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STUDIES ON TRENDS IN THE EVOLUTION OF THE GLOBAL SHEEP MEAT MARKET 2010-2022

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Abstract

This article aims to explore the changes that occurred in the global sheep meat market between 2010 and 2022. The study examines aspects such as the evolution of the global sheep herd, global production, consumption and geographical distribution of trade. The foundation of this article relied on a series of statistical data obtained from the online statistical service of the Food and Agriculture Organization (FAOSTAT) as well as from the Organisation for Economic Co-operation and Development (OECD). During this studied period, the global sheep meat market has been influenced by a multitude of factors such as fluctuations in demand and supply, demographic and economic changes, shifts in dietary consumption patterns, urbanization growth, developments in livestock technology and so forth. In this complex global context, sheep meat-producing and importing countries had to adapt to new conditions and challenges, contributing to shaping a dynamic commercial landscape. In those twelve years, global sheep meat production increased by 23%, with China being the main producer. China accounted for 24.9% of the total production between 2010 and 2022. Other high-production countries included Australia (7.1%) and New Zealand (5%). China also stood as the primary importer (25.7%), followed by France (8.8%) and the USA (8.7%). Concerning exports, Australia and New Zealand nearly equally occupied the top two positions, accounting for over 70% of global exports during those years.

Key words**:** *sheep meat, sheep herds, production, consumption, geographical distribution of trade*

INTRODUCTION

Consuming sheep meat brings multiple benefits to human health. It is a rich source of nutrients, including proteins, lipids and minerals, essential for maintaining metabolic functions [10]. Sheep meat also contains bioactive compounds with beneficial effects on human health [12]. The fatty acid profile of sheep meat is favorable, with high levels of polyunsaturated fatty acids [2]. These fatty acids have been associated with various health benefits, such as reducing the risk of cardiovascular diseases [3]. Additionally, incorporating sheep meat into the diet has been observed to increase antioxidant levels in the blood and enhance meat oxidation resistance, contributing to overall health maintenance [8]. Globally, sheep and goat meat consumption grew more slowly in contrast to poultry and pork consumption. This was due to a slower evolution of the sheep herd and the consolidation of production and exports in a limited number of countries [9]. Significant changes occurred in the global sheep market between 2010 and 2022, and this article aims to explore them. The analysis encompassed the evolution of the global sheep population, alongside an examination of global production and consumption patterns, as well as the geographic distribution of trade.

MATERIALS AND METHODS

The basis for the elaboration of this article was a series of statistical data obtained from public databases on the websites of international organizations. Information regarding livestock, production and world trade were obtained from the online statistical service of the Food and Agriculture Organization (FAOSTAT). Consumption data, on the other hand, were obtained from the website of the Organisation for Economic Co-operation and Development (OECD).

To facilitate a clearer observation of trends in the global sheepmeat market, processed statistical data were visually represented through graphs, maps and tables.

The research included the analysis of data on

the evolution of the global sheep meat market in both absolute and relative terms.
The bibliographic documentation mainly included scientific articles.

RESULTS AND DISCUSSIONS

Evolution of sheep herds

The first step in analyzing global sheep meat trends involves studying the changes in global sheep herds. Statistical data illustrates that from 2010 to 2022, the global sheep population exhibited an upward trend (Fig. 1).
The global sheep population has increased from 1.24 billion heads in 2010 to 1.52 billion heads, representing a growth of 21.8%. Sheep experienced the highest percentage increase in livestock, followed by goats (20.6%), cattle (8%), and pigs (-0.6%). The significant growth in the sheep population can be attributed to their adaptability to various climatic conditions and lower economic requirements, making them a suitable choice for small-scale farmers [13].
Additionally, the rising demand for animal products in the Arab region, driven by a growing population, urbanization, and economic development, has contributed to this trend [1].

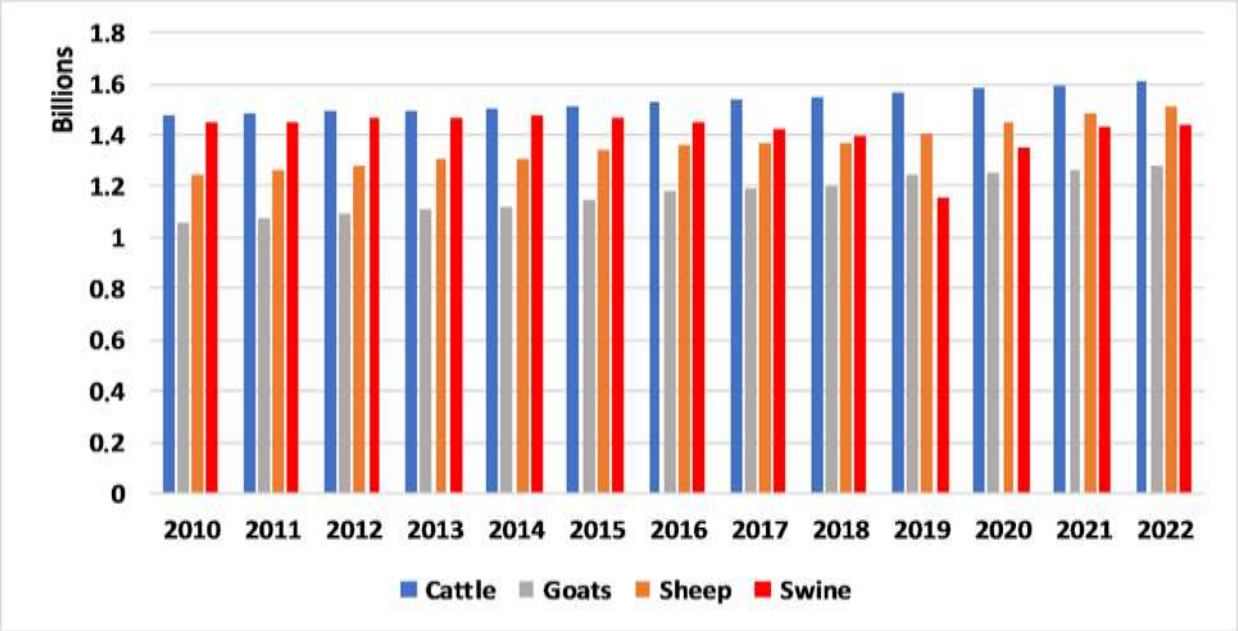

Fig. 1. Evolution of sheep herds worldwide compared to other animal species during the period 2010-2022.
Source: Own calculation based on FAOSTAT data [5].

Production of sheep meat

Globally, from 2010 to 2022, the production of fresh or chilled sheep meat has also followed an overall upward trend (Figure 2). From the analysis of the data regarding meat production, it resulted in a global increase of 23% in 2022 compared to 2010. However, it is anticipated that the future global production of sheep meat will fall short of market demand, generating strong demand and rising prices. High-value markets are expected to be favorable for sheep meat consumption, especially for lamb meat [4].
Figure 3 illustrates the global production of fresh or chilled sheep meat between 2010 and 2022, expressed in million metric tonnes. According to FAO data, the majority of sheep meat production was concentrated in a small number of countries. These values show that a total of 153 countries contributed less than 1% to global production of fresh or chilled sheep meat worldwide.

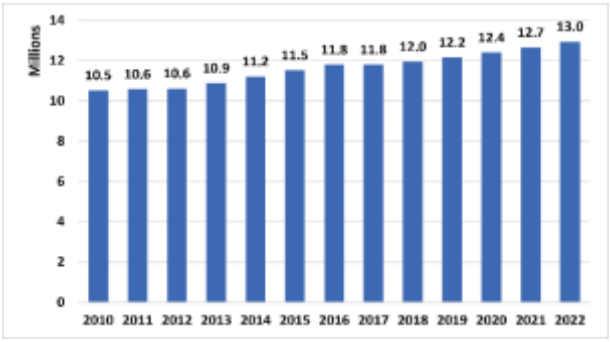

Fig. 2. The production of fresh or chilled sheep meat worldwide, during the period 2010-2022 (million tons). Source: Own calculation based on FAOSTAT data [5].

Analyzing the cartogram (Figure 3), it can be observed that the highest sheep meat production between 2010 and 2022 corresponds to states in Asia and Africa, as well as Australia and New Zealand. In Asia, the highest production was achieved by China with 30.1 million tons (24.9% of the total), followed by Turkey with 3.6 million tons (3%), India with 3.3 million tons (2.7%), Iran with 3.1 million tons (2.6%), Pakistan with 2.5 million tons (2.5%), and so on.

African countries with the highest productions include Algeria with 3.9 million tons (3.2%), Sudan with 2.9 million tons (2.4%), South Africa with 2.1 million tons (1.7%), Morocco with 2 million tons (1.7%), Nigeria with 1.9 million tons (1.6%), and so forth.

Australia stood out with a production of 8.6 million tons (7.1%), making it the second-largest sheep meat producer globally. New Zealand also made a significant contribution with a production of 6 million tons (5%), ranking as the third-largest sheep meat producer worldwide.

In Europe, the United Kingdom stood out with a production of 3.8 million tons (3.2%). Other European countries with significant productions, exceeding one million tons, include Spain with 1.6 million tons (1.2%) and France with 1.3 million tons (1.1%).

Both in North America and South America, the production was lower compared to other continents. The United States had the highest production in North America, reaching 0.91 million tons (0.75%).

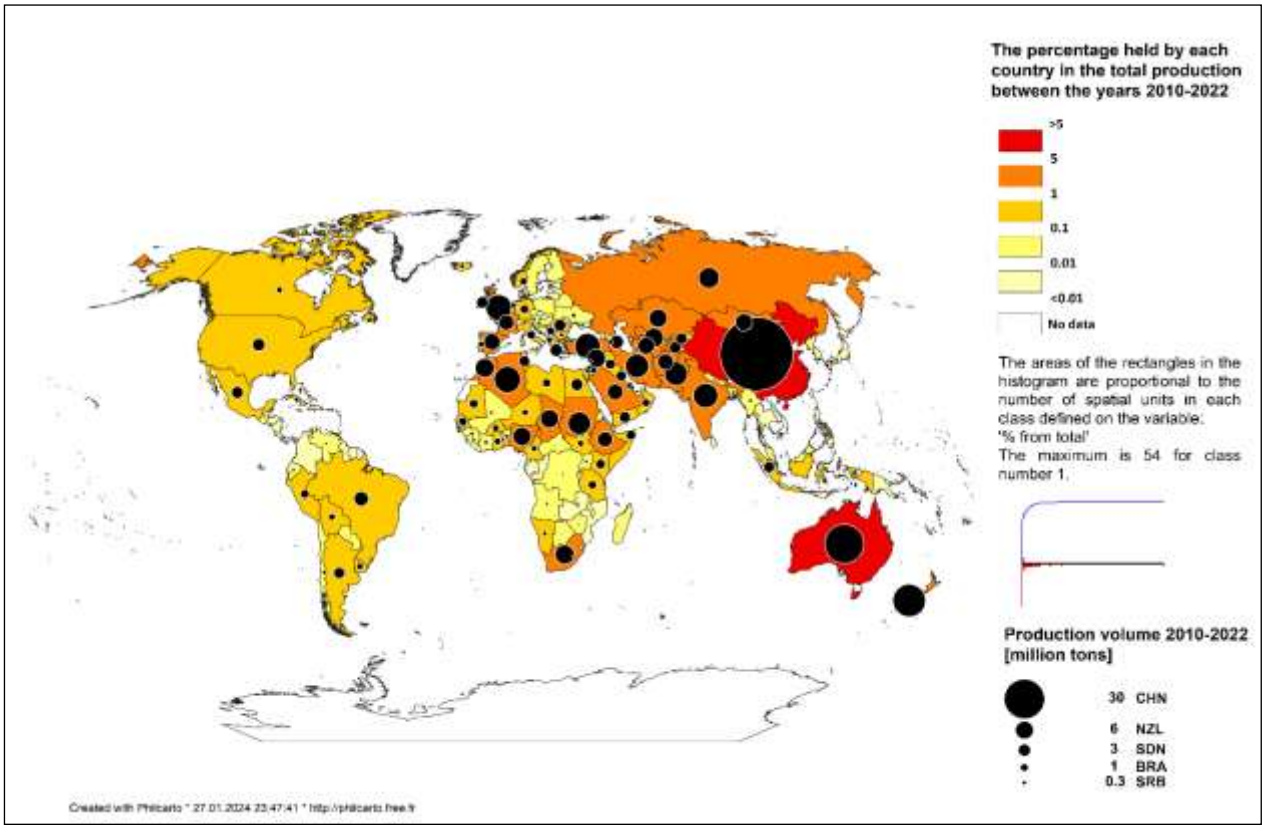

Fig. 3. Distribution of world production of fresh or chilled sheep meat obtained in the period 2010-2022. Source: Created with Philcarto based on FAOSTAT data [5].

Asia dominates in the production of sheep meat during the period between 2010 and 2022, according to the map presented. According to the chart below (Figure 4), Asia accounted for 63% of world production, followed by Africa (15.5%), Australia and Oceania (9.7%), Europe (8.2%), South America and North America (both having 2.1%).

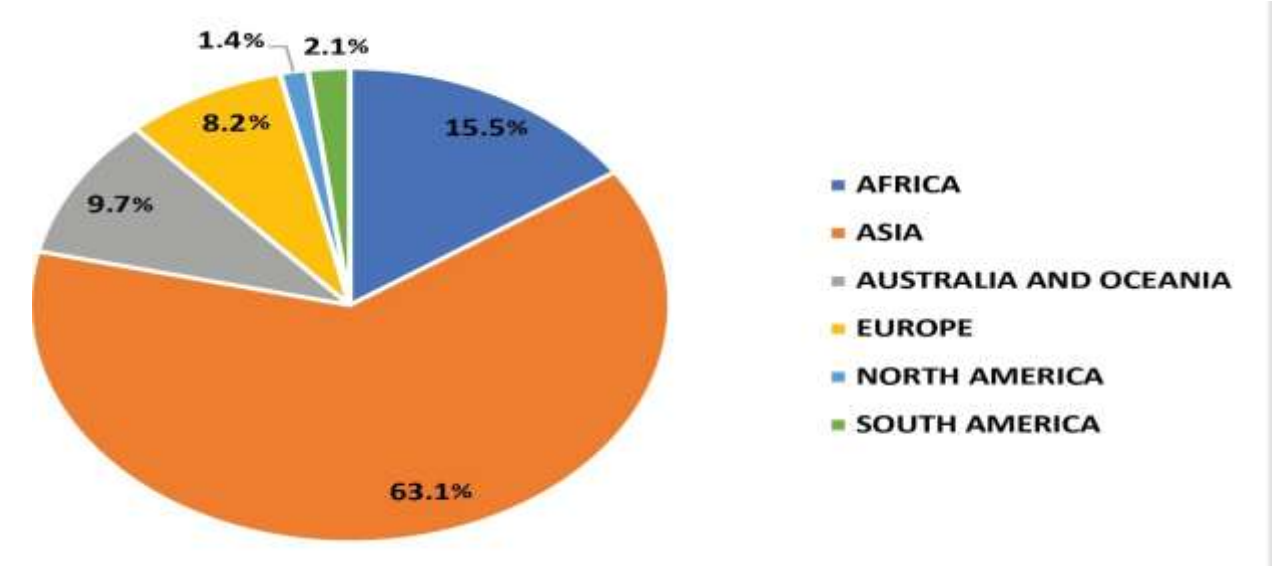

Fig. 4. Sheep meat production at the continental level in the period 2010-2022. Source: Own calculation based on FAOSTAT data [5].

Analysis of the global evolution of sheep meat consumption.

From 2010 to 2022, global sheep meat consumption grew steadily year on year. The growth rate of sheep meat consumption was 31.1%.

Consumption increased from 13.2 million tonnes in 2010 to 16 million tonnes in 2022 (Figure 5).

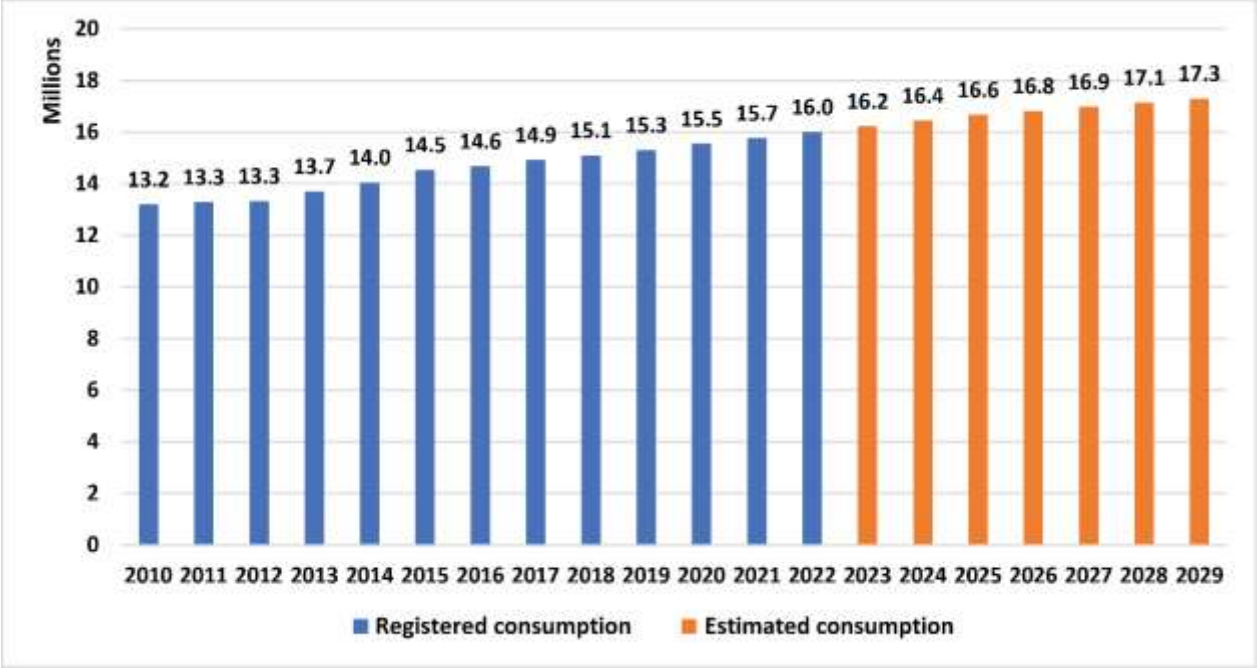

Fig. 5. Global sheep meat consumption between 2010 and 2029.
Source: Own calculation based on OECD data [11].

Global sheep meat consumption is expected to grow steadily by 2029, according to statistics from the Organisation for Economic Co-operation and Development (OECD). Consumption is expected to increase from 16 million tonnes in 2022 to 17.3 million tonnes by 2029. This increases to 8.1% by 2029.

There are several factors contributing to this steady increase in global sheep meat consumption through 2029. These factors include changing dietary habits, increased purchasing power, significant urbanization, and heightened awareness of the importance of a protein-rich diet for health. All these aspects have led to a higher demand for meat in the market, including sheep meat [6]. Additionally, the preference for meat due to religious beliefs has also contributed to the consumption growth [7].

Major sheep meat consumers globally

Table 1 provides data on the top ten countries worldwide in terms of sheep meat consumption per capita.

The table presents data on per capita consumption in the year 2022 as well as estimates for the year 2029.

The data suggests that sheep meat consumption is expected to remain relatively stable or slightly decrease in certain countries between 2022 and 2029.

In 2022, the top three consumers of sheep meat were Kazakhstan, Australia, and Norway, with per capita consumption of 8.4 kg, 5.9 kg, and 4.4 kg, respectively. The estimated consumption for the year 2029 indicates that Kazakhstan is projected to remain the largest consumer with 8.7 kg per capita, followed by Australia with 5.8 kg per capita. It is anticipated that Turkey will increase its consumption from 4.2 kg per capita in 2022 to 4.2 kg per capita in 2029, surpassing Norway. Other countries such as Saudi Arabia, Iran, and China are also expected to experience slight decreases in consumption between 2022 and 2029.

Table 1. Top 10 major sheep meat consumers globally recorded in 2022 and 2029 (kilograms per capita)

	Country	Consumption of sheep meat in 2022 (kilograms/capita)	Country	Estimation of sheep meat consumption in 2029 (kilograms/capita)
1.	Kazakhstan	8.4	Kazakhstan	8.7
2.	Australia	5.9	Australia	5.8
3.	Norway	4.4	Turkiye	4.2
4.	Saudi Arabia	4.3	Saudi Arabia	4.1
5.	Turkiye	4.2	Norway	4.0
6.	Iran	4.1	Iran	4.0
7.	United Kingdom	3.9	United Kingdom	3.8
8.	China (People's Republic of)	3.4	China (People's Republic of)	3.6
9.	New Zealand	3.3	New Zealand	2.9
10.	South Africa	2.6	South Africa	2.6

Source: OECD data [11].

Global exports of sheep meat between 2010 and 2022 have seen some fluctuations, but the overall trend has been upward (Figure 5). The volume of exports increased from 0.98 million tonnes in 2010 to 1.23 million tonnes in 2022, reflecting a growth of 25.4%. The lowest level of exports was recorded in 2011 (0.83 million tonnes), while the highest level was recorded in 2018 (1.25 million tonnes). The global exports and imports of sheep meat have experienced fluctuations, with an overall upward trend. Imports have grown from 1 million tons in 2010 to 1.60 million tons in 2022, resulting in a 60% increase.

The lowest import quantity was recorded in 2011 at 0.98 million tons, while the highest was in 2019 at 1.63 million tons.

In 2010, the exported quantity was only slightly less than the imported one, resulting in a modest trade deficit of only 0.02 million tons.

However, the increasing demand has led to a more pronounced growth in imports compared to exports, and the trade deficit has intensified, reaching -0.37 million tons in 2022.

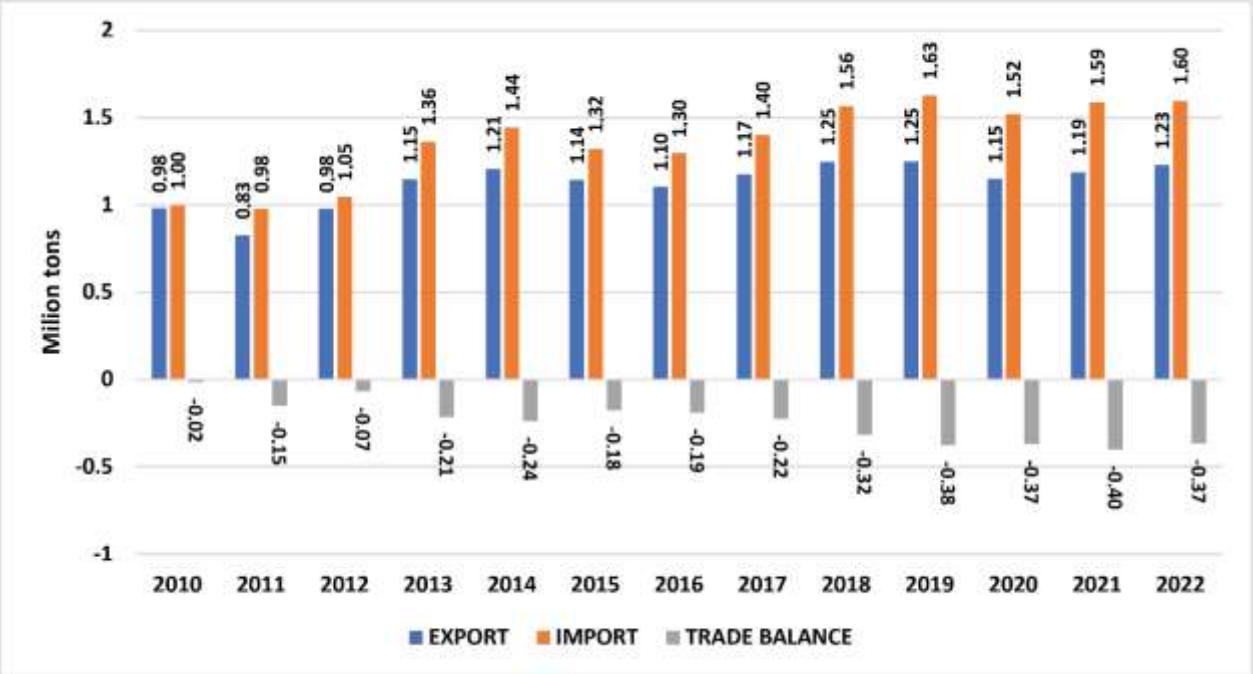

Fig. 6. Evolution of international trade balance in sheep meat from 2010 to 2022. Source: Own calculation based on FAOSTAT data [5].

Analyzing the import situation (Figure 7) over the studied period, we can observe a relatively uniform distribution worldwide, with major importing nations located on nearly every continent. The most significant importing country is China, with 3.7 million tons (25.7% of the global total), followed by France with 1.27 million tons (8.8%), the USA with 1.25 million tons (8.7%), and the United Kingdom with 1 million tons (7%). Importing nations are predominantly located in the northern hemisphere (East Asia – China, Malaysia, Japan, South Korea; Europe – the United Kingdom, France, Germany, Italy, BeNeLux; North America – USA, Canada; Middle East – UAE, Saudi Arabia, Qatar, Jordan).

A distinctive situation can be observed in the case of certain countries such as China, the UK, France, or the United States of America. Despite having significant domestic production, it doesn't fully cover their internal needs. These countries are among the top importers due to high demand from the population and the processing industry seeking raw materials. In contrast, some economically challenged countries with high domestic demand have significant production but minimal imports, aiming to maintain trade balance stability. Prolonged negative trade balances could severely destabilize their already fragile economic situation. Among such countries are India, Pakistan, Afghanistan, Sudan, Nigeria, Chad, and even Turkey. Another category of importing nations includes those in the Islamic world, traditionally using sheep meat in their cuisine. Due to arid climates, these countries cannot entirely fulfill their needs through domestic production. Middle Eastern countries such as UAE, Saudi Arabia, Iran, Jordan, and Egypt fall into this category. Regarding the total exports of sheep meat from 2010 to 2022, a significant disparity is evident among countries (Figure 7). While 27 countries surpass 1 million tons in production, only three countries exported more than 1 million tons during the analyzed period.

The top two positions are almost equally dominated by Australia and New Zealand, exporting 5.25 and 4.97 million tonnes respectively, together accounting for more than 70% of global exports.

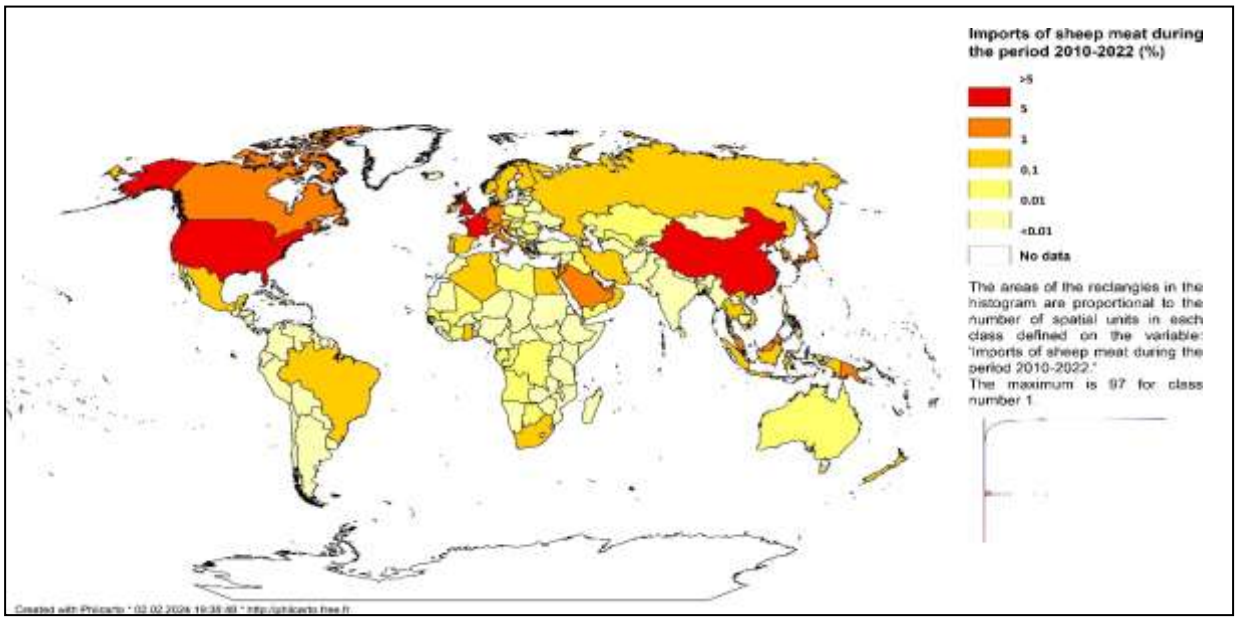

Fig. 7. Cartogram illustrating global sheep meat imports during the period 2010-2022
Source: Created with Philcarto based on FAOSTAT data [5].

The next country in terms of export volume, although significantly lower, is the united Kingdom, with 1.14 million tons (7.8 of the total).

On a regional level, aside from Australia and New Zealand, there is a notable concentration of exporting countries in Europe (the United Kingdom, Ireland, Spain, the Netherlands, France, Belgium, Germany, Romania, Greece) and the Americas (Uruguay, Argentina, Chile, USA).

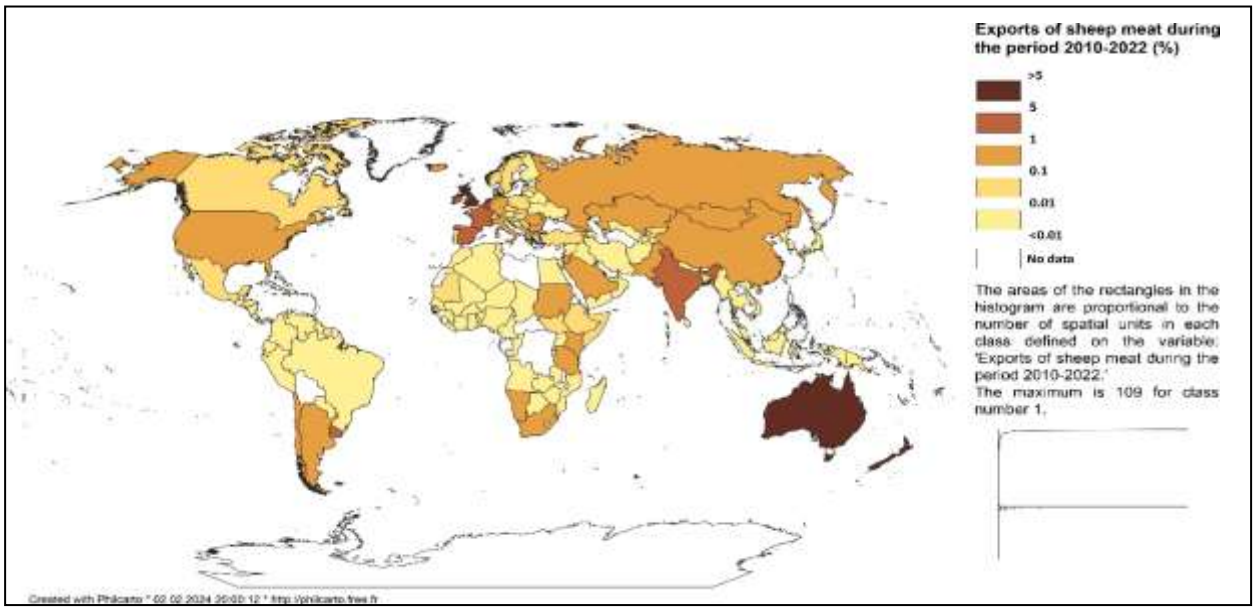

Fig. 8. Cartogram illustrating global sheep meat exports during the period 2010-2022
Source: Created with Philcarto based on FAOSTAT data [5].

CONCLUSIONS

After examining the main aspects of the global sheep market from 2010 to 2022, several important conclusions were drawn:

-demographic and economic changes, fluctuations in supply and demand, and changes in food consumption behaviour have had a significant impact on the global sheepmeat market over the past twelve years. Advances in livestock farming and increasing urbanisation have also been relevant factors in

market developments;
-the global sheep population has increased from 1.24 billion heads in 2010 to 1.52 billion heads in 2022, resulting in a growth of 22%;
-over the past twelve years, global sheep meat production has increased by 23%, with China dominating as the primary producer. FAO data indicates that 153 countries contributed less than 1% to global production, underscoring a concentration of production in a limited number of states. China accounted for 24.9% of production between 2010 and 2022, followed by Australia (7.1%) and New Zealand (5%);
-by 2029, sheep meat consumption is expected to increase by 8.1%
-in terms of exports, their volume increased by 25.4% until 2029. Only three countries exported more than one million tonnes during the period under review. The top two positions are occupied almost equally by Australia and New Zealand, accounting for over 70% of global exports combined. They are followed by the United Kingdom, which contributes 7.8% of total exports.
-despite significant domestic production, countries such as China, the United Kingdom, France or the United States do not fully cover their domestic needs. They are among the leading importers due to the high demand from the population and the processing industry in search of raw materials. In the case of imports, a more balanced overall distribution can be observed, with large importing countries located on all continents.

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