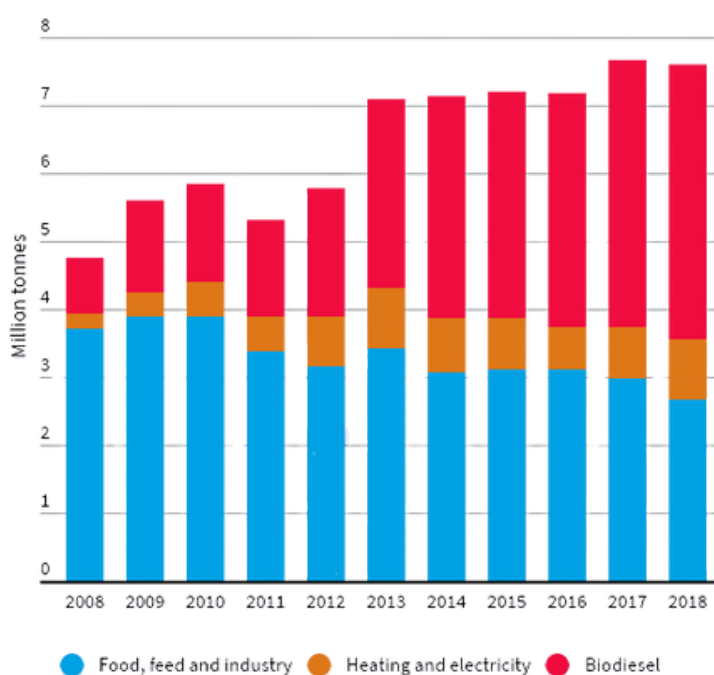


Figure 15: EU palm consumption by end use (2008-2018).

Source: Transport & Environment, derived from OILWORLD [109].

[107] Solidaridad. (2021). Barometer on sustainable palm oil production and trade Colombia 2020. [Link to report.](#)

[108] Fedepalma. (2021). Informe de gestión Fedepalma 2020. [Informe de Gestión Fedepalma 2020. Link to report.](#)

[109] Transport & environment. (2019). Almost two-thirds of palm oil consumed in the EU is ... [Link to article.](#)

Since 2021, the use of palm oil for biofuel production by the EU has been on the decline and is expected to drop further. That year, biofuel use was estimated at 2.63 million MT, in 2022 at 2.31 million MT, and in 2023 at 2.17 million MT. The decrease is attributed to an anticipated fall in demand for biodiesel linked to the EU's renewable energy directive (RED II), which requires a gradual phase out of palm oil-based fuels by 2030. The European Commission expects that, as a result of RED II, the overall demand for palm oil will decline to 4 million MT by 2031, down from 6.5 million MT in 2021 [110]. Also the upcoming EU Deforestation Regulation may further discourage imports from countries with high deforestation.

The master table on palm oil mills linked to buyers (annex 1) gives indications on end-users and consumers of Colombian palm oil. FMCG companies that source and use Colombian palm oil for food products and cosmetics include Colgate, Danone, Ferrero, Friesland Campina, General Mills, Grupo Bimbo, Hershey, Kellogg's, L'Oréal, Mars, Mondelez and Nestle.




Photo: Palm oil plantation in southern Meta © FCDS

[110] Reuters. (2021). EU sees biofuel consumption fall by 2031, palm oil imports slump. [Link to the article.](#)

5. COLOMBIAN CASE STUDIES

In this second part of the report, we outline six company case studies linked to eleven palm oil mills. Apart from satellite monitoring, we have used existing literature and knowledge gathered from different sources (e.g. on deforestation, misconduct, land ownership, land conflicts, producers, traders and investors) to see the nature of potential risks to (recent) deforestation, land use change or other social and environmental impacts, connected to European palm oil operators and traders.

Methodology

As stated in the introduction of this report, the case studies applied a radius monitoring approach, based on the assumption that oil palm plantations within a 50 km radius around the palm oil mill will likely fall within the mill's sourcing area. This was confirmed in the geographic information system (QGIS), which shows that oil palm plantation areas are often concentrated around the mills, as demonstrated in figure 16 below. The figures include additional layers within the 50 km radius, such as deforestation areas [111], palm oil production areas [112], illicit crops areas [113] and Indigenous reserves [114]. Additionally, burned areas were calculated for each of the case studies within the 50 km radius. Satellite imagery was used within the time period of 2021-2022 to calculate the total areas by digitising the burned area left by the fire in the subsequent days. In order to not double-count, each separate burned area calculated by day was merged and dissolved to obtain the total amount.

Case selection

We deliberately selected cases with potential deforestation (or close proximity to deforestation) and/or with other environmental and social impacts linked to oil palm expansion. The case studies in this report do therefore not represent the situation of the entire Colombian palm oil sector. We have selected the case studies by categorising each of the 81 palm oil mills based on several variables

- potential deforestation (or proximity to deforestation), fires, or other native vegetation conversion near mills;
- proximity to Colombia's current deforestation frontier;
- proximity to indigenous territories, protected areas, and to illicit crops production; whether the identified palm oil mills were connected to pollution of nearby waterways and rivers;
- controversial land deals, RSPO complaints, and other social issues (e.g. land disputes, displacement, labour rights issues).

The data for these variables are provided by an analysis on deforestation and fire alerts by AidEnvironment and visual confirmation through satellite imagery. Based on all these variables, we deliberately selected cases with higher risks related to these variables. After the selection, we conducted further research on each case.

[111] Ministerio de Ambiente y Desarrollo Sostenible. IDEAM. [Link to website](#).

[112] Descals, Adrià, et al.(2021). High resolution global industrial and smallholder oil palm map for 2019. [Link to article](#).

[113] Biesimci. [Link to website](#).

[114] Agencia Nacional de Tierras. Portal de Datos Abiertos de la ANT - Resguardos Indígenas. [Link to website](#).

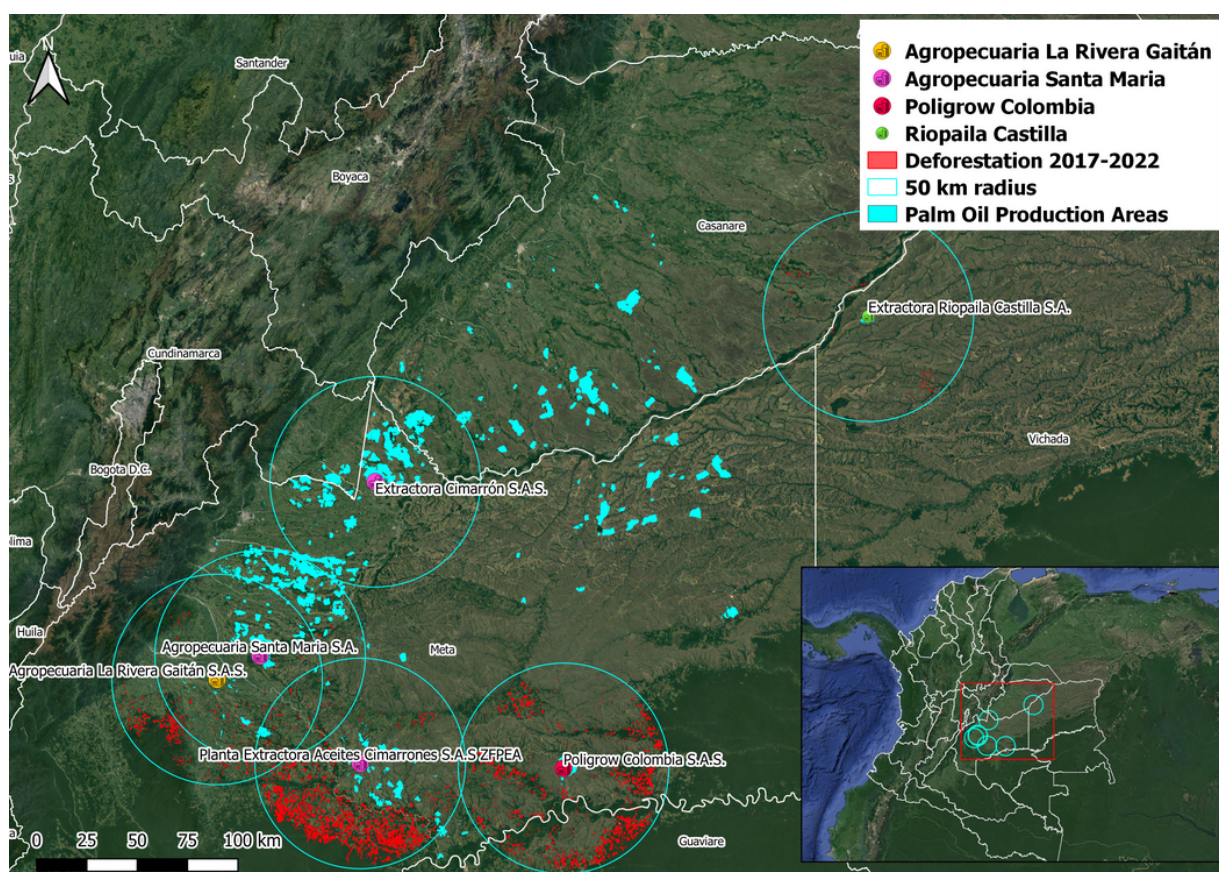


Figure 16: Oil palm plantations areas, company palm oil mills of cases 1 (Poligrow), 2 (Agropecuaria Santamaria), 3 (Agropecuaria La Rivera Gaitán), and 4 (Riopaila Castilla) including the 50 km radius circle around the mill, and proximity to Colombia's current deforestation frontier. Cases 5 (Daabon Group) and 6 (Oleoflores) are in northern departments and not included in this figure.

Based on the variables, six company cases linked to eleven palm oil mills were ultimately selected from the final list of 81 identified palm oil mills in annex 1:

1. Poligrow Colombia
2. Agropecuaria Santamaria
3. Agropecuaria La Rivera Gaitán
4. Riopaila Castilla
5. Daabon Group
6. Oleoflores.

The case studies and their links with European buyers will be elaborated in the following section.



Six case studies

CASE STUDY 1: POLIGROW COLOMBIA

Palm oil producing company Poligrow Colombia S.A.S. was founded in 2008. Operating in the municipality of Mapiripán, in the department of Meta, the multinational Poligrow has a complex corporate group structure, under Italian-Spanish ownership [115].

In 2023, the company received its first certificate of verification for sustainable palm production in Colombia from the Sustainable Palm Oil Corporation (APS Colombia), the National Federation of Oil Palm Growers (Fedepalma) and Icontec. This certification helps to strengthen sustainability best practices across the value chain. Poligrow Colombia also states that it has an active environmental programme, which aims to restore the riverine forest and protects a conservation area of 1551 ha [116].

However, since the planting of its oil palm started in 2010, Poligrow has been linked to some social and environmental violations taking place on its estates, with claims varying from forced displacement of Indigenous communities and lack of free, prior and informed consent, to environmental degradation and pollution [117, 118, 119, 120].

Recently closed RSPO investigation

In August 2015, an RSPO complaint against subsidiary Poligrow Italy was submitted, that alleges that the land planted with oil palms by Poligrow “was obtained by intimidation and without the proper consent of the indigenous owners” and that the company “is using paramilitary forces to intimidate the local people and activists” [120]. The Indigenous communities Jiw and Sikuni claim the land is theirs [117].

While, no formal complaint was filed against Poligrow Colombia S.A.S., RSPO launched an independent investigation into the allegations of its member. The company remained under continuous control to implement an action and management plan [121]. And because the auditors of the certification body conducting independent audits were not able to physically reach the area, due to the local volatile situation linked to the presidential elections, the audit report of the action and management plan was pending for many months. On 9 June 2023, the Complaints Panel issued a final directive saying that the Post Complaint's Monitoring process is now closed and that Poligrow S.A.S. has implemented the action and management plan [121].

Location of the palm oil mill

The palm oil mill of Poligrow Colombia S.A.S. (Oliomapi, coordinates: 3.013; -72.203), is in close vicinity of the most recent Colombian deforestation frontier, Indigenous territories and near illicit crop production areas (see map on the next page). Since palm oil cultivation and extraction of fresh palm fruits need to take place near palm oil mills, recent deforestation and fires near palm oil mills put the sourcing area at risk.

[115] Salinas Abdala, Y. et al. (2015). Reconquering and dispossession in the Altillanura. [Download report](#).

[116] Acuerdos Cero Deforestación Colombia. (2023). Video Poligrow. [Link to LinkedIn post](#).

[117] EIA. (2015). Mapiripán: Between Water and Oil Palm. [Link to video](#).

[118] Business & Human Rights Resource Centre. (2015). Colombia: NGOs allege palm company Poligrow has ... [Link to article](#).

[119] Quiroz, D., Achterberg, E., Arnould, J. (2021). Sector Analysis: Latin American Palm Oil. [Link to report](#).

[120] World Rainforest Movement. (2020). Colombia: Palm-Producing Company Poligrow Plans to Grab ... [Link to article](#).

[121] RSPO. Complaint: Poligrow Italy. [Link to website](#).



Figure 17: Map on top shows the location of the Poligrow Colombia S.A.S. palm oil mill (Oliomapi) in Mapiripán (Meta, Colombia). It visualises that the palm oil mill is located within a 50 km radius of a deforestation frontier; near Indigenous territories Cachivera del Nare, Guayabero La Fuga y Piratapuya Asentado en la Fuga, Caño Negro, Naexal Lajt, Caño Ovejas, and La Sal; and near illicit crop production areas. In 2019, the surface of oil palm plantation within the 50km radius was 5,680 ha (Descals et al. 2021). Two satellite photos below show conversion of 513 ha of native vegetation between June 2017 and October 2022 within a 50 km radius around the Poligrow palm oil mill. This 513 ha falls outside the current oil palm plantation area (in light blue in the figure) and can therefore not be linked to the palm oil mill.

Environmental impacts

We identified 10 ha land use change between 2011 and 2021 that is linked to palm oil in the forest galleries close to the palm oil mill, according to data from the IDEAM Forest and Carbon Monitoring System [122].

Between 2021 and 2022, there were 6,400 ha of land burned in vicinity of the palm oil production areas [123], see figure 17 for examples of fires and burned areas. We have no evidence that the burning of the plots are directly linked to Poligrow Colombia, however there is a risk that some of these burned areas are now potentially being prepared for the production of palm oil.

Evidence visually confirmed through analysis of satellite images, shows that the burning of plots is one of the main causes of environmental degradation. These burning practices degrade the soil biodiversity and functionality of gallery vegetation of natural palms (morichales), which is a strategic ecosystem of the region for biodiversity and the water stability. These gallery ecosystems regulate the water flow into greater river basins, such as Caño Ovejas and Caño Jabón.

Link EU market

The palm oil production of Poligrow Colombia that can be linked to a recently closed RSPO complaint, small scale land use change, potentially affected streams and natural palm groves, but also an environmental programme aimed at restoration, may enter or may have entered the European market.

The following palm oil buyers source from the Oliomapi palm oil mill: AAK, ADM, Cargill, Ferrero, Fuji Oils, General Mills, Grupo Bimbo, Johnson n Johnson, Kellogg, KLK Oleo, Nestle, Olenex, Oleon, PepsiCo, Unigra, Unilever, Upfield and Vandemoortele [125].

Photo: Palm oil fruits © nop16 from Getty Images

[122] FCDS. Amazon deforestation Arc Monitoring System 2018-2022

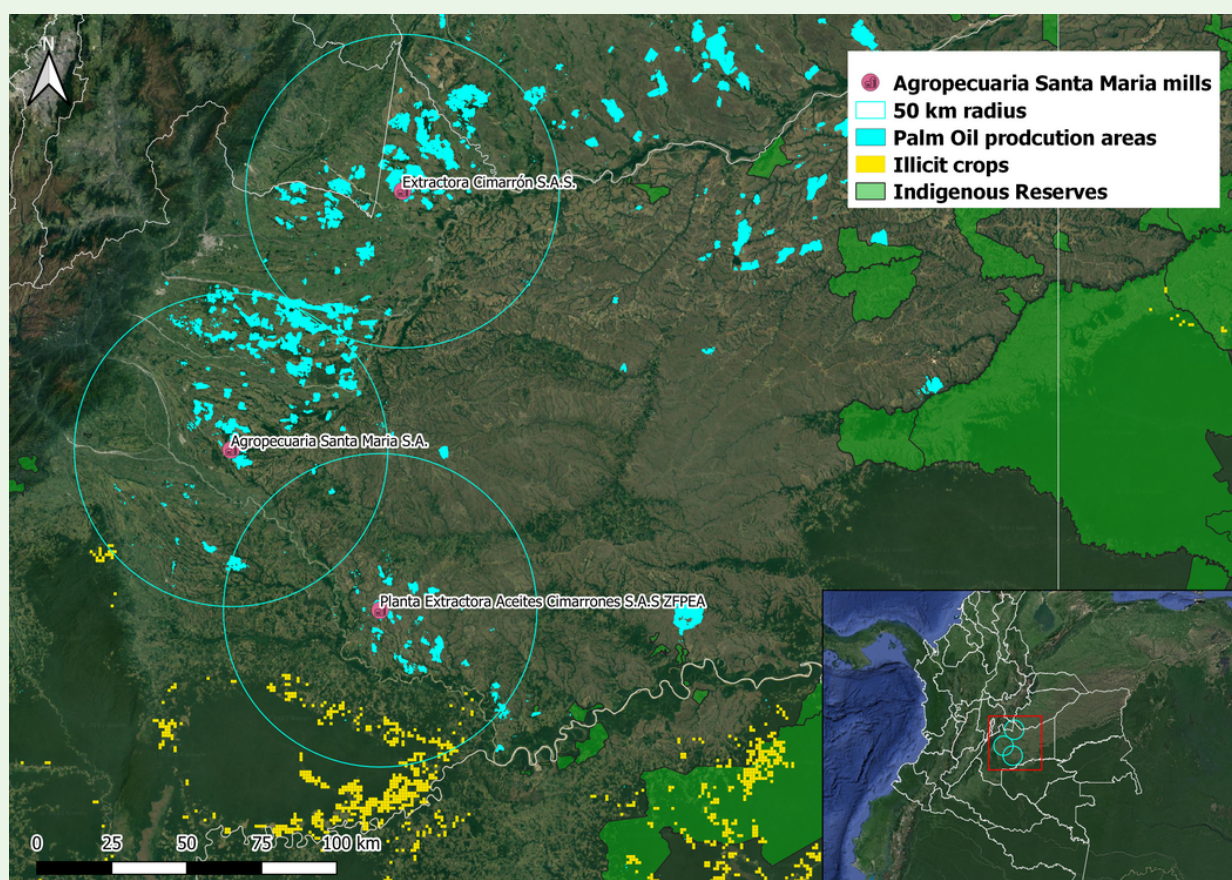
[123] IDEAM. Forest and Carbon Monitoring System 2011-2021

[124] See 2021-2022 public palm oil mill lists of all these companies.



CASE STUDY 2: AGROPECUARIA SANTAMARIA

European and Southeast Asian palm oil buying companies report to source from three palm oil mills linked to palm oil producer Agropecuaria Santamaria, all based in Meta, Colombia (see map and table below). Acepalma, the second largest palm oil exporter from Colombia to Europe, also sources palm oil and palm oil products from the Agropecuaria Santamaria's mills, with the Netherlands and Spain as major destination countries.



Plantation company	Mill name	Details (coordinates / dept. / uml code)	Certifications?	Buyers (2021-2022)
Planta Extractora Aceites Cimarrones S.A.S ZFPEA	Aceites Cimarrones	3.035; -73.111 / Meta / PO1000003979. Operational since November 2012. Within 50 km distance of deforestation frontier, national parc/reserve, and illicit crop production	Yes, ISCC and RSPO (MB; 6,753 MT CSPO)	AAK, Acepalma, ADM, BASF, Cargill, Colgate, Danone, Friesland Campina, Fuji Oil, General Mills, Grupo Bimbo, Indutrade, Johnson n Johnson, Kellogg, KLK Oleo, Lipidos, Mondelez, Nestle, Nisshin, Olam, Olenex, Oleon, PepsiCo, PZ Cussons, Reckitt Benckiser, Sime Darby, Unigra, Unilever, Upfield, Vandemoortele. In 2020, also Ferrero and Bunge sourced from this mill; Bunge also in 2021.

Agropecuaria Santa Maria S.A.	San Martin	3.516; -73.558 / Meta / PO1000003981. Operational since June 2006. Within 50 km distance of deforestation frontier, indigenous territory, national parc/reserve, and illicit crop production	Yes, ISCC and RSPO (IP; 5,463 MT CSPO)	AAK, Acepalma, ADM, BASF, Bunge, Cargill, Danone, Ferrero, Friesland Campina, Fuji Oil, General Mills, Grupo Bimbo, Johnson n Johnson, Kellogg, KLK Oleo, LDC, Lipidos, Mondelez, Nestle, Nisshin, Olam, Olenex, Oleon, PepsiCo, PZ Cussons, Reckitt Benckiser, Sime Darby, Unilever, Upfield, Vandemoortele
Extractora Cimarrón S.A.S.	Extractora Cimarrón	4.292; -73.044 / Meta / PO1000006349. Within 50 km distance of national parc or reserve	No	ADM, Grupo Bimbo, Johnson n Johnson, KLK Oleo, Mondelez, Olenex, Oleon, Reckitt Benckiser, Unilever

Figure 18: Company group mills of Agropecuaria Santamaria in Colombia. Source: AidEnvironment, based on public mill lists of palm oil traders and FMCGs, RSPO, and FCDS.

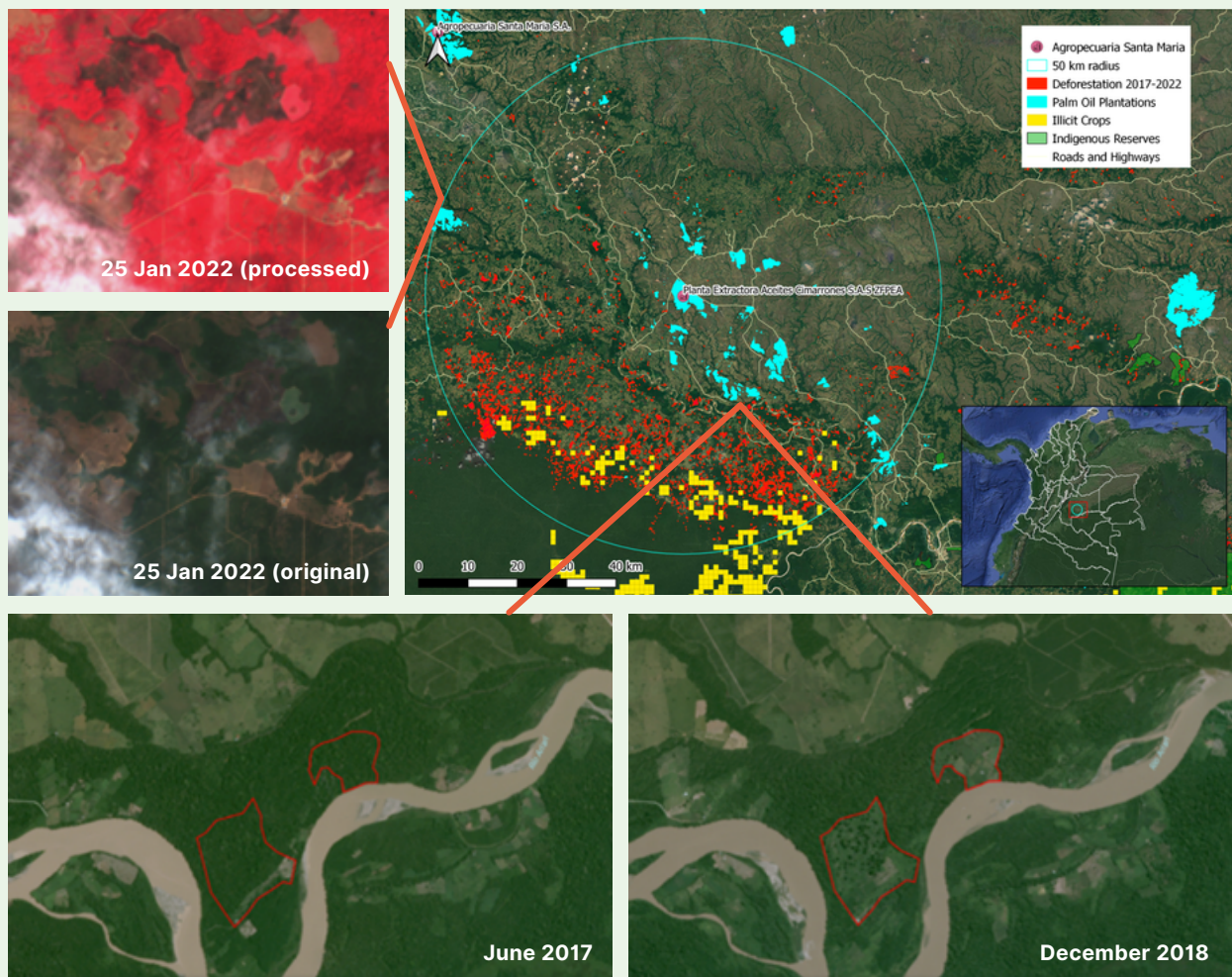


Figure 18: Map on top shows the location of the Planta Extractora Aceites Cimarrones palm oil mill in Puerto Rico (Meta, Colombia). In 2019, the surface of oil palm plantations within the 50km radius was 11,321 ha (Descals et al 2021). It shows that the palm oil mill is located within a 50 km radius of a deforestation frontier; and near illicit crop production. Two satellite photos below show the deforestation of 73 ha of native vegetation between June 2017 and December 2018 within a 50 km radius around the Agropecuaria Santa Maria palm oil mill, although these clearings cannot be attributed to the Cimarrones palm oil mill. Satellite images on the top left show locations of active fire and burned areas.




Photo: Palm oil plantations in Meta. This photo is illustrative and not linked to case © FCDS

Agropecuaria Santamaria is an RSPO member [125] and has an NDPE policy [126], including a commitment to no burning, no deforestation, no loss of high conservation values, a public grievance form and respecting FPIC of local communities. Although this cannot be directly linked to the Cimarrones palm oil mill, we identified 1,466 ha of deforestation between 2011 and 2021 in a 50-km radius around the mill, based on the information of IDEAM. Between 2021 and 2022, there were 247 ha of land burned in the vicinity of the palm oil production, which can also not be directly link to the Cimarrones palm oil mill.

Location of the palm oil mill

The Aceites Cimarrones mill is situated near the most recent Colombian deforestation frontier, a national reserve, and areas of illegal crop production (see figure 18). According to FCDS, the Aceites Cimarrones extraction plant (coordinates: 3.035; -73.111) was “the last plant that was installed in the area, therefore, it is an area that saw a growth of oil palm plantations in recent years” (Descals et al. 2021). In 2019, the surface of oil palm plantation within the 50km radius was 11,321 ha. Since the palm oil mill needs to be located near the plantations, due to the limited shelf life of fresh palm oil fruits, areas within the sourcing area of the company are at risk.

There is no hard evidence that the deforestation in the region can be directly attributed to the company. However, considering the increase in palm oil production in the proximity of the Aceites Cimarrones palm oil mill and the proximity of other oil palm plantations near the forest clearings, we see a potential risk that, without proper monitoring, these areas might potentially be converted to oil palm plantations in the next 10 to 20 years. Reportedly, the Cimarrones plant also sources in the municipalities Puerto Rico and Puerto Concordia. In the latter municipality we found sources of deforestation directly associated with oil palm.

Additional environmental impacts

An analysis developed by FCDS shows that the areas in close proximity to the Cimarrones plant have experienced an increase in burned forests, which have subsequently been replaced by palm plantations on gallery forests or *morichales*. These ecosystems are crucial for regulating water in the region. Currently, there are over 2,700 hectares of palm plantations within the conservation and environmental protection area outlined in the Management Plan of the Middle and Lower Ariari River Basin, which was published in 2018 by CORMACARENA [127]. These plantations are situated near the main tributaries of the Ariari basin, including Caño Pororio, Caño Limón, Caño Tigre and Caño Yamus. This information suggests that an environmental conflict exists in the area, due to conflicting land use practices.

[125] RSPO. Member: Agropecuaria Santamaria S.A. [Link to website](#).

[126] Agropecuaria Santamaria. Somos. [Link to website](#).

[127] POMCA Río Medio y Bajo Ariari. [Link to website](#)



CASE STUDY 3: AGROPECUARIA LA RIVERA GAITÁN

Agropecuaria La Rivera Gaitán S.A.S. is an agro-industrial complex located in the Ariari region in Colombia's Meta department. The company is involved in the cultivation, extraction, production and commercialisation of palm oil oils, fats and its derivatives [128].

International buyers, including ADM, Cargill, General Mills, Grupo Bimbo, Kellogg, KLK Oleo, Mondelez, Nestle, Olenex, Oleon, PepsiCo, Unilever and Vandemoortele, source palm oil (products) from the company's main mill (coordinates: 3.410; -73.750; UML code: PO1000003980) [129]. In addition, AAK, ADM, and General Mills also claim to source from another mill of the company, with the coordinates 4.314361; - 72.083, based in Puerto Gaitán, Meta (no UML code) [130, 131].

Environmental crimes

The company's founder, Reinel Gaitán Tangarife, was arrested in February 2022 for allegedly being 'Colombia's largest deforester', linked to environmental crimes, illegal mining, bribery and fraud [132a, 132b].

Location of the palm oil mill

The company's main mill, which has been operational since June 2011, is located within a 50 km radius of a recent deforestation frontier, Indigenous territory, national reserve and illicit crops production (see figure 19 below). In 2019 the surface of oil palm plantation within the 50km radius was 15,371 ha [133].

Deforestation and other environmental impact

Based on information of IDEAM, 960 ha of deforestation has been identified in this area from 2011 until 2021 [134]. There is no evidence to link it to this company. Using satellite imagery for calculating burned areas, between 2021 and 2022, 644 ha of land were burned in the vicinity of the palm oil production areas, an indication that potentially more land is being prepared for oil palm plantations. Moreover, FCDS indicated that the palm oil operations of the company might be linked to the invasion of 116 ha of oil palm plantation into private property [135]. Research of FCDS has also identified that more than 880 ha of palm plantations of Agropecuaria La Rivera are located in areas prioritised for forest and environmental restoration, according to the Management Plan of the Middle and Lower Ariari river basin, as they are part of the Caño Guacamayas and Caño Urichare river basins.

[128] Agropecuaria La Rivera Gaitán S.A.S.. Agropalmeras. [Link to website](#).

[129] AAK. (2021). AAK public mill list september 2021. [Link to mill list](#).

[130] ADM. (2021). ADM Global 2012 Q1-Q2. [Link to mill list](#).

[131] General Mills. (2022). List of supplying mills - January 2022. [Link to mill list](#).

[132a] Cambio. (2022). Cayó el mayor deforestador de Colombia. [Link to article](#).

[132b] Contextoganadero. (2023). Ganadero del Meta irá a juicio por delitos ambientales. [Link to article](#).

[133] Descals, Adrià, et al.(2021). High resolution global industrial and smallholder oil palm map for 2019. [Link to article](#).

[134] Ministerio de Ambiente y Desarrollo Sostenible. IDEAM. [Link to website](#).

[135] El Geoportal Instituto Geográfico Agustín Codazzi (IGAC). [Link to website](#).

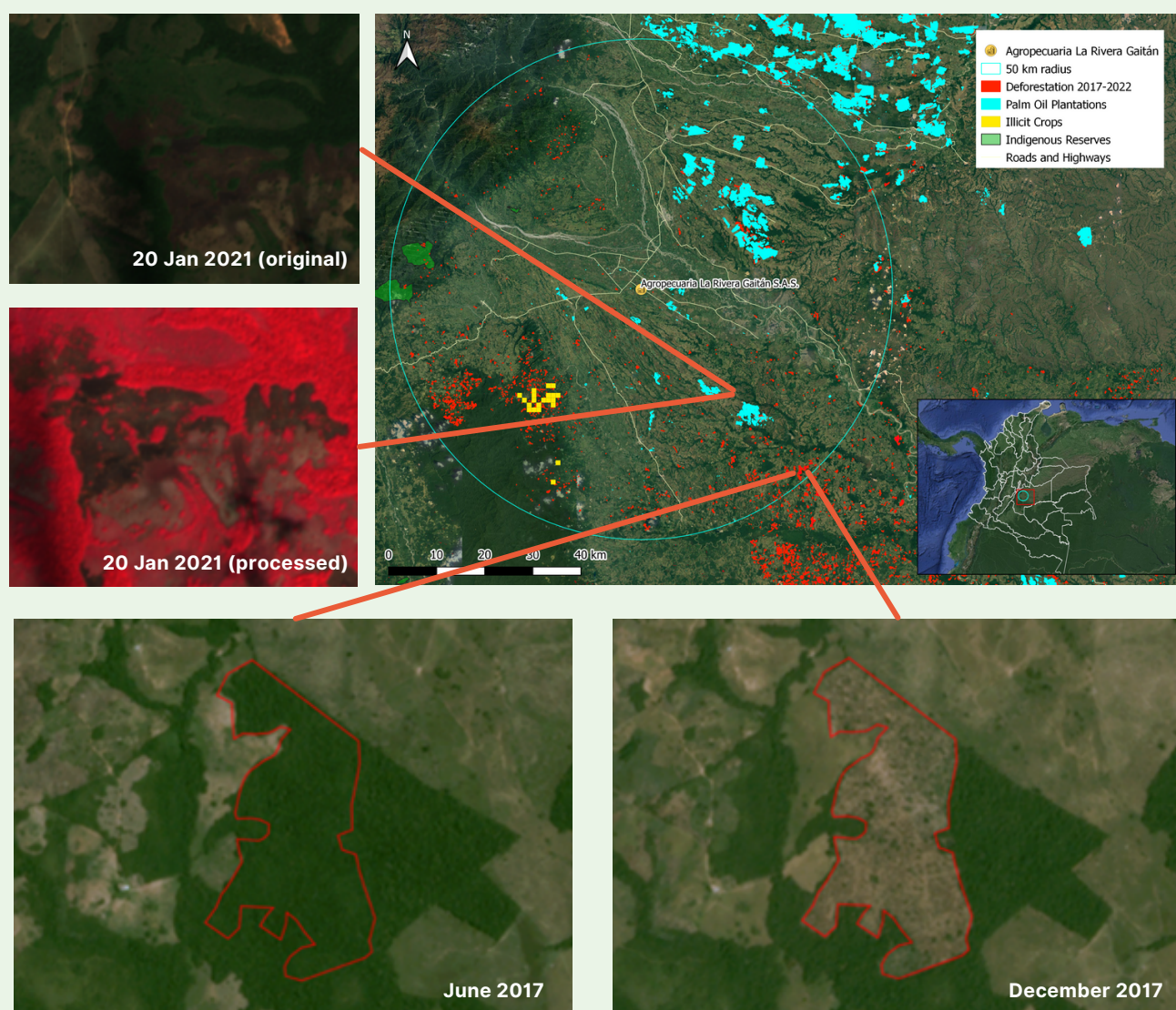


Figure 19: Map on top shows the location of the Agropecuaria La Rivera Gaitán palm oil mill in Granada (Meta, Colombia). It shows that the palm oil mill is located within a 50 km radius of a deforestation frontier; Indigenous territories Villa Lucia and Ondas del Cafre; and near illicit crop production. In 2019 the surface of oil palm plantations within the 50km radius was 15,371 ha (Descals et al 2021). Two satellite photos below show the deforestation of 55 ha of native vegetation between June 2017 and October 2022 within a 50 km radius around the Agropecuaria La Rivera Gaitán palm oil mill. These clearings cannot be attributed to the mill. The two satellite photos on the top left show locations of active fire and burned areas.



CASE STUDY 4: RIOPAILA CASTILLA

Riopaila consists of 29 companies in Colombia's Vichada department using approximately 50,000 ha of land. On paper, Riopaila Castilla is leasing the land they are using. Nevertheless, based on the website LandMatrix, Riopaila has allegedly created artificial companies that bought the land, to circumvent Colombian law 160 of 1994 [136].

The investors of the Riopaila group are the Colombian company Riopaila Castilla, the Spanish companies Agroindustria Ibiza, Inversiones Agrícolas Málaga, and Inversiones Agrícolas Asturias; and Luxembourg holding company Austurias Holding (see figure 21 below).

Land dispossession

According to a report by Business & Human Rights, the group was able to acquire land that had been reportedly dispossessed from peasants in Castilla La Nueva, for prices below market conform prices [137], as part of a widespread practice wherein “certain companies take advantage of the results of the armed conflict to favour their projects and businesses”. In response, Riopaila asserted that “the group does not have, nor has it had, ownership of land or operations in the Castilla La Nueva municipality, in the department of Meta” [138].

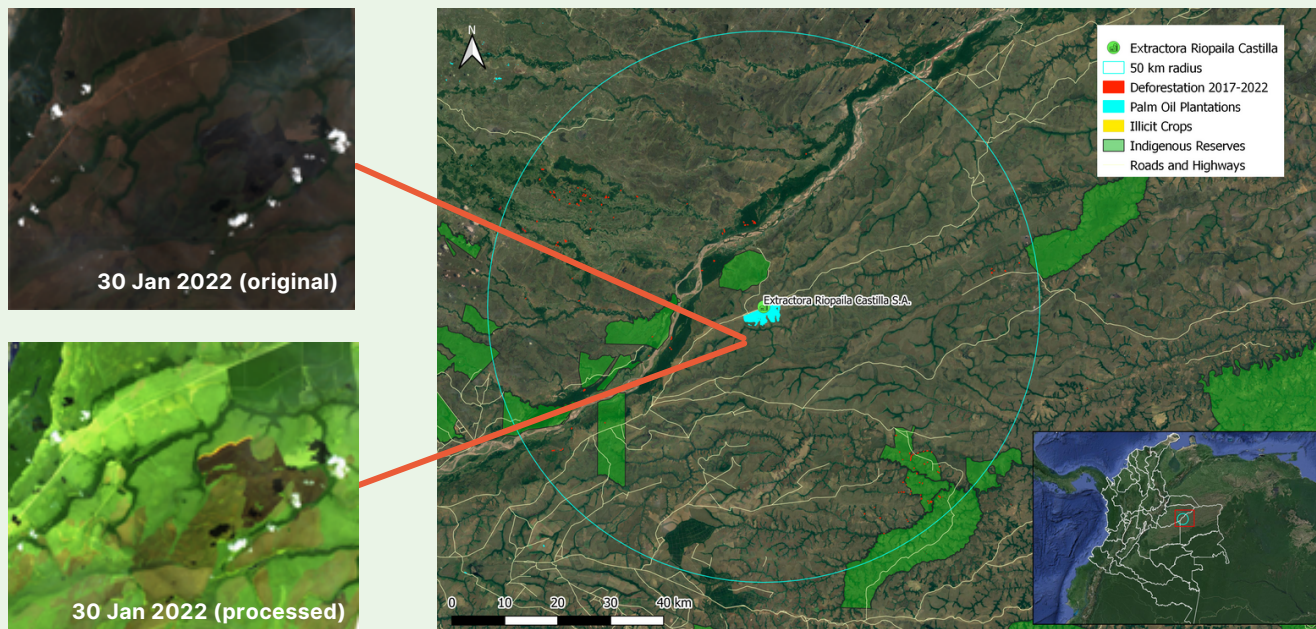


Figure 20: Map on top shows the location of the Extractora Riopaila Castilla palm oil mill in Santa Rosalia (Vichada, Colombia). It shows that the palm oil mill is located within a 50 km radius of Indigenous territories El Saladillo, Macucuana, Paraje de San Juanito, El Duya y Paravare, Merey La Verita, Salivas y Piapocos, Saliva Corregimiento de Santa Rosalia, and Nueva Esperanza del Tomotion. In 2019, the surface of oil palm plantation within the 50km radius was 1,755 ha (Descals et al 2021). The two satellite photos on the top left show one example of the location of active fires near the palm oil mill covering 1,676 ha.

[136] Land Matrix public database. [Link to website](#).

[137] Business & Human Rights. (2020). Informe a la Comisión para el Esclarecimiento de la Verdad, la .. [Link to executive summary](#).

[138] Business & Human Rights. (2020). Respuesta del Grupo Riopaila Castilla para Business Human Rights. [Link to response](#).

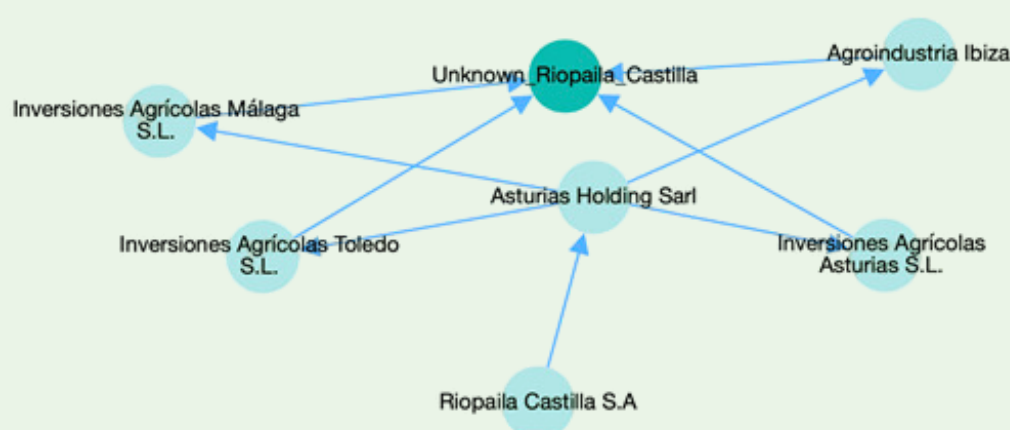


Figure 21: Network of parent companies and tertiary investors/lenders linked to Riopaila Castilla. Source: LandMatrix (2020). Note: The operating company is Riopaila Castilla, “but it constituted 29 societies to acquire 50,000 hectares of land and circumvent Colombian law. For simplicity, those 29 societies are represented as one in Unknown_Riopaila_Castilla” [139].

Location of palm oil mill

Their plantation company Extractora Riopaila Castilla SA runs a palm oil mill (coordinates: 5.031; -70.842; UML Code: PO1000010035) that is linked to numerous international buyers, including AAK, ADM, Danone, Fuji Oil, General Mills, Grupo Bimbo, Johnson n Johnson, KLK Oleo, Lipidos, Nestle, Nisshin, Olam, Olenex, Oleon, Unilever, Upfield and Vandemoortele [140]. This mill is located less than 50 km away from Indigenous territories.

Cleared land in the mill area

While no active clearing of native vegetation was identified between 2012 and 2021 in the oil palm area around the Riopaila mill, between 2021 and 2022 there were 16,020 ha of land burned in the vicinity of the palm oil production area. However, there is no direct proof that this land was burned for palm oil production. We used the NASA fire alerts from 2021 and 2022 as an initial assessment and a guiding dataset to look for fires surrounding the mill.

Because burning events occurred at different times during these two years, each burning event was mapped separately (figure 20, shows one example of the location of active fires near the palm oil mill covering 1,676 ha). All mapped burned areas were then jointly merged and dissolved (in order to avoid overlapping and double counting) into one shape file which in total covers 16,020 ha. These burning events near the palm oil mill are an indication that some of these areas are now potentially being prepared for oil palm production. Riopaila has no RSPO membership, nor certified palm oil production.

Apart from palm oil, Riopaila Castilla has also exported 32,931 MT of cane or beet sugar from Colombian departments Valle del Cauca and Risaralda to Europe between 1 January 2020 and 31 December 2022. Export volumes on palm oil could not be identified through Panjiva shipping data.

[139] Land Matrix deals list. [Link to list.](#)

[140] See 2021-2022 public palm oil mill lists of all these companies.



CASE STUDY 5: DAABON GROUP

Grupo Daabon is a family-owned company founded in Colombia in 1914 with its headquarters in Santa Marta, according to the company's website. They operate in the sectors of agriculture, industry, logistics, and real estate on five continents. C.I. Tequendama (headquartered in Magdalena) is the palm oil arm of the company group, involved in the production, refinery and transformation of palm oil.

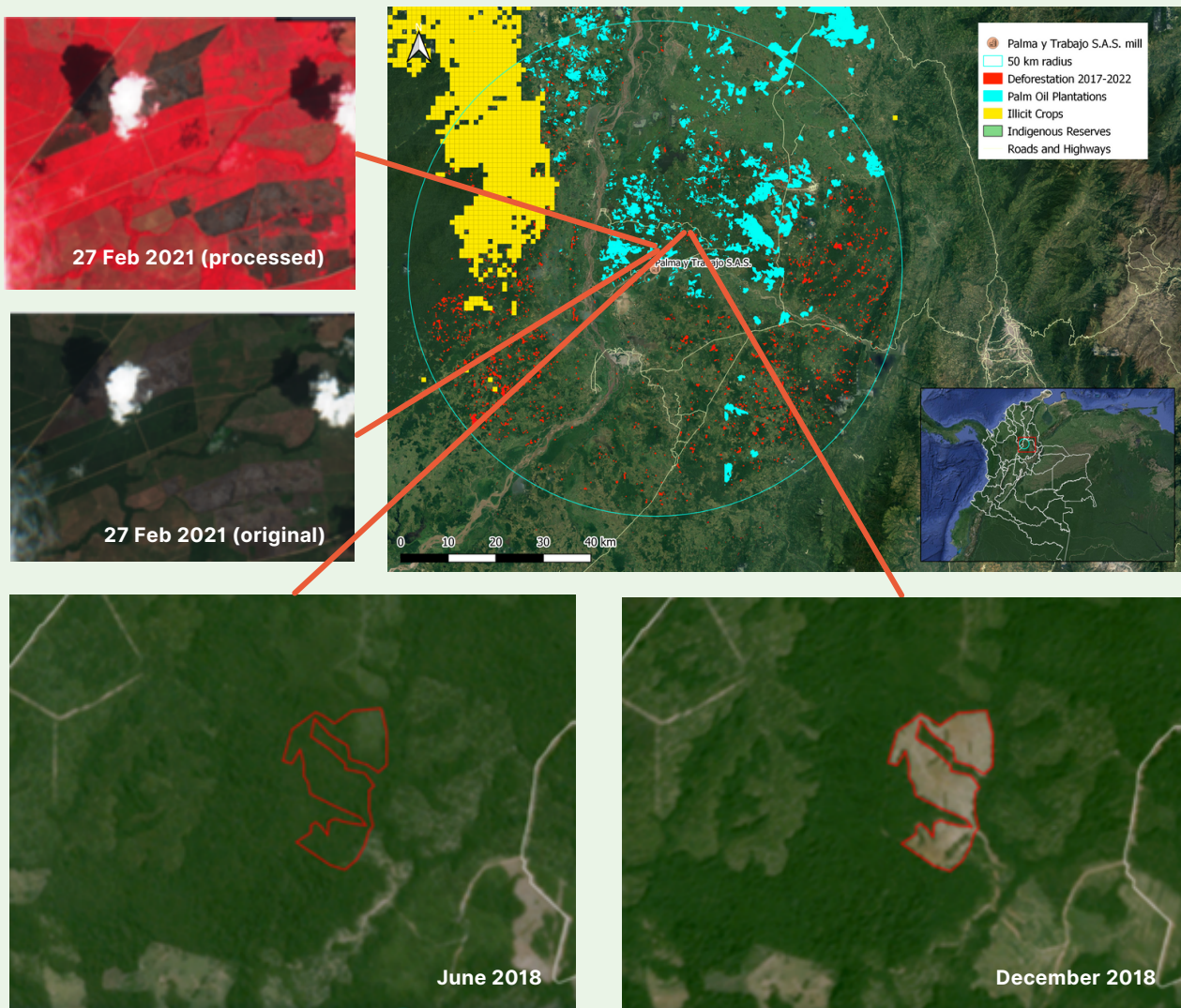


Figure 22: Map on top shows the location of Daabon Group palm oil mill in Puerto Wilches (Santander, Colombia). In 2019 the surface of oil palm plantation within the 50km radius of the Palma y Trabajo S.A.S. mill was 37,709 ha (Descals et al 2021). It shows that the palm oil mill is located within a 50 km radius of deforested areas and near illicit crop production. Two satellite photos below show deforestation of 10 ha of native vegetation between June 2018 and December 2018 within a 50 km radius around the Daabon Group palm oil mill. These clearings cannot be attributed to the mill. Satellite images on the top left show locations of active fire and burned areas.

From 2017 through 2021, Colombian company Daabon Group was one of the five major suppliers of Colombian palm oil (152,252 MT of HS code 1511) to predominantly Europe and Latin America, through its subsidiary C.I. Tequendama, according to Panjiva shipping data.

Cultivation of oil palm

Reported area of cultivation is 4,038 ha in the municipalities Aracataca and El Reten (Magdalena) and Riohacha (Guajira), while the company operates a refinery in Mamatoco (Santa Maria). Plantation subsidiary Palma y Trabajo, located in Puerto Wilches (Santander), is involved in the milling of palm oil and palm kernel oil, and Oleaginosas Del Yuma (also in Puerto Wilches) is growing oil palm in more than 3,000 ha.

Other companies that are part of Daabon Group are Caribbeans Ecosoap (oleochemicals), Global Organic (traders) and Terlica (storage units, among others [141]. Global Organic, with its headquarters in Panama, is one of the top ten largest recent global buyers of Colombian palm oil.

Location of the palm oil mill

Daabon's plantation company Palmas y Trabajo S.A.S operates the Palmatra mill in Santander department (coordinates: 7.238; -73.799; UML code: PO1000006312). The certified mill (RSPO, Organic, and Fairtrade) produced 9,432 MT of Identity Preserved (IP) CSPO in 2021. International buyers of the mill include AAK, ADM, Daabon, Ferrero, General Mills, Grupo Bimbo, Kellogg, Mondelez, Nestle, PepsiCo, Unilever, Upfield and Vandemoortele [142].

Around the palm oil mill, between 2012 and 2021, a total of 91 ha of native vegetation were cleared. This cannot be directly linked to the Palmatra mill, but the expansion of palm oil in this landscape could displace other land uses and could therefore be a potential driver of indirect deforestation.

Withdrawn RSPO complaint

In September 2020, an RSPO complaint was submitted against Palmas y Trabajo S.A.S, Progreso Palmero S.A.S, and Oleaginosas de Yuma S.A.S, all being subsidiaries of the Daabon Group, filed by Union 'Sintrainagro Puerto Wilches'. It concerned a complaint on labour conditions. The complainant was stating that these Daabon subsidiaries have not been complying with labor rights and/or laws; anti-union practices; and that employees were not provided sufficient protection equipment. On 6 March, 2023 the complaint was withdrawn by the complainant through a letter dated 19.01.2023 [143].

Export products

More recent shipping data of Seair (1 January 2020 until 31 December 2022) reveals that C.I. Tequendama exported 103,716 MT of palm oil products (crude palm oil, crude palm kernel oil, oilcake and refined palm oil) to European countries, the majority to the Netherlands (68%), Germany (10%) and the United Kingdom (9%). Of these total palm oil products exports, 85 percent (88,061 MT) was crude palm oil.

[141] RSPO. Member: Daabon Group. [Link to website](#).

[142] See 2021-2022 public palm oil mill lists of all these companies.

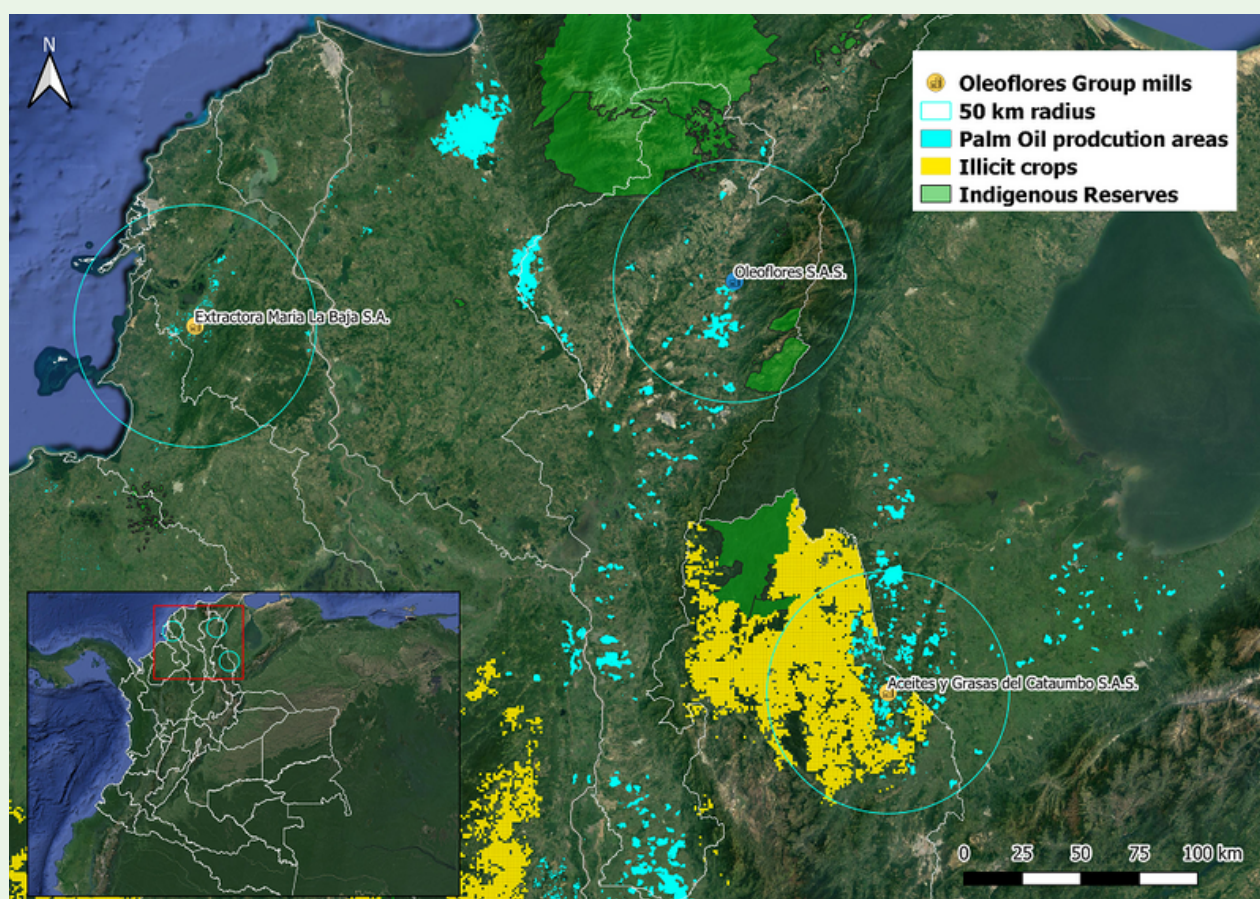
[143] RSPO. Complaint: Palmas y Trabajo S.A.S & Progreso Palmero S.A.S & Oleaginosas de Yuma S.A.S. [Link to complaint](#).



CASE STUDY 6: GRUPO OLEOFLORES

Grupo Oleoflores is a Colombian family-owned company that produces oil palm seeds, palm oil (products) and biodiesel, and operates nurseries, (private, independent and smallholders) oil palm plantations, palm oil mills, refineries and a margarine plant. The company reports to manage approximately 55,000 ha of oil palm plantations in central and north Colombia, with a processing capacity of 420,000 MT of FFB/year, and refinery capacity of 72,000 MT of CPO/year [144].

According to Panjiva shipping data, Oleoflores is one of the top Colombian exporters to Europe, with the Netherlands and Spain as its main destination countries. International buyers of the company's three palm oil mills, Aceites y Grasas del Catatumbo (Department Norte de Santander), Extractora Maria La Baja (Bolívar) and Oleoflores (Cesar) are listed in figure 23 on the next page.



[144] RSPO. Member: Oleoflores S.A.S. [Link to website.](#)

Plantation company	Mill name	Details (coordinates / dept. / uml code)	Certifications?	Buyers (2021-2022)
Aceites y Grasas del Catatumbo S.A.S.	Aceites y Grasas del Catatumbo	8.502; --72.640/ Norte de Santander / PO1000007953 Within 50 km distance of national park or reserve.	Yes, ISCC and RSPO (IP;MB, 5,671 MT CSPO)	ADM, Fuji Oil, General Mills, Grupo Bimbo, Kellogg, KLK Oleo, Mondelez, Nestle, Olenex, Oleon, PepsiCo, Unilever, Upfield, Vandemoortele
Extractora María La Baja S.A.	Extractora María La Baja	9.923; -75.328 / Bolívar / PO1000007502 Within 50 km distance of national park or reserve.	No	AAK, ADM, Danone, Fuji Oil, General Mills, Grupo Bimbo, Johnson n Johnson, Kellogg, KLK Oleo, LDC, Lipidos, Mondelez, Nestle, Nisshin, Olam, Olenex, Oleon, PepsiCo, PZ Cussons, Reckitt Benckiser, Sime Darby, Unilever, Upfield, Vandemoortele
Oleoflores S.A.S.	Oleoflores	10.097; -73.235 / Cesar / PO1000003324 Within 50 km distance of national park or reserve.	Yes, ISCC and RSPO (MB, 8,085 MT CSPO)	AAK, Acepalma, ADM, Avon, BASF, Bunge, Cargill, Colgate, Danone, Fuji Oil, General Mills, Grupo Bimbo, Johnson n Johnson, KLK Oleo, LDC, Lipidos, L'Oreal, Mars, Mondelez, Nestle, Nisshin, Olam, Olenex, Oleon, PepsiCo, PZ Cussons, Reckitt Benckiser, Unigra, Unilever, Upfield, Vandemoortele

Figure 23: Company group mills of Oleoflores in Colombia. Source: AidEnvironment, based on public mill lists of palm oil traders and FMCGs and RSPO.

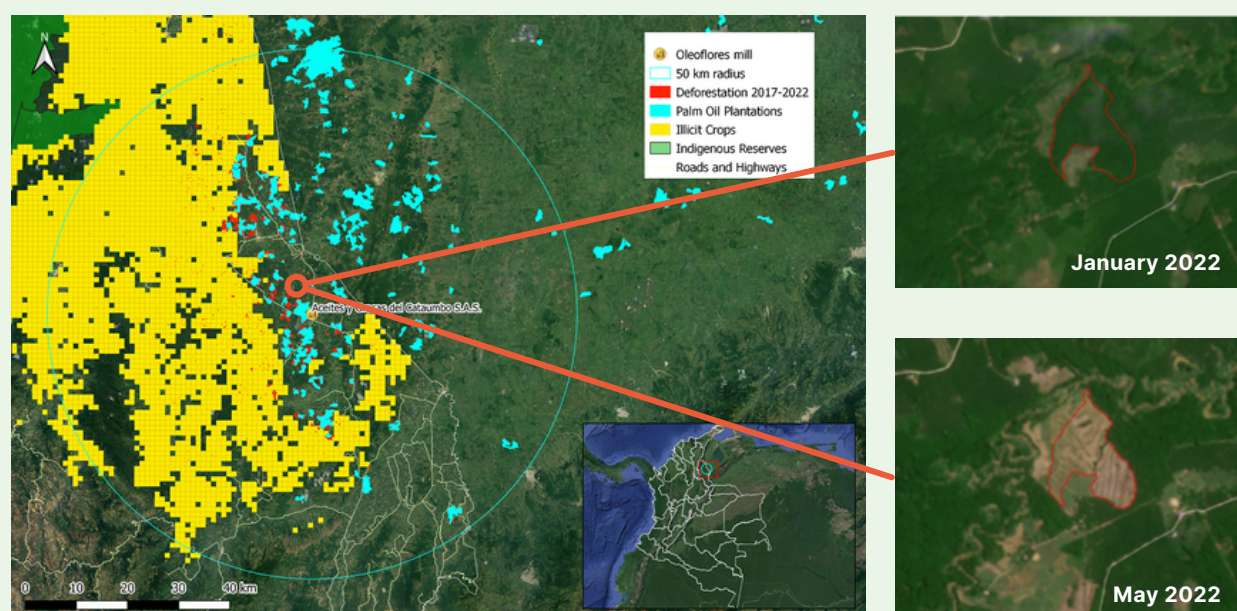


Figure 24: Map on left shows the location of Aceites y Grasas del Catatumbo in Tibu (Norte de Santander, Colombia). It shows that the palm oil mill is located within a 50 km radius of illicit crop production. Two satellite photos on the right show deforestation of 15 ha of native vegetation between January and May 2022 within a 50 km radius around the Aceites y Grasas del Catatumbo palm oil mill, although these cannot be automatically attributed to the palm oil mill.

Conflict of interests

The group is owned by Carlos Roberto Murgas Guerrero, former Colombian minister of agriculture, and his son Carlos José Murgas Dávila is vice-president of the company. According to a recent study, it is “undeniable that the company has governmental ties” and “a potential influence peddling and/or conflict of interests” [145]. This argument is validated by the fact that the company’s CEO has served as a minister of agriculture under different presidential administrations as well as by other findings. For instance, Grupo Oleoflores was one of the investors in the political campaign for the presidency of Álvaro Uribe Vélez in 2002 [146]. The company was also part of generous government subsidy schemes (e.g. Agro Ingreso Seguro - AIS) and tax exemptions that have been linked with corruption associated with the payment of political favours to legal and illegal actors [145, 147, 148].

Human and environmental rights

LandMatrix has documented dubious land deals of Murgas Guerrero [149]. Hacienda Las Flores and Bioagroindustrial de Colombia (both owned by Murgas Guerrero) have purchased small properties in the municipality of Tibú in the Santander department. In this process, the companies allegedly took advantage of people's situation in violence-affected region and may have exerted pressure on smallholders forcing them to sell their land [150], reportedly without community consent [151, 152]. In addition to the social impacts, peasants and local communities have reported reduced access to water sources since the oil palm plantations of Oleoflores and other companies expanded, consuming an increasing amount of water for irrigation [148].

Location of the palm oil mill

Between 2012 and 2021, 498 ha of native vegetation was cleared within the 50-km sourcing buffer of the palm oil mill [153], although no direct link can be proven. The maps above show that Oleoflores' Aceites y Grasas del Catatumbo palm oil mill is located very close to a large area of illicit crop production, but there is no evidence of a link between the palm oil mill and illicit crop production. There is a risk that part of this area, currently being cleared and/or used for illicit crop production, might be converted into oil palm plantations in the next 10 to 20 years. In some cases, oil palm cultivation takes place near illicit crops but no causal link has been proven so far. This could be explained by the fact that palm oil has been promoted by the Colombian state as a product of substitution of illicit crops, trying to replace illegal activities with palm oil production [154]. This approach has shown challenges related to proper environmental management, phytosanitary difficulties, pressure exerted by some actors on land tenure and the labour conditions [155].

Export countries

While Oleoflores exported mainly to non-European countries, such as the Dominican Republic, the USA, and Mexico, the company exported a total of 8,953 MT of palm oil products (crude oil and crude kernel oil) to Spain (89%) and the Netherlands (11%) between 1 January 2020 and 31 December 2022, according to shipping data retrieved from Seair.

[145] Quiroz, D., Achterberg, E., Arnould, J. (2021), Sector Analysis: Latin American Palm Oil. [Link to report.](#)

[146] Agencia de Informacion Laboral. (2020). Relaciones comerciales Colombia – Holanda en la agroindustria ... [Link to document.](#)

[147] Potter, L. (2020). Colombia's oil palm development in times of war and 'peace': Myths, enablers and ... [Link to article.](#)

[148] Rutas del conflicto. Carlos Roberto Murgas Guerrero: Más de 40 años dominando la palma de aceite. [Link to article.](#)

[149] LandMatrix. Bioagroindustrial de Colombia Ltda. [Link to website.](#)

[150] LandMatrix. Documento de análisis para uso interno No. 012. [Link to document.](#)

[151] LandMatrix. Deal #801: How did the community react? [Link to website.](#)

[152] El Tiempo. (2009). Masiva compra de tierras a víctimas en Montes de María y Catatumbo; las pagan por ... [Link to article.](#)

[153] Ministerio de Ambiente y Desarrollo Sostenible. IDEAM. [Link to website.](#)

[154] Fedepalma. (2018). Planta Extractora Catatumbo apuesta al progreso, sustitución de cultivos ilícitos y generación de energía limpia. [Link to article.](#)

[155] Seeboldt, S. and Salinas Abdala, Y. (2010). Responsibility and sustainability of the palm oil industry ... [Link to report.](#)

6. CONCLUSIONS AND REFLECTIONS

This report aims to map the trade flows of Colombian palm oil to the EU and, based on six case studies, analyse potential environmental and social risks linked to the supply chain. In the cases we have looked into whether there are signs of possible non-compliance of actors in the palm oil value chain in relation to these new EU policies and regulations.

6.1 Conclusions on palm oil trade

The trade part of this study mapped the full palm oil supply chain, from plantation level in Colombia to European consumption level, by identifying key supply chain actors and their linkages, trade flows and purchase of Colombian palm oil products in the EU.

Oil palm harvested area has increased 116% between 2011 and 2021 and Colombia aims to become a large producer of biodiesel. In section 3.1 on general trade flows, the study found Colombia ranking the 4th largest global producer of palm oil worldwide. Annually, Colombia produces around 1,838,000 metric tons of palm oil, about 2.3% of worldwide production.

To the EU, Colombia mainly exports crude palm oil and crude palm kernel oil. Section 3.2 states the EU countries have imported 8 million MT of palm oil and palm oil products from non-EU countries in 2021. Within the category of palm oil-related products crude palm oil represents the largest share of imported volumes in the EU, accounting for 74% (5.9 million MT). Of the total 5.9 million MT, the EU imported 241,710 MT (4.1%) of its crude palm oil import volumes from Colombia in 2021. 40,684 MT (8%) of the EUs imported crude palm kernel or babassu oil came from Colombia. In terms of type of palm oil products, Colombia does not play a significant role as supplier to the EU of three other relevant palm oil-related products under the EU Deforestation Regulation: palm oil cake, refined palm kernel oil and palm nuts and kernels.

In 2020, 52% of Colombia's total production of crude palm oil was destined for the domestic market and 48% for international exports, as demonstrated in section 3.3. In 2020, around 28% (429,653 MT out of 1,559,011 MT) of Colombia's palm oil production was imported by the EU. In 2021, this dropped to 14% (241,710 MT out of 1,747,000 MT). Of the 2021 imports of Colombian palm oil and palm oil products to the EU, 42% was destined for the Netherlands, 30% to Spain and 24% to Italy.

A related key finding in section 3.4, on the consumption side was that EU imported volumes of Colombian palm oil dropped considerably since 2020. The main reason seems to be that **exporting to the EU has become less attractive for Colombian palm oil producers, since the government is promoting palm oil production for the domestic market.**

Favourable Colombian government policies (temporarily) promoted the increased use of palm oil for biodiesel blends. Moreover, **anticipated EU import restrictions**, for instance the phasing out until 2030 of palm oil for use in biodiesel production under the RED II [156] and the upcoming EU Deforestation Regulation, may discourage EU imports of palm oil from Colombia. By contrast, recent EU imported economic values of Colombian palm oil did not follow the drop in imported volumes, but remained relatively stable, or even increased, linked to the mounting global prices for palm oil and palm oil products that will likely continue to rise.

6.2 Conclusions on supply chain actors

As shown in chapter 4, from 2017 through 2021, Grupo Biocosta (CO), Acepalma (CO), Cargill (USA), Daabon Group (CO) and Thin Oil Products (USA) were reportedly the **five major suppliers** of Colombian palm oil to predominantly Europe and Latin America. The main recipient EU countries of Colombian palm oil are the Netherlands, Spain and Italy. Cargill de Colombia, Daabon group (Tequendama), Biocosta and Indutrade supply to all three of them.

When focusing solely on Colombian exports to the EU to the top-3 recipient countries, the most important buyers for the Netherlands were Cargill, Wilmar, Bunge, Olenex, Daabon, Global Organic and Pasternak, Baum & Co. Similarly, Unigra, Golden Agri and Pasternak, Baum & Co were the main buyers for Italy, while LDC, Lipidos, Thin Oils and Golden Agri were the main buyers for Spain. Although several buyers, such as Cargill and Unigra, publish a mill list, which enhances transparency in the value chain, others do not publish such lists, making it challenging to identify the mills with which they are associated in Colombia. For example, customers of biofuels and power generation, do not publish palm oil mill lists. Considering the increased focus on the biofuel markets, these are important stakeholders not covered in this study. **Based on our research, it can be concluded that increased transparency in the value chain is essential, and mill lists, and supply chain transparency up to the level of the plantation, play a vital role in achieving this goal.**

The master table on palm oil mills linked to buyers (annex 1) provides indications on end-users and consumers of Colombian palm oil. FMCG companies that source and use Colombian palm oil for food products and cosmetics include Colgate, Danone, Ferrero, Friesland Campina, General Mills, Grupo Bimbo, Hershey, Kellogg's, L'Oréal, Mars, Mondelez, Nestle and others.

Colombian palm oil is a front runner in the Latin American sustainable oil palm market, with 28% of its production volume certified as sustainable, surpassing major producers Indonesia and Malaysia. The country's commitment to the Zero Deforestation Agreement and adoption of strict principles for sustainable production showcase its dedication to environmental preservation. Collaborative efforts with international and national partners further reinforce Colombia's leadership in promoting and producing certified sustainable palm oil. Colombia should seize the opportunity to increase its ambition for the domestic palm oil market, promoting even higher levels of sustainable practices and taking full responsibility for mitigating the landscape impacts of palm oil expansion.

[156] European Commission. Renewable energy directive. [Link to website](#).

6.3 Conclusions on case studies

This report has analysed six cases that were selected based on several risk criteria, including the possible presence of deforestation or fires and other native vegetation conversion, as well as the proximity to the deforestation frontier, Indigenous territories or national reserves. Other criteria were whether the identified palm oil mills were connected to pollution of nearby waterways and rivers, controversial land deals, RSPO complaints and other social issues.

Impact on environmental human rights

The six case studies show that some of the palm oil flows entering the EU market may potentially be linked to environmental human rights risks. These palm plantations have reportedly led to environmental damage to watersheds on which communities depend. Additionally, the expansion of palm plantations over the last 20 years has reportedly led to forced or unfair land deals in the past.

Potential indirect land use change risk

The combination of the continuous increase in palm oil plantations over former cattle pastures, the fact that high deforestation rates are caused mainly by cattle ranching and the various palm oil mills near the deforestation frontier of Colombia, suggest that palm oil expansion might have an indirect role in pushing the deforestation frontier. Due to the plans to further expand palm oil cultivation, areas that are currently pastures for cattle may be overtaken by oil palm plantations in the future, as has happened in the past. This indicates a potential risk for indirect land use change (ILUC) in Colombia.

Since ILUC is a complex dynamic, which varies across countries, further independent research and data are needed to determine if there is a correlation between palm oil expansion and deforestation in Colombia. A specific ILUC strategy should be adopted to mitigate these risks. This is especially important when you consider the aim to grow the palm oil sector and that at least 5.2 million hectares is seen as highly suitable for palm oil cultivation in Colombia.

The case studies conducted on the transition zone between the Amazon and the Orinoquia have primarily impacted natural savannah ecosystems and, to a much lesser extent, forest ecosystems. This finding aligns with a 2017 study [157], based on 2014 MODIS satellite maps, that reported only 9% (12,474 ha) of oil palm expansion in Colombia is replacing forest at the country level. However, palm plantations located in savannah areas affect river basins and drainage, disrupting functional connectivity by impeding the flow of water and the continuity of gallery or riparian forests.

These impacts affect the quantity and quality of water and other resources available to local communities and biodiversity that depend on them. Of particular concern is the impact on the Caño Pororio in the southern region of Meta, where palm plantations have disrupted its natural course. This situation indicates that the plantation model employed in the area needs to consider the protection zones of rivers and streams.

[157] Furumo, R. P. and Aide, T.M. (2017). Characterizing commercial oil palm expansion in Latin America: land use ... [Link to article](#).

Conflict dynamics

Other relevant finding from the case studies is that in some cases oil palm expansion in Colombia is in the near proximity to conflict dynamics. Operating in such a landscape increases the risk that palm oil production can be connected to severe negative social impacts.

Nevertheless, no evidence was found to conclude that palm oil plantations are the cause of these conflict dynamics. The fact that palm cultivation is in some cases in proximity to illicit crops, could possibly also be explained by the Colombian government promoting palm oil as a product substituting illicit crops. This approach by the government has shown challenges related to proper environmental management, phytosanitary difficulties, pressure exerted by some actors on land tenure and labour conditions.

We can conclude that having mills in areas with conflict dynamics demands heightened scrutiny from auditors to prevent environmental or human rights violations. However, due to their location in regions beset by security concerns, these mills are sometimes inaccessible to auditors and other independent (civil society) parties tasked with verifying and improving compliance. This, lack of independent monitoring in turn, results in persistent risks of non-compliant palm oil entering the value chain with respect to EU regulations.



Photo: © FCDS

7 RECOMMENDATIONS

Many commodities that are under the scope of the EU Deforestation Regulation are cultivated in landscapes where environmental and social risks are present. The case studies in this report show this is also happening in Colombia. In some cases, we found ecosystem degradation or conversion, among others affecting water sources. In addition, there are several links with environmental human rights risks in the case studies. There also may be a risk that the rapid increase of palm oil plantations potentially competes with other land uses, such as cattle ranching, thereby potentially contributing to indirect land use change (ILUC) as the cattle frontier moves forward.

Palm oil can have a positive local impact in Colombia, under the condition of full transparency, continuation of the sectors' zero deforestation policy, measures and investments to protect other ecosystems, an ILUC strategy, a common environmental human rights vision and further collaboration among actors to enable sustainable palm oil production and trade. We found that there are already several initiatives of actors in the palm oil sector working on part of these recommendations.

We recommend further support to efforts for supply chain transparency up to the level of the plantation. Additionally, Colombia and the EU could increase resources to environmental and human rights protection in environmental and social risk areas. We also recommend to identify areas unsuitable for sustainable production due to their highly socially and environmentally vulnerable context, especially if located near protected areas and Indigenous territories. Finally, we encourage palm oil companies to (further) invest in transparency, and in cooperation with local Indigenous groups and civil society organisations. Please find our specific recommendations below.

7.1 Recommendations to policy makers in the EU

1. EU and its member states must allocate sufficient resources for nature conservation and environmental human rights measures in productive landscapes with environmental and social risks. They should avoid relying solely on EU traceability requirements, which might indirectly promote the abandonment of areas of concern. This contributes to achieving a genuine effect on the ground through the implementation of the EU Deforestation Regulation and flanking measures such as through partnerships in vulnerable and biodiversity rich areas. Given that similar legislative efforts are also underway in the UK and US, there may be opportunities for resource-sharing and collaboration in addressing risks in specific landscapes. However, some conflict-sensitive areas in the Amazon, if located nearby protected areas and Indigenous territories, may present too many social or environmental risks to be suitable for palm oil expansion, as it may increase risk.

2. It is imperative for the EU to maintain its support for - and collaboration with - civil society organisations and multi-stakeholder sustainable palm oil initiatives, as well as enhance the capacity of local authorities to implement the EUDR and beyond. This is important to bolster

civil society and investigative journalism initiatives that aim to increase the traceability and landscape governance of palm oil, as their independent views and investigations play a pivotal role in a sustainable Colombian palm oil sector.

3. Expand the scope of the EU Deforestation Regulation to encompass additional ecosystems beyond forests. While the direct impact of palm oil production is currently primarily on natural savannas and waterways in Colombia, the clearance of these areas may be promoting the encroachment of cattle into forest ecosystems. Excluding the encroachment of the products in the EUDR's scope into "other ecosystems", such as Other Wooded Lands (including savannas), in the regulation, could benefit forests as well. Furthermore, such other ecosystems may contain important biodiversity and can play an important role in providing ecosystem services.

4. Ensure that the European Directive on Corporate Sustainability Due Diligence adheres, at a minimum, to the OECD Guidelines and the UN Guiding Principles on Business and Human Rights (UNGPs), with a specific focus on environmental due diligence. Some of the findings of the six case studies suggest there is a need to regulate environmental human rights due diligence in relation to the Colombian palm oil supply chain, in addition to EU deforestation legislation. This should be followed by ensuring that national mandatory human rights due diligence legislation in EU importing countries, including the Netherlands, Spain and Italy, is likewise in alignment with the OECD Guidelines and UNGPs. This should include environmental due diligence and sufficient scope to cover all companies in the palm oil value chain regardless of size and turnover.

5. Indirect Land Use Change risks in relation to the Colombian Palm oil sectors should be further studied. Given the complex and dynamic nature of ILUC, which varies across countries, further independent research and data are needed to determine if there is a correlation between palm oil expansion and deforestation in Colombia. A specific ILUC strategy could be adopted to mitigate these risks, especially when you consider the aim to grow the palm oil sector on current pasture land for cattle ranching and that cattle ranching is the major deforestation driver in Colombia.

7.2 Recommendations to private sector actors in the EU

1. Businesses in the palm oil sector, including financial companies, should identify and report on deforestation and ecosystem conversion risks and human rights risks and do all they can to prevent them. To address this challenge, companies must have proper due diligence policies, engage external independent auditors and disclose data regarding the actors involved in their value chain (including plantations, mills, traders and financiers).

2. Oil palm mills should require active conservation and restoration measures at and around the plantations they source from. This should include conserving and restoring high conservation value areas, such as riverine forest, forest corridors and natural savannas with native plant species, as well as avoiding any illegal hunting and fishing activities.

3. More research needs to be done on the gap between the value of palm oil exports reported and the value of imports reported by Colombia's trading partners, because of important money laundering risks. Such research can contribute to avoiding distorting the taxable base of the transactions, and the occurrence of illicit financial flows.

4. Businesses should take responsibility, together with governmental institutions, in developing and implementing workable solutions and scaling up of robust transparency and traceability mechanisms for palm oil, but also cattle, in Colombia. This should also include landscape-wide governance measures to avoid the deforestation frontier and human rights violations to move further on, and would be most effective in cooperation with communities, local expert civil society organisations, local governments and multi-stakeholder initiatives, such as RSPO.

5. European palm oil buying companies should especially be aware of and act upon the fact that they source from palm oil mills in close proximity (less than 25-50 km) to Colombia's main deforestation frontier, protected areas and Indigenous territories. It should be recognised that expanding oil palm plantations near protected areas and Indigenous territories can have (unintended) effects on the environmental services and cultural cohesion of these important areas.

6. Having mills in areas with security issues, for example close to land conflicts and illicit crop production, requires much more attention from (RSPO and EU compliance) auditors to ensure no environmental or human rights violations take place. In case of non-compliance followed by the inability of auditors to reach the area, there should be consequences for the mills by traders supplying to the EU.

7.3 Recommendations to policy makers in Colombia

1. The Colombian government should take the lead in facilitating the conditions to comply with EU regulations, motivated by the opportunity these regulations represents and that they support existing national development plans and regulations. This is important to prepare the Colombian productive sector that will be affected by the new European regulations, but above all by its own interest in stopping deforestation to comply with national and Amazonian plans to avoid the point of no return for the Amazon.

2. Implement more stringent monitoring of legislation and practices at national level in Colombia throughout the different stages of the palm oil supply chain to ensure complete traceability of the products. As the report shows, 52% of the palm oil has been consumed in the domestic Colombian market in 2020. It is therefore important to ensure that there is less tax evasion and human rights regulations and environmental standards are met and upheld both for both the domestic market and international market.

3. Collaborate and engage with Indigenous peoples and local community organisations through inclusive, transparent and participatory dialogues. As they can provide significant support in improving landscape governance, understanding palm oil traceability, and in establishing monitoring systems in specific contexts. This can help in implementing EU regulation within all actors of the supply chain.

4. Advance the national process of zoning for palm oil production in order to determine the ecological and environmental human rights suitability of different areas. This step will allow for greater balance in areas that may be suitable for agricultural activities and is expected to protect the Amazonian ecosystems, including natural forest and non-forest vegetation cover, with appropriate management and land use.

7.4 Recommendations to private sector actors in Colombia

1. Further uphold and invest in the Zero Deforestation Agreement of the sector, and consider to go beyond to no ecosystem conversion, including riparian and savannah vegetation. This will also be a positive asset if the EUDR would start to include other wooded lands and other ecosystems.

2. Adhere to current international environmental good practice, in addition to national environmental regulations and human rights norms. This includes no environmental degradation, no planting near or in buffer zones of water sources, no burning and no conversion of savannas for other forms of land use. Colombia already has a relatively high percentage of (RSPO-) certified palm oil, which can further increase to include a wider area of verified responsible production, also for domestic and regional markets.

3. Further strengthen current national and international initiatives to achieve full value chain traceability, attaining full transparency of the palm oil chain in the stage before the processing plants. This is key, not only for the EU market, but also to further strengthen land governance in the palm oil and other agro-sectors.

4. Actively mitigate potential social and environmental risks in case of palm oil mills in close proximity (less than 25-50 km) to Colombia's main deforestation frontier and Indigenous territories, by actively monitoring and supporting these landscapes and communities with sustainable development and conservation measures.

5. Promote the exchange of ideas and practices among producers, government, civil society and consumers groups of palm oil-derived products in Colombia. This contributes to increasingly finding joint practices for landscape governance respecting the environmental rights of local communities and reducing indirect land use change, while improving conservation efforts. It also strengthens the positive potential contribution of palm oil to labour opportunities and economic development.

6. Include actions for recovering and restoring affected natural areas in farm management practices. This includes, for example, addressing deterioration and environmental loss due to the presence of palm trees planted along the river banks. Riparian vegetation serves an important water and soil conservation function and helps the crucial connectivity of ecosystems.

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Annex 1

This annex presents 81 Colombian palm oil mills linked to company groups and their respective connections to 39 buyer companies displayed in this series of tables. Both company groups and buyers appear in tables in alphabetical order. The symbol “?” indicates that it is not certain whether a buyer company is linked to the company group in question. More details on social and environmental issues linked to each mill -if available- can be obtained from the contact persons of this report.

Structure of these 15 tables: Together with their respective buyers’ base in alphabetical order, palm oil mill **company groups 1 to 18** are presented in **tables 1, 2, and 3**, palm oil mill **company groups 19 to 37** are presented in **tables 4, 5, and 6**, palm oil **company groups 38 to 53** are presented in **tables 7, 8, and 9**, palm oil **company groups 54 to 70** are presented in **tables 10, 11, and 12**, and palm oil **company groups 71 to 81** are presented in **tables 13, 14, and 15**.

Table 1

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	AAK	ACEPALMA	ADM	AVON	BASF	BUNGE	CARGILL	COFCO	COLGATE	DIABON	DANONE	FERRERO	FRIESLAND	FUJI OIL
1. Aceites del Magdalena Medio	Aceites del Magdalena Medio S.A.S.	Santander	6,845	-73,745	Not available	-	No buyers reported on this mill													
2. Aceites Del Vichada	Aceites Del Vichada	Vichada	5,169	-70,409	Not available	-	X		X											
3. Aceites Morichal	Aceites Morichal S.A.S.	Meta	3,930	-73,243	PO1000003988	-	X		X								X			X
4. Agroince	Agroindustrias del Sur del Cesar Ltda. y Cía., Agroince	Cesar	8,111	-73,574	PO1000007434	RSPO	X		X				X			X	X			X
5. Agropecuaria La Rivera	Agropecuaria La Rivera	-	4,3143	-72083	Not available		X		X											
6. Agropecuaria La Rivera Gaitán	Agropecuaria La Rivera Gaitán S.A.S.	Meta	3,410	-73,750	PO1000003980				X				X							
7. Agropecuaria Santa Maria	Planta Extractora Aceites Cimarrones S.A.S ZFPEA	Meta	3,035	-73,111	PO1000003979	ISCC, RSPO	X	X	X		X		X		X		X		X	X
8. Agropecuaria Santa Maria	Agropecuaria Santa Maria S.A. / San Martin	Meta	3,516	-73,558	PO1000003981	ISCC, RSPO	X	X	X		X	X	X				X	X	X	X
9. Agropecuaria Santa Maria	Extractora Cimarrón S.A.S.	Meta	4,292	-73,044	PO1000006349				X											
10. AGROVICMART	AGROVICMART	Casanare	4,978	-72,616	Not available															
11. Alianza del Humea/ Inparme	Alianza Del Humea S.A.S.	Meta	4,268	-72,980	PO1000006178		X		X				X				X			X
12. Biocastilla	Biocastilla S.A.	Meta	3,821	-73,532	PO1000008410															
13. Bioplanta Palmera Para El Desarrollo	Bioplanta Palmera para el Desarrollo S.A. - BPD	Antioquia	7,567	-76,612	PO1000007483	ISCC	X		X											
14. Braganza S.A.S. / Abago	Braganza S.A.S.	Meta	4,285	-72,133	PO1000008347		X		X								X			X
15. C.I Biocosta	Palmagro S.A.	Cesar	9,652	-73,566	PO1000004025		X		X							X	X			
16. C.I Biocosta	Aceites S.A.	Magdalena, El Reten	10,568	-74,208	PO1000008385	ISCC, RSPO	X	X	X		X		X	X		X	X		X	X
17. C.I Biocosta	Palmaceite S.A.	Magdalena	10,619	-74,169	PO1000004029	ISCC, RSPO	X	X	X	X	X	X	X	X		X	X	X	X	X
18. C.I Biocosta	Extractora el Roble S.A.S., Extrarsa	Magdalena	10,671	-74,215	PO1000004030	ISCC, RSPO	X	X	X	X	X	X	X	X			X	X	X	X

Table 2

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certificatio n	GENERAL MILLS	GRUPO BIMBO	HERSHEY	INDUTRADE	JOHNSON N JOHNSON	KELLOGG	KLK OLEO	LDC	LIPIDOS	L'OREAL	MARS	MONDELEZ	NESTLE	NISSHIN
1. Aceites del Magdalena Medio	Aceites del Magdalena Medio S.A.S.	Santander	6,845	-73,745	Not available	-	No buyers reported on this mill													
2. Aceites Del Vichada	Aceites Del Vichada	Vichada	5,169	-70,409	Not available	-							X	X	X					X
3. Aceites Morichal	Aceites Morichal S.A.S.	Meta	3,930	-73,243	PO1000003988	-	X	X			X		X					X	X	
4. Agroince	Agroindustrias del Sur del Cesar Ltda. y Cía., Agroince	Cesar	8,111	-73,574	PO1000007434	RSPO	X	X			X									
5. Agropecuaria La Rivera	Agropecuaria La Rivera	-	4,3143	-72083	Not available		X													
6. Agropecuaria La Rivera Gaitán	Agropecuaria La Rivera Gaitán S.A.S.	Meta	3,410	-73,750	PO1000003980		X	X				X	X					X	X	
7. Agropecuaria Santa Maria	Planta Extractora Aceites Cimarrones S.A.S ZFPEA	Meta	3,035	-73,111	PO1000003979	ISCC, RSPO	X	X		X	X	X	X		X			X	X	X
8. Agropecuaria Santa Maria	Agropecuaria Santa Maria S.A. / San Martin	Meta	3,516	-73,558	PO1000003981	ISCC, RSPO	X	X			X	X	X	X	X			X	X	X
9. Agropecuaria Santa Maria	Extractora Cimarrón S.A.S.	Meta	4,292	-73,044	PO1000006349			X			X		X					X		
10. AGROVICMART	AGROVICMART	Casanare	4,978	-72,616	Not available							X								
11. Alianza del Humea/ Inparme	Alianza Del Humea S.A.S.	Meta	4,268	-72,980	PO1000006178		X	X			X	X	X	X	X			X	X	X
12. Biocastilla	Biocastilla S.A.	Meta	3,821	-73,532	PO1000008410			X												
13. Bioplanta Palmera Para El Desarrollo	Bioplanta Palmera para el Desarrollo S.A. - BPD	Antioquia	7,567	-76,612	PO1000007483	ISCC	X	X			X		X	X				X	X	
14. Braganza S.A.S. / Abago	Braganza S.A.S.	Meta	4,285	-72,133	PO1000008347		X	X		X	X	X						X	X	
15. C.I Biocosta	Palmagro S.A.	Cesar	9,652	-73,566	PO1000004025		X	X			X	X	X					X		
16. C.I Biocosta	Aceites S.A.	Magdalena, El Reten	10,568	-74,208	PO1000008385	ISCC, RSPO	X	X		X	X	X	X	X	X			X	X	X
17. C.I Biocosta	Palmaceite S.A.	Magdalena	10,619	-74,169	PO1000004029	ISCC, RSPO	X	X		X	X	X	X	X	X	X	X	X	X	X
18. C.I Biocosta	Extractora el Roble S.A.S., Extrarsa	Magdalena	10,671	-74,215	PO1000004030	ISCC, RSPO	X	X		X	X	X	X	X	X	X		X	X	X

Table 3

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	OLAM	OLENEX	OLEON	PEPSICO	PZ CUSONS	RECKITT BENCKISER	SIME DARBY	UNIGRA	UNILEVER	UPFIELD	VANDEMOORTELT
1. Aceites del Magdalena Medio	Aceites del Magdalena Medio S.A.S.	Santander	6,845	-73,745	Not available	-	No buyers reported on this mill										
2. Aceites Del Vichada	Aceites Del Vichada	Vichada	5,169	-70,409	Not available	-	X	X	X								
3. Aceites Morichal	Aceites Morichal S.A.S.	Meta	3,930	-73,243	PO1000003988	-	X	X	X	X	X	X			X	X	X
4. Agroince	Agroindustrias del Sur del Cesar Ltda. y Cía., Agroince	Cesar	8,111	-73,574	PO1000007434	RSPO											
5. Agropecuaria La Rivera	Agropecuaria La Rivera	-	4,3143	-72083	Not available												
6. Agropecuaria La Rivera Gaitán	Agropecuaria La Rivera Gaitán S.A.S.	Meta	3,410	-73,750	PO1000003980			X	X	X					X		X
7. Agropecuaria Santa Maria	Planta Extractora Aceites Cimarrones S.A.S ZFPEA	Meta	3,035	-73,111	PO1000003979	ISCC, RSPO	X	X	X	X	X	X	X	X	X	X	X
8. Agropecuaria Santa Maria	Agropecuaria Santa Maria S.A. / San Martín	Meta	3,516	-73,558	PO1000003981	ISCC, RSPO	X	X	X	X	X	X	X		X	X	X
9. Agropecuaria Santa Maria	Extractora Cimarrón S.A.S.	Meta	4,292	-73,044	PO1000006349			X	X			X			X		
10. AGROVICMART	AGROVICMART	Casanare	4,978	-72,616	Not available										X		X
11. Alianza del Humea/ Inparme	Alianza Del Humea S.A.S.	Meta	4,268	-72,980	PO1000006178		X	X	X	X	X	X	X		X	X	X
12. Biocastilla	Biocastilla S.A.	Meta	3,821	-73,532	PO1000008410												
13. Bioplanta Palmera Para El Desarrollo	Bioplanta Palmera para el Desarrollo S.A. - BPD	Antioquia	7,567	-76,612	PO1000007483	ISCC		X	X	X	X	X			X	X	X
14. Braganza S.A.S. / Abago	Braganza S.A.S.	Meta	4,285	-72,133	PO1000008347		X	X	X						X	?	X
15. C.I Biocosta	Palmagro S.A.	Cesar	9,652	-73,566	PO1000004025		X	X	X	X		X			X	X	X
16. C.I Biocosta	Aceites S.A.	Magdalena, El Reten	10,568	-74,208	PO1000008385	ISCC, RSPO	X	X	X	X	X	X			X	X	X
17. C.I Biocosta	Palmaceite S.A.	Magdalena	10,619	-74,169	PO1000004029	ISCC, RSPO	X	X	X	X	X	X	X		X	X	X
18. C.I Biocosta	Extractora el Roble S.A.S., Extrarsa	Magdalena	10,671	-74,215	PO1000004030	ISCC, RSPO	X	X	X	X	X	X	X	X	X	X	X

Table 4

Companies **19 to 37** are presented in **tables 4, 5, and 6**, together with their respective buyers' base, and the remaining companies follow in a similar set of tables.

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	AAK	ACEPALMA	ADM	AVON	BASF	BUNGE	CARGILL	COFCO	COLGATE	DAABON	DANONE	FERRERO	FRIESLAND CAMP	FUJI OIL
19. C.I Biocosta	Extractora Frupalma S.A.	Magdalena	10,705	-74,195	PO1000004031	ISCC	X		X								X			X
20. CI Top	Nutrimexclas Y Aceites S.A.S.	Santander	7,253	-73,566	PO1000007666		X		X			X	X				X			X
21. CI Top	Palmeiras Colombia S.A.	Nariño	1,459	-78,687	PO1000010950	ISCC	X		X											
22. Cooperativa Palmas De Risaralda	Cooperativa Palmas Risaralda Ltda. - Cooper	Norte de Santander	8,203	-72,549	PO1000004019		X		X											X
23. Cosargo / Numar Group	Industrial Aceitera de Casanare S.A.S.	Casanare	5,088	-71,960	PO1000008301		X		X			X	X				X			X
24. Daabon Group	Palmas y Trabajo S.A.S./ Palmatra	Santander	7,238	-73,799	PO1000006312	RSPO, ORGANIC, FAIRTRADE	X		X							X		X		
25. Daabon Group	C.I. Tequendama S.A.S	Magdalena	10,549	-74,181	PO1000000123	RSPO, RAS, ORGANIC, FAIRTRADE	X		X	X	X	X	X			X	X	X	X	X
26. Entrepalmas	Entrepalmas S.A.S.	Meta	3,566	-73,580	PO1000003983	RSPO, ISCC	X	X	X		X	X	X		X		X	X	X	
27. Extractora Central	Extractora Central S.A	Santander	7,281	-73,617	PO1000004010	ISCC	X		X						X		X			X
28. Extractora del Sur de Casanare	Extractora del Sur de Casanare S.A.S., Surpia S.A.S	Casanare	4,493	-72,844	PO1000003177	RSPO, ISCC	X	X	X	X	X	X	X	X	X		X			X
29. Extractora El Estero	Extractora El Estero S.A.S.	Casanare	3,501583	-73.558333	Not available		X		X											
30. Extractora Grupalma	Extractora Grupalma S.A.S.	Bolivar	8,668	-73,838	PO1000008330		X		X								X			X
31. Extractora La Bella	Extractora La Bella S.A.S.	Magdalena	10.770736	-74.177983	PO1000004033		X		X											
32. Extractora Monterrey	Extractora Monterrey S.A.	Santander	7,299	-73,884	PO1000004012	RSPO, ISCC	X		X			X	X				X			X
33. Extractora Santafe	Extractora Santafe S.A.S.	Nariño	1,481	-78,662	PO1000008288		X		X											
34. Gradesa	Grasas y Derivados S.A., Gradesa	Magdalena	11,002	-74,219	PO1000004034															
35. Grupo Agroindustrial Hacienda La Gloria	Extractora La Gloria S.A.S	Cesar	8,616	-73,684	PO1000004753		X		X							X	X			X
36. Guaicaramo / Inparme	Guaicaramo S.A.S.	Meta	4,479	-72,961	PO1000004751	RSPO, ISCC	X		X		X	X	X		X		X			X
37. Hacienda la Cabaña/ Inparme	Hacienda La Cabaña S.A.	Meta	4,302	-73,356	PO1000003999	RSPO	X	X	X	X	X						X			X

Table 5

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	GENERAL MILLS	GRUPO BIMBO	HERSHEY	INDUTRADE	JOHNSON N JOHNSON	KELOGG	KIK OLEO	LDC	LIPIDOS	L'OREAL	MARS	MONDELEZ	NESTLE	NISSIN
19. C.I Biocosta	Extractora Frupalma S.A.	Magdalena	10,705	-74,195	PO1000004031	ISCC	X	X			X		X					X		
20. CI Top	Nutrimezclas Y Aceites S.A.S.	Santander	7,253	-73,566	PO1000007666		X	X	X		X	X	X	X	X			X	X	
21. CI Top	Palmeiras Colombia S.A.	Nariño	1,459	-78,687	PO1000010950	ISCC	X	X						X	X				X	
22. Cooperativa Palmas De Risaralda	Cooperativa Palmas Risaralda Ltda. - Coopar	Norte de Santander	8,203	-72,549	PO1000004019		X	X			X	X	X					X	X	
23. Cosargo / Numar Group	Industrial Aceitera de Casanare S.A.S.	Casanare	5,088	-71,960	PO1000008301		X	X			X	X	X	X	X			X	X	X
24. Daabon Group	Palmas y Trabajo S.A.S./ Palmatra	Santander	7,238	-73,799	PO1000006312	RSPO, ORGANIC, FAIRTRADE	X	X				X						X	X	
25. Daabon Group	C.I. Tequendama S.A.S	Magdalena	10,549	-74,181	PO1000000123	RSPO, RAS, ORGANIC, FAIRTRADE	X	X	X		X	X	X	X	X			X	X	
26. Entrepalmas	Entrepalmas S.A.S.	Meta	3,566	-73,580	PO1000003983	RSPO, ISCC	X	X			X	X	X	X	X		X	X	X	
27. Extractora Central	Extractora Central S.A	Santander	7,281	-73,617	PO1000004010	ISCC	X	X			X	X	X	X	X			X		X
28. Extractora del Sur de Casanare	Extractora del Sur de Casanare S.A.S., Surpia S.A.S	Casanare	4,493	-72,844	PO1000003177	RSPO, ISCC	X	X			X	X	X	X	X	X		X	X	X
29. Extractora El Estero	Extractora El Estero S.A.S.	Casanare	3.501583	-73.558333	Not available		X							?						
30. Extractora Grupalma	Extractora Grupalma S.A.S.	Bolivar	8,668	-73,838	PO1000008330		X	X			X	X	X					X	X	
31. Extractora La Bella	Extractora La Bella S.A.S.	Magdalena	10.770736	-74.177983	PO1000004033		X	X												
32. Extractora Monterrey	Extractora Monterrey S.A.	Santander	7,299	-73,884	PO1000004012	RSPO, ISCC	X	X	X		X	X	X	X	X			X	X	
33. Extractora Santafe	Extractora Santafe S.A.S.	Nariño	1,481	-78,662	PO1000008288		X	X					X		X				X	
34. Gradesa	Grasas y Derivados S.A., Gradesa	Magdalena	11,002	-74,219	PO1000004034			X												
35. Grupo Agroindustrial Hacienda La Gloria	Extractora La Gloria S.A.S	Cesar	8,616	-73,684	PO1000004753		X	X			X	X	X					X	X	
36. Guaicaramo / Inparme	Guaicaramo S.A.S.	Meta	4,479	-72,961	PO1000004751	RSPO, ISCC	X	X	X		X		X	X	X			X		X
37. Hacienda la Cabaña/ Inparme	Hacienda La Cabaña S.A.	Meta	4,302	-73,356	PO1000003999	RSPO	X	X		X	X	X	X	X	X			X	X	

Table 6

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	OLAM	OLENEX	OLEON	PEPSICO	PZ CUSONS	RECKITT BENCKISER	SIME DARBY	UNIGRA	UNILEVER	UPFIELD	VANDEMOORTELT
19. C.I Biocosta	Extractora Frupalma S.A.	Magdalena	10,705	-74,195	PO1000004031	ISCC	X	X	X	X	X	X			X	X	X
20. CI Top	Nutrimezclas Y Aceites S.A.S.	Santander	7,253	-73,566	PO1000007666		X	X	X	X	X	X			X	X	X
21. CI Top	Palmeiras Colombia S.A.	Nariño	1,459	-78,687	PO1000010950	ISCC		X	X	X					X		X
22. Cooperativa Palmas De Risaralda	Cooperativa Palmas Risaralda Ltda. - Coopar	Norte de Santander	8,203	-72,549	PO1000004019		X	X	X	X					X	X	X
23. Cosargo / Numar Group	Industrial Aceitera de Casanare S.A.S.	Casanare	5,088	-71,960	PO1000008301		X	X	X	X	X	X	X	X	X	X	X
24. Daabon Group	Palmas y Trabajo S.A.S./ Palmatra	Santander	7,238	-73,799	PO1000006312	RSPO, ORGANIC, FAIRTRADE				X					X	X	X
25. Daabon Group	C.I. Tequendama S.A.S	Magdalena	10,549	-74,181	PO1000000123	RSPO, RAS, ORGANIC, FAIRTRADE	X	X	X	X	X	X			X	X	
26. Entrepalmas	Entrepalmas S.A.S.	Meta	3,566	-73,580	PO1000003983	RSPO, ISCC	X	X	X	X	X	X	X	X	X	X	X
27. Extractora Central	Extractora Central S.A	Santander	7,281	-73,617	PO1000004010	ISCC	X	X	X	X	X	X			X	X	X
28. Extractora del Sur de Casanare	Extractora del Sur de Casanare S.A.S., Surpia S.A.S	Casanare	4,493	-72,844	PO1000003177	RSPO, ISCC	X	X	X	X	X	X			X		X
29. Extractora El Estero	Extractora El Estero S.A.S.	Casanare	3.501583	-73.558333	Not available											X	
30. Extractora Grupalma	Extractora Grupalma S.A.S.	Bolivar	8,668	-73,838	PO1000008330		X	X	X	X	X	X			X	X	X
31. Extractora La Bella	Extractora La Bella S.A.S.	Magdalena	10.770736	-74.177983	PO1000004033											X	
32. Extractora Monterrey	Extractora Monterrey S.A.	Santander	7,299	-73,884	PO1000004012	RSPO, ISCC	X	X	X	X	X	X	X	X	X	X	X
33. Extractora Santafe	Extractora Santafe S.A.S.	Nariño	1,481	-78,662	PO1000008288			X	X	X						X	X
34. Gradesa	Grasas y Derivados S.A., Gradesa	Magdalena	11,002	-74,219	PO1000004034												X
35. Grupo Agroindustrial Hacienda La Gloria	Extractora La Gloria S.A.S	Cesar	8,616	-73,684	PO1000004753		X	X	X	X	X	X			X	X	X
36. Guaicaramo / Inparme	Guaicaramo S.A.S.	Meta	4,479	-72,961	PO1000004751	RSPO, ISCC	X	X	X	X	X	X	X	X	X	X	X
37. Hacienda la Cabaña/ Inparme	Hacienda La Cabaña S.A.	Meta	4,302	-73,356	PO1000003999	RSPO	X	X	X	X	X	X			X	X	X

Table 7

Companies **38 to 53** are presented in **tables 7, 8, and 9**, together with their respective buyers' base, and the remaining companies follow in a similar set of tables.

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	AAK	ACEPALMA	ADM	AVON	BASF	BUNGE	CARGILL	COFCO	COLGATE	DAABON	DANONE	FERRERO	FRIESLAND CAMP	FUII OIL
38. Indupalma / Grupo Grasco	Procesadora de Aceite Oro Rojo Ltda.	Santander	7,376	-73,569	PO1000006313		X		X								X			X
39. Indupalma / Grupo Grasco	Industrial Agraria La Palma S.A.	Cesar	7,707	-73,456	PO1000001423					X										
40. Indutrade	C.I Indutrade Colombia S.A.S	Cesar (La Paz)	10.378505	-73.178216	Not available		X		X											
41. Inversiones La Mejorana	Inversiones La Mejorana S.A.S.	Meta	3,962	-73,629	PO1000003990		X		X			X					X			X
42. Inversora La Paz	Inversora La Paz S.A.S.	Meta	3,711	-73,272	PO1000003985		X		X			X	X				X			X
43. Itacol	Extractora San Sebastiano S.A.S.	Meta	4,099	-71,916	PO1000007639		X		X						X		X			X
44. Manuelita Aceites Y Energia	Aceites Manuelita S.A. / Yaguarito	Meta	3,882	-73,342	PO1000005117	RSPO, ISCC	X	X	X	X	X		X	X	X		X			X
45. Manuelita Aceites Y Energia	Aceites Manuelita S.A. / Manavire	Meta	3,938	-73,366	PO1000008253	RSPO, ISCC			X								X			
46. Manuelita Aceites Y Energia	Palmar de Altamira S.A.S.	Casanare	4,751	-71,682	PO1000004007	RSPO	X	X	X				X		X		X			X
47. Negocios del Llano	Negocios del Llano S.A.S. - ZOMAC	Casanare	4,978	-72,616	PO1000010800															
48. Oilsum Group	Extractora San Fernando	Santander	7,265	-73,556	Not available		X		X			X								
49. Oilsum Group	Extractora Loma Fresca Sur de Bolívar S.A.S.	Bolivar	7,528	-73,937	PO1000010886		X		X			X	X			X				X
50. Oilsum Group	Extractora San Fernando SA	Santander	7,19600/ 7.19161	-73,56180/ - 73.5612	Not available				X				X							
51. Oilsum Group	Palmicultores del Norte S.A.S. / Palnorte	Norte de Santander	8,535	-72,636	PO1000007531		X		X			X	X			X				X
52. Oilsum Group	Extractora Sicarare S.A.S.	Cesar	9,932	-73,263	PO1000004026	RSPO	X	X	X		X	X	X		X		X	X	X	X
53. Oleaginosas del Norte de Santander	Oleaginosas del Norte de Santander S.A.S. - Oleonorte S.A.S.	Norte de Santander, San José de Cúcuta	8,202	-72,551	Not available				X			X	X							

Table 8

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	GENERAL MILLS	GRUPO BIMBO	HERSHEY	INDUTRADE	JOHNSON N JOHNSON	KELLOGG	KIK OLEO	LDC	LIPIDOS	L'OREAL	MARS	MONDELEZ	NESTLE	NISSHIN
38. Indupalma / Grupo Grasco	Procesadora de Aceite Oro Rojo Ltda.	Santander	7,376	-73,569	PO1000006313		X	X			X	X	X					X	X	
39. Indupalma / Grupo Grasco	Industrial Agraria La Palma S.A.	Cesar	7,707	-73,456	PO1000001423		X	X			X	X						X		
40. Indutrade	C.I Indutrade Colombia S.A.S	Cesar (La Paz)	10.378505	-73.178216	Not available									?						
41. Inversiones La Mejorana	Inversiones La Mejorana S.A.S.	Meta	3,962	-73,629	PO1000003990		X	X			X	X	X					X	X	
42. Inversora La Paz	Inversora La Paz S.A.S.	Meta	3,711	-73,272	PO1000003985		X	X		X	X	X	X					X		
43. Itacol	Extractorora San Sebastiano S.A.S.	Meta	4,099	-71,916	PO1000007639		X	X			X	X	X	X	X			X	X	X
44. Manuelita Aceites Y Energia	Aceites Manuelita S.A. / Yaguarito	Meta	3,882	-73,342	PO1000005117	RSPO, ISCC	X	X			X	X	X		X	X		X	X	
45. Manuelita Aceites Y Energia	Aceites Manuelita S.A. / Manavire	Meta	3,938	-73,366	PO1000008253	RSPO, ISCC	X	X				X		X	X			X	X	X
46. Manuelita Aceites Y Energia	Palmar de Altamira S.A.S.	Casanare	4,751	-71,682	PO1000004007	RSPO	X	X			X	X	X	X	X			X	X	X
47. Negocios del Llano	Negocios del Llano S.A.S. - ZOMAC	Casanare	4,978	-72,616	PO1000010800							X								
48. Oilsum Group	Extractorora San Fernando	Santander	7,265	-73,556	Not available			?			?							?	X	
49. Oilsum Group	Extractorora Loma Fresca Sur de Bolívar S.A.S.	Bolivar	7,528	-73,937	PO1000010886		X	X			X		X						X	
50. Oilsum Group	Extractorora San Fernando SA	Santander	7,19600/ 7.19161	-73,56180/ - 73.5612	Not available		X							X	X				X	X
51. Oilsum Group	Palmicultores del Norte S.A.S. / Palnorte	Norte de Santander	8,535	-72,636	PO1000007531		X	X			X	X	X					X	X	
52. Oilsum Group	Extractorora Sicarare S.A.S.	Cesar	9,932	-73,263	PO1000004026	RSPO	X	X	X	X	X	X	X	X	X		X	X	X	X
53. Oleaginosas del Norte de Santander	Oleaginosas del Norte de Santander S.A.S. - Oleonorte S.A.S.	Norte de Santander, San José de Cúcuta	8,202	-72,551	Not available									X	?					X

Table 9

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	OLAM	OLENEX	OLEON	PEPSICO	PZ CUSSONS	RECKITT BENCKISER	SIME DARBY	UNIGRA	UNILEVER	UPFIELD	VANDEMOORTELT
38. Indupalma / Grupo Grasco	Procesadora de Aceite Oro Rojo Ltda.	Santander	7,376	-73,569	PO1000006313		X	X	X	X	X	X			X	X	X
39. Indupalma / Grupo Grasco	Industrial Agraria La Palma S.A.	Cesar	7,707	-73,456	PO1000001423					X	X	X			X	X	X
40. Indutrade	C.I Indutrade Colombia S.A.S	Cesar (La Paz)	10.378505	-73.178216	Not available										?		
41. Inversiones La Mejorana	Inversiones La Mejorana S.A.S.	Meta	3,962	-73,629	PO1000003990		X	X	X	X	X	X			X	X	X
42. Inversora La Paz	Inversora La Paz S.A.S.	Meta	3,711	-73,272	PO1000003985		X	X	X					X	X	X	X
43. Itacol	Extractora San Sebastiano S.A.S.	Meta	4,099	-71,916	PO1000007639		X	X	X	X	X	X			X	X	X
44. Manuelita Aceites Y Energia	Aceites Manuelita S.A. / Yaguarito	Meta	3,882	-73,342	PO1000005117	RSPO, ISCC	X	X	X	X	X	X			X	X	X
45. Manuelita Aceites Y Energia	Aceites Manuelita S.A. / Manavire	Meta	3,938	-73,366	PO1000008253	RSPO, ISCC			X	X			X		X	X	X
46. Manuelita Aceites Y Energia	Palmar de Altamira S.A.S.	Casanare	4,751	-71,682	PO1000004007	RSPO	X	X	X	X	X	X	X		X	X	X
47. Negocios del Llano	Negocios del Llano S.A.S. - ZOMAC	Casanare	4,978	-72,616	PO1000010800										X		?
48. Oilsum Group	Extractora San Fernando	Santander	7,265	-73,556	Not available					X		?				X	
49. Oilsum Group	Extractora Loma Fresca Sur de Bolívar S.A.S.	Bolivar	7,528	-73,937	PO1000010886			X	X	X	X	X		X	X	X	X
50. Oilsum Group	Extractora San Fernando SA	Santander	7,19600/ 7.19161	-73,56180/ - 73.5612	Not available									X			
51. Oilsum Group	Palmicultores del Norte S.A.S. / Palnorte	Norte de Santander	8,535	-72,636	PO1000007531		X	X	X	X	X	X			X	X	X
52. Oilsum Group	Extractora Sicarare S.A.S.	Cesar	9,932	-73,263	PO1000004026	RSPO	X	X	X	X	X	X	X	X	X	X	X
53. Oleaginosas del Norte de Santander	Oleaginosas del Norte de Santander S.A.S. - Oleonorte S.A.S.	Norte de Santander, San José de Cúcuta	8,202	-72,551	Not available								X	X			?

Table 10

Companies **54 to 70** are presented in **tables 10, 11, and 12**, together with their respective buyers' base, and the remaining companies follow in a similar set of tables.

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	AAK	ACEPALMA	ADM	AVON	BASF	BUNGE	CARGILL	COFCO	COLGATE	DAABON	DANONE	FERRERO	FRIESLAND CAMP	FUII OIL
54. Oleaginosas Santana / Ecopal	Oleaginosas Santana S.A.S.	Meta	3,998	-73,613	PO1000008406				X								X			
55. Oleo Inversiones	Oleo Inversiones S.A.S. - ZOMAC	Casanare	4,689	-72,081	PO1000010809		X		X											
56. Oleoinversiones Zomac	Oleoinversiones Zomac	Casanare	4.595056	-72.827423	PO1000004005		X		X			X					X			X
57. Oleocoa	Aceites Las Colombianas (Alascol)	Meta	4,079	-73,693	PO1000003994		X		X								X			
58. Oleoflores	Aceites y Grasas del Cataumbo S.A.S.	Norte de Santander	8,502	-72,640	PO1000007953	RSPO, ISCC			X											X
59. Oleoflores	Extractora Maria La Baja S.A.	Bolivar	9,923	-75,328	PO1000007502		X		X								X			X
60. Oleoflores / Indutrade	Oleoflores S.A.S.	Cesar	10,097	-73,235	PO1000003324	RSPO, ISCC	X	X	X	X	X	X	X		X		X			X
61. Olio / CI TOP S.A.	Olio S.A.S. / Astorga S.A.	Nariño	1,591	-78,641	PO1000008126		X		X											
62. Padelma	Palmas Oleaginosas del Magdalena Ltda., Padelma	Magdalena	10,720	-74,200	PO1000004032												X			
63. Palmallano	Compañía Palmicultora del Llano S.A., Palmallano S.A.	Meta	4,346	-73,004	PO1000011200				X											
64. Palmar de Oriente	Palmeras Santana S.A.S.	Casanare	4,564	-72,907	PO1000004003		X		X				X				X			X
65. Palmar El Quitebe	Palmar El Quitebe S.A.S.	Casanare	5.543793	-71.980161	Not available		X		X											
66. Palmas De Tumaco	Palmas de Tumaco S.A.S.	Nariño	1,523	-78,740	PO1000008289		X		X											
67. Palmas Del Cesar	Palmas del Cesar S.A.	Cesar	7,886	-73,467	PO1000004752		X		X	X	X	X	X	X	X			X	X	X
68. Palmas Oleaginosa De Casacara / CI Top	Palmas Oleaginosas de Casacará Ltda.	Cesar	9,856	-73,277	PO1000008333															
69. Palmas Oleaginosas Bucarelia	Palmas Oleaginosas Bucarelia S.A.S.	Santander	7,230	-73,850	PO1000010810				X				X				X			
70. Palmeras de la Costa	Palmeras de la Costa S.A.	Cesar	10,102	-74,011	PO1000003031	RSPO, ISCC, RAS	X	X	X	X	X	X	X		X	X	X	X	X	X

Table 11

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	GENERAL MILLS	GRUPO BIMBO	HERSHEY	INDUTRADE	JOHNSON N JOHNSON	KELLOGG	KIKI OLEO	LDC	LIPIDOS	L'OREAL	MARS	MONDELEZ	NESTLE	NISSHIN
54. Oleaginosas Santana / Ecopal	Oleaginosas Santana S.A.S.	Meta	3,998	-73,613	PO1000008406		X	X				X						X	X	
55. Oleo Inversiones	Oleo Inversiones S.A.S. - ZOMAC	Casanare	4,689	-72,081	PO1000010809		X				X	X							X	
56. Oleoinversiones Zomac	Oleoinversiones Zomac	Casanare	4.595056	-72.827423	PO1000004005		X	X			X	X	X					X	X	
57. Oleocoa	Aceites Las Colombianas (Alascol)	Meta	4,079	-73,693	PO1000003994		X	X	X		X	X			X			X		
58. Oleoflores	Aceites y Grasas del Cataumbo S.A.S.	Norte de Santander	8,502	-72,640	PO1000007953	RSPO, ISCC	X	X				X	X					X	X	
59. Oleoflores	Extractora Maria La Baja S.A.	Bolivar	9,923	-75,328	PO1000007502		X	X			X	X	X	X	X			X	X	X
60. Oleoflores / Indutrade	Oleoflores S.A.S.	Cesar	10,097	-73,235	PO1000003324	RSPO, ISCC	X	X			X		X	X	X	X	X	X	X	X
61. Olio / CI TOP S.A.	Olio S.A.S. / Astorga S.A.	Nariño	1,591	-78,641	PO1000008126		X	X					X							
62. Padelma	Palmas Oleaginosas del Magdalena Ltda., Padelma	Magdalena	10,720	-74,200	PO1000004032		X	X			X	X						X		
63. Palmallano	Compañía Palmicultora del Llano S.A., Palmallano S.A.	Meta	4,346	-73,004	PO1000011200										X					X
64. Palmar de Oriente	Palmeras Santana S.A.S.	Casanare	4,564	-72,907	PO1000004003		X	X			X	X	X	X	X			X	X	
65. Palmar El Quitebe	Palmar El Quitebe S.A.S.	Casanare	5.543793	-71.980161	Not available		X						X							
66. Palmas De Tumaco	Palmas de Tumaco S.A.S.	Nariño	1,523	-78,740	PO1000008289		X	X					X		X				X	
67. Palmas Del Cesar	Palmas del Cesar S.A.	Cesar	7,886	-73,467	PO1000004752		X	X			X	X	X	X	X	X		X	X	X
68. Palmas Oleaginosa De Casacara / Ci Top	Palmas Oleaginosas de Casacará Ltda.	Cesar	9,856	-73,277	PO1000008333			X				X						X		
69. Palmas Oleaginosas Bucarelia	Palmas Oleaginosas Bucarelia S.A.S.	Santander	7,230	-73,850	PO1000010810		X	X			X		X							
70. Palmeras de la Costa	Palmeras de la Costa S.A.	Cesar	10,102	-74,011	PO1000003031	RSPO, ISCC, RAS	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 12

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	OLAM	OLENEX	OLEON	PEPSICO	PZ CUSONS	RECKITT BENCKISER	SIME DARBY	UNIGRA	UNILEVER	UPFIELD	VANDEMOORTELT
54. Oleaginosas Santana / Ecopal	Oleaginosas Santana S.A.S.	Meta	3,998	-73,613	PO1000008406		X	X		X		X			X	X	X
55. Oleo Inversiones	Oleo Inversiones S.A.S. - ZOMAC	Casanare	4,689	-72,081	PO1000010809					X					X	X	X
56. Oleoinversiones Zomac	Oleoinversiones Zomac	Casanare	4.595056	-72.827423	PO1000004005		X	X	X	X	X	X		X	X	X	X
57. Oleocoa	Aceites Las Colombianas (Alascol)	Meta	4,079	-73,693	PO1000003994		X	X		X	X	X	X	X	X		X
58. Oleoflores	Aceites y Grasas del Cataumbo S.A.S.	Norte de Santander	8,502	-72,640	PO1000007953	RSPO, ISCC		X	X	X					X	X	X
59. Oleoflores	Extractora Maria La Baja S.A.	Bolivar	9,923	-75,328	PO1000007502		X	X	X	X	X	X	X		X	X	X
60. Oleoflores / Indutrade	Oleoflores S.A.S.	Cesar	10,097	-73,235	PO1000003324	RSPO, ISCC	X	X	X	X	X	X		X	X	X	X
61. Olio / CI TOP S.A.	Olio S.A.S. / Astorga S.A.	Nariño	1,591	-78,641	PO1000008126			X	X								?
62. Padelma	Palmas Oleaginosas del Magdalena Ltda., Padelma	Magdalena	10,720	-74,200	PO1000004032					X					X	X	X
63. Palmallano	Compañía Palmicultora del Llano S.A., Palmallano S.A.	Meta	4,346	-73,004	PO1000011200											X	
64. Palmar de Oriente	Palmeras Santana S.A.S.	Casanare	4,564	-72,907	PO1000004003		X	X	X	X	X	X		X	X	X	X
65. Palmar El Quitebe	Palmar El Quitebe S.A.S.	Casanare	5.543793	-71.980161	Not available			X	X	X							
66. Palmas De Tumaco	Palmas de Tumaco S.A.S.	Nariño	1,523	-78,740	PO1000008289			X	X	X					X	X	X
67. Palmas Del Cesar	Palmas del Cesar S.A.	Cesar	7,886	-73,467	PO1000004752		X	X	X	X	X	X	X	X	X	X	X
68. Palmas Oleaginosas De Casacara / Ci Top	Palmas Oleaginosas de Casacará Ltda.	Cesar	9,856	-73,277	PO1000008333												X
69. Palmas Oleaginosas Bucarelia	Palmas Oleaginosas Bucarelia S.A.S.	Santander	7,230	-73,850	PO1000010810			X	X	X	X	X			X	X	X
70. Palmeras de la Costa	Palmeras de la Costa S.A.	Cesar	10,102	-74,011	PO1000003031	RSPO, ISCC, RAS	X	X	X	X	X	X	X		X	X	X

Table 13

Companies **71 to 81** are presented in **tables 13, 14, and 15**, together with their respective buyers' base.

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	AAK	ACEPALMA	ADM	AVON	BASF	BUNGE	CARGILL	COFCO	COLGATE	DAABON	DANONE	FERREIRO	FRIESLAND CAMP	FUI OIL
71. Palmeras Del Llano	Palmeras Del Llano	Meta (Acacias)	3,961	-73.626777 78	Not available		X		X				X		X					
72. Palmeras De Puerto Wilches	Palmeras De Puerto Wilches S.A	Santander	7,339	-73,837	PO1000004014		X		X			X	X			X				X
73. Palmeras De Puerto Wilches	Extractora Vizcaya S.A.S.	Bolivar	7,575	-73,951	PO1000004016		X		X								X			X
74. Palmeras La Carolina	Alianza Oriental S.A.	Meta	3,995	-73,581	PO1000003992	RSPO	X	X	X		X	X	X				X	X	X	X
75. Poligrow Colombia	Poligrow Colombia S.A.S. / Oliomapi	Meta	3,013	-72,203	PO1000003978	RSPO, RAS	X		X				X					X		X
76. Proteinas Del Oriente / Team Foods Colombia?	Proteinas Del Oriente	Meta (Villavicencio)	4,101	-73,630	Not available		X		X				X							
77. Riopaila Castilla	Extractora Riopaila Castilla S.A.	Vichada	5,031	-70,842	PO1000010035		X		X								X			X
78. Salamanca Oleaginosas	Salamanca Oleaginosas S.A.	Nariño	1,466	-78,740	PO1000008286		X		X											
79. Sapuga	Sabanas de Puerto Gaitán S.A., Sapuga S.A.	Meta	4,148	-72,037	PO1000003996		X		X			X	X		X		X			X
80. Semag De Los Llanos	Oleaginosas San Marcos Ltda	Meta	3,733	-73,343	PO1000007667	RSPO, ISCC	X		X		X	X	X				X	X	X	X
81. Unipalma / Grupo Sarmiento Angulo	Plantaciones Unipalma de Los Llanos S.A.	Meta	4,225	-73,257	PO1000006350		X		X								X			X

Table 14

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	GENERAL MILLS	GRUPO BIMBO	HERSHEY	INDUTRADE	JOHNSON N JOHNSON	KELLOGG	KIK OLEO	LDC	LIPIDOS	L'OREAL	MARS	MONDELEZ	NESTLE	NISSHIN
71. Palmeras Del Llano	Palmeras Del Llano	Meta (Acacías)	3,961	-73,626777 78	Not available		X	X				X		X	X				X	
72. Palmeras De Puerto Wilches	Palmeras De Puerto Wilches S.A	Santander	7,339	-73,837	PO1000004014		X	X	X		X	X	X	X	X			X	X	X
73. Palmeras De Puerto Wilches	Extractora Vizcaya S.A.S.	Bolivar	7,575	-73,951	PO1000004016		X	X			X	X	X	X	X			X	X	X
74. Palmeras La Carolina	Alianza Oriental S.A.	Meta	3,995	-73,581	PO1000003992	RSPO	X	X		X	X	X	X	X	X		X	X	X	X
75. Poligrow Colombia	Poligrow Colombia S.A.S. / Oliomapi	Meta	3,013	-72,203	PO1000003978	RSPO, RAS	X	X			X	X	X						X	
76. Proteinas Del Oriente / Team Foods Colombia?	Proteinas Del Oriente	Meta (Villavicencio)	4,101	-73,630	Not available			X	X		X								X	
77. Riopaila Castilla	Extractora Riopaila Castilla S.A.	Vichada	5,031	-70,842	PO1000010035		X	X			X		X		X				X	X
78. Salamanca Oleaginosas	Salamanca Oleaginosas S.A.	Nariño	1,466	-78,740	PO1000008286		X	X					X		X			X	X	
79. Sapuga	Sabanas de Puerto Gaitán S.A., Sapuga S.A.	Meta	4,148	-72,037	PO1000003996		X	X			X	X	X	X	X			X	X	X
80. Semag De Los Llanos	Oleaginosas San Marcos Ltda	Meta	3,733	-73,343	PO1000007667	RSPO, ISCC	X	X			X	X	X	X	X			X	X	
81. Unipalma / Grupo Sarmiento Angulo	Plantaciones Unipalma de Los Llanos S.A.	Meta	4,225	-73,257	PO1000006350		X	X			X	X	X					X	X	

Table 15

Company group	Plantation company / Mill name	Location	Latitude	Longitude	UML ID	Certification	OLAM	OLENEX	OLEON	PEPSICO	PZ CUSSONS	RECKITT BENCKISER	SIME DARBY	UNIGRA	UNILEVER	UPFIELD	VANDEMOORTELT
71. Palmeras Del Llano	Palmeras Del Llano	Meta (Acacias)	3,961	-73,626777 78	Not available					X		X	X	X		X	X
72. Palmeras De Puerto Wilches	Palmeras De Puerto Wilches S.A	Santander	7,339	-73,837	PO1000004014		X	X	X	X		X		X	X		X
73. Palmeras De Puerto Wilches	Extractora Vizcaya S.A.S.	Bolivar	7,575	-73,951	PO1000004016		X	X	X	X	X	X			X	X	X
74. Palmeras La Carolina	Alianza Oriental S.A.	Meta	3,995	-73,581	PO1000003992	RSPO	X	X	X	X	X	X	X	X	X	X	X
75. Poligrow Colombia	Poligrow Colombia S.A.S. / Oliomapi	Meta	3,013	-72,203	PO1000003978	RSPO, RAS		X	X	X				X	X	X	X
76. Proteinas Del Oriente / Team Foods Colombia?	Proteinas Del Oriente	Meta (Villavicencio)	4,101	-73,630	Not available			X			X	X	X			X	
77. Riopaila Castilla	Extractora Riopaila Castilla S.A.	Vichada	5,031	-70,842	PO1000010035		X	X	X						X	X	X
78. Salamanca Oleaginosas	Salamanca Oleaginosas S.A.	Nariño	1,466	-78,740	PO1000008286			X	X	X						X	X
79. Sapuga	Sabanas de Puerto Gaitán S.A., Sapuga S.A.	Meta	4,148	-72,037	PO1000003996		X	X	X	X	X	X		X	X	X	X
80. Semag De Los Llanos	Oleaginosas San Marcos Ltda	Meta	3,733	-73,343	PO1000007667	RSPO, ISCC	X	X	X	X	X	X		X	X	X	X
81. Unipalma / Grupo Sarmiento Angulo	Plantaciones Unipalma de Los Llanos S.A.	Meta	4,225	-73,257	PO1000006350		X	X	X	X	X	X			X	X	X