

## Importance And Acceptance of Ecuadorian Cocoa in the European Union Market

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### Abstract

*A systematic review was carried out on the production and publication of research papers related to the study of Exports, Cocoa and the European Union under the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) approach. The purpose of the analysis proposed in this document was to know the main characteristics of the publications registered in the Scopus and WoS databases during the study of the proposed variables, achieving the identification of 28 publications in total. Thanks to this first identification, it was possible to refine the results through the keywords entered in the search button of both platforms, which were EXPORT, AND COCOA, AND EUROPEAN AND UNION, reaching a total of 11 documents, excluding duplicates and those that did not meet the analysis criteria.*

**Keywords:** *Export, Cocoa, Ecuador, Latin America, European Union.*

### Introduction

Ecuadorian cocoa has played a fundamental role in the country's economy, history and culture, consolidating itself as one of the main export products and an emblem of national identity. Ecuador is recognized as the world's largest producer of fine aroma cocoa, a variety highly valued in the international chocolate industry for its unique sensory profile and superior quality (Del Monte AG, n.d.). This type of cocoa, which represents approximately 63% of national cocoa production, is widely demanded in demanding markets, where products with certifications of origin and sustainable production practices are privileged (European External Action Service, 2018). In addition, the cocoa sector generates employment for approximately 500,000 people, including producers, intermediaries, and exporters, which highlights its socioeconomic importance and its impact on the country's rural development (Crespo & Cols, 2022).

Historically, cocoa production in Ecuador has gone through various boom and bust cycles, linked to fluctuations in global demand, agricultural pests, and national economic policies. In the 19th century, Ecuador was the world's leading exporter of cocoa, but diseases such as monilia and witch's broom drastically reduced production in the 20th century. Despite these challenges, the country has managed to regain its leadership in the global market through the implementation of genetic improvement programs, quality certifications and access to premium markets. Currently, Ecuadorian cocoa is an essential component in the high-end chocolate industry, with buyers in Europe valuing its organoleptic attributes and certified traceability (EFEverde, 2024).

The cocoa trade between Ecuador and the European Union has experienced remarkable growth in recent years, driven by trade agreements and greater market opening. The signing of the Multiparty Trade Agreement between Ecuador and the EU in 2017 allowed the elimination of tariffs and the facilitation of access for Ecuadorian products to European markets, consolidating the EU as the main export destination

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for Ecuadorian cocoa (European External Action Service, 2018). In 2019, Ecuadorian exports of cocoa and cocoa derivatives to the EU reached a value of USD 215,487,000, representing 28.21% of the sector's total exports (Crespo & Cols, 2022). This commercial dynamism has encouraged the growth of new exporting companies and has contributed to strengthening the competitiveness of Ecuadorian producers in a highly demanding market.

Despite the sustained growth in exports, the acceptance of Ecuadorian cocoa in the EU depends not only on its intrinsic quality, but also on the country's ability to adapt to regulatory demands and consumption trends in Europe. In recent years, the EU has promoted stricter regulations related to sustainable production, fair trade and traceability of agricultural products. These regulations have led Ecuador to implement improvements in the cocoa value chain, adopting certifications such as the Rainforest Alliance and Fairtrade, which guarantee compliance with environmental, labor, and social responsibility standards (European External Action Service, 2018).

A key aspect in the demand for Ecuadorian cocoa in the EU is the growing preference for organic and deforestation-free products. In 2024, the EU implemented new regulations requiring exporting countries to prove that their agricultural products do not contribute to deforestation (EFEverde, 2024). Ecuador has responded to this challenge by adopting environmental conservation policies and encouraging regenerative agricultural practices, ensuring that its cocoa remains competitive in the European market. However, compliance with these regulations represents a significant challenge for smallholders, who must face additional costs to obtain certifications and adapt their processes to international standards.

Another determining factor in the acceptance of Ecuadorian cocoa in the EU is the evolution of European consumer preferences. In recent years, there has been a noticeable shift towards consuming products with well-documented origin stories, ethical production methods, and sustainability commitments. European consumers increasingly value the social and environmental impact of their purchase, favouring chocolate brands that work directly with producing communities, eliminate intermediaries and promote fair payments to farmers (European External Action Service, 2018). This trend has motivated Ecuadorian producers to establish strategic alliances with European chocolate companies and to improve the traceability of their products through the use of technologies such as blockchain.

At the academic level, Ecuadorian cocoa has been the subject of various studies that analyze its economic, social and environmental impact on global trade. The scientific literature has addressed topics such as improving productivity on cocoa farms, post-harvest innovations to preserve bean quality, and the role of cooperatives in integrating smallholders into sustainable value chains (Del Monte AG, n.d.). However, there is still a need for further systematization of recent studies to accurately assess the evolution of the Ecuadorian cocoa sector in the European market and its ability to comply with new regulatory requirements.

The objective of this study is to conduct a systematic review of the scientific literature on the importance and acceptance of Ecuadorian cocoa in the EU, using the PRISMA methodology. Through the analysis of the scientific production indexed in Scopus and Web of Science in the period 2022-2024, it seeks to identify the main research trends in this area, evaluate the factors that have influenced the competitiveness of Ecuadorian cocoa and examine the challenges faced by the sector in the face of changes in European regulations.

The use of the PRISMA approach will allow a rigorous analysis of the selected studies, guaranteeing the transparency and reproducibility of the research. In addition, the findings of this review are expected to contribute to the formulation of strategies to strengthen the competitiveness of Ecuadorian cocoa in the EU, promoting sustainable practices and improving producers' access to international markets.

In conclusion, Ecuadorian cocoa has established itself as a high-value product in the EU, thanks to its exceptional quality and the implementation of sustainability standards. However, the sector faces challenges related to adapting to stricter environmental and trade regulations. Through this systematic review, it is intended to provide a comprehensive overview of the importance of Ecuadorian cocoa in the European

market, identifying opportunities and strategies to enhance its positioning and sustainability in the long term.

## General Objective

To analyze, from a bibliometric and bibliographic perspective, the production of research papers on the variables Exports, Cocoa, European Union, published in high-impact journals indexed in the Scopus and Wos databases during the period 2022-2024.

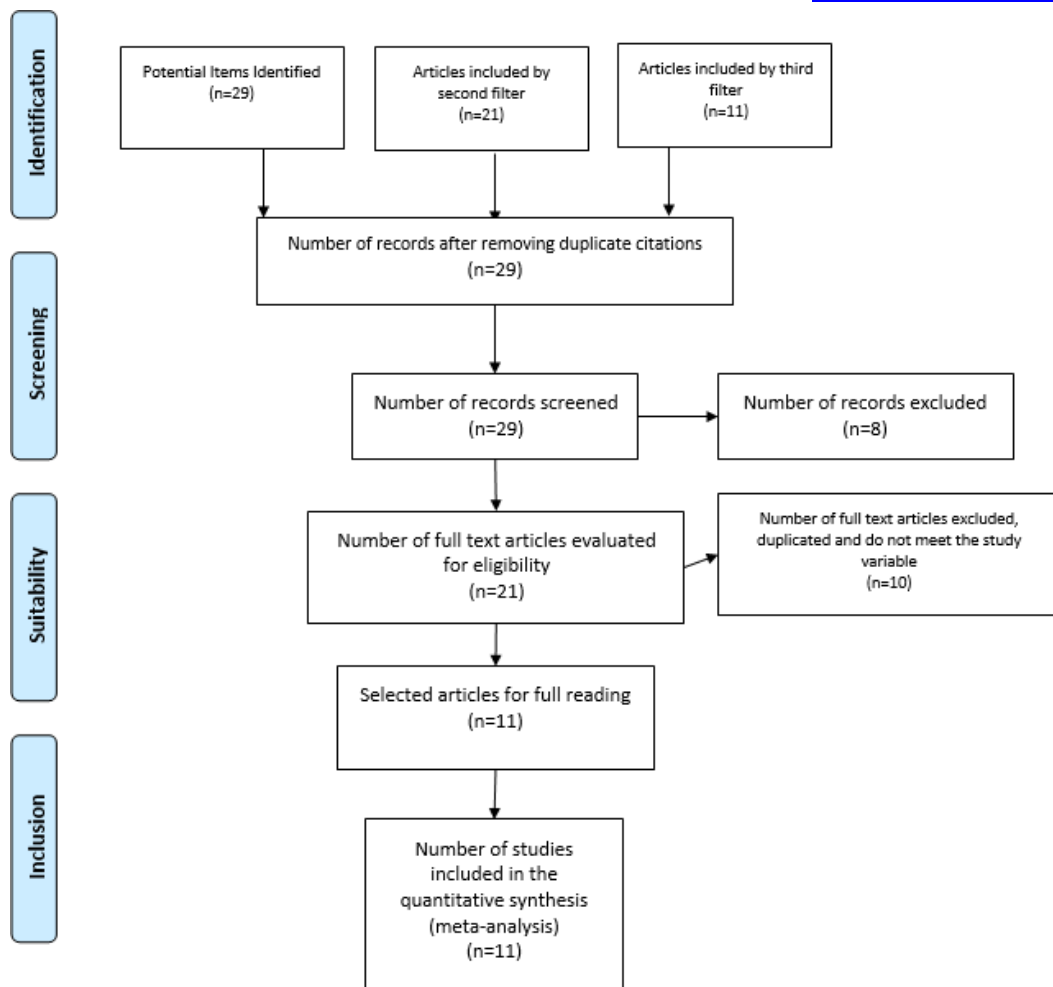
## Methodology

The present research is qualitative, according to Hernández, et al., qualitative approaches correspond to research that carries out the procedure of obtaining information to review and interpret the results obtained in such studies; to do this, it searched for information in the Scopus and Wos databases using the words EXPORT, AND COCOA, AND EUROPEAN AND UNION. (2015)

### *Research Design*

The design of the research proposed for this research was the Systematic Review that involves a set of guidelines to carry out the analysis of the data collected, which are framed in a process that began with the coding to the visualization of theories. On the other hand, it is stated that the text corresponds to a descriptive narrative since it is intended to find out how the levels of the variable affect; and systematic because after reviewing the academic material obtained from scientific journals, theories on knowledge management were analyzed and interpreted. (Strauss & Corbin, 2016) (Hernández, Baptista, & Fernández, 2015)

The results of this search are processed as shown in Figure 1, through which the PRISMA technique for the identification of documentary analysis material is expressed. It was taken into account that the publication was published during the period between 2022 and 2024 without distinction of country of origin of the publication, without distinction of area of knowledge, as well as any type of publication, namely: Journal Articles, Reviews, Book Chapters, Book, among others.



**Figure 1. Flowchart of A Systematic Review Carried Out Under The PRISMA Technique (Moher, Liberati, Tetzlaff, Altman, & Group, 2009)**

Source: Authors; Based on the proposal of the Prisma Group (Moher, Liberati, Tetzlaff, Altman, & Group, 2009)

## Results

Table 1 shows the results after applying the search filters related to the methodology proposed for this research, after recognizing the relevance of each of the referenced works.

N o.	RESEARCH TITLE	AUTHOR/YEAR	COUNTRY	TYPE OF STUDY	INDEXING
1	<i>The economic costs of cadmium non-tariff measures for smallholder cocoa farmers in Ecuador</i>	Vázquez-deCastro, J. L., Chávez, E., Espinel, R., Hendrix, S., Smolders, E., & Maertens, M. (2024).	SPAIN	QUALITATIVE	SCOPUS

2	<i>Cocoa: Origin Differentials and the Living Income Differential</i>	Radosavljević, S., Radosavljević, V., & Grgurović, B. (2020).	ECUADOR, BELGIUM	QUALITATIVE	SCOPUS
3	<i>Cocoa: Origin Differentials and the Living Income Differential</i>	Gilbert, C. L. (2024).	ITALY	QUALITATIVE	SCOPUS
4	<i>Impact Analysis of the India-EU Free Trade Agreement on Indian Horticulture,</i>	Kumar, S., Yeligar, S. S., Venkatesh, P., Kingsly, I., Nain, M. S., Paul, R. K., ... & Mouzam, S. M. (2024).	INDIA	QUALITATIVE	SCOPUS
5	<i>First national mapping of cadmium in cacao beans in Colombia</i>	Bravo, D., Araujo-Carrillo, G., Carvalho, F., Chaali, N., Leon-Moreno, C., Quiroga-Mateus, R., ... & Avella, E. (2024).	COLOMBIA	QUANTITATIVE	SCOPUS
6	<i>West Africa's cocoa sector and development within Africa-EU relations: engaging business perspectives</i>	Langan, M., & Price, S. (2020)	UNITED KINGDOM	QUALITATIVE	SCOPUS
7	<i>Transparency, traceability and deforestation in the Ivorian cocoa supply chain</i>	Renier, C., Vandromme, M., Meyfroidt, P., Ribeiro, V., Kalischek, N., & Zu Ermgassen, E. K. (2023)	BELGIUM	QUALITATIVE	SCOPUS

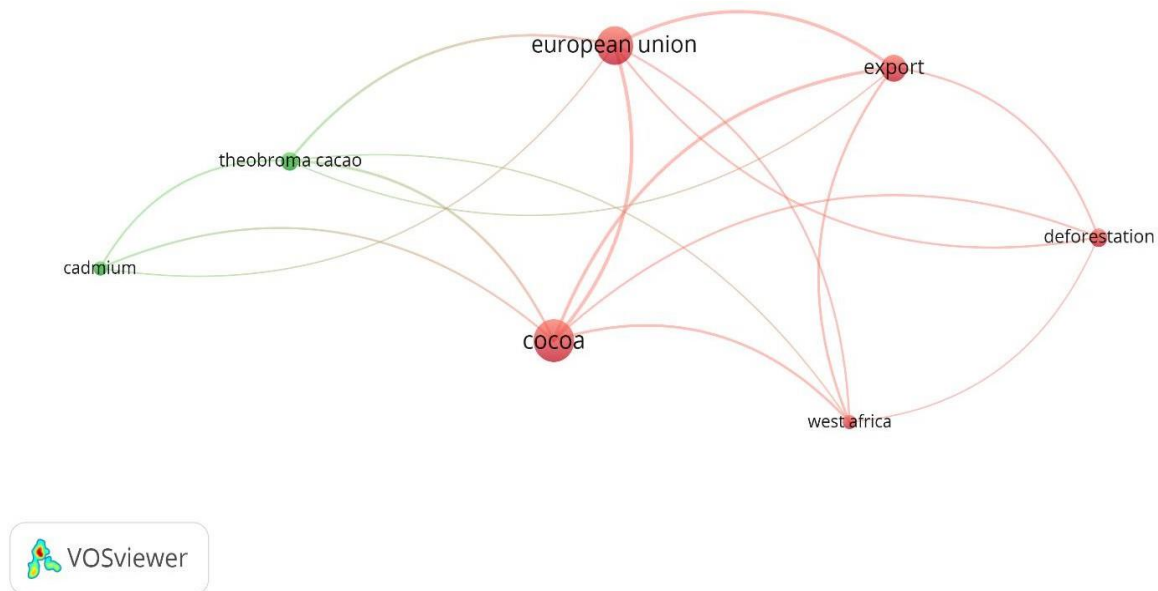
8	<i>Impact of compliance with European Union (EU) regulations on the income of actors along the cocoa supply chain in Osun state, Nigeria</i>	Akande, Y. B., Tijani, A. A., Kehinde, A. D., & Oyenpemi, L. O. (2023).	NIGERIA	QUANTITATIVE/QUALITATIVE	WOS
9	<i>EXPECTED CONTRIBUTIONS AND CHALLENGES IN THE IMPLEMENTATION OF THE EUROPEAN UNION REGULATION ON DEFORESTATION - FREE SUPPLY CHAINS (EUDR)</i>	Odobasa, R. (2024).	CROATIA	QUALITATIVE	WOS
10	<i>The European Union and United Kingdom's deforestation-free supply chains regulations: Implications for Brazil</i>	de Oliveira, S. E. C., Nakagawa, L., Lopes, G. R., Visentin, J. C., Couto, M., Silva, D. E., ... & West, C. (2024)	BRAZIL, UNITED KINGDOM	QUALITATIVE	WOS
11	<i>Trade performance of the ten most traded agri-food products between Nigeria, EU28 and ECOWAS</i>	Verter, N., Zdrahal, I., Dankova, B., & Udende, W. (2021).	CZECH REPUBLIC, NIGERIA	QUALITATIVE	WOS

Table 1. List Of Articles Analyzed

Source: Own elaboration

Co-Occurrence of Words

Figure 2 shows the relationship between the keywords used to search for the study material for the elaboration of the systematic analysis proposed for this research.



**Figure 2. Co-occurrence of keywords**

Source: Own elaboration

This map of co-occurrences of terms generated in VOSviewer visualizes the relationships between key concepts related to Cocoa and its commercialization in the European Union market. The central node is Cocoa, which indicates that it is the most relevant and frequently mentioned term in the studies analyzed. Directly linked to this node is the European Union, suggesting that the relationship between cocoa and the European market is a recurring theme in the literature.

Another important node is Export, which is closely connected to Cocoa and the European Union, reflecting the importance of cocoa exports to the European market. Likewise, Deforestation is linked to Cocoa, European Union and West Africa, indicating that deforestation is a key factor in the discussion on cocoa production and sustainability. The connection to West Africa highlights the importance of this region as one of the main producers of Cocoa, facing environmental and economic challenges in trade with the European Union.

On the left side of the graph, the Theobroma Cacao and Cadmium nodes form a subgroup related to Cocoa, suggesting that some studies are looking at the presence of cadmium in cocoa and its implications for export. This aspect is particularly relevant due to the European Union's regulations on contaminants in agricultural products.

The intensity of the color and the thickness of the connections reflect the frequency and strength of the relationships between the terms. It is observed that Cocoa, European Union and Export have the strongest connections, indicating that these concepts dominate the literature analyzed.

In conclusion, this map of co-occurrences reveals that research on Cocoa and its relationship with the European Union focuses on key issues such as Export, Deforestation and Cadmium, highlighting the importance of sustainability and environmental regulations. In addition, West Africa's presence in the network suggests that the challenges Ecuador faces in marketing its cocoa to the European Union have similarities to those of African Cocoa-producing countries.



## Discussion

Ecuadorian cocoa has been the subject of various studies that address its economic importance, trade barriers, and international regulations that impact its acceptance in markets such as the European Union. The literature reviewed provides a comprehensive view of the challenges and opportunities facing this sector, allowing for the analysis of the implications of regulations, market conditions and differentiation of cocoa according to its origin.

One of the main challenges that Ecuador faces in exporting cocoa to the EU is compliance with regulations on contaminants, such as cadmium. The study by Vázquez-de-Castro et al. (2024) analyzes the economic costs faced by Ecuadorian smallholder producers due to the non-tariff measures imposed by the EU on cadmium levels in cocoa. The research highlights that these requirements disproportionately affect smallholders, who have less access to mitigation technologies. In a complementary manner, Bravo et al. (2024) carried out a national mapping of cadmium in Colombian cocoa, providing data on the distribution of the contaminant in the beans and its implications for export. These studies highlight the importance of implementing cadmium control and mitigation strategies in Ecuadorian production to ensure its acceptance in the EU.

Another relevant aspect in the acceptance of cocoa in the EU is the differentiation by origin and the application of the "Living Income Differential" (LID). Radosavljevic et al. (2020) and Gilbert (2024) analyze the importance of origin differentials in the cocoa market, highlighting that Ecuadorian cocoa benefits from its recognition as a premium product. These studies suggest that strengthening traceability and certifications of origin can improve the competitiveness of Ecuadorian cocoa against other producers.

Trade relations between producing countries and the EU also influence the acceptance of cocoa. Kumar et al. (2024) analyse the impact of trade agreements on India's horticultural sector in relation to the EU, providing a framework for understanding the dynamics of the treaties on the export of agricultural products. In the same vein, Langan and Price (2020) study the trade relationship between Africa and the EU in the cocoa sector, highlighting how European policy can influence the economic development of producing countries. Both studies are useful for understanding how EU trade policy impacts the Ecuadorian cocoa market.

Another key factor in the acceptance of cocoa in the EU is the transparency and traceability of the supply chain. Renier et al. (2023) analyse the cocoa supply chain in Côte d'Ivoire and its relationship to deforestation, emphasizing the growing demand for transparency from European consumers. Similarly, Akande et al. (2023) study the impact of European regulation on the profitability of cocoa supply chain actors in Nigeria, concluding that adapting to these regulations can generate both challenges and opportunities for exporters.

The regulation of deforestation-free supply chains is a central issue in the discussion on the acceptance of Ecuadorian cocoa. Odobasa (2024) and de Oliveira et al. (2024) analyse the challenges faced by producer countries in complying with EU regulations on deforestation, highlighting the costs of implementation and the possible effects on smallholders. Ecuador, being a country with high ecological diversity, must ensure that its cocoa meets these requirements to maintain its access to the European market.

Finally, Verter et al. (2021) analyse the trade performance of the most exported agri-food products between Nigeria and the EU, which allows Ecuadorian cocoa to be contextualised within the international trade of agricultural products. The research suggests that stable trade policies and investment in infrastructure are key factors in improving the competitiveness of products in the European market.

Taken together, these studies highlight that the acceptance of Ecuadorian cocoa in the European Union is determined by a combination of regulatory, commercial and sustainability factors. Compliance with regulations on pollutants and deforestation, differentiation by origin, transparency in the supply chain and trade agreements are fundamental elements that influence its competitiveness. Ecuador must continue to



strengthen its cocoa sector through the implementation of traceability technologies, quality certifications and pollutant mitigation strategies to ensure its permanence and growth in the European market.

## Conclusions

This study has made it possible to analyze the importance and acceptance of Ecuadorian cocoa in the European Union market, identifying the main factors that influence its commercialization and competitiveness. Based on the systematic review of the literature, key aspects such as environmental regulations, product traceability, differentials of origin and trade relations between producing countries and the European bloc are highlighted.

One of the most relevant findings is the impact of regulations on contaminants on the acceptance of Ecuadorian cocoa in the European Union. The presence of cadmium in cocoa beans has been identified as a significant obstacle for smallholders, who face high costs to comply with the limits set by European legislation. This requires the implementation of mitigation strategies, as well as investments in control and certification technologies.

Another determining aspect is the growing demand for transparency and traceability in the cocoa supply chain. European consumers increasingly value products with fair trade certifications, sustainable production and certified origin, which represents an opportunity for Ecuador if it strengthens its verification mechanisms and promotes access to international certifications for small producers.

The differentiation of Ecuadorian cocoa by its quality and origin has also been identified as a competitive advantage in the European market. The recognition of Ecuador's fine aroma cacao as a premium product provides a favorable position in the high-end chocolate industry. However, to consolidate this advantage, it is essential to maintain high production standards and strengthen business relationships with European buyers interested in differentiated products.

The impact of regulation on deforestation-free supply chains is another challenge that the Ecuadorian cocoa sector will face in the coming years. The European Union has strengthened its environmental policies, requiring exporters to ensure that their products do not contribute to deforestation. In this sense, Ecuador must implement environmental conservation and land monitoring policies to ensure compliance with these regulations and avoid restrictions on trade.

Finally, the study suggests that the European Union's trade policy has a significant impact on the acceptance of Ecuadorian cocoa. Trade agreements between Ecuador and the EU have facilitated the export of cocoa, but have also created new challenges in terms of regulations and quality standards. The strengthening of diplomatic relations and adaptation to the demands of the European market will be key to guaranteeing the permanence and growth of Ecuadorian cocoa in the region.

In conclusion, the acceptance of Ecuadorian cocoa in the European Union depends on a combination of regulatory, commercial and sustainability factors. Although the product has a high valuation in the market for its quality and differentiation, it is essential that the Ecuadorian cocoa sector continues to adapt to the new European requirements. The implementation of sustainability, certification and regulatory compliance strategies will be decisive in consolidating Ecuadorian cocoa's position as a benchmark in the global chocolate industry.

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