



# PROPOSAL FOR AVOCADO PRODUCTION IN JOUN

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To become a leading  
Avocado 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 وفهمك 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 AVOCADO PRODUCTION IN JOUN**

## Preface

Clinical Research: The Health benefits of Avocados

### Heart Health

- A Randomized, Controlled-feeding, Crossover Study to Examine the Metabolic Effects of Replacing Energy from Solid Fats and Added Sugars (SoFAS) with Avocado in Men and Women with Elevated Triglycerides.

Investigator: Dr. Kevin Maki, MB Clinical Biosciences

Overview: The aim of this clinical study is to assess the cardiovascular effects of daily replacement of foods in the average American diet with an avocado. Many markers of cardiovascular health will be measured including cholesterol and other lipids, hs-CRP (marker of inflammation), glucose, insulin, and blood pressure. Diets will contain the same amount of calories and every participant will go through two separate 3-week treatment periods. Americans typically eat 35 % of their daily caloric intake from SoFAS. By replacing SoFAS with avocados we expect cardiovascular markers to improve as well as benefits to insulin and blood sugar which can be especially helpful to those with type 2 diabetes.

- Avocado Vascular (AvVa) Study: Effects of regular intake of avocados on systemic and ocular vascular health

Investigator: Dr. Britt Burton-Freeman, Illinois Institute for Technology

Overview: This randomized parallel designed study aims to understand the effects of chronic avocado feeding on blood vessel health. Secondary endpoints include cognitive function, cardio metabolic blood markers, kidney function, eye health and body weight. Previous research from two HAB supported trials have found improved blood vessel health in response to eating one meal containing avocados. This trial would be the first to look at vascular health in response to a longer term avocado feeding trial (3-4 months). Numerous secondary outcomes would explore novel outcomes for future research.

- Effect of Avocado Intake on Hepatic Health and Oxidative Stress in Latinos

Investigator: Dr. Matthew Allison, University of California at San Diego

Overview: Fatty liver disease affects 1/3 of the US population with the Latino population being affected disproportionately and it is considered a risk factor for cardiovascular disease. This secondary analysis of a HAB supported clinical trial will look at the effects of avocado intake on markers of liver health. This research will help health professionals provide dietary counsel for patients at risk for cardiovascular disease.

## Weight Management

- **Macronutrient Absorption from Avocados: The Measured Energy Value of Avocados in the Human Diet**

Investigator: Dr. David Baer, USDA Agricultural Research Service

Overview: A controlled-feeding, randomized crossover design trial will look at the digestibility of avocados and how many calories are absorbed into the body when avocados are eaten. While there are many factors that contribute to weight gain, being mindful of calories is an important factor. This study aims to understand how many calories avocados contribute to a meal. Due to the natural food matrix of the avocado, it is likely that all calories are not absorbed and therefore, the total energy-density of the fruit is lower than what is provided on the nutrition facts label.

## Type 2 Diabetes

- **Avocado Intake and Type 2 Diabetes Prevention: A Metabolomic Enhanced Analysis**

Investigator: Alexis Wood, Baylor College of Medicine

Overview: This would be the first study in the history of the HAB Nutrition Research science pipeline to investigate the relationship between avocados and incidence of type 2 diabetes as all other clinical research focuses on risk factors (glucose, insulin, etc.) The observational dataset (Study of Latinos; SOL) will be used to look at associations between avocado intake in a Latino population and incidence of diabetes and its risk factors over a 7- year period. The SOL dataset is a landmark study of >16,000 adult Latinos enrolled at four different clinical sites across the U.S. This analysis will include more than 11,000 adult Latinos that have completed follow-up clinical visits since baseline data collection in 2008. Latinos are heavy consumers of avocados and are one of HAB's target audiences for communications.

- **Exploring Associations Between Avocado Consumption and Risk Factors for Type 2 Diabetes Mellitus: Secondary Analysis of Australian Health Survey and clinical Trial Data**

Investigator: Yasmine Probst, University of Wollongong, Australia

Overview: This study aims to use two novel datasets (1 observational, 1 clinical) to understand the relationship between avocado consumption, diet quality and risk factors for diabetes in an adult population. The use of an observational and clinical dataset is a novel approach which strengthens the data analysis and provides greater confidence in the study findings. Secondary analysis will include body weight, body mass index, waist circumference and nutrient intake.

## Healthy Living at Every Age

- Avocado Intake and its Role in the Nutritional Status and Diet Quality of Adolescents: A Secondary Data Research

Investigator: Dr. Gina Segovia-Siapco, Loma Linda University

Overview: This study is a secondary analysis from a cross-sectional study to investigate the association between quantity of avocado consumed and measures of health in adolescent teens. Specific measures include body fat, lean mass, body mass index, waist circumference and diet quality. Avocado intake ranges from never consumed up to 1.5 avocados per day. The findings from this study may be used for marketing efforts or to inform age-specific dietary recommendations, as outlined in Federal dietary recommendations.

- Determining the Effect of Avocado Consumption on Skin Aging

Investigator: Zhaoping Li, UCLA

Overview: This clinical trial aims to assess the effect of providing one avocado per day on skin health in comparison with a control group maintaining their regular diets. They will determine the clinical efficacy of daily avocado consumption on skin inflammation and aging by assessing UV-induced changes, elasticity, sebum, and hydration.

- Acute vs. chronic effects of consuming avocado on cognitive performance in overweight and obese adults

Investigator: Joan Sabate, Loma Linda University

Overview: This randomized, cross-over clinical trial will enroll participants who have completed the HAT study to determine the effects of a breakfast meal containing avocados on cognitive performance, as measured by a battery of cognitive tests. The participants in this trial will have either consumed one avocado daily for six months or abstained from eating avocados. This will allow researchers to test the effects of long term consumption and short term effects, in response to just one breakfast meal.

## **The Mediterranean Market**

The Mediterranean market for avocados is growing, driven by increasing consumer awareness of health benefits and the versatility of avocados in various dishes

Here are some key insights:

### **Market Overview**

- Demand: There is a strong demand for avocados in the Mediterranean region due to their health benefits and culinary versatility

Avocados are rich in healthy fats, vitamins, and minerals, making them a popular choice for health-conscious consumers

- Supply: The supply of avocados is increasing, but there is still room for higher volumes

Countries like France and Scandinavian countries have mature markets, while Germany and Italy show potential for growth

#### Consumer Trends

- Health Consciousness: Consumers in the Mediterranean region are increasingly adopting healthier eating habits, including the Mediterranean diet, which emphasizes fruits, vegetables, and healthy fats

- Culinary Uses: Avocados are being incorporated into a wide range of dishes, from salads and sandwiches to smoothies and desserts

### **Market Opportunities**

- France and Scandinavia: These regions already have a strong market for avocados, with high consumer acceptance and demand

- Germany and Italy: These countries present significant growth opportunities as avocado consumption is still on the rise

#### Challenges

- Supply Peaks: The profitability of avocado sales can be affected by supply peaks, making returns more unpredictable

- Competition: The market is becoming increasingly competitive, with more producers entering the space.

### **Strategies for Success**

- Marketing: Focus on promoting the health benefits and versatility of avocados through targeted marketing campaigns.

- Distribution: Establish strong distribution channels to ensure a steady supply of avocados to meet consumer demand.

- Quality Assurance: Ensure high-quality standards to build consumer trust and loyalty.

### **Lebanon Production**

The avocado market in Lebanon is growing, driven by both local production and imports. Here are some key insights:

- Climate: Avocado production in Lebanon is limited to coastal regions with a Mediterranean climate, which is suitable for growing avocados

- Growth: Lebanon's avocado exports have grown significantly, from USD 533,000 in 2012 to 3.3 million in 2020. The country is making strides to catch up with renowned avocado exporters.

### **Imports and Exports**

- Imports: Lebanon imported avocados valued at nearly USD 500,000 in 2021
- Exports: Lebanese avocados are increasingly making their way into international markets, with exports reaching 8,000 tons in 2021

The main export markets are neighboring Arab countries, with Jordan, Egypt, and Iraq being the top destinations.

### **Market Opportunities**

- Domestic Market: The biggest domestic markets for avocados in Lebanon are in Beirut and Tripoli. Supermarkets, fruit vendors, and green groceries around Lebanon also trade in avocados.
- International Market: There is a great opportunity for Lebanon to increase its market share in Europe and the Middle East.

The adoption of international certifications and standards in avocado farming has positioned Lebanon as a significant player in the global avocado trade.

### **Challenges**

- Climate Limitations: Avocado production is limited to regions with suitable climate conditions.
- Market Competition: The market is becoming increasingly competitive, with more producers entering the space.

Lebanon's avocado market shows promising growth potential, both domestically and internationally.

## **Comprehensive production plan for an avocado farm in Lebanon**

Let's dive into a comprehensive production plan for an avocado farm in Lebanon:

### **1. Site Selection**

- Climate: Choose regions with a Mediterranean climate suitable for avocado cultivation, such as coastal areas.
- Soil Quality: Test the soil to ensure it is well-drained and rich in organic matter. Avocado trees thrive in such soil.



## 2. Cultivation

- Varieties: Select avocado varieties that are well-suited to the local climate and have high market demand. Popular varieties include Hass, Fuerte, and Bacon.
- Planting: Plant avocado trees in rows with adequate spacing to ensure proper growth and airflow. Typically, trees should be spaced 6-7 meters apart.
- Irrigation: Implement an efficient irrigation system, such as drip irrigation, to provide consistent moisture to the trees. Avocados require a regular supply of water, especially during the fruiting season.

## 3. Soil and Nutrient Management

- Fertilization: Use organic fertilizers to promote healthy growth. Regularly test the soil to determine nutrient requirements.
- Mulching: Apply mulch around the base of the trees to retain moisture and regulate soil temperature.

## 4. Pest and Disease Management

- Monitoring: Regularly inspect the trees for signs of pests and diseases. Common pests include mites and thrips, while root rot is a common disease.
- Organic Solutions: Use organic pesticides and fungicides to manage pests and diseases. Encourage beneficial insects that prey on harmful pests.

## 5. Pruning and Training

- Pruning: Prune the trees to maintain their shape and remove any diseased or damaged branches. Pruning also improves airflow and sunlight penetration.
- Training: Train young trees to develop a strong structure by selectively pruning to encourage a central leader and well-spaced lateral branches.

## 6. Harvesting

- Timing: Harvest avocados when they reach maturity, usually between 9-18 months after flowering, depending on the variety.
- Method: Pick the fruit by hand or use mechanical harvesters to avoid damaging the fruit. Handle the fruit carefully to prevent bruising.

## 7. Post-Harvest Handling

- Cleaning: Wash the harvested avocados to remove any dirt and residues.
- Sorting and Grading: Sort the avocados by size and quality. Grade them according to industry standards to ensure consistency.
- Packaging: Pack the avocados in ventilated crates or boxes for storage and transport. Use eco-friendly packaging materials where possible.

## 8. Storage and Distribution

- Storage: Store the avocados in a cool, dry place to maintain their freshness. Optimal storage temperature is between 5-13°C.
- Distribution: Develop a distribution plan to deliver avocados to local markets, retailers, and international buyers. Ensure the supply chain is efficient to maintain product quality.

## 9. Marketing and Sales

- Branding: Develop a strong brand identity that emphasizes quality, sustainability, and local heritage.
- Promotion: Utilize social media, local events, and collaborations with chefs and restaurants to promote your avocados.
- Sales Channels: Establish sales channels, including direct sales to consumers, partnerships with retailers, and online sales.

## 10. Monitoring and Evaluation

- Performance Metrics: Track key performance indicators such as yield, quality, and sales.
  - Continuous Improvement: Regularly review and refine cultivation practices, pest management, and marketing strategies based on feedback and performance data.
- By following this production plan, you can ensure a successful avocado farming operation in Lebanon.

## Financial Analysis

Let's break down the financial analysis for an avocado farming venture in Lebanon:

### 1. Startup Costs

- Land Acquisition: Cost of purchasing or leasing land suitable for avocado farming.
- Planting Materials: Cost of avocado seedlings or grafted plants.
- Irrigation System: Installation of drip irrigation or other irrigation systems.
- Soil Preparation: Costs for plowing, fertilizing, and mulching the soil.
- Labor: Initial labor costs for planting and setting up the farm.

### 2. Operational Costs

- Water: Ongoing costs for irrigation water.
- Fertilizers and Pesticides: Costs for organic or conventional fertilizers and pest control measures.
- Labor: Ongoing labor costs for pruning, harvesting, and general farm maintenance.
- Utilities: Costs for electricity, fuel, and other utilities.

### 3. Revenue Projections

- Yield: Estimate the annual yield of avocados per hectare.
- Market Price: Research current market prices for avocados in Lebanon and potential export markets.
- Sales Volume: Estimate the volume of avocados you expect to sell annually.

### 4. Break-Even Analysis

- Fixed Costs: Sum of all fixed costs (land, equipment, etc.).
- Variable Costs: Sum of all variable costs (water, labor, etc.).
- Break-Even Point: Calculate the point at which total revenue equals total costs.

## 5. Profitability Analysis

- Gross Profit: Revenue minus the cost of goods sold (COGS).
- Net Profit: Gross profit minus all operating expenses.
- Return on Investment (ROI): Calculate the ROI to determine the profitability of the venture.

## 6. Cash Flow Projections

- Initial Investment: Total initial investment required.
- Monthly Cash Flow: Estimate monthly inflows and outflows of cash.
- Net Cash Flow: Calculate the net cash flow for each month.

## 7. Risk Assessment

- Market Risks: Potential fluctuations in avocado prices and demand.
- Climate Risks: Impact of adverse weather conditions on yield.
- Operational Risks: Risks related to labor availability and pest outbreaks.

## 8. Funding Options

- Grants and Loans: Explore funding options from international donors, government grants, and agricultural loans.
- Investors: Consider seeking investment from private investors interested in agricultural ventures.

## 9. Sustainability and Certifications

- Sustainable Practices: Implement eco-friendly practices to enhance sustainability.
- Certifications: Obtain relevant certifications (e.g., organic, quality assurance) to enhance marketability.

## 10. Monitoring and Evaluation

- Performance Metrics: Track key performance indicators such as yield, quality, and sales.
  - Continuous Improvement: Regularly review and refine cultivation practices, pest management, and marketing strategies based on feedback and performance data.
- By conducting a thorough financial analysis, you can make informed decisions and develop a successful avocado farming operation in Lebanon.

## Risk Assessment

Here's a comprehensive risk assessment for the avocado farming project in Lebanon:

### Market Risks

- Price Fluctuations: Avocado prices can be volatile due to changes in supply and demand. To mitigate this, you can establish long-term contracts with buyers and diversify your sales channels.
- Market Competition: Increased competition from other producers, both locally and internationally, can impact your market share. Focus on building a strong brand and maintaining high-quality standards to differentiate your product.

## **Climate Risks**

- Adverse Weather: Extreme weather conditions like droughts, heavy rains, and frost can affect avocado yields. Implementing irrigation systems, frost protection measures, and choosing climate-resistant varieties can help mitigate these risks.
- Climate Change: Long-term climate change can alter growing conditions. Monitoring climate patterns and adapting farming practices can help manage this risk.

## **Operational Risks**

- Pests and Diseases: Avocado trees are susceptible to pests like mites and diseases such as root rot. Regular monitoring, organic pest control, and good agricultural practices can reduce these risks.
- Labor Availability: Seasonal labor shortages can impact your ability to manage the farm effectively. Developing good relationships with local labor sources and offering fair wages can help ensure a steady workforce.

## **Financial Risks**

- Funding Challenges: Securing funding for initial investment and operational costs can be difficult. Explore multiple funding sources, including grants, loans, and private investors, to diversify your financial support.
- Cash Flow Management: Poor cash flow management can lead to financial difficulties. Implementing a robust financial management system and maintaining a cash reserve can help manage this risk.

## **Supply Chain Risks**

- Supply Chain Disruptions: Disruptions in the supply chain, such as transportation issues or delays in input supplies, can impact your operations. Building strong relationships with suppliers and having contingency plans can mitigate these risks.
- Storage and Transportation: Inadequate storage and transportation facilities can lead to product spoilage and loss. Investing in proper storage facilities and reliable transportation can help maintain product quality.

## **Regulatory Risks**

- Compliance with Regulations: Changes in local or international regulations can affect your operations. Staying informed about regulatory changes and ensuring compliance with all relevant laws can reduce this risk.
- Certification Requirements: Obtaining and maintaining certifications (e.g., organic, quality assurance) can be challenging but is essential for market access. Allocate resources for certification processes and regular audits.

## **Technological Risks**

- Equipment Failure: Malfunctioning or outdated equipment can disrupt production. Regular maintenance, investing in high-quality equipment, and having backup systems in place can mitigate this risk.

- **Technological Advancements:** Keeping up with technological advancements in agriculture can be costly. Staying informed about new technologies and adopting those that offer significant benefits can help maintain competitiveness.

By identifying and addressing these risks, you can enhance the resilience and success of your avocado farming project.

## **Sustainability and certification**

Sustainability and certification are crucial for ensuring the long-term viability and marketability of your avocado farming project. Here are some key practices and certifications to consider:

### **Sustainability Practices**

- **Water Conservation:** Implement efficient irrigation systems like drip irrigation to minimize water usage
- **Organic Farming:** Use organic fertilizers and pest control methods to reduce chemical inputs and promote soil health
- **Cover Cropping:** Plant cover crops to improve soil fertility, prevent erosion, and enhance biodiversity
- **No-Till Farming:** Avoid tilling the soil to maintain its structure and reduce carbon emissions
- **Integrated Pest Management (IPM):** Use a combination of biological, cultural, and chemical methods to manage pests sustainably
- **Energy Efficiency:** Utilize renewable energy sources and energy-efficient equipment to reduce your carbon footprint.

### **Certifications**

- **Organic Certification:** Obtain organic certification to verify that your avocados are grown without synthetic pesticides, fertilizers, or genetically modified organisms. This can enhance marketability and consumer trust
- **Fair Trade Certification:** Ensure fair wages and working conditions for farm workers, which can improve your brand's reputation and appeal to socially conscious consumers.
- **Global GAP (Good Agricultural Practices):** Implement GAP standards to ensure food safety, quality, and environmental sustainability

This certification is recognized globally and can open up access to regulated markets

- **HACCP (Hazard Analysis and Critical Control Points):** Implement HACCP to identify and control food safety hazards throughout the production process
- **ISO 14001:** Obtain ISO 14001 certification for environmental management, demonstrating your commitment to sustainable practices.

### **Benefits of Certification**

- **Market Access:** Certifications can open up new markets and increase your product's appeal to consumers who prioritize sustainability and quality.
- **Consumer Trust:** Certifications build consumer trust and loyalty by providing assurance of your product's quality and ethical production.

- Regulatory Compliance: Certifications help ensure compliance with local and international regulations, reducing the risk of legal issues. By adopting sustainable practices and obtaining relevant certifications, you can enhance the environmental, social, and economic sustainability of your avocado farming project.

## Implementation Plan

Let's outline an implementation plan for your avocado farming project:

### 1. Planning and Preparation

- Timeline: Develop a detailed timeline for each phase of the project, from site selection to harvesting and marketing.
- Budget: Create a comprehensive budget that includes all startup and operational costs.
- Permits and Regulations: Obtain necessary permits and ensure compliance with local regulations.

### 2. Site Selection and Setup

- Land Acquisition: Purchase or lease land suitable for avocado farming.
- Soil Testing: Conduct soil tests to ensure optimal growing conditions.
- Irrigation System: Install an efficient irrigation system, such as drip irrigation, to provide consistent moisture to the trees.

### 3. Planting

- Variety Selection: Choose avocado varieties that are well-suited to the local climate and have high market demand.
- Planting: Plant avocado seedlings in rows with adequate spacing to ensure proper growth and airflow.

### 4. Cultivation and Maintenance

- Watering and Fertilization: Implement a regular watering and fertilization schedule to promote healthy growth.
- Pest and Disease Management: Monitor for pests and diseases and implement organic pest control methods as needed.
- Pruning and Training: Prune trees to maintain their shape and encourage strong growth.

### 5. Harvesting

- Timing: Harvest avocados when they reach maturity, usually between 9-18 months after flowering, depending on the variety.
- Method: Carefully pick the fruit by hand or use mechanical harvesters to avoid damaging the fruit.

### 6. Post-Harvest Handling

- Cleaning and Sorting: Wash and sort avocados by size and quality.

- Packaging: Pack avocados in ventilated crates or boxes for storage and transport.

## **7. Marketing and Sales**

- Branding: Develop a strong brand identity that emphasizes quality, sustainability, and local heritage.
- Promotion: Utilize social media, local events, and collaborations with chefs and restaurants to promote your avocados.
- Distribution: Establish sales channels, including direct sales to consumers, partnerships with retailers, and online sales.

## **8. Monitoring and Evaluation**

- Performance Metrics: Track key performance indicators such as yield, quality, and sales.
- Continuous Improvement: Regularly review and refine cultivation practices, pest management, and marketing strategies based on feedback and performance data.

## **9. Sustainability and Certification**

- Sustainable Practices: Implement eco-friendly practices such as water conservation, organic farming, and energy efficiency.
- Certifications: Obtain relevant certifications (e.g., organic, quality assurance) to enhance marketability.

## **10. Risk Management**

- Climate and Market Risks: Monitor weather patterns and market trends to anticipate and mitigate potential risks.
- Financial Risks: Maintain a financial cushion and explore diverse funding options to manage financial risks.

This implementation plan provides a structured approach to establishing and managing your avocado farming project in Lebanon.

## **Securing funding and investment**

Securing funding and investment is crucial for the success of your avocado farming project. Here are some options to consider:

### **1. Government Grants and Loans**

- Ministry of Agriculture: The Ministry of Agriculture, in cooperation with the Green Plan and the Food and Agriculture Organization of the United Nations (FAO), offers grants to invest in agricultural infrastructure
- Investment Development Authority of Lebanon (IDAL): IDAL provides incentives and support for agricultural projects

They offer various programs to help farmers and agribusinesses grow and expand

### **2. International Donors and Organizations**

- USAID: The U.S. Agency for International Development has funded projects like the Lebanon Industry Value Chain Development Project (LIVCD), which supports avocado cultivation
- European Union: The EU funds various agricultural development projects in Lebanon, including grants for vulnerable farmers

### **3. Private Investors**

- Local Investors: Seek out local investors interested in agricultural ventures. Highlight the potential profitability and sustainability of your project.
- Foreign Investors: Explore opportunities to attract foreign investment, especially from countries with a high demand for avocados.

### **4. Agricultural Loans**

- Commercial Banks: Approach commercial banks for agricultural loans. Some banks offer specialized loan programs for farmers.
- Microfinance Institutions: Consider microfinance options for smaller loans, especially if you're starting on a smaller scale.

### **5. Crowdfunding**

- Online Platforms: Use crowdfunding platforms to raise funds from a broader audience. This can also help build a community of supporters around your project.

### **6. Partnerships and Collaborations**

- Agricultural Cooperatives: Join or form agricultural cooperatives to pool resources and share costs.
- Research Institutions: Collaborate with universities and research institutions for technical support and potential funding opportunities.

### **7. Grants and Competitions**

- Agricultural Competitions: Participate in agricultural competitions and innovation challenges that offer grants and funding for promising projects.
- Non-Governmental Organizations (NGOs): Some NGOs provide grants and support for sustainable agricultural projects.

By exploring these funding and investment options, you can secure the necessary resources to launch and sustain your avocado farming project.

## **Marketing and Sales Plan**

Below is a comprehensive marketing and sales plan:

### **Branding**

- Unique Identity: Develop a brand that emphasizes quality, sustainability, and local heritage. Create a memorable logo and packaging design that reflects these values.
- Storytelling: Share the story behind your avocados—how they're grown, the care that goes into each harvest, and the benefits of choosing your product.

### **Online Presence**

- Website: Build an attractive, user-friendly website that showcases your avocados, the production process, and offers an online store for direct sales.



- Social Media: Leverage platforms like Instagram, Facebook, and TikTok to engage with consumers. Post high-quality images, behind-the-scenes content, recipes, and health tips.

### **Content Marketing**

- Blog: Start a blog on your website to discuss topics related to avocados, including health benefits, recipes, and sustainability practices. This will help drive traffic to your site and establish your brand as an authority in the market.
- Videos: Create engaging videos showcasing your farm, the harvesting process, and customer testimonials. Share these on your website, social media, and YouTube.

### **Community Engagement**

- Local Events: Participate in local food festivals, farmers' markets, and community events to promote your avocados and engage directly with consumers.
- Workshops and Tastings: Host workshops and tastings at local venues to educate consumers about avocados and allow them to taste your products firsthand.

### **Partnerships**

- Restaurants and Chefs: Partner with local chefs and restaurants to feature your avocados in their dishes. Offer them exclusive deals and marketing support.
- Retailers: Collaborate with supermarkets, health food stores, and specialty retailers to stock your avocados. Provide promotional materials and support to help drive sales.

### **Influencer Marketing**

- Food Bloggers and Influencers: Work with food bloggers and social media influencers to review and promote your avocados. Send them samples and invite them to visit your farm.
- Brand Ambassadors: Develop a brand ambassador program with local foodies and health enthusiasts who can advocate for your avocados.

### **Public Relations**

- Press Releases: Distribute press releases to local and international media outlets announcing the launch of your avocado farm, new products, and significant milestones.
- Media Coverage: Reach out to food and lifestyle magazines, newspapers, and TV shows to feature your story and products.

### **Customer Engagement**

- Newsletter: Create a newsletter to keep your customers informed about new products, special offers, and company news.
- Customer Loyalty Programs: Implement a loyalty program to reward repeat customers with discounts, exclusive offers, and early access to new products.

### **Sales Channels**

- Direct Sales: Sell directly to consumers via your website, local markets, and farm shops.
- Wholesale: Offer your avocados in bulk to restaurants, hotels, and food manufacturers.

- Export: Develop an export strategy to introduce your avocados to international markets. Attend international food trade shows and connect with distributors.

### **Advertising**

- Online Advertising: Use Google Ads and social media ads to target potential customers searching for premium avocados and related products.
- Local Advertising: Utilize local newspapers, radio, and outdoor advertising to reach consumers in your region.

### **Customer Feedback**

- Feedback Systems: Set up systems for collecting customer feedback and addressing complaints. Use feedback to continuously improve product quality and service.
- By implementing this comprehensive marketing and sales plan, you can effectively promote your avocados and build a loyal customer base.

## **The Lebanon Industry Value Chain Development (LIVCD) Project**

The Lebanon Industry Value Chain Development (LIVCD) Project is a USAID-funded initiative aimed at strengthening the agriculture and agro-processing sectors in Lebanon. Here are some key points about the project:

### **Project Overview**

- Duration: The project spans five years and focuses on improving the competitiveness of targeted value chains
- Objectives: Enhance the productivity, quality, and market access of agricultural products, including avocados

#### **Key Components**

- Technical Support: Providing technical assistance to farmers and agro-processors to adopt best practices and improve production processes [
- Market Access: Facilitating access to local and international markets through trade fairs, export promotion, and partnerships with buyers
- Capacity Building: Offering training programs and workshops to build the skills and knowledge of farmers and agro-processors
- Sustainability: Promoting sustainable agricultural practices to ensure long-term environmental and economic benefits

### **Impact**

- Increased Productivity: Farmers and agro-processors involved in the project have reported increased productivity and improved product quality
- Market Expansion: The project has helped expand market access for Lebanese agricultural products, including avocados, in regional and international markets
- Economic Growth: By enhancing the value chain, the project contributes to the overall economic growth of the agricultural sector in Lebanon

### **Key Activities**

- Technical Assistance: Offering technical support to farmers and agro-processors to improve production processes and product quality
- Market Linkages: Establishing market linkages and promoting Lebanese agricultural products through trade fairs, export promotion, and partnerships with buyers
- Training Programs: Conducting training programs and workshops to enhance the skills and knowledge of farmers and agro-processors
- Sustainability Initiatives: Encouraging the adoption of sustainable practices such as water conservation, organic farming, and integrated pest management.

### **Impact and Achievements**

- Increased Productivity: Farmers and agro-processors involved in the project have reported increased productivity and improved product quality
- Market Expansion: The project has helped expand market access for Lebanese agricultural products, including avocados, in regional and international markets
- Economic Growth: By enhancing the value chain, the project contributes to the overall economic growth of the agricultural sector in Lebanon

### **Beneficiaries**

- Farmers: The project supports a wide range of farmers, including those growing avocados, by providing them with the necessary resources and knowledge to improve their production
- Agro-processors: Agro-processors benefit from technical assistance and market linkages, helping them to produce high-quality products and access new markets

## **Strategic plan for avocado production in Joun**

Creating a strategic plan for avocado production in Joun involves several key steps to ensure sustainable and profitable farming. Here's a detailed plan:

### **1. Site Assessment and Preparation**

- Climate Analysis: Ensure Joun's climate is suitable for avocado cultivation, with mild temperatures and adequate rainfall.
- Soil Testing: Conduct soil tests to determine nutrient levels and soil structure. Avocado trees thrive in well-drained, fertile soil.
- Land Preparation: Clear the land of any debris, plow the soil, and apply organic matter to improve soil fertility.

### **2. Variety Selection**

- Climate-Resilient Varieties: Choose avocado varieties that are well-suited to Joun's climate, such as Hass, Fuerte, and Bacon.
- Grafted Plants: Opt for grafted plants to ensure better yield and disease resistance.

### **3. Planting**

- Spacing: Plant avocado trees with adequate spacing (6-7 meters apart) to ensure proper growth and airflow.

- Irrigation Setup: Install a drip irrigation system to provide consistent moisture, especially during the dry season.

#### **4. Cultivation Practices**

- Water Management: Implement efficient water management practices, including mulching to retain soil moisture.
- Nutrient Management: Apply organic fertilizers based on soil test results to provide essential nutrients.
- Pest and Disease Control: Monitor for pests and diseases regularly. Use organic pest control methods and encourage beneficial insects.

#### **5. Pruning and Training**

- Pruning: Prune trees to maintain shape and remove any diseased or damaged branches.
- Training: Train young trees to develop a strong structure by encouraging a central leader and well-spaced lateral branches.

#### **6. Harvesting**

- Timing: Harvest avocados when they reach maturity, typically 9-18 months after flowering.
- Method: Pick the fruit by hand or use mechanical harvesters to avoid damaging the fruit.

#### **7. Post-Harvest Handling**

- Cleaning and Sorting: Wash and sort avocados by size and quality.
- Packaging: Pack avocados in ventilated crates or boxes for storage and transport.

#### **8. Marketing and Sales**

- Branding: Develop a strong brand identity that emphasizes quality, sustainability, and local heritage.
- Online Presence: Build a user-friendly website and engage with consumers on social media platforms.
- Community Engagement: Participate in local food festivals, farmers' markets, and community events to promote your avocados.

#### **9. Sustainability and Certification**

- Sustainable Practices: Implement eco-friendly practices such as water conservation, organic farming, and integrated pest management.
- Certifications: Obtain relevant certifications (e.g., organic, quality assurance) to enhance marketability.

#### **10. Monitoring and Evaluation**

- Performance Metrics: Track key performance indicators such as yield, quality, and sales.

- Continuous Improvement: Regularly review and refine cultivation practices, pest management, and marketing strategies based on feedback and performance data. By following this strategic plan, you can ensure a successful avocado farming operation in Joun.

## **Comprehensive Business Plan for an Avocado Farming Project in Joun**

### **Executive Summary**

- Mission: To produce high-quality, organic avocados using sustainable farming practices.
- Vision: To become a leading avocado producer in Lebanon, promoting healthy eating and sustainable agriculture.
- Goals: Establish the farm, achieve high yields, and expand market reach within the first three years.

### **Market Analysis**

- Industry Overview: The global demand for avocados is growing, driven by health-conscious consumers and culinary trends.
- Target Market: Local consumers in Lebanon, as well as international markets in Europe and the Middle East.
- Competitive Analysis: Identify key competitors, their strengths, weaknesses, and market gaps. Lebanon's growing reputation as an avocado exporter positions your project well.

### **Business Model**

- Production Process: From site preparation and planting to harvesting and post-harvest handling.
- Sourcing: Use local resources, including labor and organic fertilizers, to support the local economy and ensure high-quality produce.
- Technology: Implement modern irrigation systems and sustainable farming practices to optimize production.

### **Marketing and Sales Strategy**

- Branding: Develop a brand that emphasizes quality, sustainability, and local heritage.
- Promotion: Utilize social media, local events, and collaborations with chefs and restaurants to promote your avocados.
- Distribution: Establish sales channels, including direct sales, partnerships with retailers, and online sales. Explore export opportunities to international markets.

### **Financial Plan**

- Startup Costs: Land acquisition, planting materials, irrigation systems, labor, and initial marketing.

- Revenue Projections: Estimate annual revenue based on market prices and expected yield.
- Funding: Secure funding through government grants, loans, and private investors.

### **Operations Plan**

- Site Selection: Choose regions with suitable climate and soil for avocado cultivation.
- Planting and Maintenance: Implement best practices for planting, irrigation, fertilization, and pest control.
- Harvesting and Post-Harvest Handling: Ensure timely and careful harvesting, followed by proper cleaning, sorting, and packaging.

### **Risk Assessment**

- Market Risks: Price fluctuations and competition. Mitigate by establishing strong market linkages and diversifying sales channels.
- Climate Risks: Adverse weather conditions. Implement efficient irrigation and frost protection measures.
- Operational Risks: Pests and diseases. Monitor regularly and use organic pest control methods.

### **Sustainability and Certification**

- Sustainable Practices: Implement water conservation, organic farming, and energy-efficient practices.
- Certifications: Obtain relevant certifications (e.g., organic, quality assurance) to enhance marketability.

### **Monitoring and Evaluation**

- Performance Metrics: Track key performance indicators such as yield, quality, and sales.
  - Continuous Improvement: Regularly review and refine cultivation practices, pest management, and marketing strategies based on feedback and performance data.
- This business plan provides a comprehensive framework to ensure the success of your avocado farming project in Joun.

## **Recap of Avocado Benefits**

Avocados are quite the superfood! Here are some of their top benefits:

### **Nutritional Powerhouse**

- Healthy Fats: Avocados are rich in monounsaturated fats, which are heart-healthy and can help reduce bad cholesterol levels.
- Vitamins and Minerals: Packed with vitamins like C, E, K, and B-6, as well as folate, magnesium, and potassium.

### **Heart Health**

- Blood Pressure: The high potassium content can help regulate blood pressure, reducing the risk of heart disease and stroke.

- Cholesterol Levels: The healthy fats in avocados can increase good cholesterol (HDL) and lower bad cholesterol (LDL).

### **Digestive Health**

- Fiber: Avocados are a great source of dietary fiber, which promotes healthy digestion and regular bowel movements.

### **Weight Management**

- Satiety: The combination of healthy fats and fiber can help you feel full longer, aiding in weight management and reducing overeating.

### **Eye Health**

- Lutein and Zeaxanthin: These antioxidants are beneficial for eye health and can help reduce the risk of age-related eye conditions.

### **Skin and Hair**

- Vitamin E: This antioxidant helps protect skin cells from damage and promotes healthy skin and hair.

### **Bone Health**

- Vitamin K: Essential for bone health, helping to improve calcium absorption and reduce the risk of fractures.

### **Anti-Inflammatory Properties**

- Phytochemicals: Avocados contain phytochemicals that have anti-inflammatory properties, which can help reduce inflammation in the body.

## **Avocado Varieties Most suitable for Joun Climate**

Given Joun's climate, which is generally mild and suitable for avocado cultivation, here are some avocado varieties that would thrive:

### **1. Hass Avocado**

- Climate Suitability: Well-suited for mild climates.  
 - Characteristics: Known for its creamy texture and rich flavor, it's the most popular avocado variety worldwide.

### **2. Fuerte Avocado**

- Climate Suitability: Thrives in mild to warm climates.  
 - Characteristics: Has a slightly nutty flavor and smooth texture, making it a great option for both fresh consumption and guacamole.

### **3. Bacon Avocado**

- Climate Suitability: Performs well in mild climates.  
 - Characteristics: Smaller in size but with a rich, buttery flavor, ideal for salads and sandwiches.

### **4. Zutano Avocado**

- Climate Suitability: Adapts well to mild climates.

- Characteristics: Has a smooth, creamy texture and a mild flavor, perfect for guacamole and other dishes.

### **5. Pinkerton Avocado**

- Climate Suitability: Suitable for mild climates.

- Characteristics: Medium-sized with a rich, nutty flavor, great for both fresh eating and cooking.

These varieties are well-suited to the climate in Joun and can provide a good yield with proper care and management.

### **International donors and organizations that may offer grants for avocado production**

There are several international donors and organizations that offer grants for production and related initiatives. Here are a few options that might be considered:

#### **Food and Agriculture Organization (FAO)**

- Investment Support: The FAO, in partnership with organizations like the European Bank for Reconstruction and Development (EBRD), supports efforts to restructure and modernize the industry in various countries. This includes boosting international reputation and market presence.

#### **European Union (EU)**

- Funding for Agricultural Projects: The EU provides funding for agricultural projects, through various programs and initiatives. These grants often support sustainable practices and innovation in the agricultural sector.

### **Avocado Farm and Processing Plant in Joun**

#### **Farm & Product Description**

Avocado is a staple food and native to tropical America and extends to far Asia, Cuba, etc. It has a high nutritional value, rich in fats and proteins.

Avocado has twice as much energy value as in bananas. In addition, vitamins A, B, C and E are also found in it. The fresh smooth buttery pulp is eaten and it is the most nutritious of all fruits. It is usually served as half fruits with lemon juice, vinegar, salt and pepper. It is used in salads. The pulp, which may be preserved by freezing, is used as a sandwich filling or spread and in ice creams and milk shakes. Avocado oil is used in cosmetic.



## Lebanon Market Study, Farm and Processing Plant Capacity Market Study

The avocado market in Lebanon is quite interesting. The coastal regions, with their Mediterranean climate, are suitable for growing avocados. However, production is limited, so a significant portion of avocados in Lebanon are imported<sup>1</sup>

. The retail price for avocados in Lebanon ranges between \$2.44 and \$3.41 per kilogram<sup>2</sup>

. The biggest domestic markets are in Beirut and Tripoli, with supermarkets and informal traders also selling avocados<sup>1</sup>

### Lebanon's avocado export sector

Lebanon's avocado export sector is also growing, with increased production and exports, particularly to European markets<sup>3</sup>

. This growth is driven by the adoption of international certifications and standards in avocado farming<sup>3</sup>

### What is the price of avocados per kilogram/pound in Lebanon today?

The retail price range for Lebanon avocados is between US\$ 2.45 and US\$ 3.43 per kilogram or between US\$ 1.11 and US\$ 1.56 per pound (lb.). [Click here to see today's exact prices of avocados in Lebanon](#)

The retail price range in Lebanese Pound for avocados is between LBP 37,147.73 and LBP 52,006.82 per kilogram or between LBP 16,847.04 and LBP 23,585.86 per pound (lb.) in Beirut and Sidon.

Wholesale prices: In 2024, the approximate wholesale price range for Lebanon avocados is between US\$ 1.72 and US\$ 2.40 per kilogram or between US\$ 0.78 and US\$ 1.09 per pound (lb).

### Avocado Market Price in Lebanon – 2024 Prices and Charts

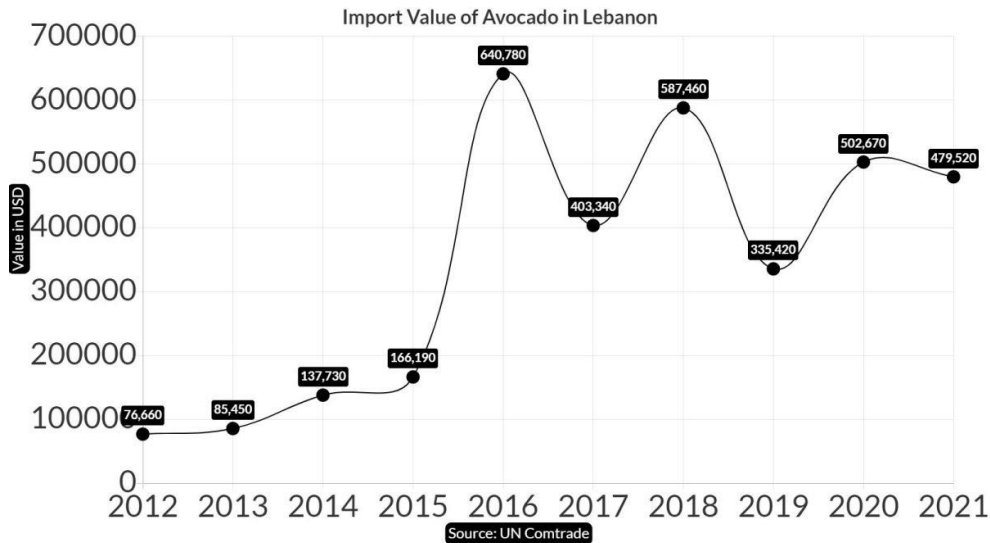
Avocado production in Lebanon is limited due to its climate conditions. It is only the coastal region that is covered by a Mediterranean climate that is suitable for growing avocado. The winters are mild and rainy while the summers are hot and sunny. With rainfall at an average of **700mm-1000mm** per annum and temperatures fall between **10°C** and **30°C**.

A bulk of avocados sold in Lebanon is found in [fresh produce markets](#). The biggest domestic markets in the country are located in the cities of Beirut and Tripoli. Supermarkets and informal traders like fruit vendors and green groceries around Lebanon also trade in a smaller number of avocados.

## Lebanon Avocado Imports

Imports of avocado in Lebanon were valued at nearly **500,000 US Dollars** in **2021**. Even though it's a slight drop from the previous year, it is the other record high value since **2019**. The sharpest climb was from **2015** to **2016** when the import value rose from about **200,000 US Dollars** to around **640,000 US Dollars**.

Here are the total values in import of avocados in Lebanon between **2012** and **2021**.



## Avocado Price in Lebanon per kg

The cost of a kilo of [imported avocados in Lebanon](#) can be between **1,510 Lebanese pound (US1 dollar)** and **3,025 Lebanese pound (US2 dollars)**. This is based on the average import price per kg. This wholesale price has remained above **2,270 Lebanese pound (US1.5 dollars)** in the recent past.

Retail prices of avocado per piece vary from seller to seller. Imported avocados face little competition from locally grown avocados because of their abundant supply and better quality. Market timing also determines the price range as late season avocados get a premium over early season avocados.

Avocado, as a seasonal fruit, has its prices adjusted based on supply. Lebanon imports huge volumes of avocado from around March up to September when they are in season. Sometimes it brings in small quantities of avocado the rest of the year from countries whose season comes later.

## Avocado in Lebanon

Lebanon is slowly becoming a high-value avocado market. The country takes in commercial varieties such as Hass and Fuerte. But it also brings in non-commercial

green skin varieties. Many avocado consumers in Lebanon prefer green skin types of avocado because of their lower cost.

The logistical costs that come with importing avocados are a major factor in setting their retail prices. The closer the exporting country is to Lebanon, the cheaper the price for the consumer. The dark skin Hass avocado is gaining in market share little by little even if it costs more. Avocados exported to Lebanon are packed in both **4kg** and **10kg** cartons.

Avocado imports have to first go through the Lebanese Customs Administration. They are then tested using certain food safety protocols set by the Lebanon Ministry of Public Health (MOPH). The government of Lebanon sets the requirements for importers of horticultural produce like avocado through the Ministry of Agriculture.

Imported avocados that are small in size make up a small part of the regular shipments. Cartons of avocado must be labeled according to guidelines determined by the Ministry of Economy and Trade. Arabic language is required on the label. Labels must include the following information:

- Name and address of producer
- Brand or trademark
- Country of origin
- Type of avocado and grade
- Storage instructions and temperature requirements
- Gross weight and number of avocados per carton
- Shelf life
- Harvest year and packing date

Avocados imported in Lebanon must undergo the pesticide maximum residue level (MRL) tests done by government laboratories. They should not exceed acceptable limits according to Codex and EU. The Ministry of Agriculture is responsible for the control of pesticides residue on avocado imports.

## **Farm Operation and Processing Technology and Engineering**

### **a) Land Development**

Land development is the first operation of the Production process in avocado production.

It includes land surveying and design, planting site clearing and cleaning, levelling and irrigation land, access and farm roads construction.

### **b) Land Preparation**

Land preparation activities like ploughing, disking, harrowing and basin formation follow the land development. Ploughing, disking and harrowing would be carried out by tractor mounted machineries while basin formation by casual labors.

### **c) Nursery Establishment and Propagation of Seedlings**

Nursery establishment is the most important operation and initial stage in avocado planting material propagation full stop. Appropriate site selection, fencing clearing and ploughing is among the important activities of nursery establishment. It is followed by seed bed Preparation. Raising of seedlings, grafting and handling of seedlings are some of the routine activities which are expected to be undertaken in the nursery.

### **d) Pre-Harvest Management**

Pre- Harvest management starts with transplanting of sexually or asexually propagated seedlings of avocado from nursery to the main planting site. Cultivation for weed control and soil fertility improvement, training and pruning seedlings, irrigation water application, fertilization and insect pest and disease control are among the major pre - harvest management in avocado production.

### **e) Post - Harvest Management**

In avocado production, Post-harvest management includes picking, cleaning, grading, transporting and marketing. Transporting will be handled with trucks equipped with refrigerator.

### **f) Avocado Processing**

Select ripe avocado and wash them with a brush washing machine. The remaining impurities are removed by an air injection washing machine. It then passes to the sorting line where damaged fruit is eliminated. Then scalding and peeling process are continued.

The peeled fruit is stored in hold tank. The fruit is mixed with preservatives and flavors such as sugar, acid, pectin and vinegar. Filling in cans will continue by controlling the weight under vacuum so as to removed part of the air in the head space. Then it is sealed, treated with heat, marked, and packed in cartoon for dispatch.

## **Source of Technology**

The machinery and equipment required by the farm can be obtained from ..., whereas planting materials like fertilizers, chemicals & seedlings, etc. could be obtained from a number of governmental and non-governmental organizations. The machinery and equipment for the processing of avocado will be obtained from the following suppliers.....

## **Farm & Plant Machinery and Equipment**

### **List of Farm & Plant Machinery and Equipment**

- Tractor 110 -125 HP
- Disk plough
- Disk Harrow of set type
- Trailers
- Sprayers
- Generator
- Workshop equipment (set)
- Tools (set)
- Hand tools / farm implements
- Tanks
- Conveyor
- Balances
- Seamer
- Dryer
- Washing machine
- Vacuum pump
- Boiler

### **Land, Building and Civil Works**

Proposed Location

The location of the proposed avocado farm and processing plant will be in ... zone of the region, where there is abundant land and water for irrigation.

## **Manpower and Training Requirement**

### **A. Manpower Requirement**

The manpower required for the envisaged project is 19 permanent employees as shown

### **Manpower Requirement and Annual Labour Cost**

- Manager
- Secretary/ Cashier
- Horticulturist
- Irrigation Engineer
- Warehouse Specialist
- Accountant
- Purchaser/Salesperson

- Processing Plant Higher Technician
- Processing plant Ass, Technician
- Tractor Operator
- Mechanic
- Drivers
- Generator Operator
- Store Keeper
- Guards
- Employee Benefits
- Casual Labour

Grand Total

## **B. Training Requirement**

Training will be given to the processing plant technicians by the supplier of the processing machine during erection and commissioning period for about two weeks. The training cost is estimated to be .....

## **Financial Analysis**

The financial analysis of Avocado Farm & Agro-processing project is based on the data

### **Total Initial Investment Cost**

The major breakdown of the total initial investment cost is

- Land lease value
- Site preparation and developed
- Building and Civil Work
- Farm & Plant Machinery and
- Equipment
- Office Furniture and Equipment
- Vehicle
- Pre-farming Expenditure
- Working Capital
- Total investment cost

### **Annual Operation & Production Cost**

- Raw Material and Inputs
- Utilities
- Maintenance and repair
- Labour direct

- Farm & Factory overheads
- Administration Cost
- Total Operating Costs
- Depreciation

## C. Financial Evaluation

### Profitability

According to the projected income statement, the project will start generating profit in the 3rd year of operation. Important ratios such as profit to total sales, net profit to equity (Return on equity) and net profit plus interest on total investment (return on total investment) show an increasing trend during the lifetime of the project.

### Break-even Analysis

The break-even point of the project including cost of finance when it starts to operate at full capacity (year 4) is estimated by using income statement projection.

BE = Fixed Cost = 38 %

Sales – Variable cost

### Pay-Back Period

The investment cost and income statement projection are used to project the pay-back period. The project's initial investment will be fully recovered within 7 years.

## Business Plan for Avocado Production in Joun

Creating a business plan for avocado production requires detailed planning and consideration of market dynamics, operational strategies, and financial projections. Here's an outline and breakdown for each section of the business plan:

### 1. Executive Summary

- Business Name: Joun Avocado Company
- Location: Joun, Al Chouf, Lebanon

- **Mission Statement:** To sustainably grow, harvest, and distribute premium avocados, focusing on quality, customer satisfaction, and environmental responsibility.
- **Products and Services:** Avocados (Hass, Fuerte, or other varieties), avocado oil, and by-products such as guacamole.
- **Market Opportunity:** Increasing global demand for avocados due to their health benefits and versatile use in culinary dishes.
- **Financial Highlights:** Startup investment, expected revenue, profitability timeline.

## 2. Business Description

**Industry Overview:** Avocado production is part of the broader agriculture and horticulture industries. With rising consumption, especially in the U.S., Europe, and parts of Asia, avocado farming is growing in demand.

### Goals and Objectives:

- Establish and maintain avocado orchards.
- Harvest and package high-quality avocados for domestic and international markets.
- Build strong supply chains and distribution networks.
- Invest in sustainable and organic farming practices.
- **Legal Structure:** Specify the business structure (LLC, corporation, partnership, etc.).

## 3. Market Research and Analysis

### Target Market:

- **Domestic Markets:** Grocery stores, organic food markets, and local farmers' markets.
- **International Markets:** Export markets in Europe, the U.S., and parts of Asia where demand for avocados is surging.
- **Food Processors:** Companies that use avocados for oils, guacamole, or other processed products.
- **Health-conscious consumers:** Avocados are popular among those seeking healthy fats, vegans, and consumers of plant-based foods.

### Market Trends:

- Increased global demand for healthy fats and plant-based foods.
- Growing popularity of avocados in salads, sandwiches, and smoothies.
- Sustainability concerns driving demand for organic and sustainably farmed avocados.



**Competitive Landscape:**

- Direct Competitors: Other avocado growers locally and internationally.
- Indirect Competitors: Producers of alternative healthy fats (e.g., olive oil, coconut oil).

**4. Products and Services****Primary Products:**

- Avocados: Fresh avocados, with a focus on varieties like Hass, Fuerte, or local breeds.
- Avocado Oil: Cold-pressed oil used for cooking and cosmetic purposes.
- Processed Products: Guacamole and other avocado-based snacks.

**Production Process:**

- Planting and cultivating avocado trees.
- Harvesting and packaging avocados.
- Potential processing for avocado oil or guacamole production.

**5. Marketing and Sales Strategy**

**Pricing Strategy:** Competitive pricing based on production costs, market demand, and quality of produce.

**Distribution Channels:**

- Direct Sales: Online sales through an e-commerce platform or at farmers' markets.
- Retail Partnerships: Supplying supermarkets, health food stores, and organic grocers.
- Wholesale and Export: Exporting avocados to international markets or selling in bulk to food processors.

**Marketing Campaigns:**

- Highlight the health benefits of avocados (e.g., rich in healthy fats, antioxidants, and nutrients).
- Leverage social media and influencer marketing to promote avocado-based recipes and products.
- Attend trade fairs and exhibitions to network with buyers and distributors.

**Branding and Packaging:**

- Focus on eco-friendly packaging and organic certification, if applicable.

- Highlight the farm-to-table journey to emphasize freshness and sustainability.

## 6. Operations Plan

Location and Facilities:

- Land: Acquire or lease farmland suitable for avocado cultivation (requires well-drained soil and a warm climate).
- Irrigation System: Avocado trees need consistent watering, so setting up an efficient irrigation system is essential.
- Processing Facility (optional): For post-harvest handling, sorting, and processing avocados into products like oil or guacamole.

Production Schedule:

- Avocado trees take 3-5 years to mature and produce fruit.
- Harvesting typically occurs once a year, depending on the variety and growing conditions.

Suppliers and Raw Materials:

- Source high-quality avocado seedlings or young trees.
- Ensure access to water, fertilizers, and organic pesticides.

Staffing:

- Farm Workers: For planting, irrigation, pruning, and harvesting.
- Processing Team: For packaging and any additional processing (if applicable).
- Management and Administration: Overseeing daily operations, financial management, and marketing.

## 7. Management Team

- Owner/Founder: [Your Name]
- Relevant experience in agriculture, business management, or horticulture.
- Key Management Positions:
  - Farm Manager: Oversees day-to-day farm operations.
  - Sales and Marketing Manager: Responsible for developing market strategies and sales channels.
  - Operations Manager: Manages the processing and distribution logistics.

- Advisory Board (optional): Experts in agriculture, export logistics, or the food industry.

## 8. Financial Plan

- Startup Costs:
  - Land acquisition or lease.
  - Avocado seedlings or young trees.
  - Equipment for planting, irrigation, and harvesting.
  - Processing and packaging facilities (if applicable).
  - Marketing and branding expenses.
  - Legal and registration fees.
- Revenue Streams:
  - Direct sales of fresh avocados.
  - Exporting avocados to international markets.
  - Sale of processed products like avocado oil or guacamole.
- Profitability Projections:
  - Estimation of sales volumes for each product type.
  - Break-even analysis based on initial investment and projected revenues.
  - Cash flow forecasts for the first 3-5 years.
  - Consideration of loan or investment needs for scaling.
- Risk Analysis:
  - Weather conditions affecting crop yield.
  - Pest or disease outbreaks that impact trees.
  - Fluctuations in avocado prices in the domestic and international markets.
  - Competition from other producers or substitutes like olive oil.

## 9. Appendix

- Include any supporting documents like lease agreements, equipment quotes, certification papers, or detailed financial forecasts.

This business plan outlines the essential steps and considerations for establishing a successful avocado production business in Joun.

## **BIBLIOGRAPHY**

### **The Mediterranean Market**

Source: [www.cbi.eu](http://www.cbi.eu)

### **Sustainability and certification**

Source: [eos.com](http://eos.com)

### **Certifications**

Source: [avo-gold.com](http://avo-gold.com)

**Securing funding and investment**

Source: [investinlebanon.gov.lb](http://investinlebanon.gov.lb)

[lebanon.un.org](http://lebanon.un.org)

[www.weeportal-lb.org](http://www.weeportal-lb.org)

**Lebanon Market Study, Farm and Processing Plant Capacity**

[www.freshelaexporters.com](http://www.freshelaexporters.com)

[www.selinawamucii.com](http://www.selinawamucii.com)

[www.tradecouncil.org](http://www.tradecouncil.org)

**What is the price of avocados per kilogram/pound in Lebanon today?**

[selinawamucii.com](http://selinawamucii.com)

**Avocado Market Price in Lebanon – 2024 Prices and Charts**

[freshelaexporters.com](http://freshelaexporters.com)

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