



PROPOSAL FOR CAROB PRODUCTION IN JOUN

To become a leading
Carob producer in
Lebanon, promoting
local agriculture and
providing health
products to the
community.



Antoine J. Burkush, PhD

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First and foremost, I extend my heartfelt gratitude to the residents of Joun, whose voices, ideas, and aspirations have been the foundation of this work. Your willingness to share your thoughts and dreams for our town has been invaluable in shaping proposals that truly reflect our community's spirit and goals. Your participation in discussions, surveys, and community gatherings has been a testament to your commitment to Joun's future.

Special thanks to all whose contributions were instrumental in refining our vision.

To the local leaders and stakeholders who championed this project, your support has been a vital source of encouragement. Your leadership and understanding of Joun's unique challenges and opportunities have given depth to these proposals, grounding them in both our town's history and its potential for growth.

Finally, I would like to thank everyone who worked behind the scenes—whether gathering data, conducting research, or organizing meetings—your efforts have been crucial in bringing this work to life.

Together, we have created a roadmap for Joun's future that honors our heritage and inspires a brighter tomorrow. I am truly grateful to each of you for your contributions, enthusiasm, and dedication to this endeavor.

With sincere appreciation,

Dr Antoine J. Burkush, PhD

الشكر والتقدير

هذه المجموعة من المقترحات هي نتيجة رؤية مشتركة ورحلة تعاونية ، تسترشد بمدخلات وتفاني ورؤى عدد لا يحصى من الأفراد الذين يحملون جون قريبا من قلوبهم. لم يكن ذلك ممكنا بدون الدعم والمساهمات الثابتة من أعضاء المجتمع والخبراء وأصحاب المصلحة والقادة المحليين ، الذين قدم كل منهم وجهات نظره الفريدة إلى الطاولة.

أولا وقبل كل شيء، أعرب عن خالص امتناني لسكان جون، الذين كانت أصواتهم وأفكارهم وتطلعاتهم أساس هذا العمل. لقد كان استعدادك لمشاركة أفكارك وأحلامك لمدينتنا لا يقدر بثمن في تشكيل المقترحات التي تعكس حقا روح مجتمعنا وأهدافه. كانت مشاركتك في المناقشات والاستطلاعات والتجمعات المجتمعية شهادة على التزامك بمستقبل جون.

شكر خاص للذين كانت مساهماتهم مفيدة في صقل رؤيتنا.

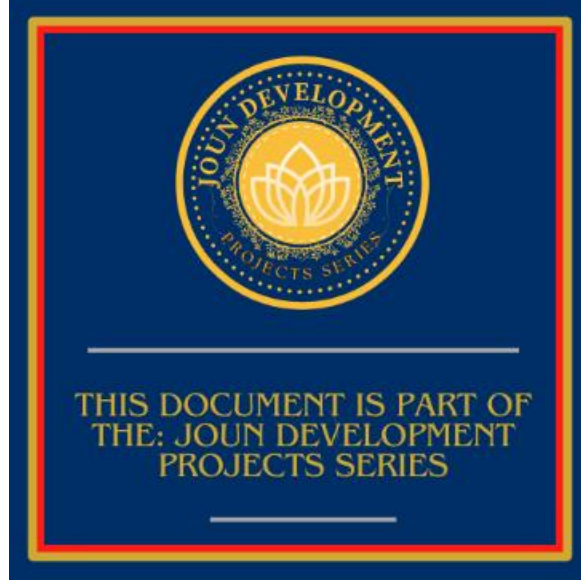
إلى القادة المحليين وأصحاب المصلحة الذين دافعوا عن هذا المشروع ، كان دعمكم مصدرا حيويا للتشجيع. لقد أعطت قيادتكم وفهمكم لتحديات وفرص جون الفريدة عمقا لهذه المقترحات ، مما جعلها راسخة في كل من تاريخ مدينتنا وإمكاناتها للنمو.

أخيرا ، أود أن أشكر كل من عمل وراء الكواليس - سواء في جمع البيانات أو إجراء البحوث أو تنظيم الاجتماعات - كانت جهودك حاسمة في إحياء هذا العمل.

معا ، أنشأنا خارطة طريق لمستقبل جون تكرم تراثنا وتلهم غدا أكثر إشراقا. أنا ممتن حقا لكل واحد منكم على مساهماتكم وحماسكم وتفانيكم في هذا المسعى.

مع خالص التقدير،

د. انطوان جان البرخش



مشاريع
مبادرات شخصية
"من أجل الصالح العام"

Joun Development Projects

"Pro Bono Publico"

Dr Antoine J. Burkush, PhD

رؤية واحدة، هوية واحدة، مجتمع واحد

Preface

In a world where rapid change is the new normal, the importance of strategic, sustainable, and community-centered development is paramount. Joun, with its rich cultural heritage, natural beauty, and resilient community, stands at a crossroads—one that presents both challenges and extraordinary opportunities. As we look toward Joun's future, it is essential that our plans honor the town's heritage, respond to today's needs, and set a course for future generations to thrive.

This series of proposals is the result of a deeply collaborative effort to envision Joun's path forward. Each plan reflects input from residents, local stakeholders, and community leaders, resulting in a shared vision that is both ambitious and respectful of our town's unique identity. These proposals encompass a comprehensive range of initiatives, from infrastructure and economic development to cultural preservation and environmental stewardship, with each component tailored to address Joun's specific strengths, challenges, and aspirations.

Our proposals emphasize a commitment to public infrastructure improvements, economic empowerment, environmental sustainability, and cultural continuity. From plans to enhance recreational facilities and community services to initiatives for sustainable tourism and green energy, each proposal aims to make Joun a model of progressive yet grounded development. The ultimate goal is to create a vibrant, inclusive, and resilient community—one that embodies the values, dreams, and talents of its people.

I extend my heartfelt gratitude to everyone who has contributed to this vision. Your dedication, ideas, and insight have been invaluable, illuminating the pathway to a future that aligns with Joun's core values while embracing growth and innovation. These proposals are an invitation to all residents of Joun to imagine, participate, and help build a community that harmonizes tradition with the possibilities of tomorrow.

As you review this collection, I encourage you to see not just plans, but a vision for what Joun can become. Let us move forward together, translating these ideas into action, and creating a brighter, thriving, and unified future for Joun.

With deep respect and optimism,

Dr Antoine J. Burkush, PhD

مقدمة

في عالم حيث التغيير السريع هو الوضع الطبيعي الجديد ، فإن أهمية التنمية الاستراتيجية والمستدامة التي تركز على المجتمع أمر بالغ الأهمية. تقف جون ، بتراتها الثقافي الغني وجمالها الطبيعي ومجتمعها المرن ، على مفترق طرق - مفترق طرق يمثل تحديات وفرصا غير عادية. بينما نتطلع إلى مستقبل جون ، من الضروري أن تكرم خططنا تراث المدينة ، وتستجيب لاحتياجات اليوم ، وتضع مسارا للأجيال القادمة لتزدهر.

هذه السلسلة من المقترحات هي نتيجة جهد تعاوني عميق لتصور مسار جون إلى الأمام. تعكس كل خطة مدخلات من السكان وأصحاب المصلحة المحليين وقادة المجتمع ، مما يؤدي إلى رؤية مشتركة طموحة وتحترم الهوية الفريدة لمدينتنا. تشمل هذه المقترحات مجموعة شاملة من المبادرات ، من البنية التحتية والتنمية الاقتصادية إلى الحفاظ على الثقافة والإشراف البيئي ، مع تصميم كل مكون لمعالجة نقاط القوة والتحديات والتطلعات المحددة لجون.

تؤكد مقترحاتنا على الالتزام بتحسين البنية التحتية العامة ، والتمكين الاقتصادي ، والاستدامة البيئية ، والاستمرارية الثقافية. من خطط تعزيز المرافق الترفيهية والخدمات المجتمعية إلى مبادرات السياحة المستدامة والطاقة الخضراء ، يهدف كل اقتراح إلى جعل جون نموذجا للتنمية التقدمية والمرتكزة. الهدف النهائي هو إنشاء مجتمع نابض بالحياة وشامل ومرن - مجتمع يجسد قيم وأحلام ومواهب شعبه.

وأعرب عن خالص امتناني لكل من ساهم في هذه الرؤية. لقد كان تفانيك وأفكارك ورؤيتك لا تقدر بثمن ، مما يضيء الطريق إلى مستقبل يتماشى مع القيم الأساسية لجون مع احتضان النمو والابتكار. هذه المقترحات هي دعوة لجميع سكان جون للتخيل والمشاركة والمساعدة في بناء مجتمع ينسق التقاليد مع إمكانيات الغد.

أثناء مراجعتك لهذه المجموعة ، أشجعك على رؤية ليس فقط الخطط ، ولكن رؤية لما يمكن أن يصبح عليه جون. دعونا نمضي قدما معا، ونترجم هذه الأفكار إلى أفعال، ونخلق مستقبلا أكثر إشراقا وازدهارا وموحدا لجون.

مع الاحترام العميق والتفاؤل،

د. انطوان جان البرخش

PROPOSAL FOR CAROB PRODUCTION IN JOUN

Carob A Mediterranean resource for the future

For centuries the carob tree (*Ceratonia siliqua* L.) has contributed to the economy of the Mediterranean basin, mainly as food for livestock. Nowadays, the value of the carob tree extends far beyond its traditional uses, encompassing a wide range of industries and applications that take advantage of its unique properties and nutritional benefits. Despite its high industrial demand and European indications, there has been a 65% reduction in the area cultivated throughout the Mediterranean area in the 21st century. Given the threats of climate change, including the loss of water availability and poor nutrient soils, we must increasingly focus on this crop, which is suitable for facing unpredictable weather events. In this review we use a bibliographic search approach to emphasize the prioritization of research needs for effective carob tree exploitation. We found enormous gaps in scientific knowledge of this under-utilized crop species with a high industrial value for its fruit pulp and seeds. Insufficient understanding of the biology of the species, as well as inadequate agronomic practices, compromise the quantity and the quality of fruits available to the industry. In addition to industrial applications, carob can also be used in reforestation or restoration programs, providing a valuable crop while promoting biodiversity conservation and soil restoration.

The carbon sequestration potential of the trees should be taken into account as a promising alternative to fight climate change. This bibliographic search has highlighted clusters with different knowledge gaps that require further research and investment. The carob tree has untapped potential for innovation, economic development and environmental sustainability.

The current trends of a healthy lifestyle for health promotion and disease prevention

The current trends of a healthy lifestyle for health promotion and disease prevention have led the food industry to seek innovative health-beneficial food products based on natural sources. The high dietary fiber content and bioactive compounds of carob fruit and its products (powder, flour, and syrup), and their beneficial effects on gastrointestinal diseases, diabetes, hyperlipidemia, inflammation, and oxidative stress make carob products novel food ingredients, which have potential to be used in the development of a wide variety of health-beneficial food products. The incorporation of carob fruit and its 31772 derived products in food formulations enhance nutritional and functional value and improve technological functionality by imparting beneficial rheological properties and extending the shelf life of the final products. At present, carob flour or powder production is only done after the pulp separation. However, it has been demonstrated that the seed presence improves the cohesion index, food product

strength values, the extraction efficiency of polyphenols and flavonoids, and the antioxidant capacity of the products.

Consequently, it is crucial to understand the physical and chemical properties of carob products and their interdependence to use them efficiently as functional food ingredients.

Global Carob Market Overview

Carob Market Size was valued at USD 0.52 Billion in 2023. The carob industry is projected to grow from USD 0.55 Billion in 2024 to USD 0.75 Billion by 2032, exhibiting a compound annual growth rate (CAGR) of 3.97% during the forecast period (2024 - 2032). The caffeine-free characteristic of carob, which makes it appropriate for customers who cannot handle caffeine, is one of the important carob market drivers fueling expansion.

Carob demand from the food and beverage industry is expected to drive the market growth

Due to its ability to gel and bind water, stabilize products, reduce syneresis, improve freeze-thaw consistency, and even strengthen the gel characteristics of some gums, carob gum has several uses in various sectors. Carob gum is used in stable water jellies by combining it with other gums to provide the desired consistency and stability. Additionally, carob gum is frequently combined with xanthan as a gelling agent in various sweets and mousses. Along with providing an excellent, smooth meltdown and heat shock tolerance, it is also employed as a stabilizer in ice cream, along with carrageenan and guar gum, to prevent the release of sugar and ice crystals. In addition, carob gum is frequently used in kebabs, hot sauce, mayonnaise, and broths as a thickening and stabilizer. The multiple uses of carob gum in the food and beverage industry propel the carob market CAGR expansion.

Furthermore, the harmful effects of chemicals on human health are becoming more widely known among consumers. They are now more health conscious due to this growing understanding and favor items containing little or no chemicals. The rising prevalence of lifestyle diseases including diabetes, osteoporosis, obesity, and cardiovascular disease is one reason consumers emphasize their health and wellness more. This has altered consumers' food preferences and views on natural ingredients. A movement to products grown and processed organically has occurred due to consumer concern over the effects of chemicals on the environment and health. As a result, the market demand for carob products is being driven by consumers' growing preference for natural and clean-label products. Thus, driving the carob market revenue.

Carob Market Segment Insights

Carob Application Insights

The carob market segmentation, based on application includes food & beverages, animal feed and personal care. The food & beverages segment dominated the market. The food and beverage business is expected to grow rapidly and take a commanding position in the food processing industry. This is due to increased demand for food and drink products brought on by a busy lifestyle and a preference for fresh, ready-to-eat convenience foods with excellent nutritional content.

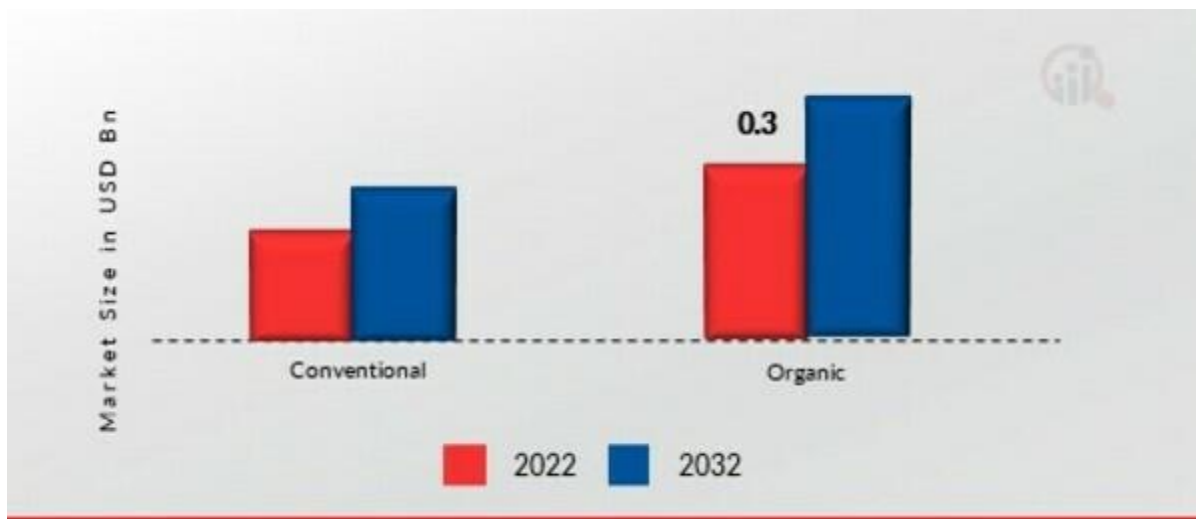
Carob Form Insights

The carob market segmentation, based on form, includes powder and gum. The gum category generated the most income. Due to its therapeutic advantages, including its ability to lower cholesterol, improve blood sugar, treat gastro reflux illness, treat diarrhea, and help prevent colon cancer, carob gum has gained significant popularity in the pharmaceutical business. The market for carob gum is primarily driven by the baking, confectionary, and nutrition and supplement industries because carob gum is a great substitute for cocoa gum.

Carob Category Insights

The carob market segmentation, based on category includes conventional and organic. The organic segment dominated the market due to consumers' growing desire for natural and clean-label products. Due to the increased demand for organic and natural food items, this demand is particularly strong in North America and Europe.

Figure 1: Carob Market, by Category, 2022 & 2032 (USD Billion)



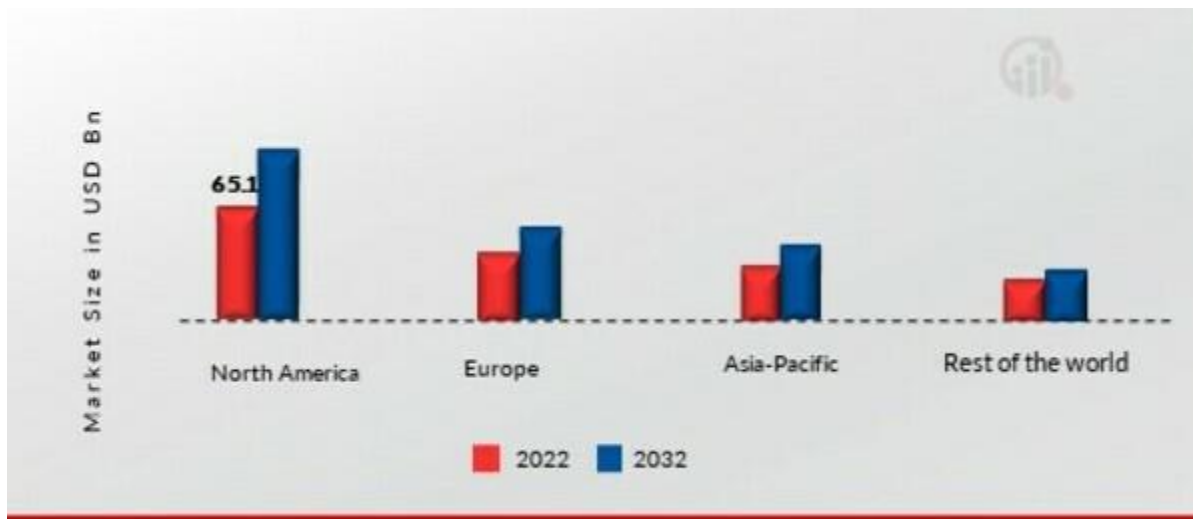
Source: Secondary Research, Primary Research, MRFR Database and Analyst Review

Carob Regional Insights

By region, the study provides the market insights into North America, Europe, Asia-Pacific and Rest of the World. The North American carob market area will dominate this market. The WHO and health influencers are raising awareness of the negative effects of excessive sugar intake, influencing consumers' preference for healthier meals. Thanks to this movement, people are switching to healthier sugar replacements without sacrificing flavor. In 2021, more than 141 million Americans will be utilizing sugar replacements as a result of this. As a natural sugar substitute and a substitute for cocoa, carob extract and powder are likely to see an increase in popularity in the United States.

Further, the major countries studied in the market report are The US, Canada, German, France, the UK, Italy, Spain, China, Japan, India, Australia, South Korea, and Brazil.

Figure 2: CAROB MARKET SHARE BY REGION 2022 (USD Billion)



Source: Secondary Research, Primary Research, MRFR Database and Analyst Review

Europe carob market accounts for the second-largest market share. The market for carob in Europe is primarily driven by the region's strong consumption of dairy and bread goods. To prevent health problems, consumers in this region look for products with natural additives and chemicals. The carob market has been expanding as a result of increased usage of carob in pet food and other animal feed in Europe. Further, the German carob market held the largest market share, and the UK carob market was the fastest growing market in the European region

The Asia-Pacific Carob Market is expected to grow at the fastest CAGR from 2023 to 2032. Major market participants are expanding their efforts and launching new products in an effort to take advantage of the potential growth in carob sales. Due to its high

nutritional content, carob powder is becoming increasingly popular in China, which is the main driver boosting demand for carob. The manufacturing of carob gum products is anticipated to face competition as the export of carob to South East Asian nations rises dramatically. During the forecast period, this will accelerate the expansion of the carob market in the area. Moreover, China's carob market held the largest market share, and the Indian carob market was the fastest growing market in the Asia-Pacific region.

Carob Key Market Players & Competitive Insights

Leading market players are investing heavily in research and development in order to expand their product lines, which will help the carob market, grow even more. Market participants are also undertaking a variety of strategic activities to expand their footprint, with important market developments including new product launches, contractual agreements, mergers and acquisitions, higher investments, and collaboration with other organizations. To expand and survive in a more competitive and rising market climate, carob industry must offer cost-effective items.

Manufacturing locally to minimize operational costs is one of the key business tactics used by manufacturers in the carob industry to benefit clients and increase the market sector. In recent years, the carob industry has offered some of the most significant advantages to market. Major players in the carob market attempting to increase market demand by investing in research and development operations include Australian Carobs pty ltd in Australia, Tate, and Lyke of United Kingdom, DuPont of United States, Starvos Papis Food ltd of Cyprus, Altrafine Gums of India, and Pedro Perez of Spain.

Tate & Lyle PLC, a worldwide company with its headquarters in Britain, sells food and beverage ingredients to industrial markets. It began as a business that processed sugar but started diversifying in the 1970s. It sold its sugar business in 2010. It focuses in transforming raw materials like corn and tapioca into components that provide food and beverages flavor, texture, and nutrients.

A company called Altrafine Gums is engaged in producing and exporting premium natural gum goods like guar gum powder, cassia tora powder, fenugreek gum, sesbania gum powder, and others. The business has established a reputation as an industry leader in manufacturing and selling high-quality gums. It has been around for more than 39 years and has a ton of experience manufacturing the things that the company does. The company's success has been made possible by investing much in research and developing extraction and processing techniques that produce high-quality products at a reasonable cost.

Key Market Opportunities

Growing health awareness in consumers

Report Attribute/Metric	Details
Market Size 2023	USD 0.52 Billion
Market Size 2024	USD 0.54 Billion
Market Size 2032	USD 0.74 Billion
Compound Annual Growth Rate (CAGR)	3.97% (2024-2032)
Base Year	2023
Market Forecast Period	2024-2032
Historical Data	2019- 2023
Market Forecast Units	Value (USD Billion)
Report Coverage	Revenue Forecast, Market Competitive Landscape, Growth Factors, and Trends
Segments Covered	Application, Form, Category and Region
Geographies Covered	North America, Europe, Asia Pacific, and the Rest of the World
Countries Covered	The US, Canada, German, France, UK, Italy, Spain, China, Japan, India, Australia, South Korea, and Brazil
Key Companies Profiled	Australian Carobs pty ltd in Australia, Tate, and Lyke of United Kingdom, DuPont of United States, Starvos Papis Food ltd of Cyprus, Altrafine Gums of India, and Pedro Perez of Spain
Key Market Opportunities	Growing health awareness in consumers
Key Market Dynamics	Increased health benefits of carob

Carob Market Highlights: Source: <https://www.marketresearchfuture.com/reports/carob-market-7778>

Carob as an Agri-food Chain Product of Cultural, Agricultural and Economic Importance in the Mediterranean Region

The carob tree (*Ceratonia siliqua* L.) is a typical Mediterranean species with over a 4000-year history. From ancient Egyptians to Cretans, carob products have been used as emergency food in the absence of basic goods. In the previous few decades, the global agricultural economy has replaced traditional crops with more profitable ones, which has led to soil degradation and a greater requirement for inputs. The rediscovery and use of plants that have best adapted to their growing territory is of crucial importance to preserve biodiversity and promote sustainable agricultural practices in a bioeconomy perspective. In recent years, carob's commercial value has increased due to its use as a raw material in the food, pharmaceutical, cosmetic, and biofuel industries. This is expected to give a new impetus to the crop. Since the Mediterranean basin is the place of the origin of the carob tree, its cultivation will contribute to the sustainability of the Mediterranean agro-ecosystems and increase the socio-economic status of the local population.

General Information

The carob tree (*Ceratonia siliqua* L.) is an evergreen xerophyte tree of the Leguminosae family, native to the arid and semi-arid Mediterranean region (also found in Africa and Latin America) that produces large pods with several seeds (Ozcan et al., 2007; Papaefstathiou et al., 2018; FAO, 2018). It comes from the East, possibly from Syria.

The ancient Greeks brought it to Greece and Italy, while the Arabs spread it across the North African coast, Portugal, and Spain (Batlle, Tous, 1997). It is widespread almost all around the world (Spain, Italy, Morocco, Greece, Cyprus, Turkey, Australia, South Africa, California, and Arizona) (Issaoui et al., 2021).

According to the Food and Agricultural Organization of the United Nations (FAO), the countries with the largest production of carob are Portugal, Italy, Spain, Morocco, Turkey, and Greece (Table 1).

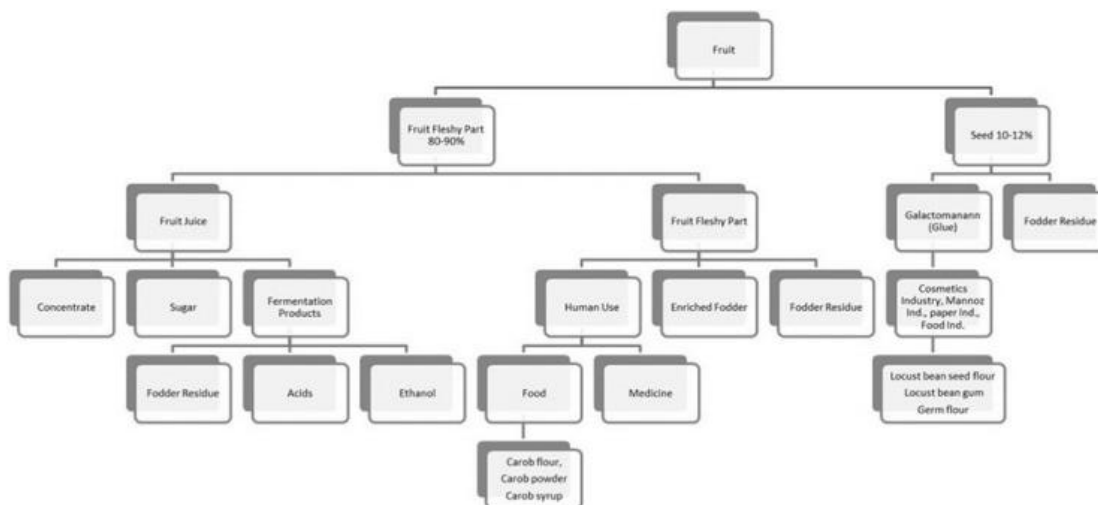
The Mediterranean basin is the main carob production center, with annual production of more than 135,000 tons (FAO, 2019). As the carob market has been growing in recent years, and is expected to grow even more up to 2027, as shown in the figures, producers' prices are rising as well.

Table 1 – Average carob production (tons) and total sums (tons) of the nine major producing countries during 2013-2019 (FAOSTAT, 2021). * no data available for 2019.

Producing country	Average (tons)	Sum (tons)
Spain*	44,283	265,700
Portugal*	44,214	265,284
Italy	29,025	203,175
Morocco	21,790	152,707
Turkey	14,469	101,280
Greece*	12,912	129,116
Cyprus	7,769	54,380
Lebanon	3,589	25,124
Algeria	3,577	25,037

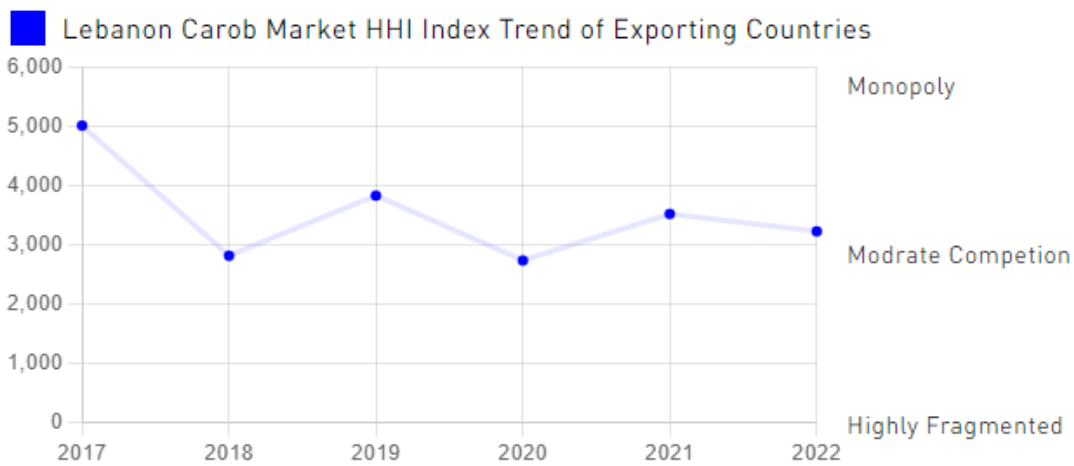
Traditionally, the carob pod has been consumed as a fruit, a staple in farm animals' nutrition, and a low-cost alternative for the human diet, especially in times of famine. For human consumption, carob pods can be eaten without processing or within the form of a variety of food and beverage products. For industrial use, until recently the main interest regarding carob was concentrated on its seeds for the extraction of the Locust Bean Gum (Figure 1) (Batlle, Tous, 1997).

Figure 1 – Commercial production and processing of the carob fruit pod



Lebanon Carob Market | Analysis, Industry, Revenue, Companies, Share, Value, COVID-19 IMPACT, Size, Trends, Forecast & Growth

Lebanon Carob market currently, in 2023, has witnessed an HHI of 3223, Which has decreased slightly as compared to the HHI of 5007 in 2017. The market is moving towards concentrated. Herfindahl index measures the competitiveness of exporting countries. The range lies from 0 to 10000, where a lower index number represents a larger number of players or exporting countries in the market while a large index number means fewer numbers of players or countries exporting in the market.

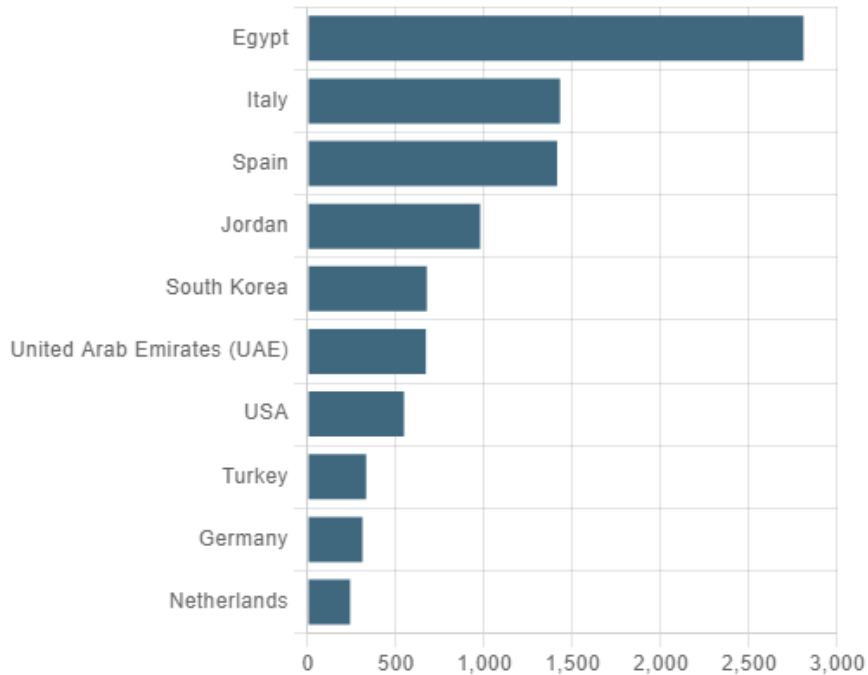


Source: 6Wresearch

Note: HHI Index which is also known as Herfindahl-Hirschman index measures the competition in the country where HHI less than 1500 means highly competitive; 1500-2500 means moderately competitive; 2500-6000 means concentrated and more than 6000 means highly concentrated

Lebanon Export Potential Assessment For Carob Market (Values in USD Thousand)

Lebanon Export Potential Assessment For Carob Market (Values in USD Thousand)



Source: 6Wresearch

Note: Export potential is calculated by considering trade relations, duties, distance, tariffs, total import demand, GDP growth projection from IMF World Economic Outlook

For Lebanon Exporters of Carob , Egypt seems to be the most attractive market (in 2028) in terms of export potential followed by Italy, Spain, Jordan and South Korea. However, in terms of total import demand across all countries, Italy occupies the top position. Hence considering overall import demand, Italy leads the importing demand but considering Lebanon as a partner, Egypt provide high unmet demand potential as Compared to others for 2028.

World – Carob – Market Analysis, Forecast, Size, Trends and Insights

IndexBox has just published a new report: ‘World – Carob – Market Analysis, Forecast, Size, Trends and Insights’. Here is a summary of the report’s key findings.

The global carob market revenue amounted to \$111M in 2018. This figure reflects the total revenues of producers and importers (excluding logistics costs, retail marketing costs, and retailers’ margins, which will be included in the final consumer price). Overall, carob consumption, however, continues to indicate a relatively flat trend pattern. Over the period under review, the global carob market reached its maximum level at \$116M in 2014; however, from 2015 to 2018, consumption failed to regain its momentum.

Consumption by Country

The countries with the highest volumes of carob consumption in 2018 were Portugal (38K tons), Italy (34K tons) and Turkey (14K tons), with a combined 60% share of global consumption.

From 2012 to 2018, the most notable rate of growth in terms of carob consumption, amongst the main consuming countries, was attained by Portugal, while carob consumption for the other global leaders experienced more modest paces of growth.

In value terms, Italy (\$34M) led the market, alone. The second position in the ranking was occupied by Spain (\$14M). It was followed by Portugal.

The countries with the highest levels of carob per capita consumption in 2018 were Portugal (3,679 kg per 1000 persons), Cyprus (2,688 kg per 1000 persons) and Greece (1,121 kg per 1000 persons).

Market Forecast 2019-2025

Driven by increasing demand for carob, the market is expected to continue an upward consumption trend over the next seven-year period. Market performance is forecast to retain its current trend pattern, expanding with an anticipated CAGR of +0.8% for the seven-year period from 2018 to 2025, which is projected to bring the market volume to 152K tons by the end of 2025.

Production 2007-2018

In 2018, the global carob production stood at 165K tons, increasing by 1.8% against the previous year. The total output volume increased at an average annual rate of +1.7% over the period from 2012 to 2018; the trend pattern remained consistent, with somewhat noticeable fluctuations over the period under review. In 2014, global carob production attained its peak volume of 191K tons, thanks to the high yields in Portugal, which remains major carob producer. From 2015 to 2018, global carob production growth, however, remained at a somewhat lower figure. The general positive trend in terms of carob output was largely conditioned by a modest expansion of the harvested area and a temperate increase in yield figures.

Production by Country

The countries with the highest volumes of carob production in 2018 were Portugal (43K tons), Italy (29K tons) and Spain (23K tons), together accounting for 58% of global production. Morocco, Turkey, Greece and Algeria lagged somewhat behind, together accounting for a further 35%.

Harvested Area 2007-2018

In 2018, approx. 42K ha of carob were harvested worldwide; therefore, remained relatively stable against the previous year. In general, the carob harvested area, however, continues to indicate a relatively flat trend pattern. The pace of growth appeared the most rapid in 2017 with an increase of 1.6% against the previous year. The global carob harvested area peaked at 43K ha in 2012; however, from 2013 to 2018, harvested area stood at a somewhat lower figure.

Yield 2007-2018

In 2018, the global average carob yield stood at 4 ton per ha, jumping by 1.5% against the previous year. The yield figure increased at an average annual rate of +2.1% over the period from 2012 to 2018; the trend pattern remained consistent, with somewhat noticeable fluctuations being observed in certain years.

Exports 2007-2018

In 2018, the amount of carob exported worldwide totaled 56K tons, picking up by 11% against the previous year. The total export volume increased at an average annual rate of +5.9% from 2012 to 2018; however, the trend pattern indicated some noticeable fluctuations being recorded in certain years. The global exports peaked in 2018 and are expected to retain its growth in the near future. In value terms, carob exports amounted to \$27M (IndexBox estimates) in 2018.

Exports by Country

In 2018, Morocco (20K tons) and Spain (15K tons) represented the main exporters of carob in the world, together amounting to near 63% of total exports. It was distantly followed by Algeria (7,538 tons) and Portugal (5,452 tons), together comprising a 23% share of total exports. Cyprus (2,348 tons), Turkey (1,487 tons) and Italy (1,121 tons) followed a long way behind the leaders.

From 2012 to 2018, the most notable rate of growth in terms of exports, amongst the main exporting countries, was attained by Morocco, while exports for the other global leaders experienced more modest paces of growth.

In value terms, Morocco (\$6.7M), Spain (\$6.2M) and Algeria (\$4.4M) appeared to be the countries with the highest levels of exports in 2018, together accounting for 65% of global exports.

Export Prices by Country

In 2018, the average carob export price amounted to \$474 per ton, waning by -3.6% against the previous year. In general, the carob export price, however, continues to

indicate a relatively flat trend pattern. Over the period under review, the average export prices for carob attained their maximum at \$572 per ton in 2016; however, from 2017 to 2018, export prices stood at a somewhat lower figure.

Prices varied noticeably by the country of origin; the country with the highest price was Italy (\$1,126 per ton), while Morocco (\$332 per ton) was amongst the lowest.

From 2012 to 2018, the most notable rate of growth in terms of prices was attained by Italy, while the other global leaders experienced more modest paces of growth.

Imports 2007-2018

In 2018, the amount of carob imported worldwide totaled 34K tons, picking up by 3.4% against the previous year. The total import volume increased at an average annual rate of +1.4% over the period from 2012 to 2018; however, the trend pattern indicated some noticeable fluctuations being recorded over the period under review. In value terms, carob imports amounted to \$29M (IndexBox estimates) in 2018.

Imports by Country

In 2018, Italy (6.5K tons), distantly followed by Switzerland (3,758 tons), Thailand (3,343 tons), Egypt (2,530 tons), Belgium (2,349 tons), Spain (2,018 tons), France (1,909 tons), the U.S. (1,837 tons), the Czech Republic (1,608 tons) and Germany (1,556 tons) were the main importers of carob, together comprising 80% of total imports.

From 2012 to 2018, the most notable rate of growth in terms of imports, amongst the main importing countries, was attained by the U.S., while imports for the other global leaders experienced more modest paces of growth.

In value terms, Switzerland (\$9.9M) constitutes the largest market for imported carob worldwide, comprising 34% of global imports. The second position in the ranking was occupied by Spain (\$3.9M), with a 14% share of global imports. It was followed by Italy, with a 9.7% share.

Import Prices by Country

The average carob import price stood at \$844 per ton in 2018, going up by 15% against the previous year. Over the period from 2012 to 2018, it increased at an average annual rate of +2.7%. The global import price peaked in 2018 and is likely to see steady growth in the immediate term.

There were significant differences in the average prices amongst the major importing countries. In 2018, the country with the highest price was Switzerland (\$2,644 per ton), while France (\$357 per ton) was amongst the lowest.

From 2012 to 2018, the most notable rate of growth in terms of prices was attained by Spain, while the other global leaders experienced more modest paces of growth.

Market Drivers

Rising awareness about health benefits

The increasing awareness of health benefits has become a driving force. Carob stands out naturally for its sweetness, eliminating the need for additional sweeteners unlike cacao, which is naturally bitter and requires sweeteners. Furthermore, carob lacks caffeine and theobromine, stimulants present in chocolate, adding to its appeal. Health-conscious individuals find carob powder enticing due to its high fiber content, zero fat, and low cholesterol levels. A noteworthy mention is its sodium-free nature, making it an ideal choice for those adhering to a low-sodium diet. Marketed as a caffeine-free substitute, carob is also recognized as a pet-friendly alternative to chocolate. Such as Sattvic Foods offers Carob Powder in various sizes, with the added convenience of a free sample for a single serving (3-10 g) trial. These factors are poised to drive market growth significantly, given the myriad health benefits associated with carob consumption.

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Carob Market Snapshot (2023 to 2033)

The global **carob market** is expected to garner a market value of US\$ 761.6 million in 2023, further accumulating a market value of US\$ 1,129.3 million by registering a CAGR of 4.0% in the forecast period from 2023 to 2033. The growth of the carob market can be attributed to the increasing awareness regarding the benefits of the same, along with its medicinal properties. The market for carob registered a CAGR of 1.9% in the historical period 2018 to 2022.

Data Points	Key Statistics
Estimated Base Year Value (2022)	US\$ 732.3 million
Expected Market Value (2023)	US\$ 761.6 million
Anticipated Forecast Value (2033)	US\$ 1,129.3 million
Projected Growth Rate (2023 to 2033)	4.0% CAGR

Carob (*Ceratonia siliqua*) is a native plant to the eastern Mediterranean especially in Middle East countries. Carob is also called a locust bean and is primarily cultivated for its edible pods in majorly Mediterranean regions which include Southern Europe, North Africa, and the Canary Islands. Carob powder is also used as a substitute for cocoa powder in various bakery products.

Carob-based bars are consumed as an alternative to chocolate-based bars worldwide. Carob does not contain caffeine and theobromine (which is intolerant to some animals) and therefore is widely used in chocolate-flavored pet food for dogs and other animals. Carob pod meal is widely used as a rich source of energy for livestock, particularly for ruminants. Carob in the food industry is used as a thickening, gelling, stabilizing, or substitute for low-calorie food products.

Carob is fat-free, rich in pectin, and contains a high amount of proteins. Carob is primarily used in the production of confectionery and bakery products and a variety of beverages. Carob is also used for making flour and molasses and is a substitute for coffee.

2018 to 2022 Carob Demand Analysis vs Forecast 2023 to 2033

The global demand for carob is projected to increase at a CAGR of 4.0% during the forecast period between 2023 and 2033, reaching a total of US\$ 1129.3 million in 2033,

according to a report from Future Market Insights (FMI). From 2018 to 2022, sales witnessed significant growth, registering a CAGR of 1.9%.

The use of carob is increasing in nearly all age groups. This is owing to the nutritional health benefits provided by carob. In addition, the multi-purpose use of carob in different food products along with the same being used for the livestock industry. Furthermore, the use of carbon in mainstream food and desserts is paving the way for innovation in the food market.

Which are Some Prominent Drivers of the Carob Market?

Increasing use in the food and beverage industry accelerating market growth

The global carob market driving factors are increasing demand for bakery products coupled with the convenience of foods. Increasing opportunities in the bakery and confectionery industry is also another factor in driving the carob market along with the rise in the production of carob.

Increasing demand for carob powder in various bakery products and confectionery has strengthened the growth of the global carob market and hence is projected to significantly expand the revenue contribution of the market over the forecast period. Carob syrup is used as a natural sweetener and is considered a rich source of calcium. Hence, the global carob market is expected to increase its revenue contribution over the forecast period significantly.

Multi-purpose use of carob favoring the growth of the market

Carob is also used for treating diarrhea and cancer helps in reducing cholesterol levels, and are some of the factors driving the global carob market. Carob powder is widely used as an alternative to cocoa powder due to its health benefits, a major driving factor for the global carob market. Hence, the global carob market is expected to observe robust growth over the forecast period.

What are the Challenges Faced by the Carob Market?

Rising costs of carob derailing growth of the market

The reduced supply of carob powder across the globe is reducing the opportunities for adding the same in different food products. In addition, rising market costs of carob are hampering the growth of the same. Moreover, reduced availability of substitutes such as cocoa beans and powder will reduce carob market demand, lowering global market value and size.

Region-Wise Insights

Countries	CAGR (2022)
United States	9.6%
Germany	5.4%
China	4.6%
Japan	3.1%
India	27.7%

Increasing health awareness and gluten-free food making carob popular

The high disposable income of the consumers in this region is motivating consumers to spend more on healthy food substitutes. This, in turn, is expected to support the growth of the North American carob market. In addition, increasing health awareness among consumers and the high prevalence of chronic diseases bolstered the carob market demand. Moreover, the prevalence of caffeine intolerance and sodium intolerance population is expected to create more demand for carob in this region.

The trend of consuming a gluten-free diet is also supporting the growth of the regional carob market. Numerous health benefits offered by carobs, like low cholesterol, more antioxidants, and high fiber, are attracting more consumers. Carob is increasingly used in the manufacturing of pet food items and is propelling regional market growth due to the increasing population of pets across the region. Thus, due to the aforementioned reasons, North America is expected to hold a 29.1% market share for the carob market in 2023.

The nutritional qualities of carob boost the growth of the market

The carob products market in Europe is primarily driven by the high consumption of bakery & confectioneries and dairy products. Consumers in this region seek products, which contain natural ingredients and additives for preventing health issues.

The increasing use of carob for pet food and other animal feed in Europe has been contributing to the growth of the carob market. The confluence of all these abovementioned facts has encouraged food & beverages as well as animal feed manufacturers to use healthy & natural additives such as stevia. Thus, owing to the reasons mentioned above, Europe is expected to possess a 24.5% market share for the carob market in 2023.

Urbanization and retail sectors creating lucrative opportunities for the carob market

The growing fad of gluten-free diets along with the easy availability of carob-based products is increasing the demand for carob in the Asia Pacific market. In addition, the nutritional benefits of carbs are attracting a larger consumer base, especially in countries like India and China. In addition, urbanization, along with the penetration of retail stores, is changing the dynamics of the carob market. Thus, Asia Pacific is expected to procure a 22% market share for the carob market in 2023.

Category-Wise Insights

The inclination toward sweetly packaged food bolsters demand carob

The bakery & confectionery industry has high growth potential and is anticipated to garner a remarkable position in food processing. This is attributed to the surge in demand for bakery & confectionery items, owing to busy lifestyles and an increase in preference for fresh & ready-to-eat convenience foods comprising high nutritional values.

Upsurge in the consumption of bakery products, especially the packaged variety, has augmented the demand for natural food additives and flavors, thereby supplementing the growth of the global carob market. Thus, the bakery and confectionery segment is expected to hold a 35% market share for the carob market in 2023.

Wide variety of products increasing sales of carob products in retail stores

Increasing urbanization, a rising working-class population, and competitive pricing are boosting the popularity of supermarkets and hypermarkets in developed and developing regions. Supermarkets and hypermarket is a one-stop shops for a wide variety of products. Thus, easy accessibility and availability of different brands further increase the consumer base of retail stores.

Retail stores include supermarket hypermarkets and specialty stores that focus on maximizing product sales to increase their profit margins. Supermarkets and

hypermarkets effectively display a variety of carob products of different brands. In North America and Europe, supermarkets and hypermarkets are the most preferred retail outlets for the purchase of consumer goods.

Retail stores are expected to possess a 40% market share of the carob market.

Start-ups for Carob Market

Key start-up players in the carob market are Savvy Foods Ltd and CarobWay

In September 2022, CarobWay, a key start-up player, announced that it is planning to grow and export carob in a sustainable way and is assuring fair trade to the growers.

Market Competition

Some of the key players identified across the value chain of the global carob market include Australian Carobs Pty Ltd., CAROB S.A., EURODUNA AMERICAS INC., CyberColloids Ltd., The Hain Celestial Group, Inc., Carobs Australia Inc., Creta Carob, Lewis Confectionery Pty Ltd and MADANARGAN. The companies are expected to expand their business by enhancing their product portfolio in the global carob market. The companies are projected to frame certain strategies in the future in order to gain a competitive advantage in the global carob market till 2033

Australian Carobs Pty Ltd, a key player in the carob market, is focusing on offering different products made of carobs, such as raw carob powder, roasted pure carob powder, carob syrup, and carob nibbles.

Cyber Colloids, another key player, is offering carob gums. Thus, the company is focusing on offering carob food products to all age groups.

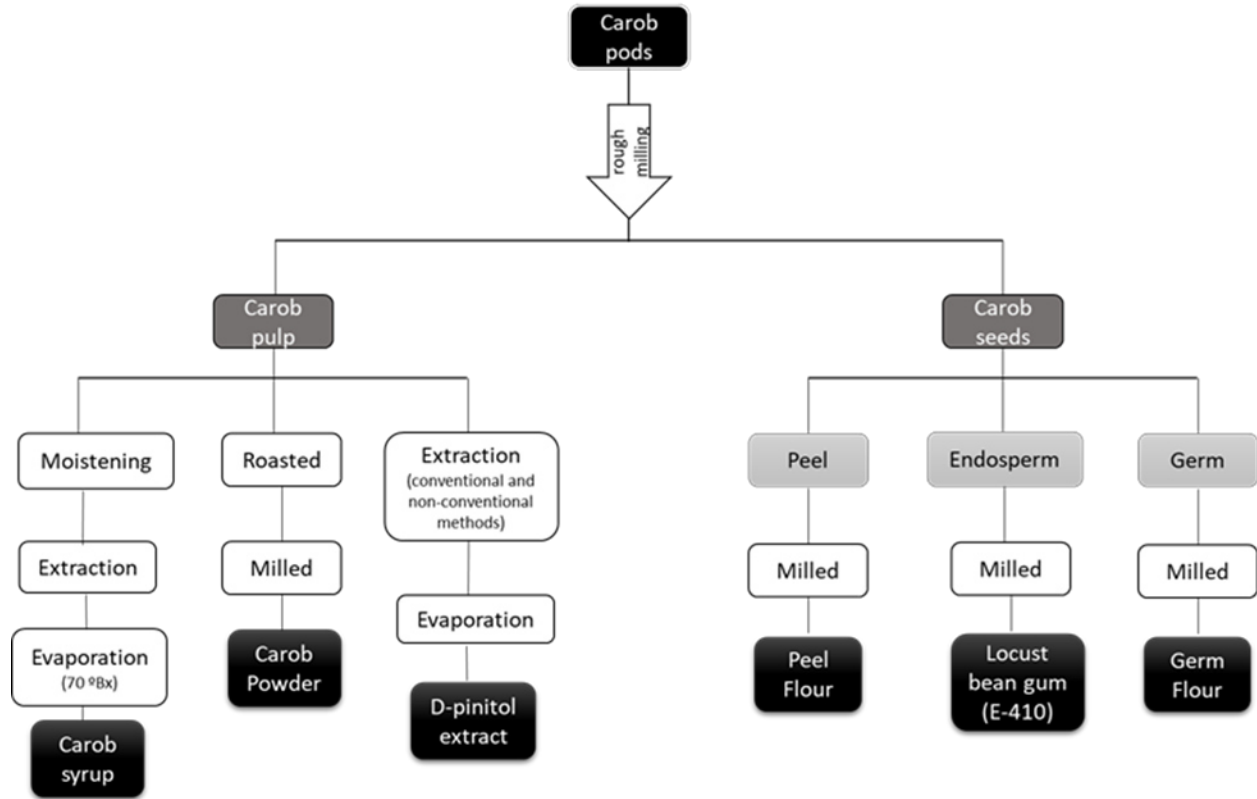
Recent Developments

February 2023: Carob House, a prominent carob maker, revealed the debut of a new range of carob-based snacks and beverages. The fresh offerings seek to appeal to consumers with health concerns who are searching for an organic and without sugar option to chocolates.

March 2023: The Hain Celestial Group, a large food and drink business, purchased Carob Products, a prominent maker of carob-based goods. The purchase is a component of Hain Celestial's plan to grow its range of organic and sustainable food and drink goods.

April 2023: The European Union allowed the application of carob extract as a form of sugar in food and drinks. The clearance is likely to raise the need for carob extract in the European market.

Carob Chip Treats Manufacturing Plant Project Report 2024: Industry Trends, Plant Setup, Machinery, Raw Materials, Investment Opportunities, Cost and Revenue



IMARC Group’s report, titled “Carob Chip Treats Manufacturing Plant Project Report 2024: Industry Trends, Plant Setup, Machinery, Raw Materials, Investment Opportunities, Cost and Revenue,” provides a complete roadmap for setting up a carob chip treats manufacturing plant. It covers a comprehensive market overview to micro-level information such as unit operations involved, raw material requirements, utility requirements, infrastructure requirements, machinery and technology requirements, manpower requirements, packaging requirements, transportation requirements, etc. The carob chip treats project report provides detailed insights into project economics, including capital investments, project funding, operating expenses, income and expenditure projections, fixed costs vs. variable costs, direct and indirect costs, expected ROI and net present value (NPV), profit and loss account, financial analysis, etc.

Carob Chip Treats Market Analysis:

Consumers are becoming more health conscious, which is resulting in an increasing desire for natural and nutritional alternatives to typical chocolate chips. The carob tree's pods are used to make carob, which has several health advantages that draw in customers who are concerned about their health. In contrast to chocolate, carob is low in fat, naturally sweet, and devoid of caffeine. Also, it has high levels of fiber, antioxidants, and important minerals, including magnesium, potassium, and calcium. Treats made of carob chips are a desirable choice for individuals trying to enhance their diet and general health. The demand for these chips is also being driven by the rise in cases of chocolate allergies. For those who are allergic to chocolate, carob is a safe substitute because it doesn't contain any common allergens like caffeine and theobromine. It is also preferred by individuals with lactose intolerance or dairy allergies, as these chips can be made without dairy ingredients.

There is a growing popularity of the clean label movement along with the heightened demand for natural ingredients that are acting as major drivers catalyzing the growth of this industry. Customers are looking for items that are created with simple and easily recognizable components as they demand more openness from food labels. This desire for clean-label products rather than those that are derived from chemical additives, preservatives, and other synthetic ingredients is driving consumer preferences. Treats made with carob chips fall into this category perfectly because carob is a natural product that does not need any added artificial flavors or colors.

Carob Chip Treats Market Trends:

Growing Popularity of Plant-Based Diets

Another major factor that is increasing the market's expansion is the heightened acceptance of plant-based diets among individuals. Carob is becoming more and more popular as it fits in perfectly with this trend. There are no ingredients originating from animals in these snacks, and they are therefore appropriate for vegetarians and vegans, as well as for people desiring to cut back on their intake of animal products for ethical concerns. Since carob chip snacks are made of plants rather than animals, they are also more appealing to consumers who are concerned about the environment. In addition, manufacturers are also working on creating a wide range of plant-based snacks that include carob chips, such as energy bars, protein bars, and cookies.

Rising Demand for Low-Sugar and Sugar-Free Snacks

There is a rising demand for low-sugar and sugar-free snacks, which is another major factor driving this market. Many individuals are becoming aware of the negative health effects of excessive sugar consumption, which is pushing them to look for healthier alternatives to traditional sugary snacks. These chips are an excellent option as they

help in reducing sugar intake and can be made without added elements. The natural sweetness of carob comes from its natural sugar content. This makes carob chip treats a suitable choice for individuals who are managing their sugar intake due to health conditions such as diabetes or for those simply looking to adopt a healthier diet.

Wild Carob Bar as Chocolate Bar Substitute

Do Consumers Accept it? Wild Carob Bar as Chocolate Bar Substitute

Carob (*Ceratonia siliqua* L.) is a native plant of Cyprus that comes in two varieties: cultivated carob and wild carob. Because of the high sugar content of the cultivated carob fruit, it is the primary ingredient in syrup, desserts, biscuits, and other processed beverages. However, Wild carob is rarely used in Cyprus, mainly used for animal feed or discarded. As a result, rather than being discarded, the potential nutritional value inherent in wild carob is more beneficial when harnessed for food production. Therefore, the goal of this study was to assess the acceptability of wild carob bars in order to improve Cyprus's agricultural income from the waste product. In this study, an online survey was conducted among 388 customers in the 6 biggest cities of Cyprus to determine the acceptability level of purchase intention of wild carob bar. The data were analysed using SPSS Software version 26. The data, which comprises knowledge, subjective norms, sensory characteristics and purchase intention, were subjected to descriptive statistical analysis. Generally, Cypriot consumers were knowledgeable and preferred the sensory characteristics of carob over chocolate. Hence, they are willing to purchase wild carob bar rather than chocolate bar if it is available in the market. Regression analysis further revealed that all acceptability dimensions adopted for this study significantly influence the purchase intention of wild carob bars.

Expanding Opportunities for Carob: Developing a Guilt-Free Chocolate Alternative

In an innovative partnership, Wageningen University & Research of the Kingdom of the Netherlands is leading a project to develop a healthier chocolate alternative from carob pods. Partner in this project, Lebanon's QOOT Cluster founded by Berytech Foundation, a leading Innovative Agri-Food Food Business cluster, and its carob-producing members are providing high-quality carob as key raw material. This initiative brings together scientific, technological, and agricultural expertise from Europe and Lebanon to introduce a more sustainable, health-conscious product to the chocolate industry.

Carob, an ancient crop deeply rooted in Lebanon's Agri-Food heritage and landscape, thrives in the country's Mediterranean climate and is a drought-resistant species, crucial for preventing soil erosion and promoting biodiversity in Lebanon's arid regions. The carob pods hold great potential as a healthy, gluten-free, and caffeine-free alternative to traditional cocoa. With its low-fat content and numerous health benefits, carob can provide a plant-based option for the rising demand for nutritious food. In view of the challenging times facing Lebanon, this project serves as a beacon of hope, promoting the value of Lebanese agriculture on an international stage.

Innovative Approaches and Circular Economy Practices

Wageningen University & Research is driving the scientific and technological advancements in this project. Their approach includes the understanding and valorization of every part of the carob pod, in line with circular economy principles.

This innovation not only delivers healthier options for consumers but also supports sustainability and economic growth by enhancing the market value of carob and empowering Lebanese farmers through diversified revenue streams.

A Collaborative Effort

This collaboration unites a consortium of research institutions, technology developers, and companies across Europe and Lebanon. The project demonstrates how combining local agricultural expertise with cutting-edge scientific research can unlock new opportunities, providing a glimpse of the future of Agri-Food innovation in Lebanon and the Mediterranean region.

The Carob as a Substitute for Cocoa in the Production of Chocolate: Sensory Analysis with Bivariate Association

This research evaluates the degree of consumer acceptance, and or preference, for the carob, a substitute product for cocoa in the production of chocolate. It also assesses its potential as a "functional food" for celiacs, diabetics and for those intolerant to caffeine. In order to assess the degree of consumer preference for the consumption of chocolate made using carob, sensory analysis coupled with face-to-face surveys of 192 Sicilian consumers, who ate chocolate on a regular basis, were conducted, from March to May 2017. The data were processed using bivariate association analysis. 12.7% of the subjects described the aftertaste of chocolate made using carob as unpleasant and the aftertaste of chocolate made using cocoa, as pleasant or very pleasant. However, 7.1% declared that the aftertaste of the chocolate containing cocoa as unpleasant, defining the aftertaste of the carob, as pleasant or very pleasant. Some subjects also expressed a liking for both types of chocolate, declaring that they were pleasant (16.7%) or very pleasant (38.9%). Chocolate made using carob flour offers several potential health

benefits compared to traditional chocolate and could find use as a functional food. This has social and economic implications for agriculture and for the cultivation of carobs. The scientific studies on this transformed product are very few. No previous research has conducted a sensory analysis on such a large sample of subjects. This research work could help to encourage the consumption of a “new chocolate” and consequently lead to the production of carob chocolate by those companies that use the fruit for other purposes.

Debsy Carob

Established in 2018, Debsy has emerged as a noteworthy player in the realm of vegan sweets production. The company distinguishes itself by creating delectable treats using carob molasses, eschewing the addition of sugar for a healthier alternative.

Operating from its base in Dahr El Mghara in Chouf, Debsy strategically distributes its products to various points of sale, emphasizing accessibility for its consumer base. Additionally, the company actively participates in popular events like Souk el Tayeb and other food-centric gatherings, positioning itself as a provider of unique and health-conscious sweet options in the market.

EMPHASIS: Boosting Lebanese SME’s Amidst Crisis With Technical Assistance And Innovation Capacity Building

The EMPHASIS project is stepping up to support Lebanese SMEs during a time of crisis. With the economic slowdown and uncertainties caused by the pandemic, small businesses in Lebanon are struggling to keep up and stay competitive in the market. The project aims to provide technical assistance and skill-sets to businesses, especially those in the agri-food and Environment & Sustainable Development sectors, to help them identify and tap into added values and business opportunities.

The project is led by Euro-Lebanese Centre For Industrial Moderation at the Industrial Research Institute (IRI), EMPHASIS Lebanese partner, which has selected four SMEs based on their ‘readiness’ to engage with the open Innovation (OI) ecosystem. The selected SMEs represent various sectors, including Sustainable Energy Environment & Sustainable Development and Agri-food, and face different challenges, from access to finance to skill gaps and lack of advanced R&D.

The first SME, PuLP, creates low impact building materials from non-recyclable paper waste like coffee cups and tetra packs. With the support of the EMPHASIS program, PuLP will be able to offer better-performing products to its target audience while maintaining lower costs and weight, increased thermal insulation, and better soundproofing. This will help the business to remain competitive while reducing its impact on the environment.

The second SME, SAID SAIFAN, is a notable player in the world of olive oil, olive oil soap, and table olives. With the help of the EMPHASIS program, SAID SAIFAN Sal will expand its market and reach an international level, leading to more production, recruitment, employability, and impact on the labor force.

The third SME, Glovi, is a new start-up that is developing and innovating a new biomedical system to save lives, increase safety, and prevent surgical infections. The EMPHASIS program will help Glovi Machine to get the capacity building and certifications needed to equip them with the highest technology, making the Glovi Machine a major time saver, preventing the transmission of viruses and microbes, and providing a fast and safe way to open the packaging of the gloves.

The fourth SME, Agro Cedrus, is a 50-year-old enterprise that recently obtained organic certification and started producing organic carob molasses, kibbles, and powder, as well as organic carob seeds. With the support of the EMPHASIS program, Agro Cedrus will become the first SME in Lebanon to provide LBG and carob protein germ from locally planted organic Carobs trees powered by solar energy.

In conclusion, the EMPHASIS project is a lifeline for Lebanese SMEs, especially during these challenging times. By providing technical assistance, skill-sets, and capacity building, the project is helping businesses identify new opportunities, become more competitive, and expand their markets. The selected SMEs represent the resilience, creativity, and potential of Lebanese entrepreneurs, and their success will have a positive impact on the economy and the community.

Business Plan for Carob Production in Joun

Creating a business plan for carob production involves multiple sections, from market research to financial projections. Below is an outline and details for each section:

1. Executive Summary

- Business Name: Joun Carob Company
- Location: Joun, Al Chouf, Lebanon
- Mission Statement: To sustainably grow, process, and distribute high-quality carob products for domestic and international markets.
- Products and Services: Carob pods, carob powder, carob-based products (such as snacks, syrup), and by-products (e.g., animal feed).
- Market Opportunity: Growing demand for carob as a healthy, natural, and caffeine-free alternative to cocoa in various products.
- Financial Highlights: Investment required, projected revenues, profitability timeline.

2. Business Description

- Industry Overview: Carob production is part of the broader agricultural and food processing industry. Carob has been recognized for its health benefits (e.g., high in fiber, low in fat) and used in food and beverage manufacturing as an alternative to cocoa.
- Goals and Objectives:
 - Establish and maintain carob orchards.
 - Process and package carob products.
 - Build partnerships with distributors and retail outlets.
 - Invest in marketing to raise awareness about carob's benefits.
- Legal Structure: Choose your business structure (LLC, corporation, etc.).

3. Market Research and Analysis

- Target Market:
 - Health-conscious consumers: Seeking natural, low-sugar alternatives.
 - Vegans and vegetarians: Carob serves as a plant-based alternative to cocoa.

- Food manufacturers: Interested in using carob in energy bars, desserts, beverages, etc.
- Animal feed producers: Carob by-products can be used in livestock feed.
- Market Trends:
 - Increasing demand for plant-based products.
 - Rising awareness of carob's health benefits as an antioxidant-rich and gluten-free alternative.
 - Expanding markets for natural, organic, and non-GMO products.
- Competitive Landscape:
 - Direct Competitors: Other carob producers, especially from Mediterranean countries.
 - Indirect Competitors: Cocoa, chicory, and other alternative natural sweeteners.

4. Products and Services

- Primary Products:
 - Carob Pods: Whole pods harvested and sold for further processing.
 - Carob Powder: Powdered carob for use in baking, cooking, and beverages.
 - Carob Syrup: A sweet syrup extracted from the carob pod.
 - Carob Snacks: Processed snacks such as carob chips or bars.
- Secondary Products:
 - Carob by-products: Use carob pulp and seed residue as animal feed or fertilizer.
 - Carob Seed Gum (Locust Bean Gum): Extracted for use as a thickening agent in food production.
- Production Process:
 - Planting and cultivating carob trees.
 - Harvesting and drying carob pods.
 - Milling and processing pods into powder, syrup, and other products.

5. Marketing and Sales Strategy

- Pricing Strategy: Competitive pricing based on production costs and target market demand.
- Distribution Channels:
 - Direct to consumer: Online sales via e-commerce platforms.
 - Retail outlets: Partnerships with health food stores, organic supermarkets, and specialty retailers.
 - Wholesale: Supplying carob-based ingredients to food manufacturers.
- Marketing Campaigns:
 - Leverage social media to promote the health benefits of carob.
 - Collaborate with influencers in the health and wellness space.
 - Participate in food fairs and health expos to introduce your product to new markets.
- Product Packaging: Eco-friendly, sustainable packaging to attract environmentally conscious consumers.

6. Operations Plan

- Location and Facilities:
 - Land for carob orchards.
 - Processing facility for drying, milling, and packaging.
- Production Schedule:
 - Carob trees take 6-7 years to fully mature, but early harvesting can begin in year 4.
 - Annual harvesting season and processing timeline.
- Suppliers and Raw Materials:
 - Source organic seeds or young carob plants.
 - Water management and sustainable farming practices.
- Staffing:
 - Farm labor for planting, irrigation, and harvesting.
 - Skilled workers for processing, packaging, and distribution.

7. Management Team

- Owner/Founder: [Your Name]
- Relevant experience in agriculture, business management, or food production.
- Key Management Positions:
 - Operations Manager
 - Marketing and Sales Manager
 - Finance and Accounting Manager
 - Farm Supervisors
- Advisory Board (optional): Include experts in agronomy, sustainable farming, or food production.

8. Financial Plan

- Startup Costs:
 - Land acquisition or lease.
 - Equipment for farming, processing, and packaging.
 - Labor costs for initial planting and ongoing operations.
 - Marketing and branding expenses.
 - Legal and registration fees.
- Revenue Streams:
 - Direct sales of carob products.
 - Wholesale deals with food manufacturers.
 - By-products for animal feed or industrial use.
- Profitability Projections:
 - Break-even analysis and estimated profit margins.
 - Financial forecasts for the first 3-5 years.
 - Loan or investment requirements and repayment timeline.
- Risk Analysis:
 - Climate conditions impacting crop yield.

- Fluctuations in market demand for carob.
- Competition from other natural sweeteners.

9. Appendix

- Include any additional documents like lease agreements, equipment quotes, marketing materials, or detailed financial forecasts.

By following this structure, you will create a comprehensive business plan that outlines your carob production venture's path to success.

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