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Lucuma as an exotic high quality fruit imported into Portugal and the UE

David Solis Aguilar

Student Number 1935

A Work Project carried out under the supervision of:

Sara Alves

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Abstract:

This project has two different goals, one of them is to promote the consumption of exotic fruits with high quality. The other goal of the project is to look for the viability of turning this work project into a real business, focusing in two different channels to diversify its revenues: B2B and B2C.

In order to achieve this second goal, this project aims to see the best way to commercialize this product (Lucuma powder and Pulp of Lucuma) and how to make it in an efficient way with right companies. Therefore, the project aims to create a company to commercialize the product between the producers in Peru and possibly small businesses interested in acquire the processed fruit and also individuals interested in own consumption in small quantities.

This project, if successful, tries to diversify the consumption into other good organic healthy products in the long-term.

Introduction:

The demand for **healthy and natural products** have been increasing a lot in the world, and in this case in the European Union, where can be seen an important increase; in the other hand, Peru is recognize worldwide because has different ecosystems, with specific characteristics of climates and a huge biodiversity in flora and fauna, which allows to take advantage of different agricultural products with high quality and healthy value.

Moreover there is a current agreement (Free Trade Agreement) between the European Union and Peru, which facilitates the commerce of many products between these two economies, reducing taxes of import and export of many products, and including processed fruits as the case of this current project.

Talking about the fruit, the current project start analyzing one exotic fruit, which is mainly produced in Peruvian lands and this fact turns Peru with a high competitive advantage as a producer.

The product is **Lucuma** (known also with the names of “Pouteria Lucuma” and “Lucuma Obovata”) which is starting to get known in the world and is already well known for Peruvian people, and it can be used in different ways, as instance for juices, deserts, ice-creams and so on, without forgetting the **high quality** this fruit has.

The work is divided in different topics, starting analyzing the product itself and its benefits and characteristics, then the market of producers of this fruit in Peru and prices and different ways of export this fruit, following this is analyzed the European market, specifically Portugal, where the product is going to be imported from Peru. Then, analyze possible competitors, a strategy the product will use to be introduced in the market, and an analysis to understand better its advantages and disadvantages; moreover different enterprises will be contacted in order to know the size of the potential market this product could have, considering individuals as final consumers as well. Then, there will be included some financials with costs, prices and profit margins in order to elaborate a solid business plan and finally a future plan with other different products that can be imported to the European Union, depending on the success of this current product.

Methodology:

In order to get a solid project and a real business plan, have to be enough information concerning producers (Suppliers) in Peru and potential Clients here in Portugal. An intensive research about the product and its current situation in international commerce have been done.

From the side of producers, there are many small and medium companies that produce and commercialize Lucuma, they will be contacted in order to have a better knowledge of prices and quantities. Moreover, the projects aims to get contacts from more than one single enterprise in order to minimize the risk of failure, an important point to consider is that the right selection of the supplier should have international certifications to facilitate the importation and commercialization of Lucuma in Portugal and the European Union.

Taking in consideration all products exported to Portugal and the European Union, can be noticed that non-traditional products are growing in faster rates, and Lucuma is part of them. Moreover, as Lucuma is mainly produced in Peru can be concluded that has an important competitive advantage for Peruvian producers in comparison with other products exported to the UE. There is also a positive point that helps this project and is the fact that Lucuma is not anymore a **Novel food** meaning that can enter into the European Union without any problem.

There have been consulted different sources of information as well, in order to describe in the best way the fruit and its characteristics and also the current demand in Europe of Lucuma. There is plenty information in this topic in governmental organizations in Peru that promotes exportation of high quality national products. As well as Portuguese and European sources of information in order to try to calculate the demand.

The following project will also consider why Lucuma is a good product to be commercialized in Europe and specially why in Portugal (although Portugal is consider to be a starting point for this product). Lucuma started to get known in the world, but there is still a lot of efforts that need to be done to increase its consumption.

The project tries to satisfy demand for individuals requiring healthy exotic products, that cannot be found easily in the local market, and also to small companies that want to diversify the products they offer by adding this fruit into their menu.

Analysis:

Product (Lucuma)

The Lucuma (Scientific name: Pouteria Obovata) is an exotic fruit that comes from the highlands of Peru, is a small circle fruit of around 10 cm of diameter with a dark green color and a nice smell, moreover its food has an intense yellow color, and has a mealy texture.

This ancient fruit is also cultivated in Chile and Ecuador, although **main production is in Peru with around of 88%** of production worldwide. Lucuma is cultivated from 0 to 2500 meters over ocean level, and it grows in subtropical weathers with low temperatures more than 12 degrees¹.

The main producer areas of Lucuma are Lima and Piura in Peru, and Lima has the biggest proportion of around 68% of global national production. One disadvantage of the fruit is its slow growth, because it takes between four and five years to produce, that's why some Peruvian governmental institutions who takes care of this, suggest agriculturists to produce other products at the same time.

¹ Pro-expansion online Magazine, "Lucuma en el Peru", article from 9th October of 2014.

By year 2011, the production of Lucuma in the whole country was around 1274 metric tons, which are distributed in different cities, according the following table²:

City	Metric Tons
Lima	8 658.00
Ica	1 289.00
La Libertad	1 023.00
Arequipa	612.00
Ayacucho	396.00
Piura	173.00
Ancash	171.00
Other cities	472.00
TOTAL	12 794.00

Moreover, because of its nature and adaptation to subtropical weathers is possible to harvest this fruit in the months of January to August³.

Then, Lucuma can be exported in different ways, as a fruit itself or in a processed way; like **Lucuma flour** or like **Lucuma pulp**, and is used for preparation of ice-cream, juices, cakes, yogurts, pies and so on, this means a raw material for all that final products.

Lucuma has a high nutritional value, because it contains fiber, niacin and iron, furthermore has different characteristics such as a fruit low in fat and helps physical development of children and to regulate the metabolism of adult people.

In **Appendix 1** can be appreciated some pictures of Lucuma as fresh fruit and in its other presentations.

However, many people doesn't know all properties Lucuma has and that is recommended for depression, due to its high content of niacin. Moreover, many studies show that helps to reduce cholesterol and triglycerides in the blood. In the other hand, carotene can lower considerably the probabilities of heart attack, and also increase the efficiency of immunologic system.

According to the presentation of Lucuma, its composition can vary, will be presented a table with the different ways the fruit can be exported and its chemical composition. But, according to studies, the best way to export it is as Lucuma Pulp or

² "Peru: Compendio Estadístico 2012/ Agrario" Paper published By INEI (Instituto Nacional de estadística e informática)

³ According to the Peruvian Department of Agriculture

Lucuma flour because it can resist longer time without losing its characteristics such as color, structure and texture.

The composition of Lucuma as a fruit and in both processed ways⁴ is showed in two charts in detail in **Appendix 2**.

The main difference between these two presentations of Lucuma, is that in order to conserve all of its properties, pulp of Lucuma need to be frozen, which means extra costs in the long term (variable costs).

According to the study done in this project, normally Lucuma is exported as flour, because, although at first moment represents a higher cost, in the long term could be lower because maintenance of the fruit is easier and cheaper, moreover importation of frozen pulp, would mean higher costs due to special conditions to conserve its properties and not get lost along the way during the journey.

According to the research made in this project this are the following **FOB prices** according to the different presentations (expressed in US dollars), by year 2015⁵:

- A kilogram of Lucuma flour price is 11.6 USD approx. (The only way exported to Portugal)
- A kilogram of Lucuma pulp price is 4.48 USD approx.
- A kilogram of fresh Lucuma price is 3.00 USD approx.

Similar products and characteristics

In order to make a comparison with a similar product, Lucuma properties would be compared with the ones of Mango, another fruit already commercialized in Europe and exotic as well, and also produced in Peru, although Peru is not the biggest producer of this fruit.

Mango:

Is a fruit already known in Europe, and produced in more than 100 different countries and for this needs low areas of tropical or subtropical weather⁶.

It can be consume in different ways, such as fresh fruit, juices, marmalades and others.

⁴ Paper: "Perfil de Mercado y Competitividad Exportadora de la Lúcumá" published by the Peruvian Department of foreign trade and tourism.

⁵ Data obtained until last month registered in 2015 (March) by Prom Peru and elaborated by Siicex.

⁶ Data obtained from a paper published by MINCETUR, "Mango profile"

Mango has a high content of vitamins, especially A and C, which is more specified in the chart showed in **Appendix 3**, making a comparison between composition of 100 grams of Lucuma and Mango.

In the chart can be seen the difference between Mango properties and Lucuma properties. Moreover, Mango helps to prevent some diseases like cancer or allergies, also helps to reduce levels of cholesterol and lower hypertension.

Taking in consideration price, as this is a popular fruit its costs are lower than Lucuma.

According to data obtained from Prom Peru, the level of Peruvian exportations of fresh mango by year 2010 was 90 million dollars FOB price and by 2014 was 139 million, which represents a growth of 54.4%, being The Netherlands the biggest importer, with around 51.6 million by 2014.

Comparing prices by year 2014, the price in which was exported from Peru was around 1.15 USD / kilogram, compared with fresh Lucuma is 160% lower. Lucuma price per kilogram of fresh fruit is 3.00 USD.

At first sight this looks a difference difficult to compete, but the advantage of Lucuma is the exclusivity it represents, because is still unknown fruit in Portugal and Europe, moreover the taste it has is difficult to compare with other kind of tropical fruit, as it has an really good exotic taste, which would be shown in presentation to future partners.

In Portugal prices to final consumers can't be compared between these 2 fruits, because there is no commercialization of Lucuma as fresh fruit in Portugal.

But Mango is commercialized in some stores such as El Corte Ingles, with the following prices: 3.89€ and 4.99€ per kilo depending on the kind of mango.

In **Appendix 4** can be appreciated the marketing and Mango prices In “El Corte Ingles”.

In the case of Lucuma, there is just one enterprise that commercialize it, but not as fresh fruit, just as Lucuma powder in Portugal (which is the country where this business model will start operating) named Iswari and they sell online (E-commerce) and the price they sell is high: 7.49€ per 125 grams, this is 59.92€ per kilo of Lucuma powder, as can be seen in **Appendix 5**.

This company, commercialize its products in Portugal and also sells outside in other countries such as Spain (6.74€), Czech Republic (159 Kc, around 5.79€), Ireland (6.38€) and UK (4.79£, around 6.71€) in the same presentation of 125 grams.

International agreements and Certifications⁷

There is a valid agreement between Peru and the European Union called the **Free Trade Agreement (FTA)** in which many products can be exported from Peru to Europe without taxes. Moreover, this FTA includes exotic fruit product, such as Lucuma.

The negotiations for this agreement finished on the 28th of February of 2010 in Brussels, after nine negotiation rounds. Then, the 23rd of March of 2011, was initiated the process of legal revision of all the agreement and finally by the **1st of March of 2013 at Brussels**, came into force the Free Trade Agreement (FTA) between Peru and the European Union.

This agreement is a commercial strategy that looks forward to turn Peru into an exporter country, and thus make its products stronger and more known worldwide, developing a competitive supply of products and thus promote commerce and investment, to bring more economic opportunities and better quality of life to Peruvian small exporters, which normally join to export (This is the case of Lucuma group of exporters).

Thanks to this agreement, there is a **preferential access of 99.3% of Peruvian agricultural products** and 100% of industrial ones.

The European Union is one of the main destinies for Peruvian exportations, with a participation of around 20% by 2011. Moreover, represent a market with huge opportunities with more than 500 million inhabitants with high income per capita, and thus one of the highest in the world.

Certifications:

In order to import and commercialize products there are some certifications the producer need to fulfill in order to export their products into Europe, the certification is the following:

⁷ Ministry of Foreign Trade and Tourism. "Tratado de Libre Comercio"

a. European Organic Standard⁸: This is an organic certification for agricultural, livestock, wild collection, inputs for organic agriculture, and honey 834/2007 under EU rules – EU 889/2008 for the European market.

b. World Fair Trade⁹. This certification is a guarantee of sustainable development, improvement of social conditions, human development, social principles, environmental and economic smallholder thought of Latin American countries.

Although this certification is not needed for commercialize in Europe, it shows a social compromise with poverty.

Both certifications logos can be appreciated in **Appendix 06**.

Producers

There are several producers of Lucuma in Peru, mainly located in the coast and more specifically in Lima. There are three ways, already mentioned before in which Lucuma can be exported, such as Lucuma flour, Lucuma pulp or as a fresh fruit, so price can vary depending on these types.

By April 2013¹⁰, almost all Lucuma was exported to Chile (around 90%).

So far, the countries which are acquiring more Lucuma are Chile, USA, United Kingdom and Canada and is getting introduce in more international markets with high growing rates.

In the case of Lucuma Powder, the main European countries importing from Peru are UK with 362,200 USD, Germany with 97,780 USD and Netherlands with 75,810 USD by the year 2014. (FOB prices)

In the case of Pulp of Lucuma, the main European countries importing from Peru are Spain with 27,230 USD, France with 5,360 USD and Italy with 1,040 USD by year 2014. (FOB prices).

According to Sergio Zignano, president of organization “ProLucuma” (association that gathers many small agricultures of Lucuma), production can start from November to June, and the best time to export should be when there is enough volume which would be from January to June mainly. He also indicates that there are

⁸ <http://ec.europa.eu/agriculture/organic/>

⁹ <http://wfto.com/about-us>

¹⁰ Fórum Agronegocios: “Lucuma Peruana vería un incremento en su próximo campaña”

many types of Lucuma, but the most commercialized one is “Seda” (which is used to for making the pulp version of Lucuma)

As it was mentioned previously, the fruit is normally exported in two different ways¹¹, as frozen pulp and as flour; and by the end of April of last year 2014, was around 450 tons of Lucuma pulp (96.7%) and 15 tons of Lucuma flour (3.3%) exported.

Moreover around 90% is exported to Chile and over there is mainly focused to make ice-cream, marmalades, juices between other type of uses/ industries.

Normally Lucuma is consumed not as a final product but as raw material for preparing final products such as ice-cream, yogurts, juices and deserts.

In the other hand, is important to mention that there is an increased local demand of this fruit and thus the association of producers of Lucuma is encouraging a better production, and thus have more supply and provide external markets demand.

In Peru, the biggest producer of Lucuma in the world, there are around 2 thousand hectares of Lucuma from Trujillo to Ica, and also in other places in the highlands.

As it was mentioned before, there are different ways on how the Lucuma can be exported: as natural fruit, as pulp of Lucuma and flour of Lucuma.

For this different kind of ways, there is tariff heading to identify it, when is going to be exported from Peru.¹² However in this project will be consider two tariff headings which are directly related to the products this project focus:

- 1106302000 (Flour and powder Lucuma (Lucuma obovate))
- 0811909300 (Lucuma pulp frozen)

In order to analyze the volume of exports of Peru, will be taken into consideration the last four years, from 2011 to 2014 of **gross volume of exportations in Millions of dollars (FOB price)**, presented in the following chart¹³:

¹¹ Fórum Agronegocios: “Perú exportaría 465 toneladas de Lúcumas”

¹² <http://sistemas.minagri.gob.pe/sissex/series/capitulosPartidas>

¹³ Data obtained from Central Bank of Peru and SUNAT (Peruvian entity that contains information including legislation, import/export procedures, revenue collection and code catalogs of foreign trade)

	Year			
Concept	2 011	2 012	2 013	2 014
Traditional Products	35 896	35 869	31 251	27 538
Non-traditional Products	10 176	11 197	10 985	11 618
Others	304	345	238	170
Total Exportations	46 376	47 411	42 474	39 326

As can be noticed from the chart, the total exportations of Peru, has been decreasing in the last years, due to a significant decrease in the traditional products, however can be also seen that exports of nontraditional products have been increasing in the same range of years, and is in this category where Lucuma is.

Furthermore, the way in which Lucuma is exported can be differentiated and resume into the following chart, with is value in Dollars¹⁴:

Year	Presentation of Lucuma				FOB Value	Volume (Kg)
	Lucuma Pulp	Lucuma flour	Natural Lucuma	Others		
2011	498 511.65	170 442.90	3 560.65	240 822.56	913 337.76	236 134.16
2012	791 426.88	425 692.86	11 726.12	226 990.36	1 455 836.22	322 635.17
2013	1 737 852.17	720 765.71	9 582.96	393 274.68	2 861 475.52	618 219.70
2014	652 860.95	906 300.78	2 337.55	473 882.63	2 035 381.91	369 458.15

Also, there can be taken some conclusions taking a look into the data of this chart; firstly, the trade of Lucuma has increased from 2011 to 2014, however the last year (2014) Lucuma experimented a reduction in its exportations. Moreover, Lucuma as fresh fruit is getting unpopular to export it, in the other side exporting Lucuma as flour has experimented a high increase, and also an important decrease in Lucuma pulp; this information could help the project to choose the better way to import the fruit.

Flour has an important demand in the worldwide market, better than Lucuma pulp, the reason of this can be explained because is an easier way to export Lucuma at lower logistic costs, however the price per kilogram is much higher (11.6 Usd/Kg instead of 4.48 Usd/Kg).

¹⁴ All information was taken from SUNAT and SIICEX (a system that gathers all information of external trades)

There are many countries that import Lucuma, but focusing in Lucuma flour, the biggest importers by year 2014 are: USA, UK, Germany, Canada, Netherlands, Belgium, Portugal and Australia¹⁵. However Lucuma pulp still has a strong market. Moreover, by the end of year 2014, there are 30 enterprises exporting Lucuma Flour in Peru, according to the Minister of International Trade and Tourism of Peru and the main destinations are USA, UK, Germany, Canada, Netherlands, Belgium, Portugal and Australia in a total of 33 countries. In the case of Pulp of Lucuma, there are 19 companies exporting it and the main destinations are Chile, USA, Spain, France, Panama, Japan and Colombia in a total of 11 countries.

Lucuma Powder (Lucuma flour) & Pulp of Lucuma

After the analysis made in previous chapter, this project will take into consideration Lucuma flour, which is the most popular way to export lucuma, moreover has some advantages and disadvantages and also Pulp of Lucuma that has lower prices and can be commercialized to businesses.

Firstly processed fruit is better than fresh fruit, because has a longer lifetime. And, although the prices of fresh fruit are much lower, the cost for import it is much higher due to special conditions that would need to import it (reefer container). Moreover, Lucuma tends to be consumed in final products, not as fresh fruit because tends to be too sweet for direct consumption.

To get into the final product, in this case, the lucuma flour, needs to pass through different steps, which are represented in a diagram showed in **Appendix 7**.

The characteristics of pulpa flour are:

Colour is pale orange. It's appearance is fine powder and its aroma is sweet and characteristic of the fruit, moreover its texture is finely ground and rough with a really sweet taste. It's solubility is around 60% and less than 10% of humidity.

Flour is elaborated from Lucuma, which was selected in rigorous way for being processed in its optimum point of maturation, and thus let capture the taste and characteristic colour of the fruit already described above. During the process, lucuma pulp is dried and pulverized to obtain Lucuma flour, which leads to maintain the unique characteristics of this fruit. The proportion between the quantity of fresh fruit

¹⁵ According to Trade Map (online website that shows information about international business development)

needed to get lucuma flower is 4:1¹⁶, this means that is needed 4 kilograms of fresh fruit to get 1 kilogram of lucuma powder (flour).

Portuguese Market Profile.

Portugal is a European country located in the most western part of Europe, with a population of 10.5 million inhabitants. According to the human development index is ranked in the position 41 by 2013; with a score of 0.822.

Portugal's GPA is around 228,168 million of Dollars by 2014, with a GDP per capita of 21,747 dollars¹⁷.

The analysis of international trade between Peru and Portugal shows the following numbers, describe in the following chart for the last 3 years (2012 to 2014) in millions of dollars¹⁸.

	2012	2013	2013/2012	2014	2014/2013
Exportations (FOB)	37.9	23.3	-38.52%	21.5	-7.73%
Traditional	4.3	1.5	-65.12%	0.2	-86.67%
Non-traditional	33.6	21.8	-35.12%	21.3	-2.29%

As can be seen in the chart, there is a decrease in the exportation to Portugal from Peru, mainly in the traditional products, however there is also a small decrease in the non-traditional ones (where Lucuma is categorized) for the year 2014 compared with 2013.

To enforce the analysis of the Portuguese market, has to be compared with the market of the European Union in general, so will be show the total Peruvian exportations to the European Union, dividing these by the sectors and show the participation of Portugal in this total exportations.

So, first general facts of the European Union are population, and this is 507.2 million inhabitants (Portugal represents 2.07% of this total). Then, in the human development index has a score of 0.881. The GPA of the European Union is around 18'398,669 million of Dollars by 2014 (Portugal represents 1.24% of this total

¹⁶ Paper "Estudio de rendimiento de harina de lúcuma a partir de fruto fresco".

¹⁷ All the above data were taken from CIA-World Factbook, PNUD and EUROSTAT

¹⁸ All information was taken from SUNAT and SIICEX (a system that gathers all information of external trades.

amount), with a GDP per capita of 36,272 dollars (14,525 dollars more than Portugal)¹⁹.

Moreover, have been elaborated a chart that shows the total exportations from Peru to the European Union, and then also the participation of Portugal in this total amount. All the following data is in millions of Dollars:

	2012	2013	2013/2012	2014	2014/2013
Exportations (FOB)	8121.9	7021.7	-13.55%	6295.2	-10.35%
Traditional	6227.1	5015.4	-19.46%	3958.2	-21.08%
Non-traditional	1894.7	2006.3	5.89%	2336.9	16.48%

It can be noticed, that exportations to the European Union has been decreasing in the last years, and this is due to the strong reduction in traditional products, however, there is an increasing demand in non-traditional ones, which can be appreciated in the chart.

Furthermore, in the following chart, could be appreciated the participation of Portugal of this total amount in Europe.

Portugal % in EU	2012	2013	2014
Exportation (FOB)	0.47%	0.33%	0.34%
Traditional	0.07%	0.03%	0.01%
Non-traditional	1.77%	1.09%	0.91%

The participation of Portugal in the whole European Union shows really small amounts, due to smaller economy in comparison with other countries of the region, furthermore non-traditional products has reduced its amounts, but it's still not clear if the product of this study has low demand in Portugal or if other products make this exportations decrease in the category of non-traditional products.

The total amount exported of Lucuma was already shown in a previous chart, and thus will be presented the main countries who demand this product in its different presentations, ranked according to the quantity they demand for the last 4 years²⁰:

¹⁹ All the above data were taken from CIA-World Factbook, PNUD and EUROSTAT

²⁰ All information obtained from SUNAT (Peruvian entity that contains information including legislation, import/export procedures, revenue collection and code catalogs of foreign trade)

	2011	2012	2013	2014
Chile	324 491.40	658 401.40	1 530 606.28	533 193.70
United States	353 189.99	428 268.37	589 729.83	463 329.01
United Kingdom	83 719.70	180 235.52	321 276.80	362 195.12
Canada	7 147.30	20 996.15	38 437.77	110 086.89
Germany	32 365.74	36 533.80	4 943.39	97 778.54
Netherlands	17 499.00	27 170.75	29 101.49	76 032.55
Belgium	-	494.40	9 525.00	65 946.25
Portugal	-	-	25 370.10	59 330.00
Australia	17 949.75	39 416.43	89 727.04	55 155.62
Spain	15 102.09	14 934.94	52 115.06	32 957.79
Italy	11 674.71	10 284.03	17 987.42	31 334.76
France	7 782.90	558.86	19 494.06	28 323.65
Rest	42 415.18	38 541.57	133 161.28	119 718.03

As can be seen in the chart, the biggest quantities of Lucuma are exported to Chile, but this amount suffered a decrease in 2014.

Taking a look into European countries, the biggest quantities are being exported to England, and this amount has been increasing in the last 4 years, followed by Germany and then Netherlands as the biggest importers of Lucuma in Europe, however this amounts are still not so important, and thus can be concluded that there are still opportunities of commercializing this product in Europe.

In the case of Portugal, can be seen that Lucuma was introduced in the market by year 2013 and then had an increase of almost 100% in the following year 2014, so this shows a favorable environment for introducing this fruit more intensively in Portugal. The following countries Spain, Italy and France has also some important amounts, but Portugal has experienced the biggest increase and for this reason is an interesting market to explore and import Lucuma in bigger quantities, as it is still not so popular in the country.

A conclusion, that can be taken from the charts showed in this part, is that in order to improve sales and size, is important to not only focus in Portugal but in countries of the whole European Union, taking Portugal as an start point, due to the favorable conditions showed. As part of this research, can be concluded that increase of Portuguese consumption in not only due to internal factors but also to external factors, as the company already mentioned, exports the products to other European Countries, such as United Kingdom, Ireland, Spain and Czech Republic.

From the countries mentioned above, can be seen that Ireland had an increase of consumption from year 2011 to 2012 for almost 2% and the UK a decrease of 2%.²¹

After a research done in this project, could be noticed that the only way the product is exported into Portugal is by **Lucuma powder**, and the quantities are growing fast since the last 2 years.

According to some researches, there are favorable conditions to introduce a new healthy product in the Portuguese and European market. A research done by “Portugal Foods” shows a graphic about the necessity of new brands that contribute to health and well-being of people (**Appendix 8**)

As Portugal foods research²² states there is an increase in demand for functional foods²³, however the Portuguese consumer prefers to choose according to lower prices, according to a study done by KWP Lifestyle 2010 (Kantar World Panel). Moreover this study maintains that people care in health is a constant:

- 73.1% says that natural product without additives have better taste.
- 82.4% of people eat less fat.

Portugal Foods Research also states that consumer worries more with the origin of products and thus ask for more information about the product and finally declares that “pure” food is the new natural.

Finally, according to Euro monitor²⁴: “healthy eating is widespread, and thus superfoods are growing fast in popularity, and demand for organic products is also growing, especially for fruits and vegetables”

Potential Buyers.

The potential buyers of the product discuss in this project can be separated in two groups:

²¹ According to SIICEX (Integrated System of foreign trade information).

²² “Tendências e oportunidades de Mercado no sector agro-alimentar” Portugal Foods by Isabel Cruz. 25 de setembro de 2012.

²³ Functional foods promote health or reduce the risk of diseases, potentially offer health benefits but don’t offer a magic bullet against problems and thus combined with a healthy lifestyle can make a positive contribution, according to European Food Information Council (EUFIC)

²⁴ <http://www.portal.euromonitor.com/portal/analysis/tab>

- Individual people, interested in buy exotic healthy products to make new different foods and recipes (Lucuma powder)

- Small/medium businesses that would acquire processed fruit: Pulp of Lucuma, which would led them to produce ice-cream, cakes, tarts, yogurts or others.

Then, considering Pulp of Lucuma, the target group to sell would be small enterprises that would use this to produce different final products.

The following local business will be consider to present the idea of a new fruit and flavor:

- Santini²⁵ (is a Portuguese ice cream saloon founded in 1949, with the biggest recognition in Lisbon that has 4 stores in the city and planning to internationalize in the short term to other European countries)

- Padaria Portuguesa²⁶ (is a Portuguese bakery with currently 25 stores in Lisbon, and has 4 years in the market)

- H3²⁷ (a Portuguese fast food restaurant, already internationalized in Brazil and Angola and with 46 stores in all Portugal)

- Gelados Artisani²⁸ (a Portuguese artisanal ice-cream maker, has already 4 stores in Lisboa)

- Yonest Yogurt²⁹ (a Portuguese yogurt maker, has 2 own stores and 30 selected partners to distribute its products in Portugal)

Moreover, as Lucuma has a high quality properties and is worldwide recognized as a healthy food.

To distribute the product (Lucuma powder) to individuals would be use online channels, because are more efficient and less expensive and easy to reach and use.

The individuals targeted to purchase this Lucuma product are people with a healthy lifestyle and a likeness to exotic flavors, normally between the ages of 20 to 50 years old of both sexes. Taking advantage of the new trends of healthy nutrition and also

²⁵ Santini Web Page (<http://www.santini.pt/>)

²⁶ Padaria Portuguesa Web Page (<http://www.apadariaportuguesa.pt/>)

²⁷ H3 Web Page (<http://www.h3.com/>)

²⁸ Artisani Web Page (<http://www.artisanigelado.com/>)

²⁹ Yonest Web Page (<http://www.yonest.pt/#>)

trend of consumption of new exotic healthy foods, final consumers would be satisfied with the product this project is dealing with.

Strategy

This project would focus in being a marketer of Lucuma and identify clients as small enterprises /startups producing final products, using Pulp of Lucuma as raw material and people interested in buy this superfood for own consumption (Lucuma powder).

As mentioned before, the aim is to diversify sales, and thus the product would be commercialized for 2 different customers in two different ways:

- One customer would be small firms who would buy in bigger quantities, in bulks of 2 Kgs to sell to final customers. (B2B) Then, in order, to reach them, some presentations of the products and samples would need to be done to know the product and test it with their customers. (Pulp of Lucuma)

- The other way would be individuals consuming smaller quantities of 150 grams. (B2C) In order to reach our target consumers an online advertising campaign using tools as Google and Facebook AdWords would be performed. (Lucuma Powder).

Analyzing the market, there is a competitor already establish in the market; this competitor is for one of the channels of revenue of the company (B2C). The company mentioned is Iswari³⁰ a Portuguese company that started in year 2010 and is commercializing various exotic healthy products in some countries in Europe and Lucuma is one of them and make their sales online. This company is consider to be a direct competitor, and they sell Lucuma powder in presentations of 125 grams for 7.49€ plus transportation cost.

For the other channel of revenues (B2B) there is no a direct competitor identified.

In order, to enter in a good way into the market as a new small firm, competing with already a well-positioned company such as Iswari, this project would create a brand that would compete in prices. And thus, the market price would be as following:

- For individuals, presentations of 150 grams the price of 8.5€. (Lucuma Powder)
- For businesses, presentations of 1 kilogram the price of 20€. (Pulp of Lucuma)

³⁰ <https://pt.iswari.net/shop-product/lucuma/Lucuma-em-P%C3%B3-BIO/50>

The strategy of this project would be a differentiation in prices, offering lower prices for good quality products and moreover in a different presentation (150 grams instead of 125)

In order to promote and to create more awareness of this new brand and fruit in the relative virgin Portuguese market in Lucuma terms, would be provided some recipes, in order to get to know this new fruit and its properties and delicious flavor;

A Canvas model was develop to better understand the business model of the project:

Key Partnerships > Certified producers in Lima (more than one)	Key Activities > Commercialize organic products to businesses and to individuals	Value Propositions > Commerce of healthy product. > Lower cost for organic products in comparison with competitors. > Commerce of product with different uses and tasty.	Customer Relationship > Post sales service > Give recipes for better use of Lucuma	Customers Segments > B2B: Small firms producing final products with Lucuma. > B2C: Individuals purchasing healthy products
	Key Resources > European organic certification. > Social certification: fair trade.		Channels > Online sales to individuals. > Presentations of the product to businesses.	
Cost Structure > Import of the product including shipping costs, insurance and duties when landed into Portugal. > Logistic costs, when delivering the products to individuals. > Marketing costs (google and facebook adwords)			Revenue Streams > Online sales to individuals. > Long-term agreements with small/medium firms.	

Small company creation

In order to commercialize this products in Portugal, a small company have to be established in Lisbon, and this can be done in the commerce chamber of Lisbon.

The company function would be to import the fruit from selected producers and when arrive into Portugal nationalize it, create a national brand and commercialized it in the two different ways already mentioned previously. In bigger quantities to businesses and small presentations for direct consumers of healthy products.

By the moment of import of this product, the providers have to fulfill all the European requirements to commercialize this exotic fruit in Portugal (also already mentioned before in the following project) and afterwards in other European countries. In order to accomplish this, would be contacted just companies with already all the certifications needed to enter in the European Union.

To create a company have to get a commercial register, which can be done in less than an hour in the new places called “Empresa na Hora” and the cost is 360€³¹ or 200€ if it’s made online and this amount is paid when the firm is already constitute. With this procedure, the firm is already established in Portugal and can be done in different types of enterprises.

Moreover, after the registration of the firm, have to be registered the name of the brand in which the product will be commercialized and thus, for this next step is needed to do it online or personally at “Instituto Nacional da propriedade industrial” and the online cost is 100€.³²

After this steps are done, the brand and the firm are already registered and thus next steps would be to have a social capital, register the firm in social security and get a firm fiscal number, between others.

Logistics (Importation)

After the firm and the brand are formally registered, the following steps are to start with the business of this project.

And thus, would be needed to import the products from the selected producer in Peru.

But is important to notice that, and important cost, apart from the cost of the goods imported are the logistics, it means, the cost to import into Portugal.

There would be made some assumptions in this part of the project, as instance, the quantity of Lucuma powder would be 90 kilograms to test the market and the quantity of pulp of Lucuma would be 500 kilograms. After contacting some producers in Peru, was chosen one that offers a good proportion between price and quality of their product at the cost of 12.15 USD per kilogram. And the case of the pulp of Lucuma is 4 USD per kilogram (which can be negotiated according to quantities).

In order to import the products from Peru, there are some things that have to be taken in consideration, such as the time it needs to be transported into Portugal, the frequency of trips to Portugal and the way it would be transported (by air or by boat),

³¹ <http://www.economias.pt/custos-para-abrir-uma-empresa/>

³² <http://www.marcaspatentes.pt/>

furthermore, after choosing a way it would be transported have to be noticed that an insurance is added to the final cost of importation.

I. Maritime way (Graphic appreciated at Appendix 9)

By this way takes around 28 day to get into Lisbon, and also the frequency of trips with destination Lisbon is weekly, as shown in the map in the appendix 9.

There are 3 shipping lines that makes this route: MOL Peru, Hamburg Sud and Hapag Lloyd, all of them stopping first in Colombia and then Rotterdam before than Lisbon. Then, as the quantity is low, should be take a shared container.³³ However, there is a minimum quantity to transport via maritime and is 500 kilograms.

Pulp of Lucuma would be imported in higher quantities, satisfying the minimum quantity of 500 kilograms, and thus can be exported by the sea, which represents lower costs, but takes almost a month to arrive to Portugal. The price per kilo in this case is 4 USD, and the shipment cost around 375 USD, because it needs to be in a reefer container, due to the characteristics of the product.

II. Air service (Graphic appreciated at Appendix 10)

By this way, takes approximately 10 hours to arrive and the frequency is daily by the companies KLM and Lufthansa.

Then, the cost of transport by air would be (assuming 65 kilos) around 576.34 USD.

Both maritime and air transportation cost are shown in **Appendix 11**.

According to the assumptions made before, would be imported 65 kilograms at the price of 12.15 USD/Kg.

Finally, in order to leave the port of Callao (Lima) needs to have an insurance company to secure the product and thus will be protected for damages and/or losses incurred during the import path.

This insurance cost (that covers some risks) is around 9% of the FOB price of exports plus the shipping cost.

When the shipment arrives into Portugal is important to noticed that there are also some taxes that needs to be paid here at arrival, for instance there is an import duty rate, that depending on the product would vary; in the case of Lucuma is 3.2% (rate of dried apple, which can be consider as a similar product). And also the VAT rate is

³³ "Logistic Profile of Portugal" elaborated by PromPeru, 20th January 2014.

13%. This Import duty rate is calculated over the CIF value, this is the value of the goods imported plus the cost of shipment and insurance.

All the logistics costs are included in the financial part of the current project.

Marketing and Promotion

The marketing promotion can be divided in two groups, the first group destined to individuals to take care of their health and want to consume healthy and with good taste products and the other group would be small enterprises interested in commercialize final product made with Lucuma.

To differentiate the different marketing and promotion campaigns, will be done one for individuals and other for small firms.

i. Marketing and promotion for individuals (B2C):

Is important to notice that to reach this individuals and persuade them to acquire this products, they should be aware of this new flavor and its taste and positive properties, and thus for this would be made, as an starting point, a sample degustation of Lucuma in different presentations such as ice-cream, juice and a desert.

After trying these different types of recipes of Lucuma, would be performed a survey to understand the opinion of individuals in accordance to this different flavors.

The survey model can be seen in **Appendix 12**.

Google and Facebook AdWords would be use in order to promote the products and reach potential customers all over Portugal first and then other European countries.

The way to reach these customers will be by focusing this advertisement directly to them with an average expenditure of 2000 Euros a year in this both channels (Facebook AdWords and Google AdWords)

Moreover, according to a Portuguese research³⁴, there is a new trend of customers to look for brands with specific labels identifying the word “pure” in a simple and clear way and moreover, there is an increase of customers also looking for products that have labels identifying ethic worries such as fair trade, biologic, organic and so on.

ii. Marketing and promotion for small firms (B2B)

³⁴ “Tendencias e oportunidades de Mercado no sector agro-alimentar” Portugal Foods by Isabel Cruz. 25 de setembro de 2012.

In the case of small firms, the marketing and promotion would be by having a direct communication with already selected firms and give them a sample of Lucuma to try with their customers, in order to see if there's an acceptance of individuals with new flavors.

The selected firms were Santini, H3, Yonest, Artisani and Padaria Portuguese and they would be contacted directly and give each of them a sample of 2 kilograms of Pulp of Lucuma with some recipes, according with each line of business.

Moreover, each recipe would be performed taking in consideration its cost for producing it, so a real valuation could be done in order to see if it's convenient for the firm. Some recipes can be seen in **Appendix 13**.

Pricing

In order to determine an optimal price of the product that is going to be commercialized, is important to take into consideration first the cost structure and then the possible demand and current competitors.

According to the different products commercialized in this project costs would be:

Lucuma Powder: have a total landing cost of 1550.40 Euros for 65 kilograms, making a cost of 23.85€ per kilogram and thus a cost of 3.58€ per each 150 grams package. Moreover, costs of labelling are assumed to be 1.5€ per each package, getting a final price of 5.08€ per package of 150 grams.

Analyzing the competitor, they have a final price of 7.49€ per a package of 125 grams. Then, making an equivalent of 150 grams, their price is 9.00€

Making a basic analysis can be concluded that the price to final consumers should be between 5.41€ and 9.00€ and thus **price to public will be 8.5€**.

Pulp of Lucuma: have a total landing cost of 2421.06 Euros for 440 kilograms, making a cost of 5.50€/kg. Adding the labelling costs, make a final cost of 6.25€ per kilogram package.

There is no direct competitor and thus **price to businesses is determined in 20€** per package of 1 kilogram.

SWOT Analysis

To understand in a better way this product and the environment where it will be, is important to elaborate a SWOT analysis and understand the market.

Strengths	Good quality and healthy product. Lower prices than current competitor. Nice presentation for customers.
Weaknesses	Price is higher than other fruits. Still unknown in the market, needs a lot of promotion (expensive)
Opportunities	Increasing levels of healthy and exotic products consumption. The free trade agreement between Peru and the UE.
Threats	New Brand entering in the market and thus lower prices. Holland imports huge quantities of Lucuma and thus can offer lower prices. The introduction of other exotic foods in the market.

Contingency Plan

I. Business to Business (B2B) to small and medium companies, that could be interested in acquire Pulp of Lucuma for preparation of final products with tasty flavor and healthy ingredients.

If there is no success with small companies, would be try to sell this product to other kind of players in the markets like retailers interested in use the product as raw material to make a final product as yogurts or directly to individuals.

Although, in the current project was proposed some small companies to promote the fruit and incentive them to acquire it to create new flavors and thus diversify its supply to their clients, more companies will be take into consideration and contacted to increase quantity of clients and thus increase portfolio of businesses.

II. Business to Consumer (B2C) a web page will be created to sell online in small quantities to individuals, with promotion by google and Facebook AdWords. If individuals doesn't buy online in quantities as expected, would be important to participate in events and fair to promote the brand and thus consumption of potential customer interested in include this fruit for their daily diet. Moreover, after an increase in loyal customers, would be explore new markets in order to increase demand, and like this import in higher quantities and reduce costs.

Financials:

In order to build the financials of this project, some small assumptions of future demand would be made, and all data worked in this project is as real as possible.

Firstly, the creation of the company is followed by a deposit of capital to start operating, considered as 5,000 Euros (divided between 2 partners and thus 2.5k each). After this, an investment of 15,000 Euros is required. Finally, a total amount of 20,000 Euros to start operating.

A Peruvian company was contacted to import Lucuma flour (the company has all the certifications to export and commercialize in Europe) and the final price they can sell is 12.15 USD, around 10.8 Euros. Another company, specialized in pulp of Lucuma and their final price is 4 USD, around 3.57 Euros.

One other assumption in this part is that exchange rate between Dollar and Euro keeps at the level of 1.12 in the following 4 years of the project.

Pulp of Lucuma is considered to be a cyclical characteristic in their sales, and thus in summer months there is more consumption of this fruit, making sales increase in that months. Moreover there are some growth rates considered to build the financial statements, and this are supported by the fact of increase in healthy consumption in Portugal already mentioned before, and also for two other factors, one of them is the increase of tourism in the country, that can be consider an as advantage to this fruits and the increase in the ice-cream consumption, which is the most popular product that can be elaborated from Lucuma.

	Income Statemet					
	2016	2017	2018	2019	2020	2021
(Sales growth)		84.80%	80.00%	80.00%	40.00%	20.00%
Sales	11 579.50	21 399.00	38 518.20	69 332.76	97 065.86	116 479.04
Cost Of Sales	3 590.77	6 697.37	12 055.26	21 699.47	30 379.26	36 455.11
Gross Margin	7 988.73	14 701.63	26 462.94	47 633.29	66 686.61	80 023.93
External services	4 520.00	4 559.04	4 598.80	4 639.29	4 680.54	4 722.55
Staff	16 982.00	16 982.00	16 982.00	33 964.00	40 756.80	40 756.80
EBITDA	- 13 513.27	- 6 839.41	4 882.14	9 030.00	21 249.27	34 544.58
EBIT	- 13 513.27	- 6 839.41	4 882.14	9 030.00	21 249.27	34 544.58
Earnings before taxes	- 13 472.03	- 6 910.45	4 908.31	9 122.51	21 492.64	35 011.10
Taxes	-	-	-	-	3 028.20	7 002.22
Net Income	- 13 472.03	- 6 910.45	4 908.31	9 122.51	18 464.44	28 008.88

The sales will increase in that percentage due to external and internal factors such as, expenditure in marketing to increase sales, increase of tourism (tourist as potential customers) and increase of ice-cream, and healthy fruits in Portugal.

	Cash Flow Statement					
	2016	2017	2018	2019	2020	2021
Operational Margin (EBIT) x (1-IRC)	- 10 810.62	- 5 471.53	3 905.71	7 224.00	16 999.42	27 635.67
Depreciation & Amortization.	- 10 810.62	- 5 471.53	3 905.71	7 224.00	16 999.42	27 635.67
Working Capital	- 636.54	- 57.40	- 92.73	354.23	58.51	- 105.09
Free cash-flow	- 11 447.15	- 5 528.92	3 812.98	7 578.22	17 057.92	27 530.58
CASH FLOW accumulated	- 11 447.15	- 16 976.08	- 13 163.10	- 5 584.87	11 473.05	39 003.63

Taken into consideration, an evaluation that includes the cash flow to perpetuity (assuming a 2% yearly growth), the breakeven point will be reached by year 4 with the data provided in this project. This business has a strong background and will reach strong financial statements, reaching a net profit value of 83,641€ and an internal rate of return of 69.34%. There is considered a discount rate of 17.24%, because of a risk free rate of 1.95% (10 years German Bond) and a risk premium of 15%.

Conclusions and Recommendations

The current project discussed implies many areas of investigation in order to elaborate a solid business plan with real projections and get interesting revenues in the mid-term and long term. The product promoted in this work is still unknown in the world, although its characteristics are really beneficial for human health. The commercialization of Lucuma, should start in Portugal and then cover more European countries according to the demand that may have.

If the project of commercialize Lucuma is successful, a second step would be of start commercializing in other European countries, starting with Spain, as it is also similar to Portugal and there is a preference for tropical flavors.

Furthermore, an introduction of new products would follow the same steps and be commercialize in the same way with already some loyalty customers created so far.

Is important to create loyal customers, and be known in the local market, in order to introduce new product in an easier way.

The current project, requires a medium amount of investment in order to be done, because with higher quantities of fruit being imported, is possible to get better prices and thus a better competitive advantage in the market and increasing number of people consuming these products.

Is really important to invest in marketing to make awareness of Lucuma.

Moreover, to get a successful project is important to scale in a fast way and commercialize this products not only in Portugal but in other European countries, where there is also higher acquisitive power and are willing to pay more for exotic fruits, countries such as Germany or Netherlands, as instance.

There are not direct competition to Lucuma already commercialized in Portugal, however Mango could be seen as a competitor, but although mango prices are much more appealing, the quality and exclusivity of Lucuma makes it into a strong competitor, moreover there is a trend of healthy and exotic consumption in Europe and thus Lucuma satisfy these current consumer requirements.

One of the main conclusions that can be taken from this project are that to better enter into the market, current companies should be contacted in order to have real demand and satisfy them and thus, in order to enter into a “Blue Ocean” strategy in Portugal start commercializing Lucuma pulp to small/medium businesses (B2B).

Finally, there is a need to show this product and make awareness in Portuguese public and thus give examples of tasty dishes that could be prepared using Lucuma.

This project has low exit costs because there is no initial investment.

References and Bibliography

- “Tendencias e oportunidades de Mercado no sector agro-alimentar” Portugal Foods by Isabel Cruz. 25 de setembro de 2012.
- PromPeru Web Page
- SUNAT (Peruvian entity that contains information including legislation, import/export procedures, revenue collection and code catalogs of foreign trade)
- “Marcas e Patentes” Web Page
- Peruvian Department of Agriculture
- Yves Pigneur, Alexander Osterwalder (2010) “Business Model Canvas Handbook for Visionaries, Game changers, and Challengers”
- John Bessant, Joe Tidd (2011) “Innovation and Entrepreneurship” 2nd Edition.
- Peru: Compendio Estadístico 2012/ Agrario” Paper published By INEI (Instituto Nacional de estadística e informática)
- INE (Instituto Nacional de Estatística) Portugal.
- “Logistic Profile of Portugal” elaborated by PromPeru, 20th January 2014.
- Web Page: <http://www.marcasepatentes.pt/>
- Web page: <http://www.economias.pt/custos-para-abrir-uma-empresa/>
- Paper “Estudio de rendimiento de harina de lúcuma a partir de fruto fresco”.
- TradeMap (Statistic Information of international trade)
- Paper: “Perfil de Mercado y Competitividad Exportadora de la Lúcuma” published by the Peruvian Department of foreign trade and tourism.
- Euromonitor

Appendixes

Appendix 1

Pictures of Lucuma and its different presentations



Appendix 2

Chemical composition of Lucuma in its 3 ways: fresh fruit, pulp and flour.

Chemical Composition of Lucuma in 100 gr. Of Fruit.	
Composition	Value
Energy (Kcal)	99
Water (gr)	72,3
Protein (gr)	1,5
Fat (gr)	0,5
Carbohydrates (gr)	25
Fiber (gr)	1,3
Cinder (gr)	0,7
Calcium (mg)	16
Phosphorus (mg)	26
Iron (mg)	0,4
Retinol (ug)	355
Thiamine (mg)	0,01
Riboflavin (mg)	0,14
Niacin (mg)	1,96
Acid Ascorbic (mg)	2,2

	Lucuma Flour	Lucuma Pulp
Advantages	* Could be stored for year without losing its original characteristics.	* Frozen could be stored for years without losing its original characteristics.
Nutritional value in 100 grams	329 calories 4 grams of proteins 2.3 grams of fiber 186 mg of phosphorus 92 mg of calcium 4.6 mg of iron 9.3 grams of water 2.4 grams of lipids 2.3 grams of cinder 0.2 mg of thiamine 11.6 mg of acid ascorbic 0.3 mg of riboflavin	99 calories 1.5 grams of proteins 1.3 grams of fiber 26 mg of phosphorus 16 mg of calcium 0.4 mg of iron 72.3 grams of water 0.5 grams of lipids 0.7 grams of cinder 0.01 mg of thiamine 2.2 mg of acid ascorbic 0.14 mf of riboflavin 1.96 mg of niacin 2.3 mg of carotene

Appendix 3

Chemical composition of Mango in comparison with Lucuma.

Chemical Composition of Lucuma in 100 gr. Of Fruit.	
Composition	Value
Energy (Kcal)	99
Water (gr)	72,3
Protein (gr)	1,5
Fat (gr)	0,5
Carbohydrates (gr)	25
Fiber (gr)	1,3
Cinder (gr)	0,7
Calcium (mg)	16
Phosphorus (mg)	26
Iron (mg)	0,4
Retinol (ug)	355
Thiamine (mg)	0,01
Riboflavin (mg)	0,14
Niacin (mg)	1,96
Acid Ascorbic (mg)	2,2

Chemical Composition of Mango in 100 gr. of Fruit.	
Composition	Value
Energy (Kcal)	60,6
Water (gr)	81,8
Protein (gr)	0,5
Fat (mg)	0,1
Carbohydrates (gr)	16,4
Fiber (gr)	0,7
Cinder (gr)	NA
Calcium (mg)	10
Phosphorus (mg)	14
Iron (mg)	0,4
Retinol (ug)	NA
Thiamine (mg)	0,04
Riboflavin (mg)	0,07
Niacin (mg)	0,04
Acid Ascorbic (mg)	80
Vitamina A (U.I.)	1100

Appendix 4

Promotion and Prices of Mango at “El Corte Inglés”



Manga Palmer

3,89 €/Kg

Indicar quantidade

Manga Palmer Indaia Peso Aproximado por unidade 450 g

2,25 € (4,99 € / Quilo)

0

Appendix 5

Lucuma powder by Iswari Company



ISWARI

Lucuma

POWDER / POLVO / PÓ / POUDRE / POEDER / PRÁŠEK

CERTIFIED ORGANIC
CERTIFICADO ECOLÓGICO
CERTIFICADO BIOLÓGICO
CERTIFIÉ BIOLOGIQUE
BIOLOGISCH GEÇERTIFICEERD
BIOCERTIFIKOVÁNO

F1 BIO-04
AGRICULTURA MÃO ÚTIL

Lucuma em Pó BIO(125g) - €7.49

Adicionar à Cesta de Compras

O ORGÂNICO

C CRU

V VEGAN

GI LOW GI

SG sem glúten

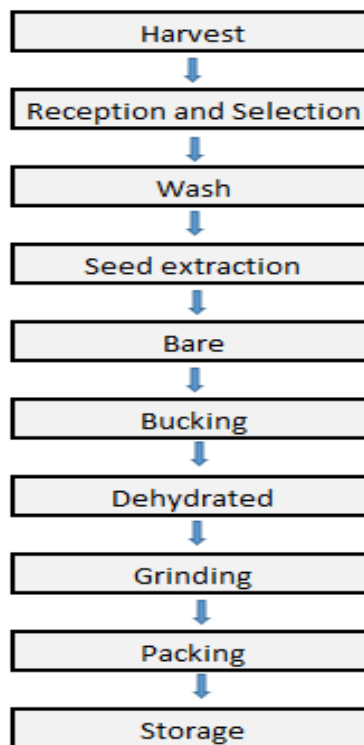
Appendix 6

International Certifications images required to commercialize in Europe.



Appendix 7

Process to Make Lucuma flower (powder)



Appendix 8

Portugal Food Research on modern consumption



Appendix 9

Maritime Transportation Map



Appendix 10

Air Transportation Map



Appendix 11

Maritime and air cost transportation respectively

PROMEDIO CONTENEDOR 20' NEGOCIACIÓN COSTOS LOGISTICOS		
Consolidado (cuadrilla o montacargas)	US\$	15.00
Flete por TN/M3	US\$	75.00
Emisión de B/L	US\$	45.00
Tramite documentario	US\$	15.00
Agencia miento aduanero Origen	US\$	190.00

Flete Lisboa	:	US\$ 3.04 X Kilo
Combustible	:	US\$ 1.28 X kilo
Uso Aeropuerto	:	US\$ 0.039 X kilo
Seguridad	:	US\$ 0.20 X kilo
Consolidado	:	US\$20 X HAWB
Corte guía aérea	:	US\$ 30.00 + IGV
Transmisión Aduanas	:	US\$ 20.00 + IGV
Agente de aduana	:	US\$ 150.00 +IGV

PROMEDIO CONTENEDOR 40' NEGOCIACIÓN COSTOS LOGISTICOS		
Transporte Terrestre	Origen	
US\$	300.00	
Gastos portuarios promedio	US\$	
	337.00	
Agente de Aduanas Perú	US\$	
	190.00	
Certificado de origen	US\$	
	20.00	
THC	US\$	125.00
Emisión de B/L		
US\$	55.00	
Flete Lexioes o Lisboa		
US\$	5,900.00	
Transmisión destino		
US\$	30.00	
SFS	US\$	10.00

Appendix 12

Survey after trying different presentations of Lucuma

Survey:

1. Sex:
M / F
2. Age:
16 to 20 / 21 to 25 / 26 to 30 / 31 to 40 / 41 to 50 / 51 and more
3. Did you know Lucuma fruit before?
Yes / No
4. Did you ever tried Lucuma before in any presentation?
Yes / No

- (In this stage please classify 3 different recipes made of Lucuma)
5. Lucuma Juice
 - 5.1. Can you classify the product:
Bad / More Less / Good / Excellent
 - 5.2. With how many frequency would you consume this product?
Never again / once a week / twice a week / At least 4 times a week
6. Lucuma Desert (to be defined)
 - 6.1. Can you classify the product:
Bad / More Less / Good / Excellent
 - 6.2. With how many frequency would you consume this product?
Never again / once a week / twice a week / At least 4 times a week
7. Lucuma Ice-cream
 - 7.1. Can you classify the product:
Bad / More Less / Good / Excellent
 - 7.2. With how many frequency would you consume this product?
Never again / once a week / twice a week / At least 4 times a week
8. Would you like different recipes to be elaborated with Lucuma?
Yes / No
9. In which dishes would you like to try Lucuma?
Cold dishes / Hot dishes / Sweet dishes / Salad dishes / Others

Appendix 13

Some Lucuma Recipes:

1. Lucuma Mousse:

Ingredients for 6 people:

180 grams of sugar

4 spoons of Lucuma

English cream (optional)



Put in a pot on the fire, water with sugar and cover it to cook until syrup form a strand point. Meanwhile whisk the egg whites until stiff, you can add the prepared syrup, beating constantly until ready to cool. Then add the mashed Lucuma (previously prepared with Lucuma) and the cream, previously dissolved in a little water. Mix well. Then pour into a rectangular mold and refrigerate soaked until set. The longer it's in the Frigidaire, better. Finally, unmold the mousse and serve accompanied by English cream if desired.

2. Lucuma Ice-cream:

Ingredients are:

Four spoons of Lucuma powder (60 grams)

Half liter of milk

Six eggs

One cup of sugar



Dissolve Lucuma in a similar amount of water and leave hydrating for 30 minutes. Make a syrup with sugar. Then, have to be beaten six egg whites and add the syrup to form a cream to which is added the Lucuma, milk and dissolved gelatin and continue beating until frothy. It is placed in the freezer and beat back every 20 minutes to avoid make crystals forms. This procedure is done until obtain the desired consistency.