Analysis of fresh grape exports from Peru, periods 2019 – 2021

Análisis de las exportaciones de uva fresca de Perú, periodos 2019 – 2021

Análise das exportações de uvas frescas do Peru, períodos 2019 – 2021

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ABSTRACT

Exports are essential for the economic development of businesses and the country, since they allow to take full advantage of competitive advantages, generate jobs and increase foreign exchange. The general objective was to analyze the exports of fresh grapes from Peru from 2019-2021. For this, a quantitative methodology of applied, non-experimental type was used, the data were extracted from SUNAT, INEI and BCR which were analyzed through the documentary guide of the periods 2019-2021. The results revealed that Peru reached 49% of fresh grape exports to the United States in 2021, increasing its FOB value by 43% compared to 2019 and 25% to 2020. It is concluded that having a diversity of countries to export fresh grapes has allowed Peru to increase its exports even in times of pandemic. Therefore, it is suggested to Peruvian exporters to prioritize the world markets to which they seek access, having to have an internationalization plan, since resources are limited and must be used efficiently and thus Peru can become a safe country to invest, gain market position and develop its economy.

Keywords: Exports, fresh grapes, competitive advantage, FOB value, FOB value.

RESUMEN

Las exportaciones son esenciales para el desarrollo económico empresarial y del país, puesto que permiten aprovechar al máximo nivel las ventajas competitivas, genera trabajo y se aumentan las divisas. El objetivo general fue analizar las exportaciones de uva fresca del Perú del 2019-2021. Para ello, se utilizó una metodología cuantitativa de tipo aplicada, no experimental, los datos fueron extraídos de la SUNAT, INEI y BCR los cuales fueron analizados a través de la guía documental de los períodos 2019-2021. Los resultados revelaron que el Perú alcanzó un 49% de exportaciones de uva fresca a Estados Unidos en el 2021, aumentando su valor FOB en un 43% en comparación al 2019 y un 25% al 2020. Se concluye que al contar con diversidad de países para poder exportar uva fresca le ha permitido al Perú aumentar sus exportaciones incluso hasta en tiempos de pandemia. Por ello, se sugiere a los exportadores peruanos priorizar los mercados mundiales a los cuales se busca acceder, debiendo contar con un plan de internacionalización, dado que los recursos son limitados y deben utilizarse de forma eficiente y así Perú pueda convertirse en un país seguro para invertir, ganar posición en el mercado y desarrollar su economía.

Palabras clave: Exportación, uva fresca, ventaja competitiva, valor FOB.

RESUMO

As exportações são essenciais para o desenvolvimento econômico das empresas e do país, pois permitem o máximo aproveitamento das vantagens competitivas, geram empregos e aumentam as divisas. O objetivo geral foi analisar as exportações de uvas frescas do Peru no período 2019-2021. Para isso, foi utilizada uma metodologia quantitativa do tipo aplicado, não experimental, os dados foram extraídos do SUNAT, INEI e BCR, que foram analisados por meio do guia documental para os períodos 2019-2021. Os resultados revelaram que o Peru atingiu 49% das exportações de uvas in natura para os Estados Unidos em 2021, aumentando seu valor FOB em 43% em relação a 2019 e 25% a 2020. Conclui-se que ter uma diversidade de países para poder exportar in natura uvas permitiu ao Peru aumentar suas exportações mesmo em tempos de pandemia. Por isso, sugere-se aos exportadores peruanos que priorizem os mercados mundiais aos quais buscam acessar, devendo ter um plano de internacionalização, visto que os recursos são limitados e devem ser utilizados de forma eficiente e, assim, o Peru pode se tornar um país seguro para investir, ganhar uma posição no mercado e desenvolver sua economia.

Palavras-chave: Exportação, uvas frescas, vantagem competitiva, valor FOB.
1. INTRODUCTION

Nowadays, we live in a globalized world. Economic activities abroad contribute to the growth of countries and, consequently, to their development. In Peru, in recent years, the export of fresh grapes perceived a significant growth; becoming one of the economic activities with greater competitiveness. According to Sánchez (2018) international trade unites different countries and simplifies the exchange of goods and services; and on the other hand, Durán et al. (2018) mentioned that high production costs and quality inequality show the weakness of non-traditional fresh produce exporters in international markets. In this way, trade pacts were able to influence the production of goods in some countries, generating advantages and in some cases also disadvantages.

In the Colombian case, these treaties generated a positive impact to maintain the export relations that were already activated before; however, they were not associated to an improvement of the survival perspectives of the incoming relations, due to the scarcity of knowledge and experience. (Murillo & Leal, 2021).

At the national level considering the contribution of Barrientos (2019) mentioned that small farmers play a strategic role in the economy as they are in charge of supplying food to the domestic market, but their main disadvantage is that they do not have facilities to participate in other important marketing processes, which creates problems for both the country and the investors themselves. He therefore considered it advisable to integrate producers into the export chain in such a way as to ensure the participation of as many producers as possible and to provide them with the necessary tools such as training and indirect financing.

Peru's agricultural production and exports depend on the richness of the soil, climate, productive forces and human capital; the only obstacle is the lack of support from many public and financial institutions, which are unfriendly to the needs of producers. López et al. (2020) considered it necessary to use a system of measures or development plan to guarantee the development of rural areas.

The structure of Peruvian agriculture for grapes has limitations at the technological level, mainly due to a production system with two harvests per year on small and medium-sized farms, limited access to skilled labour as field workers, and dependence on varieties, which affects marketing. Solano et al. (2021) mentioned that Peru could expand and maintain the preferential access of Peruvian grapes to the U.S. market guaranteed by the signed trade agreement.

This research was justified in a theoretical way, consolidated in Smith's approach to international trade (1776) posed the model of absolute advantage highlighting the importance of free trade to increase national wealth. The foreign market is based on different theories and therefore tries to explain the functioning of the economy and the movement of goods in different ways.

Also, in its practical justification, this study allowed to find out exactly how the signatory countries benefit from trade strategies, delving about the advantages and benefits that the country has, if there is an increase in investments, protection of intellectual industry that fulfills its purpose of motivating the commercial activity of market players.

Similarly, in the social aspect, bilateral free trade agreements have been the main means of opening markets during the last decade. The contribution to the achievement of social welfare was analyzed, if the trade strategies applied were for the entire population that could enjoy the benefits such as being able to easily access the purchase of any product not only those produced within the country but also those produced outside without ceasing to promote national production.

Regarding the methodological justification, it was considered important to present in detail the Peruvian exports of fresh grapes highlighting the position of agro-industrial products in the international market, so that this study can serve as a basis for other researchers interested in the subject and who wish to delve deeper into it, as well as share and discuss the results of this study. The general objective set out was: To analyze the exports of fresh grapes from Peru from 2019-2021.
2. THEORETICAL FOUNDATION

2.1. International background

Considering contributions of different authors, who published their research in repositories and journals obtained: We mention Anastasiou et al. (2022) their study analyzed and evaluated the impact of soil and climatic conditions on the yield and quality of grapes, considered one of the most important crops in the world. The results showed that climatic conditions have a significant impact on grape yield and quality. Concluding that good soil management favors grape development and, therefore, grape production and quality, provided that appropriate cultivation practices are planned and applied to mitigate the impact of climate change on the efficiency and quality of grape production. In addition, Mataveli et al. (2022) analysed the impact of barriers such as human capital, culture, management and finance that hinder exports and thus internationalization. The most outstanding results confirm that there is a significant effect of the human capital barrier on the cultural barrier and of the administrative barrier on the financial barrier considered as critical aspects that affect exporting and decide to a great extent the success or failure of internationalization. Thus, concluding that export barriers in both emerging and developed countries interact to create cumulative barriers to exports that pose a major challenge to exporting firms increasingly seeking to internationalize their markets.

In the same way, the study by Santos et al. (2021) analysed the productive efficiency in grape farms in the north of Portugal verifying if these structural factors are responsible for the different levels of efficiency. The results obtained showed that the average efficiency of grape production was around 67 and 68%, i.e., the efficiency magnitudes were very discrepant among the production units. This led to the conclusion that farms can improve by 32/33% and will be more efficient if they are managed taking into account specific structural factors (climate, soil type, slope, grape variety, market economy and complexity of the production process).

Thus, farms operating under different conditions, with different technologies and resources, and in different combinations, can be expected to have different levels of efficiency. On the other hand, Ziyanda (2020) conducted a study to investigate and analyse trends in competitive performance in a South African grape factory to propose strategies to boost the level of competitiveness. The most outstanding results obtained were the high international demand for table grapes for which many of the people surveyed would be willing to pay for high quality products, although foreign competition from this country is very high. The determining factors that give an advantage are a developed infrastructure, technology, access to water, productive land and land reforms in each country. Reaching important conclusions about the South African table grape industry, as it showed a competitive trend of more than 60 years, at the same time being its biggest competitors (Chile and Peru) so it was considered essential to apply strategic intelligence throughout the industry and develop a plan that promotes a sustainable competitive advantage.

In addition, Gajardo (2020) also determined to measure the effect of tariff regulations in Europe on the sale of chile grapes, which proved to be a challenge for producers and exporters due to higher costs and changes in logistics. The most salient results were that exporters do not enjoy the financial advantages that valid laws could theoretically provide. The conclusion was that the particular rules do not guarantee a good cost, on the contrary, they offer an opportunity to access a market in which selling is much more feasible, since the European market does not give good payments for imported fruit. So, you can get good results by getting the right fruit to the right market. On the other hand, Verter & Hasíková (2019) evaluated the profitability of grape production in the Czech Republic. To do so, they conducted a descriptive and empirical analysis in order to identify some of the factors of grape production. The results obtained were that the highest yields in the Czech Republic were recorded in 1994 with 6.14 t/ha and the lowest in 2010 with only 2.9 t/ha. On the other hand, Slovakia’s highest yields were recorded in 2015 with 5.7 t/ha and the lowest in 1995 with just 2.55 t/ha. The use of modern agricultural inputs and technologies may have partly contributed to the high grape yields in advanced economies. Descriptive data show that the Czech Republic and Slovakia have low grape yields per hectare and that yields, prices and exports influence the country’s grape production. Morales et al. (2022) in their research analyzed the importance of the ripening process of grapes using a prototype that measures transpiration, as some studies showed that treatments that reduce bunch
transpiration delay ripening. The most important results showed that grape transpiration is easier to control by measuring weight loss (water loss), a large laboratory bench system was used to prove that grape ripening depends on transpiration. Thus, concluding that the prototype offered advantages in measuring transpiration with a high level of environmental control in the ripening process, allowing the production of quality products that guarantee a better and wider distribution of the product not only nationally, but also internationally.

According to Contardo (2013) analyzed the organization and methods applied by exporting companies for the trade of Chilean table grapes. The results obtained indicate that Chile has a very important collaboration in both production and export worldwide, all this has been achieved thanks to the production in scale consequent with it the reduction of prices and production processes that provide high quality product. The commercialization of grapes has taken much importance in the international business which has generated a territorial expansion for the plantations in Chile. The conclusion is that Chile is a leading country in grape exports and the instability of the export destination countries, the variability of the cost of foreign currency and increased costs are factors to which it is necessary to adapt to maintain competitiveness in the long term.

2.2. National background

As for the national antecedents, different contributions were considered as follows: Ortigueira et al. (2022) in their research on the impact of innovation on the export performance of small and medium-sized enterprises (SMEs) in Peru. The results showed that innovation, human capital and cooperation had a positive effect on the types of innovation and these have a positive impact on production and export performance. Concluding that the average production performance in the relationship between types of innovation and export performance enables competitiveness in international markets. Similarly, Llunen (2021) conducted an analysis on the volume of grape exports of a Peruvian company to the U.S. market. The results obtained show the tariff advantages that Peru has, thanks to the Free Trade Agreement, benefited with a permanent access to this market, consequently managing to remain in a competitive position supplying food products such as grapes. Thus, concluding that the country has great facilities in agro-export trade thanks to the tariff preferences that it maintains with major allies such as the United States, in which all products that correspond to the agricultural sector as in the case of grapes have 0% tariff, which gives Peru a profitable competitive advantage. Likewise, Salmoral et al. (2020) in their study evaluated the impact on water resources in the Ica Valley, Peru, as a result of agricultural expansion to promote agricultural exports. The most notable results were that the increase in global food production and exports had a significant impact on the depletion of freshwater resources and was considered unsustainable. Thus, concluding that the importance of agricultural systems for better water management, including groundwater recovery and limiting unsustainable abstraction is essential so that agricultural production and exports are not affected.

Considering also the contribution of Moreyra (2019) who determined to measure the behavior of fresh grape production and its commercialization, in a national environment of economic development. The most outstanding results were the trend in the increase of sales of this product worldwide; world imports of fresh grapes increased by 82.4% in recent years; its high request was equally seen in the high-cost levels in the international market, which encourages industrial countries to be part of the international market. Coming to conclude that the positioning of Peruvian fresh grapes in the demanding world market still has great potential for development is why it should seek to incorporate and unite the shortest farmers who can contribute to increase production and increase the export potential of grapes. In addition, Carrillo (2018) determined the feasibility of marketing grapes varying in the country of Hong Kong for agro-exporting companies located in Northern Peru with a qualitative and quantitative methodology (mixed) linked to the representative study. In its results it was shown that the export of table grapes to the Hong Kong market is possible because it is a country that encourages imports of grapes in its territory, because it does not impose tariffs on the fruit and because the production of grapes there is almost incapable, so it depends on purchases from other countries for consumption and again its sale of the same. The conclusion is that Hong Kong people have a high
purchasing power, so they can pay for higher quality grapes and this is an open market and a bridge to more trade with Asian countries. As for Bisson & Tang (2018) studied the competitive situation of Peruvian exporters of fresh grapes, using cluster analysis as a research tool to determine the share of grape exports in total exports. The results obtained make it clear that the larger the size of the grape farm, the higher its price according to the quantity exported. This leads to the conclusion that changes in the areas in which exporters can acquire higher levels of skills play an important role in shaping the behavioral and commercial typologies of competitive intelligence activities.

Considering also the contribution of MINCETUR (2018) who set out to analyses the supply network in Peruvian grape sales abroad and quantified the associated logistics costs as representative of the main Peruvian trade corridors. The most evident results were that the highest transport costs are between the farm and the factory, with average transport costs of US$ 627 per shipment (of approximately 20 tons) since they use generators that keep the product refrigerated, in addition to insurance for unforeseen events or accidents during transport and the various administrative procedures that prove to be a substantial obstacle to export. The conclusion is that transport does not represent a significant amount since it is integrated and that the most time-consuming process is the treatment, especially cold storage, which takes place in the same corridor.

In addition, Gines (2016) analyzed the business opportunity of fresh grapes available thanks to the given trade agreements. Results can be seen as the growing demand for acquisitions of that product being essential to export because other countries have a great interest in fresh grapes, probably because of the nutritional value as it is a characteristic of the American consumer to consume high quality products. Fresh grapes generate great business and employment opportunities in Peru for the planting and harvesting process. It is concluded in such a way that, the great offer for the international commercialization of grapes that is formed by the quality and high productivity, since the cost of production per unit is not very feasible.

2.3. Scientific approaches

In this study we considered as scientific approaches Smith’s doctrine (1776) with his term "absolute advantage" which explains that each country has absolute advantage in one or more goods over the other country. The model of absolute advantage constituted the first step to the classical theory of international trade since countries supply themselves with goods they produce with disadvantage and export those goods they produce with greater advantage. Ricardo was also considered (1817) Ricardo, who determined that nations that have a certain capacity of performance of their products should specialize in that. In this way, they use fewer resources in the production process and generate high quality goods, which could be exchanged with other goods from different countries in which they have some kind of efficiency and advantage. Achieving this through importing and exporting for mutual benefit between countries. We also have Porter (1980) who took it upon himself to analyze the reasons why some countries are home to successful multinational companies. According to his model of competitive advantage; which is a quality of companies that places them in a better competitive situation.

2.4. Conceptual definition

Having defined the context of the research variables, we moved on to the specific variables: The authors Garcia & Garcia (2008) defined business opportunity as the identification of resources and skills of a company. Likewise, Meléndez (2008) mentioned that it is the one that occurs where there is a need since it is where the daily activities of a company begin, which depends on several factors, such as the number of conditional customers and their purchasing power. Similarly, Acosta (2017) mentions that the business opportunity is mostly born from a business idea; this idea represents the possibility of starting a lasting business. In this way, they can offer products that meet their needs at favorable conditions. Then we could deduce that the business opportunity is the perception of the right time to start a profit-making enterprise. It
requires the identification of the scarcity and challenges of the place where it is traded, also knowing the existing problems looking for ways to satisfy the desires of customers.

On the other hand, according to SUNAT (n.d.) is the sale of national goods or products outside the customs territory for final use or consumption abroad being exempt from taxes. The fees to be paid correspond to the transfer of the goods and depend on the prices established by the company dedicated to providing international and national transport services, brokerage and others). For Ceballos (2014) exporting is selling and transporting goods or services to another country which allows companies to create international business. The more exporters mean more business, and more business means more benefits for companies and more jobs. Also, according to Castro (2020) is the business of selling goods and services abroad. Therefore, we conclude that exports are legitimate business activities conducted by one country with another in order to use or consume goods or services produced in another country.

In the dimensions of the variables, the identification of the value in dollars or amount of money paid was considered. (BCRPData, 2021) FOB values (million US$) of monthly exports in the Agricultural sector specifically Grapes that in the sum of its months in the year 2019 Peru obtained a FOB value of 878 million US$, likewise with the procedure of sum in the year 2020 FOB value 1034 million US$ being this 18% more than the previous year and of the year 2021 the value of Free on Board, agreed port of loading is 1256 million US$ being 43% more than the year 2019 revealing that it is increasing the export of grapes statistically. In addition, the characteristics of the product meet patterns of excellence in grapes that are differentiable between countries SUNAT. (2021) SUNAT, details countries such as US - UNITED STATES (United States) with an FOB value of 124,144,151.78 being the largest dollar amount in that year, also NL - NETHERLANDS (Netherlands) in second place with an FOB value of 69,048,480.30 and having a total FOB value of 331,826,774.44 (millions of US$) throughout the year 2021 in exports from Peru to other nations, in addition we also identify production as a dimension since it is the set of different processes in which the primary materials are subjected to transform and adapt them as a final product for sale.

According to the Central Reserve Bank of Peru (2021) According to the Central Reserve Bank of Peru, Peru has had a monthly agricultural production of grapes whose time of major crops are from November to February so that by adding up the months we get a production of 640 thousand tons of grapes amount for the year 2019, is using the same summation method we get a production of 733 thousand tons of grapes produced in 2020, so that the maintenance of high levels of sugar and juiciness and the management of ripening time are crucial for the marketing of this product for these reasons on the other hand it should be noted that the fruits must be healthy, clean and substantially free of visible foreign matter, pests, rot or damage that detract from the overall appearance of the product. They must also be free of any unusual smell or taste.

2.5. Legal framework

Taking into account the laws and regulations on which this research work is based. It refers to Law No. 27790, whose role is to promote foreign sales and trade agreements between countries by facilitating optimal conditions for entries and competitiveness, optimizing the use of trade treaties to which the country is part, the various international trade discussions, incorporation programs and economic and social support, helping to develop strategies to ensure excellent participation of countries in these agreements.

Likewise, Legislative Decree N°1053 whose objective is to regulate the legal relations of SUNAT and the physical individuals and companies engaged in importing, staying, transporting and exporting goods or products from the customs territory ensuring compliance with customs legislation. In addition, it is considered important to mention Law No. 28977, which establishes the legal framework for the customs treatment of imported or exported goods and to take the necessary measures to comply with customs procedures and trade facilitation obligations contained in the trade agreements signed by Peru. On the other hand, Regulation No. 28008 establishes that any person who imports goods from a foreign country, takes them out of the country or evades customs control without going through their respective inspection or physical examination on the premises of a customs authority or in a place authorized for that purpose,
commits the offence of smuggling. Similarly, Regulation No. 133-2013-EF, which aims to improve the processing of customs offences, streamline customs clearance of goods and bring it into line with the rules of criminal procedure.

3. METHODOLOGICAL PROCEDURES

Applied research has been taken into account in the development of this article, as it is based on research conducted to ensure proper analysis and comparison of results. According to Lozada (2014) applied research creates significant added value by building on the knowledge gained from basic research. Since data collection and analysis requires interpretation, a quantitative approach was chosen for this study. According to Sanchez (2019) mentions the quantitative approach which focuses on the phenomenon being measured and analyzes the data collected using statistical methods. Likewise, documentary research was used since it takes into account the theoretical knowledge of the variables analyzed in this work, according to Baena (2014) indicates that it is a search for a concrete answer based on an analysis of secondary sources.

Similarly, a non-experimental design was used given that there is no unintentional handling in the observed parties, where Hernandez (2017) indicates that this is an observation of an existing situation and had not been intentionally elicited by the researcher in the study. These variables cannot be controlled or influenced directly, as they have already occurred and are having an impact. In addition, the population was considered as statistical data for the periods 2019 to 2021 obtained from SUNAT, INEI and BCR as exports and productions of companies in the agro-industrial sector of Peru, specifically those engaged in exporting fresh grapes; according to Lopez & Fachelli (2015) the population is the area under analysis and the set of elements from which conclusions can be drawn from the analysis. Likewise, a part of the total amount of information considered in the objective population was used as a sample, taking into account the contribution of Ventura (2017) explains that this is the observable part of the total (population).

Likewise, documentary analysis was used as a technique conformed by the statistical reports from 2019 to 2021 of the exports of the companies in the agro-industrial sector, according to Gamboa (2016) mentions that the documentary analysis allows to deepen the theory and is necessary for the collection of information and critical writing. For the development of this research firstly the topic of study was selected in class with the help of the teacher, then the respective research of related topics was carried out for which scientific articles, journals, theses and books containing important and necessary information for the advancement of this study were considered.

This research was based on the quantitative method of inferential statistics type since it will interpret and compare the statistical data that was considered as population; according to Acosta et al. (2014) inferential statistics is based on the study and understanding of previously extracted information. This research is conducted in accordance with ethical principles that promote the advancement of knowledge, understanding and social development. According to Salazar et al. (2018) research ethics is fundamental for scientists because it promotes respect through the use of citations and references based on standards focusing on the improvement of their research.

4. RESULTS AND DISCUSSION

4.1. Results

Within the export variable, the following dimensions were analyzed:

Dimension 1. FOB value of Peruvian exports-other nations
Table 1

*FOB value of 2019 exports of fresh grapes from Peru to other nations. Expressed in millions of dollars and its percentage variation.*

<table>
<thead>
<tr>
<th>Country of destination</th>
<th>2019</th>
<th>Percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td>US - UNITED STATES</td>
<td>391,819,923.47</td>
<td>58%</td>
</tr>
<tr>
<td>NL - NETHERLANDS</td>
<td>113,584,252.08</td>
<td>17%</td>
</tr>
<tr>
<td>HK - HONG KONG</td>
<td>75,284,051.31</td>
<td>11%</td>
</tr>
<tr>
<td>GB - UNITED KINGDOM</td>
<td>47,933,584.60</td>
<td>7%</td>
</tr>
<tr>
<td>CN - CHINA</td>
<td>43,807,715.61</td>
<td>7%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>672,429,527.07</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Note: This table contains the FOB value of 2019 fresh grape exports.

Figure 1

*2019 FOB value of fresh grape exports from Peru to other nations. Expressed as a percentage*

Note: This figure contains the FOB % value of fresh grape exports for 2019.

Description: The data set out in Figure 1 show that in 2019 the FOB value of fresh grape exports from Peru to other nations were significant, in this case considering the first 5 countries to which it was exported more, the sums of the FOB value of such exports to these countries were represented by 100%: United States was the main creditor country of Peruvian fresh grapes during this year, representing 58%, next was low countries with 17% ranking second; the country of Hong Kong also acquired large quantities of fresh grapes from Peru with a FOB value equivalent to 11% among them, to United Kingdom and China exports were made with a FOB value of 7% for both, who were the countries to which less grape exports were made compared to the countries mentioned above.

Table 2

*2020 FOB value of fresh grape exports from Peru to other countries. Expressed in millions of dollars and its percentage variation.*

<table>
<thead>
<tr>
<th>Destination Country</th>
<th>2020</th>
<th>Percentage Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>US - UNITED STATES</td>
<td>300,789,404.10</td>
<td>60%</td>
</tr>
<tr>
<td>NL - NETHERLANDS</td>
<td>76,495,173.37</td>
<td>15%</td>
</tr>
<tr>
<td>HK - HONG KONG</td>
<td>69,070,443.94</td>
<td>14%</td>
</tr>
<tr>
<td>MX - MEXICO</td>
<td>27,414,204.47</td>
<td>6%</td>
</tr>
<tr>
<td>CN - CHINA</td>
<td>24,607,163.93</td>
<td>5%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>498,376,389.81</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Note: This table contains the FOB value of 2020 fresh grape exports.
Figure 2
2020 FOB value of fresh grape exports from Peru to other nations. Expressed as a percentage

Note: This figure contains the FOB % value of 2020 fresh grape exports.

Description: The data set out in Figure 2 shows that in 2020 the FOB value of fresh grape exports from Peru to other nations remained in great numbers. The United States still remained as the main creditor country of Peruvian fresh grapes for the second consecutive year, this time representing 60% of the others, followed by low countries this time with 15% again ranking second; the country of Hong Kong also acquired large quantities this year with an FOB value equivalent to 14% of them, as the fourth country this time was located Mexico replacing the United Kingdom with 6% and finally China with 5%, who remains as the fifth destination country of exports of fresh grapes represented in FOB value.

Table 3
FOB value of fresh grape exports from Peru to other countries in 2021. Expressed in millions of dollars and its percentage variation.

<table>
<thead>
<tr>
<th>Destination Country</th>
<th>2021</th>
<th>Percentage Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>US - UNITED STATES</td>
<td>124,142,566.93</td>
<td>49%</td>
</tr>
<tr>
<td>NL - NETHERLANDS</td>
<td>69,048,480.30</td>
<td>27%</td>
</tr>
<tr>
<td>GB - UNITED KINGDOM</td>
<td>27,305,282.24</td>
<td>11%</td>
</tr>
<tr>
<td>HK - HONG KONG</td>
<td>19,308,078.82</td>
<td>8%</td>
</tr>
<tr>
<td>KR - KOREA, REPUBLIC OF</td>
<td>12,342,335.62</td>
<td>5%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>252,146,743.91</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: This table contains the FOB value of fresh grape exports for 2021.

Figure 3
2021 FOB value of fresh grape exports from Peru to other nations. Expressed in percentage
Note: This figure contains the FOB value of fresh grape exports for 2021.

**Description:** The data set out in Figure 3 it can be seen that in the year 2021 the FOB value of Peru's fresh grape exports decreased by a large amount. However, the United States remained as the first creditor country of Peruvian fresh grapes, this time accounted for 49% of among the main countries being its third consecutive year, the Netherlands was again placed as second in this year, this time accounting for 27% of the others, next; The United Kingdom was again among the first and this time was the third country that purchased large quantities of fresh grapes from Peru equivalent to 11% of them, as the fourth country this time was located Hong Kong replacing Mexico with 8% and finally Republic of Korea became part of the top 5 countries replacing China with 5%, among the countries mentioned above.

**Dimension 2. FOB value of Peruvian exports**

**Table 4**

*Monthly FOB value of 2019 exports of fresh grapes from Peru. Expressed in millions of dollars and its percentage variation.*

<table>
<thead>
<tr>
<th>Months</th>
<th>Amount</th>
<th>Percentage Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>257</td>
<td>29%</td>
</tr>
<tr>
<td>February</td>
<td>84</td>
<td>10%</td>
</tr>
<tr>
<td>March</td>
<td>13</td>
<td>2%</td>
</tr>
<tr>
<td>April</td>
<td>2</td>
<td>0.2%</td>
</tr>
<tr>
<td>May</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>June</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>July</td>
<td>1</td>
<td>0.1%</td>
</tr>
<tr>
<td>August</td>
<td>3</td>
<td>0.4%</td>
</tr>
<tr>
<td>September</td>
<td>10</td>
<td>1.1%</td>
</tr>
<tr>
<td>October</td>
<td>72</td>
<td>8.2%</td>
</tr>
<tr>
<td>November</td>
<td>159</td>
<td>18%</td>
</tr>
<tr>
<td>December</td>
<td>276</td>
<td>31%</td>
</tr>
<tr>
<td><strong>Total Year</strong></td>
<td><strong>878</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Note: This table contains the FOB value by month of 2019 fresh grape exports.

**Figure 4**

*FOB value by months of 2019 of fresh grape exports from Peru. Expressed in percentage*

Note: This figure contains the FOB value by month of 2019 fresh grape exports.
Description: The data set out in Figure 4 can be seen that in 2019 exports of fresh grapes from Peru were higher in January and December representing 29% and 31% in FOB value of the total exported throughout the year. On the contrary, there were months that no exports were made and are the months of May to June where 0% exports are reflected; and the months of April, July and August exports were between 0.2% and 0.4%; in March and September exports were made, but in very low quantities in FOB value of 2% and 1.1% of the total and in the months of February, October and November exports were 10%, 8.2% and 18% respectively of the total exported throughout the year being moderate quantities that were exported in those months compared to the beginning and end of the year.

Table 5
Monthly FOB value of 2020 fresh grape exports from Peru. Expressed in millions of dollars and its percentage variation.

<table>
<thead>
<tr>
<th>Months</th>
<th>Amount</th>
<th>Percentage Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>297</td>
<td>29%</td>
</tr>
<tr>
<td>February</td>
<td>104</td>
<td>10%</td>
</tr>
<tr>
<td>March</td>
<td>14</td>
<td>1%</td>
</tr>
<tr>
<td>April</td>
<td>1</td>
<td>0.1%</td>
</tr>
<tr>
<td>May</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>June</td>
<td>1</td>
<td>0.1%</td>
</tr>
<tr>
<td>July</td>
<td>3</td>
<td>0.3%</td>
</tr>
<tr>
<td>August</td>
<td>3</td>
<td>0.3%</td>
</tr>
<tr>
<td>September</td>
<td>7</td>
<td>1%</td>
</tr>
<tr>
<td>October</td>
<td>76</td>
<td>7%</td>
</tr>
<tr>
<td>November</td>
<td>194</td>
<td></td>
</tr>
<tr>
<td>December</td>
<td>332</td>
<td>32.2%</td>
</tr>
<tr>
<td>Total Year</td>
<td>1034</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: This table contains the FOB value by month of 2020 fresh grape exports.

Figure 5
FOB value by month of 2020 fresh grape exports from Peru. Expressed in percentage

Description: The data set out in Figure 5 can be seen that in 2020 exports of fresh grapes from Peru were higher in January and December also like the previous year representing this time 29% and 32.2% in FOB value of the total exported in the whole year, appreciating that there was a growth in both months. On the
contrary, the month of May there were no exports and the months of April, June, July and August if exports were made, but in very low quantities ranging between 0.1% and 0.3%, in March and September as the previous year exports were also small quantities, represented in FOB value 1% for both and in the months of February, October and November exports were 10%, 7% and 19% respectively of total exports throughout the year being still moderate quantities in those months compared to the beginning and end of the year.

Table 6
Monthly FOB value of fresh grape exports from Peru in 2021. Expressed in millions of dollars and its percentage variation.

<table>
<thead>
<tr>
<th>Months</th>
<th>Amount</th>
<th>Percentage Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>342</td>
<td>27.2%</td>
</tr>
<tr>
<td>February</td>
<td>140</td>
<td>11.2%</td>
</tr>
<tr>
<td>March</td>
<td>23</td>
<td>2%</td>
</tr>
<tr>
<td>April</td>
<td>2</td>
<td>0.1%</td>
</tr>
<tr>
<td>May</td>
<td>2</td>
<td>0.1%</td>
</tr>
<tr>
<td>June</td>
<td>2</td>
<td>0.2%</td>
</tr>
<tr>
<td>July</td>
<td>5</td>
<td>0.4%</td>
</tr>
<tr>
<td>August</td>
<td>5</td>
<td>0.4%</td>
</tr>
<tr>
<td>September</td>
<td>9</td>
<td>1%</td>
</tr>
<tr>
<td>October</td>
<td>81</td>
<td>6.4%</td>
</tr>
<tr>
<td>November</td>
<td>253</td>
<td>20%</td>
</tr>
<tr>
<td>December</td>
<td>394</td>
<td>31%</td>
</tr>
<tr>
<td><strong>Total Year</strong></td>
<td><strong>1256</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Note: This table contains the FOB value by month of fresh grape exports for 2021.

Figure 6
FOB value by month of 2021 of fresh grape exports from Peru. Expressed in percentage

Note: This figure contains the FOB value by month of fresh grape exports for 2021.

**Description:** The data set out in Figure 6 it can be seen that in the year 2021 exports of fresh grapes from Peru were higher again at the beginning and end of the year with 27.2% in January and 31% in December in FOB value of the total exported in the whole year. In the month of November exports increased and this time is seen 20% of the total for the year, in February exports were represented by 11.2% in October decreased small amounts compared to the previous year and this time is represented by 6.4%. Similarly, it is reflected that for the months of April to August where exports were very low which varied between 0.1% and 0.4% and for March and September exports in FOB value were only 2% and 1% respectively.
Table 7
FOB value of fresh grape exports from Peru 2019-2021. Expressed in millions of dollars and its percentage variation.

<table>
<thead>
<tr>
<th>Years</th>
<th>Value</th>
<th>Percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>878</td>
<td>100%</td>
</tr>
<tr>
<td>2020</td>
<td>1034</td>
<td>118%</td>
</tr>
<tr>
<td>2021</td>
<td>1256</td>
<td>143%</td>
</tr>
</tbody>
</table>

Note: This table contains the annual FOB value of fresh grape exports from 2019 - 2021.

Figure 7
Annual FOB value of fresh grape exports from Peru 2019-2021. Expressed as a percentage

Note: This figure contains the annual FOB value of fresh grape exports from 2019-2021.

Description: The data set out in Figure 7 you can see the percentage change in FOB value in exports of fresh grapes from Peru during the period 2019 -2021. It shows that each year increased exports of Peruvian fresh grapes, in the year 2020 increased by 18% compared to 2019 and in the year 2021 increased by 43% compared to 2019, thus reflected that in the year 2021 there was a significant growth compared to previous years.

Dimension 3. Agricultural production

Figure 8
Agricultural production by months of 2019 of fresh grapes from Peru. Expressed in percentage
Note: This figure contains the 2019 fresh grape production by month.

**Description:** The data set out in Figure 8 can be seen the production of fresh grapes represented in tons in 2019. The highest production was in December as can be seen being in 22% of the total produced during the year, this is because exports were also higher in that month and the more demand the more production; followed by the months of January, February and November with a production of 18%, 16% and 15% respectively. On the other hand, of the total produced throughout the year, in March there was a production of 11% and in October 8% because they were months where exports were moderate; however, in the months of April to September productions were super low as they are equivalent to between 1% and 3%, reflecting that in those months’ exports of fresh grapes from Peru were also the lowest.

**Figure 9**

Peru's 2020 agricultural production of fresh grapes by month. Expressed in percentage

Note: This figure contains the production by month of fresh grapes for 2020.

**Description:** The data set out in Figure 8 shows the production of fresh grapes represented in tons for the year 2020. In this year the highest production was in December again as can be seen, of the total produced during the year, in this month there was a production of 25% since for the year 2020 exports in that month were also significant which justifies such production, followed by the month of January which covered a production of 20% and in November 16%. On the other hand, of the total produced during the whole year, the months of February, March and October reflected 13%, 9% and in October 8%, where productions decreased and were moderate. But in the months of April to September the production of fresh grapes was very low, these months were the ones where there was less production since it was only 1% to 2%.

**Figure 10**

Agricultural production by months of 2021 of fresh grapes from Peru. Expressed in percentage
Note: This figure contains the production by month of fresh grapes for 2021.

**Description:** The data set out in Figure 9 shows the production of fresh grapes represented in tons during the year 2021. In this year the highest production was in the month of January and December as can be seen, of the total produced during the year, in these months there was a production of 23% and 26.3% respectively, being higher than the productions of the previous year; in the months of February and March the productions were 14% of the total produced throughout the year, also being higher than in 2020. On the other hand, of the total produced during the whole year, the months of March and October reflected 9.2% and in October 6%, which compared to the previous year there was not much variation. But in the months of April to September the production of fresh grapes remained at 1.3% and 2% of the total for the year, these months remain as the lowest as they only vary in these percentages.

**Figure 11**
Peru's annual agricultural production of fresh grapes 2019-2021. Expressed in percentage

Note: This figure contains the annual production of fresh grapes for 2019-2021.

**Description:** The data set out in Figure 11 you can see the percentage variation of Peru's fresh grape production during the period 2019-2021. It shows that each year increased the productions of fresh grapes in
Peru, in the year 2020 increased by 15% compared to 2019 and in the year 2021 there was an increase of 29% compared to 2019 as well, thus showing that this last year there was a significant growth compared to previous years.

4.2. Discussion

The results obtained from the FOB value 2019-2021 in exports of fresh grapes from Peru to other nations were significant finding that the United States was the main creditor country of Peruvian fresh grapes during the three consecutive years, in 2019 with 58%, in 2020 with 60% and in 2021 with 49% of total exports in FOB value throughout the year, then was Netherlands (Netherlands) ranking second and exports for that country varied between 27% and 15% during the 3 years being higher in 2021; The country of Hong Kong also purchased large quantities of fresh grapes from Peru being the third among the first countries, then were the United Kingdom, Republic of Korea, Mexico and China among which there were variations during the 3 years; these countries were the ones to which less grape exports were made compared to the countries mentioned above.

These results are supported by Gajardo (2020) who states that the form of sale depends not only on the history of cooperation with a given country, but also on the seasonal weather conditions that determine its ability to meet the phytosanitary requirements of the destination country. In addition, Lluen (2021) mentions that U.S. imports of grapes have shown positive trends in recent years, noting that Peruvian exports enjoy steady growth in this market and thanks to the tariff preferences that have the vast majority of products of the agricultural export sector gives Peru a great competitive advantage as a food supplier. Ziyanda (2020) on the other hand mentions that the determining factors that provide a production advantage are the developed infrastructures of the countries, technology, access to water, productive land and agrarian reform, which can increase exports with an advantage over other countries by providing high quality products. The scientific approach that underpins these results is Smith’s theory of absolute advantage. (1776)Smith’s theory of absolute advantage, which states that one country can produce a higher quality product than another using fewer productive resources. This justifies exports from countries that have a production advantage over countries that do not produce or produce at a disadvantage, leading to the conclusion that international trade is efficient.

The results achieved of the FOB value 2019-2021 in exports of fresh grapes from Peru show the percentage variation of exports made in that period, reflecting that each year increased favorably, being 2021 the year that more exports were made compared to previous years. In the year 2020 they increased by 18% compared to 2019 and in the year 2021 they managed to increase by 43% compared to 2019, so in the year 2021 there was a significant growth compared to previous years.

These results are supported by Contardo (2013) who states that the increase in export volumes entails an increase in the quality and condition requirements of the product at its export destination. The relationship between the different agents (producer-exporter-recipient) is fundamental in the marketing process; production must focus on all the details to guarantee good results and, therefore, higher profits, as well as to ensure trust. Furthermore, Bisson & Tang (2018) points out that the higher the grape yield, the higher the price depending on the quantity of grapes exported; this means that changes in the industry, where exporters can obtain higher grades, play an important role in controlling competition. Also, Santos et al. (2021) have found that yields are more efficient when managed according to climate conditions, soil type, grape type, economics, market, crop size and complexity of the production process. Thus, different levels of production efficiency are achieved under different conditions and with different technologies and resources. The results are based on the scientific approach of Porter (1980) who established the concept of competitive advantage as an important characteristic that companies must achieve in order to succeed in world trade, so that they gain market share both nationally and internationally on the basis of their prices and quality, and thus achieve long-term sustainable economic growth.

The results obtained from the production of fresh grapes in Peru during the period 2019 -2021 indicate the annual percentage variation during this period. It can be seen that each year increased the productions of
fresh grapes in Peru, it can be seen that in the year 2020 increased by 15% annual production compared to 2019 and in the year 2021 was 29% higher compared to 2019 as well, thus showing that this last year there was a significant growth compared to previous years which justifies the exports made in that year.

The background under which the results are supported is the research of Verter & Hasíková (2019) analysed that the areas from which production, yields, price and exports were obtained stimulate grape production in the country. Similarly, Gines (2016) pointed out that the possibility of offering fresh grapes for export depends on the yield per hectare, as in the past it was possible to take into account production costs individually with the price, but it is no longer profitable to produce grapes in small quantities. On the other hand, Moreyra (2019) mentions the positioning of Peruvian fresh grapes in the demanding world market, involving and bringing together small producers to increase their production and export potential. Similarly, according to Carrillo's study (2018) The requirements and standards for exporting grapes from Peru conclude that these depend on the destination market, and exporting companies must have the capacity to expand their grape production if demand requires it. The results are based on Ricardo's scientific approach with the theory of comparative advantage (1817) with the theory of comparative advantage being one of the basic foundations of international trade, which states that countries specialize in the production and export of those products that they can produce at lower costs.

5. CONCLUSION

It is concluded according to the results of the research, regarding the FOB value of Peruvian fresh grape exports to other nations in the period 2019-2021 there was a positive impact during the three continuous years, leading exports to the United States from among other nations with 58% in 2019, 60% in 2020 and with 49% in 2021, however likewise we have Netherlands (low countries), occupying the second place in the sequence of these three years with a percentage of 17% in 2019, 15% in 2020 and with 27% in 2021. Also during this period between the third and fifth place were countries such as Hong Kong, United Kingdom, Republic of Korea, Mexico and China with a variation of 5% to 14% in exports. Thus, it is recommended to Peruvian exporters to prioritize the world markets to which they seek to access with a good internationalization plan since resources are limited and must be used efficiently and thus Peru can become a safe country to invest, gain market position and develop its economy.

According to the results obtained for the FOB value of Peruvian exports of fresh grapes for the period 2019-2021 showed a clear momentum of change in exports during this period which means a propitious accretion, thus having in 2020 an increase of 18% and the year 2021 a 43% compared to 2019, this being the year that more exports were made compared to the previous two years. As a suggestion to achieve a firm position in foreign markets, it is important that the product has an added value that differentiates it from competitors taking into account the right price, which positively affects the level of sales, in addition, all exporting companies must be prepared for it, since it is the only way to be competitive in the international market.

According to the results of the research has been demonstrated percentage-wise that the production of fresh grapes from Peru during the period 2019 -2021 increased consecutively, in the year 2020 was obtained an increase of 15% being higher in the year 2021 with 29% more than the year until then was one of the most significant results, projecting to get a good result for the year 2022. It is recommended that to achieve a high yield in production of fresh grapes is to create a soil with good permeability of nutrients and water, which in turn will increase the yield of bunches of hand control in the number and size of grapes, since a uniform size of grapes ensures uniform ripening and produce a large area to meet market demand.

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